NSW GOVERNMENT

More Trains, More Services

Wolli Creek Substation and T8 Line Power Supply Upgrade

Determination Report

March 2020

Wolli Creek Substation and T8 Line Power Supply Upgrade Determination Report

More Trains, More Services
Ref – 6427892

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Document control	
Status:	Final
Date of issue:	March 2020
Revision:	3.0
Document author:	Ben Collins
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Glossary and abbreviations

Term	Meaning
CBD	Central Business District
CCTV	Closed-circuit television
CEMP	Construction Environmental Management Plan
CoA	Condition of Approval
Concept design	The concept design is the preliminary design presented in the REF, which would be refined by the Construction Contractor (should the Proposal proceed) to a design suitable for construction (subject to TfNSW acceptance)
Construction Contractor	The Construction Contractor for the Proposal would be appointed by TfNSW to undertake the detailed design and construction of the Proposal
DC	Direct Current
Detailed design	Detailed design broadly refers to the process that the Construction Contractor undertakes (should the Proposal proceed) to refine the concept design to a design suitable for construction (subject to TfNSW acceptance)
EMF	Electric and Magnetic Fields
EP&A Act	*Environmental Planning and Assessment Act 1979* (NSW)
EP&A Regulation	*Environmental Planning and Assessment Regulation 2000* (NSW)
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Cwlth)
ISCA	Infrastructure Sustainability Council of Australia
kV	Kilovolts
mG	milliGauss (unit of measurement of magnetic flux density (or "magnetic induction")
LGA	Local Government Area
MNES	Matters of National Environmental Significance under the EPBC Act
NSW	New South Wales
OEH	(former) NSW Office of Environment and Heritage (Now Department of Planning, Industry and Environment – (Environment, Energy and Science Division))
OHW	Overhead Wiring
Proponent	A person or body proposing to carry out an activity under Division 5.1 of the EP&A Act – in this instance, TfNSW
Proposal	The construction and operation of the Wolli Creek Substation and T8 Line Power Supply Upgrade

Term	Meaning
REF	Review of Environmental Factors
ROC	Rail Operations Centre
TfNSW	Transport for NSW (the Proponent)
V	Volts

Executive summary

Overview of Proposal

Transport for NSW (TfNSW) is the Proponent for the Wolli Creek Substation and T8 Line Power Supply Upgrade (the Proposal), which is part of the More Trains, More Services Program. The Program is a NSW Government initiative to simplify and modernise Sydney's existing heavy rail network. The program aims to improve capacity throughout the network, with a view to providing 'turn up and go' services for many customers in the future.

The Proposal, as outlined in the Review of Environmental Factors (REF), includes:

Wolli Creek

- construction of a traction substation (proposed traction substation) at Wolli Creek Junction, located between the T8 Airport and South Line and residential apartments that front onto Lusty Street, Wolli Creek (5 – 13 Lusty Street)
- upgrade of the access road at the end of Lusty Street, Wolli Creek to provide access to the proposed traction substation
- demolition of the Undercliffe Substation and Wolli Creek Sectioning Hut (to be replaced by the proposed traction substation)
- installation of 33 Kilovolt (kV), 11 kV and 1500 V underground feeders to connect the proposed traction substation to the high-voltage and 1500V DC networks and the Wolli Creek portal of the Airport Line tunnel
- installation of a padmount substation
- removal of overhead wiring (OHW) structures and OHW supported by those structures

Airport Line tunnel

- installation of 33kV and 11kV feeders mounted on brackets on the sides of the tunnel
- installation of five OHW auxiliary feeders in the Airport Line tunnel and through Wolli Creek Station
- signalling upgrades in the Airport Line tunnel, including eight new signals, one relocated signal and associated modifications to trackside and relay room infrastructure

Green Square Station

- installation of an 11 kV feeder within an existing underground conduit from the Rail Operations Centre (ROC) on Wyndham Street, Alexandria to Green Square Station including trenching works at Green Square Station

Chalmers Street Substation

- installation of 11kV and 33kV feeders between the Prince Alfred Park portal of the Airport Line tunnel and Chalmers Street Substation.

An overview of the Proposal is shown in **Figure 1**, **Figure 2**, **Figure 3** and **Figure 4** below.

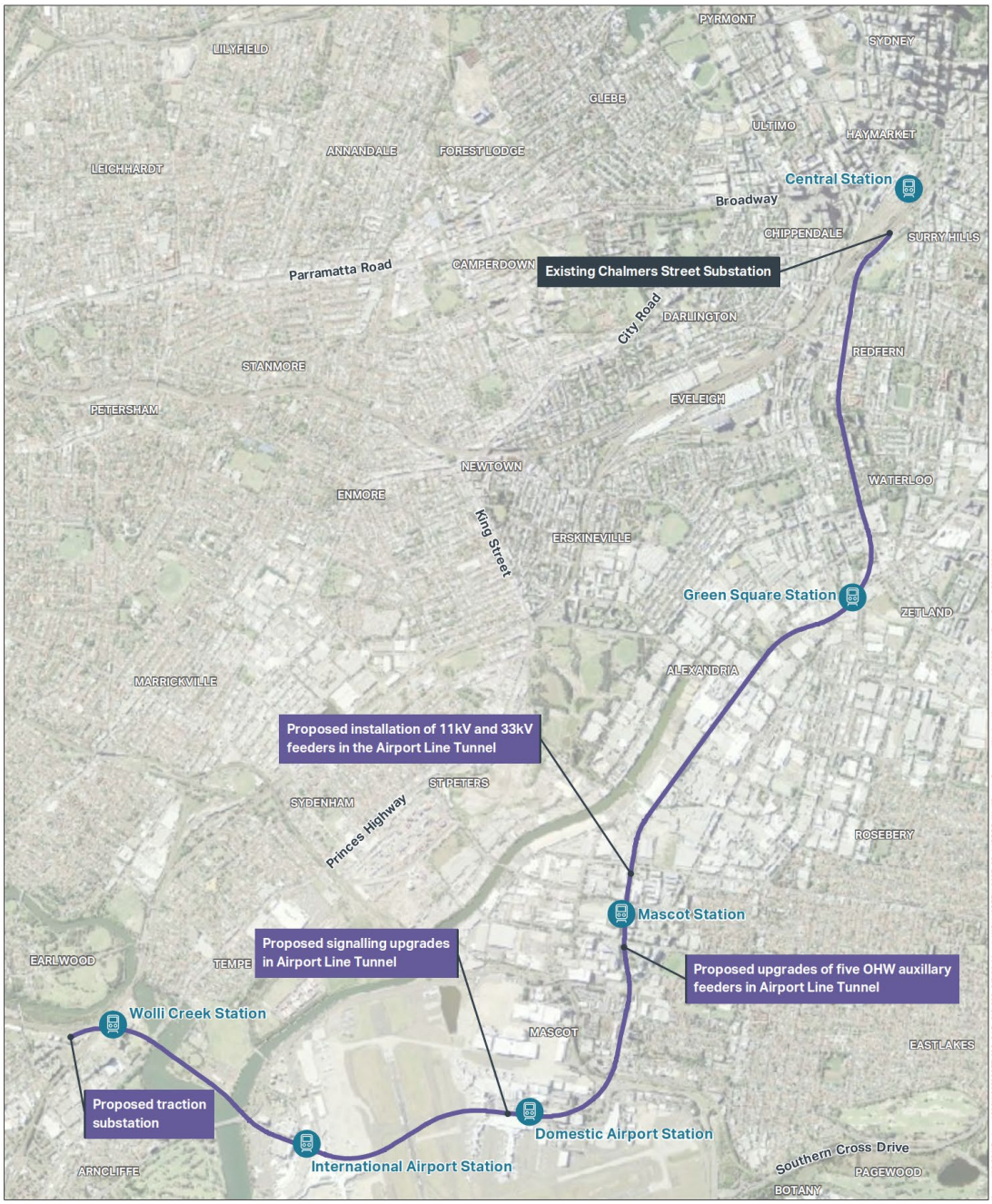


FIGURE 1: PROPOSED WORKS FROM WOLLI CREEK SUBSTATION TO CHALMERS STREET SUBSTATION

Figure 1 **Proposed works from Wolli Creek Substation to Chalmers Street Substation**

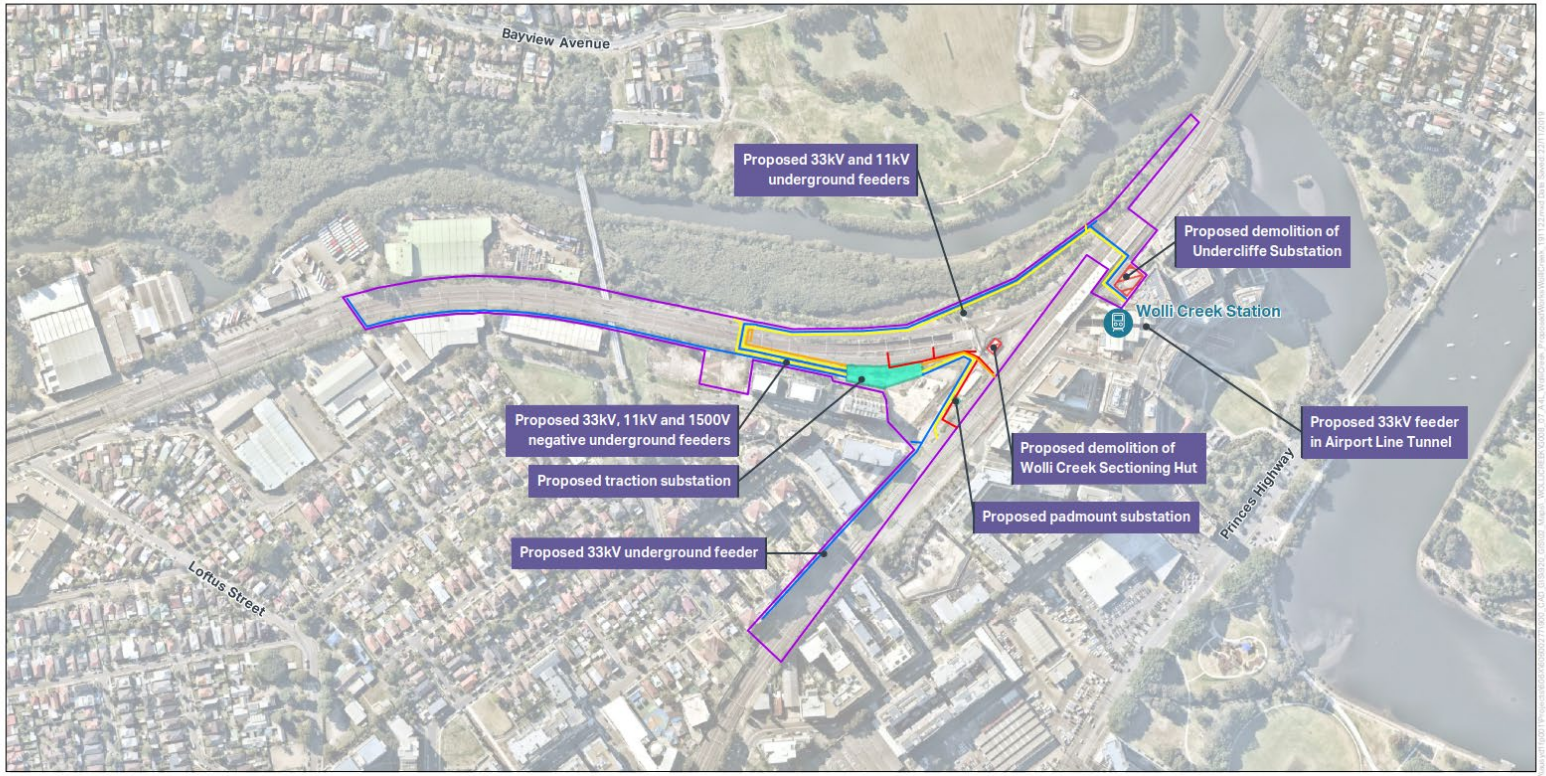


FIGURE 2: PROPOSED WORKS AT WOLLI CREEK

Figure 2 Key features of the Proposal at Wolli Creek

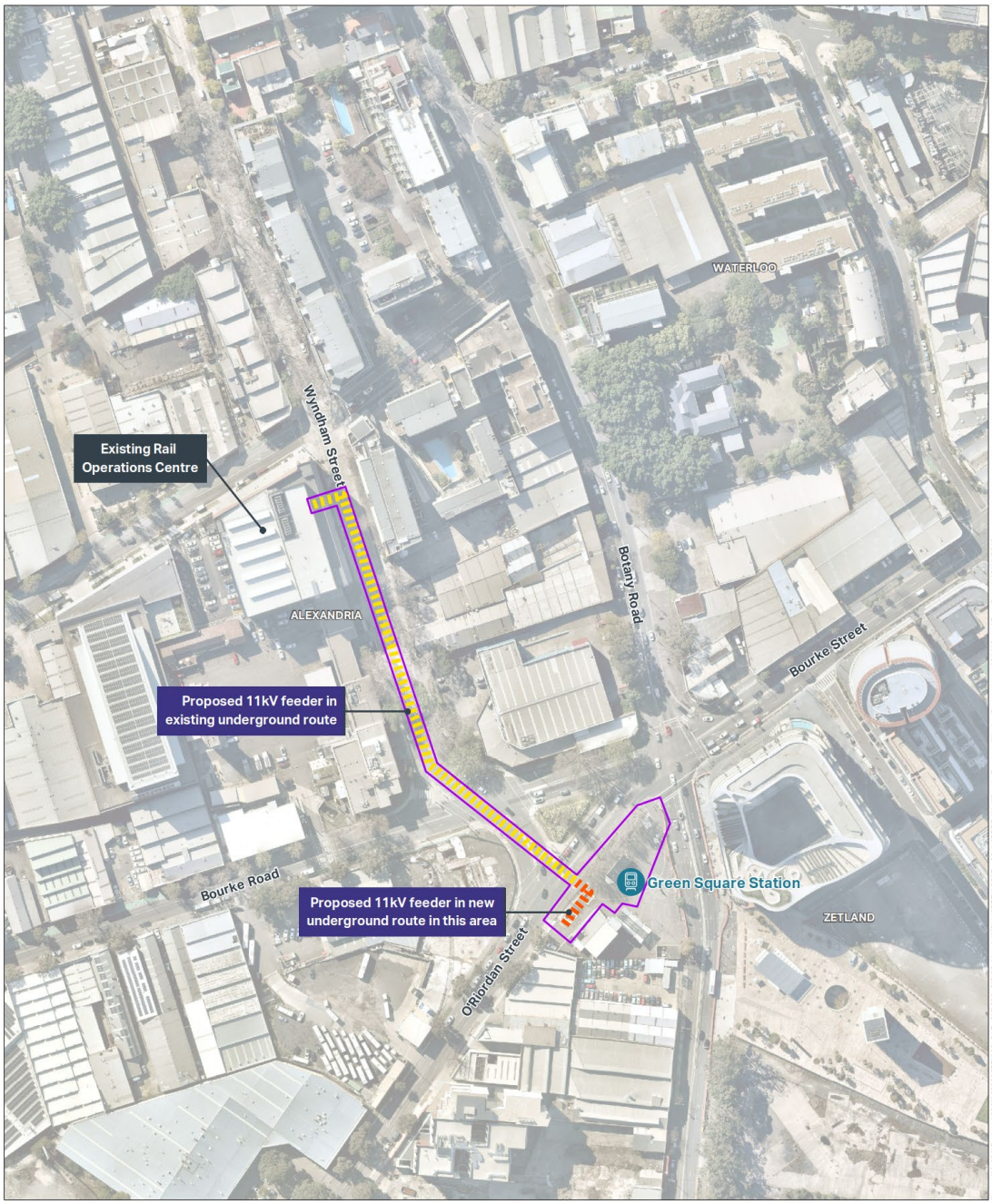


Figure 3 Key features of the Proposal at Green Square

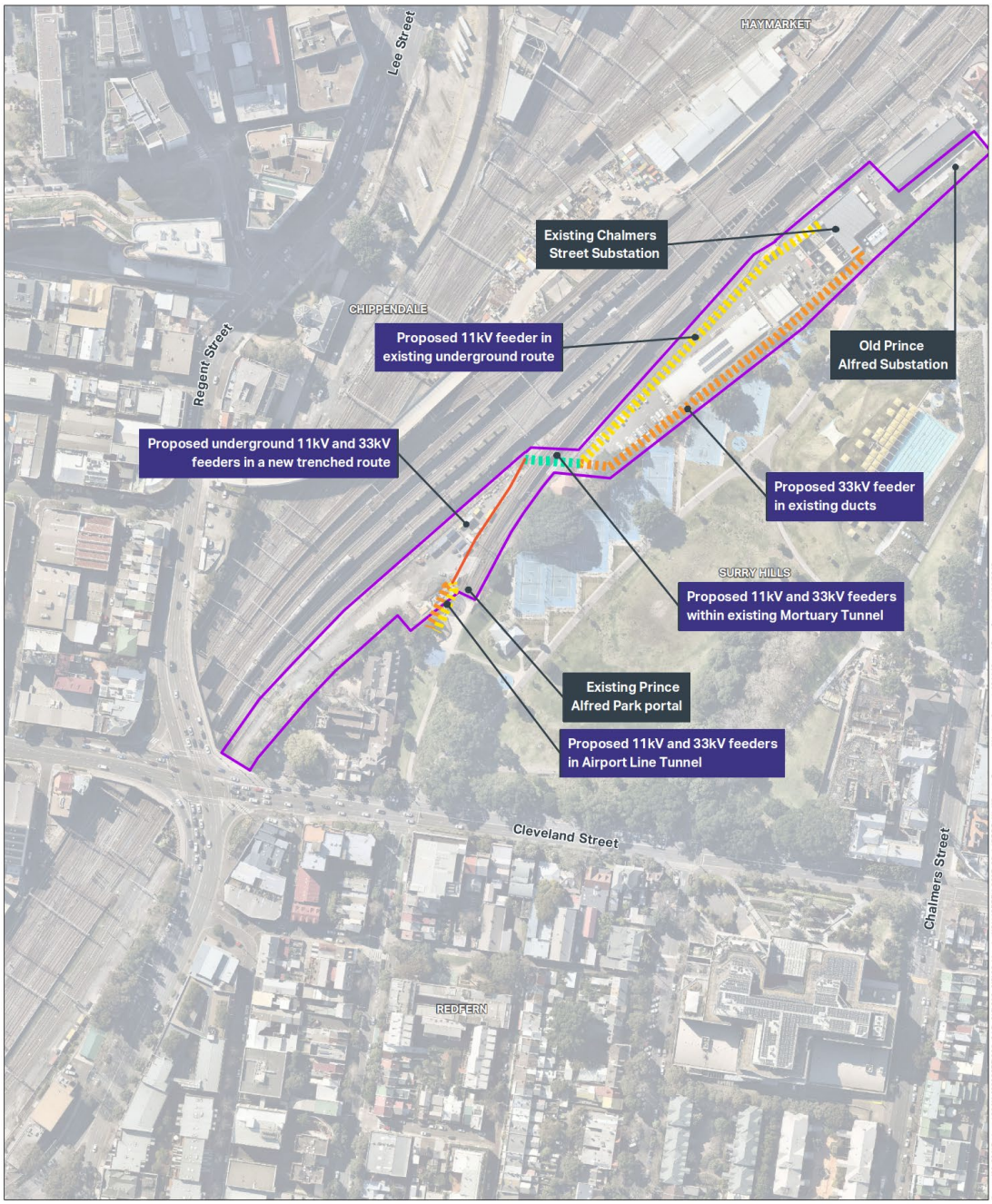


FIGURE 4: PROPOSED WORKS AT CHALMERS STREET SUBSTATION

AECOM

N

0 50 100 m

Legend

- Construction footprint boundary
- Proposed 33kV underground feeder
- Proposed 11kV underground feeder
- Proposed 11kV/33kV feeders (within existing Mortuary Tunnel)
- Proposed underground 11kV/33kV feeders in new trench

Source: Imagery © Nearmap, 2019.

Figure 4 Key features of the Proposal at Chalmers Street Substation

The need for, and benefits of, the Proposal are outlined in Chapter 2 of the REF. Construction is expected to commence in mid-2020 and take approximately two and a half years to complete.

TfNSW, as the Proponent for the Proposal, has prepared a REF that details the scope of works and environmental impacts associated with the Proposal. The REF was prepared by AECOM Australia Pty Ltd (AECOM) on behalf of TfNSW in accordance with the requirements of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and clause 228 of the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation).

Purpose of this report

The purpose of this Determination Report is for TfNSW, as the Proponent of the Proposal, to determine whether or not to proceed with the Proposal. TfNSW must make a determination in accordance with the provisions of Division 5.1 of the EP&A Act.

This report also presents a summary of the submissions provided during the public display of the REF, and TfNSW's response to the issues and comments raised in these submissions.

Modifications to the Proposal

Should design modifications be required as a result of the detailed design process, these modifications would be assessed to determine consistency with the Approved Proposal, including significance of impact on the environment. Additional mitigation measures and/or consultation would be undertaken where necessary.

Conclusion

Based on the assessments in the REF, and a review of the submissions received from the community and stakeholders, it is recommended that the Proposal be approved, subject to the mitigation measures included in the REF and the proposed Conditions of Approval. TfNSW will continue to liaise with the community and other stakeholders as the Proposal progresses through detailed design and into the construction phase.

1 Introduction

1.1 Background

The More Trains, More Services Program (the Program) is about building a modern and up to date rail system that will play its part in making Sydney a more productive and liveable city. The Program is a NSW Government initiative to simplify and modernise Sydney's existing heavy rail network.

While the Program will eventually deliver benefits to the entire network, TfNSW proposes to start by targeting improvements on Sydney's busiest lines. The first lines to benefit from the program will be the T4 Eastern Suburbs and Illawarra Line, the South Coast Line and the T8 Airport and South Line. These are some of the busiest lines on the Sydney Trains network, catering for 410,000 return trips in a typical day, representing around one third of all daily Sydney Trains customers. The Program is central to delivering the NSW Government's long-term vision and commitment to the state's transport and infrastructure needs.

Future stages of More Trains, More Services will deliver a 20 percent increase in peak services on the T4 Illawarra Line, and a 60 percent increase at stations between Green Square and Wolli Creek, providing more frequent services for customers and reducing wait times.

As part of the Program, TfNSW proposes to upgrade the power supply of the T8 Airport Line including the construction of a new traction substation at Wolli Creek, and power upgrades along the T8 Airport Line, which would enable an increase to the number of trains per hour that can be accommodated along this line.

The Proposal is consistent with NSW planning strategies, including the *Future Transport Strategy 2056* (TfNSW, 2018) and the *Greater Sydney Region Plan* (Greater Sydney Commission, 2018).

1.2 Review of Environmental Factors

A Review of Environmental Factors (REF) was prepared by TfNSW in accordance with section 5.5 and section 5.7 of the EP&A Act, and clause 228 of the EP&A Regulation, to ensure that TfNSW takes into account to the fullest extent possible, all matters affecting or likely to affect the environment as a result of the Proposal. The REF is included in **Appendix A**.

The Wolli Creek Substation and T8 Line Power Supply Upgrade REF was placed on public display by TfNSW from Wednesday 27 November 2019 to Wednesday 11 December 2019, with four submissions received.

Issues raised in these submissions are addressed in **Section 2.3** of this report.

1.3 Determination report

Prior to proceeding with the Proposal, the Secretary for TfNSW must make a determination in accordance with Division 5.1 of the EP&A Act (refer **Figure 5**).

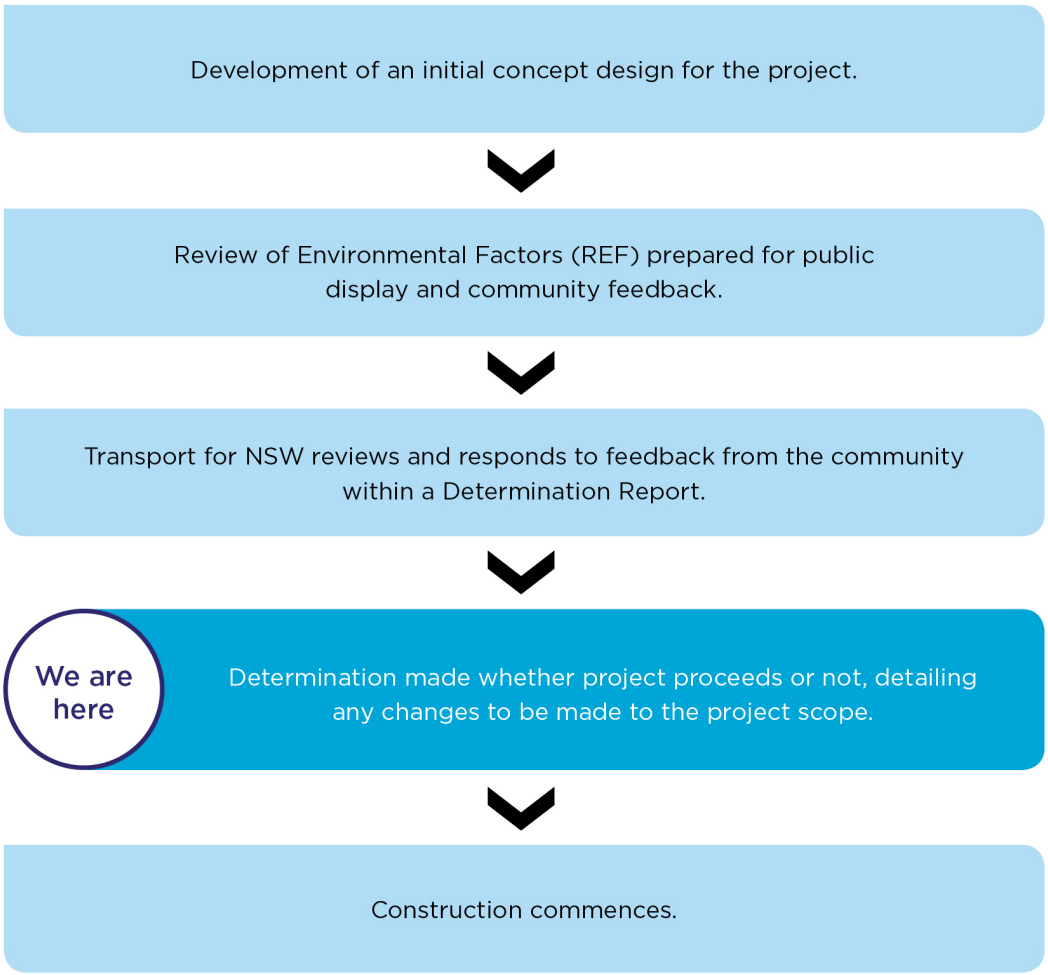


Figure 5 Planning approval process

The purpose of this Determination Report is to address the following to allow for a determination of the Proposal:

- present a summary of the submissions received during the public display of the REF and TfNSW's response to the issues and comments raised in these submissions
- assess the environmental impacts with respect to the Proposal, which are detailed in the REF (and any proposed modifications, as detailed and assessed in this Determination Report)
- identify mitigation measures to minimise potential environmental impacts
- determine whether potential environmental impacts are likely to be significant
- address whether the provisions of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) apply to the Proposal.

This report has been prepared having regard to, among other things, the objectives of TfNSW under the *Transport Administration Act 1988*:

a) to plan for a transport system that meets the needs and expectations of the public

b) to promote economic development and investment

c) to provide integration at the decision-making level across all public transport modes

d) to promote greater efficiency in the delivery of transport infrastructure projects

e) to promote the safe and reliable delivery of public transport and freight services.

1.4 Description of the Proposal in the REF

The Proposal involves the upgrade of the rail traction power system near Wolli Creek Station, within the Airport Line tunnel, at Green Square Station, and through to Chalmers Street Substation near Central Station.

The Proposal would include the following key elements:

Wolli Creek

- construction of a traction substation (proposed traction substation) at Wolli Creek Junction, located between the T8 Line and residential apartments that front onto Lusty Street, Wolli Creek (5-13 Lusty Street)
- upgrade of the access road at the end of Lusty Street, Wolli Creek to provide access to the proposed traction substation
- demolition of the existing Undercliffe Substation and Wolli Creek Sectioning Hut (both to be replaced by the proposed traction substation)
- installation of 33 kV, 11 kV and 1500 V underground feeders to connect the proposed traction substation to the high-voltage and 1500 V DC networks and the Wolli Creek portal of the Airport Line tunnel
- installation of a padmount substation
- removal of OHW structures and OHW supported by those structures.

Airport Line tunnel

- installation of 33 kV and 11 kV feeders mounted on brackets on the sides of the tunnel
- installation of five OHW auxiliary feeders in the Airport Line tunnel and through Wolli Creek Station
- signalling upgrades in the Airport Line tunnel, including eight new signals, one relocated signal and associated modifications to trackside and relay room infrastructure.

Green Square Station

- installation of an 11 kV feeder within an existing underground conduit from the ROC on Wyndham Street, Alexandria to Green Square Station, including trenching works at Green Square Station.

Chalmers Street Substation

- installation of 11 kV and 33 kV feeders between the Prince Alfred Park portal of the Airport Line tunnel and Chalmers Street Substation.

The need for, and benefits of, the Proposal are outlined in Chapter 2 of the REF.

Construction is expected to commence in mid-2020 and take approximately two and a half years to complete.

2 Consultation and assessment of submissions

2.1 REF public display

The Wolli Creek Substation and T8 Line Power Supply Upgrade REF was on public display between Wednesday 27 November 2019 and Wednesday 11 December 2019 at two locations, as well as on the TfNSW website[1] and Have Your Say website[2]. Community consultation activities undertaken for the public display included:

- distribution of a project update to rail customers and the local community at Wolli Creek Station and residents in close proximity to proposed works at Green Square Station, outlining the Proposal and inviting feedback on the REF
- pop up community information session held at Wolli Creek Station on 4 December 2019, 4-6pm
- advertisement of the REF public display in local newspapers with a link to the TfNSW website that includes a summary of the Proposal and information on how to provide feedback
- consultation with Bayside Council, City of Sydney Council and the State Emergency Service
- public display of the REF at:
    - Arncliffe Library
      11 Firth Street
      Arncliffe, NSW 2205
    - Transport for NSW Office
      The Gateway
      241 O'Riordan Street
      Mascot, NSW 2020

2.2 REF submissions

A total of five submissions were received by TfNSW, including one from Bayside Council.

Key issues that were raised in the submissions included:

- clarifications regarding the location of features of the Proposal
- clarifications regarding the design of the proposed traction substation
- recommendations to commence work hours from 8am on weekdays and 9am on weekends
- concerns about the location of the proposed traction substation in proximity to residential properties
- concerns regarding health and safety
- concerns about soot being generated from the operational railway line and concerns about noise generated from the proposed traction substation and additional train services

[1] http://www.transport.nsw.gov.au/projects/mtms
[2] https://www.nsw.gov.au/improving-nsw/have-your-say/

- enquiry about the future land use of the sectioning hut that would be decommissioned and demolished
- enquiry about land zoning and the use of land zoned as RE1 – Public Recreation
- design considerations for flooding and drainage.

2.3 Consideration and response to submissions

Community submissions

Proposal clarification

Issues raised:

- Submissions (1 and 2) sought clarification as to the exact location of the proposed traction substation.
- Submission (3) sought clarification as to how much space would be occupied by the proposed traction substation.
- Submission (1) sought clarification as to the access way and truck turning bay at the end of Lusty Street.
- Submission (3) sought clarification about how a sensitive receiver is defined.
- Submission (3) sought designs and/or visual representations of the proposed traction substation.

TfNSW response:

Section 3.1 of the REF outlines that the Proposed Activity involves the upgrade of the rail traction power system along the T8 Airport Line, including the construction of a traction substation at Wolli Creek. The proposed traction substation would be constructed at Wolli Creek Junction, located between the T8 Airport Line and residential apartments that front onto Lusty Street, Wolli Creek (5-13 Lusty Street). The exact location of the proposed traction substation is shown in **Figure 2**.

The proposed traction substation would occupy an area of approximately 2,000 square metres.

The entry point to Wolli Creek Junction is by an access road at the eastern end of Lusty Street. This access road is proposed to be upgraded and extended to provide access to the proposed traction substation. The upgraded access road would generally have a width of around 6 metres and would include a truck turning bay in the north eastern extent (over the current location of the Wolli Creek Sectioning Hut, which is to be demolished). The turning bay would provide for reversing and manoeuvring of a semi-trailer for the purposes of servicing and moving equipment into and out of the proposed traction substation.

Sensitive receivers are those which are sensitive to potential noise, air and visual impacts, such as residential dwellings, schools and hospitals. Sensitive receivers were identified within the REF, in the Noise and Vibration Impact Assessment included as Appendix D of the REF and within the Landscape Character and Visual Impact Assessment included as Appendix C of the REF.

The Landscape Character and Visual Impact Assessment included as Appendix C of the REF includes visual representations of the proposed traction substation from Wolli Creek Station and from level 4 of 5-13 Lusty Street. A design of the proposed traction substation has been included as **Appendix C** of this report.

Design of the proposed traction substation

Issues raised:

Submission (3) questioned whether the proposed traction substation could be built underground.

TfNSW response:

Several designs were considered for the proposed traction substation in the proposed location adjacent to 5-13 Lusty Street. A low rise building was initially considered; however, this would require deep excavations that would be problematic due to shallow groundwater and the presence of Acid Sulfate Soils. These issues would require a complex construction approach, a pump-out system for the basement and waterproofing of all penetrations that are below ground level. This option was not pursued, as it would not be cost effective, would have additional maintenance requirements and would potentially shorten the design life of the infrastructure.

The above issues would also apply to building the proposed traction substation entirely underground. An underground option is therefore not feasible.

Extensive design development has been undertaken to reduce the height of the proposed substation to limit the visual impact on residents living in the vicinity.

Construction hours

Issues raised:

Submission (1) suggested that the construction hours of the Proposal be modified, so that works would commence at 8:00am on weekdays and 9:00am on Saturday.

TfNSW response:

Section 3.2.3 of the REF outlines that the majority of works required for the Proposal would be undertaken during standard (NSW) Environment Protection Authority (EPA) construction hours, which are as follows:

- 7.00 am to 6.00 pm Monday to Friday
- 8.00 am to 1.00 pm Saturdays
- no work on Sundays or public holidays.

These construction hours would remain in place.

Location of the Proposal

Issues raised:

Submission (2) expressed concerns about the location of the proposed traction substation, being too close to residential properties.

TfNSW response:

Three locations were considered for the location of the proposed substation. These were to the east of the T4 Line, south of the existing Wolli Creek Sectioning Hut and the proposed location. The location east of the T4 Line did not have adequate space for the substation, as well as being further away from the Airport tunnel. The location south of the existing sectioning hut was not progressed due to limited space and the number of services (e.g. drainage, electrical, communications) that would need to be relocated to accommodate the substation. The current proposal remains the preferred location for the substation.

Health, safety and amenity

Issues raised:

Submissions (2 and 3) expressed concerns that the new traction substation would result in health and safety impacts to nearby residents.

TfNSW response:

Chapter 6 of the REF provides a detailed description of the likely environmental impacts associated with the construction and operation of the Proposal. For each likely impact, the existing environment is characterised, and an assessment is presented as to how the Proposal would affect the environment. The REF assessed the potential for amenity impacts associated with changes to air emissions (dust) and noise. The REF also considers the electric and magnetic fields (EMF) generated by the Proposal and their effects on nearby residents.

Section 6.3.4 of the REF details the results of the construction noise assessment which identified several receivers where noise levels are anticipated to exceed noise management levels during daytime works. The REF also predicted that 131 receivers would experience exceedances of the noise management levels in the worst-case decommissioning scenario during night time works.

In response to these predicted exceedances, mitigation measures have been recommended in Section 6.3.5 of the REF. The purpose of the mitigation measures is to reduce the impact of noise upon sensitive receivers by reducing the generation or propagation of noise, or by managing how sensitive receivers perceive or experience these impacts. With mitigation measures in place, the Proposal is not anticipated to result in a significant impact upon sensitive receivers during the construction phase.

During operation, noise levels are predicted to exceed the project noise trigger level for the residential receivers at 5-13 Lusty Street, Wolli Creek. A number of mitigation measures are proposed in Section 6.3.5 of the REF to address the impact of operational noise.

Section 6.10 of the REF discusses the potential for the Proposal to affect air quality during the construction and operation phases. The assessment identified that works for the construction phase of the Proposal would be small-scale, involving small numbers of machinery, vehicles and equipment. Their use would be intermittent and temporary, being primarily restricted to construction hours.

The assessment predicts that the project would result in minor increases in dust, carbon monoxide, sulphur dioxide, particulate matter, nitrous oxides and volatile organic compounds. Measures to reduce or manage the effect of those impacts upon sensitive receivers have been outlined in Section 6.10.3 of the REF. With these mitigation measures in place, the health and amenity impacts arising from the Proposal are expected to be minor.

Operational air quality impacts would be negligible, being limited to emissions from maintenance vehicles only.

Section 6.12 of the REF discusses the potential for the Proposal to generate EMF. The strength of the magnetic field is strongest close to its source and diminishes rapidly with distance. The possibility of adverse health effects due to the EMF associated with electrical equipment has been comprehensively studied worldwide over several decades. To date the scientific evidence does not establish that exposure to EMF found around the home, office or near power lines causes adverse health effects.

The REF included modelling of the likely intensity of EMF in and around the Proposal Area. The modelling demonstrated that the magnetic field levels at the public boundary are approximately up to 50 mG which is below the general public guideline reference level of 2,000 mG. The levels are reduced to negligible (less than 2 mG) at 10 metres away from the public boundary. This modelling demonstrated that the Proposal would not result in any electric or magnetic fields that would exceed the general public or occupational guideline levels (2,000 mG and 10,000 mG respectively) (**Figure 6**). Despite this, a number of prudent

avoidance measures, such as the configuration of cabling to cancel electric and magnetic fields where possible, have been proposed to be integrated into the detailed design to reduce the potential for EMF impacts.

Figure 6 Proposed Wolli Creek Traction Substation – magnetic field results (at substation/rail Level)

Operational air quality

Issues raised:

Submission (3) expressed concern at soot/dust being deposited on their building, the source of which they considered to be the operational rail line.

TfNSW response:

Construction works for this Proposal may result in the generation of additional dust as a result of the use of plant and equipment. The mitigation measures outlined in Section 6.10.3 of the REF would adequately control the effects of increased dust emissions.

The generation of emissions from the operational railway network is beyond the scope of this Proposal. The operation of the railway network is regulated by the NSW Environment Protection Authority via Sydney Trains Environment Protection Licence. This includes a condition to manage dust. General concerns about train operations can be directed to TfNSW at https://transportnsw.info/contact-us/feedback/train-feedback.

Noise from more trains

Issues raised:

Submission (3) expressed concerns about noise generated from additional train services operating as a result of the More Trains More Services program. In addition, the submission sought clarification as to whether noise mitigation in the form of a sound barrier could be supplied for properties affected by that noise.

TfNSW response:

Operational changes to services are still being developed as part of the More Trains, More Services program. As part of this development, priority will be given to optimising the timetable and journey outcomes for customers across the network.

This will be undertaken by considering customer and community feedback, as well as through analysis of Opal card data that shows where and when customers are travelling.

Once finalised, any changes to services will be communicated to customers well in advance of implementation.

Potential operational noise impacts will be considered as part of any future timetable changes.

Future use of Sectioning Hut land

Issues raised:

Submission (4) sought clarification about the use of the land where the sectioning hut is to be demolished.

TfNSW response:

As part of the Proposal, the access road to the traction substation would be upgraded. The upgraded access road would need to accommodate heavy articulated vehicles accessing the substation for the purposes of servicing and moving equipment. The access road would be sealed with heavy duty pavement and lined with kerb and gutter. Given the limited amount of space available around the proposed substation a separate truck turning bay is proposed to allow trucks to reverse and turn around, allowing them to enter and exit the site from Lusty Street in a forward direction. This turning bay is proposed to be located over the current location of the Wolli Creek Sectioning Hut, which is to be demolished.

Land zoning

Issues raised:

Submission (3) sought information about a parcel of land outside the rail corridor zoned RE1 Public Recreation and whether development will occur to that parcel of land.

TfNSW response:

Zoning of land and development of land is beyond the scope of this Proposal. Enquiries regarding the development and zoning of land beyond the Proposal area (as defined in Section 1.2.5 of the REF), should be directed to Bayside Council.

Bayside Council submission

Flooding

Issues raised:

Submission (5) recommended a minimum building level of 3.05 metres Australian Height Datum or that the building be flood protected to this level.

TfNSW response:

Section 6.9 of the REF addresses hydrology and water quality, including flooding. A hydrological assessment would be undertaken during the detailed design phase of the

Proposal to determine the final drainage arrangement and flooding risks. This would include a detailed flood impact assessment to determine appropriate design measures to respond to operational flood impacts.

Upgrades to Lusty Street and surrounding road network

Issues raised:

Submission (5) requests Council approval of the design for the cul-de-sac at the eastern end of Lusty Street. Council is also undertaking major road and drainage upgrades in the Wolli Creek area that may impact construction traffic.

TfNSW response:

The existing access road off the eastern end of Lusty Street is proposed to be upgraded to a width of around 6 metres. The access road would be sealed with heavy duty pavement and lined with kerb and gutter. Council would continue to be consulted during detailed design regarding any proposed upgrades to Council assets.

With regard to other road upgrades in Wolli Creek, Council would be consulted during the development of the Construction Traffic Management Plan to manage traffic impacts.

Maintenance of drainage channel

Issues raised:

Submission (5) raises concern that a drainage channel located within the rail corridor is not well maintained, leading to complaints by local residents. Council requests that the drain be reconstructed as formal open channel, and that the run off from the substation be directed to the channel.

TfNSW response:

Sydney Trains is responsible for the ongoing maintenance of existing assets within the rail corridor. However, this Proposal would include a hydrological assessment to determine the final drainage arrangement and flooding risks. An open channel would be considered during detailed design if the hydrological assessment identifies a need for the channel to be formalised.

Building to incorporate a rainwater tank

Issues raised:

Submission (5) requests a 5000 litre rainwater tank be installed.

TfNSW response:

The Proposal is targeting a rating of ‘Excellent’ using the Infrastructure Sustainability Council of Australia (ISCA) Infrastructure Sustainability (IS) Rating Scheme (v1.2). The IS Rating Scheme includes a performance category for water, that aims to minimise the use of water, encourages effective substitution of potable water and minimises ecosystem impacts. The use of non-potable water sources, and other water saving measures would be addressed during the detailed design phase to target a rating of ‘Excellent’ using the IS Rating Scheme.

Trenching in the surrounding road network

Issues raised:

Submission (5) requests plans for all trenching in the surrounding road network be provided to Council.

TfNSW response:

Council would be consulted throughout construction regarding impacts to the road network, including any service relocation in the road reserve.

2.4 Future consultation

Should TfNSW proceed with the Proposal, communication activities would continue, including consultation with Bayside Council and other relevant stakeholders regarding design development. In addition, TfNSW would notify residents, businesses and community members in the lead up to and during construction. The consultation activities would help to ensure that:

- Bayside Council and other stakeholders have an opportunity to provide feedback on the detailed design
- the community and stakeholders are notified in advance of any upcoming works, including changes to pedestrian or traffic access arrangements and out of hours construction activities
- accurate and accessible information is made available
- a timely response is given to issues and concerns raised by the community
- feedback from the community is encouraged.

The TfNSW email address[3], TfNSW Infoline (1800 684 490) and 24-hour Construction Response Line (1800 775 465) would continue to be available during the construction phase. Targeted consultation methods, such as use of letters, notifications, signage and verbal communications, would continue to occur. The TfNSW website[4] would also include updates on the progress of construction.

[3] projects@transport.nsw.gov.au
[4] https://www.transport.nsw.gov.au/projects/current-projects/transforming-our-rail-network

3 Changes to the Proposal

As a result of the submissions received during the public display, there are no changes to the Proposal from the works as described in the REF.

However, a change is proposed to the exemption being sought under the *Heritage Act 1977* for works to be undertaken near Chalmers Street Substation for the T8 power supply upgrade. Section 6.5 of the REF describes mitigation measures for impacts to heritage, including that approval would be required for the proposed works within the curtilage of the State significant item Sydney Terminal and Central Railway Stations Group / Central Railway Station group (SHR 01255 and Sydney LEP 2012 I824). An exemption(s) under Section 57 of the *Heritage Act 1977* is currently being sought for these proposed works.

4 Consideration of the environmental impacts

4.1 *Environmental Planning and Assessment Act 1979*

The REF addresses the requirements of section 5.5 of the EP&A Act. In considering the Proposal, all matters affecting or likely to affect the environment are addressed in the REF and the Determination Report and associated documentation.

In accordance with the checklist of matters pursuant to clause 228 of the EP&A Regulation, an assessment is provided in Chapter 6 of the REF and Appendix B of the REF.

The likely significance of the environmental impacts of the Proposal has been assessed in accordance with the then NSW Department of Planning's 1995 best practice guideline *Is an EIS Required?*[5] It is concluded that the Proposal is not likely to significantly affect the environment (including areas of outstanding biodiversity value) or threatened species, populations of ecological communities, or their habitats. Accordingly, an environmental impact statement under Division 5.2 of the EP&A Act is not required.

4.2 *Environment Protection and Biodiversity Conservation Act 1999*

As part of the consideration of the Proposal, all Matters of National Environmental Significance (MNES) and any impacts on Commonwealth land for the purposes of the EPBC Act have been assessed. In relation to MNES, this evaluation has been undertaken in accordance with Commonwealth Administrative Guidelines on determining whether an action has, will have, or is likely to have a significant impact. A summary of the evaluation is provided in Chapter 6 and Appendix A of the REF.

It is considered that the Proposal described in the REF is not likely to have a significant impact on any Commonwealth land and is not likely to have a significant impact on any MNES.

[5] Refer to the National Library of Australia's 'Trove' website http://trove.nla.gov.au/work/7003034?selectedversion=NBD11474648

5 Conditions of Approval

If approved, the Proposal would proceed subject to the Conditions of Approval included at **Appendix B**.

6 Conclusion

Having regard to the assessment in the REF and consideration of the submissions received, it can be concluded that the Proposal is not likely to significantly affect the environment (including areas of outstanding biodiversity value) or threatened species, populations of ecological communities, or their habitats. Consequently, an environmental impact statement is not required to be prepared under Division 5.2 of the EP&A Act.

It is also considered that the Proposal does not trigger any approvals under Part 3 of the EPBC Act.

The Proposal would contribute to the delivery of service improvements on the T8 Airport Line, including capacity, reliability and connectivity improvements for customers. The Proposal would upgrade the power supply of the T8 Airport Line including the construction of a new substation at Wolli Creek, which would enable an increase to the number of trains per hour that can be accommodated along this line.

The environmental impact assessment (REF and Determination Report) is recommended to be approved subject to the proposed mitigation and environmental management measures included in the Conditions of Approval (refer **Appendix B**).

Determination

WOLLI CREEK SUBSTATION AND T8 LINE POWER SUPPLY UPGRADE

APPROVAL

I, LOUISE SUREDA, as delegate of the Secretary, Transport for NSW:

1. Have examined and considered the Proposal in the *Wolli Creek Substation and T8 Line Power Supply Upgrade Review of Environmental Factors* (November, 2019) and the *Wolli Creek Substation and T8 Line Power Supply Upgrade Determination Report* (March, 2020) in accordance with section 5.5 of the *Environmental Planning and Assessment Act 1979.*
2. Determine on behalf of Transport for NSW (the Proponent) that the Proposal may be carried out in accordance with the Conditions of Approval in this Determination Report (March, 2020), consistent with the Proposal described in the *Wolli Creek Substation and T8 Line Power Supply Upgrade Review of Environmental Factors* (November, 2019) as amended by this Determination Report (March, 2020).

Louise Sureda
Director, Planning, Environment and Sustainability
Planning, Environment and Sustainability Branch
Safety, Environment and Regulation Division
Transport for NSW
Date: 31 · 3 · 20

References

TfNSW (November 2018), *Chemical Storage and Spill Response Guidelines*, Sydney

TfNSW (November 2019), *More Trains, More Services Wolli Creek Substation and T8 Line Power Supply Upgrade: Review of Environmental Factors,* Sydney

TfNSW (April 2019), *Unexpected Heritage Finds Guideline*, Sydney

TfNSW (July 2019), *Vegetation Management (Protection and Removal) Guideline*, Sydney

NSW Department of Planning (1995), *Is an EIS required?* Sydney

NSW Department of Environment, Climate Change and Water (DECCW) (September 2010), *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales*, Sydney

Appendix A Review of Environmental Factors

Please refer to the TfNSW website to access the Wolli Creek Substation and T8 Line Power Supply Upgrade REF:

- Link to TfNSW, More Trains, More Services Program website: https://www.transport.nsw.gov.au/projects/more-trains-more-services

Appendix B Conditions of Approval

CONDITIONS OF APPROVAL

Wolli Creek Substation and T8 Line Power Supply Upgrade

Note: these conditions of approval must be read in conjunction with the final mitigation measures in the *Wolli Creek Substation and T8 Line Power Supply Upgrade Review of Environmental Factors* (November, 2019).

Schedule of acronyms and definitions used

Acronym	Definition
ADEIA	Associate Director Environmental Impact Assessment (or nominated delegate)
ADEM	Associate Director Environmental Management (or nominated delegate)
ADSPD	Associate Director, Sustainability, Planning & Development (or nominated delegate)
CECR	Construction Environmental Compliance Report
CEMP	Construction Environmental Management Plan
CLMP	Community Liaison Management Plan
CoA	Conditions of Approval
dBA	Decibels (A-weighted scale)
ECM	Environmental Controls Map
EIA	Environmental Impact Assessment
EMR	Environmental Management Representative
EMS	Environmental Management System
EPA	NSW Environment Protection Authority
EP&A Act	*Environmental Planning and Assessment Act 1979*
EPL	Environment Protection Licence issued by the Environment Protection Authority under the *Protection of the Environment Operations Act 1997*.
ISO	International Standards Organisation
OEH	former NSW Office of Environment and Heritage
OOHWP	Out of Hours Works Protocol
PCSR	Pre Construction Sustainability Report
PDP	Public Domain Plan
PECM	Pre-construction environmental compliance matrix
POCR	Pre-operational compliance report

Acronym	Definition
RBL	Rating Background Level
REF	Review of Environmental Factors
TfNSW	Transport for NSW
TMP	Traffic Management Plan
UDP	Urban Design Plan

Term	Definition
Construction	Includes all work in respect of the Project, other than survey, acquisitions, fencing, investigative drilling or excavation, building/road dilapidation surveys, or other activities determined by the TfNSW ADEM to have minimal environmental impact such as minor access roads, minor adjustments to services/utilities, establishing temporary construction compounds (in accordance with this approval), or minor clearing (except where threatened species, populations or ecological communities would be affected, unless otherwise agreed by the ADEM).
Contamination	The presence in, on or under land of a substance at a concentration above the concentration at which the substance is normally present in, on or under (respectively) land in the same locality, being a presence that presents a risk of harm to human health or any other aspect of the environment.
Designated Works	Includes tunnelling, blasting, piling, excavation or bulk fill or any vibratory impact works including jack hammering and compaction, for Construction.
Emergency Work	Includes works to avoid loss of life, damage to external property, utilities and infrastructure, prevent immediate harm to the environment, contamination of land or damage to a heritage (indigenous or non-indigenous) item.
Environmental Impact Assessment (EIA)	The documents listed in Condition 1 of this approval.
Environmental Management Representative	An independent environmental representative appointed to the Project or a delegate nominated by Transport for NSW.
Noise Sensitive Receiver	In addition to residential dwellings, noise sensitive receivers include, but are not limited to, hotels, entertainment venues, pre-schools and day care facilities, educational institutions (e.g. schools, TAFE colleges), health care facilities (e.g. nursing homes, hospitals), recording studios, places of worship/religious facilities (e.g. churches), and other noise sensitive receivers identified in the environmental impact assessment.
Reasonable and feasible	Consideration of best practice taking into account the benefit of proposed measures and their technological and associated operational application in the NSW and Australian context. Feasible relates to engineering considerations and what is practical to build. Reasonable relates to the application of judgement in arriving at a decision, taking into account: mitigation benefits, cost of mitigation versus benefits provided, community views and nature and extent of potential improvements.
the Project	The construction and operation of the Wolli Creek Substation and T8 Line Power Supply Upgrade.
the Proponent	A person or body proposing to carry out an activity under Division 5.1 of the EP&A Act – in the case of the Project, Transport for NSW.

CoA number	Condition
	General
1	**Terms of Approval** The Project shall be carried out generally in accordance with the environmental impact assessment (EIA) for this Project, which comprises the following documents: a) *Wolli Creek Substation and T8 Line Power Supply Upgrade – Review of Environmental Factors* (TfNSW, 2019) b) *Wolli Creek Substation and T8 Line Power Supply Upgrade – Determination Report* (TfNSW, 2020) c) *Exemption under section 57 of the Heritage Act 1977 for T8 Airport Line Power Supply Upgrade* (Heritage NSW, 2020) d) *T8 Airport Line Power Supply Upgrade Historic Heritage Assessment* (Aecom, 2020) In the event of an inconsistency between these conditions and the EIA, these conditions will prevail to the extent of the inconsistency.
2	**Project Modifications** Any modification to the Project as approved in the EIA would be subject to further assessment. This assessment would need to demonstrate that any environmental impacts resulting from the modifications have been minimised. The assessment shall be subject to approval under delegated authority by TfNSW. The Proponent shall comply with any additional requirements from the assessment of the Project modification.
3	**Statutory Requirements** These conditions do not relieve the Proponent of the obligation to obtain all other licences, permits, approvals and land owner consents from all relevant authorities and land owners as required under any other legislation for the Project. The Proponent shall comply with the terms and conditions of such licences, permits, approvals and permissions.
4	**Pre-Construction Environmental Compliance Matrix** A Pre-Construction Environmental Compliance Matrix (PECM) for the Project (or such stages of the Project as agreed to by the Associate Director Environmental Management (ADEM)) shall be prepared detailing compliance with all relevant conditions and mitigation measures prior to commencement of construction. The PECM shall also include details of approvals, licences and permits required to be obtained under any other legislation for the Project. A copy of the PECM shall be submitted to the ADEM for approval, at least 21 days prior to commencement of construction of the Project (or within such time as otherwise agreed to by the ADEM).

CoA number	Condition
5	**Construction Environmental Compliance Report** The Proponent shall prepare a construction environmental compliance report (CECR) which addresses the following matters: (a) compliance with the construction environmental management plan (CEMP) and these conditions (b) compliance with Infrastructure Sustainability Council of Australia (ISCA) Infrastructure Sustainability Rating Scheme (v1.2) (c) compliance with any approvals or licences issued by relevant authorities for construction of the Project (d) implementation and effectiveness of environmental controls (the assessment of effectiveness should be based on a comparison of actual impacts against performance criteria identified in the CEMP) (e) environmental monitoring results, presented as a results summary and analysis (f) details of the percentage of waste diverted from landfill and the percentage of spoil beneficially reused (g) number and details of any complaints, including summary of main areas of complaint, actions taken, responses given and intended strategies to reduce recurring complaints (subject to privacy protection) (h) details of any review and amendments to the CEMP resulting from construction during the reporting period (i) any other matter as requested by the ADEM. The Proponent shall: i) submit a copy of the CECR to the EMR for review. The EMR is to be given a minimum period of 7 days to review and provide any comments to the Proponent in relation to the CECR ii) submit a copy of the CECR to the ADEM (or nominated delegate) for approval upon completion of the EMR review period. The first CECR shall report on the first six months of construction and be submitted within 21 days of expiry of that period (or at any other time interval agreed to by the ADEM). CECRs shall be submitted no later than six months after the date of submission of the preceding CECR (or at other such periods as requested by the ADEM) for the duration of construction.
6	**Pre-Operation Compliance Report** A pre-operation compliance report (POCR) for the Project shall be prepared, prior to commencement of operation of the Project. The POCR shall detail compliance with all conditions of approval, licences and permits required to be obtained under any other legislation for the project. The Proponent shall: (a) submit a copy of the POCR to the EMR for review. The EMR is to be given a minimum period of 7 days to review and provide any comments to the Proponent in relation to the POCR. (b) upon completion of the EMR review period submit a copy of the POCR to the ADEM (or nominated delegate) for approval. The POCR is to be provided to the ADEM at least one month prior to the scheduled operation of the Proposal (or such time as otherwise agreed to by the ADEM).

CoA number	Condition
7	**Graffiti and advertising** Hoardings, site sheds, fencing, acoustic walls around the perimeter of the site, and any structures within the project footprint or built as part of the Project are to be maintained free of graffiti and advertising not authorised by the Proponent during the construction period. Graffiti and unauthorised advertising will be removed or covered within the following timeframes: (a) offensive graffiti will be removed or concealed within 24 hours (b) highly visible (yet inoffensive) graffiti will be removed or concealed within a week (c) graffiti that is neither offensive or highly visible will be removed or concealed within a month (d) any unauthorised advertising material will be removed or concealed within 24 hours.
	Communications
8	**Community Liaison Management Plan** A Community Liaison Management Plan (CLMP) shall be prepared and implemented to engage with government agencies, relevant councils, landowners, community members and other relevant stakeholders (such as utility and service providers, bus companies, Taxi Council and businesses). The CLMP shall comply with the obligations of these conditions and should include, but not necessarily be limited to: a) details of the protocols and procedures for disseminating information and liaising with the community and other key stakeholders about construction activities (including timing and staging) and any associated impacts during the construction period b) stakeholder and issues identification and analysis c) procedures for dealing with complaints or disputes and response requirements, including advertising the 24 hour construction response line number The CLMP shall be prepared to the satisfaction of the Director Community Engagement (or nominated delegate) prior to the commencement of construction and implemented, reviewed and revised as appropriate during construction of the Project.
9	**Community Notification and Liaison** The local community shall be advised of any activities related to the Project with the potential to impact upon them. Prior to any site activities commencing and throughout the Project duration, the community is to be notified of works to be undertaken, the estimated hours of construction and details of how further information can be obtained (i.e. contact telephone number/email, website, newsletters etc.) including the 24 hour construction response line number. Construction-specific impacts including information on traffic changes, access changes, detours, services disruptions, public transport changes, high noise generating work activities and work required outside the nominated working hours shall be advised to the local community at least seven days prior to such works being undertaken or other period as agreed to by the Director Community Engagement or as required by the Environment Protection Authority (EPA) (where an Environment Protection Licence (EPL) is in effect).

CoA number	Condition
10	**Website** The Proponent shall provide electronic information (or details of where hard copies of this information may be accessed by members of the public) related to the Project, on dedicated pages within its existing website, including: a) a copy of the documents referred to under Condition 1 of this approval b) a list of environmental management reports that are publicly available c) 24 hour contact telephone number for information and complaints. All documents uploaded to the website must be compliant with the *Web Content Accessibility Guidelines Version 2.0*.
11	**Complaints Management** The Proponent shall set up a 24 hour construction response line number. Details of all complaints received during construction are to be recorded on a complaints register. A verbal response to phone enquiries on what action is proposed to be undertaken is to be provided to the complainant within two hours during all times construction is being undertaken and within 24 hours during non-construction times (unless the complainant agrees otherwise). A verbal response to written complaints (email/letter) should be provided within 48 hours of receipt of the communication. A detailed written response is to be provided to the complainant within seven calendar days for verbal and/or written complaints. Information on all complaints received during the previous 24 hours shall be forwarded to the TfNSW Community Engagement Manager and the TfNSW Environment and Planning Manager each working day.
	Environmental Management
12	**Construction Environmental Management Plan** A Construction Environmental Management Plan (CEMP) shall be prepared prior to commencement of construction which addresses the following matters, as a minimum: a) traffic and pedestrian management (in consultation with the relevant roads authority) b) noise and vibration management c) water and soil management d) air quality management (including dust suppression) e) indigenous and non-indigenous heritage management f) flora and fauna management g) storage and use of hazardous materials h) contaminated land management (including acid sulphate soils) i) weed management j) waste management k) sustainability l) environmental incident reporting and management procedures m) non-compliance and corrective/preventative action procedures. The CEMP shall: i) comply with the Conditions of Approval, conditions of any licences, permits or other approvals issued by government authorities for the Project, all relevant legislation and regulations, and accepted best practice management ii) comply with the relevant requirements of *Guideline for Preparation of Environmental Management Plans* (Department of Infrastructure, Planning and Natural Resources, 2004) iii) include an Environmental Policy.

CoA number	Condition
	The Proponent shall: 1. consult with government agencies and relevant service/utility providers as part of the preparation of the CEMP 2. submit a copy of the CEMP to EMR for review 3. submit a copy of the CEMP to the ADEM (or nominated delegate) for approval 4. review and update the CEMP at regular intervals, and in response to any actions identified as part of the EMRs audit of the document 5. ensure updates to the CEMP are made within seven days of the completion of the review or receipt of actions identified by any audit of the document, and be submitted to the ADEM for approval. The CEMP must be approved by the ADEM prior to the commencement of construction work associated with the Proposal.
13	**Environment Personnel** Suitably qualified and experienced environmental management personnel shall be available and be responsible for implementing the environmental objectives for the Project, including undertaking regular site inspections, preparation of environmental documentation and ensuring the Project meets the requirements of the Environmental Management System (EMS). Details of the environmental personnel, including relevant experience, defined responsibilities and resource allocation throughout the project (including time to be spent on-site/off-site) are to be submitted for the approval of the ADEM, at least 21 days prior to commencement of construction of the Project (or within such time as otherwise agreed to by the ADEM). Any adjustments to environmental resource allocations (on-site or off-site) are to be approved by the ADEM.
14	**Environmental Management Representative** Prior to the commencement of construction, the Proponent shall appoint an EMR for the duration of the construction period for the Project. The EMR shall provide advice to the Proponent in relation to the environmental compliance and performance of the Project. The EMR shall have responsibility for: (a) considering and advising the Proponent on matters specified in these conditions and compliance with such (b) reviewing and, where required by the Proponent, providing advice on the Project's induction and training program for all persons involved in the construction activities and monitoring implementation (c) periodically auditing the Project's environmental activities to evaluate the implementation, effectiveness and level of compliance of on-site construction activities with authority approvals and licences, the CEMP and associated plans and procedures, including carrying out site inspections weekly, or as required by the ADEM (d) reporting weekly to the Proponent, or as required by the ADEM (e) issuing a recommendation to the Proponent for work to stop immediately, if in the view of the EMR circumstances so require. The stop work recommendation may be limited to specific activities if the EMR can easily identify those activities (f) requiring reasonable steps to be taken to avoid or minimise unintended or adverse environmental impacts (g) reviewing corrective and preventative actions to ensure the implementation of recommendations made from the audits and site inspections

CoA number	Condition
	(h) providing reports to the Proponent on matters relevant to the carrying out of the EMR role as necessary (i) where required by the ADEM, providing advice on the content and implementation of the CEMP and environmental controls map (ECM) in accordance with the conditions (j) reviewing and approving updates to the CEMP. The EMR shall be available during construction activities to inspect the site(s) and be present on-site as required.
15	**Environmental Controls Map** The Proponent shall prepare an environmental controls map (ECM) in accordance with TfNSW's *Guide to Environmental Controls Map (DMS-SD-015)* prior to the commencement of construction for implementation for the duration of construction. The ECM is to be endorsed by the EMR and may be prepared in stages as set out in the CEMP. The Proponent shall submit a copy of the ECM to the EMR for review and endorsement. The EMR is to be given a minimum period of 7 days to review and endorse the ECM. Following receipt of the EMR's endorsement, the ECM shall be submitted to the ADEM (or nominated delegate) for approval, at least 14 days prior to commencement of construction (or such time as is otherwise agreed to by the ADEM). The ECM shall be prepared as a map – suitably enlarged (e.g. A3 size or larger) for mounting on the wall of a site office and included in site inductions, supported by relevant written information. Updates to the ECM shall be made within 7 days of the completion of the review or receipt of actions identified by any EMR audit of the document, and be submitted to the EMR for approval.
	Hours of Work
16	**Standard Construction Hours** Construction activities shall be restricted to the hours of 7.00am to 6.00pm (Monday to Friday); 8.00am to 1.00pm (Saturday) and at no time on Sundays and public holidays except for the following works which are permitted outside these standard hours: a) any works which do not cause noise emissions to be more than 5 dBA higher than the rating background level (RBL) at any nearby residential property and/or other noise sensitive receivers b) out of hours work identified and assessed in the EIA or the approved Out of Hours Work Protocol (OOHWP) c) the delivery of plant, equipment and materials which is required outside these hours as requested by police or other authorities for safety reasons and with suitable notification to the community as agreed by the ADEM d) Emergency Work to avoid the loss of lives, property and/or to prevent environmental harm d) any other work as agreed by the ADEM (or nominated delegate) and considered essential to the Proposal, or as approved by the EPA (where an EPL is in effect).
17	**High Noise Generating Activities** Rock breaking or hammering, jack hammering, pile driving, vibratory rolling, cutting of pavement, concrete or steel and any other activities which result in impulsive or tonal noise generation shall not be undertaken for more than three hours, without a minimum one hour respite period unless otherwise agreed to by the ADEM, or as approved by the EPA (where relevant to the issuing of an EPL), unless inaudible at nearby residential properties and/or other noise sensitive receivers.

CoA number	Condition
	Noise and Vibration
18	**Construction Noise and Vibration** Construction noise and vibration mitigation measures shall be implemented through the CEMP, in accordance with TfNSW's *Construction Noise and Vibration Strategy* (DMS-ST-157) and the EPA's *Interim Construction Noise Guideline* (Department of Environment and Climate Change, 2009). The mitigation measures shall include, but not be limited to: a) details of construction activities and an indicative schedule for construction works b) identification of construction activities that have the potential to generate noise and/or vibration impacts on surrounding land uses, particularly sensitive noise receivers c) detail what reasonable and feasible actions and measures shall be implemented to minimise noise impacts (including those identified in the EIA) d) procedures for notifying sensitive receivers of construction activities that are likely to affect their noise and vibration amenity, as well as procedures for dealing with and responding to noise complaints e) an Out Of Hours Work Protocol (OOHWP) for the assessment, management and approval of works outside the standard construction hours identified in Condition 16 of this approval, including a risk assessment process which deems the out of hours activities to be of low, medium or high environmental risk, is to be developed. All out of hours works are subject to approval by the ADEM, or as approved by the EPA (where relevant to the issuing of an EPL). The OOHWP should be consistent with TfNSW's *Construction Noise and Vibration Strategy* (DMS-ST-157) f) a description of how the effectiveness of actions and measures shall be monitored during the proposed works, clearly indicating the frequency of monitoring, the locations at which monitoring shall take place, recording and reporting of monitoring results and if any exceedance is detected, the manner in which any non-compliance shall be rectified.
19	**Vibration Criteria** Vibration (other than from blasting) resulting from construction and received at any structure outside of the Project shall be limited to: a) for structural damage vibration – British Standard 7385 Part 2-1993 *Evaluation and measurement for vibration in buildings Part 2* b) for human exposure to vibration – the acceptable vibration values set out in the *Environmental Noise Management Assessing Vibration: A Technical Guideline* (Department of Environment and Conservation, 2006). These limits apply unless otherwise approved by the ADEM through the CEMP.
20	**Piling** Wherever practical, piling activities shall be completed using non-percussive piles. If percussive piles are proposed to be used, approval of the ADEM shall be obtained prior to commencement of piling activities.
21	**Non-Tonal Reversing Beepers** Non-tonal reversing beepers (or an equivalent mechanism) shall be fitted and used on all construction vehicles and mobile plant regularly used on site (i.e. greater than one day) and for any out of hours work.
22	**Operational Noise and Vibration Review** The proponent shall prepare an Operational Noise and Vibration Review (ONVR). The objective of the ONVR is to identify a framework for the management of operational noise which, as far as reasonably practical, minimises increases in operational noise levels at

CoA number	Condition
	surrounding sensitive receivers as a result operation of the Wolli Creek Substation. The ONVR is be prepared in consultation with Sydney Trains, and is to: a) identify the project specific noise levels and targets for surrounding sensitive receivers for substation operations b) identify all reasonable and feasible noise and vibration mitigation measures which could be applied to the new substation operations consistent with the *Noise Policy for Industry* (EPA, 2017) c) identify specific physical and other mitigation measures for controlling noise (whether at the source and/or the receiver), including location, type and timing of implementation of the proposed operational noise mitigation measures d) seek feedback from directly affected receivers on the final mitigation measures proposed in the review. A copy of the ONVR shall be submitted to the EMR for review and endorsement. The EMR is to be given a minimum period of 7 days to review and endorse the ONVR. Following receipt of the EMR's endorsement, the ONVR shall be submitted to the ADEM for approval, at least one month prior to commencement of construction of the substation, or the construction of physical noise mitigation structures/measures (or such time as is otherwise agreed by the ADEM). The approved physical mitigation measures are to be installed prior to the commencement of operations, unless otherwise agreed by the ADEM.
23	**Operational Noise Compliance Monitoring** Monitoring of operational noise levels shall be undertaken within three months of the commencement of operation of the new Wolli Creek Substation. The noise monitoring shall be undertaken to confirm compliance with the predicted noise levels/targets. Should the results of the monitoring identify exceedances of the predicted operational noise levels/targets identified in the ONVR, additional reasonable and feasible mitigation measures would be implemented in consultation with the affected property owners, to the satisfaction of the ADEM
24	**Noise impact on educational facilities** Potentially affected pre-schools, schools, universities and any other affected permanent educational institutions shall be consulted in relation to noise mitigation measures to identify any noise sensitive periods (e.g. exam periods). As much as reasonably practicable noise intensive construction works in the vicinity of affected educational buildings are to be minimised.
25	**Property condition surveys** Subject to landowner agreement, property condition surveys shall be completed prior to piling, excavation or bulk fill or any vibratory impact works including jack hammering and compaction (Designated Works) in the vicinity of the following buildings/structures: (a) all buildings/structures/roads within a plan distance of 50 metres from the edge of the Designated Works (b) all heritage listed buildings and other sensitive structures within 100 metres from the edge of the Designated Works. Property condition surveys need not be undertaken if a risk assessment indicates that selected buildings/structures/roads identified in (a) and (b) will not be affected as determined by a qualified geotechnical and construction engineering expert with appropriate registration on the National Professional Engineers Register prior to commencement of Designated Works. Selected potentially sensitive buildings and/or structures shall first be surveyed prior to the commencement of the Designated Works and again immediately upon completion of the Designated Works.

CoA number	Condition
	All owners of assets to be surveyed, as defined above, are to be advised (at least 14 days prior to the first survey) of the scope and methodology of the survey, and the process for making a claim regarding property damage. A copy of the survey(s) shall be given to each owner. A register of all properties surveyed shall be maintained. Any damage to buildings, structures, lawns, trees, sheds, gardens, etc. as a result of construction activity direct and indirect (i.e. including vibration and groundwater changes) shall be rectified at no cost to the owner(s).
	Flora and Fauna
26	**Replanting program** All cleared vegetation shall be offset in accordance with TfNSW's *Vegetation Offset Guide* (DMS-SD-087). All vegetation planted on-site is to consist of locally endemic native species, unless otherwise agreed by the ADEM, following consultation with the relevant council, where relevant, and/or the owner of the land upon which the vegetation is to be planted.
27	**Removal of trees or vegetation** Separate approval, in accordance with TfNSW's *Application for Removal or Trimming of Vegetation* (DMS-FT-078), is required for the trimming, cutting, pruning or removal of trees or vegetation where the impact has not already been identified in the EIA for the Project. The trimming, cutting, pruning or removal of trees or vegetation shall be undertaken in accordance with the conditions of that approval.
	Contamination and Hazardous Materials
28	**Duty to Notify** If previously unidentified contamination is identified within the site, the Proponent is to determine whether there is a Duty to Report under section 60 of the *Contaminated Land Management Act 1997*, and notify the EPA in accordance with the EPA's *Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997* (Environment Protection Authority, 2015).
29	**Unidentified Contamination (other than asbestos)** If previously unidentified contamination (excluding asbestos) is discovered during construction, work in the affected area must cease immediately, and an investigation must be undertaken and a report prepared to determine the nature, extent and degree of any contamination. The level of reporting must be appropriate for the identified contamination in accordance relevant EPA guidelines, including *Guidelines for Consultants Reporting on Contaminated Sites* (OEH, 2011). The proponent shall: (a) submit a copy of any contamination report to the EMR for review. The EMR is to be given a minimum period of seven days to review and provide any comments to the Proponent in relation to the report. (b) submit a copy of the report to the ADEM for consideration upon completion of the EMR review period. The ADEM shall determine whether consultation with the relevant council and/or EPA is required prior to continuation of construction works within the affected area. ***Note:*** *In circumstances where both previously unidentified asbestos contamination and other contamination are discovered within a common area, nothing in these conditions shall prevent the preparation of a single investigation report to satisfy the requirements of both Condition 29 and Condition 30.*

CoA number	Condition
30	**Asbestos Management** If previously unidentified asbestos contamination is discovered during construction, work in the affected area must cease immediately, and an investigation must be undertaken and a report prepared to determine the nature, extent and degree of the asbestos contamination. The level of reporting must be appropriate for the identified contamination in accordance with relevant EPA and SafeWork NSW guidelines and include the proposed methodology for the remediation of the asbestos contamination. Remediation activities must not take place until receipt of the investigation report. Works may only recommence upon receipt of a validation report from a suitably qualified contamination specialist that the remediation activities have been undertaken in accordance with the investigation report and remediation methodology. ***Note:*** *In circumstances where both previously unidentified asbestos contamination and other contamination are discovered within a common area, nothing in these conditions shall prevent the preparation of a single investigation report to satisfy the requirements of both Condition 29 and Condition 30.*
31	**Storage and Use of Hazardous Materials** Construction hazard and risk issues associated with the use and storage of hazardous materials shall be addressed through risk management measures, which shall be developed prior to construction as part of the overall CEMP, in accordance with relevant EPA guidelines, TfNSW's *Chemical Storage and Spill Response Guidelines* (DMS-SD-066) and Australian and ISO standards. These measures shall include: a) the storage of hazardous materials, and refuelling/maintenance of construction plant and equipment to be undertaken in clearly marked designated areas that are designed to contain spills and leaks b) spill kits, appropriate for the type and volume of hazardous materials stored or in use, to be readily available and accessible to construction workers. Kits are to be kept at hazardous materials storage locations, in site compounds and on specific construction vehicles. Where a spill to a watercourse is identified as a risk, spill kits are to be kept in close proximity to potential discharge points in support of preventative controls c) all hazardous materials spills and leaks to be reported to site managers and actions to be immediately taken to remedy spills and leaks d) training in the use of spill kits to be given to all personnel involved in the storage, distribution or use of hazardous materials.
32	**Contamination investigation** If recommended by a Stage 1 preliminary site investigation report, a Stage 2 detailed site investigation shall be undertaken prior to construction commencing. The assessment shall generally be undertaken in accordance with: (a) *The National Environment Protection (Assessment of Site Contamination) Amendment Measure (NEPM) 2013* (b) *Contaminated Sites - Sampling Design Guidelines (EPA, 1995)* (c) *AS4482 (2005) Guide to the investigation and sampling of sites with potentially contaminated soil* (2005). The report shall be prepared in accordance with the DECCW's *Guidelines for Consultants Reporting on Contaminated Sites* (Office of Environment and Heritage, 2011). The report shall include a preliminary waste classification in accordance with the NSW EPA *Waste Classification Guidelines* (EPA, 2014). Specific requirements for further investigation, remediation or management of any contamination within the identified areas recommended in the Stage 2 Detailed Site Investigation shall be included in the CEMP as appropriate.

CoA number	Condition
33	**Contamination Management Plan** Specific requirements for further investigation, remediation and management of any potential contamination within the identified areas recommended in the Phase 2 contamination assessment shall be included in a contamination management plan (CMP) as appropriate.
	Erosion and Sediment Control
34	**Erosion and Sediment Control** Soil and water management measures shall be prepared and implemented as part of the CEMP for the mitigation of water quality and hydrology impacts during construction of the Project. The management measures shall be prepared in accordance with *Managing Urban Stormwater: Soils and Construction - Volume 1,* 4th Edition (Landcom, 2004).
	Lighting
35	**Lighting scheme** A lighting scheme for the construction and operation of the Project is to be developed by a suitably qualified lighting designer and prepared in accordance with AS 1158 "*Road Lighting*" and AS 4282 "*Control of the Obtrusive Effect of Outdoor Lighting*". The lighting scheme shall address the following as relevant: (a) consideration of lighting demands of different areas (b) strategic placement of lighting fixtures to maximise ground coverage (c) use of LED lighting (d) minimising light spill by directing lighting into the station and platform (e) control systems for lighting that dim or switch-off lights settings according to the amount of daylight the zone is receiving (f) motion sensors to control low traffic areas (g) allowing the lighting system to use low light or switch off light settings while meeting relevant lighting Standards requirements, and (h) ensuring security and warning lighting is not directed at neighbouring properties. The proposed lighting scheme is to be submitted to and endorsed by the TfNSW Technical Design Team.
	Sustainability
36	**Sustainability officer** The Proponent shall appoint a suitably qualified and experienced sustainability officer who is responsible for implementing sustainability objectives for the Project. Details of the sustainability officer, including defined responsibilities, duration and resource allocation throughout the appointment consistent with the Proponent's sustainability objectives are to be submitted to the satisfaction of the ADSPD prior to preparation of the pre-construction sustainability report (PCSR).
37	**Pre-construction sustainability report** Prior to commencement of construction, a PCSR shall be prepared to the satisfaction of the ADSPD. The Report shall include the following minimum components: (a) completed ISCA Scorecard demonstrating credits targeted to meet an ISCA Infrastructure Sustainability Rating Scheme (v1.2) Design and As Built, Excellent Rating (b) a statement outlining the Proponent's own corporate sustainability obligations, goals, targets, in house tools, etc.

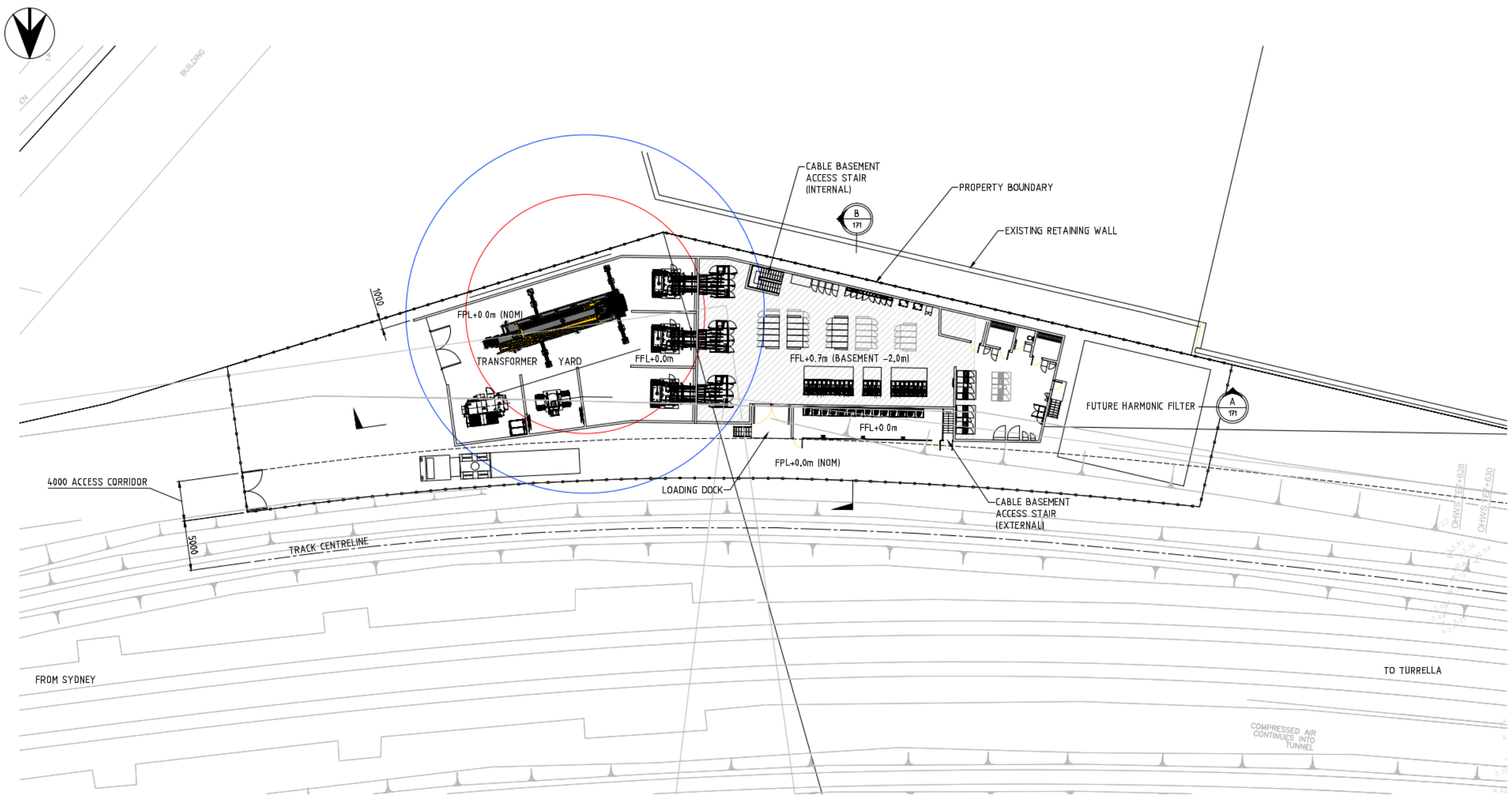
CoA number	Condition
	(c) a section specifying a process to identify and progress innovation initiatives on the project as appropriate. The process should identify any areas of innovation that are currently being explored and/or implemented on the Project. The Proponent shall submit a copy of the PCSR to the ADSPD for approval, at least 14 days prior to the commencement of construction (or within such time as otherwise agreed to by the ADSPD).
	Urban design and landscaping
38	**Urban Design Plan** An Urban Design Plan (UDP) is to be submitted to TfNSW and endorsed by the Precincts and Urban Design team during detailed design. The UDP is to address the fundamental design principles as outlined in '*Around the Tracks' – urban design for heavy and light rail, TfNSW, Interim 2016*. The UDP shall: a) demonstrate a robust understanding of the site through a comprehensive site analysis to inform the design direction, demonstrate connectivity with street networks, transport modes, active transport options, and pedestrian distances b) identify opportunities and challenges c) establish site specific principles to guide and test design options d) demonstrate how the preferred design option responds to the design principles established in 'Around the Tracks', including consideration of Crime Prevention through Environmental Design Principles The UDP is to include the Public Domain Plan (PDP) for the chosen option and will provide analysis of the: 1) materials schedule including materials and finishes for proposed built works, colour schemes, paving and lighting types for public domain, fencing and landscaping 2) an Artist's Impression or Photomontage to communicate the proposed changes to the precinct. The following design guidelines are available to assist and inform the UDP for the Proposal: 1. *TAP Urban Design Plan, Guidelines*, TfNSW, Draft 2018 2. *Commuter Car Parks, urban design guidelines*, TfNSW, Interim 2017 3. *Managing Heritage Issues in Rail Projects Guidelines*, TfNSW, Interim 2016 4. *Creativity Guidelines for Transport Systems*, TfNSW, Interim 2016 5. *Water Sensitive Urban Design Guidelines for TfNSW Projects*, 2016
	Traffic and Access
39	**Traffic Management Plan** The Proponent shall prepare a construction traffic management plan (TMP) as part of the CEMP which addresses, as a minimum, the following: (a) ensuring adequate road signage at construction work sites to inform motorists and pedestrians of the work site ahead to ensure that the risk of road accidents and disruption to surrounding land uses is minimised (b) maximising safety and accessibility for pedestrians and cyclists (c) ensuring adequate sight lines to allow for safe entry and exit from the site (d) ensuring access to railway stations, businesses, entertainment premises and residential properties (unless affected property owners have been consulted and appropriate alternative arrangements made) (e) managing impacts and changes to on and off street parking and requirements for any temporary replacement provision (f) parking locations for construction workers away from stations and busy residential areas and details of how this will be monitored for compliance

CoA number	Condition
	(g) routes to be used by heavy construction-related vehicles to minimise impacts on sensitive land uses and businesses (h) measures to manage traffic flows around the area affected by the Project, including as required regulatory and direction signposting, line marking and variable message signs and all other traffic control devices necessary for the implementation of the TMP. The Proponent shall consult with the relevant roads authority during preparation of the TMP, as required. The performance of all Proposal traffic arrangements must be monitored during construction.
40	**Road condition reports** Prior to construction commencement, the Proponent shall prepare road condition surveys and reports on the condition of roads and footpaths affected by construction. Any damage resulting from the construction of the Project, aside from that resulting from normal wear and tear, shall be repaired at the Proponent's expense.
41	**Road safety audit** A Road Safety Audit would be undertaken as part of the detailed design process. The Road Safety Audit would include specific assessment of items including access to the new substation building from Lusty Street. The Road Safety Audit is to be submitted to and endorsed by TfNSW. Any recommendations made in the Audit relating to Bayside Council matters outside the project scope and boundary would be provided to Council for their recommendation and or action.
	Heritage Management
42	**Indigenous and non-Indigenous heritage** If previously unidentified Indigenous or non-Indigenous heritage/archaeological items are uncovered during construction works, the procedures contained in the TfNSW *Unexpected Heritage Finds Guideline* (DMS-SD-115) shall be followed and all works in the vicinity of the find shall cease. The TfNSW Environment and Planning Manager shall be immediately notified to co-ordinate a response, which may include seeking appropriate advice from a suitably qualified and experienced heritage advisor (in consultation with the Heritage NSW where appropriate). Works in the vicinity of the find shall not re-commence until clearance has been received from TfNSW and/or the heritage advisor.
43	**Vibration Impacts to Heritage Listed Structures at the Station** To effectively mitigate potential impacts of vibration on the heritage structures within the Proposal Area, activities that cause vibration are to be managed in accordance with TfNSW's *Construction Noise and Vibration Strategy* (DMS-ST-157).
44	**Protection of State heritage items** Construction of the Project within the State Heritage Register curtilage of Sydney Terminal and Central Railway Stations Group must not commence until an exemption under section 57 of the NSW *Heritage Act 1977* (s57 exemption) has been obtained. Works must be undertaken in accordance with the requirements of the s57 exemption, and recommendations made in the Statement of Heritage Impact (Aecom, 2020). The Statement of Heritage Impact (Aecom, 2020) prevails over the Statement of Heritage Impact (Aecom, 2019) appended to the *Wolli Creek Substation and T8 Line Power Supply Upgrade – Review of Environmental Factors* (TfNSW, 2019) for works within the curtilage of Sydney Terminal and Central Railway Stations Group.

CoA number	Condition
	In the event of an inconsistency between the requirements of the s57 exemption and the Statement of Heritage Impact, the s57 exemption will prevail to the extent of the inconsistency.
45	**Archival recording** Archival recording is to be undertaken prior to the commencement of construction in accordance with the NSW Heritage Division guidelines *Photographic recording of heritage items using film or digital capture* (NSW Heritage Office, 2006) and *How to prepare archival records* (NSW Heritage Office, 1998). Copies are to be provided to Sydney Trains for future reference.

END OF CONDITIONS

Appendix C Substation design



PLAN
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RL0.0m (NOM) EQUALS THE 1/100 YEAR FLOOD LEVEL

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AMD	DESCRIPTION	DESIGNER SIGN./DATE	VERIFIED SIGN./DATE	APPROVED SIGN./DATE
2	CLIENT COMMENTS INCORPORATED. CONCEPT DESIGN	SB/01.11.19	MD/01.11.19	RA/01.11.19
1	DRAFT CONCEPT DESIGN	SB/25.10.19	MD/25.10.19	RA/25.10.19

CO-ORDINATE SYSTEM: ISG | HEIGHT DATUM: AHD | SCALE: 1:200

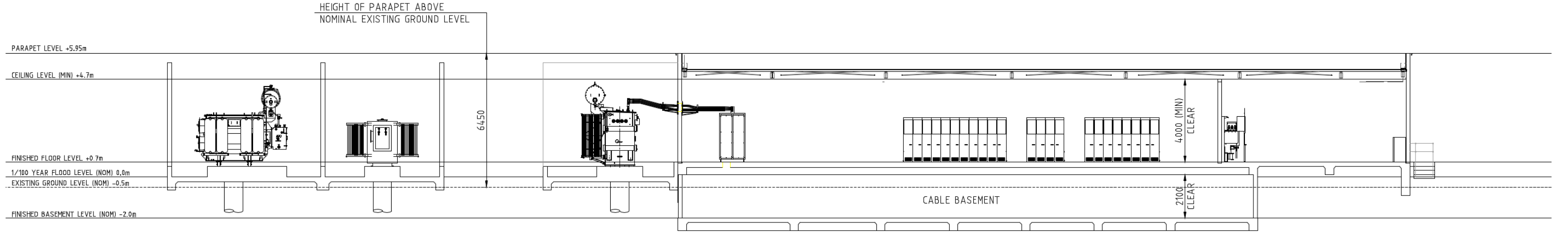
AURECON ELECTRICAL

DRAWN: PETER McFARLANE
DESIGNED: SHAUN BARLETT
DRG CHECK: JOSH NELSON
DESIGN CHECK: RICHARD ARNOLD
APPROVED: CHRIS BOYLE

WOLLI CREEK TRACTION SUBSTATION
AIRPORT LINE
SUBSTATION
CONCEPT
LAYOUT

FILE No. | SHEET: 1 OF 1 | A1
STATUS: CONCEPT DESIGN
DRG No. MTMS-APT-ANG-SB-HV-DWG-743121 | 2 | EDMS No.

Plotted by PETER MCFARLANE



SECTION A
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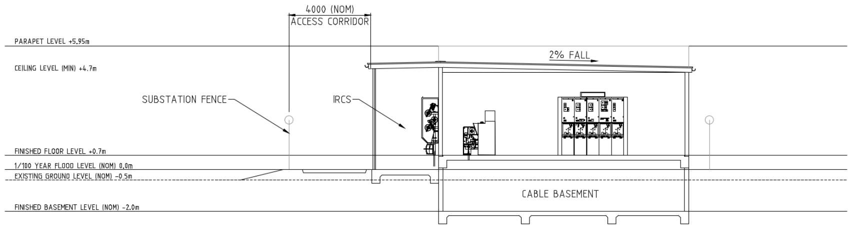

SECTION B
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0 1 5 10 METRES 1 TO 100

AMD	DESCRIPTION	DESIGNER SIGN./DATE	VERIFIED SIGN./DATE	APPROVED SIGN./DATE
2	CLIENT COMMENTS INCORPORATED. CONCEPT DESIGN	SB/01.11.19	MD/01.11.19	RA/01.11.19
1	DRAFT CONCEPT DESIGN	SB/25.10.19	MD/25.10.19	RA/25.10.19

CO-ORDINATE SYSTEM: ISG HEIGHT DATUM: AHD SCALE: 1:100

NSW GOVERNMENT Transport for NSW

aurecon www.aurecongroup.com

AURECON ELECTRICAL

DRAWN PETER McFARLANE
DESIGNED SHAUN BARLETT
DRG CHECK JOSH NELSON
DESIGN CHECK RICHARD ARNOLD
APPROVED CHRIS BOYLE

WOLLI CREEK TRACTION SUBSTATION
AIRPORT LINE
SUBSTATION
CONCEPT
SECTIONS

FILE No. | SHEET: 1 OF 1 | A1
STATUS: CONCEPT DESIGN ©
DRG No. MTMS-APT-ANG-SB-HV-DWG-743171 | 2 | EDMS No.

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Appendix D Statement of Heritage Impact

AECOM Imagine it. Delivered.

MTMS: T8 Airport Line Power Supply Upgrade
Transport for New South Wales
3 April 2020

More Trains, More Services: T8 Airport Line Power Supply Upgrade

Historical Heritage Assessment

More Trains More Services: T8 Airport Line Power Supply Upgrade

Historical Heritage Assessment

Client: Transport for New South Wales

ABN: 18 804 239 602

Prepared by

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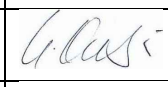
3-April-2020

Job No.: 60488497

Quality Information

Document	More Trains More Services: T8 Airport Line Power Supply Upgrade – Historical Heritage Assessment
Ref	60488497
Date	3-April-2020
Prepared by	Dr Darran Jordan
Reviewed by	Geordie Oakes and Chris Lewczak

Revision History

Revision	Revision Date	Details	Authorised Name/Position	Signature
0.1	22-Oct-2019	Draft	Geordie Oakes, Principal Archaeologist, AECOM	
0.2	24-Oct-2019	Draft	Chris Lewczak, Principal Heritage Specialist, AECOM	
0.3	1-Nov-2019	Draft	Jamie McMahon, Associate Director, AECOM	
A	3-Nov-2019	Draft	Ashe Earl-Peacock, TfNSW	
B	5-Nov-2019	Draft	Steven Barry, TfNSW Heritage Specialist	
C	22-Nov-2019	Draft	Glen Isbester, TfNSW	
D	7-Feb-2020	Draft	Steven Barry, TfNSW Heritage Specialist	
E	19-Feb-2020	Draft	Glen Isbester, TfNSW	
F	21 Feb 2020	Draft	Darran Jordan, Principal Archaeologist, AECOM	
G	24 Feb 2020	Final	Jamie McMahon, Associate Director, AECOM	
H	3 April 2020	Final	Darran Jordan, Principal Archaeologist, AECOM	

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Executive Summary

Transport for NSW (TfNSW) is the government agency responsible for the delivery of major transport infrastructure projects in NSW and is the proponent for the T8 Airport Line Power Supply Upgrade (the 'Proposal'). This report assesses impacts to historic heritage associated with the Proposal. These upgrade works are proposed to be undertaken at Chalmers Street Substation near Central Station.

This historical heritage assessment has been prepared in support of a Review of Environmental Factors (REF), which has been prepared to assess the environmental impacts associated with the construction and operation of the Proposal under the provisions of Division 5.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The Proposal would include the following key elements:

Chalmers Street Substation

- Installation of 11kV and 33kV feeders between the Prince Alfred Park portal of the Airport Line Tunnel and Chalmers Street Substation. These will only be installed in existing ducts between the Service Pit and Tunnel ("Mortuary Tunnel") and the Chalmers Street Substation.
- Trenching approximately 80 metres (m) adjacent to the tracks between the Prince Alfred Park Portal and the Service Pit and Tunnel ("Mortuary Tunnel") and installation of 11kV and 33kV feeders in the new trenched route.
- A maximum of six 150 mm diameter penetrations within the Service Pit and Tunnel ("Mortuary Tunnel").
- The movement of workers and equipment.

The following historic heritage items either directly intersect or are within 100 m of the proposed works.

Chalmers Street Substation, near Central Station

The proposed works at the Chalmers Street Substation, near Central Station directly intersect with the State significant item:

- Sydney Terminal and Central Railway Stations Group / Central Railway Station group (SHR 01255, RailCorp's s170 heritage and conservation register (4801296) and Sydney Local Environmental Plan (LEP) 2012 I824).

Other listed items within 100 m of the proposed works include:

- Mortuary Railway Station and site (SHR 00157, RailCorp's s170 heritage and conservation register (4803219) and Sydney LEP 2012 I194)
- Redfern Aboriginal Children's Services and Archives (SHR 01951)
- Cathedral of the Annunciation of Our Lady (SHR 01881) / Greek Orthodox Church Group (Sydney LEP 2012 I1476)
- Railway Institute Building (SHR 01257 and Sydney LEP 2012 I1472)
- Prince Alfred Park (Sydney LEP 2012 I1406)
- Former Co-masonic Temple Including Interior (Sydney LEP 2019 I195)
- Former Mercantile Bank Chambers (Sydney LEP 2019 I199)
- Cottage 137-139 Regent Street Chippendale (Sydney LEP 2012 I198)
- Chippendale Conservation Area (Sydney LEP 2012 C9)
- Redfern Estate Conservation Area (Sydney LEP 2012 C56)

- Darlington Heritage Conservation Area (Sydney LEP 2012 C11 and Register of the National Estate ID 1785).

Non-statutory Register of the National Estate (RNE) listings within 100 m included:

- The Block (RNE ID 101630).

It was concluded that direct impacts will occur within the curtilage of the State significant item Sydney Terminal and Central Railway Stations Group / Central Railway Station group (SHR 01255 and Sydney LEP 2012 I824). These will consist of trenching in an area without any identified subsurface archaeological potential, installation of 11kV and 33kV feeders in existing underground routes and ducts, the movement of workers and equipment and a maximum of six 150 mm diameter penetrations within the Service Pit and Tunnel ("Mortuary Tunnel").

The following recommendations were made:

Recommendation 1 – Heritage Induction

A heritage induction should be provided to all on-site staff and contractors involved in the Proposal. The induction should clearly describe the heritage items located in the surrounding vicinity and their curtilages to ensure that they are avoided from all impacts, including accidental impacts, during works.

Recommendation 2 – Protection Measures

To avoid any accidental impacts during works adequate protection and management methods should be put into place. These measures should be defined in the Construction Environmental Management Plan (CEMP). Protection measures should at a minimum include details on the use of temporary fencing around work areas to delineate them and provide separation from the surrounding heritage items, ensuring that spoil from the trenched excavation is not stockpiled against heritage buildings or structures and maintaining adequate clearance of machinery to heritage structures.

Recommendation 3 – Stop Work Procedure

The CEMP is to include details on stop work procedures in accordance with Transport for NSW's (TfNSW's) *Unexpected Heritage Finds Guideline* (Transport for NSW, 2016) to manage activities in the unlikely event that unexpected archaeological relics or deposits are encountered during works.

Recommendation 4 – Service Pit and Tunnel

The works proposed to be undertaken for the Service Pit and Tunnel are consistent with its ongoing use as a service pathway. Although physical impacts are unavoidable, they will be limited to a maximum of six 150 mm diameter penetrations and further minimised by:

- investigating opportunities to reduce the number of penetrations where practical;
- grouping the penetrations to minimise the extent of impact;
- ensuring the penetrations are neat, consistent and neatly grouted; and
- locating penetrations in brick, as it has been identified as non-original fabric.

Recommendation 5 – Approvals Pathway

Approval is required for the proposed works within the curtilage of the State significant item Sydney Terminal and Central Railway Stations Group / Central Railway Station group (SHR 01255 and Sydney LEP 2012 I824). A S57 standard exemption application to Heritage NSW is the appropriate approval pathway for the proposed works.

1.0 Introduction

1.1 Proposal Background

The Proposal for this assessment consists of the upgrade of the rail power system through to Chalmers Street Substation near Central Station.

The Chalmers Street Substation works are located near Central Station in Surry Hills at the northern end of the Proposal area. Surry Hills is an inner city, eastern suburbs area of Sydney, located immediately to the south-east of the Sydney CBD. This assessment refers specifically to works being undertaken at Chalmers Street Substation, near Central.

Proposed works at Chalmers Street Substation include the installation of 11kV and 33kV feeders between the Prince Alfred Park portal of the Airport Line Tunnel and Chalmers Street Substation.

1.2 Proposal area

The larger area associated with the wider project is indicated on Figure 1, which shows the broader regional context for these works. The specific location within the broader Proposal area is defined on Figure 2, Figure 3 and Figure 4 which comprises the area and works that have been assessed in this report.

1.3 Chalmers Street Substation

The Proposal would include the following key elements (as shown on Figure 4):

Chalmers Street Substation

- Installation of 11kV and 33kV feeders between the Prince Alfred Park portal of the Airport Line Tunnel and Chalmers Street Substation. These will only be installed in existing ducts between the Service Pit and Tunnel (“Mortuary Tunnel”) and the Chalmers Street Substation.
- Trenching approximately 80 metres (m) adjacent to the tracks between the Prince Alfred Park Portal and the Service Pit and Tunnel (“Mortuary Tunnel”) and installation of 11kV and 33kV feeders in the new trenched route.
- A maximum of six 150 mm diameter penetrations within the Service Pit and Tunnel (“Mortuary Tunnel”).
- The movement of workers and equipment.

1.4 Assessment Methodology

This historic heritage assessment has been undertaken in accordance with the NSW Heritage Division *Assessing Heritage Significance* (NSW Heritage Office, 2001) and *Statements of Heritage Impact* (NSW Heritage Office & Department of Urban Affairs & Planning, 2002) and includes:

- desktop searches of relevant heritage registers;
- review of Proposal drawings and concept design reports;
- review of the following:
  - heritage register listings;
  - historic plans from the Sydney Trains Plans Room; and
  - previous reports and other relevant documentation provided by TfNSW; and

- background research into the historical development of the Proposal area using historic plans, historical photographs and other primary and secondary historical sources as relevant and referenced in Section 8.0.

The Proposal area was subject to desktop assessment only.

1.5 Report Limitations

The purpose of this report is to identify and assess historic heritage and archaeological potential which might be impacted by the Proposal. Predictions have been made within this report about the probability of subsurface archaeological materials occurring, based on surface indications and environmental contexts. However, it is possible that materials may occur in areas without surface indications and in any environmental context. These would be addressed in accordance with TfNSW's *Unexpected Heritage Finds Guideline* (Transport for NSW, 2016). This report is based on the concept design for the Proposal. It is noted that during detailed design the Proposal may be changed and/or refined. If significantly different to the design covered by this assessment, further heritage assessment may be required to assess additional impacts to heritage values.

A summary of the statutory requirements regarding historical heritage is provided in Section 2.0. The summary is provided based on the experience of the author with the heritage system in Australia and does not purport to be legal advice. It should be noted that legislation, regulations and guidelines change over time and users of the report should satisfy themselves that the statutory requirements have not changed since the report was written.

This report addresses potential impacts to historical heritage only. Impacts to Aboriginal heritage are managed under standalone legislation and are not addressed in this assessment. Recent archaeological investigations undertaken by Artefact Heritage in 2019 have identified Aboriginal objects contained in subsurface sand deposits within Sydney Yard, attesting to the use of the area by Aboriginal peoples prior to European occupation. A single artefact scatter site, registered as 'CRS AS 01 (Central Railway Station Artefact scatter 01)', AHIMS #45-6-3654, was recorded approximately 200 m to the north-west of the current Chalmers Street Proposal area, at the southern end of Platform 12 between tracks 12 and 15. The site card recording does not contain information on the exact depth of the find, but the site photograph included with it suggests the deposit was at approximately 3 m to 4 m depth.

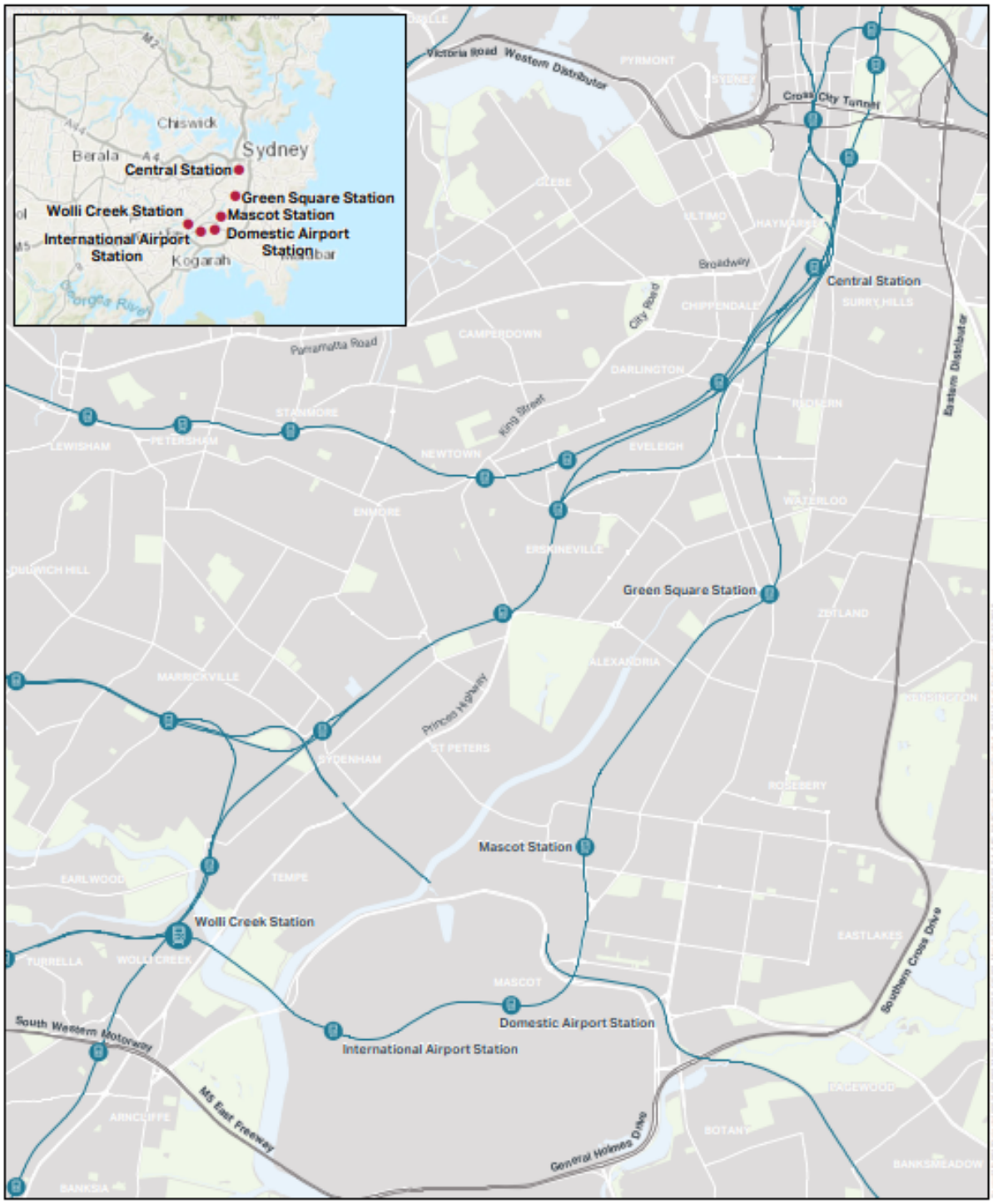

Figure 1 Regional Context

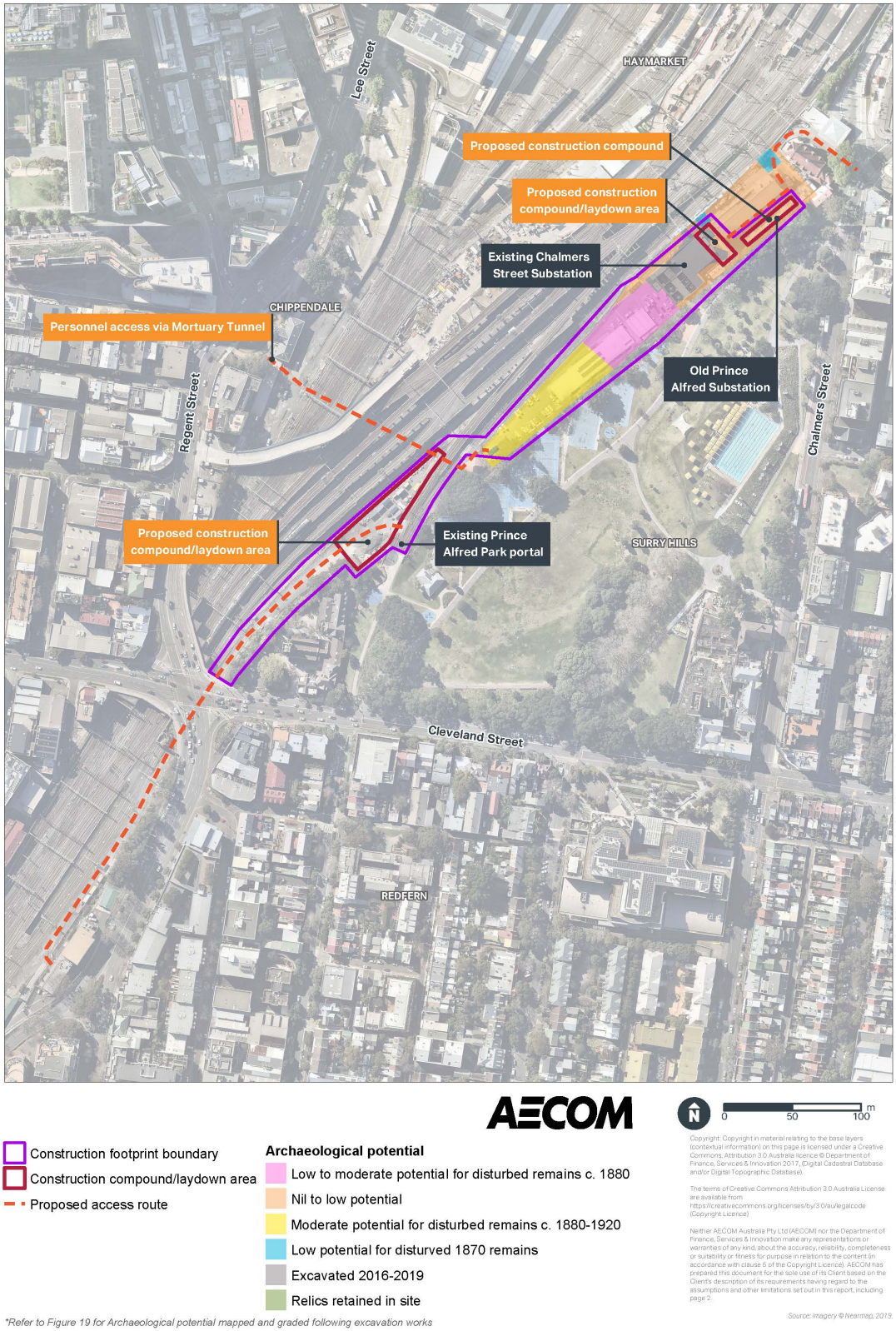

Figure 2 Proposed construction compound/laydown areas at Chalmers Street Substation

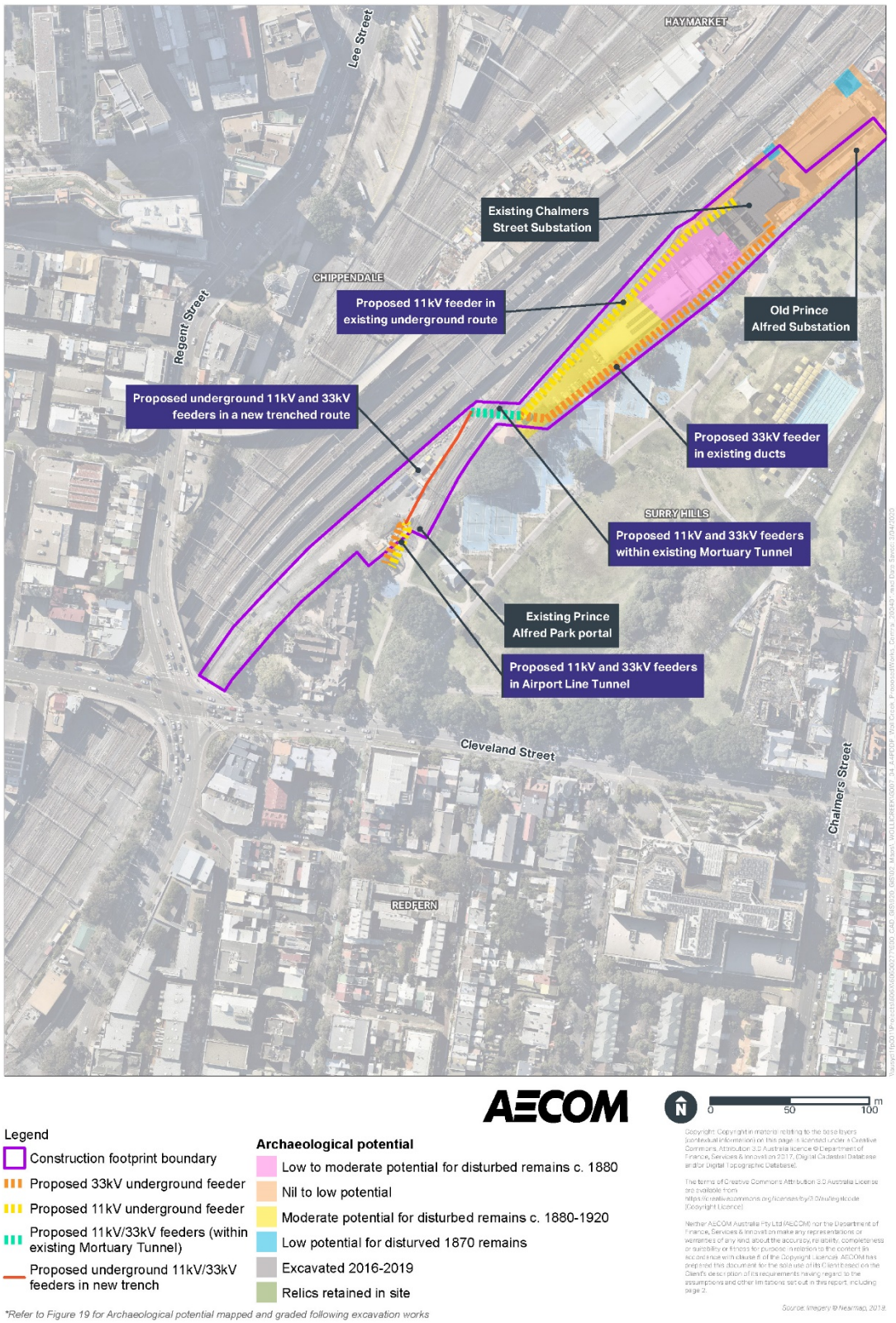

Figure 3 Proposed works at Chalmers Street Substation

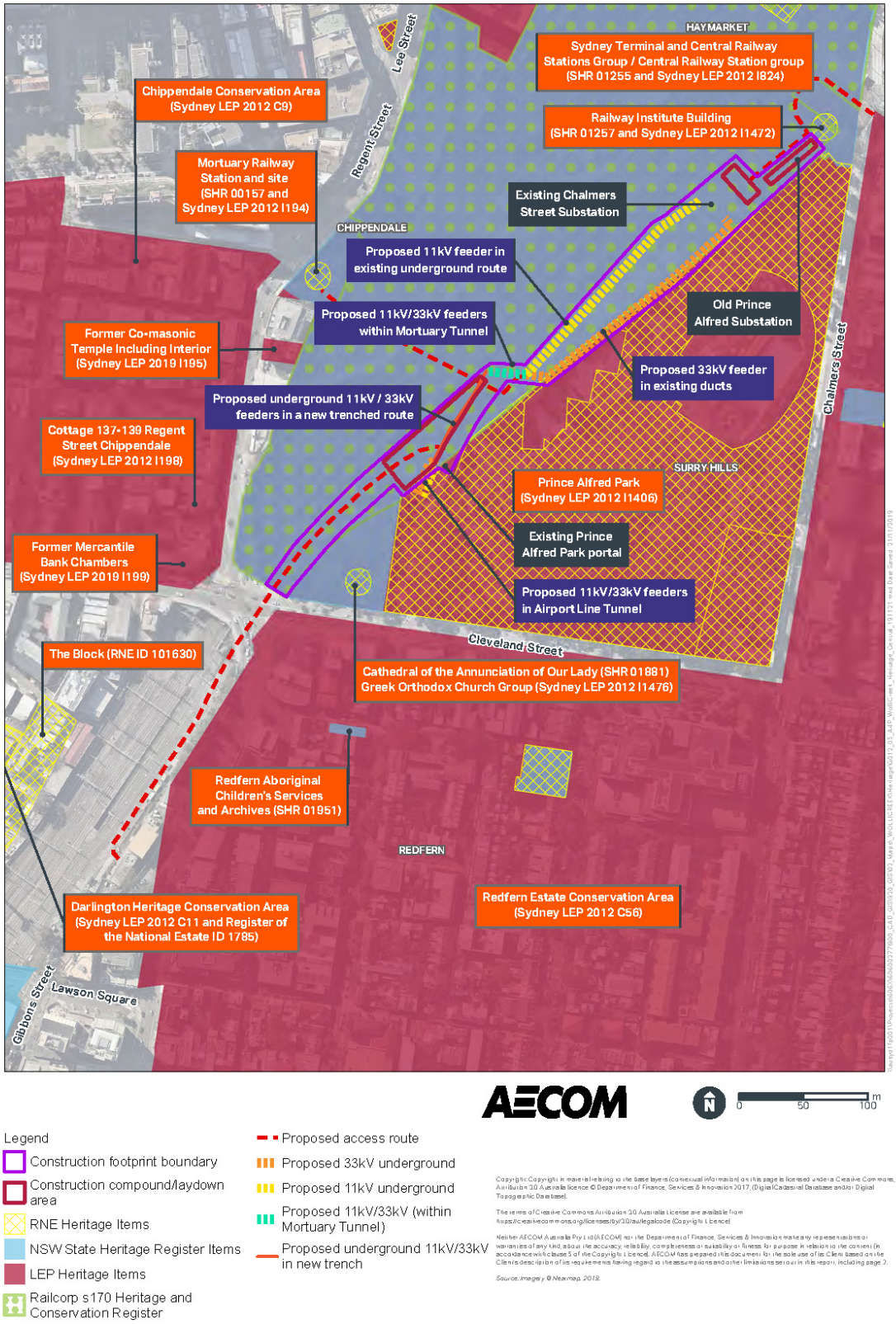

Figure 4 Chalmers Street Substation, near Central Station and heritage items

2.0 Statutory Context

Various planning and legislative documents govern how heritage is managed in NSW and Australia. The following section provides an overview of the requirements under each as they apply to the Proposal.

2.1 Commonwealth Legislation

2.1.1 Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)

The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) defines 'environment' as both natural and cultural environments and therefore includes Aboriginal and non-Aboriginal historic cultural heritage items. Under the EPBC Act, protected heritage items are listed on the National Heritage List (NHL) (items of significance to the nation) or the Commonwealth Heritage List (CHL) (items belonging to the Commonwealth or its agencies). These two lists replaced the Register of the National Estate (RNE). The RNE has been suspended and is no longer a statutory list; however, it remains as an archive.

Under Part 9 of the EPBC Act, any action that is likely to have a significant impact on a matter of National Environmental Significance (known as a controlled action under the EPBC Act), may only progress with approval of the Commonwealth Minister for the Department of the Environment and Energy (DotEE). An action is defined as a project, development, undertaking, activity (or series of activities), or alteration. An action would also require approval if:

- it is undertaken on Commonwealth land and would have or is likely to have a significant impact on the environment on Commonwealth land; and/or
- it is undertaken by the Commonwealth and would have or is likely to have a significant impact.

No items have been identified on the CHL, NHL or RNE within the Proposal area, meaning a referral under the EPBC Act with respect to heritage will not be required for the proposed works.

2.2 State Legislation

2.2.1 Environmental Planning and Assessment Act 1979 (NSW)

The NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) allows for the preparation of planning instruments to direct development within NSW. This includes Local Environment Plans (LEPs), which are administered by local government, and principally determine land use and the process for development applications. LEPs usually include clauses requiring that heritage be considered during development applications and a schedule of identified heritage items be provided. The EP&A Act also allows for the gazettal of State Environmental Planning Policies (SEPP). The works will be undertaken under Division 5 Subdivision 1 of the Infrastructure SEPP *State Environmental Planning Policy (Infrastructure) 2007* (NSW) (ISEPP 2007).

2.2.2 Infrastructure SEPP State Environmental Planning Policy (Infrastructure) 2007 (NSW)

SEPPs are environmental planning instruments which address planning issues within the State. SEPPs often make the Planning Minister the consent authority for the types of development they relate to. The ISEPP 2007 is of relevance to this Proposal, which refers specifically to the rail infrastructure developments under Division 5 Subdivision 1.

Clause 14 of ISEPP 2007 applies to infrastructure developments carried out by, or on behalf of, a public authority if the development is likely to impact a local heritage item or heritage conservation area (other than a heritage item that is also a State heritage item). Under ISEPP 2007, a public authority, or person/s acting on behalf of a public authority, must not carry out a development to which

this clause applies, unless an assessment of the proposed impact has been prepared and forwarded to the local government of the area for comment. Comments received within 21 days must be taken into consideration.

2.2.3 Heritage Act 1977 (NSW)

The *Heritage Act 1977* (as amended) was enacted to conserve the environmental heritage of NSW. Under Section 32, places, buildings, works, relics, movable objects or precincts of heritage significance are protected by means of either Interim Heritage Orders (IHO) or by listing on the NSW State Heritage Register (SHR). Items that are assessed as having State heritage significance can be listed on the SHR by the Minister on the recommendation of the NSW Heritage Council.

Proposals to alter, damage, move or destroy places, buildings, works, relics, movable objects or precincts protected by an IHO or listed on the SHR require an approval under Section 60.

Under Section 170 of the *Heritage Act 1977*, NSW Government agencies are required to maintain a register of heritage assets. The register places obligations on the agencies, but not on non-government proponents, beyond their responsibility to assess the impact on surrounding heritage items. Under Section 170A(1)(c) Sydney Trains must provide the Heritage Division with written notice prior to demolition of any place, building or work entered in its register.

Items identified on the SHR that occur within 100 metres of the Proposal area have been summarised in Table 1.

Archaeological features and deposits are afforded statutory protection by the 'relics provision'. Section 4(1) of the *Heritage Act 1977* (as amended 2009) defines 'relic' as follows:

> *any deposit, artefact, object or material evidence that:*
>
> *(a) relates to the settlement of the area that comprises NSW, not being Aboriginal settlement, and*
>
> *(b) is of State or local heritage significance.*

The 'relics provision' requires that no archaeological relics be disturbed or destroyed without prior consent from the Heritage Council of NSW. Therefore, no ground disturbance works may proceed in areas identified as having archaeological potential without first obtaining an Excavation Permit pursuant to Section 140 of the *Heritage Act 1977*, or an Archaeological Exception under Section 139 of the *Heritage Act 1977*.

The Heritage Council must be notified of the discovery of a relic under Section 146 of the *Heritage Act 1977.*

2.3 Local Government

The proposed works at Chalmers Street Substation, near Central Station, fall under the Sydney LEP 2012. Part 5, Section 5.10 of the LEP deals with heritage conservation. All heritage items listed on the LEP are included in Schedule 5 of the document. The objectives of the LEPs are as follows:

> *(1) The objectives of this clause are as follows:*
>
> *a. to conserve the environmental heritage,*
>
> *b. to conserve the heritage significance of heritage items and heritage conservation areas, including associated fabric, settings and views,*
>
> *c. to conserve archaeological sites,*
>
> *d. to conserve Aboriginal objects and Aboriginal places of heritage significance.*
>
> *(2) Development consent is required for any of the following:*

a. *demolishing or moving any of the following or altering the exterior of any of the following (including, in the case of a building, making changes to its detail, fabric, finish or appearance):*
    i. *a heritage item,*
    ii. *an Aboriginal object,*
    iii. *a building, work, relic or tree within a heritage conservation area,*
b. *altering a heritage item that is a building by making structural changes to its interior or by making changes to anything inside the item that is specified in Schedule 5 in relation to the item,*
c. *disturbing or excavating an archaeological site while knowing, or having reasonable cause to suspect, that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed,*
d. *disturbing or excavating an Aboriginal place of heritage significance,*
e. *erecting a building on land:*
    i. *on which a heritage item is located or that is within a heritage conservation area, or*
    ii. *on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance,*
f. *subdividing land:*
    i. *on which a heritage item is located or that is within a heritage conservation area, or*
    ii. *on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance.*

The identified listings relating to these LEPs are summarised in Table 1.

2.4 Summary of Statutory Controls

The Proposal area curtilage contains SHR and LEP listings. Register searches were extended 100 m from the curtilage of the Proposal area to establish if there were surrounding registered items or conservation areas that may be affected by the Proposal. SHR, LEP and RNE listed items were identified within the 100 m buffer zone for the Proposal area. Table 1 summarises the heritage listings located within 100 m of the Proposal area.

Table 1 Summary of listed heritage items within 100 m of the Chalmers Street Substation, near Central Station Proposal area

Heritage list	Items within the Proposal area	Level of significance	Items adjacent to the Proposal area	Level of significance	Distance to Proposal area (metres)
World Heritage List	Nil	n/a	Nil	n/a	n/a
National Heritage List	Nil	n/a	Nil	n/a	n/a
Commonwealth Heritage List	Nil	n/a	Nil	n/a	n/a
National Trust of Australia	Nil	n/a	Nil	n/a	n/a
Register of the National Estate (non-statutory)	Nil	n/a	The Block (RNE ID 101630) Darlington Heritage Conservation Area (ID 1785)	Local Local	100 70
RailCorp's s170 heritage and conservation register	Sydney Terminal and Central Railway Stations Group (4801296) Mortuary Railway Station and site (4803219)	State	Nil	n/a	n/a
State Heritage Register	Sydney Terminal and Central Railway Stations Group / Central Railway Station group (SHR 01255)	State	Mortuary Railway Station and site (SHR 00157) Cathedral of the Annunciation of Our Lady (SHR 01881) Railway Institute Building (SHR 01257)	State State State	100 15 20
Sydney LEP 2012	Sydney Terminal and Central Railway Stations Group / Central Railway Station group (I824)	State	Mortuary Railway Station and site (I194) Redfern Aboriginal Children's Services and Archives (SHR 01951) Greek Orthodox Church Group (I1476)	State State Local State	100 100 15

Heritage list	Items within the Proposal area	Level of significance	Items adjacent to the Proposal area	Level of significance	Distance to Proposal area (metres)
			Former “Railways Institute” building including fence and interior (I1472)	Local	20
			Prince Alfred Park (I1406)	Local	10
			Former Co-masonic Temple Including Interior (I195)	Local	95
			Former Mercantile Bank Chambers (I199)	Local	50
			Cottage 137-139 Regent Street Chippendale (I198)	Local	80
			Chippendale Conservation Area (C9)	Local	40
			Redfern Estate Conservation Area (C56)	Local	10
			Darlington Heritage Conservation Area (C11)		160 (this item on the RNE is 70 due to a different curtilage)

3.0 Historical Context

To contextualise the proposed works in relation to heritage it is necessary to understand the historical context and other subsequent factors that have influenced development in the Proposal area. The following sections outline the historical development of the Proposal area.

3.1 Chalmers Street Substation, near Central Station

3.1.1 Early European Settlement and Land Use

Prior to European settlement this general region was occupied by the Cadigal Aboriginal people. Governor Phillip stated in 1790: “From the entrance of the harbour, along the south shore, to the cove adjoining this settlement the district is called Cadi, and the tribe Cadigal” (Phillip, 1892:309). It is likely this was part of the Kuring-Gai or Guringai area. Although attributed to the Eora language group in some sources, there has been debate regarding the use of the name a separate language group, with its use only introduced in later sources and not contained in the earliest ethnographic recordings. This suggests that what has since been defined as the Eora area was either part of the Kuring-Gai area or the Darug area (Attenbrow 2010), based on the available linguistic evidence (Ross 1988). The Aboriginal people of this area utilised hunting tools such as boomerangs, spears and clubs. Fishing spears were made from plant stems with prongs added, made from grass tree flower stems, fish bones or shells and affixed by bees wax and gum (Gibberagong Environmental Education Centre, 1983:14). Fibrous grasses and oyster shell were also utilised to make hooks and fishing lines (Gibberagong Environmental Education Centre, 1983:15). A record of the presence of the Guringai exists throughout their traditional country in the form of rock art and engravings. Known motifs include fish, dugong and human figures. The arrival of European settlers radically transformed the life of the Guringai, as access to land and traditional food resources were blocked by growing settlements and pastoral developments (Gibberagong Environmental Education Centre, 1983:17).

The major industries in early Australia were pastoral, with sheep farming for the wool industry a primary economic driver. The need to transport goods led to road development, but by the 1840s a proposal was being sought for the development of a railway line following a survey for the feasibility of a rail line from Sydney that was commissioned in 1846. The Sydney Railway Company was formed in 1849 to undertake development works. The Hunter River Railway Company was established in 1853 to work on a Maitland to Newcastle railway line. The Legislative Council passed legislation authorising the purchase of both companies by the Government in 1854. The 1854 map of Sydney shows a structure in the vicinity of the proposed cable area in what were then Government Paddocks, but it is not labelled therefore it is uncertain what the structure was (Figure 5).

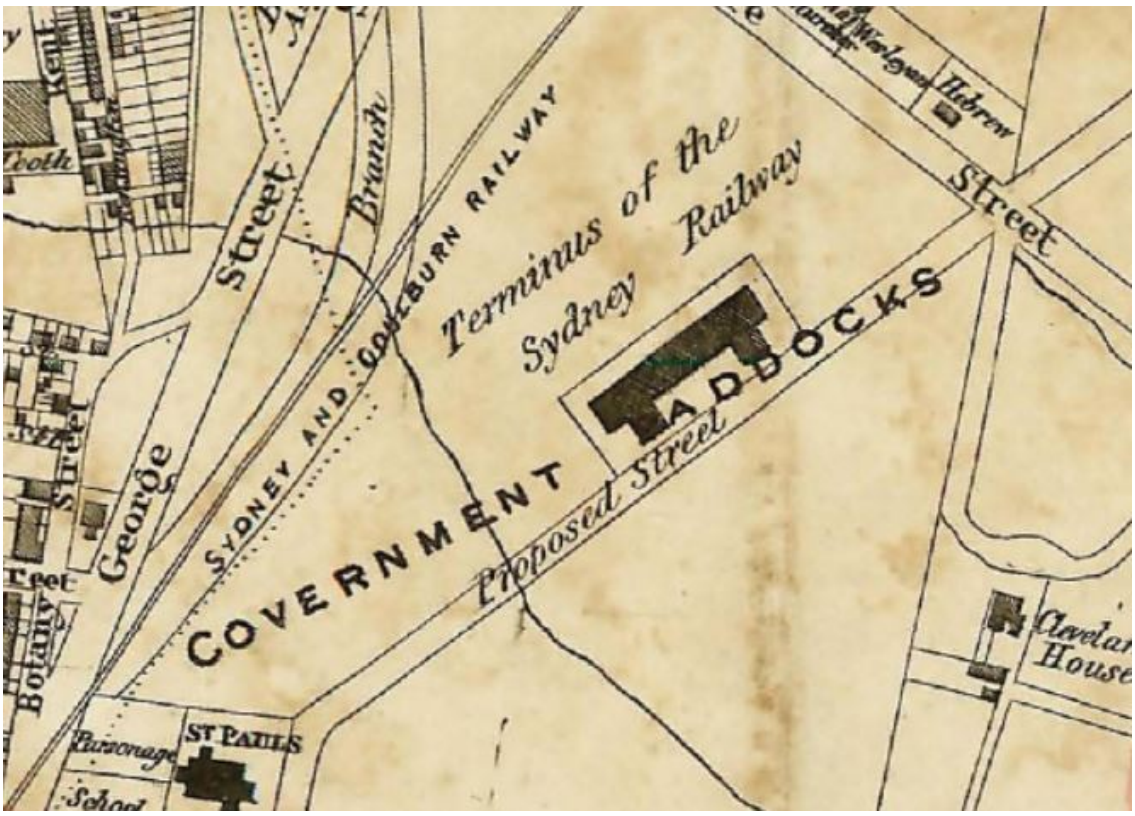

Figure 5 1854 map showing the location of the proposed work area (Source: Atlas of Sydney)

In 1855 the first Sydney station, named Redfern, was established close to where the contemporary Central Railway Station now stands. It comprised a single timber platform servicing both an up and a down line. The same year, the first railway workshop building was constructed at the Sydney Yards, being a two-storey sandstone building with arches and a slate roof. It was later removed along with most of the rest of the extensive rail yard to provide space for the construction of further platforms and the city electric station.

Black Wattle Creek, which crossed through the Government Paddocks (as shown on Figure 5) was replaced by the Prince Alfred Sewer between 1856 and 1857, as part of a Government scheme to improve sanitary conditions. The sewer measured 1.8 m by 1.2 m in size with oviform sections along its extent. It was later disconnected upstream in 1926. The exact depth and location of the structure are unknown, but it was known to have followed the original path of Black Wattle Creek, placing this subsurface structure in the general vicinity of the proposed works (see Figure 6).

In 1867 the Mortuary Station was constructed to service funerals and transportation to Rookwood Cemetery. Between 1871 and 1887 railway workshops were constructed at Eveleigh to service the ongoing rail network, removing the repair function from the Sydney Yards (Rappoport Pty Ltd, 2013).

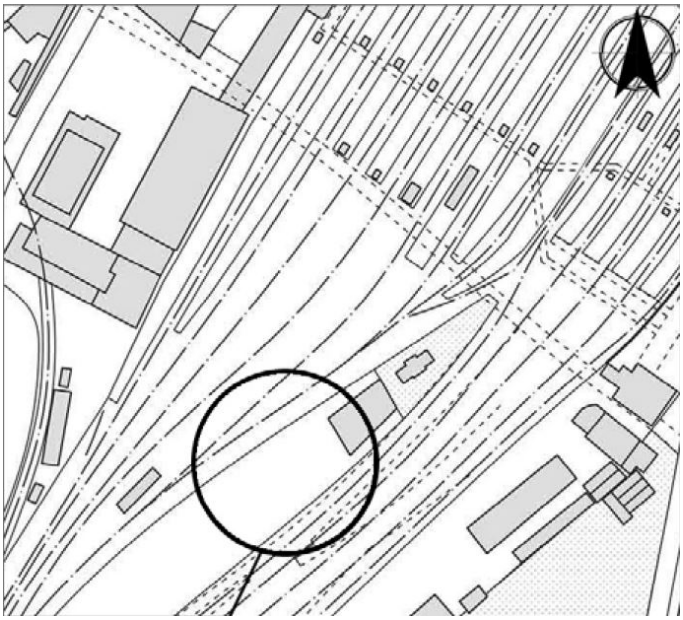

Figure 6 Approximate location of Prince Alfred Sewer shown as black circle (Source: Central Station Inventory Sheets)

In 1891, the Chief Railway Commissioner in NSW, Edward Miller Gard Eddy, proposed the construction of a large terminus for country trains. Edward W O'Sullivan, Minister for Public Works, commented in 1901 that it should be a monumental work of stateliness and beauty. Existing properties at the chosen location for Central Railway Station were resumed and demolished from 1901 onwards, including exhumation and the removal of bodies from the Devonshire Street Cemetery. Walter Liberty Vernon, the first NSW Government Architect, was responsible for the architecture of the Station. Due to funding, the works were completed in two stages, the first ending in 1906 with completion of the Terminus and main concourse. Stage 2 occurred between 1916 and 1921 and saw the clock tower and upper levels completed.

Figure 7 1903 map showing Central Railway Station being developed (Source: Atlas of Sydney)

The 1903 map (see Figure 7) shows the structure from the 1854 map had been demolished by this stage. What are likely to be sheds associated with the rail yard are shown to have been in the area of proposed trenching works in 1903. These sheds had been demolished by 1906 as a result of the Stage 1 development works. Between 1922 and 1926 additional rail lines and platforms were added to Central Railway Station as part of the electrification of the NSW railway network. The first public electric train travelled between Central Railway Station and Oatley on 1 March 1926. The 1940 aerial of the Proposal area shows the proposed trench crosses what was by then a cleared open area adjacent to Prince Alfred Park (see Figure 8). This was still the case in 1950 (see Figure 11).

Since then, modifications and updates have continued to occur at Central Railway Station, with modernising works balanced against restoration works maintaining the existing aesthetic of this landmark location (Rappoport Pty Ltd, 2013). The area proposed for trenching as a part of the works being assessed here, is located within an area that was grossly disturbed during the development of the Airport line between 1995 and 2000 (see Figure 9 and Figure 10).

Figure 8 1949 aerial of the area of proposed works (Source: City of Sydney)

Figure 9 1990s aerial of the area proposed for trenching (before Airport tunnel works)

Figure 10 2000s aerial of the area proposed for trenching (after Airport tunnel works)

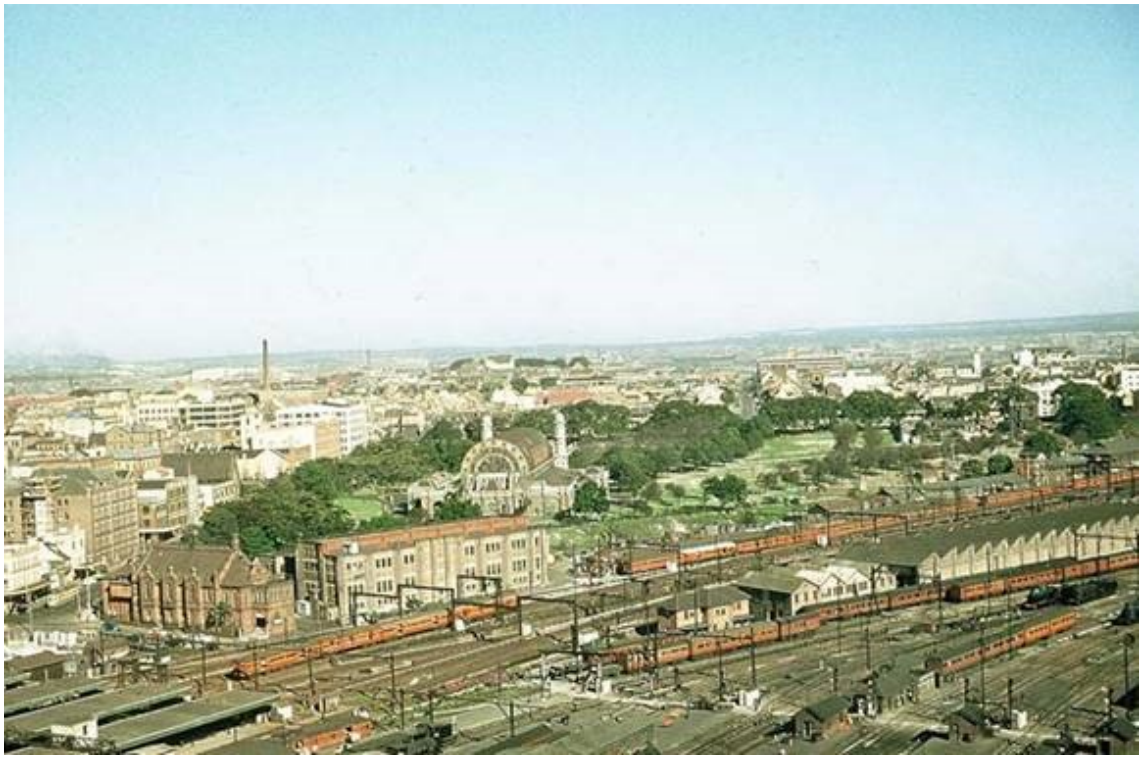

Figure 11 Prince Alfred Park and Central Station rail lines circa 1950 (Source: Sydney Architecture, site accessed 22 October 2019, http://sydneyarchitecture.com/GON/GON089.htm)

3.1.2 Service Pit and Tunnel ("Mortuary Tunnel")

A subsurface service pit and tunnel runs beneath the rail lines on the south-western side of Central Railway Station, connecting from the southern side of Mortuary Station to the car park area adjacent to Prince Alfred Park (see Figure 12). The tunnel is predominantly within the curtilage of Central Railway Station but also crosses into the curtilage of Mortuary Station at its north-western end. The tunnel has been constructed with a mix of concrete (original fabric) and brick (later additional fabric) and is currently used for the egress of various feeders and infrastructure. The tunnel has previously been modified as the need for services has changed over time, with evidence of holes having been drilled in the brick walls for new feeders to pass through.

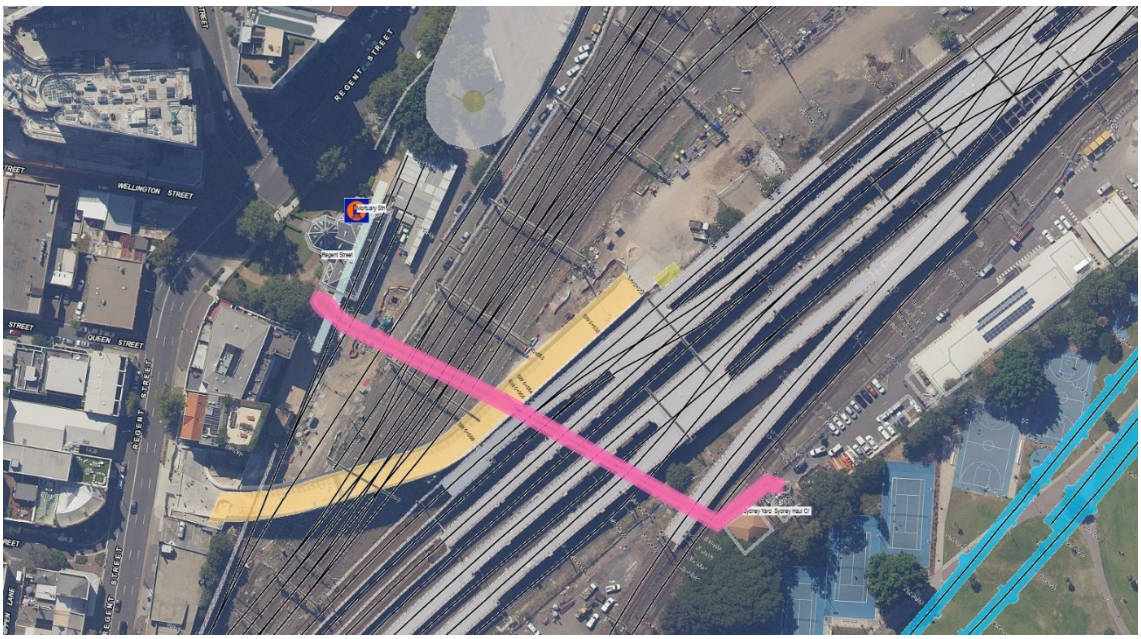

Figure 12 Subsurface "Mortuary Tunnel" alignment marked by pink line

Although one end of the tunnel is located in proximity to Mortuary Station, thus giving it the name of "Mortuary Tunnel", this modern service pit and tunnel was not built contemporaneously with Mortuary Station itself (dating to 1869) but rather was constructed in 1924 and thus does not have any significance associated with Mortuary Station (Archaeological Management & Consulting Group (AMAC), 2019:12). It is referred to in plans as the Sydney Yard high tension cable tunnel for Prince Alfred Park Substation and was likely constructed by the Rail and NSW Electrical Board. While it passes in a subsurface context through the curtilages of both Mortuary Station and Central Railway Station, the tunnel is not identified in the Conservation Management Plans (CMPs) for either of these listed items. There is no reference to it as a contributing feature in the SHR listings of either of these items either.

There is no evidence that a heritage assessment has ever been undertaken of the tunnel or that any heritage significance has been identified for it, apart from its general association through proximity with Mortuary Station and Central Railway Station. The conclusion drawn about the tunnel by AMAC during work in the area that exposed part of its brick encasement was that "the Mortuary Tunnel service encasement [217], are in fact still live and therefore may be considered underground forms of built heritage rather than archaeology" (Archaeological Management & Consulting Group (AMAC), 2019:51). No heritage values were identified for the tunnel by AMAC or by Heritage21 when they undertook a Statement of Heritage Impact assessment for works to install a new Low Voltage Distribution Board associated with the "Mortuary Tunnel" (Heritage21, 2017).

The Central Station CMP does make reference to the northern and western baggage tunnels (originally used for the transfer of luggage and mail), the basement tunnel system, service tunnels beneath the main concourse and the Devonshire Street pedestrian tunnel as features associated with the main concourse area that contribute to the overall heritage significance. It further notes that some of the disused baggage tunnels were upgraded between 1980 and 2000 and lined for pedestrian usage. Others it cites remained in use as service tunnels with services and lines exposed. While the baggage tunnels were adapted and changed use, there is no evidence that the "Mortuary Tunnel" has ever been used for anything except the egress of services. It is located to the south-west of the main concourse and is therefore not associated with the same design, construction and use as the other tunnels mentioned in the CMP. It is a later feature than both the Mortuary Station and main concourse, having been added in 1924 as a practical service feature.

Access was not provided to the service pit and tunnel for this assessment, but photographs taken during past Sydney Trains works within it were provided to assist in a desktop assessment of the proposed works (see Plate 1 to Plate 4).

Plate 1 Service pit and tunnel

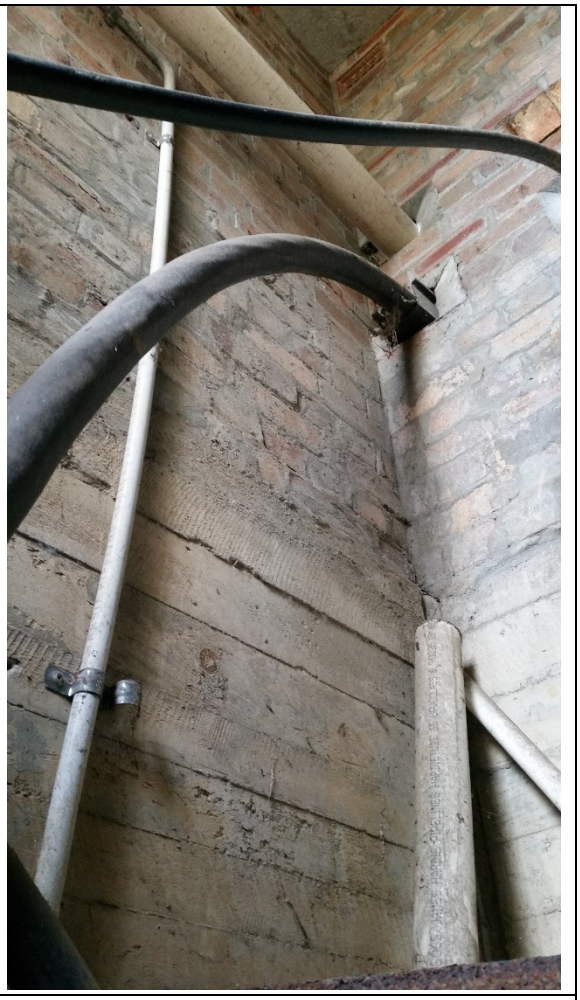

Plate 2 Service pit and tunnel wall showing cable egress

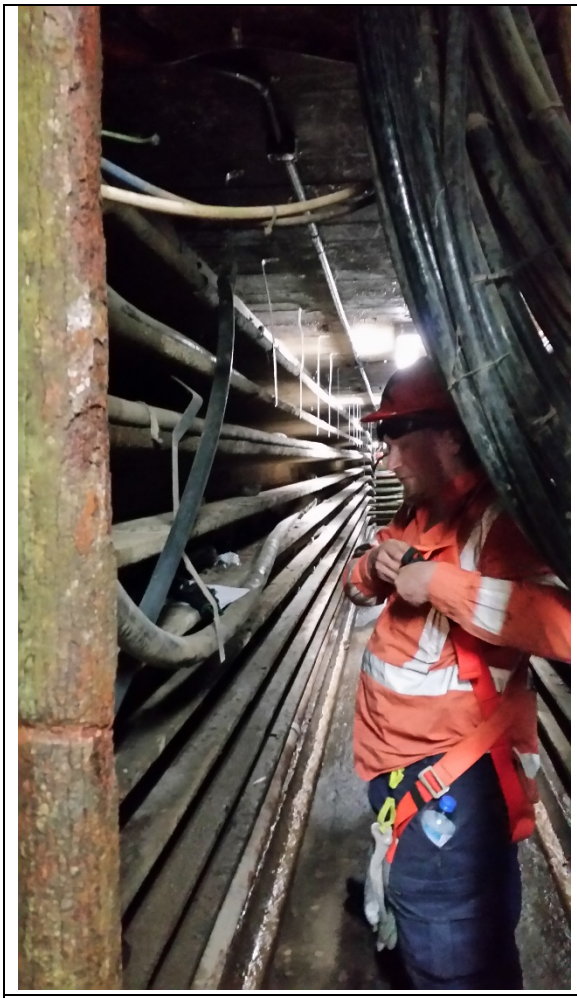

Plate 3 **Service pit and tunnel with existing cables**

Plate 4 **Service pit and tunnel showing past cable egress impacts to the brick wall**

Plans of the 1924 Sydney Yard high tension cable tunnel for Prince Alfred Park Substation have been included on the following pages. Reference to these plans has identified that brick is a non-original fabric within the Service Pit and Tunnel, as the drawings show rail-reinforced concrete as the construction material.

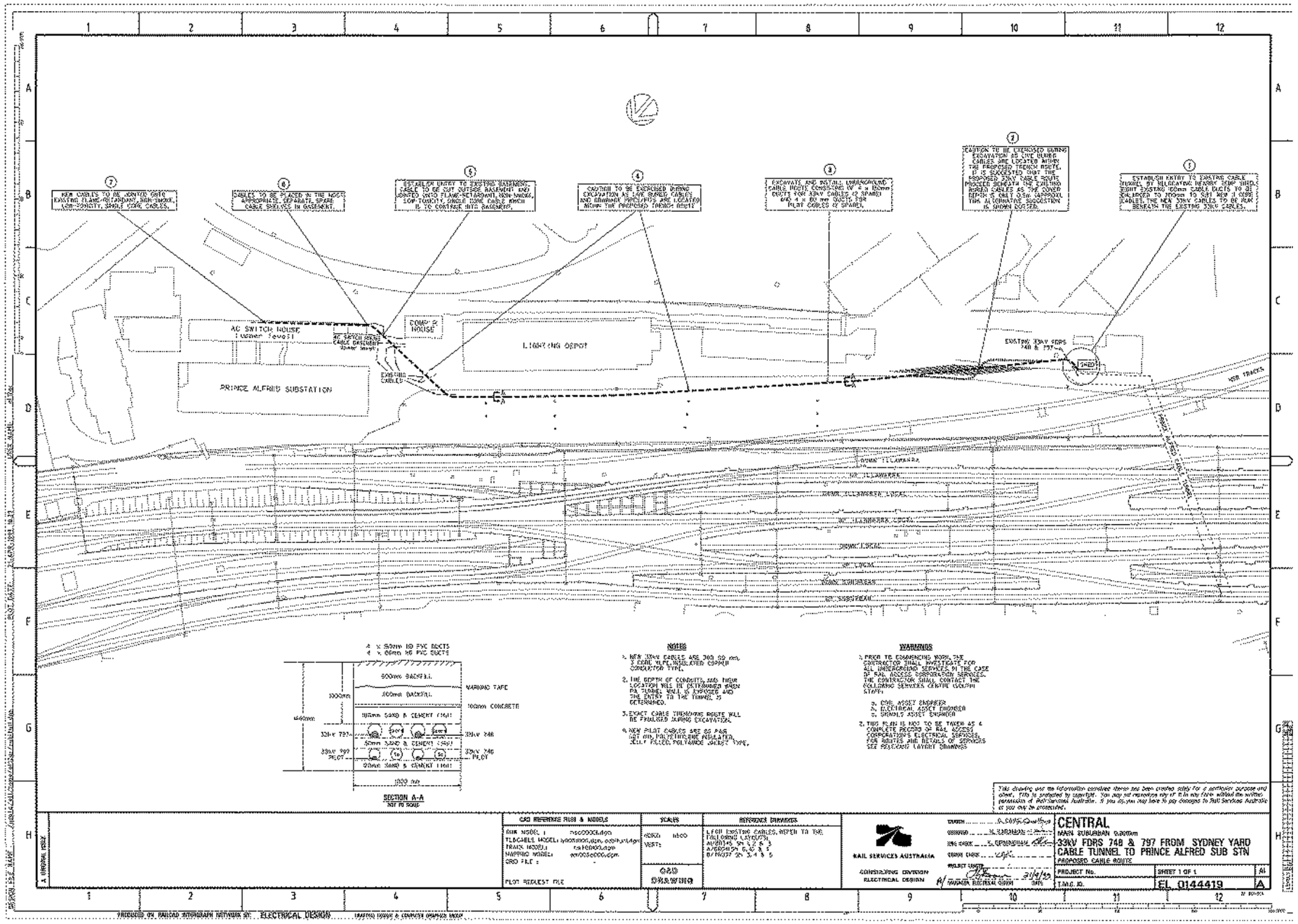

Figure 13 Cable Tunnel Plan for Prince Alfred Park Substation

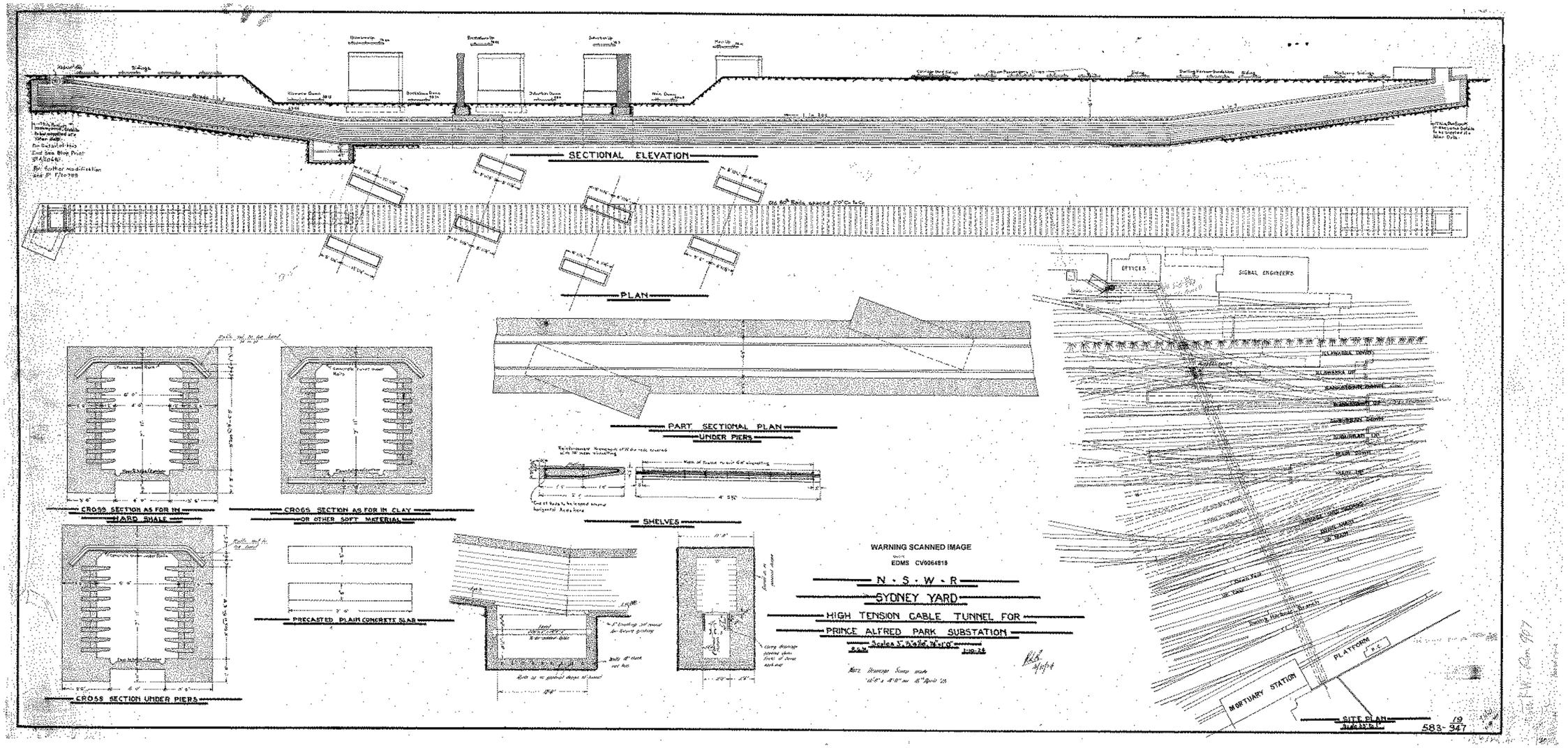

Figure 14 Cable Tunnel Plan for Prince Alfred Park Substation

3.1.3 Service Pit and Tunnel ("Mortuary Tunnel") Assessment of Significance

The Service Pit and Tunnel ("Mortuary Tunnel") was constructed in 1924 as part of the lead up to the electrification of Central Railway Station and the broader rail network, with the first public electric train running from Central to Oatley in 1926. The sectional elevation of the tunnel facilitates the flyover structures to get access to Platforms 16 to 23. The tunnel evidences the transition from brick construction to concrete, which was typical of this development phase at Central Railway Station. The structure is a utilitarian service element and the current proposal consistently continues that ongoing use.

In grading this item, comparison can be made to similar structures that have been assessed in the Central Station CMP to gain an appreciation of its relative significance. As was previously noted, the Central Station CMP references the northern and western baggage tunnels (originally used for the transfer of luggage and mail), the basement tunnel system, service tunnels beneath the main concourse and the Devonshire Street pedestrian tunnel. These features are cited as contributory elements to the overall heritage significance of the main concourse. By contrast the Service Pit and Tunnel ("Mortuary Tunnel") does not have any direct contributory value to listed elements of Central Railway Station. Although located in proximity to both Prince Alfred Park and the Mortuary Station, it is not directly associated with either, having been constructed at a later date independent of those items. It is not visible from ground level and is only able to be accessed by professionals with adequate training, safety precautions and permissions. Its primary association is with the period leading up to the electrification of Central Railway Station, and its ongoing use in cable egress makes it a functional part of the contemporary working station. In consideration of these aspects of the Service Pit and Tunnel its grading has been rated as little to moderate as a contributing feature of Central Railway Station.

3.1.4 Chronological Historical Summary

Following in Table 2 is a timeline summarising the key historical dates or events pertinent to Central Railway Station.

Table 2 **Timeline** (Heritage, NSW Department of Premier & Cabinet, 2019)

Year	Event
1849	The Sydney Railway Company applies for land on which to build a Sydney Railway terminal.
1855	The Sydney Railway Terminus is built between Devonshire and Cleveland Streets.
1866	A sandstone engine house is constructed.
1869	Mortuary Station is constructed.
1876	The original building for Central Railway Station is demolished and replaced by a brick building of neo-classical design.
1879	A steam tramline links Sydney Railway Terminus to Hunter Street in the city area.
1888	Work begins on the quadruplification of the Western Line to Homebush as well as the duplication of other suburban lines.
1890	The Railway Institute is built on the eastern side of the train yard.
1901	Work commences on a new location for Central Railway Station, requiring the exhumation of bodies due to works going through Devonshire Street Cemetery.
1902	A foundation stone is laid for Central Railway Station by the Secretary for Public Works, the Hon EW O'Sullivan.

Year	Event
1906	Central Railway Station is officially opened, despite ongoing or unfinished works in some areas.
1921	The clock tower at Central Railway Station is constructed.
1924	The service pit and tunnel called “Mortuary Tunnel” is installed.
1926	The Central Electric Station is built, new platform additions completed and the first public electric train runs from Central to Oatley.
1958	Tram lines are removed from Sydney, including those that connected to Central Railway Station.
1979	The Eastern Suburbs Railway line is added to the network, accessible through Central Railway Station.
1980	The platforms and concourse at Central Railway Station undergo restoration works. An aluminium and fibreglass roof is added to the concourse.
1984-1985	The clock and clock tower undergo restoration works.
1991	A bus terminal is constructed on Eddy Avenue, adjacent to Central Railway Station on its northern side.
1993	The parcels and luggage subways are converted at Central Railway Station for use as pedestrian subways.
1995	The male toilets on the concourse are closed. Construction works commence on the Airport line.
1996	Metro light rail tram lines are installed, connecting to Central Railway Station.
1998	The Parcels Post Office area of Central Railway Station is sold and converted to residential apartments.
1998-2002	The western yard carriage sheds are demolished and a water column with associated elevated water tank is removed from Central Railway Station.
1999	The Prince Alfred siding workshops are demolished as part of the construction works for the airport line.
2000	The Airport line is opened.
2004	The Inwards Parcel Office is converted into accommodation for backpackers.
2011	A new entrance structure is built for the Devonshire Street tunnel. Sandstone restoration works on the clock tower are completed.
2012	An upgrade at Central Railway Station has ESR tiling added.

4.0 Significance Assessment

4.1 Listed Items

In order to understand how a development would impact on a heritage item, it is essential to understand why an item is significant. An assessment of significance is undertaken to explain why a particular item is important and to enable the appropriate site management and curtilage to be determined. The following heritage items either directly intersect or are within 100 m of the proposed works.

Chalmers Street Substation, near Central Station

The proposed works at the Chalmers Street Substation, near Central Station directly intersect with the State significant item:

- Sydney Terminal and Central Railway Stations Group / Central Railway Station group (SHR 01255 and Sydney LEP 2012 I824).

Other listed items within 100 m of the proposed works include:

- Mortuary Railway Station and site (SHR 00157 and Sydney LEP 2012 I194)
- Redfern Aboriginal Children's Services and Archives (SHR 01951)
- Cathedral of the Annunciation of Our Lady (SHR 01881) / Greek Orthodox Church Group (Sydney LEP 2012 I1476)
- Railway Institute Building (SHR 01257 and Sydney LEP 2012 I1472)
- Prince Alfred Park (Sydney LEP 2012 I1406)
- Former Co-masonic Temple Including Interior (Sydney LEP 2019 I195)
- Former Mercantile Bank Chambers (Sydney LEP 2019 I199)
- Cottage 137-139 Regent Street Chippendale (Sydney LEP 2012 I198)
- Chippendale Conservation Area (Sydney LEP 2012 C9)
- Redfern Estate Conservation Area (Sydney LEP 2012 C56)
- Darlington Heritage Conservation Area (Sydney LEP 2012 C11 and Register of the National Estate ID 1785).

Non-statutory RNE listings within 100 m included:

- The Block (RNE ID 101630).

Although the LEP listed curtilage for Darlington Heritage Conservation Area is greater than 100 m from the Proposal area, the RNE listed curtilage is slightly different and extends to less than 100 m distance, so the item has been considered here as a precautionary measure.

There are existing Statements of Significance and significance assessment data available for all of the identified items. This data has been assessed in relation to the proposed works and the proximity of the Proposal area to the curtilage of listed items. The full significance assessments and statements of significance for all identified items 100 m or less from the Proposal area have been included in full in Appendix A.

4.2 Discussion

The proposed works at Chalmers Street Substation, near Central Station are located within the curtilage of the State significant item Sydney Terminal and Central Railway Stations Group / Central Railway Station group (SHR 01255 and Sydney LEP 2012 I824). The works will have a direct impact

in this area through trenching and affixing a maximum of six 150 mm diameter penetrations to gain access to the Service Pit and Tunnel. Existing images of the Service Pit and Tunnel (Plate 1 to Plate 4) clearly show the range of existing penetrations that have occurred over time. The proposed works are consistent with the use of the Service Pit and Tunnel as a service pathway.

These works will not impact on any identified heritage items/buildings (as defined by the significance assessment and Statement of Significance in Appendix A) and are therefore unlikely to impact upon the existing heritage significance of the item.

No other direct or indirect impacts have been identified, although numerous listed heritage items were noted to be in the surrounding vicinity, as summarised in Table 3. Reference to the location and curtilage of these items, as well as their significance assessments and Statement of Significance, all indicate that the proposed works will not cause either direct or indirect impacts. To avoid any accidental impacts during works adequate protection and management methods should be put into place.

4.3 Historical Archaeological Potential

The area proposed for impacts near Chalmers Street Substation, near Central Station, is on the periphery of the Central Station listing and there is no known rail infrastructure in this area. There were some structures present at the location in the past, including a building shown on the 1854 map, demolished by 1903, and what are likely to be sheds associated with the rail yards on the 1903 map. The area where the structure shown on the 1854 map was, has previously been excavated for an existing 11kV underground cable. Background research for this assessment has identified that some brick and sandstone features were encountered during previous works in this general area during archaeological monitoring. Sandstone footings likely to be foundations of an 1860s building were found in a heavily disturbed context and it was noted that: “no significant historical fills or deposits were exposed or disturbed” (Heritage21, 2017:38). Other features consisted of part of a mid-19th century sandstock brick culvert and brick-lined pit. It was noted that these features had been significantly impacted by modern services and there were no associated heritage deposits with research potential. The results of the monitoring were that this area had been “heavily truncated throughout the 20th century and a vast number of modern services dissect the site leaving much of the archaeological record fragmentary” (Archaeological Management & Consulting Group (AMAC), 2019:54). This suggests that any demolished structures have been predominantly removed and the proposed trenching for underground cables (located immediately southwest of the Chalmers Street Substation area) is unlikely to encounter intact in situ historical deposits.

The structures shown on the 1903 map in this area are likely to have been sheds associated with the rail yards. They were most likely corrugated metal sheds on a timber structure and as such are unlikely to have left an archaeological signature in subsurface deposits following their removal. The specific use of these rail sheds is unknown, however, it is unlikely that any relics associated with the occupation and use of these sheds by railway workers would remain. This is based on the level of impact that has occurred within the Sydney Yard in this area, and the superficial nature of these sheds. There are unlikely to be relics below the former yard surface, which has been highly disturbed since. The historic images taken by Dr John Bradfield between 1915 and 1922 give some indication of the demolished structures and their surroundings at that time. Given they were located adjacent to the Central Electric Flyovers it is likely they were removed sometime between 1915 and 1926, when the Central Electric lines were completed (see Figure 15 to Figure 18). Otherwise the available evidence suggests that the Proposal area was predominantly associated with an open park area until after the 1950s (as indicated by Figure 8 and Figure 11).

The identified presence of the Prince Alfred Sewer in this general area is not possible to clarify further as it is a subsurface structure with limited information available about it. General knowledge of sewers throughout Sydney suggests that it will be at a depth greater than the proposed excavation works,

which will have a typical depth of approximately 1.5 m. If the works were to uncover deposits associated with the Prince Alfred Sewer, they would potentially pass through the cut excavated for the creation of the sewer. The backfill is unlikely to contain relics or other research material, however, the presence of the cut for the sewer would help position the sewer accurately.

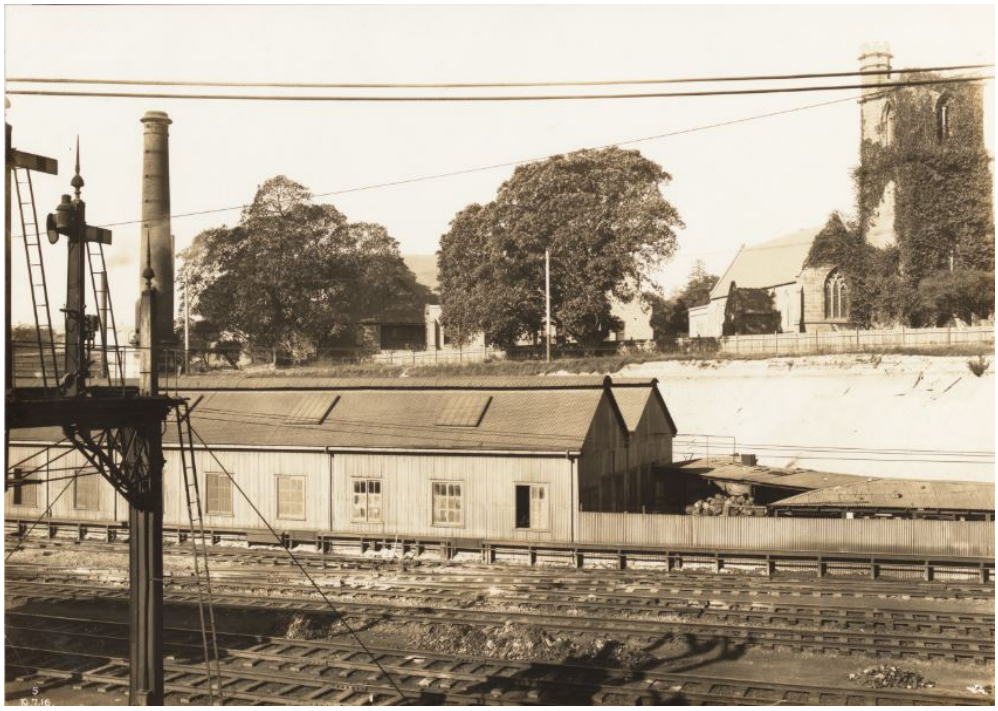

Figure 15 Beyond the rails can be seen a chimney (right) and St Pauls Church (left), circa 1915-1922 (Bradfield, 1922)

Figure 16 The chimney can be seen to the right, the now demolished structures to the left, circa 1915-1922 (Bradfield, 1922)

Figure 17 The former district engineers building and former draftsman's office, circa 1915-1922 (Bradfield, 1922)

Figure 18 Sydney Yard overview, circa 1915-1922 (Bradfield, 1922)

The majority of the works are within the bounds of the Chalmers Street Substation area, which was mapped by AMAC in 2019 in relation to subsurface archaeological potential (see below with the Mortuary Tunnel shown as a previously excavated area in the lower-left corner).

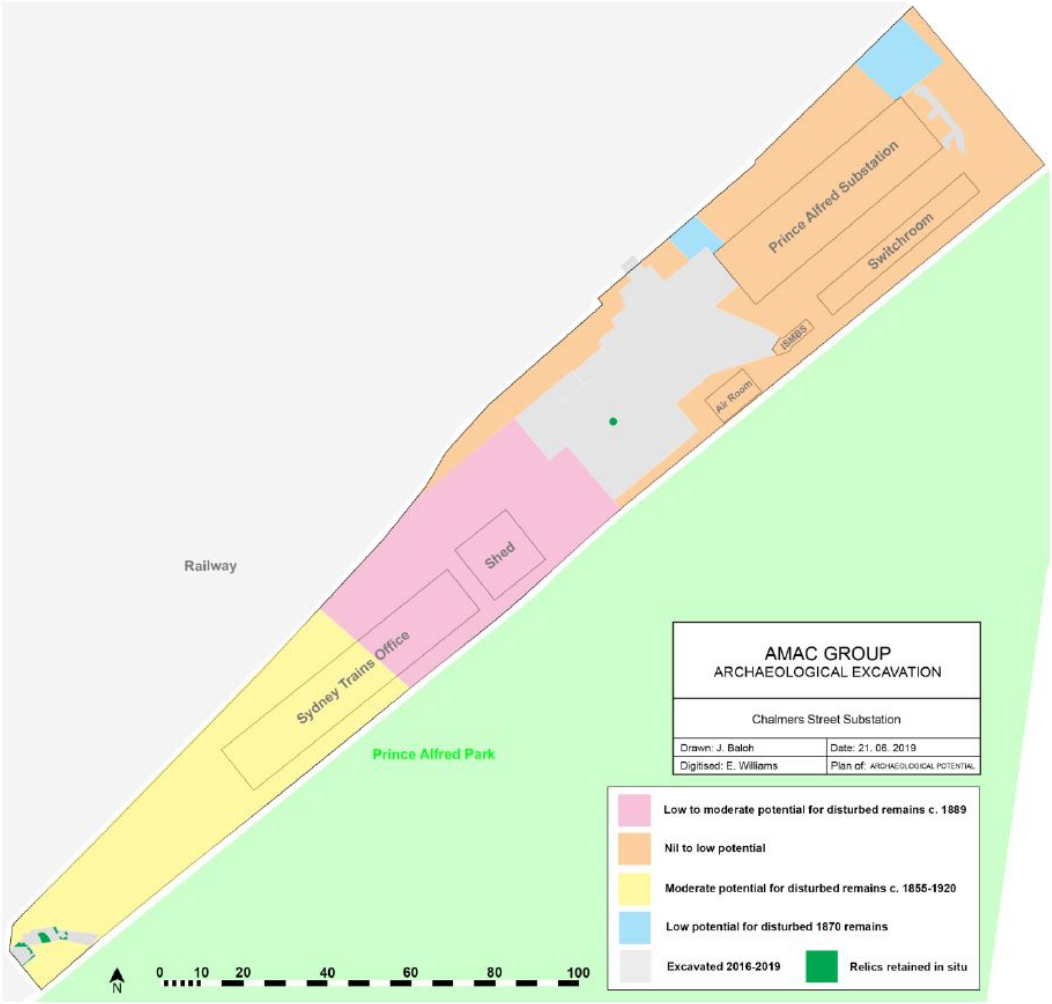

Figure 19 Archaeological potential mapped and graded following excavation works (Archaeological Management & Consulting Group (AMAC), 2019)

The works within the Chalmers Street Substation area are limited to using existing vents and feeders. The only identified impacts are the maximum of six 150 mm diameter penetrations within the Service Pit and Tunnel ("Mortuary Tunnel"). The proposed 80 m trench is outside of the Chalmers Street Substation area, extending from the southwest corner where the Mortuary Tunnel is, extending further to the southwest into the area previously impacted by the Airport line (see Figure 3). Works undertaken by AMAC in 2017 identified three sandstone wall sections but noted that there had been significant disturbance around the Mortuary Tunnel, with construction cuts and fills associated with earlier structures having "been disturbed and removed by the installation of the 20th century service routes" (Archaeological Management & Consulting Group (AMAC), 2019:Vol 2, p 25).

No subsurface potential has been identified in the area proposed for trenching, because the available data shows it falls outside the area of identified archaeological potential defined by AMAC (as shown on Figure 3), and that it is within an area that has previously been subject to high levels of disturbance associated with the Airport line construction works.

4.4 Discussion

As shown on Figure 3 the proposed 80 m trench is located outside the area that has previously been mapped as having archaeological potential. Further to this, based on the level of impact that has

occurred within the Sydney Yard in this area, it was assessed that the superficial structures and open area uses (open yard area and sheds) identified through historical maps and images of this area, are unlikely to have left an archaeological signature at this location. Further, this area has also been subject to impacts associated with the Airport line construction, which are likely to have removed deposits if any were previously present. Based on the available data, it is therefore unlikely that the proposed 80 m trench will impact on an area of subsurface archaeological potential.

5.0 Heritage Impact Assessment

5.1 Proposal Impacts

5.1.1 Direct Impacts

Direct impacts will occur within the curtilage of the State significant item Sydney Terminal and Central Railway Stations Group / Central Railway Station group (SHR 01255 and Sydney LEP 2012 I824). These works are unlikely to impact upon the heritage values of the listed item. Based on the available evidence it is unlikely that the service pit and tunnel (referred to as the “Mortuary Tunnel”) has any heritage significance on its own merits. It has not been identified as contributing to the heritage significance of Central Railway Station or Mortuary Station and the available evidence for this desktop assessment indicates it is unlikely to do so. The tunnel is a functional part of rail activity in this area. The proposed works at this location would involve penetrations to the service pit and tunnel wall and fixing services to the tunnel. This is in keeping with the current use of the tunnel. No other direct impacts will occur to known heritage items or values as a result of the proposed works. These results are summarised below in Table 3.

Table 3 Direct Impacts

Listed Item	Proposed Impact
Sydney Terminal and Central Railway Stations Group / Central Railway Station group (SHR 01255 and Sydney LEP 2012 I824)	Direct impacts will not occur to any known and identified heritage items or fabric associated with the heritage listing within the curtilage area associated with this listing. The assessment has identified there is not likely to be any historical archaeological remains associated with any of the former sheds constructed in this area, as they were likely to be lightweight structures. There are not expected to be any relics in situ in these areas associated with these structures. The proposed works may pass over the location of the Prince Alfred Sewer. This sewer is presumed to be at a greater depth than 1.5 m. If crossed, the works would may cross through the cut associated with the construction of the sewer. If so, this would not have any direct impact to the sewer itself. The cut, and associated fill, is not likely to have any associated relic material present.

5.1.2 Indirect Impacts

Although there may be temporary visual changes to the landscape during works, these either consist of temporary elements (i.e. the presence of work equipment which will be removed following works) or reversible impacts (i.e. trenches that will be in-filled following works). None of these have been assessed as having a likelihood of long-term visual impacts to identified heritage items. It is possible that accidental impacts could occur during works or unexpected finds could be encountered, but the risk for these can be mitigated by control measures and management planning. As such, no indirect impacts have been identified in relation to the identified heritage items or values as a result of the proposed works. These results are summarised below in Table 4.

Table 4 Indirect Impacts

Listed Item	Proposed Impact
Sydney Terminal and Central Railway Stations Group / Central Railway Station group (SHR 01255 and Sydney LEP 2012 I824)	Temporary visual impacts may be present during works, but these will be reversed following the completion of activities. As such, no indirect impacts have been identified that will alter the heritage significance of this item.

Listed Item	Proposed Impact
Mortuary Railway Station and site (SHR 00157 and Sydney LEP 2012 I194)	No indirect impacts have been identified in relation to this item.
Redfern Aboriginal Children's Services and Archives (SHR 01951)	No indirect impacts have been identified in relation to this item.
Cathedral of the Annunciation of Our Lady (SHR 01881) / Greek Orthodox Church Group (Sydney LEP 2012 I1476)	No indirect impacts have been identified in relation to this item.
Railway Institute Building (SHR 01257 and Sydney LEP 2012 I1472)	No indirect impacts have been identified in relation to this item.
Prince Alfred Park (Sydney LEP 2012 I1406)	Temporary visual impacts may be present during works, but these will be reversed following the completion of activities. As such, no indirect impacts have been identified that will alter the heritage significance of this item.
Former Co-masonic Temple Including Interior (Sydney LEP 2019 I195)	No indirect impacts have been identified in relation to this item.
Former Mercantile Bank Chambers (Sydney LEP 2019 I199)	No indirect impacts have been identified in relation to this item.
Cottage 137-139 Regent Street Chippendale (Sydney LEP 2012 I198)	No indirect impacts have been identified in relation to this item.
Chippendale Conservation Area (Sydney LEP 2012 C9)	No indirect impacts have been identified in relation to this item.
Redfern Estate Conservation Area (Sydney LEP 2012 C56)	No indirect impacts have been identified in relation to this item.
Darlington Heritage Conservation Area (Sydney LEP 2012 C11 and Register of the National Estate ID 1785)	No indirect impacts have been identified in relation to this item.
The Block (RNE ID 101630)	No indirect impacts have been identified in relation to this item.

5.1.3 Summary of Heritage Impacts

Direct impacts will occur within the curtilage of the State significant item Sydney Terminal and Central Railway Stations Group / Central Railway Station group (SHR 01255 and Sydney LEP 2012 I824). No impacts will occur to any heritage items in the surrounding area.

6.0 Statement of Heritage Impact

6.1 Introduction

As direct impacts have been identified in relation to the proposed works at Chalmers Street Substation, near Central Station, it is appropriate to undertake a Statement of Heritage Impact (SoHI) for Sydney Terminal and Central Railway Stations Group / Central Railway Station group (SHR 01255 and Sydney LEP 2012 I824) in relation to these works.

The objective of a Statement of Heritage impact (SOHI) is to evaluate and explain how the proposed development, rehabilitation or land use change will affect the heritage value of the site and/or place. A SOHI should also address how the heritage value of the site/place can be conserved or maintained, or preferably enhanced by the proposed works. This report has been prepared in accordance with the NSW Heritage Office & Department of Urban Affairs and Planning *NSW Heritage Manual* (1996) and NSW Heritage Office *Statements of Heritage Impact* (NSW Heritage Office & Department of Urban Affairs & Planning, 2002). The guidelines pose a series of questions as prompts to aid in the consideration of impacts due to the proposed works. The questions most appropriate to this assessment are for a new development adjacent to a heritage item. These questions are:

- How is the impact of the new development on the heritage significance of the item or area to be minimised?
- Why is the new development required to be adjacent to a heritage item?
- How does the curtilage allowed around the heritage item contribute to the retention of its heritage significance?
- How does the new development affect views to, and from, the heritage item? What has been done to minimise negative effects?
- Is the development sited on any known, or potentially significant archaeological deposits? If so, have alternative sites been considered? Why were they rejected?
- Is the new development sympathetic to the heritage item? In what way (e.g. form, siting, proportions, design)?
- Will the additions visually dominate the heritage item? How has this been minimised?
- Will the public, and users of the item, still be able to view and appreciate its significance?

These questions are addressed in the following section.

Summary of Impacts

The proposed works at Chalmers Street Substation, near Central Station are located within the curtilage of the State significant item Sydney Terminal and Central Railway Stations Group / Central Railway Station group (SHR 01255 and Sydney LEP 2012 I824). The works will have a direct impact in this area through trenching for the proposed installation of 11kV and 33kV underground feeders and a maximum of six 150 mm diameter penetrations to gain access to the Service Pit and Tunnel. As previously noted, there are numerous similar penetrations existing within the current Service Pit and Tunnel that evidence its past and ongoing use in this capacity. The proposed works are consistent with the use of the Service Pit and Tunnel as a service pathway.

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How is the impact of the new development on the heritage significance of the item or area to be minimised?

The proposed works consist of the laying of 11kV and 33kV underground feeders. The impact consists of subsurface feeders in an area with no identified subsurface archaeological potential associated with the listing of Central Railway Station. There is the potential the works would cross the location of the Prince Alfred Sewer, however, the sewer is considered to be at a greater depth than the proposed works. As such, these works are not likely to impact on the location of the sewer.

The works will also have a direct impact through affixing a maximum of six 150 mm diameter penetrations to gain access to the Service Pit and Tunnel. A range of existing penetrations have already occurred over time in the tunnel. Further, the proposed works are consistent with the use of the Service Pit and Tunnel as a service pathway.

As the area will be returned to its pre-works state following completion of the cable laying, there will be no permanent change to the visual landscape in this area. No significant fabric associated with the heritage listed item will be impacted by the proposed works.

Why is the new development required to be adjacent to a heritage item?

The new development is an operational necessity for the T8 Airport Line Capacity improvement. The purpose of the Proposal is to increase the current number of trains per hour per direction following the proposed upgrade works. The works need to be undertaken at Central Station which, as well as being a listed heritage item, is a major transport hub requiring operational changes and upgrades as the needs of transport in Sydney change.

How does the curtilage allowed around the heritage item contribute to the retention of its heritage significance?

The proposed works are within the curtilage of the Central Railway Station heritage listing, which will be retained and unchanged by the works. The trenching activities are being undertaken on the periphery at the southern edge of the curtilage, immediately adjacent to the item's boundary.

How does the new development affect views to, and from, the heritage item? What has been done to minimise negative effects?

As these are subsurface works they will not affect views to or from the heritage item. Although there may be some visual impacts during the works, these will be reversed once the works have been completed.

Is the development sited on any known, or potentially significant archaeological deposits? If so, have alternative sites been considered? Why were they rejected?

No potential historical archaeological deposits have been identified in the area of proposed trenching works.

Sydney Yard and Central Railway Station is known to contain historical archaeological remains associated with the original station and its evolution. Areas of archaeological potential have previously been mapped based on the location of former structures and works that have occurred to date on the site. The location of the works within the Central Railway Station and Yard would be located near the location of former small sheds. These were likely small ancillary sheds that were built on ground, with no substantial footings or other features. This area was also likely to have been heavily disturbed, removing any potential for archaeological remains to be present.

The proposed works may pass near the general location of the Prince Alfred Sewer. This sewer is presumed to be at a greater depth than 1.5 m. If crossed, the works may cross through the cut

associated with the construction of the sewer. If so, this would not have any direct impact to the sewer itself. The cut, and associated fill, is not likely to have any associated relic material present.

Is the new development sympathetic to the heritage item? In what way (e.g. form, siting, proportions, design)?

The new developments are subsurface infrastructure, so they will not impact the visual elements of the heritage item. These developments are in keeping with past uses of the area, which contains existing subsurface infrastructure including 11kV underground feeders and ducts as well as existing galvanised steel troughing (GST).

Will the additions visually dominate the heritage item? How has this been minimised?

The additions will not be a visually dominant feature as they will be placed below ground level.

Will the public, and users of the item, still be able to view and appreciate its significance?

There will be no changes to the existing public access and use of Central Railway Station as a result of these works.

6.2 Statement of Heritage Impact

From the assessment against the NSW Heritage Division guidelines (NSW Heritage Office, 2002), the potential impacts to the Sydney Terminal and Central Railway Stations Group / Central Railway Station group (SHR 01255 and Sydney LEP 2012 I824) in relation to these works have been assessed. These are graded to determine their impact against the significance of the site and are detailed in Table 5.

Table 5 Summary of the nature of impacts

Impact Type	Impact
Major negative impacts (substantially affects fabric or values of State significance)	N/A
Moderate negative impacts (irreversible loss of fabric or values of local significance; minor impacts on State significance)	N/A
Minor negative impacts (reversible loss of local significance fabric or where mitigation retrieves some value of significance; loss of fabric not of significance but which supports or buffers local significance values)	N/A
Negligible or no impacts (does not affect heritage values either negatively or positively)	Although they occur within the curtilage of the listed item, these works will not impact on any known and identified heritage items or significant fabric. These works have been assessed as having a negligible impact on the listed item.

Impact Type	Impact
Minor positive impacts (enhances access to, understanding or conservation of fabric or values of local significance)	N/A
Major positive impacts (enhances access to, understanding or conservation of fabric or values of state significance)	N/A

Summary

a) The following aspects of the proposed works respect or enhance the heritage significance of the item for the following reasons:

The proposed installation of 11kV and 33kV underground feeders is an appropriate development in that it is occurring in an area that has previously been utilised for the same type of infrastructure, with existing subsurface 11kV feeders and GST present in the area. As the works are subsurface they will not alter the existing visual aesthetic beyond temporary visual impacts during works. As such these works respect the heritage significance of the listed item and will not impact on it. Similarly the affixing a maximum of six 150 mm diameter penetrations to gain access to the Service Pit and Tunnel is consistent with its use as a service pathway.

b) The following aspects of the proposed works could detrimentally impact on heritage significance. The reasons are explained as well as the measures to be taken to minimise impacts:

The works are directly impacting an area within the curtilage of the listed item. This assessment has been undertaken to identify any known or potential heritage within the proposed area of impact. As no known or potential significant heritage fabric is present in the proposed impact area, control and mitigation measures should be instigated to avoid accidental impacts and provide procedures to follow should unexpected finds be identified during works.

c) Conclusion

These works will not directly impact on significant elements of the item (as defined by the significance assessment and Statement of Significance in Appendix A) and are therefore unlikely to impact upon the existing heritage significance of the item. Despite the lack of impact to heritage significance, an approvals pathway would need to be followed prior to works commencing due to their location within the item's defined curtilage. A S57 standard exemption would be appropriate for the proposed works.

7.0 Recommendations

The following recommendations should be considered for the Proposal.

7.1 Recommendation 1 – Heritage Induction

A heritage induction should be provided to all on-site staff and contractors involved in the Proposal. The induction should clearly describe the heritage items located in the surrounding vicinity and their curtilages to ensure that they are avoided from all impacts, including accidental impacts, during works.

7.2 Recommendation 2 – Protection Measures

To avoid any accidental impacts during works adequate protection and management methods should be put into place. These measures should be defined in the Construction Environmental Management Plan (CEMP). Protection measures should at a minimum include details on the use of temporary fencing around work areas to delineate them and provide separation from the surrounding heritage items, ensuring that spoil from the trenched excavations is not stockpiled against heritage buildings or structures and maintaining adequate clearance of machinery to heritage structures.

7.3 Recommendation 3 – Stop Work Procedure

The CEMP is to include details on stop work procedures in accordance with Transport for NSW's (TfNSW's) *Unexpected Heritage Finds Guideline* (Transport for NSW, 2016) to manage activities in the unlikely event that unexpected archaeological relics or deposits are encountered during works.

7.4 Recommendation 4 – Service Pit and Tunnel

The works proposed to be undertaken for the Service Pit and Tunnel are consistent with its ongoing use as a service pathway. Although physical impacts are unavoidable, they will be limited to a maximum of six 150 mm diameter penetrations and further minimised by:

- investigating opportunities to reduce the number of penetrations where practical;
- grouping the penetrations to minimise the extent of impact;
- ensuring the penetrations are neat, consistent and neatly grouted; and
- locating penetrations in brick, as it has been identified as non-original fabric.

7.5 Recommendation 4 – Approvals Pathway

Approval is required for the proposed works within the curtilage of the State significant item Sydney Terminal and Central Railway Stations Group / Central Railway Station group (SHR 01255 and Sydney LEP 2012 I824). A S57 standard exemption application to Heritage NSW is the appropriate approval pathway for the proposed works.

8.0 References

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Appendix A

Significance Assessments

Appendix A Significance Assessments

Introduction

In order to understand how a development would impact on a heritage item, it is essential to understand why an item is significant. An assessment of significance is undertaken to explain why a particular item is important and to enable the appropriate site management and curtilage to be determined. Cultural significance is defined in *The Australia ICOMOS Charter for Places of Cultural Significance 2013* (ICOMOS (Australia), 2013) as meaning "aesthetic, historic, scientific, social or spiritual value for past, present or future generations" (Article 1.2). Cultural significance may be derived from a place's fabric, association with a person or event, or for its research potential. The significance of a place is not fixed for all time, and what is of significance to us now may change as similar items are located, more historical research is undertaken, and community tastes change.

The process of linking this assessment with an item's historical context has been developed through the NSW Heritage Management System and is outlined in the guideline *Assessing Heritage Significance* (NSW Heritage Office, 2001), part of the NSW Heritage Manual (Heritage Branch, Department of Planning). The *Assessing Heritage Significance* guidelines establish seven evaluation criteria (which reflect four categories of significance and whether a place is rare or representative) under which a place can be evaluated in the context of State or local historical themes. Similarly, a heritage item can be significant at a local level (i.e. to the people living in the vicinity of the site), at a State level (i.e. to all people living within NSW) or be significant to the country as a whole and be of National or Commonwealth significance.

In accordance with the guideline *Assessing Heritage Significance*, an item would be considered to be of State significance if it meets two or more criteria at a State level, or of local heritage significance if it meets one or more of the criteria outlined in Table 1. The Heritage Council require the summation of the significance assessment into a succinct paragraph, known as a Statement of Significance. The Statement of Significance is the foundation for future management and impact assessment.

Table 1 Significance assessment criteria

Criterion	Inclusions/Exclusions
Criterion (a) *– an item is important in the course, or pattern, of NSW's cultural or natural history (or the cultural or natural history of the local area).*	The site must show evidence of significant human activity or maintains or shows the continuity of historical process or activity. An item is excluded if it has been so altered that it can no longer provide evidence of association.
Criterion (b) *– an item has strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history (or the cultural or natural history of the local to area).*	The site must show evidence of significant human occupation. An item is excluded if it has been so altered that it can no longer provide evidence of association.
Criterion (c) *– an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area).*	An item can be excluded on the grounds that it has lost its design or technical integrity or its landmark qualities have been more than temporarily degraded.
Criterion (d) *– an item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons.*	This criterion does not cover importance for reasons of amenity or retention in preference to a proposed alternative.

Criterion	Inclusions/Exclusions
Criterion (e) *– an item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the cultural or natural history of the local area). Significance under this criterion must have the potential to yield new or further substantial information.*	Under the guideline, an item can be excluded if the information would be irrelevant or only contains information available in other sources.
Criterion (f) *– an item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history (or the cultural or natural history of the local area).*	An item is excluded if it is not rare or if it is numerous, but under threat. The item must demonstrate a process, custom or other human activity that is in danger of being lost, is the only example of its type or demonstrates designs or techniques of interest.
Criterion (g) *– an item is important in demonstrating the principal characteristics of a class of NSW's (or local area's):* • *cultural or natural places cultural or natural environments.*	An item is excluded under this criterion if it is a poor example or has lost the range of characteristics of a type.

Chalmers Street Substation, near Central Station listed items

Sydney Terminal and Central Railway Stations Group / Central Railway Station group (SHR 01255 and Sydney LEP 2012 I824)

The Central Railway Station group is listed on both the NSW SHR and the Sydney LEP 2012. This item has State significance.

Table 2 Central Railway Station group Significance assessment (NSW Heritage Office, 2019)

Significance Criteria	Application of Criteria (Existing Assessment)
Historical significance SHR criteria (a)	*THE SYDNEY TERMINAL & YARD* *The primary historical importance of the Sydney Terminal and the associated yards is the continuation of use of this site, for railway purposes, since the construction of the first line, from Sydney to Parramatta, in 1855. Three successive Sydney Termini, the Mortuary Station and the Central Electric Station have been built on this site.* *The construction of the Sydney Railway yards and terminal is associated with the introduction of railways to NSW in 1855 and the subsequent construction of a rail network throughout the state, and interstate, initially by a private company and subsequently by the government. The establishment of the railways in NSW and Victoria was undertaken during the same period albeit using differing technology and standards.* *The development of the Sydney yards commenced in 1855 and was one of the first two yards in Australia, the other being in Melbourne. Extensive workshop facilities were established to enable the repair of locomotives. From the late 1880s the working functions of the Sydney Yards have gradually been transferred, initially to Eveleigh and, during the 20th century further afield. Following the erection of the main*

Significance Criteria	Application of Criteria (Existing Assessment)
	terminus, and later the Parcels Post Office, in the 20th century the focus of the goods handling activities has transferred from the eastern to the western side of the site. The majority of the working yard area disappeared with the construction of the City Electric lines however, a small pocket remains along the boundary with Prince Alfred Park. *The construction of the Darling Harbour Branch Line and the establishment of an extensive area for goods storage and transfer indicate the importance of the Sydney Terminal and yards in the distribution of produce from country NSW.* *The construction of the Central Station or the Sydney Terminal on the site of the Old Burial ground was one of the larges planned interventions into the urban fabric of Sydney undertaken prior to World War 1 and is a rare example of a scheme that not only included a formal public building but also parkland and roadway. The deliberate creation of the formal approaches, the widening of the streets to form avenues and create vistas, the separation and multi-layering of tramlines, vehicular and pedestrian access and the creation of subways resulted in the creation of an urban environment of a scale and character not before seen in Sydney, a character that would have been in sharp contrast to the residential character of Redfern, Chippendale and Surry Hills.* *The development of the main terminus resulted in an increase in the commercial activity around Railway Square and influenced the choice of the site for department stores.* *Following the introduction of trams, Railway Square and later Central Station became a major tram interchange with links to the suburbs and Circular Quay. In 1900, 60% of the 100 million trips on Sydney's public transport system were by tram and only 15% by train. The link between Circular Quay and the Railway Station being a popular route, carrying in the order of 11 million passengers in 1911. During peak hour the George Street trams were 29 seconds apart.* *The separation of the trams from other forms of traffic at the Sydney Terminal would have speeded up the flow of the trams. Little evidence of the existence of the complicated tram layout around Central Station remains.* *With the expansion of the rail network across the state the coastal shipping network declined. Train travel was more reliable, the train timetable was not reliant on good weather conditions and the loading and unloading of freight was less hazardous. Little trace remains of a once extensive coastal shipping network. Rather than Sydney Harbour, the Sydney Terminal became the main point of entry or departure for travellers to and from country NSW and for the movement of goods.* *The construction of a city rail loop was proposed around the turn of the century and provision left adjacent to the main terminal building. Construction did not to occur until the mid-1920s. The demand for trams*

Significance Criteria	Application of Criteria (Existing Assessment)
	would have been lessened following the introduction of the city loop and the construction of the Central Electric Station. *SYDNEY TERMINUS* *Central Station, constructed to serve the expanding population of Sydney, was the first major metropolitan rail terminus to be constructed in Australia and is the main NSW terminus. There have been three successive passenger termini on this site, each successive station designed to provide a much greater level of passenger accommodation than the former.* *The debate concerning the location of the main terminal for Sydney occurred on and off during the last two decades of the 19th century. The technical difficulties associated with extending the line further north and the associated cost as well as changing governments resulted in the creation and abandonment of numerous station designs and almost as many locations.* *The design and erection of a major terminal for Sydney, which allowed for future expansion, indicated a climate of optimism regarding the future growth of Sydney metropolitan area.* *The earlier station designs had allowed for the line to be continued northwards. The final scheme adopted involved the moving of the terminal to the northern side of Devonshire Street allowing the second Station to continue to function until the new terminal was operational. The third Terminal did not allow for the continuation of the lines, resulting in the construction of the adjacent Central Electric Station, when an extension into the city was agreed.* *The design of the Sydney Terminal was modified for cost cutting purposes however, it still represented considerable expenditure by the State Government. The second stage of the main terminus was one of the largest of the limited building projects, undertaken by the government during World War 1. The two stages are almost imperceptible and the overall character of the initial design was continued in the second stage. The second stage was not completed, plinths were constructed for the cupolas flanking the central bay but the cupolas themselves were not constructed.* *THE MORTUARY STATION* *There are few other known examples of a purpose built mortuary stations anywhere in the world. The other stations which may have been solely Mortuary Stations exist in England, Sutherland and Sandgate. The pair of Mortuary Stations are the only examples in Australasia.* *The Mortuary Stations is one of the oldest surviving stations in Australia, there a few remaining examples of stations which date from pre 1870. Four other examples remain in NSW and a series of five identical stations were built in Victoria c.1862-3.*

Significance Criteria	Application of Criteria (Existing Assessment)
	The development of this station is not only associated with the expansion of the Sydney yards but also with the development of the Rookwood Necropolis at Haslem's Creek (Lidcombe), one of the largest and most intact Victorian garden cemeteries in the world. *The erection of a permanent Mortuary Stations, within 15 years of the commencement of the rail network in NSW is an indication of not only the rapid expansion of the railway but that it had rapidly become accepted as a mode of transport by the citizens of Sydney.* *RAILWAY INSTITUTE* *The Railway Institute was the first such institution of its type in Australia, providing a high level of facilities for the employees.* *PARCELS POST OFFICE* *The Parcel Post Office was constructed in this location as the majority of parcels were carried by rail. Many of the Sydney Department Stores ran a mail order catalogue, sending goods to country NSW. The size of the building indicates the volume of parcels handled, or planned for.* *DARLING HARBOUR LINE* *Together with the remaining structures and works on the Sydney main line to the old Parramatta station. The Dive is one of the earliest surviving cuttings and overbridges in NSW. Built as a branch off the initial railway line from Sydney to Parramatta, to provide a link with Darling harbour and to enable goods to be transferred to and from ships, the Darling Harbour Branch Line formed part of an extensive trade network to provide for the export of Australian grown wool.* *This rail link was influential in the development of Darling Harbour in the second half of the 19th century. The use of Sydney Cove for trade purposes declined, as access by land became more congested, and there was a corresponding increase in the use of Darling Harbour. This link, although disused, is retained for emergency purposes.*
Historical association significance SHR criteria (b)	*The item has not been assessed against this criterion.*
Aesthetic significance SHR criteria (c)	*THE SYDNEY TERMINAL & YARD : AESTHETIC & TECHNICAL SIGNIFICANCE* *The developments of the railways in Europe were closely followed in Australia and initially the locomotives, carriages, rolling stock and rails were imported from England. The technology was imported directly with little or no modification. The railway lines in NSW were designed and built by engineers who trained under the prominent British railway engineers.* *Between 1855 and 1930 the majority of the construction work within the Central Station complex, the sewers, the railway lines, the Mortuary Station, the Main Terminus and approaches, the road re-alignments, the*

Significance Criteria	Application of Criteria (Existing Assessment)
	tramlines and the construction of the Parcels Post Office was undertaken by branches of the Public Works Department. *The Colonial or Government Architects Branch designed the Mortuary Station and the Main Terminus. The overall layout, approaches and the Eddy Avenue level, as well as the remainder of the stations in NSW constructed prior to 1920 were designed by the Railway Construction Branch. Railway construction was separated from remainder of the Department of Public Works during the construction of the second stage of the main terminus.* *With the exception of the Central Electric Station, the station buildings were designed for steam trains. The tank engines required constant maintenance and supplies of fuel and water which were available at nearby Eveleigh.* *Associated with the passenger station were working yards which provided evidence of the changing technology of train travel, from steam to electrification and diesel. The railway yards were necessary to allow for the shunting of trains as well as to store and maintain carriages and for the transfer of goods. Traces of the workings of the yards during the steam train era remain including water tanks and columns.* *The changes in the predominant building materials, and the way in which they are employed, with sandstone and corrugated iron being used until c.1870 for even the most utilitarian buildings such as workshops, then polychromatic brickwork, then sandstone for the more important buildings, and brick with sandstone dressings from the lesser buildings, indicates not only changes in technology, but also the changing fashions for the use of a particular material. After the 1899 inquiry into building materials for public buildings sandstone was used for all major public buildings. The use of sandstone therefore indicates the status of a particular building.* *Particular building styles, details and material were associated with the railways and were used for the construction of the early stages of the Sydney Terminal complex. The remaining workshop buildings feature standard windows that are also found in the Eveleigh and Honeysuckle workshop buildings. Moulded and polychromatic bricks were used in the second station building and its additions, other examples of this style of station building, designed by John Whitton remain in country NSW locations such as Albury. In contrast the main terminus is of a scale and character that is unique in NSW.* *The construction of the railways utilised large quantities of bricks not only for buildings but also for the creation of flyovers, bridges, embankments and retaining walls. There exists a tradition of recycling of building elements from railway buildings, particularly the cast iron elements such as canopy brackets (which could be utilised for verandah or platform canopies), columns and trusses, not only within the yard but also to other railway complexes. Examples of such recycling can be found within the station complex.*

Significance Criteria	Application of Criteria (Existing Assessment)
	THE SYDNEY TERMINAL & YARD : LANDMARK SIGNIFICANCE *The first and second Devonshire stations both fronted Railway Square however, the expansion of the platforms in front of the second terminus building diminished any sense of formal approach.* *The bellcote of the Mortuary Station and later the clocktower of the main terminal building could be seen from a great distance when first constructed. The main terminus forms a prominent Sydney landmark and was designed to act as gateway to the city. The formal approaches and surrounding avenues enhance this characteristic. The clocktower remains visible from Railway Square, Pitt Street and part of Surry Hills.* *The workings of the railway yard have always been visible from the Cleveland Street Bridge and Prince Alfred Park, however, plantings in the park in the 20th century have lessened the visibility of the yard. There is considerably less manual activity within the yard than in the 19th century, however, the frequency of trains has increased considerably.* *SYDNEY TERMINUS : AESTHETIC & TECHNICAL SIGNIFICANCE* *The design of the Sydney Terminal was overseen by an Advisory Board of experts, whose members included the chief railway engineers from Victoria, NSW and Queensland and the NSW Government Architect. This Advisory Board were also involved in the design of the Flinders Street Station in Melbourne. In scale and character the design of Sydney Station and the Sydney Terminal, is of a similar quality as the major European and American Rails Termini.* *In contrast with the second Station where the lines passed through the new building, Station was a true terminal, the main building and concourse preventing any further extension of the line. The majority of railway stations in Australia are located at a point along a railway line rather than forming the end point of the line.* *Sydney Station, as constructed, contains many innovations not previously seen or rare in NSW, the viaducts for the trams, the three pin truss roof to the portico, the assembly platform [concourse], the Devonshire Street subway, the mail and luggage subways and the subterranean gentlemen's toilet, beneath the assembly platform.* *The first stage of the main terminal building is reputed to be the first large scale use of reinforced concrete slab construction in NSW.* *The design of the Sydney Terminal were easily accessible from the main concourse, or assembly platform where a destination board detailed the arrivals and departures. In major termini such boards have largely been replaced by computerised arrival and departure displays. The display board from the Sydney Terminal is now held in the Powerhouse Museum.* *The concourse, or assembly platform, was designed as a place of assembly and was one of the larges covered public spaces in the city.*

Significance Criteria	Application of Criteria (Existing Assessment)
	Other large spaces accessible by the public were the Centennial Hall in the Town Hall, the Exhibition building in Prince Alfred Park and the Queen Victoria market building. *The design was a collaboration between the railway engineers, in particular Henry Deane and the Government Architect, WL Vernon. Both men were trained in Europe and subsequently travelled there to inspect the latest projects. Vernon studied a variety of building types whilst Deane concentrated on railway and tramway installations. Deane was particularly impressed by the American Stations, and modelled the proposed three pin truss train shed roof on Union Station, St Louis.* *The influence on overseas precedents can be seen in the form and layout of the building, the architectural style and in the use of the three pin truss. There are few precedents for the multi-level segregation of trams, pedestrian and vehicular traffic.* *SYDNEY TERMINUS : LANDMARK SIGNIFICANCE* *The Sydney Terminus was designed to form a landmark. When completed in 1920 the clocktower would have been visible from many parts of the city as it was the tallest tower in the city. By creating the park and the wide avenues adjacent to the station the views to the clocktower were accentuated.* *A formal approach to the station, either through Belmore Park or up the ramps to the portico or via the cab ramp formed an elaborate sequence of spatial experiences unequalled in Sydney. This progression was continued within the station building, through the booking hall, assembly platform [concourse] and onto the platforms.* *The approaches to the terminus were to form the gateway to the city, tree lined avenues were created and Pitt Street widened. George Street not Pitt Street however, has developed to form the main thoroughfare north to south through the city.* *The multiple levels of the main station building were designed to separate the types of traffic, vehicular, tram and pedestrian in the aim of preventing accidents. Over the time the ordered separation has become less apparent, with the removal of tramway and bus services.* *The Devonshire Street subway was the first major subway in NSW, probably in Australia, introducing an urban form more common in the major European and American cities of the time.* *The station was one of the largest buildings in the city, rivalling the town hall and the main government department in Bridge Street.* *THE MORTUARY STATION : AESTHETIC & TECHNICAL SIGNIFICANCE* *The Mortuary Stations are considered to be one of the finest designs by the Colonial Architect James Barnet and were, at the time of their construction the most elaborate stations in Australia. A series of identical Gothic Revival stations (with residence attached) were constructed in*

Significance Criteria	Application of Criteria (Existing Assessment)
	Victoria in the early 1860s however, the design, and decorative detail is nowhere near as elaborate as the Mortuary Station. *The Mortuary Station is considered to be an exceptional example of the Gothic revival style, one of the finest in Australia and is comparable with English examples of the period. James Barnet designed four major Gothic Revival buildings: the GPO in Martin Place, the Andersen Stuart Building at Sydney University and the two Mortuary Stations. He based his design, not only on Venetian Gothic prototypes, popularised through the writings of Ruskin but also on the work of the prominent architect Sir George Gilbert Scott such as the (unbuilt) Foreign Office.* *The Gothic theme carries through the decorative motifs used throughout the design and the carved furniture, which resembled pews. In contrast with the majority of stations the platform was tiled not asphalt. The level of detail is far higher than any other railway station of the period on the NSW system.* *The sandstone elements were finely carved, including the medallions, the foliated capitals and the intrados (soffits). The Colonial Architect, James Barnet, through his designs played an important role in encouraging the craft of stone masonry in NSW.* *Coincidentally, the station building used the same platform layout as the first temporary terminal at Devonshire Street building, i.e. a single platform. Its level of decorative detail was much higher and more permanent material were employed in its construction. The Mortuary Station is the finest example of this type of station in Australia.* *THE MORTUARY STATION : LANDMARK SIGNIFICANCE* *The Mortuary Station was a local landmark, clearly visible from Prince Alfred Park, the Cleveland Street Bridge, from the grounds of Sydney University and seen by passengers arriving and departing from the Sydney Terminal. This context has been largely submerged by 20th century developments.* *RAILWAY INSTITUTE : AESTHETIC & TECHNICAL SIGNIFICANCE* *During the early 1890s a number of public buildings were undertaken by competition. These designs reflected the up-to-date trends in architectural design. The use of the Queen Anne Revival follows English trends, the style having been popularised by the London Board schools. The choice of materials, in particular the moulded bricks and the red tiled roof are prominent features of the Queen Ann style.* *This building features Marseille roof tiles for the first time in a building in Australia.* *The large hall still retains much of its decorative detail and is a rare surviving example of a small hall of the late Victorian period. Other intact examples, the Town Hall and St Georges Hall are much larges spaces.*

Significance Criteria	Application of Criteria (Existing Assessment)
	The building is one of few known examples of the work of the architect Henry Robinson. *RAILWAY INSTITUTE : LANDMARK SIGNIFICANCE* *The Railway Institute is prominent when viewed from the Railway yards and from Chalmers Street.* *PARCELS POST OFFICE : AESTHETIC & TECHNICAL SIGNIFICANCE* *The building is one of three major buildings on the site designed by the Colonial or Government Architects Branch. The neo-classical detailing of both the Parcel Post Office and the Sydney Terminal was designed by GM Blair. The building was designed in stages, as was the main Terminal building probably for funding reasons.* *The roofscape of the building is unusually prominent when viewed from a distance. There are few other office buildings in Sydney where the roofscape is so visible.* *The Parcel Post is an early example of an office building, with an internal frame design which provides for the maximum free floor area. It was designed before the introduction of fully framed buildings. The facade is load bearing masonry.* *PARCELS POST OFFICE : LANDMARK SIGNIFICANCE* *The Parcel Post Office adds to the distinctive character of Railway Square.* *DARLING HARBOUR LINE : AESTHETIC & TECHNICAL SIGNIFICANCE* *The Darling Harbour Line is one of the few remaining structures which relate to the first phase of construction of the terminal and yard, when sandstone was the predominant material in the early phase of development. It provides an indication of the extent of civil engineering works required to construct the first terminal and yards.*
Social significance SHR criteria (d)	*SYDNEY TERMINAL & YARD* *The Sydney Terminus has always been a major passenger interchange. In contrast with the first two termini where the subsequent development was haphazard, the interchange between the various forms of transport at Central Station was carefully designed to lessen the chance of accidents.* *Each station building also improved on the last in terms of passenger comfort, the first Redfern or Sydney Station being a hastily erected shed, the second station being designed to separate the arriving and departing passengers. The third passenger station was constructed complete with numerous platforms, a covered assembly area and separate waiting and dining facilities for ladies and gentlemen.*

Significance Criteria	Application of Criteria (Existing Assessment)
	A large workforce was once required to maintain and refuel the steam locomotives. Following the establishment of the workshop complex at Eveleigh the workshop facilities in the Sydney yards declined. There are no longer workshop facilities at the Sydney Terminal, not even for electric and diesel trains. *Many of the operations of the yards, such as signalling were once operated manually. With the introduction of hydraulic and later electronic signalling the number of staff required to operate the yards has declined. This trend is not peculiar to the Sydney yards.* *The development of the suburban train system allowed workers to commute rather than having to reside near to their place of work. Vast numbers of commuters use 'Central Station' as an interchange on a regular basis.* *The development of the rail network allowed fast and comfortable travel available to all. The journey to Bathurst by stagecoach took 18 hours. The train would have been considerably faster and provided a higher level of facilities. The Sydney Terminal was the point of departure for many travellers.* *SYDNEY TERMINUS* *The new terminus was designed with a capacity to double the passenger number, to an expected maximum of 40,000 per day. With the increase in the use of the private car in the late 20th century the reliance on public transport has lessened however, Sydney Terminal Station is still used a large number of commuters on a daily basis.* *The Sydney Terminus was designed with an elaborate and impressive booking hall, which was not only experienced by passengers buying tickets but also glimpsed by passengers passing through onto the assembly platform [concourse]. The experience of buying a ticket in such an elaborate and formal space would have heightened the sense of romance associated with travel.* *Associated with the assembly platform [concourse] were a series of amenities which reflect the attitudes and customs of the period, separate dining, tea and waiting facilities were provided for ladies and gentlemen. A barber and change facilities, including baths, were provided to allow passengers to clean up after their journey.* *A reading room and dining room were provided for the railway commissioners and their staff, to mitigate against the fact that the terminal building has been located away from the centre of town.* *THE MORTUARY STATION* *The erection of the receiving stations at Sydney and within the Rockwood Necropolis was to enable the dignified transfer of the coffins from carriages onto the funeral train. The station was designed to provide an elaborate setting for the mid to late Victorian rituals associated with both death and mourning. The Gothic Revival style,*

Significance Criteria	Application of Criteria (Existing Assessment)
	generally more commonly associated with ecclesiastical or collegiate buildings, was employed to provide a suitable atmospheric setting favoured for funeral designs during the period. *RAILWAY INSTITUTE* *One of the aims of the institute was to provide for the continuing education of the railway employees. Evening Classes and examinations were undertaken within the building.* *The Honour Boards record the names of important people in railway history.* *The building has continued to operate as a facility for Railway employees for over a century and the halls within the Institute have been utilised for a wide range of social functions and during emergencies.* *PARCELS POST OFFICE* *The Parcel Post Office was designed for an all male work force, there were no toilet facilities for women included in the original scheme. The original scheme also included detectives galleries, to allow for the surveillance of the floor.*
Technical/Research significance **SHR criteria (e)**	*THE SYDNEY TERMINAL & YARD* *In addition to the extant remains of the early stages of development of the site such as the Darling Harbour Branch Line and the imprint of the demolished heavy goods shed, evidence remains in the archaeological record of the former uses of the site. The site of the main terminus was formerly occupied by the Benevolent Asylum, Carters Barracks and the Devonshire Street cemetery. Re-location of the graves and demolition of the structures was recorded in the documentary evidence. As the site levels were raised to create the new station it is unlikely that all foundations were removed. Other contemporary building projects were constructed leaving the former foundations in-situ.* *PARCELS POST OFFICE* *The Parcel Post Office is a reprehensive example of state of the art fire proof construction and its application to multistorey construction techniques.* *DARLING HARBOUR LINE* *The rail line under George Street was one of the first underpasses to be constructed as part of the NSW rail network. George Street was initially carried across the track by a bridge. In contrast to the Cleveland Street Bridge, the George Street overbridge remains largely intact.*
Rarity **SHR criteria (f)**	*The item has not been assessed against this criterion.*
Representativeness **SHR criteria (g)**	*The item has not been assessed against this criterion.*
Integrity/Intactness	*The item has not been assessed against this criterion.*

The Statement of Significance reads as follows:

"*THE SYDNEY TERMINAL AND YARDS*

- *As the site of the first Sydney Terminal and the starting point of the main line, from which the NSW rail network grew;*
- *for its continuity of railway use since 1855;*
- *As the site of one of the first passenger stations in NSW;*
- *As a major terminal by world standards, comparable with late Victorian and Edwardian metropolitan stations in Europe, Great Britain and North America;*
- *Containing the Mortuary Station, one of five pre 1870 stations surviving in the State;*
- *As the first major terminus to be constructed in Australia and the only example of a high level terminus in the country;*
- *As a unique terminal, in NSW, not only in extent but also for the high standard of design of the associated buildings in particular the Mortuary Station, Railway Institute and the Parcels Post Office;*
- *Containing two of the three station buildings, in NSW designed by the Colonial or Government Architect in NSW;*
- *As one of the two longest continuously operating yard/workshop complexes in Australia, dating from the 1850s. Although many of the original functions have been superseded, or operations transferred to other sites, evidence of the working 19th century yard remains extant;*
- *As a major multi-level transport interchange between pedestrians, vehicular traffic and trains and later trams and subsequently buses. Since its establishment in 1855 it has been one of the busiest transport interchanges in Australia;*
- *As the larges formally planned addition to the urban fabric of Sydney prior to World War 1, intended to form a gateway to the city;*
- *As the site of the Benevolent Asylum and Carters Barracks and Devonshire Street Burial Ground and Stations, evidence of which is likely to be found in the archaeological record;*
- *As a major public work undertaken in numerous stages between 1855 and 1930 by two branches of the Department of Public Works, the Railway and Tramway Construction Branch and the Colonial (later Government) Architects Branch;*
- *For the evidence provided of the changing technology of train travel from steam to electric trains, indicated not only by the declining yard workforce but also by the changes in yard layout and signalling work practises;*
- *As point of entry to the city for visitors from country NSW and a major departure point for travellers within Australia;*
- *The railway yards, the Mortuary Station, Railway Institute Building, terminus and clock tower are familiar Sydney landmarks, particularly to rail travellers.*

THE WESTERN YARD

- *For their continual operation as a rail yard since the introduction of railways to NSW in 1855;*
- *As site of the first and second Sydney Terminals and the Mortuary Station;*

- *Whitten virtually abandoned Sydney work in order to construct the main line network in the country areas.*

THE DARLING HARBOUR BRANCH LINE

- *Containing one of the first overbridges and cuttings constructed in Australia, part of the first phase of railway construction in NSW;*
- *As a vital link with Darling Harbour and for the export of wool and other agricultural products from country NSW;*
- *For the surviving fabric which provides evidence of change embankment and retaining wall and bridge construction techniques.*

THE MORTUARY STATION

- *As one of a pair of purpose-built mortuary or receiving stations, the only known example in Australasia. Whilst the station at Sydney remains in its original location, the Rookwood Station has been relocated;*
- *As a fine, rare example of 19th century Venetian Gothic;*
- *As the finest example of a covered single platform type station in Australia and the most elaborately detailed stations, of its period. The detail includes a rare example of a tiled platform, elaborately carved stonework and joinery, furniture and decorative wrought iron work;*
- *As one of few Gothic Revival buildings designed by the Colonial Architect James Barnet, a highly praised design, marking a high point in his career and considered to be one of his finest designs;*
- *For its association with Victorian rituals surrounding death and mourning. The building was designed as an elaborate setting for the example of the use of trains rather than horse drawn carriages to transport coffins to cemeteries;*
- *As one of few Gothic revival buildings of the period that were designed for a function other than for churches or schools. The style was selected to provide an appropriate atmosphere for the mourners;*
- *As an early example of the introduction of Venetian Gothic motifs including the colonnade which screens the platform;*
- *As a fine example of stone masonry including an arcade with foliated capitals and carved intrados (soffit), metal and wood work;*
- *For the role played by the colonial Architect James Barnet in encouraging the art of stone masonry through his designs;*
- *For its association with the development of the Rookwood Necropolis, one of the largest garden cemeteries in the world;*
- *As a local landmark, visible from locations such as Prince Alfred Park, the Cleveland Street Bridge and the forecourt of Sydney University.*

THE WEST CARRIAGE SHEDS

- One of few surviving working buildings on the site, whose industrial character, specialised layout and form demonstrate former functions and operations;

- As the smaller, and remaining of two carriage sheds, built for the servicing of carriages;

- Part of the extension of the Sydney Terminal shortly after the turn of the century;

- The disuse of the carriage sheds provides evidence of the changing nature of rail travel and work practices, such labour intensive processes no longer being undertaken within the Sydney Yards.

PRECINCT 2: THE PRINCE ALFRED SIDINGS

- *Contain the only remains of a workshop building within the Sydney Terminal complex, which date from the 1870s, and also the Railway Institute;*
- *Mark the eastern boundary of the once extensive Sydney yards.*

THE RAILWAY INSTITUTE

- *The first Railway Institute to be established in Australia;*
- *A fine example of the Queen Anne revival style, based on English precedent. The building exhibits characteristic features of the style including Dutch Gables, the use of moulded brickwork and Marselle roof tiles;*
- *For its role in the continuing education of the railway employees, through evening classes;*
- *A setting for social activities for the railway employees;*
- *Containing significant plagues and memorials to railway employees;*
- *Containing a rare, and largely intact, example of a small scale, late Victorian Hall.*

PRECINCT 3: THE SYDNEY TERMINAL - THE TERMINUS

- *The first major terminus, and the only high level terminal, to be constructed in Australia, the design of which was overseen by experts from NSW, Victoria and Queensland. Comparative in scale and quality of design to the major European and American terminus;*
- *A major transport interchange, with numerous tram lines on different levels, the most complex in Australia;*
- *A major planned urban design aimed at improving Sydney, in contrast to the haphazard beginning and former unplanned growth of the rail termini. The only major building of this period in Sydney where the urban setting was consciously designed to complement, and provide views of the main structure;*
- *A symbol of the progress of the development of the city and the railway;*
- *A major public building designed by the Government Architect WL Vernon, and detailed by GM Blair, and completed by his successor George McRae. The only railway station designed by Vernon, and his most adventurous free classical design;*
- *A major sandstone building, one of the few to be constructed, in Sydney, outside of the heart of the CBD. The use of sandstone reflected the status of the building as a major public building;*
- *For its design as an elaborate progression of spaces, from the tram portico to the booking hall to the concourse and into the (proposed) train shed, enhancing the sense of journey. This contrasted with the previous station which had grown into an unplanned conglomeration of platforms;*
- *The largest station to have been constructed in NSW, previously the major country stations such as Albury were grander both in scale and decorative detail than the Sydney Terminal;*
- *The Sydney Terminal would have been even grander had the train shed been constructed covering the platforms. The changing of the design as a cost cutting measure reflects the economic conditions of the time. The construction of Stage Two during the war years, however, reflects the importance of this transport link to the Australian economy;*

- *A rare example, in Sydney, of the use of multi level vehicular approaches, the separate approaches for tram, pedestrian and vehicle, being identified at the outset as being a particular feature;*
- *The clocktower, completed as part of the second stage, is a well known Sydney landmark, nicknamed "the working mans watch";*
- *Containing such planning innovations as separate subways for passengers and baggage handling and the main assembly platform [concourse];*
- *Further investigation may reveal the main assembly platform to be one of the earliest uses of reinforce concrete floor slabs in NSW;*
- *Marking a period of prosperity for the railways and a subsequent decline in other forms of transport, in particular the more unreliable coastal shipping, following construction of the north coast Railway 1910-1922;*
- *The manner in which different structural systems, such as the three pin and crescent truss roofs, were used throughout the design to form a variety of spaces;*
- *The original floor plan indicates separate waiting facilities for different classes of passenger and for women. These distinctions have largely disappeared, with the exception of the use of a system of classes on the transcontinental trains and the XPT and Explorers;*
- *For the inclusion, in the design, of up-to-date technology including telephones and telegraphs.*

THE PARCEL POST OFFICE

- *The only purpose built post office building, of this period in Sydney;*
- *An indication of the importance of rail in carrying parcels;*
- *An example of the work of the Government Architects Vernon and McRae and their principal design architect, GM Blair;*
- *A fine example of neo-classical detailing on one of the few brick and sandstone public buildings in inner Sydney;*
- *A landmark in Railway Square;*
- *An early example of a concrete and steel framed office building of fire proof construction.*

THE SYDNEY YARD

- *The yard contains one of the earliest sewers in Metropolitan Sydney, built by the newly formed Department of Public Works in the mid 1850s;*
- *The site of the workshops which were the heart of the working yard in the mid to late 19th century;*
- *Containing evidence of the changing technology of train travel, commencing with steam locomotives in the mid 1850s;*
- *Showing the impact of the decentralisation of railway functions, which began in the 1880s, on the Sydney Yard.*

PRECINCT 5: THE CENTRAL ELECTRIC STATION

- *Association with JJC Bradfield and the construction of the City Electric Railway, and the Sydney Harbour Bridge in the late 1920s;*
- *One of a number of inner Sydney stations designed by JJC Bradfield, of which two are above ground, Milsons Point and Central Electric;*

- *Containing the most elaborate station entrance (Elizabeth Street), of the City Circle stations;*
- *For the continuation of the neo-classical architectural vocabulary and the use of sandstone for the station building and the viaduct;*
- *For its continuous use as a commuter station for the Sydney suburban lines;*
- *For the use of 'state of the art' reinforced concrete construction*" (NSW Heritage Office, 2019).

This Statement of Significance was last updated in 1996.

Mortuary Railway Station and site (SHR 00157 and Sydney LEP 2012 I194)

The Mortuary Railway Station has already been identified as a State significant item as part of the Central Railway Station group listing. It is also listed as a separate site on its own.

Table 3 Mortuary Railway Station and site Significance assessment (NSW Heritage Office, 2019)

Significance Criteria	Application of Criteria (Existing Assessment)
Historical significance SHR criteria (a)	*There are few other known examples of a purpose built mortuary stations anywhere in the world. The other stations which may have been solely Mortuary Stations exist in England, Sutherland and Sandgate. The pair of Mortuary Stations are the only examples in Australasia.* *The Mortuary Stations is one of the oldest surviving stations in Australia, there a few remaining examples of stations which date from pre 1870. Four other examples remain in NSW and a series of five identical stations were built in Victoria c.1862-3.* *The development of this station is not only associated with the expansion of the Sydney yards but also with the development of the Rookwood Necropolis at Haslem's Creek (Lidcombe), one of the largest and most intact Victorian garden cemeteries in the world.* *The erection of a permanent Mortuary Stations, within 15 years of the commencement of the rail network in NSW is an indication of not only the rapid expansion of the railway but that it had rapidly become accepted as a mode of transport by the citizens of Sydney.*
Historical association significance SHR criteria (b)	*The item has not been assessed against this criterion.*
Aesthetic significance SHR criteria (c)	*The Mortuary Stations are considered to be one of the finest designs by the Colonial Architect James Barnet and were, at the time of their construction the most elaborate stations in Australia. A series of identical Gothic Revival stations (with residence attached) were constructed in Victoria in the early 1860s however, the design, and decorative detail is nowhere near as elaborate as the Mortuary Station.* *The Mortuary Station is considered to be an exceptional example of the Gothic revival style, one of the finest in Australia and is comparable with English examples of the period. James Barnet designed four major Gothic Revival buildings: the GPO in Martin Place, the Andersen Stuart Building at Sydney University and the two Mortuary Stations. He based his design, not only on Venetian Gothic prototypes, popularised through the writings of Ruskin but also on the work of the prominent architect Sir George Gilbert Scott such as the (unbuilt) Foreign Office.* *The Gothic theme carries through the decorative motifs used throughout the design and the carved furniture, which resembled pews. In contrast with the majority of stations the platform was tiled not asphalt. The level of detail is far higher than any other railway station of the period on the NSW system.* *The sandstone elements were finely carved, including the medallions, the foliated capitals and the intrados (soffits). The Colonial Architect,*

Significance Criteria	Application of Criteria (Existing Assessment)
	James Barnet, through his designs played an important role in encouraging the craft of stone masonry in NSW. *Coincidentally, the station building used the same platform layout as the first temporary terminal at Devonshire Street building, i.e. a single platform. Its level of decorative detail was much higher and more permanent material were employed in its construction. The Mortuary Station is the finest example of this type of station in Australia.* *THE MORTUARY STATION : LANDMARK SIGNIFICANCE* *The Mortuary Station was a local landmark, clearly visible from Prince Alfred Park, the Cleveland Street Bridge, from the grounds of Sydney University and seen by passengers arriving and departing from the Sydney Terminal. This context has been largely submerged by 20th century developments.*
Social significance SHR criteria (d)	*The erection of the receiving stations at Sydney and within the Rockwood Necropolis was to enable the dignified transfer of the coffins from carriages onto the funeral train. The station was designed to provide an elaborate setting for the mid to late Victorian rituals associated with both death and mourning. The Gothic Revival style, generally more commonly associated with ecclesiastical or collegiate buildings, was employed to provide a suitable atmospheric setting favoured for funeral designs during the period.*
Technical/Research significance SHR criteria (e)	*The item has not been assessed against this criterion.*
Rarity SHR criteria (f)	*The item has not been assessed against this criterion.*
Representativeness SHR criteria (g)	*The item has not been assessed against this criterion.*
Integrity/Intactness	*The item has not been assessed against this criterion.*

The Statement of Significance reads as follows:

"*THE MORTUARY STATION*

- *As one of a pair of purpose-built mortuary or receiving stations, the only known example in Australasia. Whilst the station at Sydney remains in its original location, the Rookwood Station has been relocated;*
- *As a fine, rare example of 19th century Venetian Gothic;*
- *As the finest example of a covered single platform type station in Australia and the most elaborately detailed stations, of its period. The detail includes a rare example of a tiled platform, elaborately carved stonework and joinery, furniture and decorative wrought iron work;*
- *As one of few Gothic Revival buildings designed by the Colonial Architect James Barnet, a highly praised design, marking a high point in his career and considered to be one of his finest designs;*

- *For its association with Victorian rituals surrounding death and mourning. The building was designed as an elaborate setting for the example of the use of trains rather than horse drawn carriages to transport coffins to cemeteries;*
- *As one of few Gothic revival buildings of the period that were designed for a function other than for churches or schools. The style was selected to provide an appropriate atmosphere for the mourners;*
- *As an early example of the introduction of Venetian Gothic motifs including the colonnade which screens the platform;*
- *As a fine example of stone masonry including an arcade with foliated capitals and carved intrados (soffit), metal and wood work;*
- *For the role played by the colonial Architect James Barnet in encouraging the art of stone masonry through his designs;*
- *For its association with the development of the Rookwood Necropolis, one of the largest garden cemeteries in the world;*
- *As a local landmark, visible from locations such as Prince Alfred Park, the Cleveland Street Bridge and the forecourt of Sydney University.*" (NSW Heritage Office, 2019).

This Statement of Significance was last updated in 1996.

Redfern Aboriginal Children's Services and Archives (SHR 01951)

Redfern Aboriginal Children's Services and Archives is a listed item on the NSW SHR.

Table 4 Redfern Aboriginal Children's Services and Archives Significance assessment (NSW Heritage Office, 2019)

Significance Criteria	Application of Criteria (Existing Assessment)
Historical significance SHR criteria (a)	*Redfern Aboriginal Children's Services was instrumental in bringing about a substantial shift in government policy regarding the care of Aboriginal children that were removed from their parents. Redfern Aboriginal Children's Services also influenced policy for non-Indigenous children leading to the current practice known as 'kinship care' where priority is given to placing the removed child with family members. In the case of Aboriginal children the emphasis is placed upon finding culturally appropriate carers, something that was not considered important prior to the establishment of the Redfern ACS.* *Redfern Aboriginal Children's Services provides evidence of the revolution in Aboriginal self determination that occurred in Redfern in the 1970s. The service demonstrates the displacement caused by government policy and the success of the Aboriginal community in reclaiming their right to care for their own kin and run their own affairs. The Redfern ACS is an integral part of the story of Redfern.*
Historical association significance SHR criteria (b)	*The establishment and ongoing running of the Redfern Aboriginal Children's Services is associated with several influential Aboriginal women whose activism lead to social change including Isabel Coe, Ann Weldon, Colleen Shirley Perry (Mum Shirl), Jenny Monroe, Vilma Ryan and Sylvia Scott.*
Aesthetic significance SHR criteria (c)	*18 George Street is a multi level free standing town house that demonstrates the Victorian Filigree architectural style and exhibits the*

Significance Criteria	Application of Criteria (Existing Assessment)
	aspirations of a gentleman solicitor in 1874. There are parts of the interior which relate to its use by the Aboriginal Children's Services such as the double sided mural in the entrance hall. The building has aesthetic value at a local level.
Social significance SHR criteria (d)	*The Redfern Aboriginal Children's Services has strong social significance for the contemporary Aboriginal community in Redfern, Sydney and NSW for a number of reasons. The place is symbolic as a safe place for Aboriginal children who were placed in care with kinship consideration. The hundreds of children who passed through the Redfern ACS would be expected to have strong memories of the service as it played a role during their removal from their parents.* *Redfern Aboriginal Children's Services provides evidence of cultural and traditional ways of cooperating and caring for each other being translated to an urban setting. The Redfern ACS has always played a charitable role in the community and continues to do so today with services such as a free food delivery service and playgroup for mothers in the neighbourhood.* *For the past and present workers at Redfern Aboriginal Children's Services the place has spiritual significance as it is occupied by the spirit of ancestors/ board members who have passed on but continue to inhabit and care for the place.*
Technical/Research significance SHR criteria (e)	*There are substantial archives relating to the complete history of the Redfern Aboriginal Children's Service held on site. These archives have the potential to provide significant information about the organization as well as containing the records about each child that was fostered through the service. These archives have an elevated level of significance as no history of the service has been prepared to date and because adults who were fostered through the service may seek to inspect the records in order to connect with kin.*
Rarity SHR criteria (f)	*Redfern Aboriginal Children's Services played a pivotal role as the original service from which other services grew. It has rarity as a surviving symbol of the organization.* *Redfern Aboriginal Children's Services is now a rare example of the once numerous pioneering organizations for the well being and advancement of Aboriginal people that were based in Redfern but have recently moved on to other areas due to the gentrification of the suburb.*
Representativeness SHR criteria (g)	*Redfern Aboriginal Children's Services is an early example of children's services specifically for the placement of Aboriginal children. The service is an excellent example of resistance against the policy of removing Aboriginal children from their family, culture and community and successfully establishing kinship ties as an important consideration in child placements. 18 George Street is an excellent example of a building adapted for use by Aboriginal Children's Services.*

Significance Criteria	Application of Criteria (Existing Assessment)
Integrity/Intactness	*Redfern Aboriginal Children's Services building is highly intact. The intactness of the archive is unknown.*

The Statement of Significance reads as follows:

> "*The Redfern Aboriginal Children's Service & Archives is of state significance because it was instrumental in bringing about a substantial shift in government policy regarding the care of Aboriginal children as well as being influential in the introduction of the 'kinship care' policy for non-Indigenous children. Redfern Aboriginal Children's Services & Archives provides evidence of cultural and traditional ways of cooperating and caring for each other being translated to an urban setting. Along with Redfern Aboriginal Legal Service, the Aboriginal Housing Company and the Aboriginal Medical Service, the Redfern ACS was one of the pivotal Aboriginal organizations in the 1970s revolution in self determination that occurred in Redfern. Redfern Aboriginal Children's Services at 18 George Street, Redfern is now a rare example of Aboriginal service providers as the suburb has become increasingly gentrified and the services have left with the Aboriginal population.*
>
> *"Redfern Aboriginal Children's Services & Archives is an early example of children's services established by Aboriginal people specifically for the placement of Aboriginal children. The service is an excellent example of resistance against the policy of removing Aboriginal children from their family, culture and community and successfully establishing kinship ties as an important consideration in child placements. 18 George Street is an excellent example of a building adapted for use by Aboriginal Children's Services.*
>
> *"Redfern Aboriginal Children's Services has historical association with a number of key figures in Aboriginal politics and welfare provision including Isobel Coe, Jenny Munroe, Mum Shirl, Ann Weldon, Vilma Ryan and Sylvia Scott.*
>
> *"18 George Street also houses important historical archives documenting the operation of ACS, including information about each foster child*" (NSW Heritage Office, 2019).

This Statement of Significance was last updated 20 November 2014.

Cathedral of the Annunciation of Our Lady (SHR 01881) / Greek Orthodox Church Group (Sydney LEP 2012 I1476)

This item is listed on both the NSW SHR and the Sydney LEP 2012, but with two different names.

Table 5 Cathedral of the Annunciation of Our Lady Significance assessment (NSW Heritage Office, 2019)

Significance Criteria	Application of Criteria (Existing Assessment)
Historical significance SHR criteria (a)	*The Cathedral of the Annunciation of Our Lady is of state heritage significance as an important ecclesiastical design in the architectural career of Edmund Blacket. Blacket was the diocesan architect for the Church of England and was awarded three important commissions in the late 1840s - these being St Paul's in Redfern, Church of the Holy Trinity in Berrima and St Phillips in Church Hill. Blacket designed different Gothic forms for each of these churches and, in doing so, established the architectural model for parish church construction throughout NSW.* *This item is also significant as the Greek Orthodox Cathedral for Australia. Since its conversion and re-consecration to the Orthodox faith*

Significance Criteria	Application of Criteria (Existing Assessment)
	in 1970, the cathedral has become a cultural centre for worship, education and the continuity of Greek customs, traditions and language in Australia.
Historical association significance SHR criteria (b)	*The Cathedral of the Annunciation of Our Lady has state heritage significance for its association with the migrant communities that settled in Australia following the Second World War. Establishing churches and maintaining the orthodox faith has always been a significant aspect of the Greek-Australian experience and with the settlement of a new population after the war, the formation of a cathedral for Greek Orthodoxy was of fundamental importance. The cathedral became the focal point of cultural, education and philanthropic life in the community and was essential for the ongoing practice and celebration of their customs, traditions and language.* *The building also has a significant association with the acclaimed colonial architect Edmund Blacket. Blacket was the diocesan architect for the Church of England and was awarded three important commissions in the late 1840s - these being St Paul's in Redfern, Church of the Holy Trinity in Berrima and St Phillips in Church Hill. Blacket designed different Gothic forms for each of these churches and, in doing so, established the architectural model for parish church construction throughout NSW.* *The former Anglican church also has a significant association with Reverend Francis Bertie Boyce, who resided over the parish from 1886 until his retirement in 1930. A notable and active leader for social reform, Boyce used his political connections to campaign for clearing slums, improving living conditions, promoting pensions and alleviating working class distress.*
Aesthetic significance SHR criteria (c)	*The Cathedral of the Annunciation of Our Lady has state heritage significance as an early example of Edmund Blacket's work as Diocesan Architect for the Church of England and as a largely intact example of his ecclesiastical designs in the Colonial Decorated Gothic style. Positioned in a visually prominent location, the design of this landmark church made use of an already popular architectural style that was a potent reflection of the buildings of Britain (of home).*
Social significance SHR criteria (d)	*The Cathedral of the Annunciation of Our Lady has state heritage significance for the important role it continues to have in the lives of the Greek Orthodox community in NSW. Following the Second World War and the government-assisted migration program, a significant Greek community settled in NSW and the establishment of a cathedral was important as a place to meet, maintain the orthodox faith and continue the Greek customs, traditions and language.* *Churches have always been a significant aspect of the Greek-Australian experience and, with the settlement of a new population after the war, the cathedral became the focal point for the social, cultural, education and philanthropic life in the community. This social significance*

Significance Criteria	Application of Criteria (Existing Assessment)
	continues as the generations of migrant-descendants learn and celebrate their Greek identity. *Today, the cathedral is internationally recognised as the seat of Greek Orthodoxy in Australia and provides service for the most significant events within the church. As the Greek Orthodox cathedral in Australia, this site has particular significance for those follow the Greek Orthodox faith.*
Technical/Research significance **SHR criteria (e)**	*Expansion of the adjacent railway facilities saw the resumption of acres of church land in 1911 - leading to the demolition of the school (1854) and rectory (1864). Further archaeological exploration of this site may reveal evidence of these earlier buildings.*
Rarity **SHR criteria (f)**	*This building may be considered rare as the seat of Greek orthodoxy in Australia but its design (originally as an Anglican church) is not particularly rare in NSW.*
Representativeness **SHR criteria (g)**	*The Cathedral of the Annunciation of Our Lady is a representative example of Gothic-style churches designed by Edmund Blacket during his career as diocesan architect for the Church of England. During the colonial period, architecture was commissioned by the British settlers and was often designed to reflect the buildings of their homelands. The ecclesiastical building models were symbolic of Christianity and Blacket, in keeping with other colonial architects of the time, took inspiration from the design of established churches in England.* *Its use as a Greek Orthodox Cathedral is also representative of religious institutions being used as a community meeting place for the continuity and practice of traditional customs and language. Churches were often used by migrant communities for this purpose.*
Integrity/Intactness	*Despite some internal modifications to convert the former Anglican church into its current use as the Greek Orthodox Cathedral, the building is in very good condition and retains much of its integrity and intactness.*

The Statement of Significance reads as follows:

> "*The Cathedral of the Annunciation of Our Lady is of state heritage significance as an important early ecclesiastical design in the architectural career of Edmund Blacket. Originally St Paul's Anglican Church, its Decorated Gothic design became one of the established architectural models for parish church construction throughout NSW.*
>
> *This item is also significant as the Greek Orthodox Cathedral for Australia and for its association with the migrant communities that settled in NSW following the Second World War. Establishing churches and maintaining the orthodox faith has always been a significant aspect of the Greek-Australian experience and, since the conversion and re-consecration of the church to the Orthodox faith in 1970, the cathedral has become a centre for worship and the continuity and celebration of Greek customs, traditions and language.*
>
> *The former Anglican church also has a significant association with Reverend Francis Bertie Boyce, who resided over the parish from 1886 until his retirement in 1930. A notable and active*

leader for social reform, Boyce used his political connections to campaign for clearing slums, improving living conditions, promoting pensions and alleviating working class distress within the Redfern/Chippendale parish" (NSW Heritage Office, 2019).

This Statement of Significance was last updated 15 October 2012.

Railway Institute Building (SHR 01257 and Sydney LEP 2012 I1472)

This item is listed on the NSW SHR and the Sydney LEP 2012. It has been identified as having State significance.

Table 6 Significance assessment (NSW Heritage Office, 2019)

Significance Criteria	Application of Criteria (Existing Assessment)
Historical significance SHR criteria (a)	*The Railway Institute was the first such institute in NSW and in Australia. It is an important and successful part of the history of technical and adult education in NSW, which began with the establishment of the Sydney School of Arts in 1833 and speared across the state during the rest of the nineteenth century. Its establishment also reflects the influence of English precedent whereby railway companies built Mechanics Institutes for the education of employees.* *It has associations with prominent figures associated with the development of the railway during the nineteenth century, most particularly Railway Commissioners Goodchap and Eddy.* *The building has played an important role in the cultural, recreational and social activities of Railway employees, and in the cultural life of Sydney. For instance, for many years it was the location of the city of Sydney Eisteddfod.* *The physical fabric of the building reveals the rapid growth of the Institute and clear evidence of the ways in which the building was used for instruction and recreational purposes.* *The building reflects the paternalistic and responsible attitude held by the management of the NSW Railways at the end of the nineteenth century, and the efforts of railway workers to achieve a higher level of education.*
Historical association significance SHR criteria (b)	*Does not meet this criterion.*
Aesthetic significance SHR criteria (c)	*The Railway Institute Building is an exceptionally fine example of the Federation Anglo Dutch style of architecture, with many characteristic features of the style such as the use of brickwork, Flemish gables, picturesque massing and decorative details.* *It is a rare surviving example of the work of architect Henry Robinson, of whom little has been documented and whose known output is small. The quality of the building's exterior reveal him to have been an accomplished and skilful designer who was aware of the latest architectural trends.* *The external fabric demonstrates a high degree of workmanship, both in intact surviving original sections and in recent conservation work.*

Significance Criteria	Application of Criteria (Existing Assessment)
	The building is reputedly the first building in NSW connected with a government instrumentality to have been finished with a Marseille-pattern terra cotta tile roof. This significance, however, has been diminished by later replacement of the original roofing, resulting in the loss of important detail such as cresting. *The building has retained much of the early and original internal fabric and configuration. The main hall on the first floor of the 1891 building in particular is a fine space and has retained much original decorative fabric. It is considered to be a rare example of a small public hall from the late Victorian period.* *The building is a most important part of the physical environment of the area, particularly in relation to Prince Alfred Park, Chalmers Street and the Central Railway complex. It has the potential to be reinstated as a prominent visual landmark that forms a positive component of the local townscape, but presently is obscured by small buildings and trees on three sides.*
Social significance SHR criteria (d)	*The Railway Institute Building is socially significant because of its strong associations with railway employees in the past in NSW, and apparently is still very meaningful to many older employees.*
Technical/Research significance SHR criteria (e)	*The building is significant because it is a fine example of its type, which is still evident despite later modifications. It provides evidence of the processes of adult education at the end of last century and in the first quarter of the twentieth century.*
Rarity SHR criteria (f)	*Does not meet this criterion.*
Representativeness SHR criteria (g)	*Does not meet this criterion.*
Integrity/Intactness	*The item has not been assessed under this criterion.*

The Statement of Significance reads as follows:

> "The Railway Institute is culturally significant for the following reasons:
>
> It is historically significant as the first Railway Institute building to be erected in Australia, and an important educational facility at the end of the nineteenth and during the twentieth century.
>
> The 1891 section of the building is a rare and fine example of the Federation Anglo Dutch style, demonstrating a high degree of architectural quality and detail, particularly on its exterior. Later additions complement this original portion in scale and quality of materials.
>
> The building is an important and rare known example of the work of architect Henry Robinson.
>
> The building has rare technical significance because it is an outstanding and relatively intact example of a Railway Institute Building and demonstrates the activities which were carried out in association with adult education in the late nineteenth and early twentieth centuries.
>
> The building has representative social significance arising out of its seminal role as a railway institute and is still valued by a section of the community." (NSW Heritage Office, 2019).

This Statement of Significance was last updated in 1998.

Prince Alfred Park (Sydney LEP 2012 I1406)

Prince Alfred Park is listed on the Sydney LEP 2012 as an item with local heritage significance.

Table 7 Significance assessment (NSW Heritage Office, 2019)

Significance Criteria	Application of Criteria (Existing Assessment)
Historical significance SHR criteria (a)	*Prince Alfred Park has been the location of several major historical events including the holding of NSW Agricultural Society Intercolonial Exhibitions from 1870 to 1881.*
Historical association significance SHR criteria (b)	*Association with Benjamin Backhouse, Architect for the NSW Agricultural Society, and a notable Victorian era architect, and with the NSW Agricultural Society and its exhibitions. Park also has associations with local heritage buildings including Cleveland House and the Exhibition Hotel.*
Aesthetic significance SHR criteria (c)	*Prince Alfred Park was the first park in Australia designed for a major exhibition and was notable for the siting of a public building in a landscaped setting. Trees and elements of the layout from the original 1869 plan of the park still exist.*
Social significance SHR criteria (d)	*Prince Alfred Park is the major open space in the southern part of central Sydney, serving as a local park to both business and residential areas.*
Technical/Research significance SHR criteria (e)	*The item does not meet this criterion.*
Rarity SHR criteria (f)	*Rare as a park laid out for the purpose of an exhibition.*
Representativeness SHR criteria (g)	*The item does not meet this criterion.*
Integrity/Intactness	*Modified, however elements from the original design do remain.*

The Statement of Significance reads as follows:

> "Historically significant as the first park in Australia laid out for the purpose of holding an Agricultural Society Intercolonial Exhibition in 1870. The layout and mature vegetation are extremely important historical items. The park has immense historical and aesthetic significance, and is also of social significance. The park has historical associations with the NSW Agricultural Society and with Benjamin Backhouse, Architect." (NSW Heritage Office, 2019).

This Statement of Significance was last updated 18 May 2006.

Former Co-masonic Temple Including Interior (Sydney LEP 2019 I195)

This item is listed on the Sydney LEP 2019 as having local significance.

Table 8 Former Co-masonic Temple Including Interior Significance assessment (NSW Heritage Office, 2019)

Significance Criteria	Application of Criteria (Existing Assessment)
Historical significance SHR criteria (a)	*Of high historical significance for its association with and strong physical link to the Wesleyan Church and the Co-masons and for its ability to demonstrate a pattern of institutional/religious use in the Regent Street area. Of historical significance as a rare and intact surviving example of the Co-masonic movement within the City of Sydney and NSW. The Co-masonic Temple is one of a small group of buildings associated with Co-masonry in New South Wales. It was the Centre of Sydney Co-masonry for approximately 80 years. Has historic significance at a State level. Has historic significance locally.*
Historical association significance SHR criteria (b)	*The item does not meet this criterion.*
Aesthetic significance SHR criteria (c)	*Of aesthetic significance for its strong streetscape form, for its strong visual links with the Mortuary Station and the adjacent terraces as as a rare example in the city and city edge area of small-scale institutional religious building from the Federation period. Has aesthetic significance locally.*
Social significance SHR criteria (d)	*The item does not meet this criterion.*
Technical/Research significance SHR criteria (e)	*The site has archaeological potential for the early stages of the development of the site by the Wesleyan Church. Has archaeological significance at a State level. Has archaeological significance locally.*
Rarity SHR criteria (f)	*There are no other Co-masonic Temples currently listed on the State Heritage Inventory or the City of Sydney Schedule of Heritage Items. This is a rare and intact physical example of the co-masonic movement in New South Wales. Is rare at a State level. Is rare locally.*
Representativeness SHR criteria (g)	*The item does not meet this criterion.*
Integrity/Intactness	*The item has not been assessed under this criterion.*

The Statement of Significance reads as follows:

> "*Of historic significance due to its strong physical link to the Wesleyan Church and the Co-masons. The Co-masonic temple is a rare and intact example of a Co-masonic Hall. Of aesthetic significance as a rare example of this building type in the city, for its strong streetscape contribution to Regent Street, for its continuity of the precinct centred around the Mortuary Station and the adjacent commercial terraces and as a well-designed modest institutional building. The site has archaeological potential in relation to the earlier Wesleyan Church that occupied the site*" (NSW Heritage Office, 2019).

This Statement of Significance was last updated 12 January 2006.

Former Mercantile Bank Chambers (Sydney LEP 2019 I199)

This item is listed on the Sydney LEP 2019 as having local significance.

Table 9 Significance assessment (NSW Heritage Office, 2019)

Significance Criteria	Application of Criteria (Existing Assessment)
Historical significance SHR criteria (a)	*This item has historical significance due to its association with the Mercantile Bank, as it was used as its chambers.*
Historical association significance SHR criteria (b)	*No specific historical association has currently been identified for this item.*
Aesthetic significance SHR criteria (c)	*This two storey Victorian Italianate style commercial building has architectural values as an example of this style. The front of the building is a prominent visual feature on Regent Street.*
Social significance SHR criteria (d)	*No specific social significance has currently been identified for this item.*
Technical/Research significance SHR criteria (e)	*The item does not meet the requirements for this criterion.*
Rarity SHR criteria (f)	*Further research would be required to ascertain the rarity of this item.*
Representativeness SHR criteria (g)	*No specific historical significance has currently been identified for this item.*
Integrity/Intactness	*Further research would be required to ascertain the integrity and intactness of this item.*

There is no Statement of Significance on file for this item. The following statement has been produced for this report based on the available information:

> "This item is significant as the former chambers for the Mercantile Bank. It also has architectural significance due to I being an example of the Victorian Italianate style".

Cottage 137-139 Regent Street Chippendale (Sydney LEP 2012 I198)

This item is listed on the Sydney LEP 2019 as having local significance.

Table 10 Significance assessment (NSW Heritage Office, 2019)

Significance Criteria	Application of Criteria (Existing Assessment)
Historical significance SHR criteria (a)	*The two storey Colonial Regency style cottage is significant as one of the earliest remaining dwellings in the entire Chippendale area. It represents the earliest phases of European settlement of the area, contemporary with the establishment of the Kent Brewery and the Military Gardens.*
Historical association significance SHR criteria (b)	*No specific historical association has currently been identified for this item.*
Aesthetic significance SHR criteria (c)	*This item has aesthetic significance as a two storey Colonial Regency style cottage and is a prominent visual item within the Chippendale landscape.*

Significance Criteria	Application of Criteria (Existing Assessment)
Social significance SHR criteria (d)	*No specific social significance has currently been identified for this item.*
Technical/Research significance SHR criteria (e)	*The item does not meet the requirements for this criterion.*
Rarity SHR criteria (f)	*The item does not meet the requirements for this criterion.*
Representativeness SHR criteria (g)	*The item does not meet the requirements for this criterion.*
Integrity/Intactness	*The item has not been assessed under this criterion.*

The Statement of Significance reads as follows:

> "The two storey Colonial Regency style cottage is significant as one of the earliest remaining dwellings in the entire Chippendale area. It represents the earliest phases of European settlement of the area, contemporary with the establishment of the Kent Brewery and the Military Gardens." (NSW Heritage Office, 2019).

This Statement of Significance was last updated 28 November 2011.

Chippendale Conservation Area (Sydney LEP 2012 C9)

This item is listed on the Sydney LEP 2019 as having local significance.

Table 11 Significance assessment (NSW Heritage Office, 2019)

Significance Criteria	Application of Criteria (Existing Assessment)
Historical significance SHR criteria (a)	*Significant for:* *-its ability to reflect aspects of the unique character of the nineteenth century suburb including workers residential, industry and quality residential.* *-its ability to reflect the early character of Chippendale through the survival of key public buildings from -the 1860's and 1870's including the original Roman Catholic Church, St Benedicts, and the City Mission in Queen Street.* *-the extent of land reclamation that occurred in the early twentieth century which increased the dominance of industry in the area.* *Strickland House is significant as evidence of the first public housing by the City Architect.* *The Brewer, J.C. Goodwins, E.G. Bishop, Building Magazine reflect the long term importance of Chippendale as an industrial suburb of Sydney.*
Historical association significance SHR criteria (b)	*The area is significant for its association with the 1819 land grant to William Chippendale and the 1820 Cooper's distillery estate and sugar refinery which lies outside the area.*

Significance Criteria	Application of Criteria (Existing Assessment)
Aesthetic significance SHR criteria (c)	*Chippendale is significant as a highly intact nineteenth century industrial working class suburb characterised by a varied range of finishes and scale typified by simple forms of both two and one storey height.* *It is also significant for its development of quality residences as evidenced in Regent Street and City Road.* *Chippendale, particularly the area of the Darling Nursery Estate, is significant for its cohesive streetscape qualities.* *The Strickland Building is significant as a fine example of public housing and the first public housing designed by the City Architect.* *The City Mission and St Benedicts Church are significant as quality religious institutions built to assist the working class population.* *Part of the Chippendale Conservation Area displays positive townscape qualities with the overriding character being late Victorian period terraces of both one and two storey in a traditional grid pattern subdivision with night soil rear lanes. The majority of buildings are largely intact and nearly all contribute to the character and visual qualities of the area. The area demonstrates a variety of building styles and materials.*
Social significance SHR criteria (d)	*Significant for the continuing association of the area with industry and the importance that this association has to the residential population.*
Technical/Research significance SHR criteria (e)	*The area is significant for the archaeological potential of redeveloped sites.*
Rarity SHR criteria (f)	*The area is significant for its ability to understand the continued expansion of an industrial working community adjacent to the city.*
Representativeness SHR criteria (g)	*The area is significant for the establishment of early Colonial/Victorian subdivision.*
Integrity/Intactness	*High.*

The Statement of Significance reads as follows:

> “Chippendale is of historical significance for three key themes: 19th century industry, industrial working class residential, and quality residential housing. Industry was the key historical role of Chippendale due to its location relative to the City. Housing for industrial workers is integral to the industrial history of Chippendale, evidenced by early housing in Elim and Chandler's Avenues.
>
> Chippendale is also of historical significance for the extent of land resumption which occurred in the early 20th century which increased the dominance of industry in the area. Strickland House, the first public housing by the City Architect, is significant as evidence of the need to provide quality low income housing.
>
> Chippendale's association with high quality 19th century residential housing predominantly predates the intrusion of the railway around Regent Street. Chippendale demonstrates several key periods of layers for the development of inner city Sydney: the first layer as a direct result of

the subdivision of the Cooper Estate and Shepherd's Nursery, subsequent layers from Railway construction and from the resumption era, and the construction of industry and related housing for industrial workers

Chippendale is an exceptional area with multiple key period layers, an early residential suburb profoundly affected by land resumptions and the construction of industrial buildings and associated Victorian working class housing. The area contains many intact buildings which are contributory to the area's significance.

Earlier periods of buildings are included as significant. Buildings other than those identified as from a significant period may also be contributory." (NSW Heritage Office, 2019).

This Statement of Significance was last updated 18 June 2018.

Redfern Estate Conservation Area (Sydney LEP 2012 C56)

This item is listed on the Sydney LEP 2019 as having local significance.

Table 12 Significance assessment (NSW Heritage Office, 2019)

Significance Criteria	Application of Criteria (Existing Assessment)
Historical significance SHR criteria (a)	*The area occupies the grant of Dr William Redfern made in 1817. An early Victorian residential subdivision dating from 1842, structured in eight equal blocks.* *Redfern developed from the 1840s to the 1890s as a prestigious inner city suburb with housing for the upper, middle and working class and several fine public buildings.*
Historical association significance SHR criteria (b)	*Residential settlement, commercial centres, corner stores, pubs etc., associated with the establishment of the railway and small-scale industry.*
Aesthetic significance SHR criteria (c)	*Streetscape qualities, landmark buildings.* *Built form responding to the gently undulating topography. Small scale working class community and fine terraces built for the upper class in harmonious streetscapes. The park and fine plantings have high aesthetic values.*
Social significance SHR criteria (d)	*Continued community and residential focus since the 1850s.*
Technical/Research significance SHR criteria (e)	*Archaeological potential on redeveloped sites and to the rear of pre 1860 properties.*
Rarity SHR criteria (f)	*Proportion of single storey circa 1850 buildings.*
Representativeness SHR criteria (g)	*The establishment of early Colonial / Victorian residential subdivision and its continued expansion.*
Integrity/Intactness	*Further research is required to determine this item's integrity/intactness.*

The Statement of Significance reads as follows:

> "*The Redfern Estate Heritage Conservation Area is historically significant as an early Victorian structured subdivision covering the entire grant to William Redfern. The development of the estate from the 1840s - 1890s reflects the establishment of the Railway at Redfern. The importance of the suburb of Redfern in the mid/late nineteenth century is evidenced in the development of the Commercial Centre, the fine Civic buildings, the Park and the prestige housing on primary streets. The area is able to represent a great diversity of housing types dating from the period 1840 - 1890. Large scale factories and warehouses reflect the importance of manufacturing in Redfern in the early twentieth century*" (NSW Heritage Office, 2019).

This Statement of Significance was last updated 28 July 2006.

Darlington Heritage Conservation Area (Sydney LEP 2012 C11 and Register of the National Estate ID 1785)

This item is listed on the Sydney LEP 2019 and the RNE as having local significance.

Table 13 Significance assessment (NSW Heritage Office, 2019)

Significance Criteria	Application of Criteria (Existing Assessment)
Historical significance SHR criteria (a)	*Subdivided from 1856, the Eveleigh Estate is an early Victorian residential subdivision associated with workers housing for the railway and brewery.*
Historical association significance SHR criteria (b)	*Working Class settlement, corner store communities associated with the establishment of the railways and small-scale industry.* *Established with the help of a Federal Government Fund, 'The Block' has been associated with the Aboriginal community since the 1960s.*
Aesthetic significance SHR criteria (c)	*The area possesses largely intact groups of terrace housing dating from the key period of significance 1865-1890.*
Social significance SHR criteria (d)	*'The Block' has continuing association with Sydney's Aboriginal Community.*
Technical/Research significance SHR criteria (e)	*The item does not meet this criterion.*
Rarity SHR criteria (f)	*'The Block' evidences Federal Government initiative of the 1970s to establish an inner city Aboriginal Community to be managed by Aboriginal people.*
Representativeness SHR criteria (g)	*Representative of early Victorian subdivision.*
Integrity/Intactness	*Further research is required to determine this item's integrity/intactness.*

The Statement of Significance reads as follows:

> "*Darlington Heritage Conservation Area is historically significant as a representative area of mid nineteenth century residential subdivision and mid to late nineteenth century working class housing. It illustrates the principal characteristics of a working class district of the period 1860-1890. The area demonstrates the impact of the Eveleigh Railway Workshops on the development of the surrounding area. The establishment of the Railway Workshops introduced a unique and*

powerful influence which stimulated development, particularly housing to meet the requirements of employees of the Workshops. The Conservation Area illustrates the impact of the railway line, Cleveland Street and the topography of the area on the street pattern, which is dominated by narrow twisting streets with changing views ending in T-intersections and long bent through streets. The area's basically residential character is intact and consists of rows of terraces hugging the curving streets. There is a complementary mix of light industrial buildings, largely sympathetic in scale and alignment to the terraces. The residential buildings are low scale and austere in their presentation, occupying narrow deep allotments. The form, layout and location of the buildings demonstrate the urban forms of the pre-motor car, pre-electricity era for working class people in Sydney and express the social conditions and environment of that time. The area is significant as a relic of mid to late nineteenth century urban development and illustrates the principal characteristics of a working class district in this period. The Darlington Conservation Area lies within the lands of the Gadigal (Cadigal) people, part of the Dharug Nation. The area within the Darlington Conservation Area referred to as The Block is significant as one of the bases for Koori people in Sydney; it was one of the first pieces of land in urban Australia owned by indigenous people when it was purchased for indigenous housing in 1973. The Block has provided indigenous Australians moving to Sydney the opportunity to remain living in a community environment with extended family, living together, providing a support network. The sense of community is partially maintained by the time residents spend in the public spaces of the verandahs and Eveleigh Street. The layout of the houses and the street facilitates this community atmosphere. The media attention and visibility of The Block has helped in the national acknowledgement that it is a signficant place. The Block is important to all Australians as a symbol of the ability of indigenous Australians to maintain their community identity in an urban situation. The struggle to gain ownership and control of The Block by the indigenous community was part of the movement by indigenous people during the 1970s towards self-determination. The Block is also significant for its association with many famous indigenous people who have been residents or associated with The Block including Shirley Smith (Mum Shirl) and Kevin Gilbert" (NSW Heritage Office, 2019).

This Statement of Significance was last updated 28 July 2019.

The Block (RNE ID 101630)

This item is listed on the RNE as having local significance.

Table 14 Significance assessment (NSW Heritage Office, 2019)

Significance Criteria	Application of Criteria (Existing Assessment)
Historical significance SHR criteria (a)	*This item has significance as one of the bases for Aboriginal people in Sydney* and *one of the first pieces of land in urban Australia owned by Indigenous people when it was purchased for Indigenous housing in 1973.*
Historical association significance SHR criteria (b)	*Many famous Indigenous people have been residents or associated with the Block. Shirley Smith (Mum Shirl), a resident of the Block, was one of the founding members of the Aboriginal Medical Service, the Black Theatre Group, the Aboriginal Breakfast Program and the Detoxification Unit at Wiseman's Ferry. Kevin Gilbert, an Aboriginal poet and activist, was one of the founding members of the Redfern Legal Service, the Black Theatre and the beginnings of the Land Rights Movement. He also initiated and developed many of the original plans for the Aboriginal Housing Committee, outlining the initial ideals and intentions.*

Significance Criteria	Application of Criteria (Existing Assessment)
Aesthetic significance SHR criteria (c)	*No aesthetic values have been identified for this item.*
Social significance SHR criteria (d)	*This item has social significance as an historic locale for Indigenous Australians with continuity in this environment from the 1968 resettlement program to today.*
Technical/Research significance SHR criteria (e)	*No technical values have been identified for this item.*
Rarity SHR criteria (f)	*Further research would be required to determine if there are any rarity values for this item.*
Representativeness SHR criteria (g)	*No representative values have been identified for this item.*
Integrity/Intactness	*In 2000, the fabric of most of the buildings externally and internally is in poor condition. Little has been done to maintain and preserve the fabric of the properties, which are in various states of disrepair. Many of the houses have graffiti in the verandah area. The details inside and outside including verandah detailing, windows, moulding, fireplaces have largely been removed/destroyed. Houses vary in condition most retain their external shell and chimney pieces.*

The Statement of Significance reads as follows:

> "*The Redfern Block lies within the lands of the Gadigal (Cadigal) people, part of the Dharug Nation. It falls within the larger Darlington Conservation Area, which is historically significant as an area of late nineteenth century (1880s) housing constructed largely to provide housing for those employed at the Eveleigh Railway Workshops. The railway workshops provided a unique and powerful influence in the development of the surrounding area.*
>
> *Since the 1940's Redfern and the Block has been seen by many as one of the bases for Aboriginal people in Sydney. It was one of the first pieces of land in urban Australia owned by Indigenous people when it was purchased for Indigenous housing in 1973.*
>
> *The Block has provided Indigenous people moving to Sydney with the opportunity to remain living in a community environment with the extended family, living together, providing a support network. The sense of community is partially maintained by the time residents spend in the public spaces of the verandahs and Eveleigh street. The layout of the houses and the streets facilitates this community atmosphere.*
>
> *The Block community is important for Indigenous people who spend short periods in Redfern visiting relatives in prison or hospital. Several generations of Indigenous people have been brought up in the Block and it is of social and cultural significance to these long-term residents. This is demonstrated by their efforts to remain in the area and the return of many of those who have moved away from the area. The media attention and visibility of the Block has helped in the national acknowledgment that it is a significant Indigenous place. The Block is important to all Australia as a symbol of the ability of Indigenous people to maintain their identity in an urban situation.*
>
> *The struggle to gain ownership and control of the Block by the Indigenous community was part of the movement by Indigenous people during the 1970's towards self-determination. Indigenous*

control of Indigenous affairs was a major issue and it was for the Indigenous residents of Redfern and the Block that many of the first Indigenous controlled services in Australia were developed.

Many famous Indigenous people have been residents or associated with the Block. Shirley Smith (Mum Shirl), a resident of the Block, was one of the founding members of the Aboriginal Medical Service, the Black Theatre Group, the Aboriginal Breakfast Program and the Detoxification Unit at Wiseman's Ferry. Kevin Gilbert, an Aboriginal poet and activist, was one of the founding members of the Redfern Legal Service, the Black Theatre and the beginnings of the Land Rights Movement. He also initiated and developed many of the original plans for the Aboriginal Housing Committee, outlining the initial ideals and intentions" (NSW Heritage Office, 2019).

This Statement of Significance was last updated 1 November 1983.

Appendix E Exemption under section 57 of the *Heritage Act 1977*

Premier & Cabinet

Our ref: DOC20/192666

Ben Groth
Transport for NSW
Level 5, Tower A, Zenith Centre, 821 Pacific Highway
Chatswood NSW 2067
Email: ben.groth@transport.nsw.gov.au

Dear Ben Groth

Re: Exemption notification for feeder installation and associated trenching at State Heritage Register item nº01255

The proposed works consist of:

- Installation of 11kV and 33kV feeders between the Prince Alfred Park portal of the Airport Line Tunnel and Chalmers Street Substation.
- Trenching *c*. 80m adjacent to the tracks between the Prince Alfred Park.
- Portal and the Service Pit and Tunnel ("Mortuary Tunnel") and installation of 11kV and 33kV feeders in the new trenched route.
- A maximum of six 150mm diameter penetrations within the Service Pit and Tunnel ("Mortuary Tunnel").
- The movement of workers and equipment.

The proposed works outlined above have been assessed, and an exemption from the need for approval under the *Heritage Act 1977* has been granted under section 57(2) of the Act. This endorsement does not remove the need to obtain any approval or permits that may be required from other Local or State government authorities.

This endorsement does not allow the removal of state significant archaeological relics. If relics are discovered, work must cease in the affected area and the Heritage Council of NSW must be notified in writing in accordance with section 146 of the Heritage Act 1977. Depending on the nature of the discovery, assessment and an excavation permit may be required prior to the recommencement of work in the affected area. Contact Heritage NSW on 9873 8500 or at heritagemailbox@environment.nsw.gov.au

Further, if any Aboriginal objects are discovered on the site, excavation or disturbance is to cease and the Department of Planning, Industry and Environment is to be informed in accordance with section 89A of the National Parks and Wildlife Act 1974. More information is available at www.environment.nsw.gov.au/licences/ACHregulation.htm or contact the Environment Line on 131 555.

Please note that there are standard conditions that apply to all exemptions, these can be found in the document *Standard Exemptions for works requiring Heritage Council approval 2009* www.environment.nsw.gov.au/resources/heritagebranch/heritage/StandardExemptions.pdf

If you have any questions please contact Dr Hana Lewis, Senior Historical Archaeologist, Specialist Services at hana.lewis@environment.nsw.gov.au or on (02) 9895 6521.

Yours sincerely

Adrian Hohenzollern
Senior Team Leader Customer Strategies
Heritage NSW
Department of Premier and Cabinet
16 April 2020