

Lewisham Station Upgrade

Review of Environmental Factors

A68426847

March 2025



Acknowledgement of Country

Transport for NSW acknowledges the Gadigal and Wangal people of the Eora Nation on which the Lewisham Station Upgrade is proposed.

We pay our respects to the Elders past and present and celebrate the diversity of Aboriginal people and their ongoing cultures and connections to the lands and waters of NSW.

Many of the transport routes we use today – from rail lines, to roads, to water crossings – follow the traditional Songlines, trade routes and ceremonial paths in Country that our nation's First Peoples followed for tens of thousands of years.

Transport for NSW is committed to honouring Aboriginal peoples' cultural and spiritual connections to the land, waters and seas and their rich contribution to society.



Prepared by AECOM and Transport for NSW.

Executive summary

The Proposal

Transport for NSW ('Transport') proposes to improve accessibility by upgrading Lewisham Station (the Proposal).

This project is being delivered as part of the Safe Accessible Transport program, a NSW Government initiative announced in February 2024 which combines the existing Transport Access Program (TAP) and Commuter Car Park Program (CCP) and aims to make public transport safe, inclusive and easy to use for all passengers, especially people with a disability, older people, people with prams or luggage and others who may be experiencing mobility problems.

The program will upgrade stations and wharves to achieve Disability Standards for Accessible Public Transport (DSAPT) compliance, improving amenity, access and safety and acknowledging the important role these locations have to the communities they serve.

Key features of the Proposal include:

- provision of four new lifts
- modification of the existing underpass including drainage, lowered floor and new openings for lift access
- new canopies at lift entries and replacement canopies at Thomas Street and Victoria Street entrances to the station
- a new station building on Platform 1 including a family accessible toilet, a unisex ambulant toilet, station office, electrical services enclosure and a station storage room
- platform regrading and resurfacing, new tactile ground surface indicators (TGSIs) and relocated platform furniture
- a new station access ramp from Railway Terrace to Platform 2
- road adjustments and upgrades to station forecourts including:
 - Victoria Street – adjustment to vehicle direction of travel, footpath widening and regrading, roadwork, paving, landscaping, new seating, relocation of bicycle hoops and a new kiss and ride space
 - Hunter Street – an accessible parking space, roadwork, kerb ramp and footpath adjustments
 - Thomas Street – adjustment to kerb alignment, roadwork, paving, landscaping, new seating, new bicycle hoops, a new kiss and ride space and footpath adjustment
 - Railway Terrace – adjustment to kerb ramps, footpaths and roadwork
- lighting, including to the pathway between Thomas Street and West Street
- ancillary work including station power supply upgrade, protection and relocation of services and utilities, handrails and fencing, new ticketing facilities including additional Opal card readers, improvement to station communications systems (including closed circuit television (CCTV) cameras and help points), landscaping, wayfinding and regulatory signage, drainage work including track drainage and public art.

Most work required for the Proposal would be carried out during standard daytime construction hours, however some work may need to occur outside standard hours. This would include night work, and work during routine rail possessions which are scheduled closures that would occur regardless of the Proposal when part of the rail network is temporarily closed, and trains are not operating.

Temporary short-term full road closures and partial road closures of Thomas Street, Victoria Street and Railway Terrace may be required to accommodate certain construction activities. There would also be a loss of parking spaces on Thomas Street, Victoria Street and Hunter Street during construction and operation. Temporary relocation of bus stops on Railway Terrace and diversion of bus routes may also be required during construction. Appropriate detour routes and/or other traffic management arrangements and signage would be implemented when pedestrian and traffic routes and/or parking spaces are temporarily closed.

Construction is expected to commence in early 2026 and would take around 24 months to complete, of which four months would be enabling work, and 20 months would be main work for the upgrade of the station.

This Proposal has been developed in accordance with Transport's Environment and Sustainability Plan and the Environment and Sustainability Policy. Avoiding and minimising impact is a key objective of this Proposal.

Need for the Proposal

The Proposal would ensure that Lewisham Station would meet legislative requirements under the *Disability Discrimination Act 1992 (DDA)* and the *Disability Standards for Accessible Public Transport 2002 (DSAPT)*.

The Proposal is designed to drive a stronger customer experience outcome, with improvements made to amenity, access and safety. The Proposal aims to deliver improved connectivity between modes including greater opportunities for active transport, encourage greater public transport use by providing safe and welcoming spaces, and better integration of interchanges within the communities they serve.

Chapter 2 of this REF further describes the need for the Proposal.

Proposal objectives

The Safe Accessible Transport program aims to make public transport safe, inclusive and easy to use for all passengers, especially people with disability, older people, people with prams or luggage and others who may be experiencing mobility problems.

The program will upgrade stations and wharves to achieve Disability Standards for Accessible Public Transport (DSAPT) compliance, improving amenity, access and safety and acknowledging the important role these locations have to the communities they serve.

Options considered

Options for improving access to Lewisham Station were developed and assessed through an integrated urban design-led approach. The options analysis process considered different design options against the development criteria, which included urban design considerations, heritage requirements, ease of construction, potential environmental impacts, value for money and safety. Options considered included:

- do nothing option: existing access to the platforms would remain the same and there would be no improvement to accessibility or changes to the way Lewisham Station currently operates
- option 1: comprises upgrades to the existing underpass including an accessible connection by providing four lifts that connect to the station's entries, underpass and platforms located on Railway Terrace, Platform 1, Platform 2 and Thomas Street, as well as ramped access to Railway Terrace from Platform 2
- option 2: comprises upgrades to the existing underpass including an accessible connection by providing three lifts that connect to the station's entries, underpass and platforms located on Platform 1, Platform 2 and Thomas Street
- option 3: comprises an elevated footbridge including an accessible connection by providing four lifts located on Railway Terrace, Platform 1, Platform 2 and Thomas Street.

Option 1 was identified as the preferred option due to its advantages in compliance with DDA, Building Code of Australia (BCA) and DSAPT requirements, sustainability, transport planning and customer experience. This option is also likely to have the least impact on the environment.

Statutory and planning framework

The Proposal is for a rail infrastructure facility, as set out in Division 15 Subdivision 1 of the SEPP (Transport and Infrastructure), as it comprises upgrades to a railway station, station platform and areas in a station complex that rail customers use to get access to the platform, public amenities for rail customers and associated public transport facilities for railway stations and is to be carried out by Transport. It can therefore be assessed under Division 5.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). Development consent from Council is not required.

The Proposal would involve work on Thomas Street, Victoria Street and Hunter Street which are local roads under the control of the Inner West Council. Work would also occur on Railway Terrace, a State Road under the control of Transport. Road Occupancy Licence(s) would be obtained from the relevant roads authority for road work and any temporary road closures where required in accordance with section 138 of the Roads Act 1993.

The Proposal is not likely to have a significant impact on matters of national environmental significance nor the environment of Commonwealth land within the meaning of the *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth). A referral to the Australian Department of Climate Change, Energy, the Environment and Water (DCCEEW) is not required.

Community and stakeholder consultation

Further community consultation activities for the Proposal would be undertaken during the public display period of this REF with the public invited to submit feedback to help Transport understand what is important to customers and the community. The REF would be displayed for a period of four weeks.

Further information about these specific consultation activities is included in Section 5 of this REF.

During the display period a Project Infoline (1800 684 490) and email address (projects@transport.nsw.gov.au) would also be available for members of the public to make enquiries.

In accordance with the requirements of the *State Environmental Planning Policy (Transport and Infrastructure) 2021* (SEPP (Transport and Infrastructure)), consultation is required with local Councils and/or public authorities in certain circumstances, including where Council managed infrastructure is affected. Consultation has been undertaken with Sydney Trains, Transport and Inner West Council during the development of design options and the preferred option. Consultation with these stakeholders would continue through the detailed design and construction of the Proposal.

Transport would review and assess all feedback received during the public display period, prior to determining whether or not to proceed with the Proposal.

Should the Proposal proceed to construction, the community would be kept informed prior to and during the construction period.

Environmental impacts

The main environmental impacts of the Proposal are:

Traffic and transport

Construction

Construction traffic impacts that would result from the Proposal are attributed to a minor increase in traffic volumes that would utilise the local road network. The majority of construction traffic would occur outside

of network peak periods and would be distributed throughout the working day. On this basis the overall impact of construction on the road network is anticipated to be minor. Appropriate measures would be implemented to minimise the safety risk posed by construction traffic to other road users, and within school zones, when entering and exiting the construction compounds and laydown areas.

Temporary closures of Thomas Street, Victoria Street and Railway Terrace would be required during certain construction activities. Appropriate detour routes and/or other traffic management arrangements and signage would be implemented during temporary periods of closure. Temporary closures of the shared paths on the northern and southern sides of Lewisham Station may be required to accommodate certain construction activities, which would impact through-access for some cyclists and other active transport users.

The existing bus stops at Lewisham Station on Railway Terrace (Stop ID 204918 and 204927) may be temporarily relocated during construction to accommodate construction activities. Temporary bus stops would be provided within proximity of the existing bus stop locations, with advanced notice and signage to minimise the impact on passengers. Diversion of bus routes 413 and N50 may be required during periods of full road closure of Railway Terrace to accommodate construction activities.

Construction activities associated with the construction compound on Thomas Street would result in the temporary loss of two time-restricted parking spaces on Thomas Street. Additionally, up to seven time-restricted parking spaces would be unavailable on Victoria Street and Hunter Street during construction.

Construction work within the rail corridor would take place during existing planned rail possession periods (when the rail network would be shut down and the station closed). At all other times, Lewisham Station would remain open during the upgrade work. Rail services would not be impacted by construction of the Proposal and pedestrian access to the station would generally be maintained during construction. During short term temporary closure of the station underpass, pedestrians crossing the rail corridor would be directed to a temporary pedestrian diversion via West Street or Old Canterbury Road. Impacts to the availability of the underpass would be minimised wherever possible.

Operation

Operational changes that would result from the Proposal include the permanent adjustment of the existing traffic arrangement on Victoria Street to a one-way northbound lane only between Railway Terrace and Hobbs Street. It is expected that this would enhance the performance at the intersection with Railway Terrace. Vehicles would be permanently diverted via Hunter Street, or Henry Street. Due to the relatively low vehicle volumes, there would likely be little to no impact on the operation of the overall road network or on intersection performance.

The Proposal would result in a permanent loss of seven time-restricted parking spaces, four on Victoria Street, one on Hunter Street and two on Thomas Street, to accommodate new kiss and ride spaces and accessible parking spaces, as well as the extended kerb on Victoria Street. The loss of these parking spaces would have a minor impact on parking supply within the Lewisham Station precinct due to the availability of time-restricted and unrestricted parking within the local road network to the north and south of the station.

The Proposal does not include changes to bus, rail or light rail services and would not impact the operation (service operation or timetabling) of public transport in the vicinity of Lewisham Station. The accessibility upgrade to the existing bus stops on Railway Terrace and improved interchange facilities and access to Lewisham Station, may increase public transport patronage.

The Proposal would improve the user experience and accessibility to the station, with the potential to encourage an increase in walking to the station. Additionally, the Proposal includes relocation and replacement of existing bicycle parking facilities at both station entrances.

Landscape character and visual amenity

Construction

Construction of the Proposal would result in a temporary reduction in the landscape character of the station and its surrounds and temporary visual impacts for several residential and non-residential receptors.

The most sensitive visual receptors would include those who would perceive changes for longer periods of time during construction. This would include residents on Thomas Street, Railway Terrace, Victoria Street, and Hunter Street, as well as occupants and visitors to nearby commercial enterprises and places of worship.

Overall, views to the construction ancillary facilities and other construction activity due to the Proposal would be temporary and impacts are considered to be relatively minor.

Operation

During operation, the Proposal would result in an overall moderate (neutral) effect on landscape character and a moderate (neutral) visual impact on the surrounding landscape. The Proposal would have beneficial impacts to both landscape character and viewpoints, including the modernisation of rail infrastructure and the replacement of damaged and vandalised structures within and surrounding the station. The increase in legibility of the station within the surrounding landscape is considered a beneficial outcome due to the wayfinding and placemaking potential of the changes within the public realm. Opportunities to maximise the urban design and form of the Proposal would be explored during detailed design through the development of an Urban Design and Landscape Plan (UDLP).

Noise and vibration

Construction

The predicted noise levels at noise sensitive receivers surrounding the Proposal were assessed in a Noise and Vibration Impact Assessment (NVIA), for both construction and operation phases of the Proposal. It is predicted that during some stages of work, construction noise levels would exceed the noise management levels (NML) for standard construction hours (daytime) and out-of-hours (night-time work).

Residential receivers on Thomas Street, Railway Terrace, and Hunter Street are predicted to be 'highly affected' by noise impacts during standard and night-time hours for all construction scenarios except the hi-rail access pad scenario. The largest number of 'highly affected' receivers would occur on Thomas Street, Railway Terrace, and/or Hunter Street during weekend rail possessions and main construction work during the daytime, and during weekend rail possessions for night-time work.

Three non-residential buildings within Eileen O'Connor Catholic College and the Church of Saint Thomas of Canterbury are predicted to experience NML exceedances greater than 20 A-weighted decibels (dB(A)) during weekend rail possessions and main construction work.

During the use of the three hi-rail access pads at Petersham Training College, Stanmore and Ashfield, the largest number of NML exceedances are predicted to occur around the Stanmore hi-rail access pad location, at residences on Railway Avenue during night-time work, due to the higher density of residential receivers in this location, compared to the hi-rail access locations at Ashfield and Petersham Training College.

The majority of construction activities, including particularly noisy activities, would be undertaken during the daytime wherever feasible and reasonable, however some night-time work would be required. Due to the close proximity of the receivers to the Proposal, it is expected that night-time construction work would result in exceedances of the sleep disturbance screening criteria. It is anticipated that night-time work during rail possession periods would not be undertaken for more than two consecutive nights.

Construction traffic on the roads used by construction vehicles would result in minor impacts to existing road traffic noise levels at residential receivers on Thomas Street, Henry Street and Railway Avenue. During weekend rail possession periods, the additional construction traffic would result in an increase in traffic noise at residential receivers greater than two dB(A) during the night-time, but less than two dB(A) during the daytime.

Construction activities have the potential to result in exceedances of the vibration safe working distances at nearby vibration sensitive receivers. The closest residential and commercial receivers are less than two

metres from the Proposal, including residential receivers on Thomas Street and commercial receivers on Railway Terrace/Victoria Street. Several of the commercial enterprises on Victoria Street are located within the curtilage of the 'Lewisham Estate Heritage Conservation Area', a heritage item listed in Schedule 5 of the Inner West Council Local Environment Plan 2022. Building condition surveys of sensitive heritage structures would be completed and opportunities to utilise lower vibration emitting equipment would be explored, prior to work commencing, as set out in Section 7.2.

Feasible and reasonable mitigation measures would be detailed in a Construction Noise and Vibration Management Plan (CNVMP) for the Proposal. This would include consideration for mitigation for 'highly noise affected' receivers with regards to timing and impacts of construction work.

Operation

Additional operational components at the station would include four new lifts, new canopy structures, two pumps located within a pump room, and station room upgrades. None of these components would produce significant noise emissions. As such, the operational noise environment of the station is expected to remain largely unchanged.

Noise levels associated with operational road traffic are predicted to increase by more than two decibels (dB(A)) at some residential receivers on Hobbs Street during the daytime and night-time, attributed to the increase in traffic as a result of the permanent diversion of traffic from Victoria Street. However, the overall noise levels associated with the operation of the Proposal at these receivers would remain below the criteria in the *NSW Road Noise Policy* (DECC, 2011). Therefore, treatment or mitigation is not triggered for the receivers on Hobbs Street.

Operational activities would not create substantial vibration levels at nearby sensitive receivers or adjacent properties.

Non-Aboriginal heritage

Lewisham Station is not currently listed on any heritage databases, despite historically having a Local Environment Plan (LEP) and Transport Asset Manager of NSW (TAM) Section 170 heritage listing.

A Statement of Heritage Impact (SoHI) has been prepared which considers the impact the construction and operation of the Proposal on the previously listed Lewisham Railway Station (delisted after May 2009), and four heritage listed items surrounding the station, including the 'Lewisham Estate Heritage Conservation Area', 'Lewisham Railway Substation', 'Lewisham (Old Canterbury Road) Underbridge' and 'Former Petersham Cemetery Archaeological Site'.

Construction

The construction of the Proposal would result in work within the curtilage of the Inner West LEP 2022 heritage listed item 'Lewisham Estate Heritage Conservation Area' at the Railway Terrace/Victoria Street Station entrance. The principal impact would be associated with the removal of the existing unsympathetic awning attached to a shop front on Victoria Street to accommodate the new lift and the provision of a new canopy around the lift extending to the adjacent building. The shop is not federation style and has been noted on the NSW State Heritage Inventory (SHI) to have lost its stylistic integrity as a result of significant layering to its façade. The proposed construction work to replace the current awning would not damage the façade of contributing buildings and as a result would not affect the significance or significant fabric of the Heritage Conservation Area.

The proposed Alfred Street construction compound would be located within the curtilage of the Inner West LEP and NSW TAM S170 Heritage and Conservation Register listed item 'Lewisham Railway Substation'. There would be no impacts to listed elements of the heritage items, however some ground disturbance associated with the installation of the new padmount would occur within the land immediately adjacent to this heritage item. The introduction of temporary hoarding during construction would result in temporary visual impacts by partially concealing the view of the 'Lewisham Railway Substation' from the street. However, these visual impacts would be reversed following the completion of construction work.

The proposed construction work on, and in proximity to, 'Lewisham (Old Canterbury Road) Underbridge', a heritage item listed on the NSW TAM S170 Heritage and Conservation Register, is not anticipated to alter the existing overall significance of the underbridge.

The installation of lighting along the pedestrian walkway between Thomas Street and West Street has the potential to impact subsurface material within the 'Former Petersham Cemetery Archaeological Site' (i.e., human remains, monuments/headstones, fencing, etc.). Due to the proposed limited ground disturbance work within a small section of the larger listing, the risk of finding an unknown grave or monument has been assessed as low. A qualified archaeologist/heritage specialist would monitor the work in this location.

The assessment in the SoHI identified low archaeological potential for all types of archaeological deposits to be present within the vicinity of the proposed work.

Operation

The removal and replacement of the existing suspended awning to the shop front in the 'Lewisham Estate Heritage Conservation Area' would result in a permanent physical impact to the shop front. However, this impact would be minor as the original building façade has significant layering and subsequent loss of stylistic integrity.

The current awning obscures a large portion of the existing buildings. The proposed replacement canopy would permanently improve the setting of the Heritage Conservation Area in this location by providing greater visual access to the shop and station entry, whilst being aesthetically pleasing. The operation of the Proposal would not alter the existing overall significance of the 'Lewisham Estate Heritage Conservation Area' but would result in a positive impact to the streetscape.

The installation of a galvanised steel trough (GST) would form a permanent physical feature on the 'Lewisham (Old Canterbury Rd) Underbridge'. As there are currently several GSTs already attached and in use on the rail side of the wall, the introduction of this element would not alter the existing overall significance of the underbridge during operation.

There would also be no operational impacts to the 'Lewisham Railway Substation' or the 'Former Petersham Cemetery Archaeological Site' following completion of construction.

Socio-economic

Construction

During construction, there would be temporary impacts to station passengers, pedestrians, motorists and cyclists, nearby residential receivers, as well as local businesses, employees and customers of commercial enterprises, and users of educational facilities and places of worship. The construction of the Proposal would result in noise impacts to nearby sensitive noise receivers, particularly during night-time work. Minor temporary social impacts include short-term temporary disruptions to traffic flow, including emergency services and bus routes during road closures, disruption to pedestrians during underpass closures, disruption to through-access for cyclists and other active transport users, reduction in available parking spaces, and visual impacts associated with the visual prominence of construction activities.

Operation

The introduction of new station infrastructure, such as the new lift at the Railway Terrace/Victoria Street station entrance, has the potential to obscure the commercial enterprises on the corner of Victoria Street and Railway Terrace, which could impact the operation of these local businesses.

However, the Proposal would result in socio-economic benefits to customers using the station and to the broader community as it would improve access to the station for all customers through installation of lifts, platform regrading, upgrades to the station interchange facilities and improved customer amenity and safety at the station. The Proposal is therefore likely to encourage a broader range of customers to use the station, including people with a disability, older people, people with prams or luggage and others who may be experiencing mobility problems.

Biodiversity

Construction

The Proposal would result in the removal of two trees which would be replaced with eight replacement trees in accordance with the Transport *Tree and Hollow Replacement Guidelines* (Transport for NSW, 2023a). The removal of the two trees would have a minimal impact on the overall ecological value of the area and would not result in the loss of a naturally occurring plant community. The Proposal would also involve the transplanting of one exotic tree located in the Thomas Street station forecourt. Retained trees in the Proposal area would be protected during construction.

No threatened ecological communities, flora or fauna species listed, or currently being considered for listing, under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) are anticipated to be impacted by the proposed work. Pre-construction surveys would be undertaken to identify the presence of threatened fauna species within the Proposal area.

Australian White Ibis, protected under the *NSW Biodiversity Conservation Act 2016* (BC Act), were observed in a Canary Island Date Palm in the Thomas Street station forecourt area during site inspections. There is potential that the Canary Island Date Palms in this location may be used by Australian White Ibis as long-term roosting and/or nesting habitat. Construction activities and the removal and/or transplantation of the trees could result in physical harm to the species, if present during construction. Prior to construction, a suitably qualified ecologist would undertake a survey to identify and assess the presence of any Australian White Ibis, and any associated roosting habitat. Disturbance to Australian White Ibis during construction would be minimised through appropriate mitigation measures included in a Flora and Fauna Management Sub-plan, as part of the Construction Environmental Management Plan.

With the implementation of mitigation measures, such as minimising impact through detailed design, adhering to Transport's *Biodiversity Management Guidelines* and implementing mitigation measures included in a Flora and Fauna Management Sub-plan, impacts on protected and threatened fauna species are anticipated to be minor. Adoption of the mitigation measures set out in Section 7.2 of this REF would ensure that the Proposal is carried out in an ecologically sustainable manner.

Operation

The operation of the Proposal would be largely consistent with the existing use of the station. Increased lighting from the Proposal and any increase in the number of people using the station due to its improved accessibility is not expected to result in any substantial impacts to biodiversity.

Enhanced landscape planting areas would be established at both the Thomas Street and Victoria Street forecourts. This includes an additional native tree planting at the Thomas Street forecourt.

Contamination, geology and soils

Construction

A search of the NSW Environment Protection Authority (EPA) Contaminated Land Record (NSW EPA, 2024) identified no records of contaminated sites within the Proposal area. Contamination investigations have been undertaken at two borehole locations. All soils sampled were reported below the adopted human health assessment criteria and present a low risk to human health. Asbestos was not detected in any of the soil samples analysed.

Preliminary acid sulfate soils (ASS) screenings of soil samples taken from a borehole at Victoria Street indicate that Potential Acid Sulphate Soils (PASS) may be present up to 1.5 metres in depth. Further analysis of soils is recommended to determine the presence of ASS prior to construction.

Ground-disturbing construction activities in the Proposal area have the potential to result in contamination of surface water and groundwater. The nearest waterway (Hawthorne Canal) is located 300 metres to the west of the Proposal. No registered groundwater bores are located within or surrounding the Proposal area and groundwater was not encountered during the drilling of boreholes in the Proposal area. The implementation of mitigation measures would minimise any impacts on water quality from spills or chemical storage. Impacts are therefore expected to be minor and localised.

Contamination, geology and soils impacts would be minimised through implementation of mitigation measures outlined in Section 7.2.

Operation

Operation of the Proposal is not expected to result in any notable impacts to contamination of soils, surface water or groundwater.

Hydrology and flooding

Construction

Additional impervious surface areas during construction, which prevent surface water from being absorbed into the ground, can lead to higher volumes of runoff. As no additional impervious surface areas are proposed during construction, increased volumes of surface water runoff are not expected during construction. Surface water run-off volumes and rates are to be effectively managed during construction.

The lack of existing appropriate drainage infrastructure at Lewisham Station causes flooding in the station's underpass when the rate of water inflow into the underpass exceeds the pit storage capacity and outflow rate. This primarily occurs during periods of heavy rain. The previous known flooding in the underpass suggests there is potential for flooding to disrupt construction activities resulting in delays and potentially causing damage. Weather forecasts would be regularly monitored during construction and work would cease and equipment and materials would be removed from any affected areas in the event of high rainfall.

Operation

Due to the limited increase in impervious surface area and proposed permanent improvements to the stormwater drainage infrastructure in the Proposal area, there is not anticipated to be an increase in surface water run-off flows or velocity during operation. The Proposal would not substantially impact the run-off catchment size or catchment properties. Therefore, there is likely to be minimal, if any, negative impact on hydrology during operation of the Proposal.

Additionally, the Proposal has been designed to effectively mitigate the risk of flooding by including appropriate drainage as part of the Proposal. The proposed improvements to track drainage and the existing stormwater drainage infrastructure associated with the Proposal would minimise flood risk by reducing the likelihood of flooding in the underpass during periods of high rainfall.

Justification and conclusion

This REF has been prepared having regard to sections 5.5 and 5.7 of the EP&A Act, and section 171 of the EP&A Regulation, to ensure that Transport takes into account to the fullest extent possible, all matters affecting or likely to affect the environment as a result of the Proposal.

The detailed design of the Proposal would also be designed in accordance with the *Transport Sustainable Design Guidelines – Version 4.1* (Transport for NSW, 2017) taking into account the principles of ecologically sustainable development (ESD).

Should the Proposal proceed, any potential associated adverse impacts would be appropriately managed in accordance with the mitigation measures outlined in this REF, and the Conditions of Approval imposed in the

Determination Report. This would ensure the Proposal is delivered to maximise benefit to the community and minimise any adverse impacts on the environment and the community.

In considering the overall potential impacts and proposed mitigation measures outlined in this REF, the Proposal is unlikely to significantly affect the environment including critical habitat or threatened species, populations, ecological communities or their habitats.

Display of the review of environmental factors

This REF is on display for comment between 25 March and 22 April 2025. You can access the document in the following ways:

Internet

The documents are available as pdf files on the Transport for NSW website at [Lewisham Station Upgrade | Transport for NSW](#)

Printed copies

Transport does not issue printed copies of the REF and supporting documents to static locations (i.e. Council and libraries) to improve sustainability outcomes.

Copies by request

Printed and electronic copies are available by contacting the Project Infoline on 1800 684 490, noting that there may be a charge for hard copies or USB.

Community drop-in sessions

- Thursday 3 April, Lewisham Station – Cnr Victoria Street and Railway Terrace, 4pm to 6pm.
- Sunday 6 April, Flour Mill Markets at Summer Hill, 9am to 1pm

How can I make a submission?

To make a submission about this Proposal can be submitted via:

A feedback form via the project webpage <https://www.transport.nsw.gov.au/projects/current-projects/lewisham-station-upgrade-0>

In person at a project community information session (details listed above)

Email: projects@transport.nsw.gov.au

Mail: Contact the below listed telephone number for a mailing address, if required.

Telephone: 1800 684 490

Submissions must be received by Sunday 22 April 2025. Submissions will be managed in accordance with the [Transport for NSW Privacy Statement](#). A copy can be made available upon request.

What happens next?

Transport will collate and consider the submissions received during public display of the REF.

After this consideration, Transport will determine whether or not the Proposal should proceed as proposed and will inform the community and stakeholders of this decision.

If the Proposal is determined to proceed, Transport will continue to consult with the community and stakeholders prior to and during construction.

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1. Introduction

This chapter introduces the Proposal and provides context for the environmental assessment. In introducing the Proposal, the objectives and project development history are detailed and the purpose of the report provided.

1.1 Proposal identification

Transport for NSW (Transport) proposes to provide an accessibility upgrade at Lewisham Station, as part of the Safe Accessible Transport program (the Proposal). The Proposal would improve accessibility of the station in line with the requirements of the Commonwealth *Disability Discrimination Act 1992* (DDA) and the *Disability Standards for Accessible Public Transport 2002* (DSAPT).

Lewisham Station is located around 6.5 kilometres southwest of Sydney CBD, within the Inner West Council Local Government Area (LGA). The station has two platforms, serviced by the T2 Inner West and Leppington Line, providing connection to the Sydney Trains network (intercity and suburban). Adjacent stations to Lewisham are Petersham to the east and Summer Hill to the west.

The Safe Accessible Transport program is a NSW Government initiative announced in February 2024 that aims to make public transport safe, inclusive and easy to use for all passengers, especially for people with a disability, older people, people with prams or luggage and others who may be experiencing mobility problems.

The Proposal would improve accessibility of the station in line with the requirements of the DDA and the DSAPT. The needs and objectives of the Proposal are discussed in Chapter 2 of this REF.

The key features of the Proposal would include:

- provision of four new lifts
- modification of the existing underpass including drainage, lowered floor and new openings for lift access
- new canopies at lift entries and replacement canopies at Thomas Street and Victoria Street entrances to the station
- a new station building on Platform 1 including a family accessible toilet, a unisex ambulant toilet, station office, electrical services enclosure and a station storage room
- platform regrading and resurfacing, new tactile ground surface indicators (TGSIs) and relocated platform furniture
- a new station access ramp from Railway Terrace to Platform 2
- road adjustments and upgrades to station forecourts including:
 - Victoria Street – adjustment to vehicle direction of travel, footpath widening and regrading, roadwork, paving, landscaping, new seating, relocation of bicycle hoops and a new kiss and ride space
 - Hunter Street – an accessible parking space, roadwork, kerb ramp and footpath adjustments
 - Thomas Street – adjustment to kerb alignment, roadwork, paving, landscaping, new seating, new bicycle hoops, a new kiss and ride space and footpath adjustment
 - Railway Terrace – adjustment to kerb ramps, footpaths and roadwork
- lighting, including to the pathway between Thomas Street and West Street
- ancillary work including station power supply upgrade, protection and relocation of services and utilities, handrails and fencing, new ticketing facilities including additional Opal card readers, improvement to

station communications systems (including CCTV cameras and help points), landscaping, wayfinding and regulatory signage, drainage work including track drainage and public art.

The Proposal would be carried out on land owned by Transport as well as the NSW Government Transport Asset Manager (TAM) and managed by Sydney Trains within the station precinct, with some work also proposed along the station entrances and adjoining footpaths which are managed by Inner West Council.

Lewisham Station is bound by Thomas Street to the north and Railway Terrace to the south. The station is located in a dense urban environment, with land uses to the north primarily comprising detached houses, places of worship, aged care facilities and educational facilities. Land uses to the south are more varied, comprising detached houses, terraces and multi-unit complexes as well as commercial enterprises along Railway Terrace and Victoria Street.

Nearby recreational facilities include Petersham Park, Cadigal Reserve and Hudson Street Park. Lewisham Estate Heritage Conservation Area is located to the south of the station and a cluster of heritage items are present to the north.

The location of the Proposal is shown in Figure 1-1 and an overview of the Proposal is provided in Figure 1-2. Chapter 3 describes the Proposal in more detail.

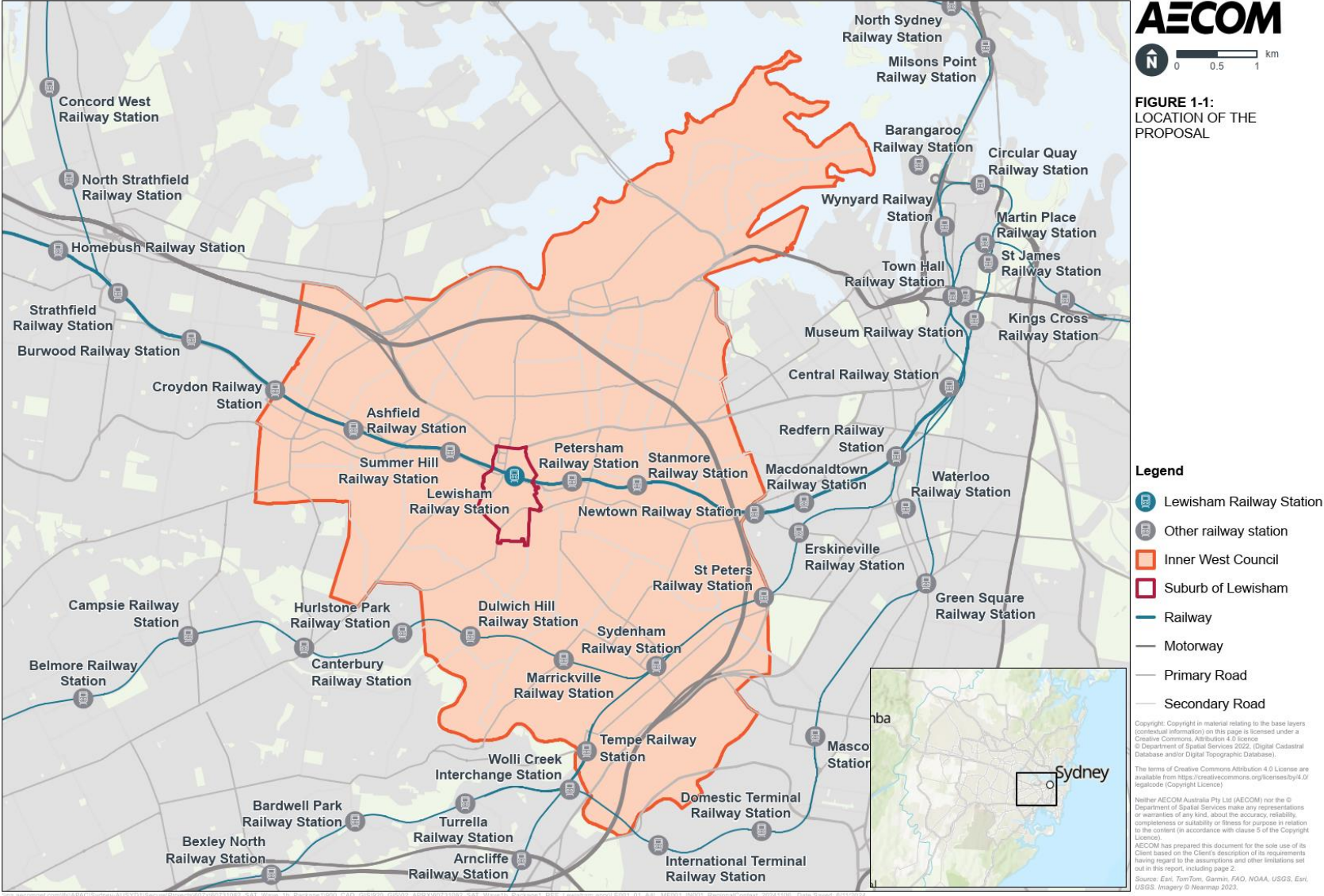


Figure 1-1: Location of the Proposal



Figure 1-2: The Proposal (indicative only, subject to detailed design)

1.2 Purpose of the report

This review of environmental factors (REF) has been prepared by AECOM on behalf of Transport. For the purposes of this work, Transport is the proponent and determining authority under Division 5.1 of the *Environmental Planning and Assessment Act 1979 (NSW)* (EP&A Act).

The purpose of the REF is to describe the Proposal, to document the likely impacts of the Proposal on the environment, and to detail mitigation measures to be implemented.

The description of the proposed work and assessment of associated environmental impacts has been undertaken in the context of Section 171 and 171A of the Environmental Planning and Assessment Regulation 2021, the factors in *Guidelines for Division 5.1 assessments* (DPE, 2022), the *Biodiversity Conservation Act, 2016* (BC Act), the *Fisheries Management Act 1994* (FM Act), and the Australian Government's *Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)* (EPBC Act).

In doing so, the REF helps to fulfil the requirements of:

- Section 5.5 of the EP&A Act including that Transport examines and takes into account, to the fullest extent possible, all matters affecting or likely to affect the environment by reason of the activity.

The findings of the REF would be considered when assessing:

- whether the Proposal is likely to have a significant impact on the environment and therefore the necessity for an environmental impact statement to be prepared and approval sought from the Minister for Planning under Division 5.2 of the EP&A Act.
- the significance of any impact on threatened species as defined by the BC Act and/or FM Act, in section 1.7 of the EP&A Act and therefore the requirement for a Species Impact Statement or a Biodiversity Development Assessment Report
- the significance of any impact on nationally-listed biodiversity matters under the EPBC Act, including whether there is a real possibility that the activity may threaten long-term survival of these matters, and if offsets are required and able to be secured.

The potential for the Proposal to significantly impact any other matters of national environmental significance or Commonwealth land and the need to make a referral to the Australian Government Department of Climate Change, Energy, the Environment and Water (DCCEEW) for a decision by the Commonwealth Minister for the Environment on whether assessment and approval is required under the EPBC Act.

2. Need and options considered

This chapter describes the need for the Proposal in terms of its strategic setting and operational need. It identifies the various options considered and the selection of the preferred option for the Proposal.

2.1 Strategic need for the Proposal

Improving transport customer experience is the focus of the NSW Government’s transport initiatives. Transport interchanges and train stations are the important gateways to the transport system and as such play a critical role in shaping the customer’s experience and perception of public transport.

The proposed Lewisham Station Upgrade, the subject of this REF, forms part of the Safe Accessible Transport program. This program is designed to drive a stronger customer experience outcome, with improvements made to amenity, access and safety. The Proposal aims to deliver improved connectivity between modes including greater opportunities for active transport, encourage greater public transport use by providing safe and welcoming spaces, and better integration of interchanges within the communities they serve. The Proposal would also assist in responding to forecasted growth in the region and as such would support growth in commercial and residential development for the Lewisham area.

Transport is a significant agent of equality and a driver of social and economic activity; accessible transport enables people with disability to participate fully in their community and the economy. A safe, equitable and integrated transport network is important in enabling people across the state to travel safely and confidently to work, appointments, holidays, events, and to visit friends and family.

There are several initiatives underway across the state, focused on ensuring we deliver accessible services to all passengers, regardless of a person’s accessibility needs, socio-economic circumstance, or location.

We are making public transport options safer and more accessible by upgrading stations and wharves, improving the built environment through the installation of more lifts, widening platforms and improving signage and wayfinding. Improving safety particularly for women, girls and gender diverse peoples is also a key aim of the program including improving lighting and active and passive surveillance at transport hubs. The modernisation of the network also helps bring ageing infrastructure in line with legislative requirements, making transport services easier to use for everyone.

Our approach to achieving equal access to our network is underpinned by legislation.

The purpose of the Commonwealth DDA is to eliminate discrimination against people with a disability in a variety of areas such as employment, services and education. As Transport provides public transport services, we are required to upgrade the public transport network to remove discrimination in accessing public transport on the basis of disability. The Disability Standards for Accessible Public Transport set out minimum accessibility requirements for public transport providers and ensure that people with disability have equivalent access to public transport services.

The Safe Accessible Transport program will contribute towards the NSW Government’s investment in addressing public transport stations, wharves and stops that do not currently meet the requirements of the Disability Standards for Accessible Public Transport 2002 (DSAPT).

Table 2-1 provides an overview of NSW Government policies and strategies relevant to the Proposal.

Table 2-1: Key NSW Government policies and strategies applicable to the Proposal

Policy / strategy	Overview	How the Proposal aligns
Future Transport Strategy (Transport, 2022a)	<i>Future Transport</i> is an update of NSW’s <i>Future Transport 2056</i> and NSW’s <i>Long Term Transport Master Plan</i> . It is a suite	The Proposal aligns with the Future Transport Strategy by providing accessible services for

Policy / strategy	Overview	How the Proposal aligns
NSW Disability Inclusion Action Plan (2021-2025) (NSW Government, 2021)	of strategies and plans for transport to provide an integrated vision for the state. <i>Future Transport</i> identifies 14 strategic directions to guide transport investment in Greater Sydney. These outcomes include transport providing convenient access, supporting attractive places and providing 30-minute access for customers to their nearest centre by public transport. The Strategy works to deliver against three high level outcomes: • connecting customers' whole lives • successful places for communities • enabling economic activity.	people who find it difficult to access public transport services. New lifts and upgrades to access paths would provide a more accessible and safer network allowing greater choice for people with mobility problems to access public transport. Greater accessibility would also mean better connections to places and opportunities for employment, education, business and recreation. Through the design and planning approval process, the design would continue to be refined to minimise impacts to the environment and promote the environmental sustainability outcomes of the Future Transport Strategy.
	The <i>NSW Disability Inclusion Action Plan 2021-2025</i> was developed by the NSW Government and seeks to provide actions to support making mainstream services and community facilities accessible for people with a disability. The plan provides four focus areas for all of Government. Relating to public transport is Focus Area 2 which seeks to create liveable communities. This Focus Area actions an increase in the availability and accessibility of public and private transport options for people with disability.	Proposal has been developed with consideration of the objectives of this plan and seeks to improve and provide equitable access to Lewisham Station. Improved access to Lewisham Station would be achieved through Proposal features such as new lifts and accessible footpaths. Additionally, customer experience improvements for those with mobility problems including people with a disability, would be addressed through the implementation of canopy coverage, new hearing loops, upgraded signage and wayfinding and improved accessibility to station toilets, contributing to Focus Area 2 in this plan. Transport’s next five-year Disability Inclusion Action Plan 2023-2028 is currently being developed. The new plan will drive the way Transport embeds its policies, projects and day-to-day practices around disability inclusion and accessibility for customers, carers and employees.
	A Metropolis of Three Cities - Greater Sydney Region Plan (Greater Sydney Commission, 2018a)	The <i>Greater Sydney Region Plan</i> is the NSW Government’s 40-year land use plan for Sydney. It establishes a vision for a metropolis of three cities – the Eastern Harbour City, Central River City and Western Parkland City. The vision brings new thinking to land use and transport patterns to boost Greater Sydney’s liveability. To deliver a 30-minute city, connections to existing infrastructure need to be improved.

Policy / strategy	Overview	How the Proposal aligns
Eastern City District Plan (Greater Sydney Commission , 2018b)	Importantly, transport corridors need to be upgraded to ensure efficiency and accessibility to accommodate the projections in population growth across Sydney.	
	The <i>Eastern City District Plan</i> is a 20-year plan to manage growth in the context of economic, social and environmental matters to achieve the 40-year vision for Greater Sydney. It is a guide for implementing A Metropolis of Three Cities, at a district level and is a bridge between regional and local planning. Lewisham is part of the Eastern City District Plan. The Eastern City District is at the centre of the Eastern Harbour City with the Harbour CBD as its metropolitan centre, Australia's global gateway and financial capital.	The Proposal has been developed to improve the accessibility of Lewisham Station, providing easier access to the Sydney CBD, Parramatta and Leppington as well as surrounding areas for customers. The proposed upgrades to Lewisham Station would promote public transport movements, walking and cycling, which contribute to the character and identity of the area and create a more accessible and walkable city.
Staying Ahead: State Infrastructure Strategy 2022-2042 (Infrastructure NSW, 2022)	The <i>State Infrastructure Strategy 2022-2042</i> makes recommendations for each of NSW's key infrastructure sectors including Transport. The strategy notes the importance of infrastructure development in boosting economy-wide productivity and competitiveness. The strategy is framed around nine long-term objectives and makes 57 key recommendations to the NSW Government aimed at improving outcomes and living standards for the people of NSW.	The Proposal is consistent with key objectives of the strategy to service growing communities and integrate infrastructure, land use and service planning. The Proposal would improve access to public transport, to connect people with jobs, services and communities.
Inner West Local Strategic Planning Statement (LSPS) (Inner West Council , 2020)	The Inner West LSPS provides a vision for land use within the Inner West in 2036 and the actions that will be taken to achieve this vision. The key Planning Priorities (PP) detailed in the Inner West LSPS relevant to the Proposal include: • PP 2 - Inner West is a zero emissions community • PP 8 - Provide improved and accessible sustainable transport infrastructure • PP 11 - Provide accessible facilities and spaces that support active, healthy communities.	The Proposal is aligned with the Inner West LSPS as it responds to key priorities and implementation actions by: • PP1 – Providing improvements to and increasing the accessibility of Lewisham Station, reducing dependency on high emission modes of transport and increasing the useability of low emissions public transport • PP 8 – Providing improvements to and increasing the accessibility of Lewisham Station • PP 11 - Supporting the local walking and cycling network through the relocation of bicycle hoops and provision of accessible paths.

Policy / strategy	Overview	How the Proposal aligns
Our Inner West 2036 - Community Strategic Plan (CSP) (Inner West Council , 2018)	The Inner West CSP identifies the community's vision for the future, long-term goals, strategies to get there and how to measure progress towards that vision. It also acts as a guide for stakeholders (such as government agencies) in planning and delivering services for the LGA. Key long-term strategic directions identified in the plan relevant to the Proposal include: • 2.5 – public transport is reliable, accessible, connected and enjoyable • 2.6 – people are walking, cycling and moving around Inner West with ease • 4.1 – everyone feels welcome and connected to the community • 4.4 – people have access to the services and facilities they need at all stages of life.	The Proposal is aligned with the CSP as it responds to key objectives for the LGA by: • 2.5 – providing improvements to and increasing the accessibility of Lewisham Station • 2.6 – supporting the local walking and cycling network through the relocation of bicycle hoops and provision of accessible paths • 4.1 – supporting an equitable and inclusive community through improving accessibility to Lewisham Station • 4.4 – increasing the accessibility of Lewisham Station for all stages of life especially people with disability, older people, people with prams or luggage and others who may be experiencing mobility problems.
Disability and Inclusion Action Plan (DIAP) 2023 – 2026 (Inner West Council , 2023)	The Inner West DIAP describes Council's commitment to improving opportunities for people with disability to participate fully in community life. The plan responds to community priorities, legal requirements, and policy guidance. The relevant actions identified in the plan include: • 5.3 – advocate to Transport for NSW on Metro West, Metro Southwest and heavy rail transport access programs including Lewisham, Stanmore, and Tempe Stations and on bus service offerings.	The Proposal directly supports the actions identified in the DIAP as Inner West Council has advocated for an access upgrade to Lewisham Station. The Proposal would assist in achieving the long-term goal of the DIAP as it would help provide an accessible public transport option that meets the diverse and changing needs of the community in the Inner West Council LGA.

2.2 Limitations of existing infrastructure

Limitations of the existing infrastructure include:

- the lack of accessibility to the station's entry from both Railway Terrace and Thomas Street, Platforms 1 and 2 and the underpass. This is due to the series of stairs, which limit access for people with a disability, older people, people with prams or luggage and others who may be experiencing mobility problems
- the lack of appropriate drainage infrastructure causing flooding in the Lewisham Station underpass when the rate of inflow into the tunnel exceeds the pit storage capacity and outflow rate
- the lack of accessible paths from the station to bus stop boarding points and toward the accessible and kiss and ride parking facilities. This requires people with mobility problems to park further away and travel over areas of uneven ground to access the station and its facilities

- no family accessible toilet and ambulant toilets at the station
- the lack of accessible parking on Thomas Street or Railway Terrace
- Platforms 1 and 2 slope towards the platform edge, which poses a safety issue particularly for those in a wheelchair or prams as the gradient is inclined towards the rail line.

The Proposal aims to overcome these limitations by providing upgrades to the station that would improve safety as well as address accessibility issues.

2.3 Proposal objectives and development criteria

2.3.1 Objectives of the Safe Accessible Transport program

The Safe Accessible Transport program aims to make public transport safe, inclusive and easy to use for all passengers, especially people with disability, older people, people with prams or luggage and others who may be experiencing mobility problems.

The program will upgrade stations and wharves to achieve Disability Standards for Accessible Public Transport (DSAPT) compliance, improving amenity, access and safety and acknowledging the important role these locations have to the communities they serve.

The delivery of upgrades as part of the Safe Accessible Transport program aims to provide a range of benefits as outlined in Table 2-2.

Table 2-2: Objectives of the Safe Accessible Transport program

Category	Objectives
Accessible services	• upgrades should achieve compliance to provide public transport that is accessible for all passengers
Successful places	• complement and integrate with existing and future communities with consideration towards future land use and support economic and place-making objectives in centres
Efficient Improved connectivity for passengers	• provide improvements to multi-modal connectivity to give passengers options, including active transport options • replace car trips to destinations and centres with alternative public and active transport modes
Adaptability	• support the future needs of customers and consider emerging transport trends, growth and technologies • plan and design infrastructure that is resilient and able to adapt to future alternative uses and scenarios
Sustainability	• deliver upgrades which make adaptive reuse of existing assets to reduce the projects carbon footprint • construction methodologies and engineering solutions that drive a reduction of GHG emissions, energy usage and innovation • limit environmental impacts and contribute to the NSW Government's aspirational target to achieve net-zero emissions by 2050 • maximise the construction phase benefits to the local economy by using local businesses and engaging a workforce that reflects the local social demographic of the area

2.3.2 Proposal objectives

The specific objectives of the Lewisham Station Upgrade are to:

- provide a station that is accessible to those with a disability, older people, people with prams or luggage and others who may be experiencing mobility problems

- improve customer experience (weather protection, better interchange facilities and visual appearance)
- minimise pedestrian conflict and crowding points
- improve integration with the surrounding precinct
- improve customer safety
- improve wayfinding in and around the station
- improve customer amenity
- maintain/create cross corridor access/pedestrian links between Railway Terrace and Thomas Street.

2.3.3 Sustainability objectives

The NSW Government aspires to provide a world class sustainable transport system that meets customer expectations and optimises the economic development of NSW. Transport is a key enabler of economic and social activity.

Consistent with the Future Transport Strategy, Transport is committed to managing impacts on the environment and operating in an environmentally sustainable manner. These commitments are set out in the [Transport Environment and Sustainability Policy](#) (Transport for NSW, 2024d) and the [Net Zero and Climate Change Policy](#) (Transport for NSW, 2023b).

Sustainability objectives for the Proposal have been developed to align to Transport's sustainability policies, plans and guidelines to respond to material sustainability issues and opportunities.

The sustainability objectives for the Proposal include:

- respond to climate change
- protect and enhance biodiversity
- improve environmental outcomes
- procure responsibly
- partner with communities
- respect culture and heritage
- align spend and impact
- empower customers to make sustainable choices.

Chapter 8 provides details of sustainability issues, opportunities and initiatives for the Proposal.

2.3.4 Development criteria

The development criteria for the Proposal include:

- achieve compliance with legislative requirements for accessibility
- design an engineering solution that is constructable
- address urban design principles
- consider heritage
- consider constructability and key risks
- investigate geotechnical risks
- minimise adverse impacts on the environment
- embrace value for money

- design for safety.

2.3.5 Urban design objectives

The key urban design objectives for the Proposal include:

- integrate the station with its current and future urban context, taking into consideration the nature of the site, the local context and the surrounding biodiversity
- minimise impacts to the integrity of heritage sites and cultural values of the community within the Proposal area
- encourage walking, cycling and bus usage by facilitating prioritised access for all customers, through the urban design of the station precinct and careful integration of the station within its local area
- incorporate flexibility and adaptability in the station precinct which may accommodate any future change
- create an accessible, secure, and attractive high quality public domain
- minimise the environmental footprint of the architectural and landscape elements of the Proposal.

2.4 Options considered

2.4.1 Methodology for selection of preferred option

Options for improving access to Lewisham Station were developed and assessed through an integrated urban design-led approach.

During the development of the feasibility design options, a strategic merit test was undertaken in the *TAP3 Compliance Needs Analysis - Metropolitan Station Assessment* (Jacobs, 2017). This test investigated the key advantages and disadvantages of each option identified for Lewisham Station in relation to the following criteria:

- DDA, Building Code of Australia (BCA) and DSAPT compliance
- engineering and constructability
- delivery and construction
- operations and maintenance
- environment and sustainability
- heritage
- transport planning and customer experience
- urban design and place making.

During the development of the design, an optioneering approach was selected to critically assess each option and determine the best design approach and solutions to provide DDA compliant access to Lewisham Station.

The design team considered feedback, reviewed inputs and other relevant information to inform the design outcome. Focused workshops were held which captured stakeholder requirements, critical thinking, advantages, disadvantages and outcomes for each option identified. The options were assessed through multi-criteria assessment/optioneering workshops. Options were evaluated using a formal multi criteria options assessment technique to consider environmental, social and economic impacts.

2.4.2 Identified options

Several design studies have been previously undertaken to identify options to provide increased accessibility at Lewisham Station including:

- Concept Design undertaken by GHD in September 2015 (GHD, 2015)
- *TAP 3 Compliance Needs Analysis Report – Metropolitan Station Assessment* (Jacobs, 2017)
- *Lewisham Station – Transport Access Program (TAP) 4 - Feasibility Study Report* (Transport for NSW, 2022b)
- *Lewisham Station Concept Design Report* (AECOM, 2024a).

The studies identified three options for further consideration alongside a ‘do-nothing’ option.

Do nothing option

Under a ‘do-nothing’ option, existing access to the platforms would remain the same and there would be no changes to the way the Lewisham Station currently operates.

The NSW Government has identified the need for improving the accessibility of transport interchanges and train stations across NSW as a priority under the Safe Accessible Transport program.

Option 1

Option 1 comprises upgrades to the existing underpass including an accessible connection by providing four lifts that connect to the station’s entries, underpass and platforms. The lifts would be located on Railway Terrace, Platform 1, Platform 2 and Thomas Street. The lift on Railway Terrace would require the relocation/removal of the existing power pole and undergrounding of the overhead power lines. The Thomas Street lift location would require the removal of two trees located in the station forecourt. One exotic palm tree is proposed to be relocated to retain character.

The underpass would receive upgrades, widening and grading as well as the removal of the existing unisex toilet. One family accessible toilet, one ambulant toilet, a new station office and new shared services equipment room (SSER) would be provided on Platform 2.

The kerb on Thomas Street would be modified to provide improved pedestrian holding capacity and the existing bike hoops would be relocated. The kerb on Railway Terrace/Victoria Street would also be modified to provide pedestrian capacity and improve safety at the pedestrian crossing.

Option 2

Option 2 comprises upgrade to the existing underpass including an accessible connection by providing three lifts that connect to the station’s entries, underpass and platforms. The lifts would be located on Platform 1, Platform 2 and Thomas Street. The Platform 2 lift would have three stops providing access to the platform, the underpass and a southern entry directly onto Railway Terrace. As a result, this option requires limited work to the existing stair access at Railway Terrace.

A signalised pedestrian crossing would be required on Railway Terrace for safe pedestrian crossing. Modification of road lanes and a footpath on the station side of Railway Terrace would also be provided. All others features identified in Option 1 are applicable to Option 2.

Option 3

Option 3 comprises a footbridge solution including four new lifts connected to the new footbridge. The lifts would be located on Railway Terrace, Platform 1, Platform 2 and Thomas Street. This option would not include any upgrades to the existing underpass.

2.4.3 Analysis of options

Do nothing option

The ‘do nothing’ option was not considered a feasible alternative as it would be inconsistent with the legislative requirements of the DDA and NSW Government objectives for improving the accessibility of transport interchanges, train stations and commuter car parks across NSW as a priority under the Safe Accessible Transport program.

Option 1

Option 1 meets all criterion for DDA/BCA and DSAPT requirements, sustainability as well as transport planning and customer experience. This option is also likely to have the least impact on the environment.

The option results in minor heritage impacts as the proposed work at Railway Terrace/Victoria Street station entry is located within a Heritage Conservation Area. It also has minor impacts to urban design and placemaking as the lift on Railway Terrace would encroach on the available public space.

Option 1 poses engineering and constructability constraints as it impacts services such as water, gas and optic fibres and requires additional station closures. It also has impacts for operations and maintenance associated with costs to operate lifts as well as drainage and flooding risks.

Option 2

Option 2 also meets all criterion for DDA/BCA and DSAPT requirements, sustainability as well as urban design and placemaking. This option also has little to no impact on the environment and heritage.

Option 2 displays minor impacts to heritage, transport planning, safety and customer experience. These impacts are related to work being located in a Heritage Conservation Area, the new signalised intersection potentially slowing traffic along Railway Terrace, a lack of queuing space outside the lift location on Railway Terrace, and the requirement for passengers to cross Railway Terrace in order to access the lift location.

Option 2 gives rise to negative impacts for engineering and constructability constraints as it impacts services such as water, gas and optic fibres, additional station closures and requires a temporary construction site located at Railway Terrace. Impacts for operations and maintenance are also associated with costs to operate lifts, as well as drainage and flooding risks.

Option 3

Whilst Option 3 provides an accessible connection to the station and avoids upgrades to the underpass, the footbridge achieves a poorer outcome for urban design and sustainability, as it is visually more intrusive and does not reuse the existing underpass infrastructure.

Option 3 also requires further encroachment on Railway Terrace and acquisition of the existing commercial enterprises adjoining the Railway Terrace/Victoria Street station entrance canopy. Heritage impacts associated with work in the Heritage Conservation Area are also identified to be greater than Options 1 and 2. In terms of the transport/customer experience, increased walking distances between platforms and bus stops results in a slightly poorer outcome compared to the underpass options. Option 3 also gives rise to impacts associated with engineering and constructability due to service relocations, station closures and the overall complexity of designing and constructing a footbridge. Impacts for operations and maintenance are associated with costs to operate lifts and maintain the new footbridge.

2.5 Preferred option

Option 1 was identified as the preferred option as it best met the analysis criteria.

The underpass solutions (Options 1 and 2) were considered preferable to the footbridge option (Option 3) as they scored higher in relation to environment, urban design, heritage, transport planning, sustainability and customer experience criterion.

Option 1 was selected as the preferred option over Option 2 as it best met the Proposal objectives and development criteria. In addition, it:

- resolved the safety issues of having a narrow pedestrian holding area and Inner West Council's concerns about queuing space outside of lift
- removed the need for a signalised pedestrian crossing on Railway Terrace which would have resulted in additional congestion on Railway Terrace

- addressed the accessibility at the existing staircase entry on Victoria Street, noting 70 per cent of patronage comes from the south side of Railway Terrace
- resulted in lower impact to the local heritage environment and provided better outcomes for urban design and place making

Since the identification of Option 1 as the preferred option, ongoing design development and consultation has been undertaken to refine the scope of the Proposal. Additional design refinements of Option 1 are outlined in Section 2.6.

2.6 Design refinements

The Proposal has evolved to include the following design refinements:

- station building location – Platform 1 was the preferred location for the station building given its convenient location for most rail customers and as it visually blends into the existing canopy structure
- Railway Terrace lift abutting stairs – retaining the existing Railway Terrace stair entry adjacent to the lift location as it was the ideal location for lift 1 and layout of the underpass lift lobby
- kiss and ride and accessible parking along Thomas Street – the Thomas Street northbound kerb was identified for the kiss and ride and accessible parking given its location in proximity to the station and as existing signage could be retained
- access ramp – an access ramp at the city end of Platform 2 was included to provide a convenient station entry/exit point for those traveling from West Street, and a compliant accessible path of travel to the bus stop
- lift canopy on Thomas Street – a canopy encompassing the Thomas Street lift, bike racks and kerb side area of the kiss and ride was identified to provide weather protection to bike racks, lift users and rail customers utilising kiss and ride facilities
- Platforms 1 and 2 canopy – a canopy extension to include the lift areas on both platforms was incorporated to provide weather protection to rail customers waiting to use the lift
- Lift canopy on Railway Terrace – a canopy encompassing the Railway Terrace lift, existing underpass and the front of the existing commercial enterprise on the corner of Railway Terrace/Victoria Street was added to provide weather protection during periods of rainfall
- extension of the kerb and conversion of Victoria Street to one-way northbound for pedestrian safety.

3. Description of the Proposal

This chapter describes the Proposal and provides descriptions of existing conditions, the design parameters including major design features, the construction method and associated infrastructure and activities.

3.1 The Proposal

Transport proposes to provide an accessibility upgrade at Lewisham Station as part of the Safe Accessible Transport program, which aims to make public transport safe, inclusive and easy to use for all passengers. The Proposal would improve accessibility of the station in line with the requirements of the DDA and the DSAPT.

The key features of the Proposal would include:

- provision of four new lifts
- modification of the underpass including drainage, lowered floor and new openings for lift access
- new canopies at lift entries and replacement canopies at Thomas Street and Victoria Street entrances to the station
- a new station building on Platform 1 including a family accessible toilet, a unisex ambulant toilet, station office, electrical services enclosure and a station storage room
- platform regrading and resurfacing, new TGSIs and relocated platform furniture
- a new station access ramp from Railway Terrace to Platform 2
- road adjustments and upgrades to station forecourts including:
 - Victoria Street – adjustment to vehicle direction of travel, footpath widening and regrading, roadwork, paving, landscaping, new seating, relocation of bicycle hoops and a new kiss and ride space
 - Hunter Street – an accessible parking space, roadwork, kerb ramp and footpath adjustments
 - Thomas Street – adjustments to kerb alignment, roadwork, paving, landscaping, new seating, new bicycle hoops, a new kiss and ride space and an accessible parking space
 - Railway Terrace – adjustment to kerb ramps, footpath and roadwork
 - lighting, including to the pathway between Thomas Street and West Street.
- ancillary work including station power supply upgrade, protection and relocation of services and utilities, handrails and fencing, new ticketing facilities including additional Opal card readers, improvement to station communication systems (including CCTV cameras and help points), landscaping, wayfinding and regulatory signage, drainage work including track drainage and public art.

The Proposal area is shown in Figure 3-1.

Further details on the key features are provided in the following sections.

Proposed key features of Lewisham Station Upgrade



Figure 3-1: Key features of the Proposal (indicative only, subject to detailed design)

3.1.1 Lifts

The Proposal would include the construction of four new 17-passenger lifts to provide access to the station and platforms, including:

- a lift at Platform 1 and Platform 2 providing access between the platforms and the underpass
- a lift at the Thomas Street and Railway Terrace/Victoria Street station entrances providing access between the street level and the underpass
- installation of canopies to provide weather protection to the lift waiting areas.

3.1.2 Stairs

Upgrades to existing stairs to achieve compliance with BCA standards, including:

- replacement of all existing stairs to the underpass, from Platform 1, Platform 2, Thomas Street and Victoria Street
- provision of handrails and non-slip nosing on stairs.

3.1.3 Underpass

Upgrade of the station underpass to achieve compliance with BCA and DDA standards, including removal of existing features within the underpass as follows:

- underpass walls and wall lining
- underpass floor (including three existing steps)
- stairs and handrails to Platforms 1 and 2 and from Thomas Street and Railway Terrace.
- bathroom / utilities enclosure
- station master's office.

Modifications to the existing underpass would include:

- widening of the underpass including new walls to accommodate the lift lobbies
- lowering of the floor and reconstruction of the walkway
- relocation of the station master's office to a new station building on Platform 1 (see Section 3.1.6)
- new drainage and a site detention sump underneath the lift lobby of Lift 1
- waterproofing
- construction of a pump room enclosure at the southern end of the underpass
- provision of an additional emergency help point
- new services including lighting, CCTV and marshalling cabinet
- consideration of public artwork.

Work activities would be staged to maintain pedestrian access to the station during upgrade work. Access through the underpass may be unavailable during some weekend rail possession periods when trains are not in service. Pedestrians crossing the rail corridor would be directed to a temporary pedestrian diversion via West Street or Old Canterbury Road. The design and staging of the station access during construction would be determined during the detailed design phase of the Proposal.

3.1.4 Drainage arrangement

Drainage improvements including:

- new stormwater drainage connections from the new canopies and buildings to the existing Council stormwater system at the corner of Victoria Street and Hobbs Street
- construction of a pump room enclosure and two new pumps at the southern end of the station underpass
- provision of a new underground On-site Stormwater Detention (OSD) tank under the lift lobby at Victoria Street
- track drainage improvements, including clearing blocked drainage pipes and pits, repair, replacement and new drainage pipes and pits. Access to buried pits would require track removal in some locations.

3.1.5 Station entries and exits

Thomas Street entry

- Reconfiguration of the station entry for a new lift and public domain improvements, including a paved forecourt, bicycle hoops, canopy coverage from the lift to the stairs, new bench seating, and landscaping, as shown in Figure 3-2
- replacement of the existing canopy with a new lightweight canopy with integrated lighting
- replacement of station entry stairs including new handrails and non-slip nosing on stairs
- tree removal to accommodate the new lift including relocation of a palm tree from Thomas Street to within the forecourt at the station entry
- landscaping work comprising a new native tree with understory planting of low maintenance, low water-use plants.



Figure 3-2: Artist's impression of Thomas Street entry (indicative only, subject to detailed design)

Railway Terrace entry

- Modification of the station entry to accommodate the new lift (see Figure 3-3)
- widening of the western kerb line of Victoria Street for improved pedestrian circulation and access to the new lift, station access stairs and pedestrian crossing point across Victoria Street
- removal of the existing canopy above the station entry to accommodate the new lift

- provision of a new canopy around the lift extending to the adjacent building, including canopy lighting
- upgrade of the existing pedestrian pathway including new paving along Victoria Street to the corner of Jubilee Lane
- relocation of street furniture including bins in the vicinity of the new lift
- new bench seating, replacement and relocation of existing bicycle parking
- landscaping work and installation of new bollards.



Figure 3-3: Artist's impression of Railway Terrace entry (indicative only, subject to detailed design)

New station access ramp

- provision of a new station entrance ramp connecting Platform 2 to Railway Terrace, as shown in Figure 3-4 enabling a more direct connection to the existing bus stop and to Railway Terrace
- partial removal and reconstruction of the existing retaining wall where the new station entrance ramps connects to Railway Terrace
- installation of a pedestrian barrier along the kerb of Railway Terrace
- provision of a new hardstand area for the relocated bin storage area.

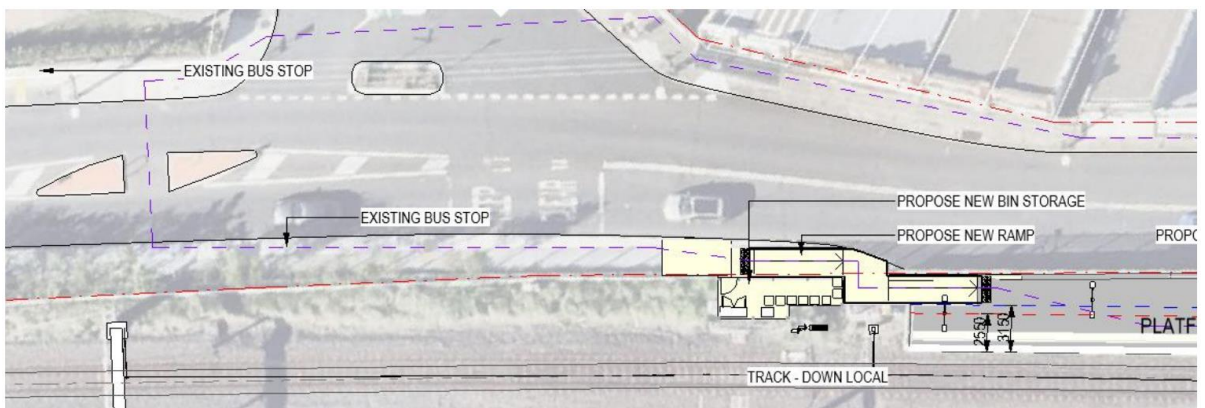


Figure 3-4: New station access ramp proposed off Platform 2 (indicative only, subject to detailed design)

3.1.6 Station building

A new station building would be located on Platform 1, and would include:

- a family accessible toilet
- a unisex ambulant toilet
- a station storage room
- a station master's office and staff toilet
- a services enclosure room.

The proposed new station building is shown in Figure 3-5.



Figure 3-5: Proposed station building on Platform 1 (indicative only, subject to detailed design)

3.1.7 Platform work

Proposed platform work would include:

- Platforms 1 and 2 to be resurfaced and regraded to achieve compliant gradients
- new TGSIs and safety zone markings along entire length of Platforms 1 and 2
- stencils applied to the platforms to indicate the Boarding Assistance Zones (BAZ)
- new canopy providing cover to the BAZ on Platform 1
- new platform canopy to the station building and lifts that complements the existing platform buildings and roof alignment. A typical lift canopy structure is shown in Figure 3-6.
- allocated waiting spaces adjacent or close to the BAZ on each platform
- relocation of light poles on Platforms 1 and 2 to provide accessible paths of travel
- removal of existing light poles and an existing garden bed and partial removal of the platform fence to accommodate the new station building

- platform furniture to be relocated to accommodate the new station building
- replacement of existing platform screens with new screens
- removal of an existing garden bed on Platform 2 to provide an accessible path of travel to the new station access ramp
- installation of new trench drains
- adjustment to platform services
- new station access ramp between Platform 2 and Railway Terrace. Further details are provided in Section 3.1.4.



Figure 3-6: Typical platform canopy structure (indicative only, subject to detailed design)

3.1.8 Road and pavement work

Road and pavement work is proposed on Thomas Street, Victoria Street, Railway Terrace and Hunter Street to improve access to the station.

Victoria Street

- Modification of the existing corner kerb adjacent to the existing station entry to accommodate the new lift and surrounding pathway
- adjustment of the kerb realignment for the lift
- adjustment of the existing traffic arrangement on Victoria Street to remove bi-directional vehicle movements and allow a one direction travel lane between Hobbs Street and Railway Terrace. This would permit vehicles to travel in a north easterly direction and would restrict vehicles from turning onto Victoria Street from Railway Terrace
- modification of the eastern and western kerbs on Victoria Street
- diversion of vehicles turning onto Victoria Street to Hunter Street or Henry Street. Vehicles accessing Victoria Street from the east would need to follow a diverted route via Hunter Street, Denison Road, and Hobbs Street. Vehicles accessing Victoria Street from the west would divert to Old Canterbury Road and Henry Street, as shown in Figure 3-7
- removal of two existing short-term timed parking spaces on the east side of Victoria Street, and two short-term timed parking space on the west kerb side of Victoria Street
- provision of a new kiss and ride parking space on the western side of Victoria Street, to the south of the lift access point

- existing pedestrian crossing across Victoria Street to be reconstructed.

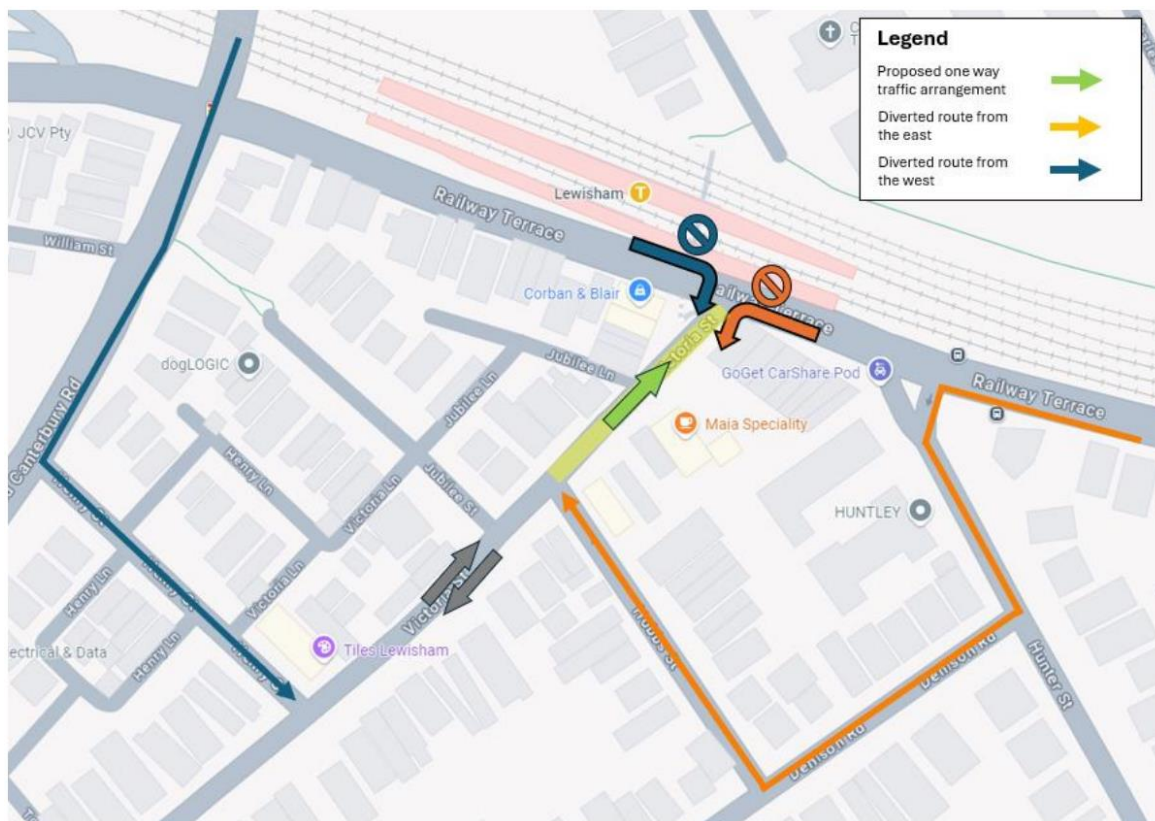


Figure 3-7: Diverted Vehicle Access Routes to Victoria Street

Thomas Street

- Modification of the existing turning area at Thomas Street
- adjustments to the kerb, new kerb ramps and bollards to achieve an accessible kiss and ride space and an accessible parking space
- lighting and wayfinding improvements to the existing shared path connecting Thomas Street to West Street
- On the northern side of the station precinct, there would be a permanent loss of two time-restricted parking spaces.

Railway Terrace and Hunter Street

- A new accessible parking space at the intersection of Hunter Street and Railway Terrace
- upgrade to the footpath between the accessible parking space to the Railway Terrace/Victoria Street station entrance
- road and kerb adjustments
- a new station access ramp and footpath upgrades to provide a safe, compliant accessible path of travel between Platform 2 and the eastbound and westbound bus stops on Railway Terrace
- relocation of traffic signage on Thomas Street, Railway Terrace and Victoria Street, where required.

3.1.9 Power supply and electrical work

Back-up power supply

- Upgrade of the power supply, including the installation of a new padmount within the rail corridor at the intersection of Old Canterbury Road and Alfred Street, as shown in Figure 3-8
- a new galvanised steel trough (GST) connection between the padmount and Lewisham Station
- associated civil work including earthwork, a retaining wall, conduit connections, culvert installation work and bollard installation
- removal of vegetation to facilitate this work.

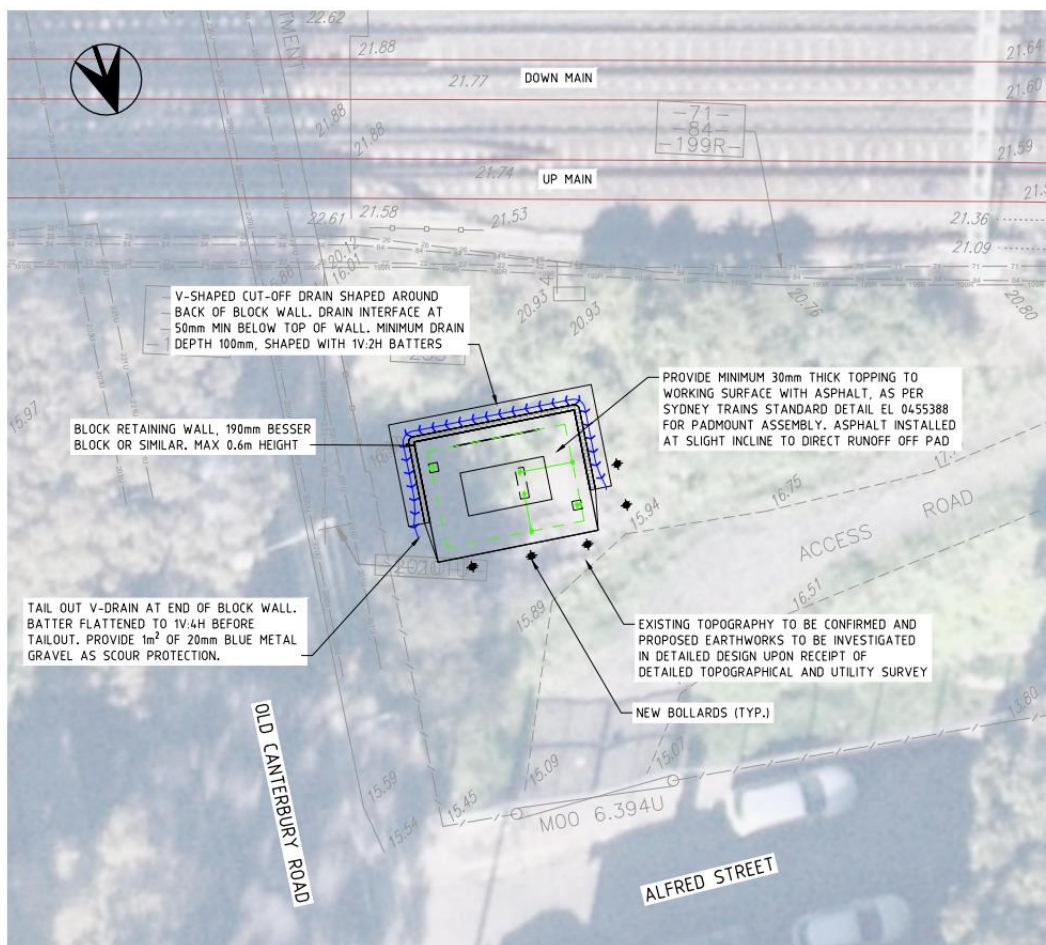


Figure 3-8: Proposed padmount (indicative only, subject to detailed design)

A kiosk substation would be located next to the existing padmount on Longport Street, as shown in Figure 3-9. The existing rail corridor fence would be modified. The final location is subject to further investigation and consultation with Ausgrid during detailed design.



Figure 3-9: Proposed location of Ausgrid kiosk on Longport Street (indicative only, subject to detailed design)

3.1.10 Materials and finishes

Materials and finishes for the Proposal have been selected based on the criteria of durability, low maintenance and cost effectiveness, to accord with heritage requirements, to minimise visual impacts, to integrate within the context of the place and to be aesthetically pleasing.

Availability and constructability are also important criteria to ensure that materials are readily available, and the structure can be built with ease and efficiency. Materials are also selected for their application based on their suitability for meeting design requirements. Materials selection would also consider sustainability aspects, including consideration of supply chain and sourcing materials locally where possible, prioritising reused and recycled materials where practicable, and investigating use of materials that have environmental labels. Low embodied carbon materials would be used where practicable.

Indicative materials predominantly comprise steel, brick and glass (see Figure 3-10). Steel has been selected for durability, brick cladding to respond to the existing station and precinct character, and glass for transparency and openness to enhance the customer experience and promote a sense of safety. Concrete would be utilised for below-ground structures including lift shafts. Each of the upgraded or new facilities would be constructed from a range of different materials, with a different palette for each architectural element and is subject to detailed design. Overall, the materials and colours would be chosen to achieve a balance between functionality, longevity and contextual design.

The design would be submitted to Transport's Design Review Panel at various stages for comment before being accepted by Transport. An Urban Design and Landscape Plan (UDLP) and/or Public Domain Plan (PDP) would also be prepared by the Contractor, prior to finalisation of detailed design for endorsement by Transport.

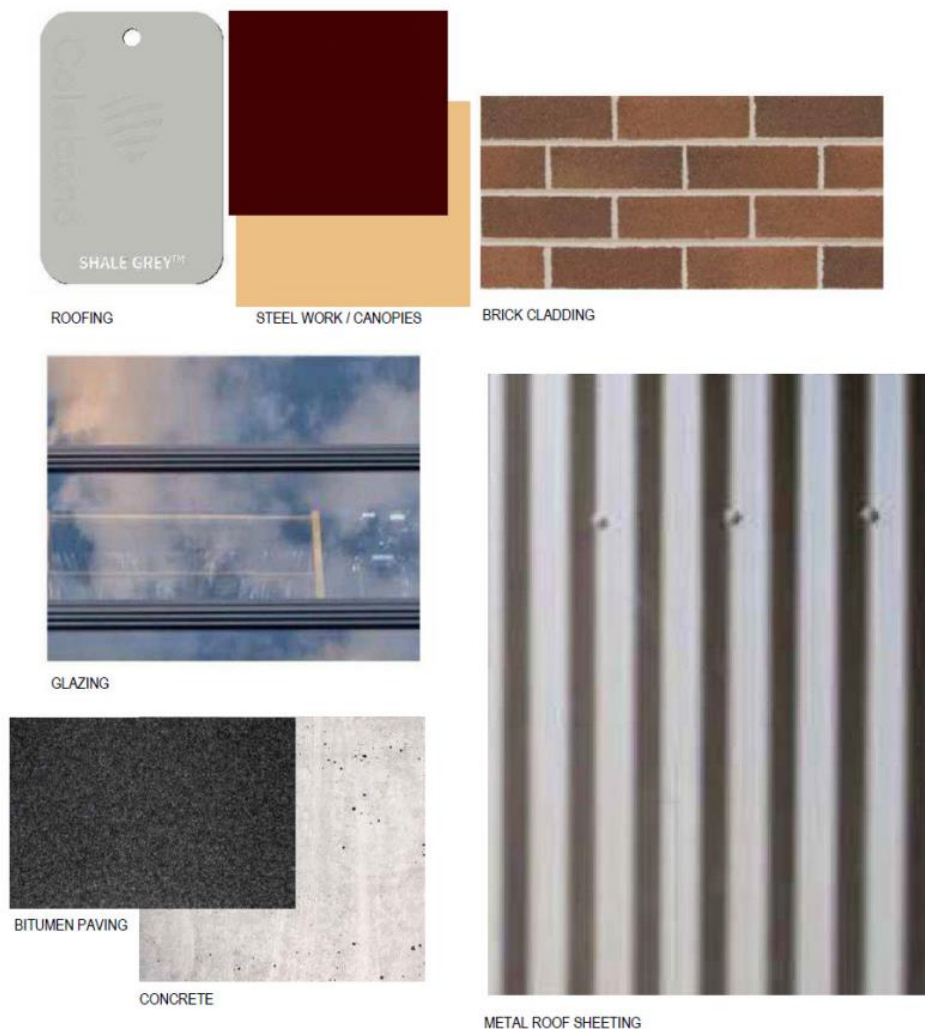


Figure 3-10: Indicative materials palette (subject to detailed design)

3.1.11 Ancillary work

Additional ancillary work within the station precincts would include:

- upgrades to lighting
- modification of security cameras and video management system to support the new work
- protection and relocation of services and utilities
- electrical upgrades to support the new lifts
- upgrade of the station power supply to suit new and existing electrical equipment
- new fencing and upgrades to existing fencing
- upgrades to the public address (PA) system, including relocating existing speakers and extending the system to the new lift areas
- installation of new opal card readers and relocation of existing opal card readers
- wayfinding and regulatory signage
- modification to station passenger information systems
- installation of Hearing Augmentation using Audio Frequency Induction Loops on platforms and concourse

- provision of an accessible path to all platform facilities including family accessible toilet, BAZ and lift door
- relocation and suitable reinstatement of existing street furniture/infrastructure, such as bench seats, signage, fencing, rubbish bins and other platform furniture
- adjustment and relocation of help points, payphones, and vending machines along the accessible path
- a new accessible water refill station on Platform 1
- public art
- provision of anti-graffiti coating to all new and modified hard surfaces.

3.2 Design

3.2.1 Design criteria

The Proposal would be designed having regard to the following:

- Disability Standards for Accessible Public Transport 2002 (issued under the Commonwealth *Disability Discrimination Act 1992*) (DSAPT)
- Building Code of Australia
- relevant Australian Standards
- Asset Management Branch standards
- Sydney Trains standards
- Infrastructure Sustainability Council of Australia (ISC) Infrastructure Sustainability Essentials Rating Scheme (v1.0) (IS 'Essentials' Rating Scheme)
- Guidelines for the Development of Public Transport Interchange Facilities (Ministry of Transport, 2008)
- Crime Prevention Through Environmental Design (CPTED) principles
- other Transport policies and guidelines
- Council standards or guidance documents where relevant.

3.2.2 Engineering constraints

There are a number of constraints which have influenced the design development of the Proposal, these include:

Existing structures: the placement and integrity of existing structures needed to be considered during the development of the design – these structures included the existing station entrances and existing platforms, underpass, station office, stairs, and existing canopies.

Sydney Trains' requirements: modifications for existing structures and new structures within the rail corridor must be designed and constructed with consideration of train impact loads, structural clearances to the track, and safe working provisions.

Heritage: Lewisham Station is not heritage listed; however, it retains heritage features from earlier station arrangements (despite not being heritage listed) and is located near items listed on the Inner West LEP. Potential impacts to non-Indigenous heritage are assessed in Section 6.5.

Construction access: during certain construction activities, construction access would require traffic control, including the closure/partial closure of roads during certain activities. Constraints to lifting equipment may apply. Rail corridor access to move plant and equipment/materials to Lewisham Station via rail is proposed via hi-rail access pads, which are not located in proximity to the work area.

Public access: customer access to the station would be maintained throughout the construction period, except during rail possessions when no trains would be running. Cross-corridor access via the station underpass would be unavailable for short periods of time when the underpass is closed during some rail possessions and main work periods. During these periods, a temporary diversion would occur via West Street or Old Canterbury Road.

Utilities: A Dial Before You Dig (DBYD) search has identified a number of utilities in the vicinity of the proposed work including:

- low voltage (LV) and high voltage (HV) electrical cables
- telecommunications cables
- signalling
- compressed air
- drainage channels
- external third-party services including but not limited to the following providers:
 - Ausgrid
 - Telstra
 - FibreconX
 - Sydney Water
 - NBN
 - Jemena.

3.2.3 Sustainability in design

The NSW Government aspires to provide a world class sustainable transport system that meets customer expectations and optimises the economic development of NSW. Transport is a key enabler of economic and social activity.

The Proposal has been developed and would be delivered in accordance with Transport's Sustainability Plan including Transport's vision - that every journey is people and planet positive.

The Proposal will be registered with the Infrastructure Sustainability Council (ISC) and will aim to achieve a minimum IS Essentials Rating for 'Design'.

Circular economy

In 2018-19 the construction sector was the second largest waste generating sector, generating 12.7 million tonnes of waste' accounting for 16.8 per cent of Australia's waste. Transport project delivery not only generates large amounts of construction waste but also consumes large amounts of raw materials.

A circular economy approach means shifting away from a 'take, make, use and dispose' approach to one that better values resources. This means using materials efficiently and keeping products and materials in use for as long as possible. Three key principles underpin a circular economy approach:

- designing out waste and pollution
- keeping products and materials in use
- regenerating natural systems.

The construction of the Proposal is anticipated to use large amounts of materials including but not limited to:

- concrete
- galvanised steel

- asphalt
- road base.

During operation the main circular economy impacts would relate to material use and disposal as a result of maintenance.

Response to circular design strategies

Adopting a circular economy approach results in economic, social and environmental benefits including reduction of emissions. Throughout the development of detailed design, the Proposal would look to embed the circular design strategies outlined in Table 3-1.

Table 3-1: Circular design strategies

Circular design strategies	Definition	Project response
Re-use existing assets or materials	Incorporate existing structures, products and materials within the Proposal area into new development.	Existing structural elements that are proposed to be retained or refurbished include: • underpass: The underpass would be widened by removing an existing wall lining and lowered by reconstructing the base slab • Railway Terrace Street Entry: The entry would be widened for the new lift • Thomas Street Entry: The existing stair flight would be shortened, requiring removal and reconstruction of the stair flight. The existing stair shaft walls would be retained • Platforms 1 and 2: Reconfiguration and reconstruction would be required near the new lifts • Platforms 1 and 2 stairs: Existing stair flights would be shortened, requiring removal and reconstruction of the stair flights. The existing stair shaft walls would be retained • Platforms 1 and 2 canopies: Existing canopies would be retained. Adjacent new canopies would provide weather protection to the new lifts and station building • raised pedestrian crossing and stairs: The existing raised pedestrian crossing would be reconstructed and the stairs to the underpass at Victoria Street would be upgraded for compliance • other: Potential reuse of the existing booking office retaining structure around Lift 3.
Select products with recycled content	Preference products that contain recycled content to keep materials circulating within the economy.	• the use of reused/recycled timber, or timber from sustainably managed plantations would be maximised and investigated during detailed design • the use of recycled glass in wearing courses and basecourse layers would be investigated during detailed design • the use of warm mix asphalt with Recycled Asphalt Pavement (RAP) binder content would be maximised and investigated during detailed design • the use of crushed concrete in lieu of crushed rocks in the base and sub-base layers would be maximised and investigated during detailed design • the use of recycled or reused material for bedding material and as a drainage medium would be maximised and investigated during detailed design.
Select low-impact materials	Select products and materials that will have low impact on the environment and human health.	• all steel would be sourced from a steelmaker that is a current member of the world steel climate action programme. • the use of low embodied concretes would be maximised and investigated during detailed design

Circular design strategies	Definition	Project response
		all concrete would be sourced from members of Cement Concrete & Aggregates Australia or a similar association or organisation by agreement with Transport.

Sustainability issues and opportunities for the Proposal are discussed in Section 2.3.3 and Chapter 8.

3.3 Construction activities

Work methodology

The construction methodology would be further developed during the detailed design of the Proposal by the nominated Contractor in consultation with Transport.

The main work activities and proposed construction staging is outlined in Table 3-2. The Proposal area and construction compounds are shown in Figure 1-2. The staging is indicative and based on the current concept design and may change once the detailed design methodology is finalised. The staging is also dependent on the Contractor's preferred methodology, program and sequencing of work.

Construction activities would be undertaken during 10 weekend rail possessions and 10 main work stages.

Table 3-2: Indicative construction staging

Stage no.	Stage and estimated duration	Activities
1	Site establishment and enabling work (16 weeks)	- establishment of construction compounds (i.e. erect fencing, site offices, amenities and plant/material storage areas) - establishment of temporary facilities (e.g. hoarding, construction staff toilets, station master's office etc.) - relocation of services - additional site investigations and surveys.
2	Weekend Rail Possession #1	- complete service diversions and changeovers - Platform 1, Platform 2 and Railway Terrace lift piling work - local underpass floor / wall breakout and removal - Platform 1 and Platform 2 stair breakout - new station building excavation and buried ducting on Platform 1 - new Platform 1 and Platform 2 temporary stair - new underpass temporary floor - complete temporary hoarding in platform work area - track drainage improvements.
3	Main work #1 (9 weeks)	- civil work at Thomas Street and Railway Terrace - relocation of Telstra, Gas, Sydney Water services - new platform building formwork and steel reinforcement - railway Terrace lift piling work - vegetation removal for padmount transformer civil work - padmount transformer civil work.
4	Weekend Rail Possession #2	- Platform 1 lift piling (trackside) - Platform 2 lift piling - Platform 2 stair work (damp-proof membrane, formwork and steel reinforcement) - Platform 2 bin store area work - reinstall temporary Platform 2 stairs - local underpass drainage, waterproofing and blinding - track drainage improvements.

Stage no.	Stage and estimated duration	Activities
5	Main work #2 (5 weeks)	- Railway Terrace civil work - relocate Telstra, Gas, Sydney Water services - drainage connections work - new station building formwork and steel reinforcement on Platform 1 - new platform ducting work on Platforms 1 and 2 - crane in new padmount transformer.
6	Weekend Rail Possession #3	- complete service diversions and changeovers along Thomas Street retaining wall - Thomas Street lift piling work (trackside) - Thomas Street staircase removal and temporary work to maintain stairway access - continue Platform 1 lift piling work (trackside) - platform 1 stair work (damp-proof membrane, formwork, steel reinforcement) - new platform building concrete pour - underpass wall breakout and removal - re-install temporary underpass floor and Platform 1 stairs - Railway Terrace piling work (contingency) - padmount civil work - GST for new Ausgrid power supply.
7	Main work #3 (7 weeks)	- Thomas Street piling and civil work - Railway Terrace lift and civil work - station building structure work - station building canopy work - drainage connections work - electrical Ausgrid supply and distribution boards work.
8	Weekend Rail Possession #4	- complete Platform 1 lift piling (trackside) - local underpass base slab (concrete pour) - excavate Platform 2 for lift pile caps - Platform 2 stair work (first concrete pour) - Platform 2 bin store area work - reinstall temporary Platform 2 stairs
9	Main work #4 (5 days)	- Railway Terrace civil and lift work - station building structural work on Platform 1.
10	Weekend Rail Possession #5	- excavate Platform 1 for lift pile caps - Platform 1 stair work (first concrete pours) - re-install temporary Platform 1 stairs - complete new underpass walkway - complete Thomas Street lift piling work (trackside) - Thomas Street stair (damp-proof membrane, formwork, steel reinforcement) - complete Ausgrid supply.
11	Main work #5 (14 weeks)	- Thomas Street civil and lift work - Railway Terrace civil and lift work - Platform 1 and Platform 2 lift pile caps (form, steel reinforcement and pour) - Platform 1 and Platform 2 lift excavation (Top Down) - Platform building fit out work - new platform lighting and comms work - form and steel reinforcement Platform 1 and Platform 2 lift upstands.
12	Weekend Rail Possession #6	- continue excavation for Platform 1 and Platform 2 lifts - form, steel reinforcement and pour Platform 1 and Platform 2 lift upstands - Platform 1 and Platform 2 stair work (concrete finishing) - install underpass structural walls - install canopy elements on new station building

Stage no.	Stage and estimated duration	Activities
		- complete Platform 2 bin store area work - Ausgrid supply changeover (from Sydney Trains) - decommission existing Sydney Trains supply.
13	Main work #6 (10 weeks)	- civil work for Sydney Trains Supply Transformer - Thomas Street lift and civil work - platform building fit out civil work.
14	Weekend Rail Possession #7	- Thomas Street lift and lobby excavation work - Platform 1 lift wall work (trackside) - install underpass services and wall cladding and finishes - civils work for Sydney Trains supply transformer - crane in new Sydney Trains padmount.
15	Main work #7 (10 weeks)	- Thomas Street lift and civil work - Railway Terrace civil work - Platform 1 and Platform 2 lift concrete work completion - Thomas Street and Railway Terrace lift concrete work completion - completion of platform lighting and comms work.
16	Weekend Rail Possession #8	- crane in Platform 1 and Platform 2 lift and canopy top hats - Platform 1 and Platform 2 stair completion - Thomas Street stair completion - Railway Terrace stair completion - underpass upgrade completion - commission new distribution boards and Sydney Trains supply - Ausgrid supply transferred to backup - complete canopy work on new platform building.
17	Main work #8 (4 weeks)	- Railway Terrace lift fit out civil work - Platform 1 and Platform 2 lift fit out civil work - finalise and commission services installation and tidy up work in underpass. - Thomas Street and Railway Terrace canopy work - entrance lighting and comms work - Victoria Street / Railway Terrace roadwork and landscaping work - Thomas Street roadwork and landscaping.
18	Weekend Rail Possession #9	- Thomas Street lift and lobby excavation work - lift lobby completion - deliver Thomas Street canopy top hat - Thomas Street canopy work.
19	Main work #9 (9 weeks)	- Thomas Street, Railway Terrace, Platforms 1 and 2 lift fit out work - Thomas Street and Railway Terrace canopy work* - commission platform lighting and comms work - commission new entrance lighting and comms - Victoria Street / Railway Terrace roadwork and landscaping - Thomas Street roadwork and landscaping - commission new lifts (x4). *Note: opportunities would be explored to bring the canopy work forward, subject to detailed design and final construction methodology.
20	Weekend Rail Possession #10	- resurfacing on Platforms 1 and 2 - install new platform furniture, TGSIs etc. - commission final work.
21	Main work #10 (4 weeks)	- tidy-up work - demobilisation of construction compounds

Stage no.	Stage and estimated duration	Activities
		handover.

3.3.1 Construction workforce

It is anticipated that a peak workforce of up to 60 workers per day would be required during rail possessions. This would reduce to around 25 construction workers for work occurring outside of rail possessions.

The number and type of workers would vary throughout the different stages of construction and would include:

- plant and machinery operators
- traffic controllers
- labourers
- utilities providers
- tradespeople
- environmental/engineering service providers
- project and site managers.

Final details of the workforce required for the Proposal would be identified during detailed design by the Contractor.

3.3.2 Construction hours and duration

Subject to approval, construction is expected to commence in early 2026 and take around 24 months to complete, of which four months would be enabling work, and 20 months would be main work to upgrade the station. Timeframes are subject to detailed design and final construction methodology.

The majority of work 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.

Certain work may need to occur outside standard hours and would include night work and work during routine rail possessions which are scheduled closures that would occur regardless of the Proposal when part of the rail network is temporarily closed and trains are not operating. It is estimated that approximately 10 rail possessions would be required. In addition, work, such as geotechnical investigation, surveys and excavation activities, may occur during mid-week possessions (Monday to Thursday) and would typically occur between midnight and 4.00 am.

Out of hours work is required in some cases to minimise disruptions to customers, pedestrians, motorists and nearby sensitive receivers; and to ensure the safety of railway workers and operational assets.

Out of hours work may also be scheduled outside rail possession periods work which might reduce the overall impact of the Proposal on the wider community and road network, for example to facilitate oversized plant and material deliveries, undertake minor road work, and other platform work which would otherwise impact train passengers. Minor road work may be undertaken outside standard construction hours under a Road Occupancy Licence (ROL) to reduce impacts on the road network. Approval from Transport would be required for any out of hours and the affected community would be notified as outlined in Transport's *Construction noise and vibration guideline (public transport infrastructure)* (Transport for NSW, 2023c)(refer to Section 6.3 for further details).

3.3.3 Plant and equipment

The plant and equipment likely to be used during construction includes:

- piling equipment (600 millimetres in diameter and a maximum of 15 tonnes)
- hi-rail piling equipment
- cranes (up to 150 tonnes)
- mini excavators
- hi-rail excavator and wagons
- concrete pump
- concrete truck
- spoil truck
- mini roller
- excavators
- concrete saws
- concrete vibrators
- flatbed trucks
- forklifts
- rail cutting machine/rail saw
- welding equipment
- grinders
- hand tools
- jackhammers
- lighting towers (diesel generator)
- suction trucks
- vibratory rollers
- dump trucks
- elevated work platforms (EWP)
- road sweeper
- semi-trailer.

Additional plant and equipment that would likely be used would be identified during detailed design by the Contractor.

3.3.4 Earthwork

Excavations and earthwork would generally be required for the following:

- the foundations and pits for the new lift shafts and lifts at each lift location
- the construction of regraded footpaths and station entrances
- lowering the underpass
- retaining walls

- other minor civil work including platform regrading, footings and foundations and drainage/stormwater work.

The Proposal would require the excavation of approximately 1,300 cubic metres of material, which would be disposed of in accordance with relevant legislative requirements. Excavated material would be tested to confirm the presence of any contamination. Any contaminated material would be disposed of in accordance with relevant legislative and sustainability requirements. Specific locations for temporary spoil placement would generally be on site within the rail corridor, however this would be agreed with Transport and the Contractor during the delivery phase.

3.3.5 Source and quantity of materials

The source and quantity of materials would be determined during the detailed design phase of the Proposal.

Materials would be sourced from local suppliers where practicable. Reuse of existing and recycled materials would be undertaken where practicable. The use of low embodied carbon materials and materials with recycled content would be maximised.

Excavated spoil would be removed from site via Railway Terrace and Thomas Street and the hi-rail access pads at Petersham Training College, Stanmore and Ashfield. Further details of the hi-rail access pads are provided in Section 3.4.

3.3.6 Traffic management and access

Traffic and transport impacts associated with the Proposal are assessed in Section 6.1 of this REF. The potential traffic and access changes expected during the construction of the Proposal include:

- temporary short-term full road closures of Thomas Street, Victoria Street and Railway Terrace may be required to accommodate certain construction activities
- temporary short term partial road closures during piling work
- temporary relocation of bus stops
- loss of parking on Thomas Street, Victoria Street and Hunter Street
- temporary disruptions to pedestrian movement surrounding the station, particularly for pedestrians accessing the station when construction work for the lifts, underpass and footpaths is being undertaken
- possible platform congestion arising from restricted access to certain areas of the platform such as near the lift construction and underpass reconstruction
- a minor increase in traffic on the local road network associated with construction vehicle movements.

Appropriate detour routes and/or other traffic management arrangements and signage would be implemented when pedestrian and traffic routes and/or parking spaces are temporarily closed. Temporary road closures would result in a minor increase in travel time for vehicles travelling on a detour route. All roadwork would be staged to ensure minimal disruption during work. Inner West Council would be consulted about any traffic changes prior to construction. A detailed construction methodology and associated management plans (such as a Construction Environmental Management Plan (CEMP) and Construction Traffic Management Plan (CTMP)) would be developed during the detailed design phase of the Proposal to manage potential traffic and access impacts.

A permanent adjustment of the existing traffic arrangement on Victoria Street is proposed to remove bi-directional vehicle movements and install a one direction travel lane between Hobbs Street and Railway Terrace. This would permit vehicles to travel in a north easterly direction and would restrict vehicles from turning onto Victoria Street from Railway Terrace.

The opportunity to further improve safety and connectivity for active transport users of the Proposal would be considered during detailed design.

3.4 Ancillary facilities

Construction compounds

A maximum of two temporary construction compounds would be required to accommodate a site office, amenities, laydown and storage area for materials. Three suitable areas for the construction compounds have been identified in the following locations; however, only two would be used during construction (refer to Figure 3-11Figure 3-11):

- Alfred Street:
 - area comprising around 250 m²
 - 275 metres to the northwest of the station
 - provision for two parking spaces for work vehicles.
- Longport Street:
 - area comprising around 320 m²
 - 215 metres to the west of the station
 - provision for four parking spaces for work vehicles.
- Thomas Street:
 - area comprising around 160 m²
 - located adjacent to the Thomas Street entrance to the station
 - no parking provision for work vehicles
 - located on land leased from Inner West Council.

Impacts associated with using these areas have been considered in the environmental impact assessment including requirements for rehabilitation. The final location of the temporary construction compounds would be subject to further consideration by the Contractor and may be adjusted to suit the requirements of the Proposal.

Rail corridor access

Large plant and equipment, such as piling equipment and hi-rail excavators, would be craned into the site during a rail possession. The crane equipment is proposed to be located on Railway Terrace adjacent to the station entrance. A lift plan would be prepared to assess potential crane setup locations and the need for any ground modifications for the crane pad.

Hi-rail access pads

Alternative rail corridor access would occur via nearby hi-rail access pads for float of plant and delivery of equipment/materials along the rail line to Lewisham Station. The hi-rail access pads would additionally be used for removal of equipment, materials and excavated spoil, where it is not feasible or reasonable to remove via Railway Terrace or Thomas Street.

The nearest hi-rail access pads that are proposed to be used are at Petersham Training College, Stanmore and Ashfield, as shown on Figure 3-12.

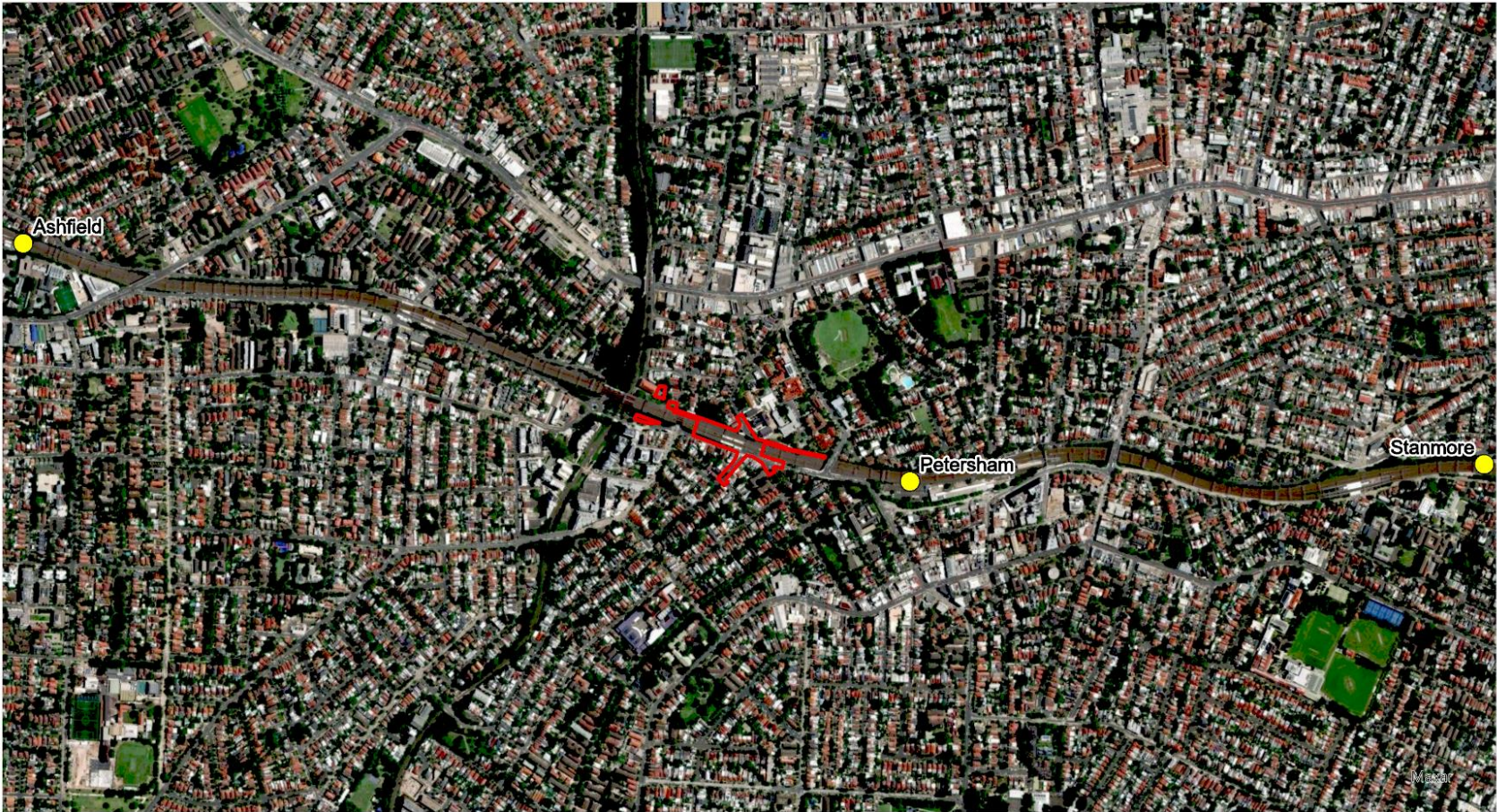
All three hi-rail access pads would not be used simultaneously. It is anticipated that the Stanmore location would be used during four planned rail possessions and Petersham Training College and/or Ashfield location(s) would be utilised during six planned rail possessions. Due to the proximity of Petersham Training College hi-rail access pad to Lewisham Station, it is likely that this location would be prioritised over the Ashfield location wherever appropriate.

Construction vehicles would access the hi-rail access pad locations at Petersham Training College, Stanmore and Ashfield via Railway Terrace/Gordon Street, Railway Avenue and Grimmond Avenue, respectively.

The feasibility of installing hi-rail access pads at alternative locations including Longport Street and Alfred Street railway access points would be investigated by the contractor during detailed design. If these locations are found feasible, the hi-rail access pads at Stanmore, Petersham and Ashfield locations would not be used. For any new hi-rail access pad locations, additional assessment may be required.



Figure 3-11: Proposed temporary construction compound areas



SAT Lewisham - Hi-Rail Access Pads

-  Proposal Area
-  Hi-Rail Access Pads





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Source: Roadmap 2024

Figure 3-12: Hi-rail access pad locations

3.5 Public utility adjustment

The Proposal has been designed to avoid relocation of services where feasible, however further investigation may be required. Services may require relocation or protection, including those located in Table 3-3, but such relocation is unlikely to occur outside of the footprint of the work assessed in this REF. In the event that work would be required outside of this footprint, further assessment would be undertaken. The appropriate utility providers, such as Telstra, Ausgrid, FibreConX, Sydney Water and NBN, would be consulted during the detailed design phase.

All existing pit lids would be adjusted to match the new surface levels and any existing services with shallow cover would be lowered to achieve compliant cover to the revised surface levels.

Table 3-3: Existing services affected by proposed work

Construction activity	Services affected
Construction of Lift 1	relocation of services including existing aerial lines, LV cables, third-party services and road drainage. Additionally, power poles and cables on the corner of Railway Terrace and Victoria Street would be removed and relocated underground.
Construction of Lift 2 and 3	existing communications and LV cables connected to pit near Lift 2 and near Lift 3 to be relocated during piling and excavation.
Construction of Lift 4	existing communications, signalling, above ground compressed air and LV services to be relocated during Lift 4 construction.
New underpass floor between Platforms 1 and 2	existing communications cable and drainage channels surrounding the edge of the underpass to be reinstated after floor has been lowered.
New station building	existing communication and LV cables underneath the footprint of the new station building to be relocated.
Connection of new station building to new Ausgrid supply padmount	trenching required for new supply connections to affect existing signalling, communications, compressed air, HV and other services along the fence closest to Thomas Street. trenching required for new supply connections to affect water, signalling and compressed air services along Platform 1.
Connection of power supply upgrade to new station building	trenching required for new supply connections to affect existing signalling, communications, compressed air, HV and LV services along the fence closest to Thomas Street.
Platform resurfacing and regrading	resurfaced and regraded platform to maintain minimum clearance requirements to new and existing services the drainage design of the channels on Platforms 1 and 2 would consider existing communications and electrical cables. It is likely that proposed drainage pipes would run underneath the existing services.
Thomas Street roadwork, civil and landscaping work	existing Telstra line adjacent to residential area on Thomas Street is likely to be relocated underground.

3.6 Property acquisition

Property acquisition from Inner West Council would be required. All property acquisition would relate to land within the local road reserve to accommodate the following:

- new lift, stairs and canopy at Railway Terrace entry
- new lift lobby and pump room in the underpass
- new station access ramp off Platform 2
- lift at Thomas Street.

3.7 Operation and maintenance

The future operation and maintenance of the station elements within this Proposal is subject to further discussions with Sydney Trains, Transport and Inner West Council. Assets within the rail corridor would be maintained by Sydney Trains. It is likely that assets outside of the rail corridors, such as garden/landscape areas, kiss and ride parking spaces, accessible parking spaces, footpaths, pedestrian crossings, paving, bicycle hoops and lighting within the pathway between Thomas Street and West Street, would be maintained by Inner West Council.

3.8 Decommissioning

Existing services would be relocated to the new services enclosure room on Platform 1. This would involve:

- decommissioning of existing IT/Security equipment racks, existing distribution boards and any unused communication and electrical cables as part of the relocation.

4. Statutory and planning framework

This chapter provides the statutory and planning framework for the Proposal and considers the provisions of relevant state environmental planning policies, local environmental plans and other legislation.

4.1 Environmental Planning and Assessment Act 1979

The EP&A Act establishes the system of environmental planning and assessment in NSW. This Proposal is subject to the environmental impact assessment and planning approval requirements of Division 5.1 of the EP&A Act. Division 5.1 of the EP&A Act specifies the environmental impact assessment requirements for activities undertaken by public authorities, such as Transport, which do not require development consent under Part 4 of the Act.

In accordance with section 5.5 of the EP&A Act, Transport, as the proponent and determining authority, must examine and take into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of the Proposal.

Section 171 of the Environmental Planning and Assessment Regulation 2021 (EP&A Regulation) defines the factors which must be considered when determining if an activity assessed under Division 5.1 of the EP&A Act has or is likely to have a significant impact on the environment. Chapter 6 of the REF provides an environmental impact assessment of the Proposal in accordance with section 171 and Appendix A specifically responds to the factors for consideration under section 171.

4.1.1 State Environmental Planning Policies

State Environmental Planning Policy (Transport and Infrastructure) 2021

State Environmental Planning Policy (Transport and Infrastructure) 2021 (SEPP (Transport and Infrastructure)) aims to facilitate the effective delivery of infrastructure across the State.

Section 2.92 of SEPP (Transport and Infrastructure) permits development on any land for the purpose of a railway or railway infrastructure facilities to be carried out by or on behalf of a public authority without consent.

As the Proposal is for railway infrastructure facilities, comprising of upgrades to a railway station, station platforms and areas in a station complex that rail customers use to get access to the platforms, public amenities for rail customers and associated public transport facilities for railway stations, and is to be carried out by Transport, it can be assessed under Division 5.1 of the *Environmental Planning and Assessment Act 1979* (NSW). Development consent from council is not required.

The Proposal is not located on land reserved under the *National Parks and Wildlife Act 1974* and does not require development consent or approval under:

- State Environmental Planning Policy (Resilience and Hazards) 2021
- State Environmental Planning Policy (Planning Systems) 2021
- State Environmental Planning Policy (Precincts – Central River City)
- State Environmental Planning Policy (Precincts – Eastern Harbour City)
- State Environmental Planning Policy (Precincts – Regional) 2021
- State Environmental Planning Policy (Precincts – Western Parkland City) 2021.

Section 2.10 to 2.15 of SEPP (Transport and Infrastructure) contains provisions for public authorities to consult with local Councils and other public authorities prior to the commencement of certain types of development. Consultation, including consultation as required by SEPP (Transport and Infrastructure) (where applicable), is discussed in Chapter 5 of this REF.

State Environmental Planning Policy (Biodiversity and Conservation) 2021

Chapter 6 (Water Catchments) of the State Environmental Planning Policy (Biodiversity and Conservation) 2021 relates to the use of land within four regulated catchments as defined in the SEPP:

- the Sydney Drinking Water Catchment
- the Sydney Harbour Catchment
- the Georges River Catchment
- the Hawkesbury-Nepean Catchment.

The Proposal is located within the Sydney Harbour Catchment.

Sydney Harbour Catchment

Determining authorities undertaking an activity in a regulated catchment must satisfy sections 6.6(2), 6.7(2), 6.8(2) and 6.9(2) and consider environmental impacts listed in sections 6.6(1), 6.7(1), 6.8(1) and 6.9(1) of SEPP (Biodiversity and Conservation). This includes specific consideration of water quality and quantity, aquatic ecology, flooding, and recreation and public access. An assessment of these factors is provided in Appendix A.

Development in the Foreshores and Waterways Area within the Sydney Harbour Catchment must also consider section 6.28(1) of the SEPP (Biodiversity and Conservation). An assessment of these factors is provided in Appendix A.

State Environmental Planning Policy (Resilience and Hazards) 2021

State Environmental Planning Policy (Resilience and Hazards) 2021 (SEPP (Resilience and Hazards)) provides a State-wide approach to the remediation of contaminated land for the purpose of minimising the risk of harm to the health of humans and the environment. While consent for the Proposal is not required, the provisions of SEPP (Resilience and Hazards) have still been considered in the preparation of this REF.

Section 6.8 of this REF contains an assessment of the potential contamination impacts of the Proposal. It is not expected that any large-scale remediation (Category 1) work would be required as part of the Proposal. The proposed land use would not differ to the existing use and is, therefore, unlikely to be affected by any potential contaminants that exist within the rail corridor.

Impacts of contaminated lands and potential remediation are in Section 6.8.

State Environmental Planning Policy (Eastern Harbour City) 2021

Chapter 2 of the State Environmental Planning Policy (Precincts – Eastern Harbour City) 2021 (SEPP (Eastern Harbour City)) outlines areas designated as State significant precincts, to which certain provisions apply for the carrying out of development within each precinct. Lewisham Station, including the Proposal Area does not fall within any State significant precinct as outlined in SEPP (Eastern Harbour City). As such, consent for the Proposal is not required under SEPP (Eastern Harbour City).

4.1.2 Local Environmental Plans

Inner West Local Environmental Plan 2022 (Inner West LEP)

The Proposal is located within the Inner West Council LGA. The SEPP (Transport and Infrastructure) prevails over all other environmental planning instruments (such as LEPs) except where there is an inconsistency with State Environmental Planning Policy (Precincts) 2021 or certain provisions of State Environmental Planning Policy (Coastal Management) 2018. During the preparation of this REF, the provisions of the Inner West LEP were considered (refer to Table 4-1).

Table 4-1: Relevant provisions of the Inner West LEP

Provision description	Relevance to the Proposal
Clause 2.3 – Zone objectives and Land Use Table	Under the Inner West LEP: The Proposal area - majority of the Proposal area is zoned as SP2 Infrastructure - Rail Infrastructure Facility. The Proposal is consistent with the objectives of this land use zone as it provides for public, community and social infrastructure - portions of the Proposal area along Railway Terrace are zoned as SP2 Infrastructure - Classified Road. The Proposal is consistent with the objectives of this land use zone as it provides for public, community and social infrastructure - portions of the Proposal area along Thomas Street, Victoria Street, Hobbs Street and Hunter Street are zoned as R2 – Low Density Residential. The Proposal is consistent with the objectives of this land use zone as it enables other land uses that provide facilities or services to meet the day to day needs of residents - the construction compounds are zoned as SP2 Infrastructure - Rail Infrastructure Facility. The Proposal is consistent with the objectives of this land use zone as it provides for infrastructure and related uses. Surrounding land use zones - the educational facilities and places of worship along Thomas Street are zoned as SP2 Infrastructure - Educational Establishments and SP2 Infrastructure -Community Facilities. Additionally, the surrounding recreational areas, Petersham Park, Cadigal Reserve and Hudson Street Park are zoned as RE1 Public Recreation. The Proposal is consistent with the objectives of these land use zones as it would provide upgraded connections and improve accessibility between these land use zones and the station. - Lewisham’s commercial area along Railway Terrace and Victoria Street is zoned as E1 Local centre. The Proposal is consistent with the objectives of this land use zone as it would maximise public transport patronage through an accessibility upgrade, allowing all customers to use Lewisham Station more easily. - surrounding residential areas are zoned as R2 Low Density Residential Areas, R4 High Density Residential and R1 General Residential. The Proposal is consistent with the objectives of this land use zone as it enables accessible operation of the station that provides facilities to meet the day to day needs of residents. Land zoning within and near the Proposal is mapped in Figure 4-1.
Clause 5.10 – Heritage Conservation	Clause 5.10 of the Inner West LEP aims to conserve the environmental heritage of the Inner West Council LGA, the significance of heritage items and heritage conservation areas (including fabric, settings and views), archaeological sites, Aboriginal objects and Aboriginal places of heritage significance. There are four heritage items listed under the LEP within the Proposal area: ‘Lewisham Estate Heritage Conservation Area’ (#C61) ‘Lewisham Railway Substation’ (#I1167) ‘Lewisham (Old Canterbury Rd) Underbridge’ (#I1173) ‘Former Petersham Cemetery Archaeological Site’ (#A11). A Statement of Heritage Impact (SoHI) has been prepared as part of this REF which considers the impact the Proposal would have on these heritage listings. No Aboriginal heritage records were identified within the Proposal area. Potential impacts to Aboriginal and non-Aboriginal heritage are assessed in Section 6.4 and Section 6.5.
Clause 5.21 – Flood planning	Clause 5.21 of the Inner West LEP aims to minimise the flood risk to life and property associated with the use of land, allow development on land that is compatible with flood function and behaviour (taking into account projected changes as a result of climate change), and avoid adverse or cumulative impacts on flood behaviour. By virtue of section 2.92 of SEPP (Transport and Infrastructure), the Proposal is permissible without development consent and would be authorised under Part 5, Division 5.1 of the EP&A Act. However, a discussion of potential flooding and hydrology impacts associated with the Proposal is included in Section 6.9.
Clause 6.1 – Acid Sulfate Soils	Clause 6.1 of the Inner West LEP aims to ensure that development does not disturb, expose or drain acid sulfate soils and cause environmental damage.

Provision description	Relevance to the Proposal
	Lewisham Station and the Proposal Area is not on land mapped as acid sulfate soils. However, Section 6.8 provides a discussion on potential impacts on contamination, geology and soils associated with the Proposal, including consideration of acid sulfate soils.
Clause 6.2 – Earthworks	Clause 6.2 of the Inner West LEP aims to ensure that earthwork for which development consent is required would not have a detrimental impact on environmental functions and processes, neighbouring uses, cultural or heritage items or features of the surrounding land. Under Section 2.9.2 of the SEPP (Transport and Infrastructure), the Proposal is permissible without development consent. Consideration of the potential impacts is outlined in Section 6.8 and appropriate mitigation measures outlined in Section 7.2.
Clause 6.3 – Stormwater and water sensitive urban design	Clause 6.3 of the Inner West LEP aims to avoid or minimise the adverse impacts of urban stormwater on specific land use zones and on adjoining properties, native bushland, waterways and groundwater systems. Land use zones that this clause applies to includes all land in residential, employment and mixed-use zones. By virtue of section 2.92 of SEPP (Transport and Infrastructure), the Proposal is permissible without development consent and would be authorised under Part 5, Division 5.1 of the EP&A Act. Consideration of the potential impacts and required mitigation measures relating to stormwater and water sensitive urban design has been included in Section 6.9.
Clause 6.4 – Terrestrial Biodiversity	Clause 6.4 of the Inner West LEP aims to protect native fauna and flora, protect the ecological processes necessary for the continued existence of native fauna and flora, and encourage the conservation and recovery of native fauna and flora and their habitats. By virtue of clause 5(3) and 79 of the Infrastructure SEPP, the clearing of vegetation for the Proposal is permissible without development consent. However, Section 6.7 provides a discussion of potential impacts to biodiversity.



Figure 4-1: Land use zones surrounding the Proposal area

4.2 Other relevant NSW legislation

4.2.1 Transport Administration Act 1988

The *Transport Administration Act 1988* establishes Transport as a public authority who is to exercise its functions in a manner that promotes certain common objectives, including to promote the delivery of transport services in an environmentally sustainable manner.

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

2A Objects of Act

- a. to provide an efficient and accountable framework for the governance of the delivery of transport services,
- b. to promote the integration of the transport system,
- c. to enable effective planning and delivery of transport infrastructure and services,
- d. to facilitate the mobilisation and prioritisation of key resources across the transport sector,
- e. to co-ordinate the activities of those engaged in the delivery of transport services,
- f. to maintain independent regulatory arrangements for securing the safety of transport services.

2B Common objectives and service delivery priorities of public transport agencies

- a. Environmental sustainability

To promote the delivery of transport services in an environmentally sustainable manner.

- b. Social benefits

To contribute to the delivery of social benefits for customers, including greater inclusiveness, accessibility and quality of life.

4.2.2 Crown Lands Management Act 2016

The Proposal does not involve work on any Crown land.

4.2.3 Heritage Act 1977

The *Heritage Act 1977* (Heritage Act) aims to protect items of State and local heritage significance and outlines the process for the approval of development that may impact on items of heritage significance. The Heritage Act includes requirements for approval for impacts to items listed on the State Heritage Register and exposure of relics and notification of impacts to items listed on a Section 170 heritage and conservation register. Lewisham Railway Station Group is not listed on the TAM Section 170 Heritage and Conservation Register.

The proposed construction compound on Alfred Street is located within the curtilage of the 'Lewisham Railway Substation' site listed on the TAM Section 170 Heritage and Conservation Register. In addition, a GST would be installed on the bridge wall of the 'Lewisham (Old Canterbury Road) Underbridge', listed on the NSW TAM S170 Heritage and Conservation Register. A SoHI has been prepared as part of this REF which considers the impact the Proposal would have on these heritage listings. There are no Aboriginal heritage records within the Proposal area. Potential impacts to non-Aboriginal heritage are assessed in Section 6.5.

4.2.4 Aboriginal Land Rights Act 1976

The Proposal does not involve any work on land reclaimed under the *Aboriginal Land Rights Act 1983*.

4.2.5 National Parks and Wildlife Act 1974

The *National Parks and Wildlife Act 1974* (NPW Act) governs the establishment, preservation and management of national parks, state reserves, historic sites and certain other areas, and the protection of certain fauna, native plants and Aboriginal heritage. The NPW Act is the primary legislation for the protection of Aboriginal cultural heritage in NSW. Potential impacts to Aboriginal heritage are assessed in Section 6.4.

4.2.6 Biodiversity Conservation Act 2016

The BC Act is directed at conserving threatened species, populations and ecological communities of animals and plants. The BC Act outlines the framework for addressing impacts on biodiversity from development and clearing. The Proposal is unlikely to have a significant impact on any threatened species, population or ecological community (refer to Section 6.7).

4.2.7 Protection of the Environment Operations Act 1997

The Proposal does not involve a 'scheduled activity' under Schedule 1 of the *Protection of the Environment Operations Act 1997* (POEO Act). Accordingly, an Environment Protection Licence (EPL) is not required for the Proposal. However, in accordance with Part 5.7 of the POEO Act, Transport would notify the NSW EPA of any pollution incidents that occur on-site. This would be managed through the CEMP to be prepared and implemented by the Contractor.

4.2.8 Roads Act 1993

Section 138 of the *Roads Act 1993* (the Roads Act) requires consent from the relevant road authority for the carrying out of work in, on or over a public road. However, clause 5(1) in Schedule 2 of the Roads Act states that public authorities do not require approval for work on unclassified roads. The Proposal would involve work on Thomas Road, Railway Terrace, Victoria Street and Hobbs Street. Thomas Road, Victoria Street and Hobbs Street are local roads under the control of Inner West Council whereas Railway Terrace is a State Road under the control of the state. ROLs would be obtained from the relevant roads authority for road work and any temporary road closures where required (see Section 6.1 for more information).

4.2.9 Waste Avoidance and Resource Recovery Act 2001

The *Waste Avoidance and Resource Recovery Act 2001* (WARR Act) sets out provisions for resource and waste management. Transport would carry out the Proposal following the requirements of the WARR Act, which includes a site-specific Waste Management Plan being prepared.

4.2.10 Contaminated Land and Management Act 1997

The *Contaminated Land Management Act 1997* (CLM Act) sets out the requirements for investigating, remediating and managing land that is considered to pose a human health or environmental risk. Section 60 of the CLM Act outlines the circumstances in which notification of the Environment Protection Authority (EPA) is required in relation to the contamination of land. Potential impacts associated with contamination are assessed in Section 6.8.

4.3 Commonwealth legislation

4.3.1 Environment Protection and Biodiversity Conservation Act 1999

Under the EPBC Act, a referral is required to the Australian Government for proposed actions that have the potential to significantly impact on matters of national environmental significance or the environment of Commonwealth land. These are considered in Appendix A and Chapter 6 of the REF.

Potential impacts to these biodiversity matters are also considered as part of Chapter 6 of the REF and Appendix A.

Findings – matters of national environmental significance

The assessment of the Proposal’s impact, on matters of national environmental significance and the environment of Commonwealth land, found that there is unlikely to be a significant impact on relevant matters of national environmental significance or on Commonwealth land. Accordingly, the Proposal has not been referred to the Australian Government DCCEEW under the EPBC Act.

4.3.2 Other relevant Commonwealth legislation

Other Commonwealth legislation applicable to the Proposal is discussed in Table 4-2 below:

Table 4-2: Other Commonwealth legislation applicable to the Proposal

Applicable legislation	Considerations
Aboriginal and Torres Strait Islander Heritage Protection Act 1984	There is an obligation on a person who discovers anything which he or she has reasonable grounds to suspect are Aboriginal remains to report that discovery to the Minister, giving particulars of the remains and their location. The Proposal does not include any previously identified Aboriginal sites and/or places (refer to Section 6.4); however, considerations for unexpected finds further detailed in mitigation measures and applies to this Act.
Disability Discrimination Act 1992 (DDA)	This Act aims to eliminate as far as possible, discrimination against persons on the ground of disability in areas including access to premises and the provision of facilities, services and land. The Proposal would be designed having regard to the requirements of this Act. The key objective of the Proposal is to improve the accessibility of Lewisham Station which is consistent with the objectives of this Act.

4.3.3 Native Title Act 1993

The *Native Title Act 1993* recognises and protects native title. The Act covers actions affecting native title and the processes for determining whether native title exists and compensation for actions affecting native title. It establishes the Native Title Registrar, the National Native Title Tribunal, the Register of Native Title Claims and the Register of Indigenous Land Use Agreements, and the National Native Title Register. Under the Act, a future act includes proposed public infrastructure on land or waters that affects native title rights or interest.

A search of the [Native Title Tribunal Native Title Vision](#) website was undertaken on 7 January 2025, with no Native Title holders/claimants identified.

4.4 Confirmation of statutory position

The Proposal is categorised as development for the purpose of railway infrastructure facilities and is being carried out by or on behalf of a public authority. Under section 2.92 of SEPP (Transport and Infrastructure) the Proposal is permissible without consent. The Proposal is not State significant infrastructure or State significant development. The Proposal can be assessed under Division 5.1 of the EP&A Act.

Transport is the determining authority for the Proposal. This REF fulfils Transport’s obligation under section 5.5 of the EP&A Act including to examine and take into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of the activity.

5. Consultation

This chapter discusses the consultation undertaken to date for the Proposal and the consultation proposed for the future.

5.1 Consultation strategy

The Community and Stakeholder Engagement (consultation) Strategy (the Strategy) developed to support the Proposal is designed to build strong stakeholder and community relationships and create awareness of the Proposal.

Engagement on the Proposal spans from the initial early engagement period prior to development of a concept design, through to targeted engagement to seek feedback from key stakeholders, to the wider community engagement periods.

The Strategy addresses the requirements of the planning process and ensures that a broad range of stakeholders including Aboriginal and Torres Strait Islander communities, local People with Disability, women and girls, public transport passengers, Council, local businesses and schools, and the wider community are informed of the Proposal and have the opportunity to provide feedback at appropriate times.

The objectives of the Strategy are to:

- identify stakeholders to engage through various stages of the project including timing and methods of engagement with each stakeholder or stakeholder group
- ensure engagement is planned and undertaken with disability user groups and local people with disability to make stations more useable and safer for people with a disability to use
- plan engagement with women, girls and gender diverse people, to develop station upgrades that respond to feedback and make stations and public transport a safe and attractive option for women, girls and gender diverse people
- provide accurate and timely information about the Proposal and planning approval process to relevant stakeholders
- raise awareness of the various components of the Proposal and the specialist environmental investigations
- ensure that the directly impacted community is aware of the Proposal, the planning approval process and opportunities to provide feedback throughout the Proposal design process
- provide opportunities for stakeholders and the community to express their view, and provide local insights and knowledge which may affect the Proposal
- record the details and input from community and stakeholder engagement activities
- build positive relations with identified community stakeholders
- ensure a comprehensive and transparent approach with a commitment to ongoing engagement throughout the Proposal design and delivery.

5.2 Community engagement

Before preparing the concept design for Lewisham Station, Transport engaged with various groups to help inform the development of the concept design. Targeted early engagement was undertaken with key stakeholders from September 2023 to June 2024, and included people with disability via Transport's Accessible Transport Advisory Committee (ATAC) and separately with local people with disability and carers in iterative

design workshops. Additionally, Transport held collaborative Connecting with Country events to understand the unique and enduring relationship between Aboriginal and Torres Strait Islander peoples and their ancestral lands, waters and natural resources. Transport engaged with local women and girls via night-time safety workshops to better understand perceptions of safety at and around the station, and also sourced previous customer feedback regarding Lewisham Station. The main elements that were incorporated into the concept design following these engagements include:

- changes to direction of travel and conversion of Victoria Street to one-way northbound (between Hobbs Street and Railway Terrace)
- addition of a bench seat and relocation of bicycle hoops to declutter the lift entry within the Victoria Street forecourt
- resolution of leaking canopy over entry stairs at the Railway Terrace/Victoria Street station entrance, to be further resolved during detailed design stage
- ramp access from Platform 2 to Railway Terrace and accessible parking space on Hunter Street
- new lighting upgrade along the footpath connecting Thomas Street cul-de-sac and West Street, subject to further stakeholder consultation during the detailed design stage
- the opportunity to retain a parking space behind the proposed kiss and ride on Victoria Street would be investigated during detailed design
- investigation into shared e-bike parking solutions.

Initial feedback on draft concept designs was sought from key stakeholders including Council, local businesses and community members from 30 July to 18 August 2024. Consultation included two community pop-up sessions. The proposal received 74 pieces of feedback during the early engagement period.

The feedback received from the community and key stakeholders was provided to the Proposal team for consideration in finalising the concept design, and to help inform the planning process and documentation. A summary of the issues raised by the community and Transport's response to these issues is outlined in Table 5-1.

Table 5-1: Summary of issues raised by the community

Group	Issue raised	Response / where addressed in REF
Community including residents, business and public transport customers	<u>Flooding</u> • support to resolve flooding issues in underpass • leaking awning causing flooding above commercial enterprises on Victoria Street.	Resolution of flooding issues in the underpass would be further explored during the detailed design stage. Transport is proposing to replace the existing awnings with a single new awning which would extend over the existing stairs and new lift shaft. This single awning would resolve any existing leakage issues.
	<u>Safety considerations</u> • support to improve overall safety at and around the station, such as pedestrian crossings, widening footpaths, Closed Circuit Television (CCTV) and additional lighting.	The station upgrade includes additional lighting, CCTV and help points. Opportunities to further improve safety at the station would continue to be a focus during the detailed design stage with regard to the Crime Prevention Through Environmental Design (CPTED) principles.
	<u>Parking and pick-up/drop-off points</u> • suggestions to provide a safe turning circle for cars along Victoria Street to ease congestion	Transport would explore opportunities to retain a shopper/commercial parking space behind the proposed kiss and ride space on Victoria Street during detailed design.

Group	Issue raised	Response / where addressed in REF
Local people with disability and carers	requests to retain timed shopper/commercial parking.	Details including vehicle movements would be confirmed during the detailed design stage.
	<u>Station precincts</u> support for additional bicycle parking under cover and in visible locations.	Transport would look at relocating bicycle parking in weather protected and visible locations at Thomas Street and Railway Terrace. Transport would also explore suitable parking for e-bikes.
	requests from Lewisham Better Streets for Victoria Street/Railway Terrace to be converted into a community space.	The partial conversion of Victoria Street into a community space is outside of the scope of this project and has been provided to Inner West Council for information and consideration.
	provide pedestrian connectivity between heavy rail and light rail station.	This Proposal is focused on delivering improved accessibility and amenity at the train station, providing equitable access to current and future passengers, which the current design delivers. Exploration of any opportunities to better connect the light rail with the upgraded train station would be in collaboration with Council.
	<u>Visual amenity for commercial enterprises</u> Concerns raised about visual impact from construction and proposed lift shaft on commercial enterprises.	The design would be undertaken by experienced architects and urban designers, maintaining elegant simplicity in the detailing and responding sensitively to the current and likely future built environment around the station. Where the design directly interfaces with private property, appropriate engagement would be undertaken to ensure understanding and agree mitigations where appropriate.
	<u>Improved station safety and amenities</u> accessible drop-off location and accessible parking on both sides of the station.	Step-free drop-off locations would be provided on both Thomas Street and Victoria Street as part of the station upgrade. Due to existing gradients, Victoria Street kiss and ride, while being step-free, is unlikely to be fully compliant with DSAPT. Accessible parking would be provided on Thomas Street. An additional accessible parking space would be provided on Hunter Street, providing step-free (but not fully compliant) access to the station entry.
	- ambulant toilet designed considering accessibility needs such as emergency button low to the floor, hand dryer at a useable height and ensuring the sink has sufficient space for a wheelchair underneath - lift designed considering accessibility needs including adequate space and button size/positioning.	These items would be considered during the detailed design stage addressing design standards and accessibility requirements in order to deliver a project that meets the requirements of the Disability Standards for Accessible Public Transport (DSAPT). Consultation with local people with disability and carers would be ongoing throughout the design process to achieve appropriate design responses, particularly for people with disability.
	Provision of additional toilet on Platform 2 or in the underpass.	Transport is proposing to provide a family accessible toilet and an ambulant toilet on Platform 1, which would be accessible via the lifts. Provision of an additional accessible toilet facility

Group	Issue raised	Response / where addressed in REF
		on Platform 2 or in the underpass has not been pursued due to customer safety, maintenance and vandalism concerns.
	<u>Station access:</u> ramped entry on one or both sides, in the case of lifts breaking down.	This project is focused on delivering improved accessibility and amenity, with four lifts proposed to provide access to both platforms, underpass and surrounding streets. Access to Platform 2 would be provided via lifts and a new ramp connecting the platform to Railway Terrace. Ramped access connecting platforms with Thomas Street entrance is not feasible due to space constraints.
	<u>Wayfinding and station information</u> - additional wayfinding and consultation to discuss wayfinding signage before being produced - Up-to-date online information about availability of station facilities such as, toilets.	Consultation with local people with disability and carers would be ongoing throughout the design process in an effort to achieve best outcomes, particularly for people with disability. This engagement would cover both construction and operational changes and opportunities. Wayfinding and information on the availability of station facilities would continue to be explored and discussed in these forums.
Inner West Council	<u>Flooding</u> - flooding in underpass needs to be resolved - ongoing maintenance issues with leaking canopy above existing stair access point on Railway Terrace.	Resolution of flooding issues in the underpass would be further explored during the detailed design stage. Additionally, the Proposal includes a new canopy over the entry stairs at the Railway Terrace/Victoria Street station entrance which would be further refined during the detailed design stage, which would resolve the leaking canopy above the station access stair.
	<u>Parking and pick-up/drop-off points</u> - retain timed parking behind kiss and ride, and retain parking on south-eastern side of Victoria Street - safety issues with the Hunter Street crossings.	Transport will explore opportunities to retain timed shopper/commercial parking where feasible. A pedestrian crossing would be investigated during detailed design.

5.3 Aboriginal community engagement

Transport engaged with Aboriginal and Torres Strait Islander peoples by undertaking collaborative Connecting with Country events to understand the unique and enduring relationship between Aboriginal and Torres Strait Islander peoples and their ancestral lands, waters and natural resources.

Engagement has included two workshops with Aboriginal stakeholders; the first session in June 2024 focused on listening and learning, while the second in July 2024 aimed to validate themes and principles that emerged from the workshops. Themes raised during these consultation activities include:

- songlines – railway lines as a connector for people and places
 - create an experience from the journey through memorable landmarks or iconic buildings
 - explore a design approach that simulates the evolution and experience of Gadigal Country over time

- connect the journey experience to other stations as continuous contemporary songline, celebrating Gadigal culture and its relationship with other traditional lands along the rail line
- meeting places – safe spaces
 - create a range of special places at different scales that people can be in, not just pass through
 - foster a sense of belonging through an authentic experience within Gadigal Country
 - acknowledge that customers are on, or arriving on, Gadigal Country
 - symbolise a sense of hope and opportunities as rail travel connects rural areas to major cities
- truth-telling – all stories to be told
 - educate and inform the travelling public about Gadigal history
 - authentically reflect the richness of Gadigal culture by layering design approaches
 - develop a curated sequence of experiences that unveil the forgotten stories, offering them a chance to be shared and heard.

Following engagement, a Connecting with Country Framework was developed which includes recommendations for future engagement to ensure that the concept design would align with the principles and guidelines of the Connecting with Country Framework (Government Architect NSW, 2023) and associated best practice documents.

Recommendations from the framework document are summarised below:

- song lines
 - create opportunities for connecting stories and Country by consulting with community members to understand the correct stories and how connection can be created
- meeting place
 - create inclusive environments to ensure spaces are inclusive for various needs within the community, including culturally safe spaces
- truth-telling
 - refer to Gadigal as the Traditional Owners and/or Custodians of the land on which Lewisham Station sits by contacting Elders to ensure this is done in an authentic way involving community members and artists from Country
 - create opportunities of learning by working alongside community, organisations, businesses, Elders and Knowledge Holders to understand truth-telling opportunities
 - stay true to the engagement process so far by ensuring that future consultations take place before altering the stories or the principles agreed upon in this consultation
 - keep language alive by utilising language experts and ensuring language is correct and true
 - create regeneration opportunities by using native wildlife and flora and discussing with Elders and community members the best local First Nations businesses to approach for future opportunities, including for ongoing care of gardens.

Transport has also undertaken a Stage 1 Aboriginal heritage assessment for the Proposal in line with the *Procedure for Aboriginal Cultural Heritage Consultation and Investigations* (Transport for NSW, 2011) (PACHCI). The stages of PACHCI are outlined in Table 5-2.

Table 5-2: Summary of Transport's Procedure for Aboriginal Cultural Heritage Consultation and Investigation

Stage	Description
Stage 1	Initial assessment by Transport.
Stage 2	Site survey and further assessment.
Stage 3	Formal consultation and preparation of a cultural heritage assessment report.
Stage 4	Implement environmental impact assessment recommendations.

Stage 1 of the PACHCI assessment concluded that the Proposal is unlikely to have an impact on Aboriginal cultural heritage. As such, the remaining stages of the procedure are not required.

5.4 SEPP (Transport and Infrastructure) consultation

Part 2, Division 1 of SEPP (Transport and Infrastructure) contains provisions for public authorities to consult with local Councils and other public authorities prior to the commencement of certain types of development. Sections 2.10 to 2.17 of SEPP (Transport and Infrastructure) require that public authorities undertake consultation with Council and other agencies, when proposing to carry out development without consent.

Inner West Council would be consulted about the Proposal as per the requirements of section 2.10 of SEPP (Transport and Infrastructure).

The Proposal area is not located on flood liable land. As such, the provisions of section 2.12 of the SEPP (Transport and Infrastructure) do not apply. The Proposal includes flood mitigation work, given the localised anecdotal flooding of the railway underpass at the station. Consultation with Inner West Council and NSW State Emergency Services (SES) would be undertaken with respect to this work in accordance with Sections 2.12 and 2.13 of the SEPP (Transport and Infrastructure) respectively.

Appendix B contains a SEPP (Transport and Infrastructure) consultation checklist that documents how SEPP (Transport and Infrastructure) consultation requirements have been considered.

Issues raised from this consultation and how they have been addressed for the Proposal would be outlined in the Determination Report prepared for the Proposal.

5.5 Ongoing or future consultation

At the conclusion of the public display period for this REF, Transport would acknowledge receipt of feedback from each respondent. The issues raised by the respondents would be considered by Transport before determining whether to proceed with the Proposal.

Should Transport determine to proceed with the Proposal, the Determination Report would be made available on the Transport website and would summarise the key impacts identified in this REF, demonstrate how Transport considered issues raised during the public display period, and include a summary of mitigation measures proposed to minimise the impacts of the Proposal.

Should Transport determine to proceed with the Proposal, the project team would keep the community, public transport passengers, Councils and other key stakeholders informed of the process, identify any further issues as they arise, and develop additional mitigation measures to minimise the impacts of the Proposal. The interaction with the community would be undertaken in accordance with a Community Liaison Management Plan (CLMP) to be developed prior to the commencement of construction.

6. Environmental assessment

This section of the REF provides a detailed description of the potential environmental impacts associated with the construction and operation of the Proposal. All aspects of the environment, potentially impacted upon by the Proposal, are considered. This includes consideration of:

- potential impacts on matters of national environmental significance under the EPBC Act.
- the factors specified in the Guideline for Division 5.1 assessments (DPE, 2022) and as required under section 171 of the Environmental Planning and Assessment Regulation 2021. The factors specified in section 171 of the Environmental Planning and Assessment Regulation 2021 are also considered in Appendix A
- the factors specified under 171A of the Environmental Planning and Assessment Regulation 2021 are also considered in Appendix A.

Site-specific mitigation measures are provided to mitigate the identified potential impacts.

6.1 Traffic and transport

6.1.1 Methodology

The potential traffic and transport impacts during construction and operation of the Proposal have been assessed as part of the Traffic, Transport and Access Impact Assessment (TTAIA) (AECOM, 2024b). This involved qualitatively assessing potential impacts on the road, public transport and active transport during construction and operation of the Proposal through:

- reviewing available traffic data, existing and future land uses, crash data and public transport information
- desktop review and site observation to review existing parking within a distance of around 100 metres from the station in December 2024
- identification of potential vehicle generating activities and preparing trip generation forecasts for construction vehicles
- assessing construction traffic and impacts on pedestrians, cyclists, public transport and the local road network and access
- identification of mitigation measures to alleviate identified traffic, transport and access impacts associated with the construction and operation of the Proposal.

Given the minor nature of traffic anticipated to be generated from the Proposal, operational modelling was not carried out.

6.1.2 Existing environment

Road network

Lewisham Station is surrounded by a mix of local and State road corridors. Key local roads include Victoria Street and Hunter Street to the south, and Thomas Street to the north. These roads currently have unmarked lanes and parking on both sides with a posted speed limit of 50 kilometres per hour. A 40 kilometres per hour school zone operates on Thomas Street from 8:00am to 9:30am and 2:30pm to 4:00pm on school days.

Railway Terrace is a State road corridor running east-west on the southern side of Lewisham Station, continuing to Old Canterbury Road and New Canterbury Road, both of which are also State roads. Railway Terrace is generally one lane in each direction, with no parking permitted and a posted speed limit of 50 kilometres per hour. Railway Terrace is not identified as an approved freight route for vehicles over 19 metres. A right turn ban from Railway Terrace onto Victoria Street currently operates between 6:00am and 10:00am, and 3:00pm and

7:00pm on weekdays. Additionally, there is a right turn ban from Victoria Street onto Railway Terrace between 6:00am and 10:00am only on weekdays.

In terms of road network performance, the intersection of Railway Terrace, Old Canterbury Road and Longport Street operates at a satisfactory Level of Service (LOS) (known as LOS C) or better during the weekday and weekend peak periods. Average delays are generally moderate, with increased queueing on weekends compared to weekdays, during the time period where turning restrictions on Victoria Street are not in force. Queueing and delays are greatest on Railway Terrace on weekdays and the northern approach of Old Canterbury Road on weekends.

Public transport

Rail services

Lewisham Station is located on the T2 Leppington and Inner West and T3 Liverpool and Inner West Lines. The station has two platforms with Platform 1 services running toward the city and Platform 2 services running towards Parramatta, Liverpool and Leppington.

Bus network

Bus stops are provided on the southern side of Lewisham Station in both directions on Railway Terrace (Stop ID 204918 and 204927). The bus stops are serviced by the following routes:

- 413 – Campsie to Central Pitt Street
- N50 – Liverpool to City Town Hall via Strathfield (night service).

The westbound bus stop (Stop 204927) is accessed from Lewisham Station via the zebra crossing on Victoria Street and by crossing at the pedestrian refuge island on Hunter Street. The eastbound bus stop (Stop 204918) is accessed via the same route by utilising the pedestrian refuge island crossing over Railway Terrace near the intersection with Hunter Street. There is no direct access along the northern side of Railway Terrace between this stop and the station.

Footpaths are provided for both stops, with a shelter and seating also provided for the westbound stop (Stop ID 204927).

Light rail network

Lewisham West Light Rail Station is a 450 metre walk from Lewisham Station via Railway Terrace, Old Canterbury Road and Hudson Street. Lewisham West Station is serviced by the L1 Dulwich Hill line, with services towards Central to the north and Dulwich Hill to the south at a frequency of every six minutes during the peak and every 10 to 15 minutes off-peak and weekends. Dulwich Hill West Station is accessible with step-free access from Hudson Street.

Active transport

Walking

At the northern station entrance on Thomas Street, footpaths are provided on both sides of the road. At the southern station entrance on Railway Terrace, a footpath is provided on the southern side only. Refuge islands are provided at the intersection of Railway Terrace and Hunter Street. Further east a footpath enables safe access to the eastbound bus stop. Victoria Street has footpaths on both sides, with an east-west pedestrian crossing provided at the intersection with Railway Terrace.

Pedestrian count surveys, undertaken at Lewisham Station in June 2024, identified that the total number of pedestrians using this crossing is more than double the number of vehicles entering and exiting Victoria Street throughout the day. This is likely due to its close proximity with Lewisham Station and adjoining mixed-use commercial area.

Cycling

A shared path is provided on the northern side of Lewisham Station from the entrance on Thomas Street, continuing east along the northern edge of the railway alignment to West Street. A shared path is also provided on the southern side of Lewisham Station along Railway Terrace from Hunter Street, continuing east towards Crystal Street. The shared paths connect to the surrounding cycling network via local residential streets. Bicycle parking at Lewisham Station is well utilised and is provided at both station entrances. Three bicycle hoops and five bicycle racks are provided on the northern side with no weather protection with three bicycle hoops also provided on the southern side under a canopy.

Car parking

Dedicated commuter car parking is not currently provided at Lewisham Station. Kerbside parking is available on Thomas Street to the north of the station, as well as Victoria Street and Hunter Street to the south. These time-restricted parking spaces are likely to be utilised by residents and visitors to Lewisham local centre, Church of Saint Thomas of Canterbury, Eileen O'Connor Catholic College and The John Berne School. Local permit holders are exempt from the time-restrictions that apply to parking on some of these streets. Unrestricted parking is also available which may be used by some rail customers; however, this is also likely to be heavily utilised by residents.

Kiss and ride and taxi facilities

There are currently no formal taxi ranks or existing taxi zones at Lewisham Station or in the surrounding areas.

An informal kiss and ride 'stopping area' is provided at Lewisham Station on Thomas Street. Whilst this is not formally signposted, the turning head on Thomas Street has a No Parking Zone which legally allows drivers to stop for less than two minutes for passenger set-down and pick-up. Additionally, 10-minute parking and No Parking Zones are provided on Thomas Street adjacent to Eileen O'Connor Catholic College and The John Berne School from 8:30am to 9:30am and from 2:30pm to 3:30pm.

Kerbside access on the southern side of the station is limited to two hours and unrestricted parking spaces, however this is likely to be occupied at most times of the day by local residents and visitors to Lewisham local centre as well as some rail customers.

6.1.3 Potential impacts

Construction

Construction traffic and access

The majority of construction vehicles generated by the Proposal during construction are expected to be light vehicles (including utilities) for construction workers. This would include:

- 25 light vehicles per day outside rail possession periods
- 60 light vehicles per day during weekend rail possession periods.

Up to 15 heavy vehicle movements are also anticipated each day which would generally consist of deliveries and spoil removal. Short-combination trucks up to 19 metres long and portable cranes up to 14.5 metres long are expected to be the largest heavy vehicles accessing the temporary construction compounds and laydown areas.

In addition, 10 heavy vehicles are projected to access the respective hi-rail access pads during each rail possession. It is anticipated that the Stanmore hi-rail access pad would be used during three planned rail possessions and Petersham Training College and/or Ashfield location(s) utilised during four planned rail possessions. As outlined in Section 3.4, the assessment assumes that the Petersham Training College location would be utilised over the Ashfield location and that all 10 vehicle movements during each of the four planned possessions would access the Petersham Training College hi-rail access pad.

Designated access routes for heavy vehicles would be via regional and State roads where practical. No known road upgrades are expected along the construction access routes. Temporary traffic management would be implemented for the transportation of mobile cranes and any other bulky items.

Appropriate measures such as traffic controllers would be required to minimise the safety risk posed by these heavy vehicles to other road users when entering and exiting the construction compounds and laydown areas. This is of particular importance for cyclists and pedestrians, including school students accessing Eileen O'Connor Catholic College or The John Berne School from Lewisham Station who would pass the proposed construction compound on Thomas Street.

It is anticipated that the construction traffic resulting from the Proposal would cause a minor increase in traffic volumes on key routes, which would fall within the range of daily variations. The majority of construction traffic would occur outside of network peak periods and would be distributed throughout the working day. On this basis, the overall impact of construction on the road network is anticipated to be minor.

Temporary closures of Thomas Street, Victoria Street and Railway Terrace would be required to accommodate certain construction activities. Appropriate detour routes and/or other traffic management arrangements and signage would be implemented if these corridors are temporarily closed and would be documented in the CTMP. Appropriate community notification would be documented in the CLMP (refer to Section 6.1.4 and Section 7.2).

Access to private properties and commercial enterprises would be maintained throughout the construction of the Proposal.

Parking

The establishment of a construction compound at Thomas Street would result in the loss of two kerbside parking spaces on Thomas Street. These time-restricted spaces are likely to be utilised when accessing nearby church and school facilities. Additionally, to accommodate temporary construction activities, up to nine time-restricted parking spaces would be unavailable on Victoria Street and Hunter Street during construction, seven of which would be permanently lost to accommodate the new kiss and ride zone and accessible parking space on Victoria Street and Hunter Street, respectively.

Two parking spaces for work vehicles would be provided within the Alfred Street compound and four spaces would be allocated within the Longport Street compound. There would be no parking provision for work vehicles within the Thomas Street compound. As there would typically be up to 25 light vehicles per day accessing the compounds, it is likely that some on-street parking would also be utilised by workers during the construction period. This may temporarily impact the availability of parking within the immediate vicinity of the construction compounds. However, there is additional parking available within the broader locality surrounding Lewisham Station. Construction workers would be encouraged to avoid utilising on-street parking close to the station and would also be encouraged to carpool or use public transport to travel to the station so that the impacts to parking are reduced. Other potential mitigation measures are likely to be included in any future Construction Traffic Management Plan to minimise the impact of the Proposal.

Public transport

Construction work within the rail corridor would take place during existing planned rail possession periods. At all other times, Lewisham Station would remain open during the upgrade work. Rail services would not be impacted by construction of the Proposal and pedestrian access to the station would generally be maintained during construction.

Lewisham Station bus stops on either side of Railway Terrace would be relocated during temporary road closure periods to accommodate construction activities. Temporary bus stops would be provided within proximity of the existing stop locations, with advanced notice and signage to minimise the impact on passengers. Appropriate bus detour routes and/or other traffic management arrangements and signage would be implemented. Details would be included in the CTMP.

Active transport

Pedestrian access to Lewisham Station would generally be maintained during construction, however disruption to pedestrian flows would occur when construction work for the lifts, underpass and footpaths is being undertaken. Temporary closures of the station underpass are likely to be required to accommodate certain construction activities, particularly during weekend rail possessions, when demand is considerably lower. Pedestrian travel times would increase during any underpass closures with a distance of up to 500 metres added to cross the rail corridor via West Street or Old Canterbury Road. Closure of the underpass would be minimised wherever possible, and advance notification to the community of any closure and diversion arrangements would occur.

Figure 6-1 shows alternative pedestrian access routes during temporary closures of Lewisham Station underpass. Additional options to achieve reasonable safe alternative access across the rail corridor would be investigated during detailed design.

Adequate information and alternative transport options would be provided to affected pedestrians during scheduled closures of the Lewisham Station underpass including advanced notification and appropriate wayfinding and directional signage along detour routes (refer to Section 7.2).



Figure 6-1: Alternative pedestrian access routes during temporary closures of Lewisham Station underpass

Temporary closures of the shared paths on the northern and southern sides of Lewisham Station may be required to accommodate certain construction activities, which would impact through-access for some cyclists and other active transport users. Appropriate detour routes and/or other traffic management arrangements and signage would be implemented if these corridors are temporarily closed. Provision of temporary bicycle parking on both sides of Lewisham Station during the construction period would be explored and implemented where feasible.

Increases in traffic volumes are likely to have a limited impact on cyclists, particularly on Hunter Street and Denison Road where traffic volumes are already relatively high during weekday peak periods.

Kiss and ride facilities

The informal kiss and ride stopping area on Thomas Street would no longer be available owing to its proximity to the proposed temporary construction compound. A temporary kiss and ride zone would be provided during construction on the western side of Thomas Street, impacting up to two time-restricted parking spaces during construction.

Operation

The Proposal would improve station accessibility from the road network and transport interchange facilities through the:

- new accessible kiss and ride spaces on Thomas Street and Victoria Street. The kiss and ride space on Victoria Street would be step-free, however due to existing gradients would unlikely be fully compliant with DSAPT.
- new accessible parking space on Thomas Street and Hunter Street which would provide step-free access but would not be fully compliant with DSAPT.
- relocation of bicycle hoops on Thomas Street and provision of new bicycle hoops on Railway Terrace/Victoria Street station entrances
- new accessible paths surrounding the station.

Traffic and access

The Proposal includes the removal of vehicle access from Railway Terrace onto Victoria Street to accommodate the extended kerb required for the lift access point to Lewisham Station on Victoria Street. The section of Victoria Street between Railway Terrace and Hobbs Street would be converted to operate one-way northbound only. As shown in Figure 6-2, vehicles would be permanently diverted via Hunter Street, or Henry Street.



Figure 6-2: Diverted vehicle access routes to Victoria Street

A new permanent ban on vehicles turning left from Railway Terrace onto Victoria Street would require vehicles accessing Victoria Street from the east to be diverted via Hunter Street, Denison Road, and Hobbs Street.

The new permanent ban would require vehicles accessing Victoria Street from the east to be diverted via Hunter Street, Denison Road, and Hobbs Street. Vehicles accessing Victoria Street from the west would be diverted via Old Canterbury Road and Henry Street. However, this diversion route would be unavailable on weekdays from 6:00am to 10:00am and from 3:00pm to 7:00pm due to an existing ban on vehicles turning right from Longport Street onto Old Canterbury Road. Additionally, a ban on vehicles turning right from Railway

Terrace onto Victoria Street operates during the same time periods under existing conditions, as well as a permanent ban on vehicles turning right from Railway Terrace onto Hunter Street. Therefore, no right turns are currently permitted for vehicles travelling eastbound on Longport Street or Railway Terrace during the weekday peak periods.

As these conditions would remain the same with the Proposal, there would be no additional impact to the operation of the road network during the weekday peak periods. Outside these times with the new permanent ban on vehicles turning right from Railway Terrace onto Victoria Street, up to 16 vehicles per hour would be diverted onto Old Canterbury Road and Henry Street on weekdays and up to 18 vehicles per hour on weekends, representing a minimal increase in traffic volumes on these corridors.

The intersection of Railway Terrace, Old Canterbury Road and Longport Street was modelled in SIDRA Intersection software to assess the potential impact on performance as a result of removing vehicle access from Railway Terrace onto Victoria Street. The model found there is minimal impact on the intersection performance with the Proposal due to the relatively low vehicle volumes.

It is noted that the removal of access from Railway Terrace onto Victoria Street may inconvenience some road users, including those accessing Lewisham Station and the adjoining local centre. However, this change would improve safety for pedestrians and cyclists, as well as creating opportunities for placemaking within the local centre.

Overall, the proposed one-way arrangement for Victoria Street is expected to enhance the performance of the Railway Terrace and Victoria Street intersection by diverting vehicles onto alternative routes. Fewer vehicles would use the intersection while pedestrian volumes would remain the same. Opportunities to further improve safety and connectivity for active transport users of the Proposal would be considered during detailed design.

Access to private properties and commercial enterprises would be maintained throughout the operation of the Proposal.

Parking

The Proposal would result in a permanent loss of seven time-restricted parking spaces, four on Victoria Street, one on Hunter Street and two on Thomas Street.

The provision of one time-restricted kiss and ride space and proposed extended kerb on Victoria Street would lead to a permanent loss of four kerbside time-restricted parking spaces on Victoria Street during operation of the Proposal. The addition of an accessible parking space on Hunter Street would result in the permanent loss of one kerbside parking space.

The two time-restricted parking spaces permanently removed from Thomas Street to accommodate the construction compound would be replaced with an accessible parking space and a kiss and ride space during operation. The inclusion of formal kiss and ride zones on Thomas Street and Victoria Street would enable the safe and efficient drop-off and pick-up of passengers within the station precinct.

The loss of these parking spaces would commence during construction and would become permanent during operation. Overall, the permanent loss of seven time-restricted parking spaces would have a minor impact on parking supply within the Lewisham Station precinct. A desktop review of aerial imagery and site observation of existing parking in the area surrounding the station identified that time-restricted and unrestricted parking is available within the local road network to the north and south of the station.

Public transport

The Proposal does not include changes to bus or rail services and would not impact the operation (service operation or timetabling) of public transport in the vicinity of Lewisham Station. The accessibility upgrade to the existing bus stops on Railway Terrace, and improved interchange facilities and access to Lewisham Station, may increase public transport patronage.

Active transport

The Proposal would deliver the following improvements for pedestrians:

- provision of four new lifts
- modification of the underpass including drainage, lowered floor and new openings for lift access
- platform regrading and resurfacing, new TGSIs and relocated platform furniture
- a new station access ramp from Railway Terrace to Platform 2
- adjustment to kerb ramps and footpaths on Victoria Street, Hunter Street and Railway Terrace
- lighting, including the pathway between Thomas Street and West Street.

The Proposal would improve the user experience and accessibility to the station, with the potential to encourage an increase in walking to the station. A pedestrian capacity assessment was undertaken as part of the TTAIA, which utilised Fruin's concept of LOS to determine the performance of pedestrian infrastructure based on a pedestrian's perceived level of comfort, satisfaction and frustration. The results indicated that the proposed station infrastructure is expected to satisfactorily accommodate the forecasted 2042 plus 15 per cent demands at Fruin LOS C or better during the AM and PM peak periods.

The Proposal includes relocation and replacement of existing bicycle parking facilities at both station entrances. The existing bicycle rack and hoops on Thomas Street would be relocated and replaced with seven hoops, resulting in three additional bicycle parking spaces. The three existing bicycle hoops next to the station entrance on Victoria Street would be relocated and replaced. The opportunity for dedicated bicycle share parking locations in proximity to the station would be explored during detailed design.

6.1.4 Mitigation measures

Standard mitigation measures outlined in Section 7.2 would be implemented to address traffic, transport and access impacts from the Proposal. Specific mitigation measures are provided in Table 6-1.

Table 6-1: Site specific traffic and transport mitigation measures

No.	Mitigation Measure	Responsibility	Timing
15	Authorisation for Road Use Relevant authorisation(s) from the appropriate road authority shall be obtained for the proposed operational changes to Victoria Street, such as changes to parking, addition of a kiss and ride space, and the removal of bi-directional vehicle movements and installation of a one direction travel lane between Hobbs Street and Railway Terrace.	Contractor	Operation
16	Prior to the commencement of construction, a Construction Traffic Management Plan (CTMP) would be prepared as part of the Construction Environmental Management Plan (CEMP) and in accordance with relevant guidelines. The CTMP would outline how construction of the Proposal would avoid, mitigate and manage risks involving construction activities, users of the traffic and transport network and local residents.	Contractor	Pre-construction
17	Alternative parking arrangements shall be investigated during detailed design, in consultation with Inner West Council. A consultation strategy shall be included within the Community Liaison Management Plan (CLMP).	Contractor	Detailed design
18	Traffic and parking configuration changes shall be subject to further stakeholder consultation with Inner	Contractor	Pre-construction

No.	Mitigation Measure	Responsibility	Timing
	West Council and subject to approval by the Traffic Committee. A consultation strategy shall be included within the CLMP.		
19	Opportunities to retain/reinstate the existing on-street parking provision on Victoria Street shall be investigated during detailed design and implemented where feasible.	Contractor	Detailed design
20	Adequate information shall be provided to stakeholders and the community if bus stops on Railway Terrace are temporarily relocated, including advanced notification and appropriate signage to alternative bus stops. A notification strategy shall be included within the CLMP.	Contractor	Pre-construction Construction
21	Adequate information and alternative transport options shall be provided to affected pedestrians during scheduled closures of the Lewisham Station underpass, including advanced notification, appropriate wayfinding and directional signage along detour routes. A notification strategy shall be included within the CLMP.	Contractor	Pre-construction Construction
22	The temporary full and partial closures and traffic management controls on public roads including Thomas Street, Victoria Street, Railway Terrace and Hunter Street shall be managed and implemented in accordance with the provisions of a Road Occupancy Licence(s).	Contractor	Construction Pre-construction
23	Adequate information shall be provided to stakeholders and the community for full and partial closures of Railway Terrace to accommodate construction work, including advanced notification, appropriate wayfinding and directional signage along detour routes. A notification strategy shall be included within the CLMP.	Contractor	Pre-construction Construction
24	The opportunity to provide shared electric bicycle parking at Lewisham Station shall be explored during detailed design.	Contractor	Detailed design
25	Advance notification will be provided to nearby emergency services of any temporary road closures, including details of available detour routes in accordance with the CLMP.	Contractor	Pre-construction Construction
26	Provision of temporary bicycle parking on both sides of the corridor and pick-up/drop-off locations on Thomas Street during the construction period will be explored and implemented where feasible.	Contractor	Detailed design
27	The community will be notified in advance of proposed transport network changes through appropriate media and other appropriate forms of community liaison, in accordance with the CLMP.	Contractor	Pre-construction Construction
28	Construction methodology/scheduling shall minimise the closure of the underpass wherever possible. Reasonable safe alternative access across the corridor during periods of underpass closure will be provided and options to achieve this will be investigated during detailed design.	Contractor	Detailed design

No.	Mitigation Measure	Responsibility	Timing
29	The opportunity to bring lighting of the pathway between Thomas Street and West Street forward in the program, to be utilised as a pedestrian diversion during underpass closures, will be investigated during detailed design.	Contractor	Detailed design
30	Construction traffic routes including weight and height restrictions, and measures to mitigate impacts to school zones during school zone hours, will be investigated during detailed design.	Contractor	Detailed design
31	Opportunities to improve active transport links and safety of active transport users shall be explored during detailed design.	Contractor	Detailed design
32	A pedestrian crossing on Railway Terrace would be investigated during detailed design. Where pedestrian crossings are proposed, a warrant assessment may be required to determine whether the pedestrian crossing is justified and necessary.	Contractor	Detailed design

6.2 Landscape character and visual amenity

6.2.1 Methodology

The potential landscape character and visual amenity impacts that may occur during construction and operation of the Proposal have been assessed as part of the Landscape Character and Visual Impact Assessment (LCVIA) (AECOM, 2024c).

The following activities were carried out as part of the LCVIA:

- contextual analysis – analysis of the regional and local context in which the Proposal is located through a desktop assessment to inform a site inspection and a description of the existing environment, including the identification of Landscape Character Zones (LCZs)
- landscape character impact assessment – evaluation of the impact of the Proposal on the LCZs within the study area. Potential changes to landscape character generated by the Proposal during operation have been assessed in detail
- visual impact assessment – evaluation of the existing viewpoints and visual amenity surrounding the Proposal to identify and assess possible impacts placed on the community by the Proposal during operation
- a high-level assessment of landscape character and visual changes during construction
- mitigation of impact – development of mitigation measures to reduce adverse impacts as a result of the Proposal.

A study area comprising a 300 metres radius from the centre of the Proposal was used to determine the LCZs and viewpoints used for the assessment. Following a site inspection on 7 November 2024, ten viewpoints were chosen to represent the change in views from publicly accessible areas due to the Proposal. Photographs of the view from each viewpoint were used to assist in providing a baseline from which to assess changes arising from the Proposal. A photomontage was produced to illustrate the proposed changes from key viewpoints, selected during the desktop assessment as viewpoints from which the largest visual effects would potentially be seen.

The consideration of potential impact of the Proposal on landscape character has been determined based on the existing landscape’s sensitivity to change, and the magnitude of change that is likely to occur.

The evaluation of potential effects on visual amenity has been based on the sensitivity to change of the viewpoint (and the visual receptors it represents), and the magnitude of change from the Proposal that is likely to occur.

The sensitivity and magnitude for landscape and visual effects have been assessed and graded as being High, Moderate, Low or Negligible. The Landscape Character and Visual Impact Grading Matrix in Table 6-2 was then used to combine the ratings for sensitivity and magnitude to determine an overall 'Significance of Effects' finding of High, High to Moderate, Moderate, Moderate to Low, Low or Negligible in relation to the existing environment. Overall impact ratings of High and High to Moderate are considered to be significant.

Table 6-2: Landscape Character and Visual Impact Grading Matrix

	Magnitude				
		High	Moderate	Low	Negligible
Sensitivity	High	High	High to moderate	Moderate	Negligible
	Moderate	High to Moderate	Moderate	Moderate to Low	Negligible
	Low	Moderate	Moderate to Low	Low	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

**Source: GLVIA3 and Environmental Impacts Assessment Practice Note – Guideline for Landscape Character and Visual Impact Assessment EIA-N04 (Transport for NSW, 2020)*

Following on from the assessment of impact on the landscape and visual resource, mitigation measures have been developed aimed at reducing or avoiding adverse impacts of the Proposal on identified sensitive visual receptors.

6.2.2 Existing environment

Lewisham Station is a small suburban station, comprising two island platforms separated by tracks. The platforms currently have no buildings but include two long canopies which provide weather protection to customers. The platforms are accessed via an underpass and stairs, limiting accessibility. The station and tracks within the rail corridor lie at the approximate level of Thomas Street within the landscape to the north but are elevated above the Railway Terrace streetscape and urban landscape to the south. A brick retaining wall mitigates this level change along the southern edge of the station.

Elevation in the surrounding area ranges between one and 40 metres Australian Height Datum (AHD). The landform is gently undulating and typically higher in elevation to the east and south. The railway is generally in an east-west alignment along a ridgeline, which extends to the northwest from a high point to the south-east of the study area boundary.

The study area primarily comprises land within land use zones SP2 (Rail Infrastructure Facilities, Community Facilities and Educational Establishments), and R2 Low Density Residential. The Proposal predominantly lies within the SP2 Rail Infrastructure Facilities land use zone but extends into R2 Low Density Residential.

Vegetation cover within the study area predominantly comprises vegetation planted within streetscapes, private property and parks. Street trees in the surrounding landscape are typically native.

Heritage items within the LCVIA study area include:

- Lewisham Railway Substation (LEP# I1167, S170 #4803260)
- two-storey Federation Queen Anne style residence, 17 Railway Terrace (LEP# I1176)
- Former Lewisham Hospital, Convent and grounds (including interiors), 1 Thomas Street and 2B and 2C West Street (LEP #I1181)
- Victorian style villa (including interiors), 36 Thomas Street (LEP #I1183)

- Petersham Park including park and stone boundary walls, pergolas and memorial gates, 2 Station Street (LEP #I1399).

Heritage Conservation Areas within the LCVIA study area include:

- Lewisham Estate Heritage Conservation Area (#C61)
- Petersham North Heritage Conservation Area (#C79).

Archaeological sites within the LCVIA study area include:

- Former Petersham Cemetery Archaeological site (#A11)
- Sydenham House Archaeological site, 67–77 New Canterbury Road & 31 Gordon Street (#A22).

Landscape character zones

Six LCZ have been identified as part of the LCVIA, which are summarised in Table 6-3 and shown on Figure 6-3.

Table 6-3: Landscape character zones

Landscape character zones	Description
LCZ1 – Rail Corridor 	Due to differences in ground level, the Rail Corridor LCZ is higher than the built environment along Railway Terrace and is mitigated by batters and retaining walls. However, it is generally at a similar level to Thomas Street. The Rail Corridor is zoned as SP2 Infrastructure - Rail Infrastructure Facilities. The station is accessed from Thomas Street and Railway Terrace by stairs to an underpass which facilitates pedestrian movement to Platforms 1 and 2 and across the rail corridor. Bridges over the rail corridor and rail bridges over roads and drainage lines facilitate movement across the corridor and mitigate level changes. Views of the station from the surrounding areas are largely limited due to vegetation, fencing, or differences in ground level. Additional facilities associated with the station include an informal kiss and ride at Thomas Street station entrance and bicycle hoops and/or racks at both Thomas Street and Victoria Street entrances. Canopies are also present at both station entrances.
LCZ2 – Church Campus 	The Church Campus LCZ is located to the north of Lewisham Station, bounded by Thomas Street on its western boundary, West Street on its eastern boundary and the rail corridor to the south. It comprises a collection of large religious and community buildings including the Church of Saint Thomas, Maternal Heart of Mary Catholic Church, and several associated school, medical and healthcare buildings. The buildings are set within land zoned SP2 Infrastructure - Educational Establishments and Community Facilities and have a campus-style arrangement, with internal gardens, driveways and walkways.
LCZ 3 – Parks and Recreation	The Parks and Recreation LCZ comprises of a range of different types of recreational parks, including Petersham Park and Cadigal Reserve, within land typically zoned R1 General

Landscape character zones	Description
	Residential. Typically, this LCZ is flat to gently undulating. It is characterised by larger areas of soft landscaping, including open lawns for recreation, planted beds and avenues, and tracts of bushland. These areas often include drainage corridors, in this case Cadigal Reserve includes the Hawthorne Canal. This LCZ includes opportunities for active and passive recreation. This LCZ includes heritage items, comprising Petersham Park (listed as an item of local heritage significance), and Hawthorne Canal, which is a state heritage listed item. Mature <i>Phoenix canariensis</i> palms feature within Petersham Park, which are characteristic of civic spaces within the Inner West of Sydney (including along the railway corridor at Lewisham Station).
LCZ 4 – Low Density Residential 	The Low Density Residential LCZ is the most represented LCZ within the study area, occurring across large areas to the north and south of the railway corridor on land typically zoned R2 Low Density Residential. The LCZ comprises single and two-storey housing, featuring traditional architectural styles. The density of residential development is slightly higher where it lies closer to commercial areas and the station. The streets typically comprise one lane travelling in each direction, with parking provision on either side of the street, and are lined with mature street trees. Views toward the station from this LCZ are largely limited due to vegetation, fencing, or differences in ground level.
LCZ 5 – High Density Residential 	The High Density Residential LCZ comprises of areas of high-density residential apartment buildings typically zoned R4 High Density Residential and is located southwest of the rail corridor off Railway Terrace. Multi-storey apartment blocks within the study area comprise a mix of newer and older developments. Parking is typically beneath or adjacent to the apartment blocks, which have a similar setback from the street and have landscaped front gardens.
LCZ 6 – Commercial 	The Commercial LCZ is comprised of a small cluster of development near the Railway Terrace entry to the station comprising retail shops (such as the Lewisham Convenience Store) and cafes (such as Maia Speciality). Built form comprises terrace-style shop-top buildings, with space for commercial enterprises at street level, and shop-top housing above, some of which are unoccupied and the building stock in need of repair and maintenance. Land use zoning typically comprises E1 Local Centre, with some areas zoned R4 High Density Residential.

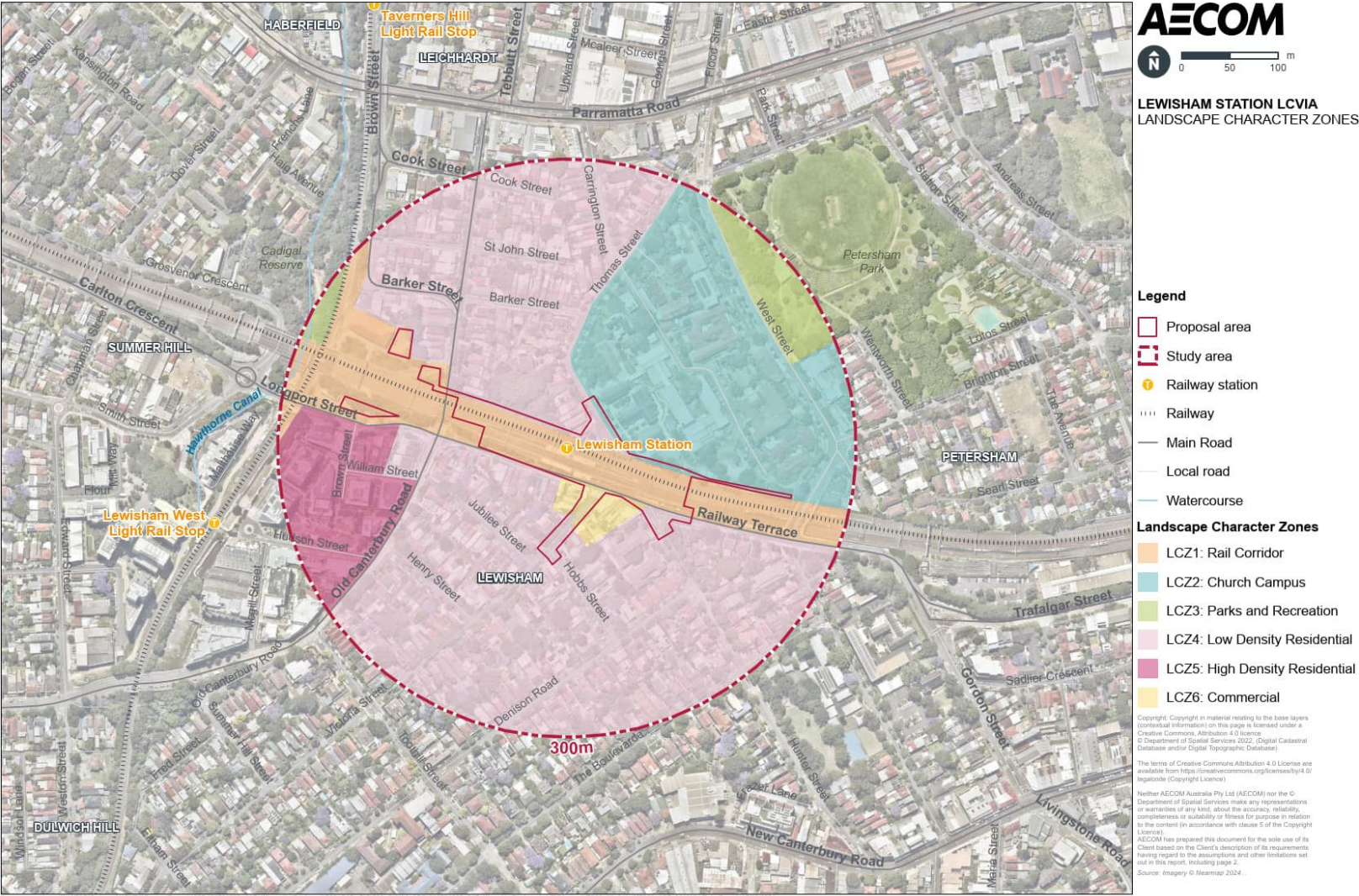


Figure 6-3: Landscape character zones within the study area

Viewpoints

Ten viewpoints were chosen to represent the change in views from publicly accessible areas due to the Proposal, as shown in Figure 6-4 and summarised in Table 6-4.

Table 6-4: Existing viewpoints

Viewpoint	Description
Viewpoint 1 – Intersection of Longport Street and Brown Street 	This viewpoint is from the western side of the intersection of Longport Street and Brown Street and includes the Longport Street road corridor comprised of one lane travelling in each direction, street parking to the north and a bicycle lane to the south. The road corridor is bound by the fenced rail corridor and its associated vegetation to the north and a pedestrian footpath, street trees and residential development to the south.
Viewpoint 2 – Lewisham Station Platform 2 	This viewpoint is from Platform 2 looking north toward Platform 1 and includes the platform pavements with TGSIs, signage, benches, an amenity garden bed and canopies. The rail lines separate the two platforms and overhead wiring, gantries and lighting associated with the station are also visible. Behind Platform 1 a backdrop of tall street trees and roofs of buildings on Thomas Street are visible.
Viewpoint 3 – 43 Railway Terrace 	This viewpoint is from residential housing on Railway Terrace towards the station entry. This viewpoint includes the Railway Terrace road corridor comprised of one lane travelling in each direction. The road corridor is bound by the station's retaining wall to the north and a pedestrian footpath and tall fencing screening terrace housing to the south.
Viewpoint 4 – 1/3 Victoria Street 	This viewpoint is from Victoria Street looking north toward the southern station entry. This viewpoint includes the Victoria Street corridor comprised of one lane travelling in each direction as well as street parking to the east and west. The corridor is bound by pedestrian footpaths, commercial enterprises and terraced housing to the east and west. To the north the Victoria Street pedestrian crossing is visible, followed by the station's retaining wall. Behind the station a backdrop of street trees and buildings along Thomas Street are visible.
Viewpoint 5 – Intersection of Victoria Street and Railway Terrace 	This viewpoint is from the T-intersection of Victoria Street and Railway Terrace and includes both road corridors which have one lane travelling in each direction. The west of the viewpoint includes the pedestrian crossing, Railway Terrace shop-top buildings with canopies and the Lewisham Station entrance. To the north is

Viewpoint	Description
	the station's retaining wall, fencing and rail corridor.
Viewpoint 6 – Bus Stop on Railway Terrace 	The viewpoint is from the Bus Stop on Railway Terrace and includes the Railway Terrace road corridor comprised of one lane travelling in each direction. The road corridor is bound by pedestrian footpaths on either side. Along the southern pedestrian footpath is the bus stop, associated signage, TGSIs, ground cover and shrub species screening residential housing. To the north is ground cover, shrub species and fencing that screens the rail corridor.
Viewpoint 7 – Church of Saint Thomas 	This viewpoint is looking west from the cul-de-sac adjacent to the rail corridor along Thomas Street and includes the Thomas Street station forecourt, bicycle hoops, informal kiss and ride, seven trees within the Thomas Street forecourt as well as ground cover and shrub species. Terrace residential housing and associated fencing is also visible to the west.
Viewpoint 8 – 54 Thomas Street 	The viewpoint is looking east to Thomas Street and buildings. The view from the residence would primarily face east towards the street, however, some upper windows of the residential apartment block may have views south towards the station entry, or south-west across the rail corridor. Views from the lower areas of the residence are unlikely due to tall boundary fencing. The view comprises the footpath and road pavement of the street at the southern end of Thomas Street, two large church buildings and accompanying landscaping, blocking views east beyond these buildings.
Viewpoint 9 – 40 Thomas Street 	This viewpoint is looking toward Thomas Street and the station. This viewpoint includes the Thomas Street road corridor with one lane travelling in each direction and street parking on either side. Pedestrian footpaths, street trees and residential properties are on either side of the road corridor. Some of the seven trees within the Thomas Street forecourt are also visible in the backdrop.
Viewpoint 10 – 49 Old Canterbury Road	This viewpoint is looking south-east along Old Canterbury Road. This viewpoint includes the road corridor of Old Canterbury Road, comprised of two lanes

Viewpoint	Description
	travelling south and one lane travelling west as well as the Old Canterbury Road Underbridge. The road corridor is bound by pedestrian footpaths on either side, street trees and residential properties.



Figure 6-4: Representative viewpoints for visual impact assessment

6.2.3 Potential impacts

Construction

Visual amenity impact

Key visual receptors of the Proposal would include rail customers at or travelling past the station, commuters and passers-by on nearby roads (pedestrians, cyclists, motorists), workers or visitors to the nearby business

enterprises to the south of the station and community facilities such as the Church of Saint Thomas to the north of the station, and residents in adjacent streets to the station to the north and south.

Rail customers and passers-by would have a lower sensitivity to change due to their limited exposure to the changes. The most sensitive receptors include those who would perceive changes for longer periods of time during construction. This would include residents on Thomas Street, Railway Terrace, Victoria Street, and Hunter Street, as well as occupants and visitors to nearby commercial enterprises and places of worship.

During construction, elements contributing to visual impacts would include traffic control, vehicles and machinery, survey work, temporary fencing, noise barriers, pedestrian diversions, construction of four lifts, extension of the existing canopies on the station platforms, construction of new canopies outside the rail corridor, tree removal and relocation, upgrading of footpaths/kerbs/parking, and the temporary ancillary facilities (located at Alfred Street, Longport Street, and Thomas Street). Further, construction activity visible within the surrounding landscape would include an increase in traffic on the local road network associated with construction vehicle movements. Construction on the station platforms would be less visible to receptors in surrounding properties than the construction activities at the station entrances but would be visible to those using the station and on the trains.

The majority of visual receptors would have a low sensitivity to the changes (being passers-by and rail customers). There would be a limited number of visual receptors that would have a higher sensitivity to the changes (residents and those at commercial enterprises). Overall, views to the construction ancillary facilities and other construction activity due to the Proposal would be temporary and impacts are considered to be relatively minor. As such, significant construction impacts are not anticipated.

Operation

Landscape character impact

The LCVIA has assessed the operation of the Proposal, and it is anticipated to result in a reduction in the landscape character of the station and its surrounds. Table 6-5 provides a summary of the landscape character impacts during the operation of the Proposal.

Table 6-5: Landscape character impact assessment ratings during operation

LCZ	Sensitivity	Magnitude	Overall impact
LCZ 1 – Rail Corridor	Moderate	Moderate	Moderate (beneficial) The proposed changes predominantly include the upgrade of existing rail infrastructure which would not result in an overall change to the character of the LCZ. While the new station infrastructure would be more dominant than the existing arrangement, the infrastructure upgrades proposed enhance the station's functionality, safety, and accessibility within the landscape. The upgrade of the station infrastructure would result in the overall modernisation of rail infrastructure and raise the legibility of the station as a wayfinding outcome of the Proposal. As such, the changes are considered to be largely beneficial within the LCZ, particularly due to the upgrade of infrastructure.
LCZ 2 – Church Campus	Moderate	Low	Moderate to low (neutral) The proposed changes along the boundary of the LCZ would occur within a small portion of the overall LCZ. The proposed changes would be in keeping with the character of the existing station interface and would not have a significant effect on the overall character of the LCZ. The changes would not alter the quality of the LCZ but would increase the safety and functionality of the station within the adjoining LCZ and its surrounds.
LCZ 3 – Parks and Recreation	Negligible	Negligible	Negligible

LCZ	Sensitivity	Magnitude	Overall impact
			Given the distance of the Proposal to the LCZ, the sensitivity of the LCZ to the Proposal is considered to be negligible. There would be no effect on landscape character of the LCZ due to the Proposal.
LCZ 4 – Low Density Residential	Moderate	Low	Moderate to low (neutral) The proposed changes within and on the boundary of the LCZ would be limited to a small area and do not introduce additional station entries within the overall LCZ. The changes would increase the prominence of the entry to the station. This would not affect the character of the residential neighbourhood. The upgrade to modernised station infrastructure at Thomas Street station forecourt would result in localised improvements to the quality of a small area of the LCZ but would not alter the overall quality of the LCZ. The changes would increase the safety and functionality of the station within the landscape.
LCZ 5 – High Density Residential	Low	Low	Low (neutral) Proposal elements would not be introduced directly within this LCZ and would not change the overall character or quality of the LCZ.
LCZ 6 – Commercial	High	High	High (beneficial) The proposed changes within the LCZ would predominantly comprise the addition of the lift, the expansion of the canopy, and the overall upgrade of the public domain outside the station entry. The changes would be considered beneficial as they include the replacement and upgrade of existing damaged and/or poorly-functioning infrastructure, improving the quality of the landscape character. The upgrade may have a flow-on effect to the surrounding built form and commercial enterprises.

Of the six zones identified, only one zone (LCZ 6: Commercial) would have a substantial level of change to the landscape character, having a rating of high for both sensitivity and magnitude of change. The high rating is attributed to the heritage value and small size of the LCZ. It is noted, however, that the change in landscape character would be beneficial, largely due to the replacement of damaged or vandalised infrastructure and the increase in legibility of the station entry within the landscape, that would have a positive effect on character. The heritage items and Heritage Conservation Area in proximity to the station contribute to raised sensitivity results within LCZs 1, 2, 4 and 6.

Overall, it is considered that the Proposal would have a moderate (neutral) effect on landscape character.

Visual amenity impact

Table 6-6 provides a summary of operational impacts to the identified viewpoints. Indicative photomontages of the Proposal from Viewpoints 4, 5 and 7 are provided in Figure 6-5 to Figure 6-10 (subject to detailed design).

Table 6-6: Operational impacts to viewpoints

Viewpoint	Approximate distance from Proposal*	Description
Viewpoint 1 – Intersection of Longport Street and Brown Street	250 m	Sensitivity: Moderate Magnitude: Low Impact: Moderate to low neutral The Proposal results in the addition of a small piece of electrical infrastructure within an existing rail corridor. The changes would comprise a very small portion of the overall view and be seen from across a busy road. The 'neutral' qualitative rating is due to the visually recessive nature of the changes within the greater view and the addition of rail infrastructure within an

Viewpoint	Approximate distance from Proposal*	Description
Viewpoint 2 – Lewisham Station Platform 2	0 m	existing rail corridor. The changes neither add nor subtract from the quality of the existing view from this viewpoint. Sensitivity: Low Magnitude: High Impact: Moderate neutral The proposed changes comprise of larger but necessary upgrades that sit within the usability and aesthetic of the viewpoint. The sensitivity rating of the viewpoint resulted from the industrial, utilitarian look that is already dominating the view. The changes would be at a large scale but the usability of the infrastructure outweighs the magnitude of change. The upgraded amenities for the station are necessary and are part of an ongoing process of development within stations. The inclusion of a station building on the platform would reduce the visual permeability of the station, both screening views to the landscape surrounding the station, and reducing the range of views along the platforms for those using the station. This may have an impact on how 'safe' those on the platforms feel when waiting for a train and should be considered in detailed design.
Viewpoint 3 – 43 Railway Terrace	45 m	Sensitivity: Low Magnitude: Low Impact: Low neutral The proposed changes would visually comprise an upgrade of existing rail infrastructure and the installation of some elements seen within the middle to background of the view. The view would remain characteristically unchanged, with dominant features such as the retaining wall unchanged. It is noted that the retaining wall has been identified as an opportunity for the introduction of public artwork, potentially as part of the Connecting with Country scope of work or as part of the UDLP within the detailed design phase. This has the potential to provide a beneficial outcome to the quality of the view from this viewpoint.
Viewpoint 4 – 1/3 Victoria Street	60 m	Sensitivity: Moderate Magnitude: Moderate Impact: Moderate beneficial The proposed visual changes comprise the modernisation of rail infrastructure, better legibility around the station entrance, and the upgrade of the streetscape, including the canopy of existing buildings at the rail entrance. It is considered that these changes would be appropriate given their necessity and that the upgrade of station infrastructure is considered a normal and ongoing process. While the structures would be more visually dominant and modern, they would benefit the aesthetic of the streetscape, particularly the upgrade of damaged canopies and vandalised rail infrastructure. Refer to Figure 6-5 and Figure 6-6 for the existing view and photomontage of Viewpoint 4.
Viewpoint 5 – Intersection of Victoria Street and Railway Terrace	45 m	Sensitivity: Moderate Magnitude: High Impact: High to moderate beneficial While many of the proposed changes result in the upgrade of existing elements within the view, the addition of lifts and replacement of canopy at the station entry would raise the legibility of the station entry within the streetscape. This in turn creates an entry statement to the station, contributing to wayfinding within the greater landscape. The upgrade of elements, replacement of ageing, poorly functioning infrastructure (namely the canopies on the corner of Victoria Street) with modern upgrades and the prioritisation of pedestrian movement, all contribute to an overall increase in the quality to the view.

Viewpoint	Approximate distance from Proposal*	Description
		The retaining wall has been identified as an opportunity for the introduction of public artwork, potentially as part of the Connecting with Country scope of work and would be explored as part of the UDLP within the detailed design phase. This would increase the legibility of the station entry and would be an additional beneficial outcome to the quality of the view. Refer to Figure 6-7 and Figure 6-8 for the existing view and photomontage of Viewpoint 5.
Viewpoint 6 – Bus Stop on Railway Terrace	50 m	Sensitivity: Low Magnitude: Moderate Impact: Moderate to low neutral The proposed changes would be an upgrade to existing rail infrastructure with the changes comprising of a more accessible and safe additional entry way and lifts, although with the larger elements seen in the distance. These changes would be considered appropriate given the proportional scale of the proposed entry in relation to the surrounding environment. The changes would have no effect on the quality of the view.
Viewpoint 7 – Church of Saint Thomas	50 m	Sensitivity: Moderate Magnitude: High Impact: High to moderate beneficial The changes would be seen across most of the view, the existing view includes urban and utilitarian features which would remain. The quantity and extent of station entry infrastructure would increase within the view (including the addition of a lift and canopy which are larger than existing structures). This would create a more visually prominent station entry; however, old or damaged infrastructure would be updated and result in an aesthetically beneficial outcome. The increase in planting with the addition of a planted area beneath the relocated palm and the proposed landscaped area in proximity to the lift, would visually soften the hardscape elements within the view. Refer to Figure 6-9 and Figure 6-10 for the existing view and photomontage of Viewpoint 7.
Viewpoint 8 – 54 Thomas Street	0 m	Sensitivity: High Magnitude: Moderate Impact: High to moderate neutral The changes would be in close proximity to the residence, but only clearly visible from some areas within the property. The quantity and extent of station entry infrastructure would increase within the view (particularly from upper windows of the residence and including the addition of a lift and canopy which are larger than existing structures), creating a more visually prominent station entry. It is possible that the proposed station building would be seen from upper windows of the rear of the residence. The large, paved forecourt of the station entry would be replaced with a view of the new roof / canopy of the station entry. The addition of a tree to the station forecourt at Thomas Street would soften views to the station entry canopy/infrastructure and rail corridor from this residence. This would result in a minor change to the quality of this view, and providing the roofing did not add glare within the view, would increase the privacy to these windows by blocking views from the end of Thomas Street to the apartment block at close proximity.
Viewpoint 9 – 40 Thomas Street	125 m	Sensitivity: Low Magnitude: Low Impact: Low beneficial The proposed changes would be difficult to see and comprise a small change to a small portion of the view. The addition of a tree to the station forecourt at Thomas Street would soften views to the rail corridor and the rail infrastructure, which results in a beneficial outcome to the quality of the view.

Viewpoint	Approximate distance from Proposal*	Description
Viewpoint 10 – 49 Old Canterbury Road	150 m	Sensitivity: Moderate Magnitude: Low Impact: Moderate to low adverse The proposed changes would comprise the installation of a new transformer within the rail corridor. These changes are considered characteristically appropriate given the location and would be somewhat visually recessive, particularly as transformers within the rail corridor are typically dark green (similar to that seen on Longport Street on the other side of the rail corridor). The ‘adverse’ qualitative rating is due to the slight increase in rail infrastructure positioned within the rail corridor but next to a residential area. The change would be visually recessive and be difficult to see from residential properties due to the angle of viewing and surrounding built form.

**Distance is measured between the viewpoint to the nearest proposed lift, structure or landscaping change (e.g. tree removal) as these are considered to be the most visually prominent proposed changes at operation.*



Figure 6-5: Existing Viewpoint 4 looking north toward Victoria Street station entry (source: AECOM)



Figure 6-6: Photomontage of Viewpoint 4 showing the proposed changes to the existing view (Source: AECOM)



Figure 6-7: Existing Viewpoint 5 from the East Corner of Victoria Street and Railway Terrace facing West (Source: AECOM)



Figure 6-8: Photomontage of Viewpoint 5 showing the proposed changes to the existing view (Source: AECOM)



Figure 6-9: Existing Viewpoint 7 from the Church of Saint Thomas facing Lewisham Station (Source: AECOM)



Figure 6-10: Photomontage of Viewpoint 7 showing the Proposal as it would be seen from Viewpoint 7 (Source: AECOM)

6.2.4 Mitigation measures

Standard mitigation measures outlined in Section 7.2 would be implemented to minimise the level of visual impact during the design development, construction and operation phases of the Proposal.

6.3 Noise and vibration

6.3.1 Methodology

The potential noise and vibration impacts during construction and operation of the Proposal have been assessed as part of the Noise and Vibration Impact Assessment (NVIA) (AECOM, 2024d). The assessment has been undertaken by suitably qualified professionals and in accordance with Transport's *EMF-NV-GD-0060 Construction Noise and Vibration Guideline (Public Transport Infrastructure)* (CNVG-PTI) (Transport for NSW, 2023).

The noise and vibration assessment included:

- noise monitoring within and surrounding the Proposal area in November and December 2024
- defining noise catchment areas (NCAs) based on areas with similar land uses and locations
- determining criteria for the potential noise impacts from the Proposal based on the background noise levels measured during noise monitoring

- establishing construction noise management levels (NML) derived in accordance with the *Interim Construction Noise Guideline* (NSW Department of Environment and Climate Change, 2009)
- a quantitative assessment based on 'reasonable' worst-case construction scenarios in accordance with the ICNG. Noise levels resulting from construction activities have been predicted at nearby noise sensitive receivers using environmental noise modelling software SoundPLAN 8.2 and compared to the noise management levels.
- The following 'reasonable' worst-case construction scenarios were modelled:
 - compound operation – representative of a location outside of the main construction work area and unique equipment requirements
 - weekend rail possession 4 – representative of all weekend rail possessions due to similar equipment requirements and work area
 - weekend rail possession 10 – representative of a quieter weekend rail possession due to less equipment requirements
 - main work 5 – representative of all other main work construction stages
 - hi-rail access pads – representative of the closest hi-rail access pads proposed at Petersham Training College, Stanmore and Ashfield for movement of plant and equipment/materials, and removal of equipment/materials/spoil via rail, where not able to be removed from Railway Terrace or Thomas Street
- assessment of operational noise in accordance with the EPA's *NSW Noise Policy for Industry* (NPfI)
- assessment of potential vibration impacts using the CNVG-PTI minimum working distances for cosmetic damage and human comfort
- a qualitative assessment of potential noise impacts during operation of the Proposal.

6.3.2 Existing environment

Noise sensitive receivers

The existing acoustic environment at Lewisham Station is largely defined by light industrial and commercial sites, rail and road traffic noise. The station is surrounded by various noise sensitive receivers which could potentially be affected by the Proposal, including commercial, residential, places of worship and school facilities.

Residential receivers

The closest residential receivers are located to the south of the station along Railway Terrace, Hunter Street, Denison Road, Hobbs Street, Henry Street, Jubilee Street, Victoria Street, Old Canterbury Road and Longport Street, and to the north along Barker Street and Thomas Street, shown in Figure 6-11.

Non-residential receivers

The closest non-residential sensitive receivers to the Proposal are detailed in Table 6-7.

Table 6-7: Non-residential noise sensitive receivers

Non-residential receiver	Approximate distance from the Proposal (m)
Eileen O'Connor Catholic College	4
Church of Saint Thomas of Canterbury	10
Catholic Healthcare Lewisham Retirement Hostel	16
Catholic Healthcare Lewisham Nursing Home	56
The John Berne School	58
Maternal Heart of Mary Catholic Church	105



SAT - Lewisham Station - Land Use



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 Proposal Area	 Residential
Use	 Mixed Use
 Community	 Commercial
 Industrial	 Place of Worship
 Industrial/Utilities	 School
 Recreation	 Childcare

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Source: Neermap/2024

Figure 6-11: Noise sensitive receivers

Noise catchment areas

To assist in determining noise criteria for the receivers surrounding the Proposal, three NCAs were identified. The noise environment at each residential receiver within each NCA is considered to be similar. The NCAs are shown in Figure 6-12.

Noise monitoring

Long term unattended noise monitoring was conducted by placing noise loggers at three locations (shown in Figure 6-12) between 21 November 2024 and 3 December 2024. The results of the monitoring are included in Table 6-8. The measured existing noise levels are representative of receivers potentially most affected by the Proposal.

Table 6-8: Summary of unattended noise monitoring results

Noise monitoring location	Address	Existing background (L _{A90}) and ambient (L _{Aeq}) noise levels					
		Ambient noise levels			Background noise levels		
		Day ¹	Evening ¹	Night ¹	Day ¹	Evening ¹	Night ¹
L1	13 Barker Street, Lewisham	60	58	53	44	42	34
L2	59 Railway Terrace, Lewisham	65	65	62	53	49	34
L3	7 Henry Street, Lewisham	61	60	56	48	46	33

Notes:

¹ Day is defined as 7am to 6pm Monday to Saturday and 8am to 6pm Sundays and Public Holidays.

Evening is defined as 6pm to 10pm Monday to Sunday and Public Holidays.

Night is defined as 10pm to 7am Monday to Saturday and 10pm to 8am Sundays and Public Holidays.

Additionally, attended noise measurements were conducted at the three unattended monitoring locations on 21 November 2024 during the daytime. Each measurement was conducted over a 15-minute period. Weather conditions were fine and partly cloudy. The daytime measurements indicated that the residential receivers are generally affected by road traffic noise.



SAT - Lewisham Station - NCAs



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Source: Hearmap2024

- NCA
- Loggers

Figure 6-12: Noise catchment areas and noise monitoring locations

Heritage items

There are a number of heritage-listed items located within 100 metres of the Proposal listed in Schedule 5 of the Inner West LEP, the NSW TAM S170 Heritage and Conservation Register and/or the NSW State Heritage Register:

- St Thomas's Catholic Church, School and Presbytery, including interiors (LEP# I1182)
- Lewisham (Old Canterbury Road) Underbridge (LEP #I1173, NSW TAM S170 Heritage and Conservation Register #4801518)
- Two-storey Federation Queen Anne style residence (17 Railway Terrace) (LEP# I1176)
- Lewisham Estate Heritage Conservation Area (LEP #C61, various properties near Hunter Street and Victoria Street)
- Former Petersham Cemetery Archaeological Site (LEP #A11)
- Lewisham Railway Substation (LEP# I1167, S170 #4803260)
- Lewisham Railway viaducts over Long Cove Creek and Lewisham (Long Cove Creek) Underbridge (LEP# I1169, SHR #01043)
- Lewisham Sewerage Aqueduct (Sydney Water heritage asset #4570955) (LEP #I1170) (SHR #01326).

Further details on heritage-listed items are included in Section 6.5.2.

6.3.3 Potential impacts

Construction

Noise impacts during construction have been assessed at sensitive residential receivers during each construction noise modelling scenario outlined in Section 6.3.1. Impacts have been assessed based on the magnitude of exceedance of noise management levels (NML) identified for standard daytime hours and out of hours work periods.

The identified residential and non-residential receivers have been assessed against the standard hours and out-of-hours (night-time) NMLs. The level of impact may change depending on the final construction methodology and further assessment would be undertaken if required.

Compound operation, Weekend Rail Possession Periods 4 and 10, and Main Work 5 were all assessed during standard construction hours. Compound operation and Weekend Rail Possession periods 4 and 10 were also assessed during night-time hours to assess the noise impacts during rail possession periods. The hi-rail access pad scenario was assessed separately to the other construction scenarios as the locations of the hi-rail access pads were outside of the NCAs determined for the Proposal.

Residential receivers

The ICNG have been used to establish construction NMLs for residential receivers. The construction NMLs for residential receivers in each NCA are provided in Table 6-9.

Table 6-9: Noise catchment areas and construction noise management levels for residential receivers

NCA	Representative noise monitoring location	Period	Rating background level, dB(A)	Construction NML ¹
1	L1 - 13 Barker Street, Lewisham	Day	44	54 (49) ²
		Evening	42	47
		Night	34	39
2		Day	53	63 (58) ²

NCA	Representative noise monitoring location	Period	Rating background level, dB(A)	Construction NML ¹
3	L2 - 59 Railway Terrace, Lewisham	Evening	49	54
		Night	34	39
	L3 - 7 Henry Street, Lewisham	Day	48	58 (53) ²
		Evening	46	51
		Night	33	38

Notes:

1. Standard hours day noise management levels = RBL + 10 dB(A), out-of-hours (OOH) daytime/evening/night noise management levels = RBL + 5 dB(A)
2. Daytime OOH.

Table 6-10 and Table 6-11 present the construction noise modelling results for residential receivers and show the number of receivers where the construction NMLs are likely to be exceeded during standard hours and night-time hours respectively. The tables also present the number of receivers where noise levels are predicted to exceed the 'highly affected' level of greater than 75 dB(A).

Table 6-10: Number of residential receivers where noise levels may exceed NMLs during standard construction hours

Construction stage	Number of predicted noise affected residential receivers			
	Level of exceedance of NMLs during ICNG standard construction hours (DECC, 2009)			Highly affected
	1 – 10 dB(A)	11 – 20 dB(A)	> 20 dB(A)	> 75 dB(A)
NCA 1				
Compound operation	7	9	1	1
Weekend Rail Possession 4	21	9	3	3
Weekend Rail Possession 10	12	4	2	2
Main Work 5	21	9	3	3
NCA 2				
Compound operation	2	0	0	0
Weekend Rail Possession 4	4	19	0	17
Weekend Rail Possession 10	4	17	0	16
Main Work 5	4	19	0	17
NCA 3				
Compound operation	1	0	0	0
Weekend Rail Possession 4	17	7	2	2
Weekend Rail Possession 10	12	3	1	2
Main Work 5	17	7	2	2

Table 6-11: Number of residential receivers where noise levels may exceed NMLs during night-time work

Construction stage	Number of predicted noise affected residential receivers				
	Level of exceedance of NMLs outside of ICNG standard construction hours (night-time)				Highly affected
	1 – 5 dB(A)	6 – 15 dB(A)	16-25 dB(A)	> 25 dB(A)	> 75 dB(A)
NCA1					
Compound operation	16	26	7	10	1
Weekend Rail Possession 4	317	110	21	12	3
Weekend Rail Possession 10	113	49	12	6	2
NCA2					
Compound operation	4	30	4	1	0
Weekend Rail Possession 4	2	9	10	23	17
Weekend Rail Possession 10	1	12	8	21	16
NCA3					
Compound operation	44	13	3	0	0
Weekend Rail Possession 4	360	311	65	15	2
Weekend Rail Possession 10	239	188	23	10	2

Table 6-12 presents the number of residential receivers where noise levels may exceed NMLs during the night-time while the hi-rail access pads are being utilised for weekend rail possessions.

Table 6-12: Number of residential receivers where noise levels may exceed NMLs during night-time work at hi-rail access pads

Hi-rail access pad location	Number of residential receivers where noise levels may exceed NML across the Proposal area			
	Level of exceedance of NMLs outside of ICNG standard construction hours (night-time)			
	1 – 5 dB(A)	6 – 15 dB(A)	16 – 25 dB(A)	> 25 dB(A)
Ashfield	97	53	6	0
Petersham	142	129	8	0
Stanmore	203	159	0	0

The results show that construction noise levels are predicted to exceed the NMLs during both standard hours and (out-of-hours) night-time hours for all assessed construction scenarios. The largest number of total exceedances occur within:

- standard construction hours: NCA 1 during Weekend Rail Possession 4 and Main Work 5
- night-time work: NCA 3 during Weekend Rail Possession 4.

Residential receivers on Thomas Street, Railway Terrace, and Hunter Street are predicted to be ‘highly affected’ by noise impacts during standard and night-time hours for all construction scenarios except the hi-rail access pad scenario. The largest number of ‘highly affected’ residential receivers are predicted within NCA 2 during Weekend Rail Possession 4 and Main Work 5.

The largest number of NML exceedances during the use of the hi-rail access pads are predicted to occur around the Stanmore hi-rail access pad location during night-time work due to the higher density of residential receivers located near the railway corridor and hi-rail access pad in this location, compared to the hi-rail access locations at Ashfield and Petersham Training College.

The ICNG states additional consideration for mitigation should be afforded for ‘highly noise affected’ receivers. These receivers would receive additional consultation with regards to specific timing and impacts of construction work. Respite periods would also be considered for these receivers in accordance with the ICNG. It is anticipated that night-time work during weekend rail possession periods would not be undertaken for more than two consecutive nights. Feasible and reasonable mitigation measures would be detailed in a Construction Noise and Vibration Management Plan (CNVMP) for the Proposal (refer to Section 7.2).

Non-residential receivers

The ICNG have been used to establish construction NMLs for non-residential sensitive land uses, such as schools, hospitals or places of worship. The construction NMLs for residential receivers in each NCA are provided in Table 6-13.

Table 6-13: Noise catchment areas and construction noise management levels for residential receivers

Land use	Construction noise management level, $L_{Aeq}(15 \text{ min})$
Education (classrooms at schools and other educational institutions)	Internal noise level 45 dB(A)
Places of worship	Internal noise level 45 dB(A)
Active recreation areas (characterised by sporting activities and activities which generate their own noise or focus for participants, making them less sensitive to external noise intrusion)	External noise level 65 dB(A)
Passive recreation areas (characterised by contemplative activities that generate little noise and where benefits are compromised by external noise intrusion, for example, reading, meditation)	External noise level 60 dB(A)
Community centres	Recommended “maximum” internal levels in <i>AS/NZS 2107: 2016 Acoustics for Building Interiors</i> (Standards Australia, 2016) for specific uses, depending on use of the centre.
Industrial premises	External noise level 75 dB(A)
Offices, retail outlets	External noise level 70 dB(A)

Table 6-14 presents the construction noise modelling results for non-residential receivers and shows the number of receivers where the NMLs are likely to be exceeded during the receivers’ hours of use.

Table 6-14: Number of non-residential receivers where noise levels may exceed NMLs when in use

Construction stage	Number of non-residential receivers where noise levels may exceed NML across the Proposal area		
	1 – 10 dB(A)	11 – 20 dB(A)	> 20 dB(A)
Compound operation	1	3	0
Weekend Rail Possession 4	0	1	3
Weekend Rail Possession 10	1	2	1
Main Work 5	0	1	3

The results show that construction activities are expected to exceed the NMLs at a number of non-residential receivers for the assessed scenarios. Three non-residential buildings within Eileen O'Connor Catholic College, The John Berne School and the Church of Saint Thomas of Canterbury are predicted to experience NML exceedances greater than 20 dB(A) during Weekend Rail Possession 4 and Main Work 5. Although the commercial receivers near the intersection of Railway Terrace and Victoria Street are not considered highly sensitive noise receivers, they may experience noise levels up to 10 dB(A) above their NMLs.

Sleep disturbance

The majority of construction activities, including particularly noisy activities, would be undertaken during the day wherever feasible and reasonable, however some night-time work would be required. This includes work undertaken during weekend rail possessions, use of the hi-rail access pads, minor road work under a ROL and any work (such as geotechnical investigation, surveys and excavation activities) that may occur during mid-week possessions (Monday to Thursday between midnight and 4.00am).

A sleep disturbance assessment was undertaken to assess the potential impact of night-time work on sleep disturbance.

A large number of exceedances of the sleep disturbance screening criteria, particularly in NCA 3, have been predicted due to the night-time construction work associated with the Proposal. Exceedances of the awakening reaction screening criterion have also been predicted at several receivers. These exceedances are attributed to the close proximity of the construction site to the residences. Given the number of sleep disturbance exceedances, an effective communication plan and noise management measures must be developed during detailed design to minimise the impacts upon affected residential receivers (refer to Section 7.2).

Construction traffic noise

The worst-case additional construction traffic on the roads used by construction traffic during non-possession periods would have a minor impact on existing road traffic noise levels at residential receivers, where traffic noise levels are not expected to increase by more than two dB(A) during construction.

During weekend rail possession periods, the additional construction traffic, comprising a maximum of 15 heavy vehicles on Thomas Street and Henry Street, and 10 heavy vehicles on Railway Avenue (for access to the Stanmore hi-rail access pad), would have a noticeable impact on existing road traffic noise levels at residential receivers during the night-time. The increase in traffic noise at residential receivers would be greater than two dB(A) during the night-time, but less than two dB(A) during the daytime.

To minimise the construction traffic noise levels at residential receivers on Thomas Street, Henry Street and Railway Avenue, construction traffic management would be considered as part of the CNVMP (refer to Section 7.2).

Cumulative construction noise

While most construction activities are expected to occur at distinct scheduled times and at different locations, it is possible that construction activities for the Proposal may occur at the same time, such as the use of hi-rail access pads and weekend rail possession work. Since the activities undertaken at the hi-rail pads are quieter and quite a distance away from the Proposal area, it is unlikely that the cumulative noise impacts would result in more than a three dB(A) increase in the highest noise level predicted for the weekend rail possession work and therefore any increase is not expected to create any further exceedances in the NMLs. Overlapping construction stages and identification of receivers subject to increased noise levels would be determined during detailed design. Additional mitigation measures would also be identified during detailed design if required.

Construction vibration

Vibration during construction has the potential to cause damage to structures and disrupt human comfort. Vibration intensive work associated with the Proposal may include the use of vibratory rollers, jackhammers and bored piling rigs. Recommended safe working distances for these vibration intensive plant have been

determined in line with the CNVG-PTI. If the minimum working distances are complied with, no adverse impacts from vibration intensive work are likely in terms of human response or cosmetic damage to buildings.

The closest residential and commercial receivers are less than two metres from the Proposal, including residential receivers on Thomas Street and commercial receivers on Railway Terrace/Victoria Street. Several of the commercial enterprises on Victoria Street are located within the Lewisham Estate Heritage Conservation Area. Building condition surveys of sensitive heritage structures would be completed before construction work begins. Opportunities to utilise lowest vibration level equipment would be explored.

Mitigation measures to control excessive vibration during construction would need to be implemented, as outlined in Section 7.2, if vibration intensive work is required within the minimum working distances set out in the NVIA.

Operation

Operational noise

The assessment has considered intrusive noise impacts and the protection of noise amenity during operation of the Proposal, in accordance with the EPA's NPfI.

The Proposal would introduce new operational components within the station; however, these components are not anticipated to generate significant noise emissions and would be expected to comply with the most stringent project specific noise criteria at night-time. The predicted noise levels at the closest residential receivers to the new padmount and kiosk substation (54 Old Canterbury Road and 3 Longport Street) are also predicted to comply with the most stringent project-specific noise criteria at night-time. Operational noise emissions would be considered during detailed design to ensure compliance with operational noise criteria as per the NPfI.

Operational road traffic noise

The Proposal would introduce a one-way travel lane on Victoria Street and the consequent diversion of vehicles from Victoria Street to other access routes. To determine the potential impact of the operational traffic noise arising from the Proposal as a result of the diverted vehicle access routes from Victoria Street, future road traffic noise levels have been modelled at the most affected residential receivers on Denison Road, Henry Street, Hobbs Street, and Hunter Street.

The assessment has been undertaken in accordance with the *NSW Road Noise Policy* (DECC, 2011) (RNP) and considers two scenarios, the 'no-build' option (without the Proposal) and the 'build' option (with the Proposal) for the 'Year of Opening' (2027).

Overall, road traffic noise levels were predicted to be higher in the 'build' scenario compared to noise levels predicted in the 'no build' scenario, attributed to the increase in traffic as a result of the permanent diversion of traffic from Victoria Street onto the adjacent local roads. The noise levels are predicted to increase by more than two dB(A) for the 'build' scenario at some residential receivers on Hobbs Street during the daytime and night-time; however, the overall 'build' noise levels at receivers would remain below the criteria in the RNP. Therefore, treatment or mitigation is not triggered for the receivers on Hobbs Street. At all other assessed roads, the noise levels are not predicted to increase by more than two dB(A) at any assessed receiver.

Operational vibration

Operational activities would not create significant vibration levels at nearby sensitive receivers or adjacent properties.

6.3.4 Mitigation measures

Standard mitigation measures outlined in Section 7.2 would be implemented to minimise the potential noise and vibration impacts of the Proposal. These would include the preparation and implementation of a CNVMP. Additional mitigation measures from the CNVG-PTI may also be considered by the Contractor during preparation of the CNVMP to minimise predicted noise and vibration impacts to nearby sensitive receivers.

Property condition surveys would be undertaken for any properties that are identified within minimum working distances for cosmetic damage for vibration intensive equipment.

6.4 Aboriginal cultural heritage

6.4.1 Methodology

The following section assesses the Aboriginal cultural heritage impacts that may occur when constructing and operating the Proposal. The Stage 1 assessment has been carried out in line with the *Procedure for Aboriginal Cultural Heritage Consultation and Investigation* (PACHCI) (Transport for NSW, 2011) to assess the potential risk of impacts on Aboriginal cultural heritage from the Proposal.

The assessment included searches of the Aboriginal Heritage Information Management System (AHIMS) and the National Native Title Register on 7 January 2025.

6.4.2 Existing environment

The AHIMS search revealed no Aboriginal heritage sites within the Proposal area. Additionally, the search of the National Native Title Register returned no results for the Proposal area.

The Proposal area is unlikely to contain Aboriginal cultural heritage items based on the following considerations:

- the AHIMS search did not indicate moderate to high concentrations of Aboriginal objects or places within the Proposal area
- the Proposal area does not contain landscape features that indicate the presence of Aboriginal objects
- the cultural heritage potential of the Proposal area is reduced due to past disturbance
- there is an absence of sandstone rock outcrops likely to contain Aboriginal art.

6.4.3 Potential impacts

Construction

Construction of the Proposal would involve excavation and other earthworks, such as piling activities associated with constructing the new lift shafts and trenching for electrical upgrades (refer to Chapter 3). Ground-disturbing work has the potential to impact Aboriginal heritage sites, if present.

However, given no known Aboriginal heritage sites are located within the Proposal area and the potential for unknown items to be present is considered low due to past disturbance, the Proposal is considered unlikely to harm Aboriginal cultural heritage during construction.

Operation

No impacts to Aboriginal cultural heritage items are expected as a result of the operation of the Proposal.

6.4.4 Mitigation measures

Standard mitigation measures outlined in Section 7.2 would be implemented to minimise potential impacts to Aboriginal cultural heritage from the Proposal. This would include implementation of procedures contained in Transport's *EMF-HE-PR-0076 Unexpected Heritage Items Procedure* (Transport for NSW, 2024b) in the event that unknown Aboriginal heritage items including human remains are discovered during construction.

6.5 Non-Aboriginal heritage

6.5.1 Methodology

The potential non-Aboriginal heritage impacts as a result of the construction and operation of the Proposal have been assessed as part of the Statement of Heritage Impact (SOHI) (AECOM, 2024e).

The preparation of the SOHI involved:

- heritage database searches to identify heritage items within the Proposal area, including:
 - World Heritage List
 - Commonwealth Heritage List
 - National Heritage List
 - State Heritage Register (SHR)
 - State Heritage Inventory (SHI)
 - TAM Section 170 Heritage Register
 - NSW State Heritage Register
 - Inner West LEP
 - Register of the National Estate (RNE)
- a review of the historical context of the area of Proposal
- a site inspection carried out on 7 November 2024 to inspect the Proposal area, inform a preliminary assessment of archaeological potential and to identify heritage items and heritage significant fabric that may be affected by the Proposal
 - a significance assessment to determine the significance of heritage items and potential archaeological resources in line with *The Australia ICOMOS Charter for Places of Cultural Significance 2013* (the Burra Charter) (Australian ICOMOS, 2013)
 - the archaeological potential of the Proposal area and determination of the significance of any potential archaeological items
 - assessment of the non-Aboriginal heritage impacts of the Proposal in line with the following impact types:
 - physical: impacts resulting from work located within or outside the curtilage boundaries of the heritage item, caused by removing or altering the item or fabric of heritage significance
 - visual: impacts to views, vistas and the setting of the heritage item resulting from proposed work within or outside the curtilage boundaries of the heritage item
 - potential: impacts resulting from increased noise, vibrations and construction work
 - archaeological: impacts to potential archaeological remains
 - development of mitigation measures to minimise the impacts of the Proposal on the historical and archaeological significance of the Proposal area.

6.5.2 Existing environment

The review of heritage databases carried out as part of the SOHI identified the following heritage items within the Proposal Area, as shown in Figure 6-13:

- Lewisham Railway Station (previously SHI #4801917) (delisted after May 2009)

- ‘Lewisham Estate Heritage Conservation Area’ listed on the Inner West LEP (#C61)
- ‘Lewisham Railway Substation’ listed on both the Inner West LEP (#I1167) and NSW TAM S170 Heritage and Conservation Register (#4803260)
- ‘Lewisham (Old Canterbury Rd) Underbridge’ listed on both the Inner West LEP (#I1173) and NSW TAM S170 Heritage and Conservation Register (#4801518)
- ‘Former Petersham Cemetery Archaeological Site’ listed on the Inner West LEP (#A11).

The ‘Long Cove Creek Whipple Truss Rail Bridge’ was listed on the RNE as an included place prior to the closure of the RNE. The RNE listing notes the bridge was ‘recorded for reference only, no statutory basis’ (Register of the National Estate, 1989). The bridge is also listed as an LEP and SHR heritage item. Whilst the Proposal area falls within the eastern extent of the RNE heritage curtilage, the heritage item and the LEP/SHR curtilages are located 124 metres west of the Proposal area. Due to the non-statutory nature of the RNE and the distance from the LEP/SHR curtilages of the same item, the proposed work would have no impact to the ‘Long Cove Creek Whipple Truss Rail Bridge’ and no further assessment is required.



Further details on the identified heritage features are contained in the following sections.

Lewisham Railway Station

Lewisham Station is not currently listed on any heritage databases, despite historically having an Inner West LEP and TAM Section 170 heritage listing. Lewisham Station was first entered into the RailCorp S170 inventory in October 1999 and later was listed on the LEP in 2001. However, in the following years several historical assessments have determined that the station complex does not retain its original elements and does not meet local or state heritage significance requirements. The only original fabric that remains is the subway, which has been assessed as being considerably altered and does not require heritage protection. As a result of these assessments, the station complex was delisted from both the LEP and S170 registers sometime after May 2009.

Lewisham Estate Heritage Conservation Area

The Lewisham Estate Heritage Conservation Area has historical significance as an area developed from a series of subdivisions from the early 1880s to 1898, beginning with the "Lewisham Estate" subdivision prior to 1882.

The Lewisham Estate Heritage Conservation Area is located south of the main western railway line, between Old and New Canterbury Roads. It includes several sub-precincts which share similar heritage values. The main area includes Victoria Street, The Boulevarde and Hunter Street.

The Lewisham Estate Heritage Conservation Area has aesthetic significance because it contains a wide range of housing typologies (late 19th - early 20th Century) including a range of finely crafted Victorian Italianate, Rustic Gothic, Filigree and Regency houses, terraces and villas and later Federation examples of the same typologies.

Historical aerials from 1930 indicate that the shop at the corner of Railway Terrace and Victoria Street was constructed prior to 1930. The following quote is the description on the NSW SHI listing of the shops on Victoria Street:

"The small group of local shops in Victoria Street includes some substantially intact examples of Federation shops, including shopfronts and joinery to the arched window/doors on the upper level, although signs of deterioration to the fabric could be seen. The upper level verandahs have been replaced by a suspended awning. Other shops in the extended group demonstrate significant layering and have lost their stylistic integrity" (Heritage NSW, 2012).

Lewisham Railway Substation

The Lewisham Railway Substation located on Alfred Street was constructed in 1928. It was one of 15 similar substations, erected as part of the first stage of electrification of the Sydney metropolitan rail network between 1924-1932. The substation is still in use and now houses modern operational electrical equipment. The exterior of the substation around the time of its opening is shown in Figure 6-14.

The substation building itself is noted on the NSW SHI listing for the 'Lewisham Railway Substation' site. There are no listed elements surrounding the substation building.



Figure 6-14: Exterior of the Lewisham Substation around the time of opening c. 1928 (Source: (Whitworth & Wood, 2021))

Lewisham (Old Canterbury Road) Underbridge

The Lewisham (Old Canterbury Road Underbridge) was constructed in iron in 1885. During duplication of the line in 1892 the bridge was widened using steel girders. A third bridge was added in 1926 using riveted steel girders for electrification of the railway line. Steel columns were added kerbside to support the iron girder bridge in 1930 (Heritage NSW, 2009).

Former Petersham Cemetery Archaeological Site

The 'Former Petersham Cemetery Archaeological Site' retains no registered or visible surface elements due to relocation of graves to Rookwood Cemetery in the 1920s. The original curtilage of the cemetery (c. 1885) encompassed several lines of the main railway corridor (prior to its electrification), a large portion of the current Lewisham Hospital site, bounded by West Street and the Catholic Church. Prior to the removal of some graves, the site was thought to have over 4,000 burials interred within its consecrated grounds.

Available records for the exhumation and relocation of graves are limited and variable. Historical records identify that around 400 graves were removed and relocated to Rookwood Cemetery. There are no available records or detailed plans surrounding these excavations. Additionally, there are no available records of unexpected graves or monuments being identified during upkeep of surrounding services and buildings since the closure of the cemetery. It is unclear how many, if any, archaeological relics from the cemetery remain in subsurface deposits.

6.5.3 Potential impacts

Construction

Lewisham Railway Station

Lewisham railway station has been substantially altered. The only remaining original fabric of Lewisham Station are the brick walls of the underpass, which have been significantly altered and removed from view through installation of metal panels on the walls and vaulted ceiling. No further relevant heritage elements were identified at Lewisham Railway Station during the site inspection. The findings of the 2009 RailCorp delisting assessment were verified as still relevant to the Lewisham Railway Station complex. Subsequently, the proposed construction work has been assessed as having no new impact to the overall significance of the Lewisham Railway Station complex.

Lewisham Estate Heritage Conservation Area

The construction of the Proposal would result in work within the curtilage of the Inner West LEP heritage listed item 'Lewisham Estate Heritage Conservation Area' (LEP #C61) at the Railway Terrace/Victoria Street Station entrance. The principal impact would be associated with the removal of the suspended awning above the station entry to accommodate the new lift and the provision of a new canopy around the lift extending to the adjacent building. This work would not impact the federation style shop within the group, with the shop closest to Railway Terrace noted on the NSW SHI as '*demonstrating significant layering and has lost its stylistic integrity*'. However, as the proposed work would have a minimal impact to the façade of the shop with the replacement of the current awning, the proposed construction work would not alter the existing overall significance of the Heritage Conservation Area.

There is a potential for ground vibration impacts to the premises on the corner of Railway Terrace and Victoria Street from construction work in the vicinity. Minimum working distances for heritage and other sensitive structures are documented in the NVIA (AECOM, 2024d). Should vibration intensive work be required within the minimum working distances outlined, mitigation measures to control excessive vibration would be implemented as outlined in Section 7.2.

Lewisham Railway Substation

The construction of the Proposal requires work within the curtilage of the Inner West LEP and NSW TAM S170 Heritage and Conservation Register listed item 'Lewisham Railway Substation' (LEP #I1167, S170 #4803260) at the Alfred Street construction compound, which would accommodate a site office, amenities, laydown and storage area for materials. There would be no impacts to listed elements of the heritage items, however some ground disturbance associated with the installation of the new padmount would occur within the land immediately adjacent to the substation.

The introduction of temporary hoarding and construction activities would result in temporary visual impacts by partially concealing the view of the substation from the street; however, it would not impact the building itself or alter the existing overall significance of the substation. These visual impacts would be reversed following the completion of construction work.

Lewisham (Old Canterbury Rd) Underbridge

Construction work would involve the installation of a GST along the Lewisham (Old Canterbury Rd) Underbridge wall towards Lewisham Station, which would require ground disturbance. Some ground disturbance would also occur within the land adjacent to the bridge for the installation of the new padmount and running of cables to the GST on the underbridge.

In relation to visual impacts, the proposed work would not impact the view of the underbridge from the street. Overall, the proposed construction work would not alter the existing overall significance of the underbridge.

Former Petersham Cemetery Archaeological Site

The principal impact during construction is the physical impact to the land within the heritage curtilage. The proposed subsurface work associated with the installation of the lighting along the pedestrian walkway between Thomas Street and West Street has a possibility to disturb subsurface material associated with the cemetery (i.e., human remains, monuments/headstones, fencing, etc.). Due to the proposed limited ground disturbance work within a small section of the larger listing, the risk of finding an unknown grave or monument has been assessed as low.

However, given this work would occur within an area of identified archaeological subsurface potential, corresponding control measures would be put in place. Appropriate controls include minimising the proposed impacts and monitoring of work by a qualified archaeologist/heritage specialist.

In relation to visual impacts, the proposed work poses no effect to the surface element of the cemetery due to past disturbance and removal of graves. As no surface elements of the cemetery remain, there is no visual impact to the site.

Operation

Lewisham Estate Heritage Conservation Area

The removal and replacement of the existing suspended awning to the shop front in the Lewisham Estate Heritage Conservation Area would result in a permanent minor physical impact to the shop to which the awning is attached. Although the proposed work does not affect the significant fabric of listed elements, it does result in long-term changes within the Heritage Conservation Area.

The operation of the Proposal would result in visual heritage impacts to the Lewisham Estate Heritage Conservation Area at the Railway Terrace/Victoria Street station entrance. Visual impacts are anticipated to be positive, as the current suspended awning fabric is not original, and the original façade has little damage due to significant layering. The current awning obscures a large portion of the existing buildings. The proposed replacement canopy would permanently improve the setting of the Heritage Conservation Area in this location by providing greater visual access to the shops and station entry, whilst being aesthetically pleasing. The operation of the Proposal would not alter the existing overall significance of the Heritage Conservation Area but would result in a positive impact to the streetscape.

Lewisham Railway Substation

The operation of the Proposal would not result in heritage impacts to the Lewisham Railway Substation at the Alfred Street construction compound as the temporary impacts of use of this area during construction would be reversed and the location returned to the same condition following completion of work.

Lewisham (Old Canterbury Rd) Underbridge

The installation of the GST would form a permanent physical cumulative impact to the underbridge. Several GSTs already exist in the same location, with the proposed addition considered a reasonable physical cumulative impact with no effect on the overall significance of the underbridge.

In relation to visual impacts, there would be limited visual impacts to the underbridge as there are currently several GSTs already attached and in use on the rail side of the wall. There would be a minor visual impact, trackside, however the Proposal would not alter the existing overall significance of the underbridge during operation.

Former Petersham Cemetery Archaeological Site

There would be no operational impacts to the Former Petersham Cemetery Archaeological Site following completion of construction. As no surface elements of the cemetery remain, there is no visual impact to the site as a result of the operation of the Proposal.

Archaeological potential

Archaeological potential in the context of the current assessment is defined as the potential for relics to be present within the Proposal area, with relics comprising any archaeological deposit featuring artefacts, objects or material evidence that is of state or local heritage significance. Potential relics could include building footings, rubbish/discarded material, historical road construction, fence lines, agricultural equipment and electrical equipment.

Grave markers and graves with human remains associated with Petersham Cemetery may be located in subsurface deposits. Despite minimal records outlining the extent of grave removal, past land disturbance suggests a low likelihood of graves remaining within the Proposal area.

The assessment in the SoHI identified low archaeological potential for all types of archaeological deposits to be present within the vicinity of the proposed work.

6.5.4 Mitigation measures

Standard heritage mitigation measures outlined in Section 7.2 would be implemented to minimise potential non-Aboriginal Heritage impacts of the Proposal. An additional mitigation measure is provided in Table 6-15.

Table 6-15: Site specific non-Aboriginal heritage mitigation measures

No.	Mitigation Measure	Responsibility	Timing
56	Workers undertaking activity within the curtilage of the 'Lewisham Railway Substation' and 'Lewisham (Old Canterbury Road) Underbridge' shall be made aware of their heritage significance and protection measures enacted to ensure there are no physical impacts to these items during work (i.e., temporary fencing, toolbox presentation). Details of the protection measures shall be included within the CEMP. The temporary impacts of use of this area shall be reversed and the location returned to the same condition following completion of work.	Contractor	Construction

6.6 Socio-economic

6.6.1 Methodology

A desktop review of the socio-economic characteristics of the Proposal area and surrounds was carried out to inform an assessment of potential socio-economic impacts during construction and operation. This included a review of:

- existing social infrastructure in the vicinity of the Proposal area
- Australian Bureau of Statistics Census data (ABS, 2021) for the suburb of Lewisham
- station entry and exit data from pedestrian count surveys undertaken in June 2024 (AECOM, 2024b).

6.6.2 Existing environment

Lewisham is largely a residential suburb with a small local centre surrounding Railway Terrace and Victoria Street, south of the station. The local centre is partially within the Proposal area and includes commercial facilities such as cafes, a laundromat and a design business. Residential properties are located adjacent to the Proposal area along Thomas Street, Railway Terrace and Victoria Street. Suburbs surrounding Lewisham include Leichhardt, Petersham, Dulwich Hill and Summer Hill.

Social infrastructure refers to the facilities, structures and services that support the physical, social, cultural or intellectual development or welfare of the community. This includes a range of physical facilities such as schools, medical facilities, sporting and recreational facilities (including passive open space), community facilities, libraries, as well as the services, activities and programs that operate within them. Key social infrastructure items located within approximately 500 metres of the Proposal area include:

- Educational facilities (schools): The John Berne School, Eileen O'Connor Catholic College, Christian Brothers High School and Lewisham Public School
- Educational facilities (other): Child learning centre, Learn & laugh Children's centre, Rise & Shine Kindergarten, A.C.E learning centre
- Health, medical and emergency facilities: Catholic Care Sydney, Catholic Healthcare Lewisham Nursing Home, Healing Eating Disorders, Zone 34 Physiotherapist, Catholic Healthcare Lewisham Retirement Hostel, The Calm Potential Wellness Centre
- Places of worship and cemeteries: Church of Saint Thomas of Canterbury, Maternal Heart of Mary Catholic Church, Petersham Baptist Church, Anglican Church, The Joshua Tree Petersham Presbyterian Church
- Sporting and recreational facilities: Petersham Park, Cadigal Reserve, Hudson Street Park, Fanny Durack Aquatic Centre
- Community groups and facilities: Yanada Community Meeting Room, Lewisham West light rail stop.

According to ABS Census data (ABS, 2021), the suburb of Lewisham has a population of 4,060 people, with the median age of residents being 34 years old. About 8.83 per cent of the population in Lewisham were aged over 65. In relation to family composition, 47.9 per cent of Lewisham's population comprises couples without children. In total, 5.2 per cent of employed people within Lewisham use the train to get to work, with 17.3 per cent driving to work. The majority of people in the 2021 Census worked from home (57.5 per cent).

According to station entry and exit data from the pedestrian count surveys, the patronage at Lewisham Station on 13 June 2024 (during the AM and PM peak periods) was 1,579 customers entering and 1,159 exiting the station.

Lewisham Station has a number of existing facilities for customers including Opal card readers, Opal card top up/ticket machine, public toilets (non-accessible), departure screen, emergency help point, payphone as well as interchange facilities outside the station, such as bus stops, bike racks and a kiss and ride. In terms of accessibility, the station has a hearing loop, platform edge TGSIs, wheelchair ramp boarding assistance and a public address (PA) system for announcements, however it is only accessible via stairs at both entrances.

6.6.3 Potential impacts

Construction

Construction of the Proposal has the potential to impact station customers, pedestrians, adjacent residents, school students, local businesses, employees and customers of commercial facilities, motorists and cyclists. A summary of key construction socio-economic impacts are summarised in Table 6-16.

Table 6-16: Summary of construction socio-economic impacts

Issue category	Impact	Level of Impact
Access and connectivity	- temporary disruptions to pedestrian and traffic flow as a result of partial and full road closures of Thomas Street, Victoria Street, Railway Terrace and Hunter Street - temporary relocation of bus stops on Railway Terrace and diversions of bus routes. where required, during periods of full road closure of Railway Terrace to accommodate construction activities - temporary disruptions to emergency service routes - temporary disruptions to pedestrian flow as a result of temporary closures of the station underpass - temporary disruptions to pedestrian and cyclist flow as a result of temporary closures of the shared paths on the northern and southern sides of Lewisham - temporary reduction in available parking spaces on the surrounding street network for residents and visitors to accommodate construction activities, including the temporary loss of two time-restricted parking spaces on Thomas Street used for pick-up/drop-off at adjacent educational facilities and places of worship - minor increase in traffic on the local road network associated with construction vehicle movements including within school zones - temporary relocation of Railway Terrace bus stops - temporary disruptions to the existing pedestrian facilities surrounding the station - potentially higher level of platform congestion arising from restricted access to certain areas of the platform such as near the lift construction, station building and underpass reconstruction - temporary loss of informal kiss and ride at Thomas Street.	Short -term / temporary negative (minor)
Social infrastructure	- temporary amenity and visual impact to social infrastructure adjacent to the Proposal, including educational facilities and places of worship - potential temporary impact to the operation of the educational facilities on Thomas Street, resulting from construction traffic flow	Short-term / temporary negative (minor)

Issue category	Impact	Level of Impact
	along Thomas Street during construction and the temporary loss of two time-restricted parking spaces on Thomas Street used for pick-up/drop-off at adjacent educational facilities and places of worship.	
Commercial operations	- minor, localised traffic impacts associated with the delivery of plant and equipment to the station in trucks may impact deliveries to businesses - potential access, parking, noise, visual and air quality impacts to businesses surrounding the Proposal area, including businesses on Railway Terrace and Victoria Street - short-term potential access disruptions for businesses as a result of full and partial temporary road closures of Thomas Street and Railway Terrace.	Short-term / temporary negative (minor)
Community values, liveability and amenity	- receivers near the Proposal would experience the most amenity impacts in the form of noise and visual impacts. Receivers would include sensitive uses such as schools and places of worship - potential sleep disturbance and intrusive noise impacts are expected to be experienced by those closest to the Proposal - visual impacts of construction plant and machinery, including near the construction compounds, would also impact those living within, visiting and travelling through the Proposal area. Views are expected to be interrupted and altered by construction work and machinery.	Short-term / temporary negative (minor)

Operation

The Proposal would result in improved safety, connectivity, and inclusivity through the upgrade of station platform facilities, station entry as well as changes to station interchange facilities. A summary of key socio-economic impacts that would result from the operation of the Proposal are summarised in Table 6-17.

Table 6-17: Summary of operation socio-economic impacts

Issue category	Impact	Level of Impact
Access and connectivity	- improved access to Lewisham Station for all customers as a result of the installation of lifts and a new station access ramp off Platform 2, station building, platform regrading and installation of TGSIs, improved accessibility at station interchange facilities via new bicycle hoops, the implementation of the accessible parking spaces and kiss and ride spaces - potential increased use of public transport to and from Lewisham by a wider demographic including older people, people with a disability, people with prams and luggage and others who may be experiencing mobility problems - improved access to Lewisham Station through the provision of a new accessible parking space, a new kiss and ride space and footpath adjustments on Thomas Street - a permanent change to parking arrangements on Thomas Street, including the loss of two time-restricted parking spaces used for pick-up/drop-off at adjacent educational facilities and places of worship, could impact people accessing these establishments. The new accessible parking space and kiss and ride space on the opposite side of Thomas Street may introduce new mobility constraints for people with a disability and others who may be experiencing mobility problems.	Long-term, positive (moderate) Long-term negative (minor)
Land use changes	existing traffic arrangement on Victoria Street would be amended, reducing two existing travel lanes to a one-way travel lane between Hobbs Street and Railway Terrace. The one-way travel lane would	Long-term, positive (moderate)

Issue category	Impact	Level of Impact
	enhance the performance of the Railway Terrace and Victoria Street intersection by diverting vehicles onto alternative routes existing kerbside parking spaces on Victoria Street, Thomas Street and Hunter Street are proposed to be permanently removed, however time-restricted and unrestricted parking is available within the local road network to the north and south of the station. Availability of parking within the surrounding area is not expected to have a major impact on the surrounding car parking supply.	Long-term negative (minor)
Social infrastructure	placemaking enhancements, including opportunities for public artwork, that consider Connecting to Country.	Long-term, positive (minor)
Commercial operations	- new station infrastructure, such as the new lift at the Railway Terrace/Victoria Street station entrance, has the potential to obscure the commercial enterprises on the corner of Victoria Street and Railway Terrace, which could impact the operation of these local businesses - existing kerbside parking spaces on Victoria Street, Thomas Street and Hunter Street are proposed to be permanently removed resulting in a reduction in parking spaces available for customers of nearby commercial enterprises.	Long term, negative (minor)
Community values, liveability and amenity	improved customer amenity and facilities at the station, including a new family accessible toilet, unisex ambulant toilet, improved CCTV, improved wayfinding and signage, new lighting, landscaping, and public art.	Long-term, positive (minor)

6.6.4 Mitigation measures

Negative socio-economic impacts during the construction phase of the Proposal are anticipated to be manageable through standard mitigation measures, which are included in Section 7.2. These include the development of a CLMP, feedback forums and complaints management procedures to manage potential negative community sentiment towards the construction of the Proposal.

The traffic, noise and vibration, visual and air quality mitigation measures outlined in Section 7.2 would also minimise the Proposal's socio-economic impacts.

6.7 Biodiversity

6.7.1 Methodology

Desk-based assessment

A desktop review was carried out to assess potential biodiversity impacts during construction and operation of the Proposal. The following database searches were carried out to identify potential biodiversity values for the Proposal area, including:

- Aerial photography and street view (where available)
- NSW State Vegetation Type Map (DPE, 2023)
- Protected Matters Search Tool (PMST) results for EPBC Act matters (Commonwealth DCCEW, 2024a)
- BioNet records for threatened species and ecological communities for BC Act matters (EHG, 2024)
- Biodiversity Values Map (NSW DCCEW, 2024)
- Fisheries NSW Spatial Data Portal for Key Fish Habitat mapping (DPI, 2024)
- Bureau of Meteorology Groundwater Dependent Ecosystem Atlas (BOM, 2024)

- National Flying-fox monitoring viewer (Commonwealth DCCEEW, 2024b)
- Terrestrial Biodiversity LEP Mapping (Inner West Council, 2022).

Field surveys

Tree surveys to collect data and undertake tree assessments were carried out by a suitably qualified arborist on 15 November 2024. Data was collected for each tree assessed in relation to its height, radial canopy spread, trunk Diameter at Breast Height (DBH) and trunk Diameter Above Root Buttress (DARB), where applicable. These physical dimensions were either measured or estimated, where appropriate. The age, vigour and condition of each tree was also assessed. Groundcover, shrub species and habitat features were not assessed during the survey.

An Arboricultural Impact Assessment (AIA) (Urban Tree Management, 2024) was undertaken to assess the impact on the trees identified in the Proposal area. The findings of the AIA are presented in this section of the REF.

No specific ecological field surveys have been conducted, however during site inspections Australian White Ibis (*Threskiornis moluccus*) were observed in a Canary Island Date Palm in the Thomas Street station forecourt area. Whilst not a threatened species under the EPBC Act, they are a protected species in NSW under the BC Act.

6.7.2 Existing environment

Landscape context

Lewisham Station is located within a highly modified and urbanised environment. The area is generally characterised by the rail line, the station itself, street parking, landscaping, pedestrian thoroughfares and operational railway areas.

The local area has been subject to progressive urbanisation since the late 19th century, with the vast majority of original vegetation being removed during the intervening period and replaced with exotic and native landscaping species. The nearest waterway is Hawthorne Canal, located approximately 300 metres to the west of Lewisham Station. The nearest recreational areas are Petersham Park, Cadigal Reserve and Hudson Street Park zoned as RE1 Public Recreation on the Inner West LEP.

Existing trees

During the site inspection, the arborist inspected the following native and exotic trees within the Proposal area, located in the Thomas Street station forecourt:

- native trees:
 - One River Tea Tree (*Melaleuca bracteata*)
- exotic trees:
 - Five Canary Island Date Palm (*Phoenix canariensis*)
 - One Crepe Myrtle Indian Summer (*Lagerstroemia indica* x *L. fauriei* 'Indian Summer').

Other trees within the Proposal Area include an established tree in the area of the proposed Railway Terrace/Victoria Street station entry upgrades, as well as established trees greater than three metres in height along the pathway between Thomas Street and West Street.

Other existing trees/vegetation

Existing vegetation within the Proposal area comprises ground cover and shrub species at the following locations:

- ground cover and shrub species at the Thomas Street station forecourt
- groundcover and shrub species in proximity to the Railway Terrace/Victoria Street station forecourt
- groundcover and shrub species along Railway Terrace

- groundcover, shrub species and established trees along the pathway between Thomas Street and West Street
- groundcover and shrub species located within the rail corridor at the intersection of Old Canterbury Road and Alfred Street.
- existing amenity garden beds on Platforms 1 and 2.

Under the Australian Weeds Strategy, there are 32 Weeds of National Significance (WONS) (Invasive Plants and Animals Committee, 2017). Weeds are widely distributed in the Greater Sydney region. As such, there is a potential for WONS and Priority Weeds to be present in the Proposal area.

Database searches

The database searches provide an indication of what species and communities may be present, nearby, or, in the case of fauna, utilising the available environment within the Proposal area.

State Vegetation Type Map NSW

A review of the State Vegetation Type Map NSW extant Plant Community Type (PCT) was conducted on 12 November 2024. This mapping shows the predicted distribution of the vegetation classifications across NSW, describing native plant species assemblages within a local area. Review of the mapping indicates that no known plant community type (PCT) occurs within the Proposal area. The nearest PCTs to the Proposal area are located in the suburb of Wolli Creek approximately 3.7 kilometres to the south.

Protected Matters Search Tool (PMST)

A PMST search was conducted on 12 November 2024 capturing records for a distance of 10 kilometres surrounding the Proposal area (Appendix C). The PMST report identified 14 Threatened Ecological Communities, 85 threatened fauna species and 32 threatened flora species that may occur within the Proposal area.

BioNet Atlas

A BioNet Atlas search of records for the last 20 years was conducted on 12 November 2024 capturing records for a distance of 10 kilometres surrounding the Proposal area (Appendix D) which identified known records of 15 threatened flora species and 39 fauna species within the search area. No threatened species records were located within the Proposal area, as shown in Figure 6-15.

The nearest known records of threatened species to the Proposal area include:

- Grey-headed Flying Fox (*Pteropus poliocephalus*), approximately 35 metres
- Large Bent-winged Bat (*Miniopterus orianae oceanensis*), approximately 117 metres
- Long-nosed Bandicoot population in inner western Sydney (*Perameles nasuta*), approximately 113 metres.

Biodiversity Values Map

A review of the Biodiversity Values Map on 12 November 2024 indicates that no biodiversity values are mapped within the Proposal area (NSW DCCEEW, 2024). The nearest mapped biodiversity values occur about 2.5 kilometres south of the Proposal area along the Cooks River riparian zones and 2.5 kilometres north along the Parramatta River foreshore. These areas are mapped as “Coastal Management Act – Wetlands” and “Threatened species or communities with potential for serious and irreversible impacts” respectively.

Key Fish Habitat Mapping

A review of the Fisheries NSW Spatial Data Portal on 12 November 2024 indicated that Hawthorne Canal is not mapped as Key Fish Habitat until further downstream in the suburb of Leichhardt approximately 900 metres from the Proposal area.

Groundwater Dependent Ecosystem Atlas

A review of the Groundwater Dependent Ecosystem Atlas on 12 November 2024 indicated no groundwater dependent ecosystems are mapped within three kilometres of the Proposal.

National flying fox monitoring map

A review of the National Flying Fox Monitoring Map on 12 November 2024 indicates that no flying fox camps are mapped within the Proposal area. The closest nationally important flying-fox camp is about 3.7 kilometres south of the Proposal area in the suburb of Wolli Creek. Due to records of Grey-headed Flying Fox within 35 metres of the Proposal and the presence of Canary Island Date Palms within the Proposal area, which are commonly used for foraging and roosting by Grey-headed Flying Fox, there is potential for this species to utilise the Proposal area.

Terrestrial Biodiversity LEP Mapping

A review of the Inner West LEP Mapping on 12 November 2024 indicates that the Proposal area is identified as “Biodiversity” on the Terrestrial Biodiversity LEP Mapping. The objective of the mapping is to maintain terrestrial biodiversity by:

- protecting native fauna and flora, and
- protecting the ecological processes necessary for the continued existence of native fauna and flora, and
- encouraging the conservation and recovery of native fauna and flora and their habitats.

The Proposal aligns with the objectives of the Terrestrial Biodiversity LEP Mapping as discussed in Section 6.7.3.



Figure 6-15: Threatened fauna species previously recorded

6.7.3 Potential impacts

Construction

Tree assessment

The arborist assessed seven mature street trees within the Proposal area, as summarised in Table 6-18 and shown on Figure 6-16.

Table 6-18: Trees identified within the Proposal area

Tree ID	Scientific Name	Common name	Height (m)	DBH (cm)	Condition	Retain/ Remove/ Transplant
TN1	<i>Phoenix canariensis</i>	Canary Island Date Palm	10	56	Mature tree. The crown has been previously pruned to allow for clearance over the rail corridor.	Retain
TN2	<i>Phoenix canariensis</i>	Canary Island Date Palm	11	66	Mature tree. The crown has been previously pruned to allow for clearance over the rail corridor.	Retain
TN3	<i>Phoenix canariensis</i>	Canary Island Date Palm	12	60	Mature tree. The crown has been previously pruned to allow for clearance over the rail corridor.	Retain
TN4	<i>Phoenix canariensis</i>	Canary Island Date Palm	12	60	Mature tree. The crown has been previously pruned to allow for clearance over the rail corridor.	Retain
TN5	<i>Phoenix canariensis</i>	Canary Island Date Palm	11.5	53	Mature tree. The crown has been previously pruned to allow for clearance over the rail corridor.	Transplanted in Proposal area
TN6	<i>Melaleuca bracteata</i>	River Tea Tree	6	21	Mature tree. The crown is asymmetrical, and the tree has a slightly crooked trunk. The crown has been previously pruned to allow for clearance over the rail corridor.	Removal
TN7	<i>Lagerstroemia indica</i> x <i>L. fauriei</i> 'Indian Summer'	Crepe Myrtle Indian Summer	5.5	22	Mature tree. The crown is dominant, and the tree has basal epicormic shoots to the north. The lower crown has been previously pruned to allow pedestrian access beneath the crown. The tree is a mature specimen of good form and good vigour that could be transplanted.	Removal – opportunity to transplant ex-situ

Two trees (TN6 and TN7) located in the Thomas Street station forecourt would be removed to accommodate the Proposal and one tree (TN5) would be transplanted to a new location within the station forecourt. The removal of the one native tree (TN6) and one exotic tree (TN7) would have a minimal impact on the overall ecological value of the area and would not result in the loss of a naturally occurring plant community. To replace the loss, trees removed must be replaced in line with the specified replacement ratios in Transport's *Tree and Hollow Replacement guidelines EMF-BD-GD-0129* (Transport for NSW, 2023a) where applicable (refer to Section 6.7.5).

Due to the condition, form and vigour of TN7, the potential opportunity exists to transplant this tree which would be explored further during detailed design. In addition, a mature *Corymbia maculata* (Spotted Gum) is proposed to be planted in the upgraded Thomas Street station forecourt area.

The four retained trees within the Proposal area are to be protected during construction. Tree Protection Zones (TPZ) and fencing would be established around the trees to maintain their ongoing health in accordance with the Tree Protection Plan included in the AIA. Plant and equipment is to be kept clear of the TPZ.

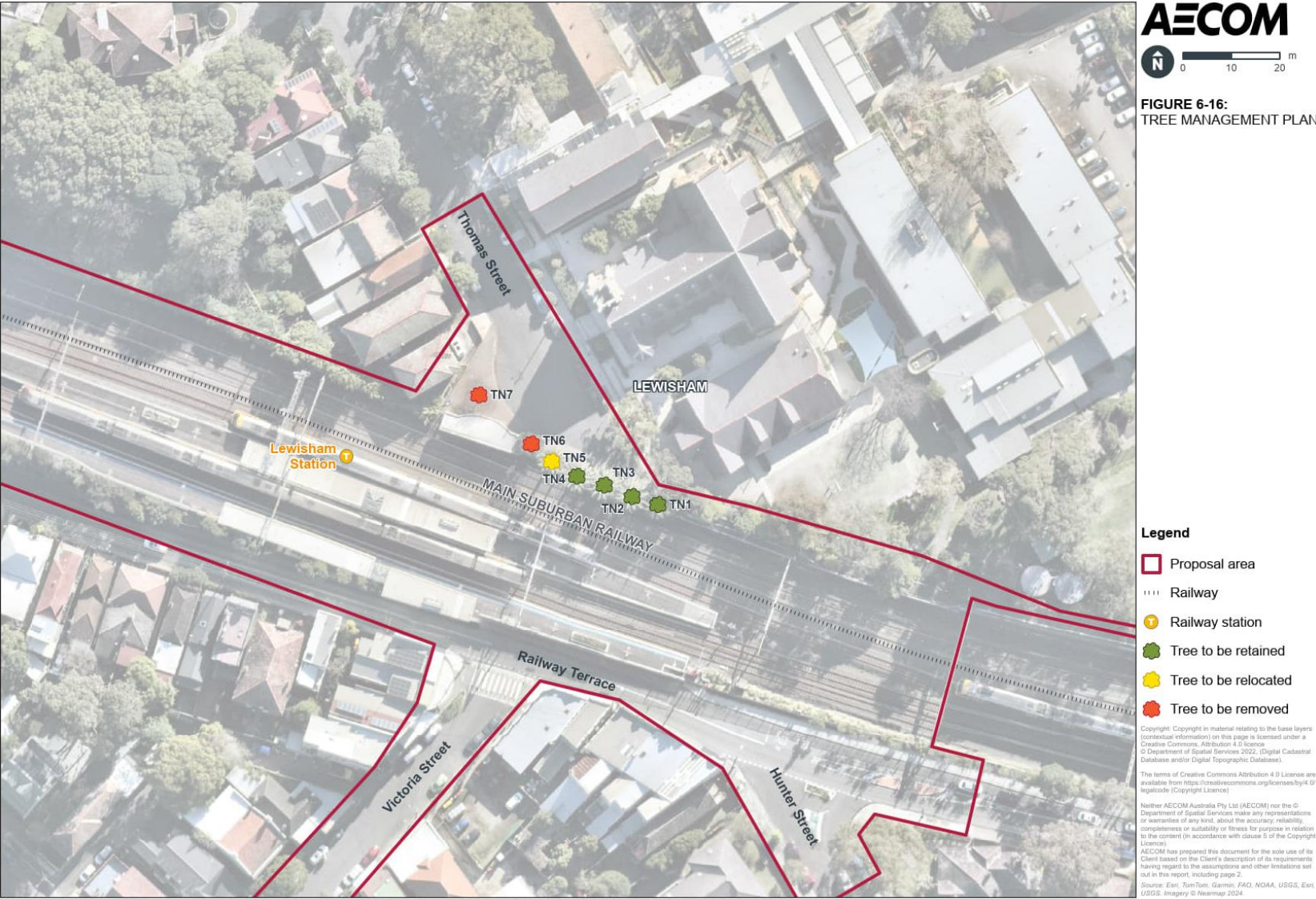


Figure 6-16: Trees to be removed, relocated and retained

Removal of vegetation

The Proposal would involve the removal and trimming of native and exotic vegetation in the following locations:

- groundcover and shrub species at the proposed Thomas Street forecourt upgrade location
- groundcover, shrub species and one established tree at the proposed Railway Terrace/Victoria Street station forecourt upgrade location
- groundcover and shrub species along Railway Terrace to accommodate the new station access ramp from Railway Terrace to Platform 2
- groundcover and shrub species as well as established trees along the pathway between Thomas Street and West Street to accommodate the proposed lighting and wayfinding improvement locations
- groundcover and shrub species within the rail corridor at the intersection of Old Canterbury Road and Alfred Street at the proposed padmount location
- an existing amenity garden bed on Platform 2 to accommodate the new station access ramp from Railway Terrace
- an amenity garden bed on Platform 1 to accommodate the new station building.

The proposed vegetation removal is not of a scale to cause significant impacts. Removal of vegetation shall be minimised during detailed design where possible. Provided mitigation measures are adhered to, there is expected to be a minimal impact associated with vegetation removal and trimming required for the Proposal.

Native shrubs and grasses are proposed to be planted in both station forecourt areas. An indigenous bush tucker garden is proposed in the Thomas Street station forecourt. A proposed plant schedule includes typical shrub species such as: *Banksia spinulosa* (Hairpin Banksia), *Correa alba* (White Correa), *Dodonaea triquetra* (Common Hop Bush), and *Grevillea buxifolia* (Grey Spider Flower); and grasses including: *Dianella caerulea* (Blue Flax-lily), *Lomandra longifolia* (Spiny-head Mat-rush), *Billardiera scandens* (Apple Berry), and *Habenbergia violacea* (Purple Coral Pea).

The proposed planting aligns with the terrestrial biodiversity objective in the Inner West LEP relating to the continued existence, conservation and recovery of native flora. Further detail will be contained in the UDLP.

Threatened fauna species

There is the potential for fauna, including threatened species, to incidentally use the Proposal area for roosting or foraging. Threats to species include loss of high productivity foraging habitat and increased risk of injury or mortality during construction activities.

Potential impacts to the nearest known records of threatened fauna species presented in Figure 6-15 are discussed as follows.

Grey-headed Flying Fox

The Grey-headed Flying Fox relies on important native winter and spring feed trees which produce fruit and nectar-rich flowers (Department of Agriculture, Water and the Environment, 2021). The two trees (River Tea Tree and Crepe Myrtle Indian Summer) proposed to be removed produce nectar-bearing flowers associated with various nectar feeding species, including the Grey-headed Flying Fox. Canary Island Date Palms are known to be used for foraging and roosting by the Grey-headed Flying Fox.

The five Canary Island Date Palms within the Proposal Area are proposed to be retained or relocated. As such, there is the potential that individual Grey-headed Flying Fox may forage or roost in the trees present within the Proposal area, however no sightings of Grey-headed Flying Fox have been recorded on BioNet within the Proposal area.

The removal of the two trees (River Tea Tree and Crepe Myrtle Indian Summer) and relocation of one tree (Canary Island Date Palm) is unlikely to cause significant impacts to their available foraging or roosting habitat.

Pre-clearance surveys are to be undertaken in the Proposal area prior to the removal of trees. With the implementation of mitigation measures, impacts on Grey-headed Flying Fox are anticipated to be negligible.

Large Bent-winged Bat

The Large Bent-winged Bat utilises caves and other man-made structures, such as storm-water tunnels, buildings and bridges as roosting habitat (Office of Environment and Heritage, 2024). No sightings of the Large Bent-winged Bat have been recorded on BioNet within the Proposal area but have been previously recorded approximately 117 metres from the Proposal area. Although the likelihood is low, it is possible that Large Bent-winged Bat may be using the human-made structures within the Proposal area. This includes concrete crevices, or any cavities in the station structure such as wall or roof cavities and bridge structures.

Pre-construction surveys are to be undertaken to identify the presence of this species within the Proposal area. Any roosting sites identified shall be protected from damage or disturbance. With the implementation of mitigation measures, impacts on the Large Bent-winged Bat are anticipated to be negligible.

Long-nosed Bandicoot

The Long-nosed Bandicoot population in inner western Sydney shelter mostly under older houses and buildings and forage in parkland and back-yards (Office of Environment and Heritage, 2017). As the Proposal area is highly modified and has limited landscaped vegetation and trees and no sightings of the Long-nosed Bandicoot have been recorded on BioNet within the Proposal area, the likelihood of their occurrence in the Proposal area is very low. The scale of vegetation removal is unlikely to impact the available foraging area for Long-nosed Bandicoot. Pre-construction surveys shall be undertaken to identify the presence of this species within the Proposal area. With the implementation of mitigation measures, impacts on Long-nosed Bandicoot are anticipated to be negligible.

Australian White Ibis

The Australian White Ibis is known to utilise Canary Island Date Palms as roosting habitat in urbanised areas. Although no sightings of the Australian White Ibis have been recorded within or surrounding the Proposal area on BioNet, the species were observed during site inspections located in a Canary Island Date Palm in the Thomas Street station forecourt area. There is potential that the Canary Island Date Palms in this location may be used by Australian White Ibis as long-term roosting and/or nesting habitat. Removal or transplantation of the trees could result in physical harm, including injury and mortality, to the species.

One of these Canary Island Date Palms is proposed to be relocated within the Thomas Street forecourt (refer to Figure 6-16), subject to detailed design. Prior to any tree relocation or removal works, a pre-clearance survey should be undertaken by a suitably qualified ecologist to identify and assess the presence of the Australian White Ibis, and any associated roosting habitat (including vacant nests or nests containing eggs).

The remaining four Canary Island Date Palms are proposed to be retained, with TPZs implemented to ensure their successful retention and health throughout the construction of the Proposal (refer to Section 6.7.4 and 7.2). The implementation of TPZ would also minimise physical impact and disturbance to Australian White Ibis utilising and/or nesting in the Canary Island Date Palms during construction. Fauna would be managed in accordance with *Guide 9: Fauna handling of Transport's Biodiversity Management Guideline* (Transport for NSW, 2024). The implementation of management measures detailed in a Flora and Fauna Management Sub-plan would also minimise potential impacts.

Native fauna and flora would be protected on-site through appropriate mitigation and management measures included in a Flora and Fauna Management Sub-plan, which would be implemented on-site. This would also ensure the Proposal aligns with the terrestrial biodiversity objectives in the Inner West LEP.

Indirect construction impacts

Weeds are readily spread by existing dispersal factors such as wind, birds, water and the movement of vehicles along roads and pose a threat to the survival of native plants and animals. There is the potential for WONS and Priority Weeds to occur within and adjacent to the Proposal area. The establishment and spread of weeds within the Proposal area and adjoining areas is the most likely indirect impact expected from the Proposal,

during the removal of vegetation or disturbance of soils. Any potential impacts to adjacent native vegetation from weed establishment is expected to be consistent with the existing use of the station (i.e. maintenance and regular train movement along the corridor) and are not expected to be increased as a result of the Proposal.

Standard erosion and sedimentation mitigation measures would be implemented to minimise potential impacts to nearby waterways, such as Hawthorne Canal. Potential hydrology and flooding impacts are discussed in Section 6.9. The operation of construction equipment/plant and vehicles may generate a temporary increase in noise, dust and vibration around the Proposal area. Specifically, these have the potential to result in indirect impacts to the Australian White Ibis, known to be present within the Proposal area in the Thomas Street station forecourt. However, as work would predominately be undertaken during standard construction hours (with some night-work), impacts from increased light pollution are expected to be minor. Further, as the Proposal is in an urbanised area, construction is expected to have minimal noise, dust, vibration or light impacts on flora or fauna, including the Australian White Ibis due to its ability to roost in highly urbanised areas.

Operation

The operation of the Proposal would be largely consistent with the existing use of the station. Increased lighting from the Proposal and any increase in the number of people using the station due to its improved accessibility is not expected to result in any substantial impacts to biodiversity.

Additionally, enhanced landscape planting areas would be established at both the Thomas Street and Victoria Street forecourts near the proposed lift locations. This includes an additional native tree planting at the Thomas Street forecourt. Planting shall be undertaken in accordance with the plant schedule in the UDLP for the Proposal.

Key threatening processes

Key Threatening Processes are listed under Schedule 4 of the BC Act and EPBC Act. There are no relevant Key Threatening Processes that have the potential to affect biodiversity values within the Proposal area. The proposed vegetation removal is not of a scale to cause significant impacts.

Conclusion on significance of impacts

The Proposal is not likely to significantly impact threatened species or ecological communities or their habitats, within the meaning of the *Biodiversity Conservation Act, 2016* or *Fisheries Management Act 1994* and therefore a *Species Impact Statement* or Biodiversity Development Assessment Report is not required.

The Proposal is not likely to significantly impact threatened species, ecological communities or migratory species, within the meaning of the EPBC Act.

6.7.4 Mitigation measures

Several mitigation measures and safeguards would be implemented to avoid and minimise potential impacts to biodiversity in accordance with Transport guidelines, including measures to manage fauna, and indirect impacts associated with noise and vibration and dust. Specific mitigation measures are provided in Table 6-19 and standard mitigation measures are provided in Section 7.2.

Table 6-19: Site specific biodiversity mitigation measures

No.	Mitigation Measure	Responsibility	Timing
69	Measures to avoid and/or minimise the removal of native vegetation and/or habitat removal shall be investigated during detailed design and implemented where feasible. This shall include exploring opportunities to minimise impact on existing vegetation along the pathway between Thomas Street and West Street.	Contractor	Detailed design Construction
70	The opportunity to transplant tree TN7 shall be explored during detailed design. Prior to tree	Contractor	Detailed design Pre-construction

No.	Mitigation Measure	Responsibility	Timing
71	transplantation, a transplanting plan will be prepared. Transplanting will be undertaken in accordance with the plan and supervised by an AQF 5 qualified arborist.		Construction
	A Flora and Fauna Management Sub-plan (FFMSP) shall be prepared as part of the CEMP in accordance with the <i>Biodiversity Management Guideline EMF-BD-GD-0039</i> (Transport for NSW, 2024a). It shall include, but not be limited to: - plans showing areas to be cleared and areas to be protected - pre-clearing survey requirements - unexpected finds protocol - weed and pathogen management protocols. Staff on site during pre-clearing surveys shall be inducted so that there is an awareness for potential threatened species and their habitat and so that they can appropriately safeguard, manage and relocate any fauna if found during surveys.	Contractor	Pre-construction Construction
72	Pre-clearance surveys shall be undertaken by a suitably qualified ecologist in accordance with <i>Guide 1: Preclearing process</i> in Transport's <i>Biodiversity Management Guideline EMF-BD-GD-0039</i> (Transport for NSW, 2024a). If fauna is encountered during pre-clearance surveys or during the proposed work, <i>Guide 9: Fauna handling</i> in Transport's <i>Biodiversity Management Guideline EMF-BD-GD-0039</i> (Transport for NSW, 2024a) shall be applied. In the event that threatened species are encountered, Transport's unexpected finds procedure shall be followed in accordance with <i>Guide 1: Preclearing process</i>.	Contractor	Pre-construction
73	Pre-construction surveys of the Canary Island Date Palms for Australian White Ibis, including evening roost check and daytime inspections, will be undertaken by a suitably qualified ecologist. Appropriate management measures will be included in the Fauna and Flora Management Sub-plan and implemented on-site to minimise disturbance to nesting and/or roosting Australian White Ibis during construction.	Contractor	Pre-construction Construction

6.7.5 Biodiversity offsets

As no significant impacts are expected to any nationally-listed threatened species or ecological communities, offsets would not be necessary in accordance with the Biodiversity Assessment Method (BAM) and no Biodiversity Offset Strategy (BOS) would be required.

The removal of trees greater than or equal to five centimetres in DBH requires replacement planting. The proposed work would require the removal of two medium trees, neither of which are hollow bearing. Transport's *Tree and hollow replacement guidelines* (Transport for NSW, 2023a) provide a calculation to assess the number of replacement trees required to mitigate loss, as set out in Table 6-20. A total of eight replacement trees are required to be planted for the Proposal.

Table 6-20: Tree and Hollow Replacement Guidelines (Transport for NSW, 2023a)

Tree size	Tree replacement requirements
Very large (DBH over 100 cm)	Plant minimum 16 trees
Large (DBH between 50 and 100 cm)	Plant minimum eight trees
Medium (DBH between 20 and 50 cm)	Plant minimum four trees
Small (DBH between 5 and 20 cm)	Plant minimum two trees
Hollow	Three artificial hollows for every occupied hollow removal

6.8 Contamination, geology and soils

6.8.1 Methodology

The assessment has been informed by a Geotechnical Investigation Report (GIR) (AECOM, 2024f) and a Limited Contamination Assessment (AECOM, 2024g) prepared to inform the concept design of the Proposal.

The GIR presents the findings of the investigations undertaken within the Proposal area including a presentation of subsurface conditions, borehole logs and laboratory testing, core photographs and diagrams and test locations as well as a preliminary geotechnical interpretation.

The Limited Contamination Assessment provides results and analysis of sampling results against assessment criteria, an overview of the indicative waste classification of soil that would be encountered during construction, and a recommendation of any treatments that may be required.

A desktop review of relevant geology, soils and contamination databases was also carried out to establish the landform, geology and soil characteristics of the Proposal and its surrounding area.

6.8.2 Existing environment

Geology

Reference to the Seamless Geology dataset (Department of Regional NSW, 2024) indicates the Proposal area is underlain by Ashfield Shale. This overlays a Mittagong Formation, which in turn overlies the regional Hawkesbury Sandstone. Ashfield Shale is described as black to light grey shale and laminite. The Mittagong Formation is described as an interbedded shale, laminate, and medium-grained quartz sandstone. The Hawkesbury Sandstone is described as a medium to coarse grained quartz sandstone.

Geotechnical investigations have been undertaken at two boreholes in the Proposal area on Thomas Street (LWH_BH01) and Victoria Street (LWH_BH02), as shown in Figure 6-17. The subsurface profile findings of the boreholes are summarised in Table 6-21 and Table 6-22.

Table 6-21: Thomas Street borehole (LWH_BH01) subsurface profiles

Unit	Unit thickness (metres)	Description
Pavement	0.12	Asphalt: grey
Fill	0.13	Clay: trace sand and gravels
Residual Soil	1.79	Clay: trace sand, fine grained and trace gravels, fine grained
Ashfield Shale	11.31	Shale: Mittagong formation
Mittagong Formation	Not proven	Sandstone: fine to medium grained

Table 6-22: Victoria Street borehole (LWH_BH02) subsurface profiles

Unit	Unit thickness (metres)	Description
Pavement	0.04	Asphalt: grey
Fill	0.96	Clayey gravel: fine to medium trained, sandstone and basalt
Residual Soil	3.0	Clay: trace sand, fine grained and trace gravels, fine grained
Ashfield Shale	2.7	Shale: interbedded with sandstone
Mittagong Formation	2.3	Interbedded shale and sandstone: find grained
Hawkesbury Sandstone	Not proven	Sandstone: fine to coarse grained



Figure 6-17: Borehole locations

Identified contamination

Based on the location of the Proposal, use as a train station and public roadway, and the potential presence of historically uncontrolled fill, the Contaminants of Potential Concern (CoPC) were considered to be:

- Heavy metals (arsenic, cadmium, chromium, copper, nickel, lead, zinc and mercury)
- Total recoverable hydrocarbons (TRH)
- Benzene, toluene, ethylbenzene, xylenes and naphthalene (BTEXN)
- Polycyclic aromatic hydrocarbons (PAH)
- Organochlorine and organophosphate pesticides (OCP/OPPs)
- Polychlorinated biphenyls (PCBs)
- Acid Sulfate Soils (ASS)
- Asbestos.

Contamination investigations have been undertaken at two borehole locations and included two soil samples taken at the Thomas Street borehole (LWH_BH01) and three soil samples at the Victoria Street borehole (LWH_BH02). All soils were reported to be below the adopted human health assessment criteria and present a low risk to human health. Asbestos was not detected in any of the soil samples analysed.

An indicative waste classification of the soil samples following the *Waste Classification Guidelines* (NSW EPA, 2014) was also undertaken. Analysis indicated that two of the soil samples taken at Thomas Street (LWH_BH01) had elevated concentrations of benzo(a)pyrene up to a depth of 1.5 metres, resulting in Restricted Waste and Hazardous Waste classifications. The remaining soil samples analysed from the boreholes fell within the General Solid Waste (non-putrescible) classification.

NSW EPA records

A search of the NSW EPA Contaminated Land Record (NSW EPA, 2024) identified no records of contaminated sites within the Proposal area.

The EPA publishes a list of contaminated land notified under section 60 of the CLM Act. These have been assessed by the EPA as being contaminated but may not always require regulation under the CLM Act. A search of the NSW EPA List of Notified Sites identified no EPA notified contaminated sites within the Proposal area (NSW EPA, 2024).

Soils

Soil landscape

Reference to the soil landscapes of the Blacktown 1:100,000 map indicates the Proposal area falls within the Blacktown Soilscape. Soils of the Blacktown Soilscape are shallow to moderately deep. They consist of texture contrast soils as well as Red and Brown Podzolic Soils which grade to Yellow Podzolic Soils on lower slopes and in drainage lines. Landscapes of the Blacktown Soilscape are gently undulating on Wianamatta Group shales. Local relief typically ranges from 0 to 30 metres with slopes generally less than five per cent.

Acid sulfate soils

A desktop review of available information was conducted to identify potential ASS risk areas. The Inner West LEP ASS Map shows the ASS Class for the Proposal area is "Unclassified". ASS are not typically found in unclassified areas. However, preliminary ASS screenings of soil samples taken from the Victoria Street borehole (LWH_BH02) indicate that Potential Acid Sulfate Soils (PASS) may be present up to 1.5 metres in depth.

Salinity

Based on the electrical conductivity criteria for soils, outlined in '*Site investigations for Urban Salinity – 2002*' (Office of the Environment and Heritage, 2002), the salinity potential of the Proposal area's soil samples tested

as saline. This aligns with the salinity hazard rating from the NSW Government hydrogeological landscapes dataset where the salinity hazard for the Proposal area is moderate.

Surface water

The nearest surface water feature to the Proposal area is Hawthorne Canal, located around 300 metres west of Lewisham Station. The canal is channelised in a concrete channel, with riparian zones on either side of the bank.

The stormwater channel extends from Canterbury Road at Lewisham to Dobroyd Point at Iron Cove, flowing through Leichhardt and Haberfield in a north direction before draining into the Paramatta River.

Groundwater

Groundwater was not encountered during the drilling of boreholes as part of the geotechnical investigations in the Proposal area, and no obvious groundwater seepage was observed. Boreholes depths were up to 15.20 metres at Thomas Street (LWH_BH01) and 10.52 metres at Victoria Street (LWH_BH02).

Additionally, previous site investigations at two boreholes approximately 350 metres to the west of Lewisham Station found no groundwater at depths of 7.3 metres below the existing ground surface.

A search of Water NSW's Water Information Hub (Water NSW, 2024) found no registered groundwater bores within or surrounding the Proposal area. Given the availability of reticulated water in Lewisham, un-registered bore hole use is not likely.

6.8.3 Potential impacts

Construction

Soils

The presence of hydrocarbons in soils can result in environmental and health risks to ecological and human receptors, including bioaccumulation. Construction activities within the Proposal area, such as excavation and other ground intrusive activities, have the potential to disturb known elevated concentrations of benzo(a)pyrene identified in the soil samples taken from the borehole at Thomas Street (LWH_BH01). However, the analysed soils samples were reported below the adopted human health assessment criteria and present a low risk to human health.

Construction activities on-site also have the potential to result in leaching of contaminants into the soil via accidental spills or leaks, presenting an environmental and health risk to on-site and off-site ecological and human receptors interacting with contaminated soils.

The potential exists for imported landscaping materials, such as mulch, to contain contaminants, which could result in the introduction of contamination to the Proposal area, presenting an environmental and health risk to ecological and human receptors interacting with the contaminated material. Contamination testing, sampling and visual inspection is to be undertaken on all landscaping and mulching material imported to site to ensure no contaminated material is introduced.

Preliminary screening of soils identified the potential presence of ASS in soil samples analysed for the Thomas Street borehole (LWH_BH01). Further analysis of soils is recommended to determine the presence of ASS prior to any excavation activities taking place during construction.

Ground disturbing construction activities also have the potential to disturb previously unidentified contaminated soils which could result in environmental and health risks to ecological and human receptors, such as contamination of the surrounding environment or inhalation of respirable fibres. Contamination testing is to be undertaken on material to be excavated prior to construction and any material to be used as backfill to ensure no contamination is present.

Surface water

Construction activities associated with the Proposal have the potential to result in leaching of contaminants into surface water resulting from accidental spills or inadequate fuel and chemical storage practices. This could result in contaminated surface water entering nearby drainage infrastructure and waterways, impacting water quality. This impact would be minimised through implementation of mitigation measures outlined in Section 7.2. As such, any impacts on water quality from spills or chemical storage are expected to be minor and localised.

There is also a potential health risk to on-site and off-site human receptors, such as construction workers, interacting with contaminated surface water.

Construction activities involving ground disturbance also have the potential to expose and mobilise soils which could result in sediment-laden surface water entering drainage lines, the stormwater network and nearby waterways, such as the Hawthorne Canal, potentially impacting water quality. This impact would most likely occur during a high rainfall event that would increase water flows through the Proposal area. However, this impact would be minimised through the implementation of erosion and sediment controls as outlined in Section 7.2. As such, any residual impact following implementation of mitigation measures would be minor and localised.

Groundwater

Excavation and other earthwork required to construct the Proposal, such as piling activities associated with constructing the new lift shafts and trenching for electrical upgrades, have the potential to result in leaching of contaminants into groundwater, presenting an environmental risk associated with contaminants reaching the groundwater table. Excavation and other earthwork also have the potential to disturb previously unidentified contaminated groundwater.

There is also a potential health risk to on-site and off-site human receptors interacting with contaminated groundwater, via worker contact or groundwater extraction. As no registered boreholes were identified in proximity to the Proposal area, groundwater extraction in the area is not likely.

Groundwater was not encountered during the drilling of boreholes, and it is therefore anticipated that the groundwater level is below the bulk excavation level for the Proposal. As such, it is not expected that groundwater would be intercepted. Minor volumes of groundwater may enter deeper excavations if they extend into the groundwater table. While this could lead to leaching of pollutants to groundwater, large volumes of dewatering or groundwater extraction is unlikely to be required. Should groundwater be encountered during excavation, it would be managed in accordance with Transport and NSW EPA guidelines.

All potential contamination impacts associated with soils, surface water and groundwater would be managed with the implementation of mitigation measures outlined in Table 6-23 and Section 7.2.

Operation

Operation of the Proposal is not expected to result in any notable impacts to contamination of soils, surface water or groundwater.

6.8.4 Mitigation measures

Several mitigation measures provided in Section 7.2 would be implemented to avoid and minimise impacts to contamination, geology and soils in accordance with Transport's relevant guidelines. These include erosion and sediment control measures, measures for the storage and use of hazardous materials and measures to manage potential contamination or asbestos identified during construction. Specific mitigation measures are provided in Table 6-23.

Table 6-23: Site specific contamination, geology and soils mitigation measures

No.	Mitigation Measure	Responsibility	Timing
95	As potential acid sulfate soils have been identified in the Limited Contamination Assessment (AECOM, 2024g), further analytic assessment of soils shall be undertaken prior to excavation activities to determine the presence of ASS.	Contractor	Pre-construction

6.9 Hydrology and flooding

6.9.1 Methodology

A desktop hydrology assessment was carried out to assess the existing flood characteristics (up to a one per cent annual exceedance probability (AEP) and identify any potential adverse impacts that need to be considered as part of the Proposal. A review of the Inner West LEP, relevant flood studies and NSW Flood Data Portal was undertaken to identify existing flood mapping and flood studies in the area surrounding the Proposal (NSW SES, 2020).

Information on groundwater within the Proposal area was obtained from borehole data from a geotechnical investigation for the Proposal (AECOM, 2024f).

Hydrological modelling has been carried out using the XP-RAFTS model to assess flow characteristics at Lewisham Station and estimate corresponding flood events. The modelling has been used to inform the drainage and stormwater design requirements for the Proposal. The results are presented in the Desktop Hydrology Assessment Report (AECOM, 2024h).

6.9.2 Existing environment

Catchment

Inner West Council area is divided into nine primary catchments. The Proposal is located in the Hawthorne Canal catchment, which extends from New Canterbury Road at Lewisham to Dobroyd Point at Iron Cove and includes parts of the suburbs of Ashfield, Dulwich Hill, Haberfield, Leichhardt, Lewisham, Petersham and Summer Hill.

Existing drainage

Stormwater run-off from the rail corridor, existing infrastructure and underpass at Lewisham Station drains into a stormwater collection pit within the Proposal area. The runoff collected in the pit is then pumped out to Victoria Street and discharged into council-maintained stormwater drainage infrastructure.

Flood risk

The Hawthorne Canal catchment is part of a broader flood management strategy due to its susceptibility to flash flooding, which is typically caused by sudden, heavy rainfall. Inner West Council has conducted extensive flood studies and developed flood risk management plans to address this issue, including the Hawthorne Canal Flood Study (WMA Water, 2015).

Lewisham Station is located in an area that is prone to flooding. Although the mapped projected flood depth during a one per cent AEP flood event in Lewisham does not intersect with the Proposal area, as shown in Figure 6-18, the station's underpass has a history of flooding, primarily during periods of heavy rain. The desktop hydrology assessment found there are two runoff catchments that can produce a significant volume of runoff which flows into the Lewisham Station underpass, resulting in flooding of the underpass. The underpass periodically floods to depths in excess of one metre during heavy storms, as shown in Figure 6 19 and Figure 6 20. Flooding occurs when the rate of inflow to the underpass exceeds the pit storage capacity and outflow rate.

Future projected climatic conditions indicate that rainfall events are predicted to reduce in frequency and duration but increase in rainfall intensity (refer to Section 6.11 for further details on climate resilience).

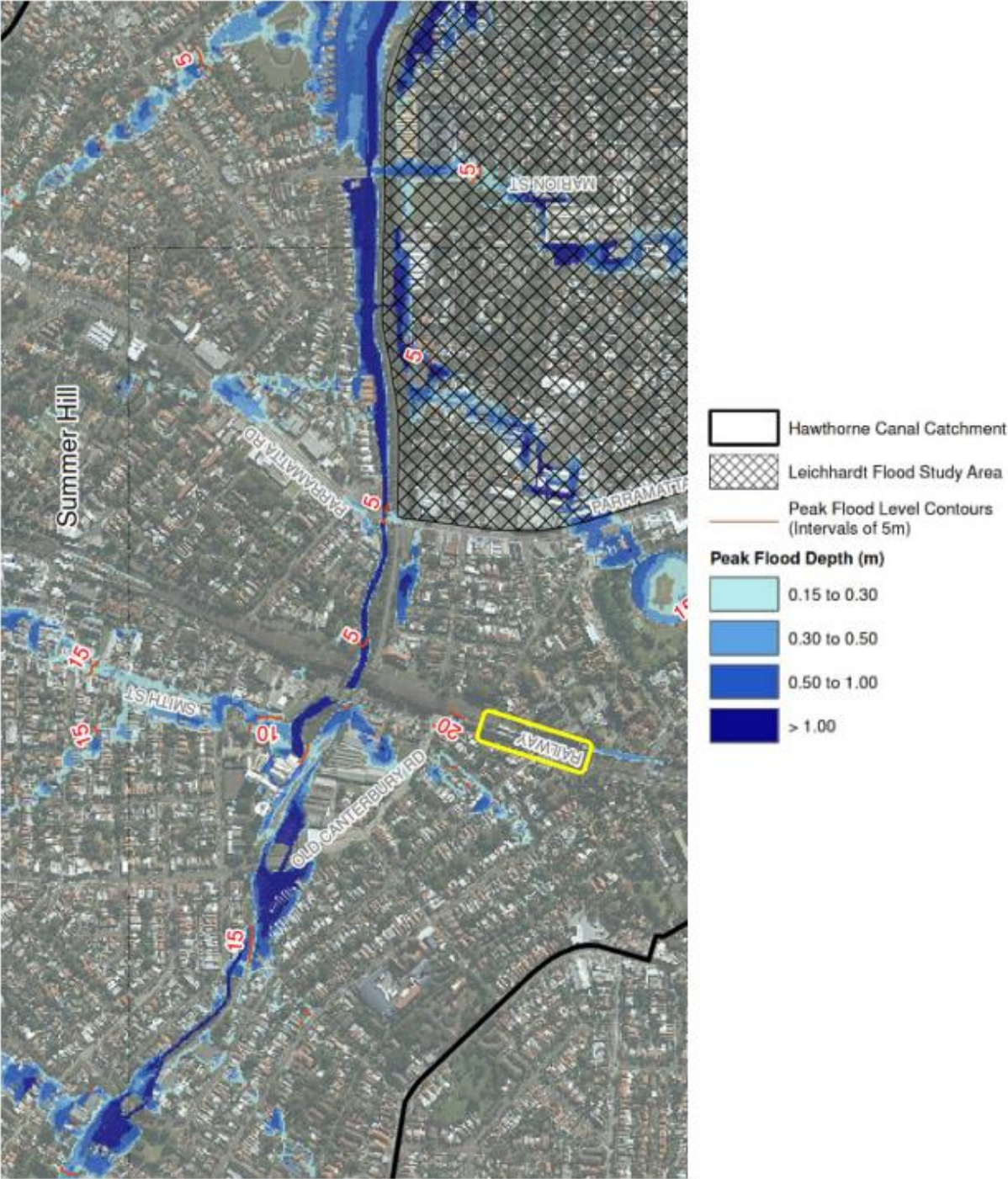


Figure 6-18: Flood depths in one per cent AEP flood for Lewisham Station (located in yellow). (Source: (WMA Water, 2015))



Figure 6-19: Flooding at Lewisham Station underpass (source: 9News Sydney October 2014)

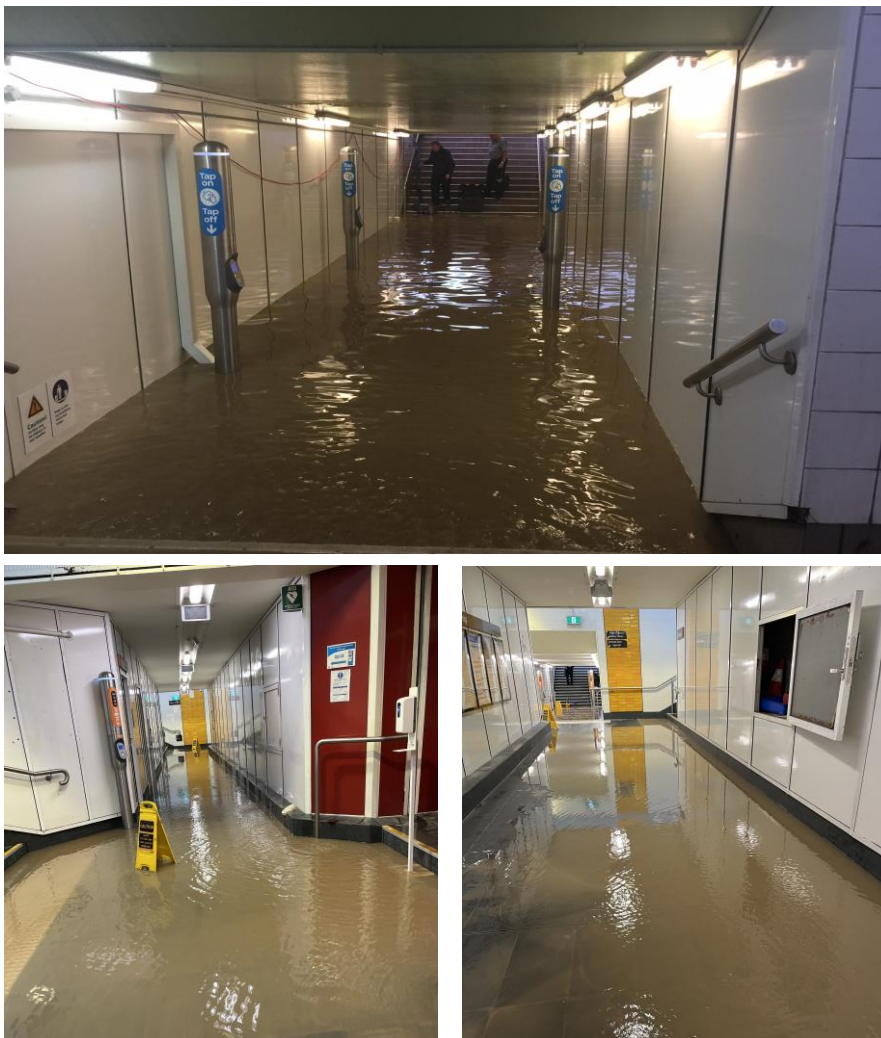


Figure 6-20: Flooding at Lewisham Station underpass (source: station train guard, February 2017)

6.9.3 Potential impacts

Construction

Surface water runoff

Additional impervious surface areas during construction, which prevent surface water from being absorbed into the ground, can lead to higher volumes of runoff. The temporary construction compounds are all located in areas of existing hardstand. No additional impervious surface areas are anticipated to be required to accommodate construction activities. Therefore, increased volumes of surface water runoff are not expected during construction. Surface water run-off volumes and rates are to be effectively managed during construction.

Flood risk

The Proposal area and construction compounds are outside the one per cent AEP flood extent. However, the previous known flooding in the Lewisham Station underpass, associated with the exceedance of stormwater pits storage capacity during high rainfall events, suggests there is potential for flooding to disrupt construction activities resulting in delays and potentially causing damage. Excess stormwater could enter excavations, particularly during lift lobby excavation in the underpass. Additional hydrology and drainage assessments would be undertaken to inform detailed design and minimise flooding in the station underpass. Drainage designs as part of detailed design for the Proposal would account for increases in rainfall intensity associated with climate change.

Loose material has potential to be mobilised during a flood event, which could become a hazard by blocking the existing stormwater drainage infrastructure that receives surface water runoff, leading to localised flooding, or by contaminating runoff through sedimentation. The impacts of sedimentation on water quality, as well as pollution from contaminated surface water runoff, are considered in further detail in Section 6.8.

To minimise the impacts, weather forecasts would be regularly monitored during construction. In the event of high rainfall, work shall cease, and equipment and materials removed from any affected areas. In the case flooding is predicted construction plant and equipment shall not be stored in flood prone areas. This impact would be minimised through the implementation of mitigation measures outlined in Section 6.9.4.

Operation

Surface water runoff

The Proposal would result in a minor increase in permanent impervious surfaces, associated with the new padmount within the rail corridor at the intersection of Old Canterbury Road and Alfred Street.

Throughout the Proposal area, surface runoff would be discharged and connected to the existing track drainage network. Proposed new permanent stormwater infrastructure, including a pit and pipe system in the underpass, an OSD tank located under the lift lobby at the Railway Terrace/Victoria Street station entrance, and an additional pipeline connecting to an existing Council stormwater pit at the corner of Victoria Street and Hobbs Street, would result in improved management of stormwater runoff within the Proposal area. The OSD tank would manage stormwater runoff by temporarily storing it and releasing it at a controlled rate to the local council-maintained stormwater drainage network. Details of the stormwater drainage infrastructure, including the OSD tank would be confirmed during detailed design.

Due to the limited increase in impervious surfaces and the improvements to the stormwater drainage infrastructure in the Proposal area, there is no anticipated increase in surface water run-off flows or velocity during operation. The Proposal would not significantly impact the run-off catchment size or catchment properties. Therefore, there is likely to be minimal, if any, negative impact on hydrology during operation of the Proposal.

Flood risk

The Proposal has been designed to effectively mitigate the risk of flooding by including appropriate drainage as part of the Proposal. The detailed design would incorporate the latest climate projections and data. Proposed

track drainage improvements, including clearing blocked drainage pipes and pits, repair, replacement and new drainage pipes and pits would also provide appropriate flood mitigation.

Flood risk associated with historical flooding in the underpass during periods of high rainfall, is likely to be reduced due to proposed improvements of the existing stormwater drainage infrastructure associated with the Proposal. Flood risk has therefore been minimised for the Proposal.

6.9.4 Mitigation measures

Standard mitigation measures would be implemented to address potential hydrology and flooding impacts as detailed in Section 7.2. In addition, site specific measures to confirm and manage potential impacts on hydrology flooding from the Proposal are included in Table 6-24.

Table 6-24: Site specific hydrology and flooding mitigation measures

No.	Mitigation Measure	Responsibility	Timing
80	Additional hydrology and drainage assessments shall be undertaken to inform detailed design and minimise flooding in the station underpass. Drainage designs would account for increases in rainfall intensity associated with climate change.	Contractor	Detailed design
81	Weather forecasts shall be regularly monitored during construction. In the event of high rainfall, work shall cease, and equipment and materials removed from the affected area.	Contractor	Construction
82	Opportunities to divert existing inflows, increase the pumping capacity and pit storage volume, and provide a new pipeline to discharge stormwater further to the south of Victoria Street, shall be explored during detailed design to minimise flood risk.	Contractor	Detailed design Construction
83	In the case flooding is predicted, construction plant and equipment shall not be stored in flood prone areas.	Contractor	Construction
84	Appropriate measures shall be implemented to mitigate flood risk and drainage impacts during construction and documented in the CEMP.	Contractor	Construction
85	Surface water flows shall be managed during construction.	Contractor	Construction

6.10 Greenhouse gas emissions

6.10.1 Methodology

Transport generally utilises the Transport Carbon Tool for tracking and reporting carbon throughout design and construction phases of project development. The Transport Carbon Tool has been designed to help standardise greenhouse gas assessment and reporting throughout project delivery. The tool assesses scope 1, scope 2 and scope 3 emissions. The three scopes as defined by the National Greenhouse Emissions Reporting Scheme (Clean Energy Regulator , 2023) are described in Table 6-25 below.

Table 6-25: Greenhouse Gas (GHG) emission scopes

Emission	Definition
Scope 1	Scope 1 GHG emissions are the emissions released to the atmosphere as a direct result of an activity, or series of activities at a facility level related to the Proposal. Scope 1 emissions are sometimes referred to as direct emissions.

Emission	Definition
Scope 2	Scope 2 GHG emissions are the emissions released to the atmosphere from the indirect consumption of an energy commodity. For example, 'indirect emissions' come from the use of electricity produced by the burning of coal in another facility.
Scope 3	Scope 3 GHG emissions are indirect GHG emissions other than scope 2 emissions that are generated in the wider economy. They occur as a consequence of activities of a facility, but from activities not owned or controlled by the facility's business, for example the extraction and production of purchased materials.

The GHG emissions from construction of the Proposal were estimated using the Transport Carbon Tool.

6.10.2 Existing environment

The transport sector accounts for 19 per cent of NSW's greenhouse gas emissions. Although 77 per cent of the transport sector emissions are associated with users of the road network, Transport's direct operations account for only five per cent of the sector emissions.

Greenhouse gas emissions in the Proposal area would also be mostly attributed to the transport sector due to the road and rail network.

6.10.3 Potential impacts

Construction

The construction of the Proposal would result in the generation of GHG emissions through:

- direct emissions of carbon dioxide, methane and nitrous oxide from the use of plant and equipment emitting exhaust fumes
- use of electricity from fossil fuels
- embodied emissions from manufacture, delivery and use of materials that have high embodied energy content such as concrete.

Greenhouse gas emissions resulting from the construction activities of the Proposal would be short-term and temporary. Greenhouse gas emissions generated during construction would be kept to a minimum through the implementation of the standard mitigation measures detailed in Section 7.2.

A compliant carbon footprinting exercise in accordance with the Transport Carbon Tool or other approved modelling tools would be undertaken. The carbon footprint would be used to inform decision-making during detailed design and construction.

Operation

During the operation of the Proposal, GHG emission sources would include:

- operational maintenance and repairs, and fuel use for the operation of the plant and equipment to perform the maintenance activities
- electricity usage for street furniture including lighting, electronic signage and variable message signs.

However, as the Sydney Trains network operates with net zero emissions from electricity consumption, electricity sourced from the network may have negligible generation of GHG emissions.

Energy efficiency will be further investigated during detailed design to reduce operational energy consumption.

6.10.4 Mitigation measures

Opportunities to reduce emissions associated with both construction and operation would be investigated and implemented throughout detailed design and construction. Standard mitigation measures to address

greenhouse gas impacts are identified in Section 7.2, including the requirement to carry out a carbon footprint exercise during detailed design using the Transport Carbon Tool.

6.11 Climate resilience

6.11.1 Methodology

Transport’s climate change risk assessment is generally described in Table 6-26 below.

Table 6-26: Climate change risk assessment approach (Transport for NSW)

Type	Assessment step	Mitigation Measures
Climate risk pre-screening	Pre-screening	The first stage of the pre-screening process determines whether the project is likely to be impacted by climate change, through assessing historical and current exposure.
	Risk screening	The second stage of screening aims to identify potential exposure to relevant future climate change impacts.
	Risk assessment	Formulate the risk scenarios using the relationships identified in the pre-screening and risk screening stage. Each risk scenario is then analysed in detail by assigning a ‘likelihood’ and ‘consequence’ rating . Existing controls/standards should be identified and residual risk ratings selected.
Detailed climate risk assessment and evaluation (undertaken where the screening identifies extreme, very high or high risks)	Risk evaluation	The purpose of risk evaluation is to identify which of the risks require treatment. Treatments designed to mitigate the risks should be applied to residual risks evaluated as extreme or high. Risks evaluated as negligible or low do not require any further consideration.
	Risk treatment / adaptation	Involves the development of risk treatments that can reduce the residual risk rating so that at a minimum, no high, very high, or extreme risks remain after an adaptation pathway has been identified.

A Climate Change Risk Assessment (CCRA) (AECOM, 2024i) was developed for the Proposal in alignment with the *TfNSW Climate Risk Assessment Guidelines v4.1* (Transport for NSW, 2021a). The assessment in the CCRA follows the approach outlined in Table 6-26 to determine the climate-related risks for the Proposal.

The development of the CCRA involved engagement with a multi-disciplinary working group including the design team and Transport representatives to determine climate risks, controls and potential future adaptation measures for the Proposal. A CCRA workshop was held on 4 July 2024 to validate adaptation actions identified for the Proposal.

The CCRA identifies climate effects relevant to the Proposal and provides an assessment of the potential climate risks to the proposed work. It identifies appropriate risk management and adaptation measures to be incorporated into the design, construction and operation phases to build the resilience of the proposed work to changing climate conditions. The CCRA is summarised in the following section.

6.11.2 Existing environment

Climate conditions

Globally average air temperature has warmed approximately 1.47 °C since records began in 1850 (based on 2024 data) (NASA, 2024). The 10 most recent years have been the warmest on record.

Increasing global mean temperatures and changes to the average climate system, driven primarily by higher carbon dioxide levels due to human influence, lead to higher frequency and intensity of extreme weather events globally and in Australia. Significantly, the projected recurrence and intensity of extreme weather events can occur much faster and have a more significant impact than changes to the average climate system state.

In Australia, eight of the nine warmest years on record have occurred since 2013, with 2019 marking the warmest year (CSIRO, 2025). Penrith in western Sydney reached 48.9 °C on the 4 January 2020, the highest observed in an Australian metropolitan area.

Climate change has impacted Australia and NSW by increasing the severity and frequency of heatwaves, bushfires, extreme rainfall, flooding and landslides, drought, and extreme winds and cyclones.

Observed climate

Greater Sydney currently has a significant variation in geographical regions, ranging from the coastal fringes of Metropolitan Sydney to the Blue Mountains.

Temperature

Average summer temperatures in the Greater Sydney region range from 16 to 24°C. On average, Greater Sydney experiences less than 10 days over 35°C per year.

On average, winter temperatures range from 4 to 14°C, with Greater Sydney experiencing less than 10 nights below 2°C per year. An increase in temperature has been observed across the region since the 1960s.

Rainfall

Annual average rainfall is in the range of 800 to 1200 millimetres for Greater Sydney. There is typically more rainfall in summer and autumn than in winter and spring. Western Sydney has the most uniform rainfall patterns in the region.

Fire weather

Greater Sydney experiences an average of one to two days of severe fire weather conditions per year. These days are more likely to be in summer and spring months.

Previous extreme weather events

The Greater Sydney region is already experiencing extreme adverse weather events. Recent events, including flooding, bushfires, extreme heat days and drought have demonstrated the vulnerability of Sydney train stations to climate hazards.

Lewisham Station and its surrounds have been impacted by previous extreme weather events including extreme rainfall, heat, and storms, resulting in flood rescues and fatalities in Sydney, closures to Lewisham Station due to flooding in the underpass (2014, 2015 and 2017), disruption to events, and debris and fallen trees blocking the train tracks and causing major delays on the Sydney trains network. Other weather events included drought due to rainfall being substantially below average, and poor air quality due to severe haze attributed to bushfire hazard reduction burns.

Climate change scenarios and projections

The Intergovernmental Panel on Climate Change (IPCC) has defined four greenhouse gas concentration trajectories known as Representative Concentration Pathways (RCPs) for use in climate modelling and research (IPCC, 2023). The RCP 8.5 pathway, which arises from little effort to reduce emissions and represents a failure to prevent warming by 2100, is closest to the current emissions trajectory. The climate projections used in the CCRA are for the 2030 and 2070 time-horizons and are similar to RCP 8.5 (worst-case) scenario projections.

Climate projections for the Sydney Metropolitan Area predict increases in a number of climate variables including mean temperature change, extreme heat, mean rainfall change, extreme storms (east coast lows), and bushfires:

- mean temperature change – minimum and maximum temperatures are projected to increase by 1°C by 2030 and 0.7°C by 2070
- extreme heat – the average number of days above 35°C forecast to increase by 4 days in 2030 and continue to rise to an additional 11 days by 2070
- mean rainfall change – a 1.7% increase in mean rainfall is projected by 2030, and an 8.9% increase by 2070
- extreme storms – east coast lows expected to decrease in frequency but increase in intensity and travel further south down the NSW coastline
- bushfires – severe fire weather days are not expected to change by 2030, however are projected to increase to by 0.6 days by 2070.

6.11.3 Potential impacts

Construction

The potential impacts of climate change are expected to be minimal due to the relatively short timeframe of the construction phase of the Proposal, as described in Section 3. For this reason, a risk assessment for the construction phase of the Proposal is not warranted.

Transport standard risk management controls carried out during construction would be sufficient to manage any risk associated with current climatic conditions.

Operation

Climate change presents risks to the operation of the Proposal in both the short term and long term. Based on the assessment of historic incidents and future climatic projections for the Proposal area, the CCRA identified potential operational risks across five climate variables: extreme heat, extreme storms, bushfire, drought and extreme rainfall.

A preliminary risk assessment identified multiple climate risks (both direct and indirect) to Lewisham Station. The following risks were identified as 'high' in the CCRA:

- Direct risks were associated with:
 - Increased temperatures and extreme heat leading to increased heat stress or heat stroke incidents for staff working and passengers walking to and from the station, as well as boarding and alighting for train/bus services
 - Increased severity of extreme rainfall and flooding leading to flooding, resulting in closure of the station (due to damage or for safety purposes) and/or isolation of assets
- Indirect risks were associated with:
 - increased frequency and intensity of extreme weather events leading to risk to health and safety of staff working and passengers travelling to/from the station, and at the station causing reduced patronage and staff absences.

The following risks were identified as 'medium' in the CCRA:

- increased frequency and intensity of extreme weather events leading to:
 - greater instances of material degradation to façades, structures, and surfaces, resulting in higher replacement and maintenance costs
 - increased instances of energy and telecommunications network failure (e.g. outages/blackouts/brownouts, etc.) impacting operations
 - local transport network disruptions reducing access to the station

- increasing severity and instances of bushfire, leading to smoke from bushfires resulting in increased risk of train disruptions and/or cancellations at the station causing reduced patronage, and increased maintenance requirements to clean ash deposits and clear air conditioning filters
- increased severity of extreme rainfall and flooding leading to malfunctioning of electrical equipment, including lighting, automated doors, communications and associated circuitry causing station closure and/or delays and reduced patronage.

Adaptation measures for direct and indirect climate risks will be developed further and documented in the detailed design.

6.11.4 Mitigation measures

Standard mitigation measures would be implemented to address potential climate impacts as detailed in Section 7.2. In addition, site specific measures to confirm and manage potential impacts on climate from the Proposal are included in Table 6-27. These measures would be investigated during detailed design and implemented where feasible.

Table 6-27: Site specific climate resilience mitigation measures

No.	Mitigation Measure	Responsibility	Timing
99	The Climate Risk Assessment will be adopted to inform detailed design and implemented where feasible.	Contractor	Detailed design Construction

6.12 Other impacts

6.12.1 Existing environment and potential impacts

Table 6-28 summarises other potential impacts that may occur when constructing and operating the Proposal, including in relation to waste and resource use, air quality and hazards and risks.

Table 6-28: Other potential impacts

Environmental factor	Existing environment	Potential impacts
Waste and resource use	General waste bins and recycling bins are located at the city end of Platform 2 and at the Railway Terrace/Victoria Street station entrance.	Construction During construction of the Proposal, the following waste materials would be generated: • demolition waste from removal of infrastructure • excavated spoil • building material wastes (including metals, timbers, plastics, packaging, fencing etc) • surplus building materials • packaging materials from items delivered to the Proposal area, such as pallets, crates, cartons, plastics and wrapping materials • electrical wiring and conduit waste (from electrical connections and utility relocation) • contaminated or chemical waste • green waste (including mulch from tree removal and weeds) • general domestic waste, including food scraps, aluminium cans, glass bottles, plastic and paper containers, and putrescible waste generated by construction workers. Waste generated during construction would be recycled where possible or otherwise disposed of in accordance with EPA guidelines to licenced waste facilities. Resource use on-site during construction would be minimised where possible in accordance with the resource management hierarchy principles outlined in the WARR Act. Standard mitigation measures to address waste and resource use impacts are identified in Section 7.2. Waste management measures would be included in the CEMP (or separate Waste Management Plan, if necessary). Operation The Proposal is not anticipated to result in increased waste during operation. Existing bin storage/enclosures would be relocated within the Proposal area, to maintain the existing level of provision.
Air Quality	The existing air quality is characteristic of an urban environment with transport emission influences. NSW Environment and Heritage undertakes air quality monitoring across NSW. The Proposal is located within the East Sydney monitoring region, with the closest air quality monitoring station to the Proposal being the Earlwood air quality monitoring	Construction Construction activities for the Proposal may result in the generation of dust and emissions from on-site machinery and associated vehicles from: • loading and transfer of materials from trucks • use of on-site machinery and vehicles

Environmental factor	Existing environment	Potential impacts
Hazard and risk	station located around three kilometres to the south of the Proposal area. A search of the daily regional air quality data (NSW Environmental and Heritage, 2025) on 20 January 2025 shows that the region experienced 'Good' air quality values. Receivers that may be potentially sensitive to air quality impacts from the Proposal include: - customers at Lewisham Station - local residents - customers of the commercial enterprises - pedestrians walking along Railway Terrace, Thomas Street and other nearby streets.	- excavation of the new lift shafts and platform canopy footings, pilling, removal of the existing stairs, kerb modifications and trenching for electrical upgrades - platform building modifications and platform regrading. However, with the implementation of appropriate dust mitigation, the construction of the Proposal would have minimal air quality impacts, and any dust or emissions are anticipated to be localised, short-term and minor. In particular, appropriate measures would be implemented to manage dust impacts from excavations, identified in Section 7.2. Operation Operation of the Proposal would not introduce any new sources of air emissions or result in a change in land use that might otherwise impact upon air quality. As the Proposal would improve access to public transport, the use of public transport is expected to increase leading to less private vehicle emissions in the long-term and contribute to an improvement in local air quality.
	<u>Bushfires</u> Bushfire mapping indicates that the Proposal is not located within a bushfire prone area or within a 100-metre buffer zone of a bushfire risk area. The nearest section of mapped bushfire prone land is approximately six kilometres north-east of the Proposal area, across the Parramatta River in Woolwich. <u>Utilities</u> As is noted in Section 3.5, various existing utility assets, including water and communication services, pass through the Proposal area. <u>Hazards</u> Existing hazards at Lewisham Station include the potential for customers to fall from the platform onto the railway tracks and for pedestrians walking along Thomas Street, Railway Terrace and Victoria Street in close proximity to vehicle movements. Additionally, the existing stair-only access to the station, as well as the uneven platform grade	Construction <u>Bushfires</u> As the Proposal area is not located in bushfire prone land, and there is no contiguous vegetated connection to bushfire prone land, the Proposal is not expected to result in bushfire impacts. <u>Utilities</u> Consultation with the relevant utilities providers would be undertaken to minimise impacts on utilities during construction. New utilities and service connections are likely to be required to be undertaken during out of hours (night-time), which could result in noise impacts to nearby sensitive receivers. Noise impacts and appropriate mitigation measures are addressed in Section 6.3 and Section 7.2. <u>Hazards</u> Hazards and risks associated with the construction of the Proposal would potentially include: - carrying out work within or adjacent to a public road - carrying out work near existing services and utilities - the use and storage of hazardous materials - the use of heavy machinery - unexpected excavation of contaminated land - sparks and/or hot work causing fire, particularly during dry hot periods

Environmental factor	Existing environment	Potential impacts
	presents hazards for customers with accessibility needs.	unauthorised access to the construction work site. Construction hazards and risks are manageable through the application of standard mitigation measures. The measures outlined in Section 7.2 to address hazards and risk impacts would be incorporated into the CEMP and implemented during construction. Operation <u>Bushfires</u> The Proposal is not expected to result in bushfire impacts during operation. <u>Utilities</u> Consultation with the relevant utilities providers would be undertaken to minimise operational impacts on utilities. <u>Hazards</u> The operation of the Proposal would reduce safety hazards for customers with accessibility needs. The construction of the lifts and new station access from Railway Terrace to Platform 2 would improve safe access to the station for all customers, whilst the regrading of the platform would reduce existing risks for customers with accessibility needs during operation of the Proposal.

6.12.2 Mitigation measures

Standard mitigation measures outlined in Section 7.2 would be implemented to minimise impacts to waste and resource use, air quality and hazards and risk as part of the Proposal.

6.13 Cumulative impacts

6.13.1 Study area

The cumulative impact assessment has considered other projects that are currently underway, or planned in the Lewisham suburb, in proximity to the Proposal area.

6.13.2 Broader program of work

Cumulative impacts occur when two or more projects are carried out concurrently and in close proximity to one another. The impacts may be caused by both construction and operational activities and can result in a greater impact to the surrounding area than would be expected if each project was undertaken in isolation. Multiple projects undertaken at a similar time/similar location may also lead to construction fatigue, particularly around noise, traffic and air quality impacts, if not appropriately managed.

The Proposal is part of Transport's broader Safe Accessible Transport program. The nearest stations proposed for upgrade as part of the Safe Accessible Transport program are Bardwell Park Station (located around 4.7 kilometres south), Chester Hill Station (located around 13 kilometres west) and Macquarie Fields Station (located around 26 kilometres southwest). Cumulative impacts from the upgrade of these stations in conjunction with Lewisham Station upgrade would be negligible.

6.13.3 Other projects and developments

A search of the DPHI Major Projects Register and Inner West Council Development Application Register on 14 November 2024 identified no projects with the potential for substantial cumulative impacts alongside the Proposal.

6.13.4 Mitigation measures

As no projects with the potential for cumulative impacts have been identified, no site specific mitigation measures would be required.

Standard mitigation measures to address cumulative impacts are identified in Section 7.2.

The potential cumulative impacts associated with the Proposal would be further considered as the design develops and as further information regarding the location and timing of potential developments is released. Environmental mitigation measures would be developed and implemented as appropriate.

7. Environmental management

This chapter describes how the Proposal would be managed to reduce potential environmental impacts during detailed design, construction and operation. A framework for managing potential impacts is provided. A summary of site-specific environmental mitigations is provided and the licence and/or approval requirements required prior to construction are listed.

7.1 Environmental management plans (or system)

Mitigations measures have been identified in the REF in order to minimise adverse environmental impacts, including social impacts, which could potentially arise as a result of the Proposal. Should the Proposal proceed, these mitigations measures would be incorporated into the detailed design and applied during the construction and operation of the Proposal.

A Construction Environmental Management Plan (CEMP) would be prepared to describe the mitigations measures identified. The CEMP would provide a framework for establishing how these measures would be implemented and who would be responsible for their implementation.

The CEMP would be prepared prior to construction of the Proposal and must be reviewed and certified by the TE&SR, prior to the commencement of any on-site work. The CEMP would be a working document, subject to ongoing change and updated as necessary to respond to specific requirements. The CEMP would be developed in accordance with the specifications set out in Section 7.2.

7.2 List of mitigation measures

Mitigation measures outlined in this REF would be incorporated into the detailed design phase of the Proposal and during construction and operation of the Proposal, should it proceed. These mitigation measures would minimise any potential adverse impacts arising from the proposed work on the surrounding environment. The mitigation measures are listed in Table 7-1.

Table 7-1: Mitigation measures

No.	Mitigation measure	Responsibility	Timing
General			
1.	Construction Environmental Management Plan A Construction Environmental Management Plan (CEMP) shall be prepared and implemented prior to the commencement of construction which addresses the following matters, as a minimum: a) project risk assessment including environmental aspects and impacts b) high level traffic and pedestrian management (noting a separate Traffic Management Plan (TMP) may be required subject to other Transport requirements) c) urban design, landscape character and visual amenity d) noise and vibration management, including traffic noise generated by the Proposal e) water and soil management f) air quality management (including dust suppression) g) Aboriginal and non-Aboriginal heritage management h) biodiversity management i) storage and use of hazardous materials j) contaminated land management (including acid sulphate soils) k) weed management l) waste management m) bushfire risk n) environmental incident reporting and management procedures o) non-compliance and corrective/preventative action procedures p) details of approvals, licences and permits required to be obtained under any other legislation for the Proposal. The CEMP shall: i. detail how the Contractor shall comply with the Conditions of Approval, Mitigation Measures, conditions of any licences, permits or other approvals issued by government authorities for the Proposal, all relevant legislation and regulations, and accepted best practice management	Contractor	Pre-construction

No.	Mitigation measure	Responsibility	Timing
	ii. comply with the relevant requirements of <i>Environmental Management Plan Guideline – Guideline for Infrastructure Projects</i> (NSW Department of Planning, Industry and Environment, 2020) iii. include an environmental compliance matrix for the Proposal (or such stages of the Proposal as approved by the Transport Environment and Sustainability Representative (TESR)) that details compliance with all relevant conditions and mitigation measures iv. include an Environmental Policy. The CEMP shall be reviewed and updated at six monthly intervals (unless otherwise approved with the TESR) and in response to any actions identified as part of the TESR's review of the document or in response to scope changes or modifications. Updates to the CEMP shall be made within 7 days of the completion of the review or receipt of actions identified in the Transport review of the document. The CEMP must be approved by the Director Environment and Sustainability (DES) or delegate prior to the commencement of construction and following review, and be implemented for the construction.		
2.	Environmental Controls Map An Environmental Controls Map (ECM) shall be prepared in accordance with Transport's Environmental controls map guideline (Transport for NSW, 2023d) prior to the commencement of construction for implementation for the construction. The ECM is to be approved by the TESR and may be prepared in stages, as set out in the CEMP. A copy of the ECM shall be submitted to the TESR for review and written approval in accordance with Mitigation Measure 4. The ECM shall be prepared as a map – suitable for enlargement to both A0 and A3 sizes to be mounted 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 TESR audit of the document and submitted to the TESR for written approval.	Contractor	Pre-construction
3.	Site Induction Prior to the commencement of construction, all contractors shall be inducted on the key project environmental and sustainability risks, procedures, mitigation measures and conditions of approval. The induction shall be given by the Environmental Personnel and as a minimum will include: • details of the approved ECM as required by Mitigation Measure 2 and where the ECM is located on site, and a briefing on the CEMP as required by Mitigation Measure 1 • information on the protection measures to be implemented to protect vegetation, penalties for breaches and location of areas of sensitivity • preliminary identification of Aboriginal cultural heritage material. This training shall include information such as the importance of Aboriginal cultural heritage material and places to the Aboriginal community, as well as the legal implications of removal, disturbance and damage to any Aboriginal cultural heritage material and sites. A heritage induction informing contractors of the location of known heritage items and guidelines to follow if unanticipated heritage items or deposits are located during construction.	Contractor	Pre-construction
4.	Transport Environmental Management Approvals	Contractor	Pre-construction

No.	Mitigation measure	Responsibility	Timing
	Requirements for documents, plans or programs which must be reviewed and approved by the TESR (including the CEMP) are outlined in the Mitigation Measures. All reviews and approvals associated with these Mitigation Measures shall meet the following requirements (unless otherwise approved by the TESR or DES or if specifically noted in a Mitigation Measure): a) completed consultation with government agencies and relevant service/utility providers and evidence of consultation submitted with the plan b) a copy of the plan submitted to the TESR for review at least 21 days prior to commencement of Construction or the related work being commenced c) any comments made by the TESR in accordance with b) must be adequately addressed prior to submission for approval d) a copy of the plan submitted to the TESR to obtain written approval from the DES at least 5 days prior e) periodic review and update of the plan submitted to the TESR for written approval Construction must not commence until the DES has provided written approval of the plan/s.		
5.	Environment Personnel Suitably qualified and experienced environmental management personnel shall be available and be responsible for implementing the environmental objectives for the Proposal, including undertaking regular site inspections, preparation and implementation of environmental documentation and ensuring the Proposal meets the requirements of the Environmental Management System (EMS). Details of the environmental personnel, including relevant experience, defined responsibilities and resource allocation throughout the Proposal (including time to be spent on-site/off-site) are to be submitted for the written approval of the DES (or nominated delegate), at least 21 days prior to commencement of construction of the Proposal (or such time as otherwise approved by the DES). Any adjustments to environmental resource allocations (on-site or off-site) are to be approved by the DES (or nominated delegate).	Contractor	Pre-construction and construction
6.	Service Relocation Service relocation will be undertaken in consultation with the relevant authority. Existing services and exclusion zones shall be identified on the ECM and on site to avoid direct impacts during construction.	Contractor	Pre- construction and construction
7.	Detailed Design Validation A detailed design validation report (DDVR) for the Proposal shall be prepared and submitted at each design stage to detail how compliance is achieved against: • the final Proposal description • all design mitigation measures detailed in the REF • any conditions of approval in the determination report for the Proposal. A final DDVR shall accompany the Approval for Construction (or equivalent) submission. The Proponent shall: a) submit a copy of the DDVR to the TESR for review b) update and submit a DDVR revision at each design stage or as required, including as the design progresses c) the TESR is to be given a minimum period of 7 days to review and provide any comments to the Proponent in relation to the DDVR.	Contractor	Pre-construction and following each design phase

No.	Mitigation measure	Responsibility	Timing
	Upon completion of the final TESR review period a copy of the DDVR will be submitted to the DES (or nominated delegate) for written approval. The DDVR will be submitted to Transport for review and Confirmation that the design achieves compliance.		
8.	Environmental Incident Procedure Where non-compliances or incidents arise, an event report must be completed in the Transport incident management system and returned to the Principal's Representative in accordance with 'EMF-EM-PR-0001 Environmental Incident Procedure'.	Contractor	Construction
9.	Proposal Modifications Any modifications to the Proposal (as defined in this REF and/or future Determination Report), requiring an amendment REF (as determined by the TESR), will be subject to further assessment and approval by Transport. This assessment will need to demonstrate that any environmental impacts resulting from the modifications have been mitigated. The further assessment must be submitted and approved prior to commencement of work relating to the modification.	Contractor	As required
10.	Proposal Changes Any modifications to the Proposal (as defined in this REF and/or future Determination Report), which may be amended by a consistency assessment (as determined by the TESR), if approved, shall be subject to further assessment and approval by Transport. This assessment will need to demonstrate that any environmental impacts resulting from the change have been minimised. The further assessment must be submitted to Transport six weeks prior to commencement of work relating to the modification.	Contractor	As required
11.	Modification/Change Register A project modification/change register shall be created and maintained throughout the project to identify project changes or modifications. The register will be updated and submitted at each design stage or as required, including as the design progresses. The register will be submitted to TESR for review of changes and direction on the approval pathway these changes or modifications should apply.	Contractor	As required
12.	Construction Environmental Compliance Report A Construction Environmental Compliance Report (CECR) for the Proposal shall be prepared which addresses the following matters: a) compliance with the Construction Environmental Management Plan (CEMP) and these conditions b) compliance with any approvals or licences issued by relevant authorities for the construction of the Proposal c) 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) d) environmental monitoring results, presented as a results summary and analysis e) details of the percentage of waste diverted from landfill and the percentage of spoil beneficially reused f) 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) g) details of any review and amendments to the CEMP resulting from construction during the reporting period h) any other matter as requested by the DES.	Contractor	Pre-construction and construction

No.	Mitigation measure	Responsibility	Timing
	The CECR shall: be submitted to the TESR for review. Be submitted to the DES (or nominated delegate) for written approval upon completion of the TESR review period. The first CECR shall be submitted to the TESR four weeks prior to construction commencing and will include a pre-construction environmental compliance matrix for the Proposal that details compliance with all relevant conditions and mitigation measures. The succeeding CECRs shall be submitted at six monthly intervals for the construction and be submitted within four weeks of expiry of that period (or at any other time interval approved by the DES). The final CECR shall detail compliance with all Conditions of Approval, licences and permits required to be obtained under any other legislation for the Proposal. Each revision of the CECR shall be submitted to the TESR for review and written approval in accordance with Mitigation Measure 4.		
13.	The feasibility of installing hi-rail access pads at alternative locations including Longport Street and Alfred Street railway access points will be investigated by the contractor during detailed design. If these locations are found feasible the hi-rail access pads at Stanmore, Petersham and Ashfield locations would not be used. For any new locations additional assessment may be required.	Contractor	Detailed design
Traffic and transport			
14.	Road Condition Reports Prior to construction commencement and at completion of construction, road condition surveys and reports on the condition of roads and footpaths to be affected by construction shall be prepared and provided to Transport for information. Any damage resulting from the construction of the Proposal, aside from that resulting from normal wear and tear, shall be repaired at the Contractor's expense.	Contractor	Pre-construction and post-construction
15.	Authorisation for Road Use Relevant authorisation(s) from the appropriate road authority shall be obtained for the proposed operational changes to Victoria Street, such as changes to parking, addition of a kiss and ride space, and the removal of bi-directional vehicle movements and installation of a one direction travel lane between Hobbs Street and Railway Terrace.	Contractor	Operation
16.	Prior to the commencement of construction, a Construction Traffic Management Plan (CTMP) would be prepared as part of the Construction Environmental Management Plan (CEMP) and in accordance with relevant guidelines. The CTMP would outline how construction of the Proposal would avoid, mitigate and manage risks involving construction activities, users of the traffic and transport network and local residents.	Contractor	Pre-construction
17.	Alternative parking arrangements shall be investigated during detailed design, in consultation with Inner West Council. A consultation strategy shall be included within the CLMP.	Contractor	Detailed design
18.	Traffic and parking configuration changes shall be subject to further stakeholder consultation with Inner West Council and subject to approval by the Traffic Committee. A consultation strategy shall be included within the Community Liaison Management Plan (CLMP).	Contractor	Pre-construction
19.	Opportunities to retain/reinstate the existing on-street parking provision on Victoria Street shall be investigated during detailed design and implemented where feasible.	Contractor	Detailed design

No.	Mitigation measure	Responsibility	Timing
20.	Adequate information shall be provided to stakeholders and the community if bus stops on Railway Terrace are temporarily relocated, including advanced notification and appropriate signage to alternative bus stops. A notification strategy shall be included within the CLMP.	Contractor	Pre-construction Construction
21.	Adequate information and alternative transport options shall be provided to affected pedestrians during scheduled closures of the Lewisham Station underpass, including advanced notification, appropriate wayfinding and directional signage along detour routes. A notification strategy shall be included within the CLMP.	Contractor	Pre-construction Construction
22.	The temporary full and partial closures and traffic management controls on public roads including Thomas Street, Victoria Street, Railway Terrace and Hunter Street shall be managed and implemented in accordance with the provisions of a Road Occupancy Licence(s).	Contractor	Construction Pre-construction
23.	Adequate information shall be provided to stakeholders and the community for full and partial closures of Railway Terrace to accommodate construction work, including advanced notification, appropriate wayfinding and directional signage along detour routes. A notification strategy shall be included within the CLMP.	Contractor	Pre-construction Construction
24.	The opportunity to provide shared electric bicycle parking at Lewisham Station shall be explored during detailed design.	Contractor	Detailed design
25.	Advance notification will be provided to nearby emergency services of any temporary road closures, including details of available detour routes in accordance with the CLMP.	Contractor	Pre-construction Construction
26.	Provision of temporary bicycle parking on both sides of the corridor and pick-up/drop-off locations on Thomas Street during the construction period will be explored and implemented where feasible.	Contractor	Detailed design
27.	The community will be notified in advance of proposed transport network changes through appropriate media and other appropriate forms of community liaison, in accordance with CLMP.	Contractor	Pre-construction Construction
28.	Construction methodology/scheduling shall minimise the closure of the underpass wherever possible. Reasonable safe alternative access across the corridor during periods of underpass closure will be provided and options to achieve this will be investigated during detailed design.	Contractor	Detailed design
29.	The opportunity to bring lighting of the pathway between Thomas Street and West Street forward in the program, to be utilised as a pedestrian diversion during underpass closures, will be investigated during detailed design.	Contractor	Detailed design
30.	Construction traffic routes including weight and height restrictions, and measures to mitigate impacts to school zones during school zone hours, will be investigated during detailed design.	Contractor	Detailed design
31.	Opportunities to improve active transport links and safety of active transport users shall be explored during detailed design.	Contractor	Detailed design
32.	A pedestrian crossing on Railway Terrace would be investigated during detailed design. Where pedestrian crossings are proposed, a warrant assessment may be required to determine whether the pedestrian crossing is justified and necessary.	Contractor	Detailed design

No.	Mitigation measure	Responsibility	Timing
Landscape and visual amenity			
33.	Urban and Landscape Design Plan An Urban Design and Landscape Plan (UDLP) shall be prepared by the Contractor, in consultation with Council and other asset/landowners, and submitted to Transport for written approval by the Urban Design Public Transport and Precincts team, prior to finalisation of the detailed design. The UDLP shall: - demonstrate a robust understanding of the precinct through a comprehensive site analysis, including connectivity with street networks, mode change locations, active transport, and pedestrian movement - identify opportunities and constraints - establish precinct specific principles to guide and test design options - consider Crime Prevention Through Environmental Design (CPTED) principles, including night-time safety of customers and the community, and the safety of station staff. - be aligned with the “TAP Urban Design Plan Guidelines (Draft 2018)” and “Beyond A to B – Urban design policy, procedures and principles for public transport infrastructure (Transport for NSW, August 2024)”. - consider opportunities for: - Connecting with Country - public art - safety improvements - incorporating design elements that reference heritage character of the landscape character zone - low glare/reflectivity roofing for built form - specify opportunities for community feedback and engagement on design elements - address Transport Sustainable Design Guideline evidence requirements - be prepared by a suitably qualified and experienced urban design professional The UDLP is to include a Public Domain Plan for the preferred design option and will provide analysis of the: - landscape design approach including design of pedestrian and bicycle pathways, street furniture, interchange facilities, new planting and integration of any artwork - Materials Schedule including materials and finishes for proposed built works, colour schemes, paving and lighting types for public domain, fencing and landscaping - visualisations to communicate the proposed changes to the precinct The following design guidelines are available to assist and inform the UDLP: - TAP Urban Design Plan, Guidelines, Transport NSW, Draft 2018 - Commuter Car Parks, Urban Design Guidelines, Transport for NSW, Interim 2017 - Managing Heritage Issues in Rail Projects Guidelines, Transport for NSW, Interim 2016 - Public Art in Transport Infrastructure – Guidance for Capital Projects, Transport for NSW, June 2024 - Water Sensitive Urban Design Guidelines (Transport for NSW, 2023e)	Contractor	Prior to design finalisation

No.	Mitigation measure	Responsibility	Timing
	The UDLP is to be submitted to Transport and written approval by the Urban Design Public Transport and Precincts team.		
34.	Transport's Design Review Panel At 30% design stage, the design shall be presented to Transport's Design Review Panel. Transport's Design Review Panel is an independent, multi-disciplinary panel of eminent experts who provide impartial design review and recommendations. This will contribute to achieving design excellence in respect to place making, built form, urban and landscape design and Connecting with County aspects of the project.	Contractor	Prior to design finalisation
35.	Lighting Scheme A lighting scheme for the construction and operation of the Proposal is to be developed by a suitably qualified lighting designer and prepared in accordance with relevant standards. The lighting scheme shall address the following as relevant, but not limited to: a) consideration of lighting demands of different areas b) consideration of outcomes of Safer Cities consultation (where applicable) c) strategic placement of lighting fixtures to maximise ground coverage d) use of LED lighting e) meet benchmark requirements of IS Essentials f) demonstrate that light spill and glare has been minimised to sensitive receivers by directing lighting into the station/car park/other infrastructure type g) control systems for lighting that dim or switch-off lights settings according to the amount of daylight the zone is receiving h) motion sensors to control low traffic areas i) allowing the lighting system to use low light or switch off light settings while meeting relevant lighting Standards requirements, and j) ensuring security and warning lighting is not directed at neighbouring properties. The proposed lighting scheme is to be submitted to Transport's technical team for acceptance prior to design finalisation.	Contractor	Prior to design finalisation
36.	Worksite Compounds and Hoardings Worksite compounds will be screened for the construction with shade cloth that has Transport for NSW branding, unless approved otherwise by the Transport Community and Stakeholder Engagement Manager, to minimise visual impacts from key viewing locations. Temporary hoardings, barriers, traffic management and signage will be removed as soon as practicable and safety requirements allow. This material should comply with <i>The Infrastructure Project Style Guide November 2022</i> (Transport for NSW, 2022c). Work will be conducted behind temporary hoardings/screens wherever practicable. The installation of construction hoarding shall take into consideration the location of residential receivers to ensure that 'line of sight' is broken, where feasible.	Contractor	Construction
37.	Graffiti and Advertising Hoardings, site sheds, fencing, acoustic walls around the perimeter of the site, and any structures built as part of the Proposal shall be maintained free of graffiti, or any advertising not authorised by Transport, during the construction period. Graffiti and unauthorised advertising shall be removed or covered within the following timeframes unless otherwise approved by Transport: a) offensive graffiti will be removed or concealed within 24 hours	Contractor	Construction

No.	Mitigation measure	Responsibility	Timing
	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.		
Noise and vibration			
38.	Construction Noise and Vibration Prior to commencement of construction, a Construction Noise and Vibration Management Plan (CNVMP) shall be prepared and implemented in accordance with the requirements of the EPA's <i>Interim Construction Noise Guideline</i> (DECC, 2009), Transport's <i>EMF-NV-GD-0060 Construction noise and vibration guideline (public transport infrastructure)</i> (Transport for NSW, 2023c) and the Noise and Vibration Impact Assessment for the Proposal (AECOM, 2024d). The CNVMP shall include, but not be limited to: a) details of construction activities and an indicative schedule for construction 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 REF) 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 and vibration complaints e) an Out of Hours Work Protocol (OOHWP) for the assessment, management and approval of work outside the standard construction hours identified in Mitigation Measure 48 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 work is subject to written approval by the DES (or nominated delegate) or as approved by EPA (where relevant to the issuing of an EPL). The OOHWP should be consistent with the Transport <i>Construction noise and vibration guideline (public transport infrastructure)</i> (Transport for NSW, 2023c) f) a description of how the effectiveness of actions and measures shall be monitored during the proposed works, identification of 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 g) Management strategy alignment with IS Essentials (V1.0) Env-2 requirements (where applicable) The CNVMP shall consider and outline measures to reduce the noise and vibration impacts from construction activities. Where practicable at source measures including by construction planning/staging and equipment selection shall be prioritised over at receiver measures. Reasonable and feasible mitigation measures include: • regularly training workers and Contractors (such as at the site induction and toolbox talks) on the importance of minimising emissions and how to use equipment in ways to minimise noise and vibration • avoiding any unnecessary emissions when carrying out manual operations and when operating plant • ensuring spoil is placed and not dropped into awaiting trucks or other plant/vehicles • avoiding/limiting simultaneous operation of noisy or vibratory plant and equipment within discernible range of a sensitive receiver where practicable	Contractor	Pre-construction

No.	Mitigation measure	Responsibility	Timing
	- switching off any equipment not in use for extended periods e.g. heavy vehicles engines will be switched off whilst being unloaded - avoiding deliveries at night/evenings or other sensitive times wherever practicable - no idling of delivery trucks - ensuring truck drivers are informed of designated vehicle routes, parking locations and acceptable delivery hours for the site - minimising talking loudly; no swearing or unnecessary shouting, or loud stereos/radios onsite; no dropping of materials from height where practicable, no throwing of metal items and slamming of doors - maximising the offset distance between noisy or vibratory plant and sensitive receivers and maintaining safe working distances for workers - directing noise-emitting plant away from sensitive receivers - regularly inspecting and maintaining plant to avoid increased noise levels from rattling hatches, loose fittings etc - use of quieter and less vibration emitting construction methods where feasible and reasonable - non-tonal movement alarms (or an equivalent mechanism) 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.		
39.	Property Condition Surveys The purpose of a property condition survey is to provide a clear record for comparison in case landowners have concerns about damage to property which they feel may have been caused as a result of construction work. Subject to landowner agreement, property condition surveys shall be completed prior to the commencement of piling, excavation or bulk fill or any vibratory impact work including jack hammering and compaction (Designated Works). Surveys are to be offered to owners of: - all buildings/structures/roads within a distance of 50 metres from the edge of the Designated Work (measured in a straight line) - all heritage listed buildings and other sensitive structures within 150 metres from the edge of the Designated Work. - all locations that would be used for construction compounds Surveys are to be undertaken prior to the commencement of the Designated Work and again immediately upon completion of the Designated Work. This includes a survey of the site compound location/s prior to the commencement of construction, and as soon as possible once the site compound has been demobilised. Site compound locations are to include an assessment of any pre-existing contamination and a contamination clearance survey following demobilisation of the site compound. Owners of assets to be surveyed are to be contacted via letter at least 14 days prior to the intended commencement of property condition surveys. Letters of offer are to include the scope and methodology of the survey, and the process for making a claim regarding property damage should post-work property condition surveys confirm damage at the fault of the project. 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 Work and provided to Transport. Evidence of a risk assessment must be provided to Transport for agreement prior to commencement of Designated Work.	Contractor	Pre-construction, post-construction

No.	Mitigation measure	Responsibility	Timing
	A copy of the survey(s) shall be given to each affected owner and Transport. 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).		
40.	Standard Construction Hours Construction activities shall be restricted to the hours of 7:00 am to 6:00 pm (Monday to Friday); 8:00 am to 1:00 pm (Saturday) and at no time on Sundays and public holidays except for the following work which are permitted outside these standard hours: a) any work which does not cause noise emissions to be more than 5dBA 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 REF or the approved 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 approved by the DES d) Emergency Work to avoid the loss of lives, property and/or to prevent environmental harm e) any other work as approved by the DES and considered essential to the Proposal, or as approved by EPA (where an EPL is in effect).	Contractor	Construction
41.	Special Audible Characteristics Activities As per the <i>Construction noise and vibration guideline (public transport infrastructure)</i> (Transport for NSW, 2023c), construction activities with special audible characteristics will be limited to standard hours, and start no earlier than 8am unless otherwise approved by the DES in accordance with Transport's Construction Noise and Vibration Strategy (CNVS). 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 continuous hours, followed by a minimum one hour respite period, unless otherwise approved to by the DES, or as approved by EPA (where relevant to the issuing of an EPL). Note. <i>Special audible characteristics</i> refers to noise with characteristics that can cause annoyance and disturbance, containing noticeable factors such as tonality, low frequency noise, impulsive or intermittent noise events. These characteristics may not be considered noisy in a quantitative sense.	Contractor	Construction
42.	Vibration Criteria To avoid structural impacts as a result of vibration or direct contact with structures, the proposed work will be undertaken in accordance with the safe work distances outlined in the Noise and Vibration Impact Assessment (AECOM, 2024d). Where these distances cannot be met vibration trials and attended vibration monitoring of the trials will be undertaken in order to assess and mitigate vibration impacts. Vibration resulting from construction and received at any structure outside of the Proposal shall be limited to: a) for structural damage vibration –British Standard BS 7385-2:1993 <i>Evaluation and measurement for vibration in buildings Part 2</i> and/or German Standard DIN 4150:Part 3 – 1999: <i>Structural Vibration in Buildings: Effects on Structures</i>	Contractor	Construction

No.	Mitigation measure	Responsibility	Timing
	b) for human exposure to vibration – the acceptable vibration values set out in the <i>Environmental Noise Management Assessing Vibration: A Technical Guideline</i> (Department of Environment and Conservation, 2009) which includes British Standard BS 6472-2:1992 <i>Guide to Evaluation of Human Exposure to Vibration in Buildings (1 Hz to 80 Hz)</i>. These limits apply unless otherwise approved by the DES through the CEMP		
43.	Noise and Vibration Impacts on Sensitive Receivers Affected schools, places of public worship and other identified sensitive receivers or businesses shall be consulted in relation to noise mitigation measures to identify any particular noise sensitive periods, e.g. exam periods or vibration sensitive activities. As much as reasonably possible noise or vibration intensive construction in the vicinity of affected sensitive receiver buildings are to be minimised.	Contractor	Construction
44.	Vibration Impacts to Heritage Structures To effectively mitigate potential impacts of vibration on heritage structures in the vicinity of the station, activities that cause vibration shall be managed in accordance with British Standard BS 7385-2:1993. If a heritage building or structure is found to be structurally unsound (following inspection) a more conservative cosmetic damage objective of 2.5 mm/s peak component particle velocity (from DIN 4150) will be considered. Real time vibration monitoring shall be conducted at commencement of relevant work to confirm compliance with the adopted standard. If vibration levels approach the determined trigger level, then the construction activity shall cease and the heritage structure will be assessed and alternative construction methodologies developed, where practicable, before construction recommences.	Contractor	Construction
45.	Piling Wherever practical, piling activities shall be completed using non-percussive piles. If percussive piles are proposed to be used, written approval of the DES shall be obtained prior to commencement of piling activities.	Contractor	Construction
Heritage Management			
46.	Design Response New work shall be designed with a consideration of the architectural style and heritage elements of the station or precinct. The proposed elements will be sympathetic to the original design and seek to emphasise key details whilst not overwhelming or detracting from the heritage significance of the place.	Contractor	Detailed design
47.	Heritage Induction As part of the site induction in accordance with Mitigation Measure 3, a heritage induction shall be provided to workers prior to construction, informing them of the location of known heritage items and guidelines to follow if unexpected heritage items or deposits are located during construction. All construction staff shall undergo an induction in the preliminary identification of Aboriginal cultural heritage material. This training will include information such as the importance of Aboriginal cultural heritage material and places to the Aboriginal community, as well as the legal implications of removal, disturbance and damage to any Aboriginal cultural heritage material and sites.	Contractor	Pre-construction
48.	Unexpected Heritage Finds If previously unidentified or unexpected Aboriginal objects or non-Aboriginal heritage/archaeological items are uncovered during construction, the procedures contained in Transport's EMF-HE-PR-0076 <i>Unexpected Heritage Items Procedure</i> (Transport for NSW,	Contractor	Construction

No.	Mitigation measure	Responsibility	Timing
	2024b) will be followed, and work within the vicinity of the find will cease immediately. The TESR shall be immediately notified to co-ordinate a response, which may include direction to seek appropriate advice from a suitably qualified and experienced Heritage Advisor (in consultation with Heritage NSW). Works in the vicinity of the find shall not re-commence until written approval to recommence has been received from the DES. The event must be reported in Transport incident management system as a report only event in accordance with the Transport Environmental Incident Guideline. If human remains are found, work shall cease in the vicinity of the find, the site must be secured and the NSW Police and/or Heritage NSW notified. Where required, approvals for archaeological investigations, which may include an Aboriginal Heritage Impact Permit, will be obtained prior to work recommencing at the location. A discovery of suspected human remains greater than 100 years old is an archaeological case and is not subject to the requirements of NSW Coroners Act 2009.		
49.	Heritage Advisor A suitably qualified and experienced Heritage Advisor who is independent of the design and construction team's personnel shall be engaged to the satisfaction of the DES (or nominated delegate). The Heritage Advisor shall provide ongoing heritage, design and conservation advice throughout detailed design and any subsequent relevant design modifications to ensure that the final design adheres to the recommendations of the heritage assessments provided in the EIA. The Heritage Advisor involvement and reporting shall include, but not be limited to: a) Attendance at design meetings and/or heritage meetings to provide iterative heritage advice to actively inform design development b) Targeted historical research to inform the iterative advice as required (to be documented as part of the below summary) c) Summary of the iterative heritage advice provided which should capture (as a minimum): • the optioneering process undertaken as part of the design development, including heritage pros & cons • discussion on why particular heritage sensitive solutions might be discounted • discussion of the relevant detailed design stage • recommendations for next steps to further mitigate heritage impacts • provide input and review heritage construction methodologies • a methodology for monitoring subsurface work and managing finds within proximity of the Former Petersham Cemetery Archaeological Site, with clear stop work procedures. A progress draft of the above is to be provided at each detailed design stage. A final copy of the summary report is to be provided to Transport no later than 1 week after final submission. The summary report is to also include: i. confirmation of the extent of involvement of the Heritage Advisor in the detailed design process at the completion of Approved for Construction (AFC) design stage ii. identification and assessment of any changes to, and/or additional to the scope of work from those identified in the EIA which will affect heritage significance iii. a description of the impacts, and recommended mitigation measures relating to any new or amended scope of work identified in (b) above including the requirement for additional heritage approvals for consultation	Contractor	Detailed design

No.	Mitigation measure	Responsibility	Timing
50.	Wayfinding Signage Wayfinding signage design to be further designed, assessed and installed in co-operation with the engaged heritage advisor.	Contractor	Detailed design
51.	Protection of heritage items listed on the TAM Section 170 Conservation Register Design and construction of the Proposal within the curtilage of the Section 170 listed 'relevant 'Lewisham Railway Substation' (#4803260) and 'Lewisham (Old Canterbury Road) Underbridge' (#4801518) must be undertaken in accordance with the recommendations made in the Statement of Heritage Impact (author, year). In accordance with Section 170a of the Heritage Act, if the Proposal includes demolition of significant fabric, TAM must provide notification of the work to Heritage NSW 14 days (or 40 days if the item is identified as being of State significance, but is not listed on the NSW State Heritage Register) prior to the commencement of the work	Contractor	Detailed design and construction
52.	Photographic Archival Recording Archival recording of 'Lewisham Estate Heritage Conservation Area' shall be undertaken in accordance with the Heritage NSW guidelines prior to work commencing. The archival recording shall be reviewed and approval by the TESR prior to submission to Heritage NSW or other government body. Copies of the archival recording are to be provided to Inner West Council for future reference.	Contractor	Pre-construction
53.	Heritage Management Plan A Heritage Management Plan (including detailed drawings, documentation and specifications) and Work Method Statement shall be prepared as part of the CEMP to address heritage impacts and required management procedures to minimise risks.	Contractor	Pre-construction
54.	Protection from Damage During construction, suitable measures shall be put in place to ensure the retained heritage elements are protected from damage. Measures may include hoardings, use of spotters during the movement of equipment and other measures as necessary.	Contractor	Construction
55.	Documentation of Changes Copies of the 'as built' construction plans, photographs illustrating the completed work and the Archival Record shall be lodged with the Transport Heritage team as a documentary record of changes to the station.	Contractor	Construction
56.	Workers undertaking activity within the curtilage of the 'Lewisham Railway Substation' and 'Lewisham (Old Canterbury Road) Underbridge' shall made aware of their heritage significance and protection measures enacted to ensure there are no physical impacts to these items during work (i.e., temporary fencing, toolbox presentation). Details of the protection measures shall be included within the CEMP. The temporary impacts of use of this area shall be reversed and the location returned to the same condition following completion of work.	Contractor	Construction
Socio-economic			
57.	Local Goods and Services Sustainability criteria for the Proposal will be established to encourage the Contractor to purchase goods and services locally, helping to ensure the local community benefits from the construction of the Proposal.	Contractor	Pre-construction

No.	Mitigation measure	Responsibility	Timing
58.	Public Feedback Feedback through the public display process will be used to facilitate opportunities for the community and stakeholders to have input into the Proposal, where practicable. Community and stakeholder feedback is welcomed throughout the project's design and construction stages, via the project website, email address or project Infoline.	Transport	Pre-construction
59.	Website Project information shall be made available to members of the public, either on dedicated pages on the Transport/Project website or details provided as to where/if hard copies of this information may be accessed. Project information to be provided includes: a) a copy of the documents referred to under Condition 1 of any future approval b) 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 2.2.	Transport	Pre-construction
60.	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 Aboriginal stakeholders, local business chambers, 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) a comprehensive, project-specific analysis of stakeholders, issues and proposed strategies to manage issues through the duration of the Proposal b) details of the communication tools (traditional and digital) and activities that will be used to inform and engage with the community and stakeholders c) a program for the implementation of community liaison activities relating to key construction tasks and milestones with strategies for minimising impacts and informing the community d) policies and procedures for handling community complaints and enquiries, including the Contractor's nominated 24 hour contact for management of complaints and enquiries e) analysis of other major projects/influences in the area with the potential to result in cumulative impacts to the community and strategies for managing these. The CLMP shall be prepared to the satisfaction of the relevant Community and Place Director (or nominated delegate) prior to the commencement of construction, and is to be reviewed and revised 6-monthly during the construction of the Proposal.	Contractor	Pre-construction and construction
61.	Community Notification and Liaison The local community shall be advised of any activities related to the Proposal with the potential to impact upon them. Prior to any site activities commencing and throughout the Proposal duration, the community is to be notified of work 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, parking changes, access changes, detours, services disruptions, public transport changes, high noise generating work activities and work required outside the nominated standard	Contractor	Pre-construction and construction

No.	Mitigation measure	Responsibility	Timing
	shall be advised to the local community at least 7 days prior to such work being undertaken or other period as approved to by the relevant Community and Place Director. Notifications are to be distributed via letterbox and/or email as agreed with the impacted stakeholders.		
62.	Complaints Management A 24 hour construction response line number shall be established and maintained for the construction. Details of all complaints received during construction, including complaints received in person and via email, are to be recorded on a project-specific complaints register, which is sent to the Principal Contractor daily upon receipt of a complaint. A verbal response to phone enquiries to acknowledge receipt of the complaint, and to confirm what action is proposed to be undertaken to resolve the issue (where possible), 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 where telephone details are provided or known. A detailed written response is to be provided to the complainant within 7 calendar days for verbal and/or written complaints. Information on all complaints received during the previous 24 hours shall be forwarded to the TESR and Community & Place each working day.	Contractor	Construction
Biodiversity			
63.	Removal of Trees or Vegetation A Tree and Hollow Replacement Plan is to be prepared in accordance with Transport's Tree and Hollow Replacement Guideline. Trees and vegetation nominated to be removed in the Ecological Impact/Arborist Assessment (specialist name, year) will be clearly demarcated onsite prior to construction, to avoid unnecessary vegetation removal. Landowners consent shall be obtained prior to vegetation removal, should TAM not be the landowner. Trees and vegetation to be retained shall be protected through temporary protection measures discussed in Mitigation Measures below. Separate approval, in accordance with Transport's EMF-EM-TT-0144 Removal or trimming of vegetation application, is required for the trimming, cutting, pruning or removal of all trees or vegetation where the impact has not already been identified in the REF or Determination Report for the Proposal. The trimming, cutting, pruning or removal of trees or vegetation shall be undertaken in accordance with the Mitigation Measures.	Contractor	Design and Construction
64.	Biodiversity Management Construction of the Proposal must be undertaken in accordance with Transport's <i>Biodiversity Policy</i> (Transport for NSW, 2022d), including the Transport's <i>Biodiversity Assessment</i> Guideline (Transport for NSW, 2022e), Transport's <i>No net loss guidelines</i> (Transport for NSW, 2022f) and Transport's <i>Tree and hollow replacement guidelines</i> (Transport for NSW, 2023a).	Contractor	Construction
65.	Tree Protection Zones Tree Protection Zones (TPZs) shall be established around trees to be retained, as nominated in the Arboricultural Impact Assessment (Urban Tree Management, 2024) or as required to protect vegetation. Tree protection shall be undertaken in accordance with <i>AS 4970-2009 Protection of Trees on Development Sites</i> and shall include exclusion fencing of TPZs. The tree dripline may be used as a guide for protecting trees where an exclusion zone is not established by an arborist/ecologist. Should the approved development be altered by a	Contractor	Construction

No.	Mitigation measure	Responsibility	Timing
	post-approval assessment, consideration of any additional TPZs beyond those identified in the Arboricultural Impact Assessment (Urban Tree Management, 2024) will be required and may need to be supported by additional or addendum arboricultural advice.		
66.	Tree and Vegetation Damage In the event of any tree or vegetation to be retained becoming damaged during construction, the Contractor shall immediately notify the Transport Project Manager and TESR to coordinate the response which may include contacting an arborist to inspect and provide advice on remedial action, where possible. Where arborist advice indicates that a tree or vegetation may be at risk of failure due to project work the priority should be to retain and protect the tree or vegetation. Following completion of construction the arborist should reassess the tree and their advice followed. Where tree or vegetation removal is required, replacement must be in accordance with the Transport's Biodiversity Policy (Transport for NSW, 2022d).	Contractor	Construction
67.	Weed Control Weed control measures, consistent with Transport's <i>Biodiversity Policy</i> (Transport for NSW, 2022d) and the <i>Pesticides Regulation 2017</i>, shall be developed and implemented as part of the CEMP to manage the potential dispersal and establishment of weeds during the construction phase of the Proposal. This shall include the management and disposal of weeds in accordance with the <i>Biosecurity Act 2015</i>.	Contractor	Construction
68.	Replanting Program Any vegetation removal shall be replaced in accordance with Transport's <i>Biodiversity Policy</i> (Transport for NSW, 2022d) and the project's Urban Design and Landscape Plan. All vegetation planted on-site is to consist of locally native species, unless otherwise approved by the DES, following consultation with the relevant Council, where relevant, and/or the owner of the land upon which the vegetation is to be planted. A replanting strategy and maintenance schedule of replacement planting on and offsite is to be provided to the TESR for review and approval at least four weeks prior to the commencement of replanting. All vegetation shall be maintained for at least 12 months following completion of construction or following planting (whichever ends last) (unless approved by the TESR).	Contractor	Construction and operation
69.	Measures to avoid and/or minimise the removal of native vegetation and/or habitat removal shall be investigated during detailed design and implemented where feasible. This shall include exploring opportunities to minimise impact on existing vegetation along the pathway between Thomas Street and West Street.	Contractor	Detailed design Construction
70.	The opportunity to transplant tree TN7 shall be explored during detailed design. Prior to tree transplantation, a transplanting plan will be prepared. Transplanting would be undertaken in accordance with the plan and supervised by an AQF 5 qualified arborist.	Contractor	Detailed design Pre-construction Construction
71.	A Flora and Fauna Management Sub-plan (FFMSP) shall be prepared as part of the CEMP in accordance with the <i>Biodiversity Management Guideline EMF-BD-GD-0039</i> (Transport for NSW, 2024a). It shall include, but not be limited to: - plans showing areas to be cleared and areas to be protected - pre-clearing survey requirements	Contractor	Pre-construction Construction

No.	Mitigation measure	Responsibility	Timing
	- unexpected finds protocol - weed and pathogen management protocols. Staff on site during pre-clearing surveys shall be inducted so that there is an awareness for potential threatened species and their habitat and so that they can appropriately safeguard, manage and relocate any fauna if found during surveys.		
72.	Pre-clearance surveys shall be undertaken by a suitably qualified ecologist in accordance with <i>Guide 1: Preclearing process in Transport's Biodiversity Management Guideline EMF-BD-GD-0039</i> (Transport for NSW, 2024a). If fauna is encountered during pre-clearance surveys or during the proposed work, <i>Guide 9: Fauna handling</i> in Transport's <i>Biodiversity Management Guideline EMF-BD-GD-0039</i> (Transport for NSW, 2024a) shall be applied. In the event that threatened species are encountered, Transport's unexpected finds procedure shall be followed in accordance with <i>Guide 1: Preclearing process</i>.	Contractor	Pre-construction
73.	Pre-construction surveys of the Canary Island Date Palms for Australian White Ibis, including evening roost check and daytime inspections, will be undertaken by a suitably qualified ecologist. Appropriate management measures will be included in the Fauna and Flora Management Sub-plan and implemented on-site to minimise disturbance to nesting and/or roosting Australian White Ibis during construction.	Contractor	Pre-construction Construction
Soils and water			
74.	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, Transport's <i>EMF-EM-GD-0137 Chemical storage and spill response guidelines</i> (Transport for NSW, 2023f) and Australian and ISO standards. These measures shall include: - the storage of hazardous materials, and refuelling/maintenance of construction plant and equipment are to be undertaken in clearly marked designated areas designed to contain spills and leaks - 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 - all hazardous materials spills and leaks to be reported to site managers and actions to be immediately taken to remedy spills and leaks - training in the use of spill kits to be given to all personnel involved in the storage, distribution or use of hazardous materials.	Contractor	Pre-construction
75.	Erosion and Sediment Control Soil and water management measures shall be prepared, implemented and maintained for the mitigation of water quality impacts during construction of the Proposal in accordance with <i>Managing Urban Stormwater: Soils and Construction Volume 14th Edition</i> (Landcom, 2004). The following are required, based on the amount of disturbance proposed: soil and water management measures included on the ECM and in the CEMP for less than 250m² of disturbance	Contractor	Pre-construction and construction

No.	Mitigation measure	Responsibility	Timing
	- erosion and sediment control plan (ESCP) for between 250-2,500m² of disturbance - soil and water management plan (SWMP) for over 2,500m² of disturbance Management measures shall be established prior to any clearing, grubbing or site establishment activities and shall be maintained and regularly inspected (particularly following rainfall events) to ensure their ongoing functionality. At a minimum inspection will occur monthly and will be reported in the inspection report. Management measures shall be maintained until the work is complete and areas are stabilised. The management measures shall be reviewed and updated throughout construction, so they remain relevant to the activities being undertaken.		
76.	Vehicle Maintenance Vehicles and machinery will be properly maintained and routinely inspected to minimise the risk of fuel/oil leaks. Construction plant, vehicles and equipment shall also be refuelled offsite, or in a designated refuelling area.	Contractor	Construction
77.	Pollution Incident In the event of a pollution incident, work will cease in the immediate vicinity and the Contractor shall immediately notify the Transport Project Manager and TESR in accordance with the Transport Environmental Incident Procedure EMF-EM-PR-0001 (Transport for NSW, 2021b). The EPA shall be notified, in accordance with Part 5.7 of the POEO Act.	Contractor	Construction
78.	Existing Drainage The existing drainage systems shall remain operational throughout the construction phase and will not be worsened or damaged by construction.	Contractor	Construction
79.	Groundwater Should groundwater be encountered during excavation work, groundwater will be managed in accordance with the requirements of the <i>Waste Classification Guidelines</i> (NSW EPA, 2014) and Transport's <i>Water Discharge and Reuse Guideline</i> (Transport for NSW, 2019b).	Contractor	Construction
80.	Additional hydrology and drainage assessments shall be undertaken to inform detailed design and minimise flooding in the station underpass. Drainage designs shall account for increases in rainfall intensity associated with climate change.	Contractor	Detailed design
81.	Weather forecasts shall be regularly monitored during construction. In the event of high rainfall, work shall cease, and equipment and materials removed from the affected area.	Contractor	Construction
82.	Opportunities to divert existing inflows, increase the pumping capacity and pit storage volume, and provide a new pipeline to discharge stormwater further to the south of Victoria Street, shall be explored during detailed design to minimise flood risk.	Contractor	Detailed design Construction
83.	In the case flooding is predicted, construction plant and equipment shall not be stored in flood prone areas.	Contractor	Construction
84.	Appropriate measures shall be implemented to mitigate flood risk and drainage impacts during construction and documented in the CEMP.	Contractor	Construction
85.	Surface water flows shall be managed during construction.	Contractor	Construction

No.	Mitigation measure	Responsibility	Timing
Air quality			
86.	Minimising Impacts to Air Quality To minimise air quality impacts and the generation of dust from construction activities, the following measures will be implemented: • plant and machinery shall be switched off when not in use, and not left idling • vehicle and machinery movements during construction shall be restricted to designated areas and sealed/compacted surfaces where practicable • apply water (or alternate measures) to exposed surfaces (e.g. unpaved roads, stockpiles, hardstand areas and other exposed surfaces) • cover stockpiles when not in use • appropriately cover loads on trucks transporting material to and from the construction site and securely fix tailgates of road transport trucks prior to loading and immediately after unloading • prevent mud and dirt being tracked onto sealed road surfaces • details on how methods for management of emissions will be incorporated into project inductions, training and pre-start/toolbox talks • details for procedure to ensure plant and machinery are regularly checked and maintained in a proper and efficient condition These methods are to be identified in the CEMP.	Contractor	Pre-construction and construction
Waste and contamination			
87.	Waste Management Plan The CEMP (or separate Waste Management Plan, if necessary) must address waste management and will at a minimum: • identify all potential waste streams associated with the work and outline methods of disposal of waste that cannot be reused or recycled at appropriately licensed facilities • apply the waste hierarchy to resource output streams and justification provided • detail other onsite management practices such as keeping areas free of rubbish • specify controls and containment procedures for hazardous waste and asbestos waste • outline the reporting regime for collating construction waste data • identify risk and opportunities associated with resources outputs and implement measures to minimise resource outputs during design, construction and operation • develop project performance targets for resource outputs for the delivery phase • identify opportunities to beneficially reuse resource outputs • develop a management plan for resource outputs and implement design phase actions.	Contractor	Pre-construction
88.	Unidentified Contamination (Other Than Asbestos)	Contractor	Construction

No.	Mitigation measure	Responsibility	Timing
	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 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 with relevant EPA guidelines, including the <i>Guidelines for Consultants Reporting on Contaminated Sites</i> (Office of Environment and Heritage, 2011). The event must be reported in Transport incident management system as a report only event in accordance with the Transport Environmental Incident Procedure. A copy of any contamination report shall be submitted to the TESR for review in accordance with Mitigation Measure 4. The DES shall determine whether consultation with the relevant Council and/or EPA is required prior to continuation of construction within the affected area.		
89.	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, Safe Work Australia 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. The event must be reported in Transport incident management system as a report only event in accordance with the Transport Environmental Incident Procedure. 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. <i>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 Mitigation Measure 45 and Mitigation Measure 46.</i>	Contractor	Construction
90.	Spoil Reuse, Removal and Classification All excavated spoil suitable for reuse shall be reused on site and distributed as approved by the TESR. The quantity and locations for reuse of excavated material shall be further reviewed and confirmed with the TESR during construction. All spoil to be removed from site will be tested to confirm the presence of any contamination. Any contaminated spoil will be disposed of at an appropriately licensed facility. All spoil and waste must be classified in accordance with the <i>Waste Classification Guidelines Part 1: Classifying waste</i> (NSW EPA, 2014) prior to disposal.	Contractor	Construction
91.	Concrete Washout Any concrete washout shall be established and maintained in accordance with Transport's <i>EMF-EM-GD-0145 Concrete washout guideline</i> (Transport for NSW, 2024c) with details included in the CEMP and location marked on the ECM.	Contractor	Construction
92.	Hazardous Materials Survey A Hazardous Materials Survey in accordance with AS 2601 (2001) <i>Demolition of Structures</i> shall be undertaken by an appropriately qualified environmental scientist prior to the demolition of existing structures within the station, such as the existing stairs, and the suspended awning at Railway Terrace/ Victoria Street station entrance.	Contractor	Pre-construction

No.	Mitigation measure	Responsibility	Timing
	Subsequent removal of any hazardous material is to be undertaken in accordance with applicable EPA, SafeWork NSW and Safe Work Australia guidelines.		
93.	Contamination Investigation Prior to construction, an investigation of the Proposal site shall be undertaken by a suitably qualified Environmental Consultant, in accordance with the level of assessment and requirements stipulated by the <i>National Environment Protection (Assessment of Site Contamination) Amendment Measure (NEPM) 2013</i>. The assessment shall also be generally undertaken in accordance with: - Contaminated Sites - Sampling Design Guidelines (NSW EPA, 2022) - AS 4482 (2005) Guide to the investigation and sampling of sites with potentially contaminated soil. The investigation report shall be prepared in accordance with the <i>Guidelines for Consultants Reporting on Contaminated Sites</i> (Office of Environment and Heritage, 2011) and shall also include a preliminary waste classification in accordance with the <i>Waste Classification Guidelines</i> (NSW EPA, 2014). Specific requirements for further investigation (including requirements for a Site Auditor), remediation or management of any contamination shall be included in the CEMP (or supporting Contamination Management Plan) as appropriate. Note: Nothing in this condition removes any obligation to adhere to the requirements under the NSW <i>Contaminated Land Management Act 1997</i> (or other legislation).	Contractor	Pre-construction
94.	Mulch and landscaping 1. Mulch used in landscaping must, to the extent possible, be derived from trees, shrubs and any other vegetative material that is approved by the Principal for use as mulch, removed during the clearing and grubbing work on the site. If the mulch produced in this way is insufficient or not available, make up the shortfall by using imported hardwood chip that complies with Australian Standard AS 4454, the EPA Mulch Order 2016 and Mulch Exemption 2016. Imported hardwood chip must also comply with the following requirements: a) hardwood chip must only be derived from waste hardwood timber. Woodchip derived from trees which have been specifically harvested for that purpose will not be accepted under any circumstances b) the material must comprise hardwood chips with not more than 5% fines by volume, and must not contain any bark c) the average size of the woodchip must be approximately 30 mm x 20 mm x 5 mm and the maximum length of chip must not exceed 50 mm d) hardwood chip must be free of soil, weeds, stones, vermin, insects or other foreign material. 2. Prior to procuring, the Contractor must provide in writing to the Principal the source of mulch, as well as a sample of mulch and product documentation demonstrating compliance, for approval or for other quality assurance diligence and surveillance purposes. 3. Prior to importing, the Contractor must ensure all imported mulch is visually inspected at the supplier's premises, with samples collected and tested in accordance with AS 4454. The Contractor must track batches of mulch to ensure the same mulch inspected and tested is delivered to site. 4. During unloading and land application, the Contractor must ensure that a suitably qualified expert visually inspects each load of mulch for compliance. All visual inspections of mulch must be documented and include as a minimum: a) location, date, and time of inspection b) name of inspector	Contractor	Construction

No.	Mitigation measure	Responsibility	Timing
	c) product name, supplier name, volume of material d) photographs of material inspected e) sample collection details (when applicable).		
95.	As potential acid sulfate soils have been identified in the Limited Contamination Assessment (AECOM, 2024g), further analytic assessment of soils shall be undertaken prior to excavation activities to determine the presence of ASS.	Contractor	Pre-construction
Sustainability, climate change and greenhouse gases			
96.	Carbon Footprint Exercise The detailed design process shall undertake a compliant carbon footprinting exercise in accordance with the Transport Carbon Tool or other approved modelling tools. The carbon footprint shall be used to inform decision making in design and construction.	Contractor	During design
97.	Sustainability Officer A suitably qualified and experienced Sustainability Officer shall be appointed who is responsible for implementing the sustainability objectives for the Proposal, in line with the Program's overarching Project Sustainability Plan. Details of the Sustainability Officer including defined responsibilities, duration and resource allocation throughout the appointment are to be submitted to the satisfaction of the Director of Sustainability prior to the preparation of the Sustainability Management Plan.	Contractor	Pre-construction
98.	Sustainability Management Plan– A Sustainability Management Plan (SMP) which details the approach to managing sustainability requirements and opportunities during design and construction shall be prepared. The SMP shall include the following as a minimum: a) the Infrastructure Sustainability Council (ISC) scorecard demonstrating credits targeted to meet an Infrastructure Sustainability Essential Rating b) a statement outlining the Construction Contactor's own corporate sustainability policies, obligations, goals, targets and commitments c) a description of the processes and methodologies for encouraging and identifying innovative sustainability outcomes on the Proposal, and the areas targeted for innovative sustainable solutions to be explored and/or implemented on the Proposal. d) the approach to the identification of opportunities to reduce carbon emissions, energy use and embodied lifecycle impacts of the Proposal. This should include a summary of initiatives proposed for implementation to meet energy and carbon management objectives and targets e) the approach to sustainable procurement including how procurement processes have taken in to account the principles of <i>ISO 20400: 2017 – Sustainable Procurement</i> in the selection of all materials, products and services f) a description of the processes, standards and procedures for undertaking climate change risk assessments and strategies for mitigation of risks associated with climate change and extreme weather events. A copy of the SMP shall be submitted to the Director of Sustainability at least 30 days prior to the commencement of construction, for written approval (or such time as is otherwise approved by the Director).	Contractor	Pre-construction

No.	Mitigation measure	Responsibility	Timing
99.	The Climate Risk Assessment will be adopted to inform detailed design and implemented where feasible.	Contractor	Detailed design Construction
Cumulative impacts			
100.	Ongoing Cumulative Impacts The potential cumulative impacts associated with the Proposal shall be further considered as the design develops and as further information regarding the location and timing of potential developments is released. Environmental management measures will be developed in the CEMP, and implemented as appropriate. The CLMP will capture how the known cumulative impacts will be managed with the community and key stakeholders.	Contractor	Pre-construction

7.3 Licensing and approvals

Table 7-2: Summary of licensing and approvals required

Instrument	Requirement	Timing
Road Occupancy Licence	The proposed temporary full and partial road closures and traffic management controls on Victoria Street, Railway Terrace and Thomas Street shall be managed and implemented in accordance with the provisions of a Road Occupancy Licence(s) to be obtained from Inner West Council.	Pre-construction

8. Sustainability

8.1 Sustainability policy context

Consistent with the Future Transport Strategy 2056, Transport is committed to managing impacts on the environment and operating in an environmentally sustainable manner. These commitments are set out in the Transport Environment and Sustainability Policy (Transport for NSW, 2024d) and Transport Net Zero and Climate Change Policy (Transport for NSW, 2023b).

The Proposal has been developed and would be delivered in accordance with Transport’s Policies and Sustainability Plan (Transport for NSW, 2024d) including Transport’s vision - that every journey is people and planet positive. The Transport approach is to drive sustainability through eight key focus areas. These key focus areas and the Sustainability Plan goals are aligned with the United Nations Sustainable Development Goals (UNSDGs) in line with best practice sustainability approaches.

8.2 Sustainability issues, opportunities and initiatives

The material sustainability issues and opportunities for the Proposal have been considered in the development of the sustainability objectives in Section 2.3.3, the sustainability initiatives, and the consideration of a sustainability rating as described in Section 8.3.

Table 8-1 identifies how the Proposal has responded to the Transport sustainability focus areas and sets out initiatives and recommendations for the Proposal. Sustainability objectives are outlined in Section 2.3.3.

Table 8-1: Sustainability objectives and initiatives

Sustainability focus areas	Issue	Objectives	Initiatives (how is the project responding)
Respond to climate change	Climate resilience	Undertakes a climate risk assessment that mitigates all extreme and high residual risks.	A Climate Change Risk Assessment was undertaken for the Proposal in line with the Transport Climate Risk Assessment Guidelines (refer to Section 6.11).
		Adaptation options to treat all 'very high' and 'high' climate impact risks identified, assessed and implemented such that there are no 'very high' or 'high' residual climate risks by 100% design stage, or as agreed with Transport.	Adaptation actions were identified as part of the Climate Change Risk Assessment and included in the concept design. A residual risk assessment undertaken, assessing the risk post-adaptation. which resulted in all 'high' and above risks being downgraded to 'medium' or lower risks.
	Energy and carbon	Implement opportunities to reduce life cycle energy and carbon Intensity: 100% LED light sources used in indoor lighting, street lighting and other permanent area lighting installed for public amenity or safety purposes	Lighting control measures and dimming capabilities would be installed for indoor areas. Indoor and outdoor lighting, including the installation of lighting along the pathway between Thomas Street and West Street, would be high efficiency LED lighting.
		All new electrical equipment (for the final asset) to be at least market average star rating. In categories where no star ratings are available, equipment purchased should be recognised as high efficiency either by being ENERGY STAR accredited, in a high efficiency band under Australian Standards or being above-average efficiency of Greenhouse and Energy Minimum Standards (GEMS) registered products.	The only new electrical equipment for the Proposal relevant to this requirement is the installation of an instantaneous hot water system, which is not included under the GEMS registration scheme.
		Undertake an opportunities and feasibility assessment on the use of renewable energy, and report to Transport on viable opportunities.	A Sustainability in Design Workshop was held to identify opportunities for renewable energy. On-site solar was the only renewable energy source identified during operations but would not be pursued for this Proposal, following consideration of the outcome of Transport's solar screening tool. Opportunities for the use of renewable energy during construction, such as GreenPower, solar lighting/VMS/generators, and biofuels, would be identified and assessed prior to construction.
		Where feasible, as determined by undertaking a solar photovoltaic analysis in accordance with the Transport Solar PV Screening Tool, and approved by Transport as part of the work, complete an appropriate solar photovoltaic installation.	On-site solar would not be pursued for this Proposal, following consideration of the outcome of the solar screening tool.

Sustainability focus areas	Issue	Objectives	Initiatives (how is the project responding)
		25% reduction from baseline GHG footprint for operation versus a business-as-usual design, to be demonstrated at completion of the concept design through a qualitative assessment process.	Initiatives contributing to a reduction from baseline GHG emissions include: • selection of instantaneous hot water systems in lieu of hot water storage systems • installation of lighting control measures and dimming capabilities for indoor areas • all new lighting selected as high efficiency LED lighting • renewable energy is sourced by Sydney Trains for electrical loads.
Protect and enhance biodiversity	Biodiversity management	Report on the steps taken to avoid, minimise and mitigate • the impacts of the project on native fauna and flora including the use of novel mitigation techniques • any biosecurity risks arising from the project; within three months from the end of construction or as agreed.	Impacts to biodiversity, including native fauna and flora are assessed in Section 6.7. Biosecurity risks would be assessed and reported on within three months from the completion of construction.
		Report on how no net loss of remnant native vegetation and trees with amenity values has been achieved, through biodiversity offsetting and amenity tree replacement within three months from the end of construction, or as agreed.	An AIA prepared by an arborist investigated whether the trees being removed as part of the Proposal are non-native without amenity value or require replacement as per the Transport <i>Tree and hollow replacement Guidelines</i> (Transport for NSW, 2023a). The AIA identified that two native trees are required to be removed. In accordance with Transport's <i>Guidelines</i>, eight replacement trees are required to be planted to replace the loss. Further details are contained in Section 6.7.
		Report on the findings of monitoring undertaken of biodiversity mitigation effectiveness including lessons learnt, within three months from the end of construction or as agreed.	Biosecurity risks would be assessed and reported on within three months from the end of construction.
Improve environmental outcomes	Pollution control	All paints, adhesives, sealants, carpets, and engineered wood products used in indoor areas that are continuously occupied or occupied for more than two hours, are low in Total Volatile Organic Compounds (TVOC) as defined in the Green Star Buildings Rating Tool.	No paints, adhesives, sealants, carpets or engineered wood has been specified for indoors areas in the concept design.

Sustainability focus areas	Issue	Objectives	Initiatives (how is the project responding)
	Circular economy	Implement opportunities to incorporate reused, reclaimed, or recycled materials during construction. At least 35% Portland cement is to be replaced with supplementary cementitious material (SCM), measured as a weighted average across all concrete mixed used.	The concept design for the Proposal specifies that all concrete mixes must have a minimum 35% Portland cement to be replaced with SCM.
		10% Recycled Asphalt Pavement (RAP) used.	Warm asphalt mix with a minimum 20% RAP binder content has been specified for the Proposal. In addition, 2.5% recycled glass is specified for wearing courses and 5% recycled glass is specified for basecourse layers.
		10% recycled or reused material used in road base and subbase	Up to 100% crushed concrete is specified to be used in lieu of crushed rocks in the base and sub-base layers where appropriate and as far as reasonably possible.
		20% recycled or reused material used as bedding material and drainage medium	A minimum of 20% recycled or reused material has been specified for use as bedding material and drainage medium.
		3% of products used (by cost) must have a valid Environmental Product Declaration (EPD), or equivalent.	Material selection would be tracked and ensured that at least 3% of products used (by cost) have a valid EPD.
	Water cycle management	All new water-using appliances purchased by agencies must be at least 0.5 stars above the average Water Efficiency Labelling and Standards (WELS) star rating by product type, except toilets and urinals, which must be purchased at the average WELS star rating. Appliances and equipment purchased in the following categories with star ratings under the WELS scheme will be at least: - showerheads – 4 stars - toilets – 4 stars - urinals – 6 stars - washing machines – 4.5 stars - dishwashers – 5 stars - taps and flow controllers – 6 stars.	All new water-using appliances are WELS rated. Toilet are rated to 4 stars and urinals, taps, and flow controllers are rated to 6 stars.

Sustainability focus areas	Issue	Objectives	Initiatives (how is the project responding)
Procure responsibly	Sustainable procurement	All timber products used are sourced from reused/recycled timber, or from sustainably managed plantations that have obtained Forest Management Certification (FMC). Acceptable FMC schemes include the Program for the Endorsement of Forest Certification, Forest Stewardship Council and Australian Forest Certification Scheme or equivalent.	All timber products have been specified as sourced from reused/recycled timber, or from sustainably managed plantations on landscape architecture notes as part of the concept design.
		All polyvinyl chloride (PVC) is compliant with the Green Building Council of Australia (GBCA) 'Best Practice Guidelines for polyvinyl-chloride (PVC) in the built environment'.	All PVC proposed for the Proposal has been specified in the concept design as demonstrating compliance with the GBCA guidelines.
		All concrete is sourced from members of Cement Concrete & Aggregates Australia or similar association or organisation by agreement with Transport.	All concrete has been specified in the concept design as being sourced from members of Cement Concrete & Aggregates Australia.
		All steel is sourced from steelmakers with commitments to decarbonise or achieve carbon neutrality by the year 2050 at minimum.	Steel is specified in the concept design as sourced from steelmakers with commitments to decarbonise or achieve carbon neutrality by 2050 as part of the concept design. Details would be included in the UDLP.
Partner with communities	Community benefits	Undertake at least three legacy community benefit initiatives which target identified community needs which provide tangible benefits to the broader community beyond the construction period to leave a lasting legacy (Refer to Transport <i>Sustainable Design Guideline</i> Compulsory Requirement 14).	The UDLP (AECOM, 2024j) and Connecting with Country report (AECOM, 2024k) have identified opportunities which provide legacy community benefits, which would be further reviewed during detailed design.
		The Proposal is required to meet urban design principles.	The Proposal has developed a UDLP and has undertaken an analysis as to how the Proposal meets the design principles (refer to Section 2 of this REF).
Respect heritage and culture	Aboriginal engagement	The Proposal is required to demonstrate alignment with the Transport Aboriginal Culture and Heritage Framework.	The Connecting with Country Report (AECOM, 2024k) is aligned with the Transport Aboriginal Culture and Heritage Framework.
Align spend and impact	Sustainable leadership	Project structure includes sustainability in senior leadership accountabilities.	Senior sustainability professionals are included within the Project organisational structure. Contractor to ensure sustainability is included within senior leadership of the Project structure. Details would be contained in the Contract Management Plan.

Sustainability focus areas	Issue	Objectives	Initiatives (how is the project responding)
		Provide monthly reports on progress towards all sustainability objectives and targets.	Monthly sustainability reporting provided by the Sustainability Lead to Transport during concept design. Further sustainability reporting to be established by the Contractor.
	Innovation	Innovations to be established and implemented.	Limited opportunities for innovation were identified in the station concept design. There is an opportunity to identify construction-specific innovations prior to construction. Any innovative sustainability solutions identified would be implemented, where feasible.
	Liveable places	Project includes provision for walking and cycling	Walking and cycling would be enhanced through an accessibility upgrade at Lewisham Station. Details would be included in the UDLP.

8.3 Sustainability rating

The Lewisham Station Upgrade has applied during the concept design stage and would continue to apply the following Sustainability rating tools throughout the detailed design stage:

- IS 'Essentials' Rating Scheme
- Baseline Specific Requirements (BSRs).

To deliver effective sustainability initiatives, the delivery Contractor would be responsible for ensuring requirements are embedded into the design, procurement, costing, construction, and maintenance and reported regularly to Transport.

Transport would ensure requirements are included in relevant contracts for the work and manage the ongoing inclusion and monitor outcomes of sustainability across the project lifecycle.

9. Conclusion

This chapter provides the justification for the Proposal taking into account its biophysical, social and economic impacts, the suitability of the site and whether or not the Proposal is in the public interest. The Proposal is also considered in the context of the objectives of the EP&A Act, including the principles of ecologically sustainable development as defined in Section 193 of the Environmental Planning and Assessment Regulation 2021.

9.1 Justification

The Proposal is considered to be consistent with a number of strategies and plans, including:

- Future Transport Strategy (Transport, 2022a)
- NSW Disability Inclusion Action Plan (2021-2025) (NSW Government, 2021)
- A Metropolis of Three Cities - Greater Sydney Region Plan (Greater Sydney Commission, 2018a)
- Eastern City District Plan (Greater Sydney Commission, 2018b)
- Staying Ahead: State Infrastructure Strategy 2022-2042 (Infrastructure NSW, 2022)
- Inner West Local Strategic Planning Statement (Inner West Council, 2020)
- Our Inner West 2036 - Community Strategic Plan (Inner West Council, 2018)
- Disability and Inclusion Action Plan 2023 – 2026 (Inner West Council, 2023).

The Proposal would meet the key strategic objectives within the above strategies and plans, as outlined in Section 2.1.

The Proposal forms part of the Safe Accessible Transport program, which is designed to drive a stronger customer experience outcome, with improvements made to amenity, access and safety. The Proposal aims to deliver improved connectivity between modes including greater opportunities for active transport, encourage greater public transport use by providing safe and welcoming spaces, and better integration of interchanges within the communities they serve.

9.1.1 Social factors

The construction of the Proposal would result in temporary noise impacts to nearby sensitive noise receivers, particularly during night-time work. Minor social impacts through disruptions to pedestrian and traffic flow would also result from temporary full and partial road closures, temporary closures of the underpass affecting connectivity, and dust emissions. Additionally, construction activities would result in short-term temporary visual impacts, loss of parking spaces, and noise impacts, impacting nearby local businesses, educational facilities and residential properties.

However, the operation of the Proposal is anticipated to result in an overall improved experience for rail customers using the station and the Sydney Trains network. Over the long-term, the Proposal would provide social benefits to the Lewisham community and the wider Sydney Trains customer network through improved accessibility. This would be as a result of the installation of lifts and new station access ramp from Railway Terrace to Platform 2, platform regrading, installation of TGSIs and an accessibility upgrade to station interchange facilities, including accessible parking spaces, kiss and ride spaces, and bicycle parking. Customer amenity and safety would also be improved through provision of the new family accessible toilet and unisex ambulant toilet, improved CCTV, improved wayfinding and signage, new lighting, landscaping, and public art.

9.1.2 Biophysical factors

The Proposal would result in the removal of two trees at the Thomas Street forecourt. In accordance with Transport's *Tree and hollow replacement guidelines* (Transport for NSW, 2023a), a total of eight replacement trees

would be planted for the Proposal (refer to Section 6.7.5). This is anticipated to result in minimal impacts to the overall ecological values of the area. Native and exotic fauna may incidentally use vegetation within the Proposal area, however the vegetation expected for removal does not constitute an important habitat for fauna species. Provided mitigation measures are in place, no substantial impacts are expected to threatened flora or threatened ecological communities. The operation of the Proposal is not anticipated to result in significant impacts to biodiversity.

During construction, there is potential for erosion and sediment to impact nearby drainage channels and waterways, including the Hawthorne Canal. There is also the potential for contamination impacts from accidental spills or inadequate fuel and chemical storage practices resulting in localised contamination of water quality and soils. Construction activities within the Proposal area, such as excavation and other ground intrusive activities, have the potential to intercept and disturb previously unidentified contaminated soils. These impacts would be minimised through the implementation of erosion and sediment controls, procedures for managing the storage and use of hazardous materials including fuels, as well as procedures for unidentified contamination. There would also be minor air quality impacts as a result of dust emissions generated by construction activities and exhaust fumes from construction vehicles. The operation of plant and equipment would result in increases in exhaust emissions; however, these impacts are anticipated to be localised, short-term and minor.

9.1.3 Economic factors

The Proposal would result in improved access to Lewisham Station, which would improve access for all customers to the public transport network. This would allow for customers of all abilities to access goods and services throughout Greater Sydney more readily. The construction of the lifts and ramps from the platform to Thomas Street and Railway Terrace and accessibility improvements at station interchange facilities also has the potential to increase patronage at local businesses in Lewisham.

9.1.4 Public interest

The Proposal would be in the public interest through accessibility improvements to Lewisham Station, which would improve the ability for all customers to use the public transport network. The construction of the lifts and new station access ramp from Railway Terrace to Platform 2, platform regrading work, accessibility improvements and construction of family accessible toilet and unisex ambulant toilet would all be in the public interest. In addition, safety and amenity improvements at Lewisham Station, including new lighting, as well as improved CCTV, signage and wayfinding, would provide benefits to all customers using Lewisham Station.

9.2 Objects of the EP&A Act

Table 9-1: Objects of the Environmental Planning and Assessment Act 1979

Instrument	Requirement
1.3(a) To promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State’s natural and other resources.	Despite some temporary short-term impacts to businesses, the Proposal would promote the social and economic welfare of the community through improved accessibility at Lewisham Station, improving the ability of all customers to access the station and the wider public transport network. The construction of the lifts and new station access ramp from Railway Terrace to Platform 2, platform regrading work and new station building with family accessible toilet and unisex toilets, would improve the usability of the station for customers of all abilities. In addition, new lighting, upgrades to the station CCTV system and improved signage and wayfinding would allow for improved management of the station and its customers.
1.3(b) To facilitate ecologically sustainable development by integrating relevant economic, environmental and	Ecologically sustainable development has been considered throughout the development of the Proposal, with the legislative context of ecologically sustainable development considered in Section 9.2.1 and the environmental,

Instrument	Requirement
social considerations in decision-making about environmental planning and assessment.	economic and social impacts of the Proposal considered in Chapter 6. Mitigation measures would be implemented to minimise construction impacts, including construction traffic, noise, heritage and biodiversity impacts. A CEMP would be prepared to make sure safeguards and management measures are implemented and maintained during the construction period. Mitigation measures would also be implemented to minimise operational impacts, including visual impacts. Ecologically sustainable development is further discussed in Section 9.2.1.
1.3(c) To promote the orderly and economic use and development of land.	The Proposal is required to provide accessibility and safety upgrades to Lewisham Station to improve the use of the station and surrounding public transport interchange facilities. This would allow for orderly and economic use of land particularly as it involves the upgrade of existing rail infrastructure.
1.3(d) To promote the delivery and maintenance of affordable housing.	Not relevant to the Proposal.
1.3(e) To protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats.	The Proposal would require the removal of two native trees, which is anticipated to result in minimal impacts to the overall ecological values of the area. In total, eight trees would be planted as replacement plantings in accordance with Transport's <i>Tree and Hollow Replacement Guidelines</i> (Transport for NSW, 2023a). Native and exotic fauna would likely incidentally use vegetation within the Proposal area for foraging, however the vegetation expected for removal does not constitute an important habitat for fauna species. The Proposal would not result in significant impacts to threatened species, ecological communities or their habitats.
1.3(f) To promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage).	The Proposal is not anticipated to impact Aboriginal cultural heritage. Despite this, Transport's EMF-HE-PR-0076 <i>Unexpected Heritage Items Procedure</i> (2024) (Transport for NSW, 2024b) would be implemented if any previously unidentified or unexpected heritage items are discovered during construction. The removal and replacement of the suspended awning to the shop front in the 'Lewisham Estate Heritage Conservation Area' would be a permanent physical impact. However, it is considered the benefit of the proposed work outweighs the minor impacts. Visual impacts are anticipated to be positive, as the current suspended awning blocks a large portion of the building from sight. The replacement canopy would provide greater visual access to the shop and would be aesthetically pleasing.
1.3(g) To promote good design and amenity of the built environment.	An UDLP has been developed for the Proposal (AECOM, 2024j) to achieve an integrated outcome that helps fit the Proposal as sensitively as possible into its context and to minimise the impacts of the Proposal on the existing landscape character of the surrounding area. Mitigation measures would be implemented during detailed design to ensure that the urban design and landscape objectives are achieved.

Instrument	Requirement
1.3(h) To promote the proper construction and maintenance of buildings, including the protection of the health and safety of their occupants.	The Proposal involves the construction of a new station building on Platform 1, including a new family accessible toilet and unisex ambulant toilet. Relocation of the station building to Platform 1 would improve accessibility for all users, including through alignment of the toilet facilities to the platform floor level, which would contribute to overall improved accessibility of Lewisham Station and better health and safety outcomes for staff and customers using the station.
1.3(i) To promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State.	Not relevant to the Proposal.
1.3(j) To provide increased opportunity for community participation in environmental planning and assessment.	Consultation with the community and relevant government agencies has been carried out during the development of the Proposal as discussed in Chapter 5. There would be further opportunities for the public to comment on the Proposal during the public display of the REF.

9.2.1 Ecologically sustainable development

Ecologically sustainable development (ESD) is development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends. The principles of ESD have been an integral consideration throughout the development of the project.

ESD requires the effective integration of economic and environmental considerations in decision-making processes. The four main principles supporting the achievement of ESD as per the EPA Act are discussed below. Further information on consideration of sustainability issues, opportunities and initiatives is provided in Section 3.2.3 and Chapter 8.

The precautionary principle

The precautionary principle deals with reconciling scientific uncertainty about environmental impacts with certainty in decision-making. It provides that where there is a threat of serious or irreversible environmental damage, the absence of full scientific certainty should not be used as a reason to postpone measures to prevent environmental degradation.

This principle was considered during route options development (refer to Chapter 2). The precautionary principle has guided the assessment of environmental impacts for this REF and the development of mitigation measures.

Specialist studies were incorporated to gain a detailed understanding of the existing environment, and issues that may cause serious or irreversible environmental damage as a result of the Proposal have been identified. Conservative 'worst case' scenarios were considered while assessing environmental impact.

A number of mitigation measures have been proposed to minimise potential impacts and to respond to areas of scientific uncertainty. These safeguards would be implemented prior to and during construction of the Proposal, as well as during operation. No safeguards have been postponed as a result of a lack of scientific uncertainty. A CEMP would be prepared prior to construction, which would make sure the Proposal achieves a high-level of environmental performance.

Intergenerational equity

Social equity is concerned with the distribution of economic, social and environmental costs and benefits. Intergenerational equity introduces a temporal element with a focus on minimising the distribution of costs to future generations.

The Proposal may have some adverse impact on the current generation, generally through temporary construction impacts. The Proposal would not result in any impacts that are likely to adversely impact the health,

diversity or productivity of the environment for future generations. The Proposal would have positive long-term benefits as it would enable all customers to access the public transport network from Lewisham Station more easily.

Should the Proposal not proceed, the principle of intergenerational equity may be compromised, as future generations would not benefit from improved accessibility and safety at Lewisham Station, meaning customers with accessibility needs would be limited in their ability to access goods and services via the public transport network.

Conservation of biological diversity and ecological integrity

The Proposal is located in an area that has previously been modified or disturbed and would result in minimal impacts to biological diversity and ecological integrity. Two trees would be removed as part of the Proposal. The removal of these trees would be replaced through the planting of eight replacement trees in line with Transport's *Tree and Hollow Replacement Guidelines* (Transport for NSW, 2023a). The Proposal is not anticipated to result in significant impacts to threatened species or threatened ecological communities.

Improved valuation, pricing and incentive mechanisms

The principle of internalising environmental costs into decision making requires consideration of all environmental resources that may be affected by the carrying out of a project, including air, water, land and living things.

Transport recognises the value of environmental resources and aims to minimise the impacts of its activities by ensuring that appropriate safeguards and management measures are implemented for all aspects of the Proposal. Environmental, economic and social issues were considered in the rationale for the Proposal and consideration of design options. The value placed on environmental resources is demonstrated in the extent of investigations and assessment outlined in Chapter 6, and in the design of the mitigation measures described in Section 7.2. Implementation of these mitigation measures would result in an economic cost to Transport, which would be included in both the capital and operating cost of the Proposal.

In addition, the value of the Proposal to the community in terms of improved accessibility and safety has been recognised and addressed during development of the Proposal, to provide improvements for all users of Lewisham Station.

9.3 Conclusion

The proposed accessibility upgrade at Lewisham Station is subject to assessment under Division 5.1 of the EP&A Act. The REF has examined and taken into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of the proposed activity.

This has included consideration (where relevant) of conservation agreements and plans of management under the NPW Act, biodiversity stewardship sites under the BC Act, wilderness areas, areas of outstanding value, impacts on threatened species and ecological communities and their habitats, and other protected fauna and native plants. It has also considered potential impacts to matters of national environmental significance listed under the EPBC Act.

A number of potential environmental impacts from the Proposal have been avoided or reduced during the concept design development and options assessment. The Proposal, as described in the REF, best meets the project objectives but would still result in some impacts on traffic and transport, noise and vibration, and non-Aboriginal heritage. These impacts would largely be temporary adverse impacts limited to the construction phase of the Proposal. Mitigation measures as detailed in this REF would ameliorate or minimise these expected impacts. The Proposal would also provide social benefits to the Lewisham community and wider public transport customer network through improved accessibility at Lewisham Station and its interchange facilities. On balance, the Proposal is considered justified and the following conclusions are made.

9.3.1 Significance of impact under NSW legislation

The Proposal would be unlikely to cause a significant impact on the environment. Therefore, it is not necessary for an environmental impact statement to be prepared nor approval to be sought from the Minister for Planning under Division 5.2 of the EP&A Act. A Biodiversity Development Assessment Report or Species Impact Statement is not required. The Proposal is subject to assessment under Division 5.1 of the EP&A Act. Consent from Council is not required.

9.3.2 Significance of impact under Australian legislation

The Proposal is not likely to have a significant impact on matters of national environmental significance nor the environment of Commonwealth land within the meaning of the *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth). A referral to the Australian Department of Climate Change, Energy, the Environment and Water is not required.

10. Certification

I certify that I have reviewed and endorsed the contents of this REF and, to the best of my knowledge, it is in accordance with the EP&A Act, the EP&A Regulation and the Guidelines approved under Section 170 of the EP&A Regulation, and the information is neither false nor misleading. I accept it on behalf of Transport for NSW.

Name: Catherine Brady
Position: Technical Director – Lead Verifier
Company name: AECOM
Date: 14 March 2025

I have reviewed and accept the contents of this REF and that it is a true account of the Proposal.

Name: Chetan Thaker
Position: Program Lead
Transport region/program: Safe Accessible Transport Program
Date: 14 March 2025

11. EP&A Regulation publication requirement

Table 11-1: EP&A Regulation publication requirement

Requirement	Yes/No
Does this REF need to be published under section 171(4) of the EP&A Regulation?	Yes

12. References

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Terms and acronyms used in this REF

Terms and acronyms used in this REF

Term / Acronym	Description
ABS	Australian Bureau of Statistics
AEP	Annual Event Probability
AFC	Approved for Construction
AHD	Australian Height Datum
AHIMS	Aboriginal Heritage Information Management System
AIA	Arboricultural Impact Assessment
ASS	Acid Sulfate Soils
ATAC	Accessibility Transport Advisory Committee
BAM	Biodiversity Assessment Method
BAZ	Boarding Assistance Zones
BC Act	<i>Biodiversity Conservation Act 2016 (NSW)</i>
BCA	Building Code of Australia
BOS	Biodiversity Offset Strategy
BSR	Baseline Specific Requirements
BTEXN	Benzene, toluene, ethylbenzene, xylenes and naphthalene
CCP	Commuter Car Park Program
CCTV	Closed Circuit TV
CECR	Construction Environmental Compliance Report
CEMP	Construction environmental management plan
CLMP	Community Liaison Management Plan
CNVG-PTI	Transport's <i>EMF-NV-GD-0060 Construction Noise and Vibration Guideline (Public Transport Infrastructure)</i> (Transport for NSW, 2023)
CNVMP	Construction Noise and Vibration Management Plan
CNVS	Construction Noise and Vibration Strategy
CPTED	Crime Prevention Through Environmental Design
CSP	Community Strategic Plan
CTMP	Construction Traffic Management Plan
DARB	Diameter Above Root Buttress
DBH	Diameter at Breast Height
DBYD	Dial Before You Dig
DDA	<i>Disability Discrimination Act 1992 (Commonwealth)</i>
DDVR	Detailed Design Validation Report
DES	Director Environment and Sustainability
DIAP	Disability and Inclusion Action Plan
DPE	Former NSW Department of Planning and Environment, now split into DPHI and NSW DCCEEW
DPHI	Department of Planning, Housing and Infrastructure

Term / Acronym	Description
DSAPT	Disability Standards for Accessible Public Transport 2002
ECM	Environmental Control Map
EIA	Environmental impact assessment
EMS	Environmental Management System
EP&A Act	<i>Environmental Planning and Assessment Act 1979 (NSW)</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2021</i>
EPA	Environment Protection Authority
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)</i>
EPD	Environmental Product Declaration
EPL	Environment Protection Licence
ESCP	Erosion and Sediment Control Plan
ESD	Ecologically Sustainable Development
EWP	Elevated Work Platforms
FFMSP	Flora and Fauna Management Sub-plan
FM Act	<i>Fisheries Management Act 1994 (NSW)</i>
FMC	Forest Management Certification
GANSW	Government Architect NSW
GBCA	Green Building Council of Australia
GEMS	Greenhouse and Energy Minimum Standards
GHG	Greenhouse gas
GIR	Geotechnical Investigation Report
GST	Galvanised steel trough
Heritage Act	<i>Heritage Act 1977 (NSW)</i>
HV	High Voltage
IPCC	Intergovernmental Panel on Climate Change
ISC	Infrastructure Sustainability Council
LCVIA	Landscape Character and Visual Impact Assessment
LCZ	Landscape Character Zones
LEP	Local Environmental Plan
LGA	Local Government Area
LoS	Level of Service
MNES	Matters of National Environmental Significance under the EPBC Act
NCA	Noise Catchment Area
NEPM	National Environment Protection (Assessment of Site Contamination) Amendment Measure
NML	Noise Management Levels
NPfi	Noise Policy for Industry
NPW Act	<i>National Parks and Wildlife Act 1974 (NSW)</i>
NSW DCCEEW	New South Wales Department of Climate Change, Energy, the Environment and Water
NVIA	Noise and Vibration Impact Assessment

Term / Acronym	Description
OCP/OPPs	Organochlorine and organophosphate pesticides
OOHWP	Out of Hours Work Protocol
OSD	On-site Stormwater Detention
PA	Public Address
PACHCI	Procedure for Aboriginal Cultural Heritage Consultation and Investigation
PAH	Polycyclic aromatic hydrocarbons
PASS	Potential Acid Sulphate Soils
PCB	Polychlorinated biphenyls
PCT	Plant Community Type
PDP	Public Domain Plan
PMST	Protected Matters Search Tool
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
PVC	Polyvinyl Chloride
RAP	Recycled Asphalt Pavement
RBL	Rating background level
RCP	Representative Concentration Pathway
REF	Review of Environmental Factors
RNE	Register of the National Estate
RNP	NSW Road Noise Policy
Roads Act	Roads Act 1993 (NSW)
SCM	Supplementary cementitious materials
SEPP	State Environmental Planning Policy
SEPP (Biodiversity and Conservation)	State Environmental Planning Policy (Biodiversity and Conservation) 2021
SEPP (Planning Systems)	State Environmental Planning Policy (Planning Systems) 2021
SEPP (Eastern Harbour City)	State Environmental Planning Policy (Precincts – Eastern Harbour City) 2021
SEPP (Resilience and Hazards)	State Environmental Planning Policy (Resilience and Hazards) 2021
SEPP (Transport and Infrastructure)	State Environmental Planning Policy (Transport and Infrastructure) 2021
SHI	State Heritage Inventory
SHR	State Heritage Register
SMP	Sustainability Management Plan
SoHI	Statement of Heritage Impact
SSER	Shared Services Equipment Room
SWMP	Soil and Water Management Plan
TAM	Transport Asset Manager of NSW
TAP	Transport Access Program
TESR	Transport Environment and Sustainability Representative
TGSIs	Tactile Ground Surface Indicators
The Proposal	Transport proposes to provide an accessibility upgrade at Lewisham Station, as part of the Safe Accessible Transport program.

Term / Acronym	Description
TPZ	Tree Protection Zone
Transport	Transport for NSW
TRH	Total recoverable hydrocarbons
TVOC	Total Volatile Organic Compounds
UDLP	Urban Design and Landscape Plan
WARR Act	<i>Waste Avoidance and Resource Recovery Act 2001</i>
WELs	Water Efficiency Labelling and Standards
WONS	Weeds of National Significance

Appendix A Consideration of section 171(2) factors, section 171A factors and matters of national environmental significance and Commonwealth land

Consideration of section 171(2) factors

In addition to the requirements of the Guideline for Division 5.1 assessments (DPE, 2022) as detailed in the REF, the following factors, listed in section 171(2) of the Environmental Planning and Assessment Regulation 2021, have also been considered to assess the likely impacts of the Proposal on the natural and built environment.

Factor	Description of impact	Duration and extent
a) Environmental impact on the community.	During construction, there would be some temporary adverse community impacts, in relation to noise, traffic and transport, socio-economic and visual amenity to surrounding residential properties, businesses, commercial facilities, educational facilities and places of worship. During operation, the Proposal would result in community benefits associated with accessibility improvements at Lewisham Station with minimal adverse operational impacts. Mitigation measures outlined in Section 7.2 would be implemented to manage and minimise adverse impacts.	Short-term negative (construction) Long-term positive (operation)
b) The transformation of the locality.	The Proposal area would undergo temporary transformation during construction, from the presence of visually prominent construction activities. The temporary construction compounds would be demobilised and reinstated to pre-construction conditions and would not result in the transformation of locality. The introduction of new permanent station infrastructure would be consistent with the features of a railway facility and would not lead to a major transformation of the locality. The permanent replacement of damaged or vandalised infrastructure and the increased legibility of the Railway Terrace/Victoria Street station entry within the landscape, would have a positive effect on landscape character. Overall, this would result in a neutral impact in the long-term. Design criteria has informed the Proposal's design to minimise any transformation of the wider locality. Opportunities to include public art or Connecting with Country principles would be explored during detailed design to integrate the Proposal within the wider locality. Mitigation measures outlined in Section 7.2 would be implemented to manage and minimise adverse impacts.	Short-term negative (construction) Long-term neutral (operation)
c) Any environmental impact on the ecosystems of the locality.	Two trees would be removed during construction to accommodate the Proposal. The loss would be replaced through replanting in line with Transport's <i>Tree and hollow replacement guidelines</i> (Transport for NSW, 2023a) and therefore the Proposal would not a substantial impact on the overall ecological values of the area. Impacts to threatened species have been assessed as not significant. Mitigation measures outlined in Section 6.7 and Section 7.2 would be implemented to manage and minimise adverse impacts significant with to protect flora and fauna in the Proposal area.	Short-term negative (construction)
d) Any reduction of the aesthetic, recreational, scientific or other environmental quality or value of a locality.	During construction, the Proposal has the potential to result in a reduction in the existing aesthetic quality of the Proposal area, from dust emissions and the visual impacts of construction activities. The Proposal would introduce new elements contributing to visual impacts associated with station infrastructure, including the new lift shaft at Railway Terrace/Victoria Street station entry, new and extended canopies, and a new station building. The introduced features are consistent with the features of a railway facility and would result in a reduction of the aesthetic value of the locality.	Short-term negative (construction) Long-term neutral (operation)

Factor	Description of impact	Duration and extent
e) Any effect on any locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or other special value for present or future generations.	The Proposal is not expected to affect Aboriginal heritage. The Proposal requires work within the curtilage of the Lewisham Estate Heritage Conservation Area (LEP #C61), which is aesthetically and socially significant and of value due to the collective nature of buildings and elements in that area dating back to the early 1880s. The proposed work involves the removal of the existing canopy above the Railway Terrace/Victoria Street station entrance and the provision of a new canopy around the lift extending to the adjacent building. As the proposed work would have minimal impact to the façade of the historically significant shops, the existing overall significance of the Heritage Conservation Area would not be altered. The proposed Alfred Street construction compound within the curtilage of the Inner West LEP and NSW TAM S170 Heritage and Conservation Register listed item 'Lewisham Railway Substation' would not impact listed elements of this heritage item, however the proposed work would result in temporary visual impacts with construction activities temporarily altering the view of the substation from the street. Overall, the operation of the Proposal would not alter the existing overall significance of the Heritage Conservation Area and would result in a long-term, positive contribution to the area due to the accessibility improvements to Lewisham Station.	Long-term neutral (operation)
f) Any impact on the habitat of protected fauna (within the meaning of the Biodiversity and Conservation Act 2016).	The Proposal would not have any impact on habitat or critical habitat of protected fauna.	Nil
g) Any endangering of a species of animal, plant or other form of life, whether living on land, in water or in the air.	The Proposal is unlikely to endanger any species of animal, plant or other form of life, whether living on land, in water or in the air.	Nil
h) Any long-term effects on the environment	The Proposal would have no long-term negative impacts on the environment, including ecological, social and economic impacts. The Proposal would provide positive benefits to the community over the long-term, particularly those with mobility problems, due to the accessibility improvements associated with the upgraded Lewisham Station.	Long-term positive (operation)
i) Any degradation of the quality of the environment.	The Proposal is unlikely to degrade the quality of the environment subject to the implementation of the mitigation measures.	Nil
j) Any risk to the safety of the environment.	The Proposal is unlikely to cause any safety risks to the environment provided management and mitigation measures outlined in Section 7.2 are implemented to manage risks associated with the storage and use of hazardous materials during construction. The Proposal would result in improved safety at Lewisham Station in the long-term, with the installation of new lighting and improved CCTV, as well as TGSIs and safety zone markings on the platforms.	Short-term neutral (construction) Long-term positive (operation)
k) Any reduction in the range of beneficial uses of the environment.	The Proposal is unlikely to result in any reduction in the range of beneficial uses of the environment.	Nil

Factor	Description of impact	Duration and extent
l) Any pollution of the environment.	The Proposal has the potential to result in some short-term negative pollution risks resulting from sedimentation, waste, and spilt fuels and chemicals during construction. Short-term noise and air quality impacts are expected during construction from the use of plant and machinery and the generation of dust. Additionally, the use of plant and equipment would contribute direct greenhouse gas emissions from exhaust emissions. Impacts would be minimised through the implementation of measures included in Section 7.2. There would be no long-term pollution of the environment as a result of the Proposal.	Short-term negative (construction)
m) Any environmental problems associated with the disposal of waste	The Proposal is unlikely to cause any environmental problems associated with the disposal of waste. Waste materials generated during construction would be removed from the Proposal area and appropriately disposed of, to licenced waste facilities. The Proposal would be carried out in accordance with the requirements of the WARR Act and a Waste Management Plan would be prepared as part of the CEMP. Mitigation measures would be implemented to ensure waste is reduced, reused or recycled where practical.	Short-term negligible
n) Any increased demands on resources (natural or otherwise) that are, or are likely to become, in short supply.	The Proposal would not increase demand for resources, which are, or are likely to become, in short supply.	Nil
o) The cumulative environmental effect with other existing or likely future activities.	A search of the NSW Major Projects website and the Inner West Council Development Application Register did not identify projects with the potential for cumulative impacts alongside the Proposal.	Nil
p) Any impact on coastal processes and coastal hazards, including those under projected climate change conditions.	The Proposal would not affect or be affected by any coastal processes or hazards, including those under projected climate change conditions.	Nil
q) Applicable local strategic planning statements, regional strategic plans or district strategic plans made under the Act, Division 3.1	The Proposal would align with: • Future Transport Strategy • NSW Disability Inclusion Action Plan (2021- 2025) • A Metropolis of Three Cities - Greater Sydney Region Plan • Eastern City District Plan • Staying Ahead: State Infrastructure Strategy 2022- 2042 • Inner West Local Strategic Planning Statement • Our Inner West 2036 - Community Strategic Plan • Disability and Inclusion Action Plan 2023 – 2026 The consistency of the Proposal with these documents is considered in Section 2.1 of this REF. Chapter 4 provides further information on statutory and planning framework.	Nil
r) Other relevant environmental factors	In considering the potential impacts of this Proposal all relevant environmental factors have been considered in Chapter 6 of this REF. The Proposal would not impact on any other environmental factors.	Nil

Consideration of section 171A factors – activities in catchments

SEPP Biodiversity and Conservation – Chapter 6 (Water Catchments)

Chapter 6 (Water Catchment) of SEPP (Biodiversity and Conservation) relates to the use of land within regulated catchments. In these catchments Transport is required to consider the environmental impact of activities to which Division 5.1 of the EP&A Act applies before carrying out the activity.

The four regulated catchments are:

- a) the Sydney Drinking Water Catchment
- b) the Sydney Harbour Catchment
- c) the Georges River Catchment
- d) the Hawkesbury-Nepean Catchment.

In undertaking an activity in a regulated catchment Transport must satisfy sections 6.6(2), 6.7(2), 6.8(2) and 6.9(2) and consider environmental impacts listed in sections 6.6(1), 6.7(1), 6.8(1) and 6.9(1) of State Environmental Planning Policy (Biodiversity and Conservation) 2021. This includes specific consideration of water quality and quantity, aquatic ecology, flooding, and recreation and public access.

The Proposal is located in the Sydney Harbour Catchment and therefore Chapter 6 of the SEPP Biodiversity and Conservation applies to the development.

Water quality and quantity

Table C1: Water quality and quantity considerations, SEPP (Biodiversity and Conservation)

Section	Factor	Impact/Comment
The project must satisfy the below before undertaking the activity:		
6.6(2)(a)	The effect on the quality of water entering a natural waterbody would be as close as possible to neutral or beneficial	Activities which could disturb soil during construction, including excavations, have the potential to impact local water quality as a result of erosion and sedimentation. There is also a risk of contaminating local water quality and the stormwater network as a result of accidental spills or inadequate fuel and chemical storage practices. However, impacts would be minimised through the implementation of erosion and sediment controls during construction as outlined in Section 7.2. As such, any residual impact following the implementation of mitigation measures would be neutral.
6.6(2)(b)	The impact on water flow in a natural waterbody would be minimised	The Proposal is not anticipated to result in significant changes to water flow or increases in runoff volumes compared to the existing scenario. The Proposal would result in minimal impacts to the hydrology of the surrounding area. Minor increases in stormwater runoff may result from additional impervious surfaces associated with the installation of the padmount transformer, however this is not expected to result in increases in water flows to waterways, such as the nearby Hawthorne Canal.
The project must consider the below before undertaking the activity:		
6.6(1)(a)	Consider whether the development would have a neutral or beneficial effect on the quality of water entering a waterway	Activities which could disturb soil during construction, including excavations, have the potential to impact local water quality as a result of erosion and sedimentation. There is also a risk of contaminating local water quality and the stormwater network as a result of accidental spills or inadequate fuel and chemical storage practices. However, impacts would be minimised through the implementation of erosion and sediment controls during construction as outlined in Section 7.2. In addition, the closest waterway, Hawthorne Canal, is around 300 metres west of the Proposal area, which minimises the likelihood of impacts to water quality. Any residual impact following the implementation of mitigation measures would be neutral.

Section	Factor	Impact/Comment
6.6(1) (b)	Consider whether the development would have an adverse impact on water flow in a natural waterbody	The Proposal is not anticipated to have an adverse impact on water flow in a natural waterbody as the closest natural waterbody (Paramatta River) is around 2.2 kilometres to the north of the Proposal area.
6.6(1) (c)	Consider whether the development would increase the amount of stormwater run-off from a site	The Proposal is not anticipated to result in significant increases in runoff volumes compared to the existing scenario. Minor increases in stormwater runoff may result from additional impervious surfaces associated with the installation of the padmount transformer, however this is not expected to result in increases in water flows to waterways, such as the nearby Hawthorne Canal.
6.6(1) (d)	Consider whether the development would incorporate on-site stormwater retention, infiltration or reuse	Surface runoff would be discharged and connected to the existing track drainage network. Proposed new permanent stormwater infrastructure, including a pit and pipe system in the station underpass, an OSD tank located under the lift lobby at the Railway Terrace/Victoria Street station entrance, and an additional pipeline connecting to an existing Council stormwater pit at the corner of Victoria Street and Hobbs Street would result in improved management of stormwater runoff within the Proposal area.
6.6(1) (e)	Consider the impact of the development on the level and quality of the water table	As no groundwater was encountered during geotechnical investigations carried out for the Proposal, groundwater levels are anticipated to be below the proposed underpass level. The Proposal is considered unlikely to intercept groundwater during excavations. However, should groundwater be encountered during excavation, no substantial volumes of water are expected to be extracted, and it would be managed in accordance with Transport and NSW EPA guidelines so that there would be minimal impact on the level and quality of the water table. Allowance would be made for potential groundwater seepage by incorporating appropriate subsurface drainage measures in the Proposal design.
6.6(1) (f)	Consider the cumulative environmental impact of the development on the regulated catchment	No nearby projects were identified to have the potential for cumulative impacts alongside the Proposal therefore this section of the SEPP does not apply to the development.
6.6(1) (g)	Consider whether the development makes adequate provision to protect the quality and quantity of ground water.	The work is considered unlikely to encounter groundwater during excavations. Adequate provisions for the protection of groundwater quality and quantity have been included in Section 7.2.

Aquatic ecology

Table C2: Aquatic ecology considerations, SEPP (Biodiversity and Conservation)

Section	Factor	Impact/Comment
The project must satisfy the below before undertaking the activity:		
6.7(2)(a)	The direct, indirect or cumulative adverse impact on terrestrial, aquatic or migratory animals or vegetation would be kept to the minimum necessary for the carrying out of the development	The Proposal would not result in the direct, indirect or cumulative adverse impact on aquatic or migratory animals or vegetation. The Proposal would involve the removal of two trees and would be replaced by planting of eight trees. This is not expected to have a substantial impact on the overall ecological values of the area.

Section	Factor	Impact/Comment
6.7(2)(b)	The development would not have a direct, indirect or cumulative adverse impact on aquatic reserves	The Proposal area does not intersect any waterways or aquatic reserves. No impacts direct, indirect or cumulative adverse impacts on aquatic reserves are anticipated. This section of the SEPP does not apply to the development
6.7(2)(c)	If a controlled activity approval under the Water Management Act 2000 or a permit under the Fisheries Management Act 1994 is required in relation to the clearing of riparian vegetation—the approval or permit has been obtained	The Proposal would not require the clearing of riparian vegetation, therefore this section of the SEPP does not apply to the development.
6.7(2)(d)	The erosion of land abutting a natural waterbody or the sedimentation of a natural waterbody would be minimised	The Proposal is not adjacent to a natural waterbody. Erosion and sedimentation impacts would be minimised through the implementation of erosion and sediment controls during construction outlined in Section 7.2.
6.7(2)(e)	The adverse impact on wetlands that are not in the coastal wetlands and littoral rainforests area would be minimised	The Proposal would not impact wetlands, therefore this section of the SEPP does not apply to the development.
The project must consider the below before undertaking the activity:		
6.7(1)(a)	Consider whether the development would have a direct, indirect or cumulative adverse impact on terrestrial, aquatic or migratory animals or vegetation	The Proposal would involve the removal of two trees. This is not expected to have a substantial impact on the overall ecological values of the area as this would not result in the loss of a naturally occurring plant community. Given clearing is limited to two trees in an already disturbed environment, the likelihood of impacts to threatened biodiversity (i.e. TECs, threatened species and their habitat) is minimised. Impacts to aquatic biodiversity would be minimised through the implementation of standard erosion and sediment control measures (refer to Section 7.2) and the Proposal has been deemed as not likely to significantly impact migratory species within the meaning of the EPBC Act.
6.7(1) (b)	Consider whether the development involves the clearing of riparian vegetation and, if so, whether the development would require— (i) a controlled activity approval under the Water Management Act 2000, or (ii) a permit under the Fisheries Management Act 1994	The Proposal would not require the clearing of riparian vegetation, therefore this section of the SEPP does not apply to the development.
6.7(1) (c)	Consider whether the development would minimise or avoid— (i) the erosion of land abutting a natural waterbody, or (ii) the sedimentation of a natural waterbody	The Proposal would not impact land abutting a natural water body. Sedimentation of natural water bodies, such as Hawthorne Canal would be minimised through the implementation of erosion and sediment controls during construction outlined in Section 7.2.
6.7(1) (d)	Consider whether the development would have an adverse impact on wetlands that are not in the coastal wetlands and littoral rainforests area	The Proposal would not impact wetlands, therefore this section of the SEPP does not apply to the development.

Section	Factor	Impact/Comment
6.7(1) (e)	Consider whether the development includes adequate mitigations and rehabilitation measures to protect aquatic ecology	Impacts to aquatic ecology would be limited to indirect impacts (potential runoff impacts). Measures to protect aquatic ecology as part of the Proposal would include erosion and sediment control measures (refer to Section 7.2).
6.7(1) (f)	Consider if the development site adjoins a natural waterbody—whether additional measures are required to ensure a neutral or beneficial effect on the water quality of the waterbody. Example— Additional measures may include the incorporation of a vegetated buffer between the waterbody and the site.	The Proposal area does not adjoin a natural waterbody, therefore this section of the SEPP does not apply to the development.

Flooding

Table C3: Flooding considerations, SEPP (Biodiversity and Conservation)

Section	Factor	Impact/Comment
Lewisham is within the Hawthorn Canal catchment which forms part of the Sydney Harbour Catchment, a regulated catchment defined by SEPP (Biodiversity and Conservation). The Proposal area is however not located on flood liable land as defined by the SEPP. As such, the below provisions of the SEPP do not apply, however have been addressed given the localised anecdotal flooding of the railway underpass at the station.		
6.8(2)(a)	On flood liable land in a regulated catchment, the development would not— If there is a flood, result in a release of pollutants that may have an adverse impact on the water quality of a natural waterbody, or	The Proposal area is not located on flood liable land in a regulated catchment. There is the potential for accidental spills or inadequate fuel and chemical storage practices to result in localised contamination of local water quality during flooding events. However, this impact would be minimised through implementation of mitigation measures, refer to Section 7.2, which provide for the storage and use of hazardous materials, including requirements for spill kits. In addition, if the potential for a flood event within the Proposal area is identified, work would cease, and equipment and materials would be removed from the flood extent prior to the flood event. As such, any impacts on water quality are expected to be minor and localised and are not expected to have an adverse impact on the water quality of a natural waterbody.
6.8(2)(b)	On flood liable land in a regulated catchment, the development would not— have an adverse impact on the natural recession of floodwaters into wetlands and other riverine ecosystems.	The Proposal area is not located on flood liable land in a regulated catchment. The Proposal is not anticipated to have an adverse impact on the natural recession of floodwaters into wetlands or other riverine ecosystems.
The project must consider the below:		
6.8(1)	Consider the likely impact of the development on periodic flooding that benefits wetlands and other riverine ecosystems	The Proposal is not anticipated to have an impact on periodic flooding that benefits wetlands and other riverine ecosystems.

Recreation and public access

Table C4: Recreation and public access considerations, SEPP (Biodiversity and Conservation)

Section	Factor	Impact/Comment
The project must satisfy the below before undertaking the activity:		
6.9(2)(a)	The development would maintain or improve public access to and from natural waterbodies for recreational purposes, including fishing, swimming and boating, without adverse impact on natural waterbodies, watercourses, wetlands or riparian vegetation	The Proposal would not impact access to and from natural waterbodies for recreational purposes, including fishing, swimming and boating.
6.9(2)(b)	New or existing points of public access between natural waterbodies and the site of the development would be stable and safe	The Proposal would not result in the establishment of new points of public access to natural waterbodies and there are no existing points of public access between Lewisham Station and a natural waterbody.
6.9(2)(c)	If land forming part of the foreshore of a natural waterbody would be made available for public access as a result of the development but is not in public ownership—public access to and use of the land would be mitigated	Land forming part of the foreshore of a natural waterbody would not be made available for public access as a result of the Proposal.
The project must consider the below before undertaking the activity:		
6.9(1)(a)	Consider the likely impact of the development on recreational land uses in the regulated catchment	The Proposal would not reduce the availability of the Hawthorne Canal catchment.
6.9(1)(b)	Consider whether the development would maintain or improve public access to and around foreshores without adverse impact on natural waterbodies, watercourses, wetlands or riparian vegetation	The Proposal would not impact public access to and around foreshores.

Matters of National Environmental Significance and Commonwealth land

Under the environmental assessment provisions of the EPBC Act, the following matters of national environmental significance and impacts on Commonwealth land are required to be considered to assist in determining whether the Proposal should be referred to the Australian Department of Climate Change, Energy, the Environment and Water.

Factor	Impact
a Any impact on a World Heritage property? There are no World Heritage properties in the vicinity of the Proposal.	Nil
b Any impact on a National Heritage place? There are no National Heritage places in the vicinity of the Proposal.	Nil
c Any impact on a wetland of international importance? There are no wetlands of international importance in the vicinity of the Proposal.	Nil
d Any impact on a listed threatened species or communities? The Proposal is not likely to significantly impact threatened species or ecological communities or their habitats, within the meaning of EPBC Act.	Nil
e Any impacts on listed migratory species? The Proposal is not likely to significantly impact migratory species, within the meaning of the EPBC Act.	Nil
f Any impact on a Commonwealth marine area? There are no Commonwealth marine areas in the vicinity of the Proposal.	Nil
g Does the Proposal involve a nuclear action (including uranium mining)? The Proposal would not involve a nuclear action.	Nil
h Additionally, any impact (direct or indirect) on the environment of Commonwealth land? The Proposal would not be undertaken on or near any Commonwealth land.	Nil

Appendix B Statutory consultation checklists

SEPP (Transport and Infrastructure)

Certain development types

Development type	Description	Yes / No	If 'yes' consult with	SEPP (Transport and Infrastructure) Section
Car Park	Does the project include a car park intended for the use by commuters using regular bus services?	No		Section 2.110
Bus Depots	Does the project propose a bus depot?	No		Section 2.110

Development within the Coastal Zone

Development type	Description	Yes / No	If 'yes' consult with	SEPP (Transport and Infrastructure) Section
Development with impacts on certain land within the coastal zone	Is the Proposal within a coastal vulnerability area and is inconsistent with a certified coastal management program applying to that land?	No		Section 2.14

Note: a certified coastal zone management plan is taken to be a certified coastal management program.

Council related infrastructure or services

Development type	Potential impact	Yes / No	If 'yes' consult with	SEPP (Transport and Infrastructure) Section
Stormwater	Are the works likely to have a <i>substantial</i> impact on the stormwater management services which are provided by council?	No		Section 2.10
Traffic	Are the works likely to generate traffic to an extent that would <i>strain</i> the capacity of the existing road system in a local government area?	No		Section 2.10
Sewerage system	Would the works involve connection to a council owned sewerage system? If so, would this connection have a <i>substantial</i> impact on the capacity of any part of the system?	No		Section 2.10
Water usage	Would the works involve connection to a council owned water supply system? If so, would this require the use of a <i>substantial</i> volume of water?	No		Section 2.10
Temporary structures	Would the works involve the installation of a temporary structure on, or the enclosing of, a public place which is under local council management or control? If so, would this	No		Section 2.10

Development type	Potential impact	Yes / No	If 'yes' consult with	SEPP (Transport and Infrastructure) Section
	cause more than a <i>minor</i> or <i>inconsequential</i> disruption to pedestrian or vehicular flow?			
Road & footpath excavation	Would the works involve more than <i>minor</i> or <i>inconsequential</i> excavation of a road or adjacent footpath for which council is the roads authority and responsible for maintenance?	Yes	Inner West Council as the relevant Roads Authority.	Section 2.10

Local heritage items

Development type	Potential impact	Yes / No	If 'yes' consult with	SEPP (Transport and Infrastructure) Section
Local heritage	Is there is a local heritage item (that is not also a State heritage item) or a heritage conservation area in the study area for the works? If yes, does a heritage assessment indicate that the potential impacts to the heritage significance of the item/area are more than minor or inconsequential?	Yes	Inner West Council	Section 2.11

Flood liable land

Development type	Potential impact	Yes / No	If 'yes' consult with	SEPP (Transport and Infrastructure) Section
Flood liable land	Are the works located on flood liable land? If so, would the works change flood patterns to more than a <i>minor</i> extent?	Yes The Proposal area is not located on flood liable land as such, the provisions of the SEPP do not apply, however have been addressed given the localised anecdotal flooding of the railway underpass at the station. The Proposal includes flood mitigation drainage work. Consultation in line with the SEPP (Transport and Infrastructure) would be carried out with the Inner West Council.	Inner West Council	Section 2.12
Flood liable land	Are the works located on flood liable land? (to any extent). If so, do the works comprise more than minor alterations or additions to, or the demolition of, a	Yes The Proposal area is not located on flood liable land as such, the provisions of the SEPP do not apply, however have been addressed given the localised anecdotal flooding of the	State Emergency Services Email: rra@ses.nsw.gov.au	Section 2.13

Development type	Potential impact	Yes / No	If 'yes' consult with	SEPP (Transport and Infrastructure) Section
	building, emergency works or routine maintenance?	railway underpass at the station. The Proposal includes flood mitigation work. Consultation in line with the SEPP (Transport and Infrastructure) would be carried out with NSW SES.		

Note: Flood liable land means land that is susceptible to flooding by the probable maximum flood event, identified in accordance with the principles set out in the manual entitled Floodplain Development Manual: the management of flood liable land published by the New South Wales Government.

Public authorities other than councils

Development type	Potential impact	Yes / No	If 'yes' consult with	SEPP (Transport and Infrastructure) Section
National parks and reserves	Are the works adjacent to a national park or nature reserve, or other area reserved under the <i>National Parks and Wildlife Act 1974</i> , or on land acquired under that Act?	No		Section 2.15(2)(a)
National parks and reserves	Are the works on land in Zone E1 National Parks and Nature Reserves or in a land use zone equivalent to that zone?	No		Section 2.15(2)(b)
Navigable waters	Do the works include a fixed or floating structure in or over navigable waters?	No		Section 2.15(2)(c)
Artificial light	Would the works increase the amount of artificial light in the night sky and that is on land within the dark sky region as identified on the dark sky region map? (Note: the dark sky region is within 200 kilometres of the Siding Spring Observatory)	No		Section 2.15(2)(d)
Defence communications buffer land	Are the works on buffer land around the defence communications facility near Morundah? (Note: refer to Defence Communications Facility Buffer Map referred to in section 5.15 of Lockhart LEP 2012, Narrandera LEP 2013 and Urana LEP 2011.	No		Section 2.15(2)(e)
Mine subsidence land	Are the works on land in a mine subsidence district within the meaning of the <i>Mine Subsidence Compensation Act 1961</i> ?	No		Section 2.15(2)(f)
Willandra Lakes region world heritage property	Is the development on, or reasonably likely to have an impact on, a part of the Willandra Lakes Region World Heritage Property?	No		Section 2.15(2)(g)
Western Parkland City land	Is the development within a Western City operational area specified in Schedule 2 of the <i>Western Parkland City Authority</i>	No		Section 2.15(2)(h)

Development type	Potential impact	Yes / No	If 'yes' consult with	SEPP (Transport and Infrastructure) Section
	Act 2018, with a capital investment value of \$30 million or more?			

Appendix C EPBC Act PMST Search Results



Australian Government

Department of Climate Change, Energy,
the Environment and Water

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 12-Nov-2024

[Summary](#)

[Details](#)

[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)

Summary

Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

World Heritage Properties:	3
National Heritage Places:	8
Wetlands of International Importance (Ramsar	1
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	14
Listed Threatened Species:	117
Listed Migratory Species:	77

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <https://www.dcceew.gov.au/parks-heritage/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	759
Commonwealth Heritage Places:	49
Listed Marine Species:	106
Whales and Other Cetaceans:	10
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	7
Regional Forest Agreements:	None
Nationally Important Wetlands:	4
EPBC Act Referrals:	83
Key Ecological Features (Marine):	None
Biologically Important Areas:	2
Bioregional Assessments:	1
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

World Heritage Properties			[Resource Information]
Name	State	Legal Status	Buffer Status
Australian Convict Sites (Cockatoo Island Convict Site)	NSW	Declared property	In buffer area only
Australian Convict Sites (Hyde Park Barracks)	NSW	Declared property	In buffer area only
Sydney Opera House	NSW	Declared property	In buffer area only

National Heritage Places			[Resource Information]
Name	State	Legal Status	Buffer Status
Historic			
Centennial Park	NSW	Listed place	In buffer area only
Cockatoo Island	NSW	Listed place	In buffer area only
First Government House Site	NSW	Listed place	In buffer area only
Governors' Domain and Civic Precinct	NSW	Listed place	In buffer area only
Hyde Park Barracks	NSW	Listed place	In buffer area only
Sydney Harbour Bridge	NSW	Listed place	In buffer area only
Sydney Opera House	NSW	Listed place	In buffer area only

Indigenous			
Cyprus Hellene Club - Australian Hall	NSW	Listed place	In buffer area only

Wetlands of International Importance (Ramsar Wetlands)		[Resource Information]
Ramsar Site Name		Buffer Status
Towra point nature reserve		In buffer area only

Listed Threatened Ecological Communities			[Resource Information]
For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.			
Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.			
Community Name	Threatened Category	Presence Text	Buffer Status
Castlereagh Scribbly Gum and Agnes Banks Woodlands of the Sydney Basin Bioregion	Endangered	Community may occurIn feature area within area	

Community Name	Threatened Category	Presence Text	Buffer Status
Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community	Endangered	Community likely to occur within area	In feature area
Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland	Endangered	Community likely to occur within area	In feature area
Coastal Upland Swamps in the Sydney Basin Bioregion	Endangered	Community likely to occur within area	In feature area
Cooks River/Castlereagh Ironbark Forest of the Sydney Basin Bioregion	Critically Endangered	Community likely to occur within area	In feature area
Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest	Critically Endangered	Community likely to occur within area	In buffer area only
Eastern Suburbs Banksia Scrub of the Sydney Region	Critically Endangered	Community likely to occur within area	In feature area
Posidonia australis seagrass meadows of the Manning-Hawkesbury ecoregion	Endangered	Community likely to occur within area	In buffer area only
River-flat eucalypt forest on coastal floodplains of southern New South Wales and eastern Victoria	Critically Endangered	Community likely to occur within area	In feature area
Shale Sandstone Transition Forest of the Sydney Basin Bioregion	Critically Endangered	Community likely to occur within area	In buffer area only
Subtropical and Temperate Coastal Saltmarsh	Vulnerable	Community likely to occur within area	In buffer area only
Turpentine-Ironbark Forest of the Sydney Basin Bioregion	Critically Endangered	Community likely to occur within area	In buffer area only
Upland Basalt Eucalypt Forests of the Sydney Basin Bioregion	Endangered	Community may occur	In buffer area only within area
Western Sydney Dry Rainforest and Moist Woodland on Shale	Critically Endangered	Community likely to occur within area	In feature area

Listed Threatened Species [Resource Information]			
Status of Conservation Dependent and Extinct are not MNES under the EPBC Act. Number is the current name ID.			
Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			
Anthochaera phrygia			
Regent Honeyeater [82338]	Critically Endangered	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Ardenna grisea Sooty Shearwater [82651]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Arenaria interpres Ruddy Turnstone [872]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat known to occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Calidris tenuirostris Great Knot [862]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Callocephalon fimbriatum Gang-gang Cockatoo [768]	Endangered	Species or species habitat likely to occur within area	In feature area
Calyptorhynchus lathami lathami South-eastern Glossy Black-Cockatoo [67036]	Vulnerable	Species or species habitat known to occur within area	In feature area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Climacteris picumnus victoriae Brown Treecreeper (south-eastern) [67062]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Dasyornis brachypterus Eastern Bristlebird [533]	Endangered	Species or species habitat may occur within area	In feature area
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea antipodensis gibsoni Gibson's Albatross [82270]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Species or species habitat may occur within area	In buffer area only
Erythroriorchis radiatus Red Goshawk [942]	Endangered	Species or species habitat may occur within area	In buffer area only
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Fregetta grallaria grallaria White-bellied Storm-Petrel (Tasman Sea), White-bellied Storm-Petrel (Australasian) [64438]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to occur within area	In feature area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat known to occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Limosa lapponica baueri Nunivak Bar-tailed Godwit, Western Alaskan Bar-tailed Godwit [86380]	Endangered	Species or species habitat known to occur within area	In buffer area only
Limosa limosa Black-tailed Godwit [845]	Endangered	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	In buffer area only
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Melanodryas cucullata cucullata South-eastern Hooded Robin, Hooded Robin (south-eastern) [67093]	Endangered	Species or species habitat likely to occur within area	In feature area
Neophema chrysogaster Orange-bellied Parrot [747]	Critically Endangered	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Neophema chrysostoma Blue-winged Parrot [726]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Pachyptila turtur subantarctica Fairy Prion (southern) [64445]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Pluvialis squatarola Grey Plover [865]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Pterodroma leucoptera leucoptera Gould's Petrel, Australian Gould's Petrel [26033]	Endangered	Species or species habitat may occur within area	In buffer area only
Pterodroma neglecta neglecta Kermadec Petrel (western) [64450]	Vulnerable	Foraging, feeding or related behaviour may occur within area	In buffer area only
Pycnoptilus floccosus Pilotbird [525]	Vulnerable	Species or species habitat may occur within area	In feature area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat known to occur within area	In feature area
Stagonopleura guttata Diamond Firetail [59398]	Vulnerable	Species or species habitat known to occur within area	In feature area
Sternula nereis nereis Australian Fairy Tern [82950]	Vulnerable	Species or species habitat known to occur within area	In feature area
Thalassarche bulleri Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Thalassarche bulleri platei Northern Buller's Albatross, Pacific Albatross [82273]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Thalassarche cauta Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche eremita Chatham Albatross [64457]	Endangered	Foraging, feeding or related behaviour may occur within area	In buffer area only
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat known to occur within area	In feature area
Xenus cinereus Terek Sandpiper [59300]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Epinephelus daemeli Black Rockcod, Black Cod, Saddled Rockcod [68449]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Hippocampus whitei White's Seahorse, Crowned Seahorse, Sydney Seahorse [66240]	Endangered	Species or species habitat known to occur within area	In buffer area only
Macquaria australasica Macquarie Perch [66632]	Endangered	Species or species habitat may occur within area	In feature area
Prototroctes maraena Australian Grayling [26179]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Seriolella brama Blue Warehou [69374]	Conservation Dependent	Species or species habitat known to occur within area	In buffer area only
FROG			
Heleioporus australiacus Giant Burrowing Frog [1973]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Litoria aurea Green and Golden Bell Frog [1870]	Vulnerable	Species or species habitat known to occur within area	In feature area
Mixophyes balbus Stuttering Frog, Southern Barred Frog (in Victoria) [1942]	Vulnerable	Species or species habitat may occur within area	In buffer area only
MAMMAL			
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area	In buffer area only
Chalinolobus dwyeri Large-eared Pied Bat, Large Pied Bat [183]	Endangered	Species or species habitat known to occur within area	In feature area
Dasyurus maculatus maculatus (SE mainland population) Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Eubalaena australis Southern Right Whale [40]	Endangered	Species or species habitat known to occur within area	In buffer area only
Isoodon obesulus obesulus Southern Brown Bandicoot (eastern), Southern Brown Bandicoot (south-eastern) [68050]	Endangered	Species or species habitat likely to occur within area	In feature area
Notamacropus parma Parma Wallaby [89289]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Petauroides volans Greater Glider (southern and central) [254]	Endangered	Species or species habitat likely to occur within area	In feature area
Petaurus australis australis Yellow-bellied Glider (south-eastern) [87600]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT) Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Endangered	Species or species habitat known to occur within area	In feature area
Pseudomys novaehollandiae New Holland Mouse, Pookila [96]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Pteropus poliocephalus Grey-headed Flying-fox [186]	Vulnerable	Roosting known to occur within area	In feature area
PLANT			
Acacia bynoeana Bynoe's Wattle, Tiny Wattle [8575]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Acacia pubescens Downy Wattle, Hairy Stemmed Wattle [18800]	Vulnerable	Species or species habitat known to occur within area	In feature area
Acacia terminalis subsp. Eastern Sydney (G.P.Phillips 126) listed as Acacia terminalis subsp. terminalis MS Sunshine Wattle (Sydney region) [91564]	Endangered	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Allocasuarina glareicola [21932]	Endangered	Species or species habitat may occur within area	In feature area
Asterolasia elegans [56780]	Endangered	Species or species habitat may occur within area	In buffer area only
Caladenia tessellata Thick-lipped Spider-orchid, Daddy Long-legs [2119]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Cryptostylis hunteriana Leafless Tongue-orchid [19533]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Darwinia biflora [14619]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Deyeuxia appressa [7438]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Epacris sparsa [16450]	Endangered	Species or species habitat may occur within area	In buffer area only
Eucalyptus camfieldii Camfield's Stringybark [15460]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Genoplesium baueri Yellow Gnat-orchid, Bauer's Midge Orchid, Brittle Midge Orchid [7528]	Endangered	Species or species habitat likely to occur within area	In feature area
Haloragodendron lucasii Hal [6480]	Endangered	Species or species habitat may occur within area	In buffer area only
Kunzea rupestris [8798]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Lasiopetalum joyceae [20311]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Leptospermum deanei Deane's Tea-tree [21777]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Leucopogon exolasius Woronora Beard-heath [14251]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Melaleuca biconvexa Biconvex Paperbark [5583]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Melaleuca deanei Deane's Melaleuca [5818]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Persicaria elatior Knotweed, Tall Knotweed [5831]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Persoonia hirsuta Hairy Geebung, Hairy Persoonia [19006]	Endangered	Species or species habitat may occur within area	In buffer area only
Pimelea curviflora var. curviflora [4182]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Pimelea spicata Spiked Rice-flower [20834]	Endangered	Species or species habitat likely to occur within area	In feature area
Pomaderris brunnea Rufous Pomaderris, Brown Pomaderris [16845]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Prostanthera densa Villous Mintbush [12233]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Prostanthera junonis Somersby Mintbush [64960]	Endangered	Species or species habitat may occur within area	In buffer area only
Pterostylis saxicola Sydney Plains Greenhood [64537]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Rhizanthella slateri Eastern Underground Orchid [11768]	Endangered	Species or species habitat may occur within area	In buffer area only
Rhodamnia rubescens Scrub Turpentine, Brown Malletwood [15763]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Rhodomyrtus psidioides Native Guava [19162]	Critically Endangered	Species or species habitat may occur within area	In feature area
Syzygium paniculatum Magenta Lilly Pilly, Magenta Cherry, Daguba, Scrub Cherry, Creek Lilly Pilly, Brush Cherry [20307]	Vulnerable	Species or species habitat known to occur within area	In feature area
Thesium australe Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat known to occur within area	In feature area
REPTILE			
Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area	In buffer area only
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Hoplocephalus bungaroides Broad-headed Snake [1182]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
SHARK			
Carcharias taurus (east coast population) Grey Nurse Shark (east coast population) [68751]	Critically Endangered	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Galeorhinus galeus School Shark, Eastern School Shark, Snapper Shark, Tope, Soupfin Shark [68453]	Conservation Dependent	Species or species habitat may occur within area	In buffer area only
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Sphyrna lewini Scalloped Hammerhead [85267]	Conservation Dependent	Species or species habitat likely to occur within area	In buffer area only
SNAIL			
Meridolum maryae Maroubra Woodland Snail, Maroubra Land Snail [89884]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Pommerhelix duralensis Dural Land Snail [85268]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Listed Migratory Species		[Resource Information]	
Scientific Name	Threatened Category	Presence Text	Buffer Status

Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			
Anous stolidus Common Noddy [825]		Species or species habitat likely to occur within area	In buffer area only
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area
Ardenna carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [82404]		Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Ardenna grisea Sooty Shearwater [82651]		Species or species habitat likely to occur within area	In buffer area only
Calonectris leucomelas Streaked Shearwater [1077]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Diomedea antipodensis Antipodean Albatross [64458]		Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea epomophora Southern Royal Albatross [89221]		Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea exulans Wandering Albatross [89223]		Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Species or species habitat may occur within area	In buffer area only
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat may occur within area	In buffer area only
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	In buffer area only
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Phaethon lepturus White-tailed Tropicbird [1014]		Species or species habitat known to occur within area	In buffer area only
Sternula albifrons Little Tern [82849]		Breeding likely to occur within area	In buffer area only
Thalassarche bulleri Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Thalassarche cauta Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche eremita Chatham Albatross [64457]	Endangered	Foraging, feeding or related behaviour may occur within area	In buffer area only
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Migratory Marine Species			
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area	In buffer area only
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area	In buffer area only
Caperea marginata Pygmy Right Whale [39]		Foraging, feeding or related behaviour may occur within area	In buffer area only
Carcharhinus longimanus Oceanic Whitetip Shark [84108]		Species or species habitat may occur within area	In buffer area only
Carcharias taurus Grey Nurse Shark [64469]		Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area	In buffer area only
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Dugong dugon Dugong [28]		Species or species habitat may occur within area	In buffer area only
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Eubalaena australis as Balaena glacialis australis Southern Right Whale [40]	Endangered	Species or species habitat known to occur within area	In buffer area only
Lagenorhynchus obscurus Dusky Dolphin [43]		Species or species habitat may occur within area	In buffer area only
Lamna nasus Porbeagle, Mackerel Shark [83288]		Species or species habitat likely to occur within area	In buffer area only
Megaptera novaeangliae Humpback Whale [38]		Species or species habitat known to occur within area	In buffer area only
Mobula alfredi as Manta alfredi Reef Manta Ray, Coastal Manta Ray [90033]		Species or species habitat known to occur within area	In buffer area only
Mobula birostris as Manta birostris Giant Manta Ray [90034]		Species or species habitat may occur within area	In buffer area only
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Terrestrial Species			
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]	Vulnerable	Species or species habitat known to occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]		Species or species habitat known to occur within area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat known to occur within area	In feature area
Migratory Wetlands Species			
Actitis hypoleucos Common Sandpiper [59309]	Vulnerable	Species or species habitat known to occur within area	In feature area
Arenaria interpres Ruddy Turnstone [872]		Foraging, feeding or related behaviour known to occur within area	In buffer area only
Calidris acuminata Sharp-tailed Sandpiper [874]		Foraging, feeding or related behaviour known to occur within area	In feature area
Calidris alba Sanderling [875]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Calidris canutus Red Knot, Knot [855]		Species or species habitat known to occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]		Critically Endangered	Species or species habitat known to occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Calidris pugnax as Philomachus pugnax Ruff [91256]		Foraging, feeding or related behaviour known to occur within area	In buffer area only
Calidris ruficollis Red-necked Stint [860]		Foraging, feeding or related behaviour known to occur within area	In buffer area only
Calidris subminuta Long-toed Stint [861]		Foraging, feeding or related behaviour known to occur within area	In buffer area only
Calidris tenuirostris Great Knot [862]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Charadrius bicinctus Double-banded Plover [895]		Foraging, feeding or related behaviour known to occur within area	In buffer area only
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Foraging, feeding or related behaviour known to occur within area	In buffer area only
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to occur within area	In feature area
Gallinago megala Swinhoe's Snipe [864]		Foraging, feeding or related behaviour likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Gallinago stenura Pin-tailed Snipe [841]		Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Limicola falcinellus Broad-billed Sandpiper [842]		Foraging, feeding or related behaviour known to occur within area	In buffer area only
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area	In buffer area only
Limosa limosa Black-tailed Godwit [845]	Endangered	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Numenius minutus Little Curlew, Little Whimbrel [848]		Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Numenius phaeopus Whimbrel [849]		Foraging, feeding or related behaviour known to occur within area	In buffer area only
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area	In buffer area only
Pluvialis fulva Pacific Golden Plover [25545]		Foraging, feeding or related behaviour known to occur within area	In buffer area only
Pluvialis squatarola Grey Plover [865]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Tringa brevipes Grey-tailed Tattler [851]		Foraging, feeding or related behaviour known to occur within area	In buffer area only
Tringa incana Wandering Tattler [831]		Foraging, feeding or related behaviour known to occur within area	In buffer area only
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat known to occur within area	In feature area
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Foraging, feeding or related behaviour known to occur within area	In buffer area only
Xenus cinereus Terek Sandpiper [59300]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only

Other Matters Protected by the EPBC Act

Commonwealth Lands

[[Resource Information](#)]

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Commonwealth Land Name	State	Buffer Status
Australian National University		
Commonwealth Land - Australian National University [13156]	NSW	In buffer area only
Commonwealth Bank of Australia		
Commonwealth Land - Commonwealth Bank of Australia [14331]	NSW	In buffer area only
Commonwealth Land - Commonwealth Bank of Australia [14407]	NSW	In buffer area only
Commonwealth Land - Commonwealth Bank of Australia [14406]	NSW	In buffer area only
Commonwealth Land - Commonwealth Bank of Australia [14408]	NSW	In buffer area only
Commonwealth Land - Commonwealth Bank of Australia [13158]	NSW	In buffer area only
Commonwealth Trading Bank of Australia		
Commonwealth Land - Commonwealth Trading Bank of Australia [14323]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Commonwealth Trading Bank of Australia [14325]	NSW	In buffer area only
Commonwealth Land - Commonwealth Trading Bank of Australia [14322]	NSW	In buffer area only
Commonwealth Land - Commonwealth Trading Bank of Australia [13043]	NSW	In buffer area only
Commonwealth Land - Commonwealth Trading Bank of Australia [14337]	NSW	In buffer area only
Communications, Information Technology and the Arts - Australian Broadcasting Corporation		
Commonwealth Land - Australian Broadcasting Commission [13112]	NSW	In buffer area only
Commonwealth Land - Australian Broadcasting Commission [13113]	NSW	In buffer area only
Commonwealth Land - Australian Broadcasting Commission [13116]	NSW	In buffer area only
Commonwealth Land - Australian Broadcasting Commission [15605]	NSW	In buffer area only
Commonwealth Land - Australian Broadcasting Corporation [13115]	NSW	In buffer area only
Commonwealth Land - Australian Broadcasting Corporation [13114]	NSW	In buffer area only
Commonwealth Land - Australian Broadcasting Corporation [13111]	NSW	In buffer area only
Commonwealth Land - Australian Broadcasting Corporation [13110]	NSW	In buffer area only
Commonwealth Land - Australian Broadcasting Corporation [13117]	NSW	In buffer area only
Commonwealth Land - Australian Broadcasting Corporation [15606]	NSW	In buffer area only
Commonwealth Land - Australian Broadcasting Corporation [15607]	NSW	In buffer area only
Commonwealth Land - Australian Broadcasting Corporation [13106]	NSW	In buffer area only
Commonwealth Land - Australian Broadcasting Corporation [13107]	NSW	In buffer area only
Commonwealth Land - Australian Broadcasting Corporation [13108]	NSW	In buffer area only
Commonwealth Land - Australian Broadcasting Corporation [13109]	NSW	In buffer area only
Commonwealth Land - Australian Broadcasting Corporation [15511]	NSW	In buffer area only
Communications, Information Technology and the Arts - Australian Postal Corporation		
Commonwealth Land - Australian Postal Commission [13091]	NSW	In buffer area only
Commonwealth Land - Australian Postal Commission [13131]	NSW	In buffer area only
Commonwealth Land - Australian Postal Commission [13134]	NSW	In buffer area only
Commonwealth Land - Australian Postal Commission [14280]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Australian Postal Commission [14284]	NSW	In buffer area only
Commonwealth Land - Australian Postal Commission [14384]	NSW	In buffer area only
Commonwealth Land - Australian Postal Commission [13121]	NSW	In buffer area only
Commonwealth Land - Australian Postal Commission [14324]	NSW	In buffer area only
Commonwealth Land - Australian Postal Commission [14326]	NSW	In buffer area only
Commonwealth Land - Australian Postal Commission [14329]	NSW	In buffer area only
Commonwealth Land - Australian Postal Commission [13047]	NSW	In buffer area only
Commonwealth Land - Australian Postal Commission [13118]	NSW	In buffer area only
Commonwealth Land - Australian Postal Commission [13040]	NSW	In buffer area only
Commonwealth Land - Australian Postal Commission [15537]	NSW	In buffer area only
Commonwealth Land - Australian Postal Commission [14328]	NSW	In buffer area only
Commonwealth Land - Australian Postal Commission [14391]	NSW	In buffer area only
Commonwealth Land - Australian Postal Commission [14366]	NSW	In buffer area only
Commonwealth Land - Australian Postal Commission [14338]	NSW	In buffer area only
Commonwealth Land - Australian Postal Commission [13137]	NSW	In buffer area only
Commonwealth Land - Australian Postal Commission [14473]	NSW	In buffer area only
Commonwealth Land - Australian Postal Commission [13164]	NSW	In buffer area only
Commonwealth Land - Australian Postal Commission [13104]	NSW	In buffer area only
Commonwealth Land - Australian Postal Commission [14350]	NSW	In buffer area only
Commonwealth Land - Australian Postal Commission [13094]	NSW	In buffer area only
Commonwealth Land - Australian Postal Commission [14348]	NSW	In buffer area only
Commonwealth Land - Australian Postal Commission [15538]	NSW	In buffer area only
Commonwealth Land - Australian Postal Corporation [15898]	NSW	In buffer area only
Commonwealth Land - Australian Postal Corporation [15603]	NSW	In buffer area only
Commonwealth Land - Australian Postal Corporation [16021]	NSW	In buffer area only
Commonwealth Land - Australian Postal Corporation [14343]	NSW	In buffer area only
Commonwealth Land - Australian Postal Corporation [14342]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Australian Postal Corporation [14422]	NSW	In buffer area only
Commonwealth Land - Australian Postal Corporation [14421]	NSW	In buffer area only
Commonwealth Land - Australian Postal Corporation [16471]	NSW	In buffer area only
Commonwealth Land - Australia Post [15591]	NSW	In buffer area only
Communications, Information Technology and the Arts - Telstra Corporation Limited		
Commonwealth Land - Australian & Overseas Telecommunications Corporation [14458]	NSW	In buffer area only
Commonwealth Land - Australian & Overseas Telecommunications Corporation [13155]	NSW	In buffer area only
Commonwealth Land - Australian & Overseas Telecommunications Corporation [16072]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [13157]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [13097]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [13095]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [13132]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [13136]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [14416]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [14388]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [14281]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [13154]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [14415]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [14414]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [14327]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [13093]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Australian Telecommunications Commission [13092]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [14279]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [14463]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [14443]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [14285]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [14381]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [13119]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [13162]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [14417]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [14418]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [14351]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [14405]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [14409]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [16448]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [14402]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [14379]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [14383]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Corporation [14286]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Corporation [13130]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Telstra Corporation Limited [14282]	NSW	In buffer area only
Commonwealth Land - Telstra Corporation Limited [14283]	NSW	In buffer area only
Commonwealth Land - Telstra Corporation Limited [14385]	NSW	In buffer area only
Commonwealth Land - Telstra Corporation Limited [14332]	NSW	In buffer area only
Commonwealth Land - Telstra Corporation Limited [14333]	NSW	In buffer area only
Commonwealth Land - Telstra Corporation Limited [14412]	NSW	In buffer area only
Commonwealth Land - Telstra Corporation Limited [14410]	NSW	In buffer area only
Commonwealth Land - Telstra Corporation Limited [14341]	NSW	In buffer area only
Commonwealth Land - Telstra Corporation Limited [15504]	NSW	In buffer area only
Commonwealth Land - Telstra Corporation Limited [14340]	NSW	In buffer area only
Commonwealth Land - Telstra Corporation Limited [14349]	NSW	In buffer area only
Commonwealth Land - Telstra Corporation Limited [14368]	NSW	In buffer area only
Commonwealth Land - Telstra Corporation Limited [14339]	NSW	In buffer area only
Defence		
Commonwealth Land - Defence Service Homes Corporation [13054]	NSW	In buffer area only
Commonwealth Land - Defence Service Homes Corporation [14352]	NSW	In buffer area only
Commonwealth Land - Defence Service Homes Corporation & Alice Isabel Patterson [14377]	NSW	In buffer area only
Commonwealth Land - Director of Defence Service Homes [14425]	NSW	In buffer area only
Defence - 21 CONST REGT - HABERFIELD DEPOT [11101]	NSW	In buffer area only
Defence - 21 CONST REGT - HABERFIELD DEPOT [11103]	NSW	In buffer area only
Defence - 21 CONST REGT - HABERFIELD DEPOT [11100]	NSW	In buffer area only
Defence - 21 CONST REGT - HABERFIELD DEPOT [11107]	NSW	In buffer area only
Defence - 21 CONST REGT - HABERFIELD DEPOT [11105]	NSW	In buffer area only
Defence - 21 CONST REGT - HABERFIELD DEPOT [11106]	NSW	In buffer area only
Defence - 21 CONST REGT - HABERFIELD DEPOT [11104]	NSW	In buffer area only
Defence - 21 CONST REGT - HABERFIELD DEPOT [11108]	NSW	In buffer area only
Defence - 21 CONST REGT - HABERFIELD DEPOT [11102]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Defence - 21 CONST REGT - HABERFIELD DEPOT [11099]	NSW	In buffer area only
Defence - 21 CONST REGT - HABERFIELD DEPOT [11098]	NSW	In buffer area only
Defence - BANKSMEADOW DEPOT (Sydney Workshop Company) [11116]	NSW	In buffer area only
Defence - BANKSMEADOW DEPOT (Sydney Workshop Company) [11117]	NSW	In buffer area only
Defence - COCKATOO ISLAND DOCKYARD [10018]	NSW	In buffer area only
Defence - CONCORD OFFICE ACCN [11093]	NSW	In buffer area only
Defence - DEFENCE PLAZA SYDNEY [11179]	NSW	In buffer area only
Defence - DSTO PYRMONT - (SEE SITE 1177) [10015]	NSW	In buffer area only
Defence - DSTO PYRMONT - (SEE SITE 1177) [10017]	NSW	In buffer area only
Defence - DSTO PYRMONT - (SEE SITE 1177) [10016]	NSW	In buffer area only
Defence - FLEET BASE WHARVES [10022]	NSW	In buffer area only
Defence - FLEET BASE WHARVES [10021]	NSW	In buffer area only
Defence - FLEET BASE WHARVES [10024]	NSW	In buffer area only
Defence - FLEET BASE WHARVES [10023]	NSW	In buffer area only
Defence - FOREST LODGE (SYDNEY) TRG DEP [10071]	NSW	In buffer area only
Defence - GARDEN ISLAND [10014]	NSW	In buffer area only
Defence - GLADESVILLE TRAINING DEPOT [10012]	NSW	In buffer area only
Defence - HMAS KUTTABUL (AC 30/5 Lot4 DP218946) [11074]	NSW	In buffer area only
Defence - HMAS PLATYPUS - SPDU FOR DISPOSAL [10041]	NSW	In buffer area only
Defence - HMAS PLATYPUS - SPDU FOR DISPOSAL [10040]	NSW	In buffer area only
Defence - HMAS PLATYPUS - SPDU FOR DISPOSAL [10042]	NSW	In buffer area only
Defence - HMAS WATERHEN [10025]	NSW	In buffer area only
Defence - HURSTVILLE TRG DEP [11109]	NSW	In buffer area only
Defence - JENNER BUILDING [10034]	NSW	In buffer area only
Defence - KENSINGTON DEPOT [11110]	NSW	In buffer area only
Defence - KISMET/HMAS KUTTABUL-POTTS PT [11173]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Defence - LEICHHARDT STORES DEPOT [11112]	NSW	In buffer area only
Defence - LIDCOMBE MULTI-USER DEPOT [11113]	NSW	In buffer area only
Defence - LIDCOMBE MULTI-USER DEPOT [11115]	NSW	In buffer area only
Defence - LIDCOMBE MULTI-USER DEPOT [11114]	NSW	In buffer area only
Defence - MARITIME COMD CTRE-POTTS POINT ; BOMERAH/TARANA [10033]	NSW	In buffer area only
Defence - MARITIME COMD CTRE-POTTS POINT ; BOMERAH/TARANA [10032]	NSW	In buffer area only
Defence - MARITIME HEADQUARTERS [11178]	NSW	In buffer area only
Defence - MATERIAL RESEARCH LAB [10013]	NSW	In buffer area only
Defence - MILLER'S POINT TRAINING DEPOT [11118]	NSW	In buffer area only
Defence - NEWINGTON [11023]	NSW	In buffer area only
Defence - NEWINGTON [10930]	NSW	In buffer area only
Defence - NEWINGTON [10250]	NSW	In buffer area only
Defence - NEWINGTON [10254]	NSW	In buffer area only
Defence - NEWINGTON [10252]	NSW	In buffer area only
Defence - NEWINGTON [10539]	NSW	In buffer area only
Defence - NEWINGTON [10861]	NSW	In buffer area only
Defence - NEWINGTON [10709]	NSW	In buffer area only
Defence - NEWINGTON [10984]	NSW	In buffer area only
Defence - NEWINGTON [10990]	NSW	In buffer area only
Defence - NEWINGTON [10908]	NSW	In buffer area only
Defence - NEWINGTON [10900]	NSW	In buffer area only
Defence - NEWINGTON [10905]	NSW	In buffer area only
Defence - NEWINGTON [10906]	NSW	In buffer area only
Defence - NEWINGTON [10538]	NSW	In buffer area only
Defence - NEWINGTON [10708]	NSW	In buffer area only
Defence - NEWINGTON [10925]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Defence - NEWINGTON [10534]	NSW	In buffer area only
Defence - NEWINGTON [10536]	NSW	In buffer area only
Defence - NEWINGTON [10532]	NSW	In buffer area only
Defence - NEWINGTON [10530]	NSW	In buffer area only
Defence - NEWINGTON [10436]	NSW	In buffer area only
Defence - NEWINGTON [10928]	NSW	In buffer area only
Defence - NEWINGTON [10929]	NSW	In buffer area only
Defence - NEWINGTON [10982]	NSW	In buffer area only
Defence - NEWINGTON [10889]	NSW	In buffer area only
Defence - NEWINGTON [10440]	NSW	In buffer area only
Defence - NEWINGTON [10700]	NSW	In buffer area only
Defence - NEWINGTON [10701]	NSW	In buffer area only
Defence - NEWINGTON [10702]	NSW	In buffer area only
Defence - NEWINGTON [10284]	NSW	In buffer area only
Defence - NEWINGTON [10703]	NSW	In buffer area only
Defence - NEWINGTON [10704]	NSW	In buffer area only
Defence - NEWINGTON [10286]	NSW	In buffer area only
Defence - NEWINGTON [10705]	NSW	In buffer area only
Defence - NEWINGTON [10285]	NSW	In buffer area only
Defence - NEWINGTON [10706]	NSW	In buffer area only
Defence - NEWINGTON [10707]	NSW	In buffer area only
Defence - NEWINGTON [10685]	NSW	In buffer area only
Defence - NEWINGTON [10686]	NSW	In buffer area only
Defence - NEWINGTON [10859]	NSW	In buffer area only
Defence - NEWINGTON [10687]	NSW	In buffer area only
Defence - NEWINGTON [10425]	NSW	In buffer area only
Defence - NEWINGTON [10729]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Defence - NEWINGTON [10689]	NSW	In buffer area only
Defence - NEWINGTON [10680]	NSW	In buffer area only
Defence - NEWINGTON [10681]	NSW	In buffer area only
Defence - NEWINGTON [10682]	NSW	In buffer area only
Defence - NEWINGTON [10683]	NSW	In buffer area only
Defence - NEWINGTON [10684]	NSW	In buffer area only
Defence - NEWINGTON [10886]	NSW	In buffer area only
Defence - NEWINGTON [10880]	NSW	In buffer area only
Defence - NEWINGTON [10885]	NSW	In buffer area only
Defence - NEWINGTON [10884]	NSW	In buffer area only
Defence - NEWINGTON [11030]	NSW	In buffer area only
Defence - NEWINGTON [10443]	NSW	In buffer area only
Defence - NEWINGTON [10442]	NSW	In buffer area only
Defence - NEWINGTON [10865]	NSW	In buffer area only
Defence - NEWINGTON [10688]	NSW	In buffer area only
Defence - NEWINGTON [10862]	NSW	In buffer area only
Defence - NEWINGTON [10864]	NSW	In buffer area only
Defence - NEWINGTON [10302]	NSW	In buffer area only
Defence - NEWINGTON [10712]	NSW	In buffer area only
Defence - NEWINGTON [10981]	NSW	In buffer area only
Defence - NEWINGTON [10847]	NSW	In buffer area only
Defence - NEWINGTON [10848]	NSW	In buffer area only
Defence - NEWINGTON [10842]	NSW	In buffer area only
Defence - NEWINGTON [10843]	NSW	In buffer area only
Defence - NEWINGTON [10498]	NSW	In buffer area only
Defence - NEWINGTON [10733]	NSW	In buffer area only
Defence - NEWINGTON [10985]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Defence - NEWINGTON [10737]	NSW	In buffer area only
Defence - NEWINGTON [10736]	NSW	In buffer area only
Defence - NEWINGTON [10983]	NSW	In buffer area only
Defence - NEWINGTON [10732]	NSW	In buffer area only
Defence - NEWINGTON [10731]	NSW	In buffer area only
Defence - NEWINGTON [10739]	NSW	In buffer area only
Defence - NEWINGTON [10679]	NSW	In buffer area only
Defence - NEWINGTON [10738]	NSW	In buffer area only
Defence - NEWINGTON [10987]	NSW	In buffer area only
Defence - NEWINGTON [10735]	NSW	In buffer area only
Defence - NEWINGTON [10988]	NSW	In buffer area only
Defence - NEWINGTON [10734]	NSW	In buffer area only
Defence - NEWINGTON [10986]	NSW	In buffer area only
Defence - NEWINGTON [10282]	NSW	In buffer area only
Defence - NEWINGTON [10283]	NSW	In buffer area only
Defence - NEWINGTON [10281]	NSW	In buffer area only
Defence - NEWINGTON [10287]	NSW	In buffer area only
Defence - NEWINGTON [10878]	NSW	In buffer area only
Defence - NEWINGTON [10879]	NSW	In buffer area only
Defence - NEWINGTON [10245]	NSW	In buffer area only
Defence - NEWINGTON [10247]	NSW	In buffer area only
Defence - NEWINGTON [10569]	NSW	In buffer area only
Defence - NEWINGTON [10911]	NSW	In buffer area only
Defence - NEWINGTON [10917]	NSW	In buffer area only
Defence - NEWINGTON [10918]	NSW	In buffer area only
Defence - NEWINGTON [10280]	NSW	In buffer area only
Defence - NEWINGTON [10919]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Defence - NEWINGTON [10916]	NSW	In buffer area only
Defence - NEWINGTON [10935]	NSW	In buffer area only
Defence - NEWINGTON [10932]	NSW	In buffer area only
Defence - NEWINGTON [10936]	NSW	In buffer area only
Defence - NEWINGTON [10540]	NSW	In buffer area only
Defence - NEWINGTON [10541]	NSW	In buffer area only
Defence - NEWINGTON [10277]	NSW	In buffer area only
Defence - NEWINGTON [10980]	NSW	In buffer area only
Defence - NEWINGTON [10246]	NSW	In buffer area only
Defence - NEWINGTON [11001]	NSW	In buffer area only
Defence - NEWINGTON [11000]	NSW	In buffer area only
Defence - NEWINGTON [11003]	NSW	In buffer area only
Defence - NEWINGTON [11002]	NSW	In buffer area only
Defence - NEWINGTON [11005]	NSW	In buffer area only
Defence - NEWINGTON [10979]	NSW	In buffer area only
Defence - NEWINGTON [11004]	NSW	In buffer area only
Defence - NEWINGTON [10304]	NSW	In buffer area only
Defence - NEWINGTON [10305]	NSW	In buffer area only
Defence - NEWINGTON [10303]	NSW	In buffer area only
Defence - NEWINGTON [10300]	NSW	In buffer area only
Defence - NEWINGTON [10836]	NSW	In buffer area only
Defence - NEWINGTON [11008]	NSW	In buffer area only
Defence - NEWINGTON [11009]	NSW	In buffer area only
Defence - NEWINGTON [11006]	NSW	In buffer area only
Defence - NEWINGTON [10724]	NSW	In buffer area only
Defence - NEWINGTON [10725]	NSW	In buffer area only
Defence - NEWINGTON [10855]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Defence - NEWINGTON [10722]	NSW	In buffer area only
Defence - NEWINGTON [10723]	NSW	In buffer area only
Defence - NEWINGTON [10728]	NSW	In buffer area only
Defence - NEWINGTON [10726]	NSW	In buffer area only
Defence - NEWINGTON [10727]	NSW	In buffer area only
Defence - NEWINGTON [10720]	NSW	In buffer area only
Defence - NEWINGTON [10721]	NSW	In buffer area only
Defence - NEWINGTON [10995]	NSW	In buffer area only
Defence - NEWINGTON [10994]	NSW	In buffer area only
Defence - NEWINGTON [10852]	NSW	In buffer area only
Defence - NEWINGTON [10850]	NSW	In buffer area only
Defence - NEWINGTON [10997]	NSW	In buffer area only
Defence - NEWINGTON [10996]	NSW	In buffer area only
Defence - NEWINGTON [10851]	NSW	In buffer area only
Defence - NEWINGTON [10856]	NSW	In buffer area only
Defence - NEWINGTON [10854]	NSW	In buffer area only
Defence - NEWINGTON [10253]	NSW	In buffer area only
Defence - NEWINGTON [10992]	NSW	In buffer area only
Defence - NEWINGTON [10991]	NSW	In buffer area only
Defence - NEWINGTON [10993]	NSW	In buffer area only
Defence - NEWINGTON [11028]	NSW	In buffer area only
Defence - NEWINGTON [11029]	NSW	In buffer area only
Defence - NEWINGTON [10989]	NSW	In buffer area only
Defence - NEWINGTON [11019]	NSW	In buffer area only
Defence - NEWINGTON [10352]	NSW	In buffer area only
Defence - NEWINGTON [10355]	NSW	In buffer area only
Defence - NEWINGTON [10353]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Defence - NEWINGTON [10356]	NSW	In buffer area only
Defence - NEWINGTON [10357]	NSW	In buffer area only
Defence - NEWINGTON [10537]	NSW	In buffer area only
Defence - NEWINGTON [10975]	NSW	In buffer area only
Defence - NEWINGTON [10974]	NSW	In buffer area only
Defence - NEWINGTON [10976]	NSW	In buffer area only
Defence - NEWINGTON [10977]	NSW	In buffer area only
Defence - NEWINGTON [11050]	NSW	In buffer area only
Defence - NEWINGTON [11053]	NSW	In buffer area only
Defence - NEWINGTON [11051]	NSW	In buffer area only
Defence - NEWINGTON [11052]	NSW	In buffer area only
Defence - NEWINGTON [10978]	NSW	In buffer area only
Defence - NEWINGTON [10999]	NSW	In buffer area only
Defence - NEWINGTON [11059]	NSW	In buffer area only
Defence - NEWINGTON [10998]	NSW	In buffer area only
Defence - NEWINGTON [11058]	NSW	In buffer area only
Defence - NEWINGTON [11054]	NSW	In buffer area only
Defence - NEWINGTON [11055]	NSW	In buffer area only
Defence - NEWINGTON [11056]	NSW	In buffer area only
Defence - NEWINGTON [11057]	NSW	In buffer area only
Defence - NEWINGTON [10673]	NSW	In buffer area only
Defence - NEWINGTON [10243]	NSW	In buffer area only
Defence - NEWINGTON [10674]	NSW	In buffer area only
Defence - NEWINGTON [10675]	NSW	In buffer area only
Defence - NEWINGTON [10676]	NSW	In buffer area only
Defence - NEWINGTON [10677]	NSW	In buffer area only
Defence - NEWINGTON [11037]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Defence - NEWINGTON [11032]	NSW	In buffer area only
Defence - NEWINGTON [11033]	NSW	In buffer area only
Defence - NEWINGTON [10383]	NSW	In buffer area only
Defence - NEWINGTON [11038]	NSW	In buffer area only
Defence - NEWINGTON [11039]	NSW	In buffer area only
Defence - NEWINGTON [10718]	NSW	In buffer area only
Defence - NEWINGTON [10719]	NSW	In buffer area only
Defence - NEWINGTON [11025]	NSW	In buffer area only
Defence - NEWINGTON [11024]	NSW	In buffer area only
Defence - NEWINGTON [11027]	NSW	In buffer area only
Defence - NEWINGTON [11026]	NSW	In buffer area only
Defence - NEWINGTON [11021]	NSW	In buffer area only
Defence - NEWINGTON [11020]	NSW	In buffer area only
Defence - NEWINGTON [11022]	NSW	In buffer area only
Defence - NEWINGTON [10566]	NSW	In buffer area only
Defence - NEWINGTON [10567]	NSW	In buffer area only
Defence - NEWINGTON [10384]	NSW	In buffer area only
Defence - NEWINGTON [10385]	NSW	In buffer area only
Defence - NEWINGTON [10714]	NSW	In buffer area only
Defence - NEWINGTON [10715]	NSW	In buffer area only
Defence - NEWINGTON [10499]	NSW	In buffer area only
Defence - NEWINGTON [10713]	NSW	In buffer area only
Defence - NEWINGTON [10717]	NSW	In buffer area only
Defence - NEWINGTON [10496]	NSW	In buffer area only
Defence - NEWINGTON [10441]	NSW	In buffer area only
Defence - NEWINGTON [10381]	NSW	In buffer area only
Defence - NEWINGTON [10710]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Defence - NEWINGTON [10711]	NSW	In buffer area only
Defence - NEWINGTON [10495]	NSW	In buffer area only
Defence - NEWINGTON [10377]	NSW	In buffer area only
Defence - NEWINGTON [10497]	NSW	In buffer area only
Defence - NEWINGTON [10568]	NSW	In buffer area only
Defence - NEWINGTON [10382]	NSW	In buffer area only
Defence - NEWINGTON [10380]	NSW	In buffer area only
Defence - NEWINGTON [11036]	NSW	In buffer area only
Defence - NEWINGTON [11034]	NSW	In buffer area only
Defence - NEWINGTON [11035]	NSW	In buffer area only
Defence - NEWINGTON [10387]	NSW	In buffer area only
Defence - NEWINGTON [10678]	NSW	In buffer area only
Defence - NEWINGTON [10761]	NSW	In buffer area only
Defence - NEWINGTON [10716]	NSW	In buffer area only
Defence - NEWINGTON [10288]	NSW	In buffer area only
Defence - NEWINGTON [10583]	NSW	In buffer area only
Defence - NEWINGTON [10290]	NSW	In buffer area only
Defence - NEWINGTON [10944]	NSW	In buffer area only
Defence - NEWINGTON [10947]	NSW	In buffer area only
Defence - NEWINGTON [10943]	NSW	In buffer area only
Defence - NEWINGTON [10581]	NSW	In buffer area only
Defence - NEWINGTON [10580]	NSW	In buffer area only
Defence - NEWINGTON [10582]	NSW	In buffer area only
Defence - NEWINGTON [10585]	NSW	In buffer area only
Defence - NEWINGTON [10584]	NSW	In buffer area only
Defence - NEWINGTON [10587]	NSW	In buffer area only
Defence - NEWINGTON [10586]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Defence - NEWINGTON [10279]	NSW	In buffer area only
Defence - NEWINGTON [10278]	NSW	In buffer area only
Defence - NEWINGTON [10895]	NSW	In buffer area only
Defence - NEWINGTON [10891]	NSW	In buffer area only
Defence - NEWINGTON [10890]	NSW	In buffer area only
Defence - NEWINGTON [10898]	NSW	In buffer area only
Defence - NEWINGTON [10573]	NSW	In buffer area only
Defence - NEWINGTON [10572]	NSW	In buffer area only
Defence - NEWINGTON [10571]	NSW	In buffer area only
Defence - NEWINGTON [10570]	NSW	In buffer area only
Defence - NEWINGTON [10577]	NSW	In buffer area only
Defence - NEWINGTON [10576]	NSW	In buffer area only
Defence - NEWINGTON [10575]	NSW	In buffer area only
Defence - NEWINGTON [10574]	NSW	In buffer area only
Defence - NEWINGTON [10579]	NSW	In buffer area only
Defence - NEWINGTON [10292]	NSW	In buffer area only
Defence - NEWINGTON [10294]	NSW	In buffer area only
Defence - NEWINGTON [10293]	NSW	In buffer area only
Defence - NEWINGTON [10296]	NSW	In buffer area only
Defence - NEWINGTON [10295]	NSW	In buffer area only
Defence - NEWINGTON [10299]	NSW	In buffer area only
Defence - NEWINGTON [10298]	NSW	In buffer area only
Defence - NEWINGTON [10897]	NSW	In buffer area only
Defence - NEWINGTON [10578]	NSW	In buffer area only
Defence - NEWINGTON [10867]	NSW	In buffer area only
Defence - NEWINGTON [11047]	NSW	In buffer area only
Defence - NEWINGTON [11044]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Defence - NEWINGTON [11045]	NSW	In buffer area only
Defence - NEWINGTON [11043]	NSW	In buffer area only
Defence - NEWINGTON [11040]	NSW	In buffer area only
Defence - NEWINGTON [11041]	NSW	In buffer area only
Defence - NEWINGTON [11046]	NSW	In buffer area only
Defence - NEWINGTON [11042]	NSW	In buffer area only
Defence - NEWINGTON [11049]	NSW	In buffer area only
Defence - NEWINGTON [10896]	NSW	In buffer area only
Defence - NEWINGTON [11048]	NSW	In buffer area only
Defence - NEWINGTON [10378]	NSW	In buffer area only
Defence - NEWINGTON [10379]	NSW	In buffer area only
Defence - NEWINGTON [10375]	NSW	In buffer area only
Defence - NEWINGTON [10376]	NSW	In buffer area only
Defence - NEWINGTON [10901]	NSW	In buffer area only
Defence - NEWINGTON [10965]	NSW	In buffer area only
Defence - NEWINGTON [10960]	NSW	In buffer area only
Defence - NEWINGTON [10961]	NSW	In buffer area only
Defence - NEWINGTON [10504]	NSW	In buffer area only
Defence - NEWINGTON [10959]	NSW	In buffer area only
Defence - NEWINGTON [10950]	NSW	In buffer area only
Defence - NEWINGTON [10953]	NSW	In buffer area only
Defence - NEWINGTON [10952]	NSW	In buffer area only
Defence - NEWINGTON [10956]	NSW	In buffer area only
Defence - NEWINGTON [10955]	NSW	In buffer area only
Defence - NEWINGTON [10868]	NSW	In buffer area only
Defence - NEWINGTON [10503]	NSW	In buffer area only
Defence - NEWINGTON [11010]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Defence - NEWINGTON [11013]	NSW	In buffer area only
Defence - NEWINGTON [11011]	NSW	In buffer area only
Defence - NEWINGTON [11014]	NSW	In buffer area only
Defence - NEWINGTON [11017]	NSW	In buffer area only
Defence - NEWINGTON [11012]	NSW	In buffer area only
Defence - NEWINGTON [11015]	NSW	In buffer area only
Defence - NEWINGTON [11070]	NSW	In buffer area only
Defence - NEWINGTON [10963]	NSW	In buffer area only
Defence - NEWINGTON [11069]	NSW	In buffer area only
Defence - NEWINGTON [11016]	NSW	In buffer area only
Defence - NEWINGTON [11068]	NSW	In buffer area only
Defence - NEWINGTON [10697]	NSW	In buffer area only
Defence - NEWINGTON [10696]	NSW	In buffer area only
Defence - NEWINGTON [10695]	NSW	In buffer area only
Defence - NEWINGTON [10755]	NSW	In buffer area only
Defence - NEWINGTON [10694]	NSW	In buffer area only
Defence - NEWINGTON [10692]	NSW	In buffer area only
Defence - NEWINGTON [10693]	NSW	In buffer area only
Defence - NEWINGTON [10690]	NSW	In buffer area only
Defence - NEWINGTON [10691]	NSW	In buffer area only
Defence - NEWINGTON [11063]	NSW	In buffer area only
Defence - NEWINGTON [11018]	NSW	In buffer area only
Defence - NEWINGTON [11065]	NSW	In buffer area only
Defence - NEWINGTON [11064]	NSW	In buffer area only
Defence - NEWINGTON [11067]	NSW	In buffer area only
Defence - NEWINGTON [11066]	NSW	In buffer area only
Defence - NEWINGTON [11061]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Defence - NEWINGTON [11060]	NSW	In buffer area only
Defence - NEWINGTON [11062]	NSW	In buffer area only
Defence - NEWINGTON [10354]	NSW	In buffer area only
Defence - NEWINGTON [10877]	NSW	In buffer area only
Defence - NEWINGTON [10876]	NSW	In buffer area only
Defence - NEWINGTON [10698]	NSW	In buffer area only
Defence - NEWINGTON [10752]	NSW	In buffer area only
Defence - NEWINGTON [10699]	NSW	In buffer area only
Defence - NEWINGTON [11007]	NSW	In buffer area only
Defence - NEWINGTON [10757]	NSW	In buffer area only
Defence - NEWINGTON [10751]	NSW	In buffer area only
Defence - NEWINGTON [10750]	NSW	In buffer area only
Defence - NEWINGTON [10753]	NSW	In buffer area only
Defence - NEWINGTON [10870]	NSW	In buffer area only
Defence - NEWINGTON [10871]	NSW	In buffer area only
Defence - NEWINGTON [10873]	NSW	In buffer area only
Defence - NEWINGTON [10754]	NSW	In buffer area only
Defence - NEWINGTON [10748]	NSW	In buffer area only
Defence - NEWINGTON [10749]	NSW	In buffer area only
Defence - NEWINGTON [10744]	NSW	In buffer area only
Defence - NEWINGTON [10745]	NSW	In buffer area only
Defence - NEWINGTON [10746]	NSW	In buffer area only
Defence - NEWINGTON [10907]	NSW	In buffer area only
Defence - NEWINGTON [10741]	NSW	In buffer area only
Defence - NEWINGTON [10747]	NSW	In buffer area only
Defence - NEWINGTON [10742]	NSW	In buffer area only
Defence - NEWINGTON [10740]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Defence - NEWINGTON [10743]	NSW	In buffer area only
Defence - NORTH SYDNEY - HYDRO OFFICE [11161]	NSW	In buffer area only
Defence - OXFORD ST SYDNEY [11168]	NSW	In buffer area only
Defence - OXFORD ST SYDNEY [11164]	NSW	In buffer area only
Defence - OXFORD ST SYDNEY [11165]	NSW	In buffer area only
Defence - OXFORD ST SYDNEY [11167]	NSW	In buffer area only
Defence - OXFORD ST SYDNEY [11166]	NSW	In buffer area only
Defence - OXFORD ST SYDNEY [11169]	NSW	In buffer area only
Defence - PARKVIEW BUILDING - SYDNEY [11170]	NSW	In buffer area only
Defence - RANDWICK BARRACKS [11125]	NSW	In buffer area only
Defence - RANDWICK BARRACKS [11124]	NSW	In buffer area only
Defence - RANDWICK BARRACKS [11126]	NSW	In buffer area only
Defence - RANDWICK BARRACKS [11128]	NSW	In buffer area only
Defence - RANDWICK BARRACKS [11129]	NSW	In buffer area only
Defence - RANDWICK BARRACKS [11131]	NSW	In buffer area only
Defence - RANDWICK BARRACKS [11127]	NSW	In buffer area only
Defence - RANDWICK BARRACKS [11130]	NSW	In buffer area only
Defence - RANDWICK FRENCHMANS TRG [11163]	NSW	In buffer area only
Defence - RANDWICK FRENCHMANS TRG [11162]	NSW	In buffer area only
Defence - ROCKDALE TRAINING DEPOT [11111]	NSW	In buffer area only
Defence - SPECTACLE ISLAND [10035]	NSW	In buffer area only
Defence - SPECTACLE ISLAND [10038]	NSW	In buffer area only
Defence - SPECTACLE ISLAND [10037]	NSW	In buffer area only
Defence - SPECTACLE ISLAND [10036]	NSW	In buffer area only
Defence - SYDNEY UNIVERSITY REGIMENT - DARLINGTON [11094]	NSW	In buffer area only
Defence - TRESCO [10044]	NSW	In buffer area only
Defence - VICTORIA BARRACKS - PADDINGTON [11120]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Defence - VICTORIA BARRACKS - PADDINGTON [11121]	NSW	In buffer area only
Defence - VICTORIA BARRACKS - PADDINGTON [11119]	NSW	In buffer area only
Defence - WOOLLOOMOOLOO CARPARK [11177]	NSW	In buffer area only
Defence - WOOLLOOMOOLOO CARPARK [11176]	NSW	In buffer area only
Defence - WOOLLOOMOOLOO CARPARK [11175]	NSW	In buffer area only
Defence - WOOLLOOMOOLOO CARPARK [11174]	NSW	In buffer area only
Defence - ZETLAND NAVY SUPPLY CENTRE [11089]	NSW	In buffer area only
Defence - ZETLAND NAVY SUPPLY CENTRE [11081]	NSW	In buffer area only
Defence - ZETLAND NAVY SUPPLY CENTRE [11080]	NSW	In buffer area only
Defence - ZETLAND NAVY SUPPLY CENTRE [11085]	NSW	In buffer area only
Defence - ZETLAND NAVY SUPPLY CENTRE [11087]	NSW	In buffer area only
Defence - ZETLAND NAVY SUPPLY CENTRE [11078]	NSW	In buffer area only
Defence - ZETLAND NAVY SUPPLY CENTRE [11091]	NSW	In buffer area only
Defence - ZETLAND NAVY SUPPLY CENTRE [11086]	NSW	In buffer area only
Defence - ZETLAND NAVY SUPPLY CENTRE [11084]	NSW	In buffer area only
Defence - ZETLAND NAVY SUPPLY CENTRE [11083]	NSW	In buffer area only
Defence - ZETLAND NAVY SUPPLY CENTRE [11088]	NSW	In buffer area only
Defence - ZETLAND NAVY SUPPLY CENTRE [11079]	NSW	In buffer area only
Defence - ZETLAND NAVY SUPPLY CENTRE [11090]	NSW	In buffer area only
Defence - ZETLAND NAVY SUPPLY CENTRE [11092]	NSW	In buffer area only
Defence - ZETLAND NAVY SUPPLY CENTRE [11082]	NSW	In buffer area only
Defence - ZETLAND NAVY SUPPLY CENTRE [11075]	NSW	In buffer area only
Defence - ZETLAND NAVY SUPPLY CENTRE [11076]	NSW	In buffer area only
Defence - ZETLAND NAVY SUPPLY CENTRE [11077]	NSW	In buffer area only
Defence - Defence Housing Authority		
Commonwealth Land - Defence Housing Authority [13096]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14459]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [13133]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16134]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14380]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13053]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13052]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13051]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13050]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13135]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16133]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16132]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15672]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15671]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14419]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14464]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13049]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14288]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14320]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14321]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13045]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13044]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14289]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14294]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14290]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14469]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14295]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14293]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14291]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [14462]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14447]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14446]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15945]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15944]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16135]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15887]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14313]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14315]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14314]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14316]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14319]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14318]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15973]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15976]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15972]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15975]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15977]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15974]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14311]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14461]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14457]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14454]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14450]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14453]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14455]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14309]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [14308]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14304]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14306]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14330]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14302]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14305]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13105]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15956]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14470]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16093]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14303]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16357]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16356]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15417]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15711]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15712]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15718]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16028]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13196]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16029]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16117]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16056]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16058]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13084]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15683]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14449]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13089]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [14411]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14345]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14344]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14347]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14346]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14448]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14468]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14467]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16046]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16045]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16048]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16163]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16047]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16061]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15590]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14539]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14403]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15441]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16491]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [14413]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [13048]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [13083]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [14367]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [13088]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [13085]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [13080]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [13082]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Director of War Service Homes [13081]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [13073]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [13072]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [13071]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [13077]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [13076]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [13090]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [13075]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [13074]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [13079]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [14424]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [14423]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [13086]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [13087]	NSW	In buffer area only
Commonwealth Land - War Service Homes Commissioner [13015]	NSW	In buffer area only
Education, Science and Training - CSIRO		
Commonwealth Land - Commonwealth Scientific & Industrial Research Organisation [16153]	NSW	In buffer area only
Commonwealth Land - Commonwealth Scientific & Industrial Research Organisation [16155]	NSW	In buffer area only
Commonwealth Land - Commonwealth Scientific & Industrial Research Organisation [16154]	NSW	In buffer area only
Commonwealth Land - Commonwealth Scientific & Industrial Research Organisation [16152]	NSW	In buffer area only
Commonwealth Land - Commonwealth Scientific & Industrial Research Organisation [16156]	NSW	In buffer area only
Commonwealth Land - Commonwealth Scientific & Industrial Research Organisation [16535]	NSW	In buffer area only
Commonwealth Land - Commonwealth Scientific & Industrial Research Organisation [15954]	NSW	In buffer area only
Commonwealth Land - Commonwealth Scientific & Industrial Research Organisation [16536]	NSW	In buffer area only
Transport and Regional Services - Airservices Australia		

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Airservices Australia [13098]	NSW	In buffer area only
Commonwealth Land - Airservices Australia [14389]	NSW	In buffer area only
Commonwealth Land - Airservices Australia [14465]	NSW	In buffer area only
Treasury - Reserve Bank of Australia		
Commonwealth Land - Reserve Bank of Australia [13159]	NSW	In buffer area only
Commonwealth Land - Reserve Bank of Australia [13150]	NSW	In buffer area only
Commonwealth Land - Reserve Bank of Australia [13149]	NSW	In buffer area only
Commonwealth Land - Reserve Bank of Australia [13148]	NSW	In buffer area only
Commonwealth Land - Reserve Bank of Australia [13160]	NSW	In buffer area only
Commonwealth Land - Reserve Bank of Australia [13151]	NSW	In buffer area only
Commonwealth Land - Reserve Bank of Australia [13138]	NSW	In buffer area only
Commonwealth Land - Reserve Bank of Australia [16499]	NSW	In buffer area only
Unknown		
Commonwealth Land - [14399]	NSW	In buffer area only
Commonwealth Land - [14382]	NSW	In buffer area only
Commonwealth Land - [15674]	NSW	In buffer area only
Commonwealth Land - [15670]	NSW	In buffer area only
Commonwealth Land - [15673]	NSW	In buffer area only
Commonwealth Land - [13139]	NSW	In buffer area only
Commonwealth Land - [13120]	NSW	In buffer area only
Commonwealth Land - [13122]	NSW	In buffer area only
Commonwealth Land - [13123]	NSW	In buffer area only
Commonwealth Land - [15434]	NSW	In buffer area only
Commonwealth Land - [15530]	NSW	In buffer area only
Commonwealth Land - [15435]	NSW	In buffer area only
Commonwealth Land - [15436]	NSW	In buffer area only
Commonwealth Land - [16159]	NSW	In buffer area only
Commonwealth Land - [14396]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - [13140]	NSW	In buffer area only
Commonwealth Land - [13141]	NSW	In buffer area only
Commonwealth Land - [14397]	NSW	In buffer area only
Commonwealth Land - [14394]	NSW	In buffer area only
Commonwealth Land - [14393]	NSW	In buffer area only
Commonwealth Land - [14390]	NSW	In buffer area only
Commonwealth Land - [14395]	NSW	In buffer area only
Commonwealth Land - [14392]	NSW	In buffer area only
Commonwealth Land - [14364]	NSW	In buffer area only
Commonwealth Land - [14386]	NSW	In buffer area only
Commonwealth Land - [14387]	NSW	In buffer area only
Commonwealth Land - [14310]	NSW	In buffer area only
Commonwealth Land - [14336]	NSW	In buffer area only
Commonwealth Land - [14335]	NSW	In buffer area only
Commonwealth Land - [14334]	NSW	In buffer area only
Commonwealth Land - [15689]	NSW	In buffer area only
Commonwealth Land - [14301]	NSW	In buffer area only
Commonwealth Land - [13163]	NSW	In buffer area only
Commonwealth Land - [15729]	NSW	In buffer area only
Commonwealth Land - [13987]	NSW	In buffer area only
Commonwealth Land - [14365]	NSW	In buffer area only
Commonwealth Land - [15688]	NSW	In buffer area only
Commonwealth Land - [16420]	NSW	In buffer area only
Commonwealth Land - [13101]	NSW	In buffer area only
Commonwealth Land - [14398]	NSW	In buffer area only
Commonwealth Land - [13219]	NSW	In buffer area only
Commonwealth Land - [13218]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - [13161]	NSW	In buffer area only
Commonwealth Land - [16116]	NSW	In buffer area only
Commonwealth Land - [14376]	NSW	In buffer area only
Commonwealth Land - [14375]	NSW	In buffer area only
Commonwealth Land - [14374]	NSW	In buffer area only
Commonwealth Land - [14373]	NSW	In buffer area only
Commonwealth Land - [14372]	NSW	In buffer area only
Commonwealth Land - [14371]	NSW	In buffer area only
Commonwealth Land - [14400]	NSW	In buffer area only
Commonwealth Land - [14401]	NSW	In buffer area only
Commonwealth Land - [15503]	NSW	In buffer area only
Commonwealth Land - [15690]	NSW	In buffer area only
Commonwealth Land - [16160]	NSW	In buffer area only
Commonwealth Land - [16161]	NSW	In buffer area only
Commonwealth Land - [16283]	NSW	In buffer area only
Commonwealth Land - [16562]	NSW	In buffer area only
Commonwealth Land - [13078]	NSW	In buffer area only
Commonwealth Land - [14369]	NSW	In buffer area only
Commonwealth Land - [14420]	NSW	In buffer area only
Commonwealth Land - [11160]	NSW	In buffer area only
Commonwealth Land - [14370]	NSW	In buffer area only
Commonwealth Land - [14378]	NSW	In buffer area only
Commonwealth Land - [15459]	NSW	In buffer area only

Commonwealth Heritage Places			[Resource Information]
Name	State	Status	Buffer Status
Historic			
Admiralty House and Lodge	NSW	Listed place	In buffer area only
Admiralty House Garden and Fortifications	NSW	Listed place	In buffer area only

Name	State	Status	Buffer Status
Barracks Block	NSW	Listed place	In buffer area only
Biloela Group	NSW	Listed place	In buffer area only
Botany Post Office	NSW	Listed place	In buffer area only
Buildings 31 and 32	NSW	Listed place	In buffer area only
Buildings MQVB16 and VB56	NSW	Listed place	In buffer area only
Buildings VB13, 15, 16 & 17	NSW	Listed place	In buffer area only
Buildings VB41, 45 & 53	NSW	Listed place	In buffer area only
Buildings VB60 and VB62	NSW	Listed place	In buffer area only
Buildings VB69, 75 & 76 including Garden	NSW	Listed place	In buffer area only
Buildings VB83, 84, 85, 87 & 89	NSW	Listed place	In buffer area only
Buildings VB90, 91, 91A & 92	NSW	Listed place	In buffer area only
Building VB1 and Parade Ground	NSW	Listed place	In buffer area only
Building VB2 Guard House	NSW	Listed place	In buffer area only
Chain and Anchor Store (former)	NSW	Listed place	In buffer area only
Cockatoo Island Industrial Conservation Area	NSW	Listed place	In buffer area only
Customs Marine Centre	NSW	Listed place	In buffer area only
Factory	NSW	Listed place	In buffer area only
Fitzroy Dock	NSW	Listed place	In buffer area only
Garden Island Precinct	NSW	Listed place	In buffer area only
Gazebo	NSW	Listed place	In buffer area only
General Post Office	NSW	Listed place	In buffer area only
Kirribilli House	NSW	Listed place	In buffer area only
Kirribilli House Garden & Grounds	NSW	Listed place	In buffer area only
Marrickville Post Office	NSW	Listed place	In buffer area only
Mess Hall (former)	NSW	Listed place	In buffer area only
Military Guard Room	NSW	Listed place	In buffer area only
Naval Store	NSW	Listed place	In buffer area only

Name	State	Status	Buffer Status
North Sydney Post Office	NSW	Listed place	In buffer area only
Office Building	NSW	Listed place	In buffer area only
Paddington Post Office	NSW	Listed place	In buffer area only
Power House / Pump House	NSW	Listed place	In buffer area only
Prison Barracks Precinct	NSW	Listed place	In buffer area only
Pymont Post Office	NSW	Listed place	In buffer area only
Reserve Bank	NSW	Listed place	In buffer area only
Residences Group	NSW	Listed place	In buffer area only
Rigging Shed and Chapel	NSW	Listed place	In buffer area only
School of Musketry and Officers Mess, Randwick Army Barracks	NSW	Listed place	In buffer area only
Snapper Island	NSW	Listed place	In buffer area only
Spectacle Island Explosives Complex	NSW	Listed place	In buffer area only
Sutherland Dock	NSW	Listed place	In buffer area only
Sydney Airport Air Traffic Control Tower	NSW	Listed place	In buffer area only
Sydney Customs House (former)	NSW	Listed place	In buffer area only
Underground Grain Silos	NSW	Listed place	In buffer area only
Victoria Barracks Perimeter Wall and Gates	NSW	Listed place	In buffer area only
Victoria Barracks Precinct	NSW	Listed place	In buffer area only
Victoria Barracks Squash Courts	NSW	Listed place	In buffer area only
Woolwich Dock	NSW	Listed place	In buffer area only

Listed Marine Species		[Resource Information]	
Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			
Actitis hypoleucos			
Common Sandpiper [59309]		Species or species habitat known to occur within area	In feature area
Anous stolidus			
Common Noddy [825]		Species or species habitat likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area
Ardenna carneipes as Puffinus carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [82404]		Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Ardenna grisea as Puffinus griseus Sooty Shearwater [82651]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Arenaria interpres Ruddy Turnstone [872]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Bubulcus ibis as Ardea ibis Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area
Calidris alba Sanderling [875]		Foraging, feeding or related behaviour known to occur within area	In buffer area only
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat known to occur within area overfly marine area	In feature area
Calidris pugnax as Philomachus pugnax Ruff [91256]		Foraging, feeding or related behaviour known to occur within area overfly marine area	In buffer area only
Calidris ruficollis Red-necked Stint [860]		Foraging, feeding or related behaviour known to occur within area overfly marine area	In buffer area only
Calidris subminuta Long-toed Stint [861]		Foraging, feeding or related behaviour known to occur within area overfly marine area	In buffer area only
Calidris tenuirostris Great Knot [862]	Vulnerable	Foraging, feeding or related behaviour known to occur within area overfly marine area	In buffer area only
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat known to occur within area	In buffer area only
Charadrius bicinctus Double-banded Plover [895]		Foraging, feeding or related behaviour known to occur within area overfly marine area	In buffer area only
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Foraging, feeding or related behaviour known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Charadrius ruficapillus Red-capped Plover [881]		Foraging, feeding or related behaviour known to occur within area overfly marine area	In buffer area only
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Foraging, feeding or related behaviour known to occur within area overfly marine area	In buffer area only
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea antipodensis gibsoni as Diomedea gibsoni Gibson's Albatross [82270]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Species or species habitat may occur within area	In buffer area only
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat likely to occur within area	In buffer area only
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In feature area
Gallinago megala Swinhoe's Snipe [864]		Foraging, feeding or related behaviour likely to occur within area overfly marine area	In buffer area only
Gallinago stenura Pin-tailed Snipe [841]		Foraging, feeding or related behaviour likely to occur within area overfly marine area	In buffer area only
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Breeding known to occur within area	In feature area
Himantopus himantopus Pied Stilt, Black-winged Stilt [870]		Foraging, feeding or related behaviour known to occur within area overfly marine area	In buffer area only
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In feature area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat known to occur within area overfly marine area	In feature area
Limicola falcinellus Broad-billed Sandpiper [842]		Foraging, feeding or related behaviour known to occur within area overfly marine area	In buffer area only
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Limosa limosa Black-tailed Godwit [845]	Endangered	Foraging, feeding or related behaviour known to occur within area overfly marine area	In buffer area only
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	In buffer area only
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area overfly marine area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat known to occur within area overfly marine area	In feature area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area overfly marine area	In feature area
Neophema chrysogaster Orange-bellied Parrot [747]	Critically Endangered	Species or species habitat may occur within area overfly marine area	In buffer area only
Neophema chrysostoma Blue-winged Parrot [726]	Vulnerable	Species or species habitat likely to occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Numenius minutus Little Curlew, Little Whimbrel [848]		Foraging, feeding or related behaviour likely to occur within area overfly marine area	In buffer area only
Numenius phaeopus Whimbrel [849]		Foraging, feeding or related behaviour known to occur within area	In buffer area only
Pachyptila turtur Fairy Prion [1066]		Species or species habitat known to occur within area	In buffer area only
Pandion haliaetus Osprey [952]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Phaethon lepturus White-tailed Tropicbird [1014]		Species or species habitat known to occur within area	In buffer area only
Pluvialis fulva Pacific Golden Plover [25545]		Foraging, feeding or related behaviour known to occur within area	In buffer area only
Pluvialis squatarola Grey Plover [865]		Foraging, feeding or related behaviour known to occur within area overfly marine area	In buffer area only
Pterodroma cervicalis White-necked Petrel [59642]		Species or species habitat may occur within area	In feature area
Recurvirostra novaehollandiae Red-necked Avocet [871]		Foraging, feeding or related behaviour known to occur within area overfly marine area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area overfly marine area	In feature area
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat known to occur within area overfly marine area	In feature area
Sterna striata White-fronted Tern [799]		Foraging, feeding or related behaviour likely to occur within area	In feature area
Sternula albifrons as Sterna albifrons Little Tern [82849]		Breeding likely to occur within area	In buffer area only
Symposiachrus trivirgatus as Monarcha trivirgatus Spectacled Monarch [83946]		Species or species habitat known to occur within area overfly marine area	In feature area
Thalassarche bulleri Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche bulleri platei as Thalassarche sp. nov. Northern Buller's Albatross, Pacific Albatross [82273]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Thalassarche cauta Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche eremita Chatham Albatross [64457]	Endangered	Foraging, feeding or related behaviour may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Tringa brevipes as Heteroscelus brevipes Grey-tailed Tattler [851]		Foraging, feeding or related behaviour known to occur within area	In buffer area only
Tringa incana as Heteroscelus incanus Wandering Tattler [831]		Foraging, feeding or related behaviour known to occur within area	In buffer area only
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat known to occur within area overfly marine area	In feature area
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Foraging, feeding or related behaviour known to occur within area overfly marine area	In buffer area only
Xenus cinereus Terek Sandpiper [59300]	Vulnerable	Foraging, feeding or related behaviour known to occur within area overfly marine area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Acentronura tentaculata Shortpouch Pygmy Pipehorse [66187]		Species or species habitat may occur within area	In buffer area only
Festucalex cinctus Girdled Pipefish [66214]		Species or species habitat may occur within area	In buffer area only
Filicampus tigris Tiger Pipefish [66217]		Species or species habitat may occur within area	In buffer area only
Heraldia nocturna Upside-down Pipefish, Eastern Upside-down Pipefish, Eastern Upside-down Pipefish [66227]		Species or species habitat may occur within area	In buffer area only
Hippichthys penicillus Beady Pipefish, Steep-nosed Pipefish [66231]		Species or species habitat may occur within area	In buffer area only
Hippocampus abdominalis Big-belly Seahorse, Eastern Potbelly Seahorse, New Zealand Potbelly Seahorse [66233]		Species or species habitat may occur within area	In buffer area only
Hippocampus whitei White's Seahorse, Crowned Seahorse, Sydney Seahorse [66240]	Endangered	Species or species habitat known to occur within area	In buffer area only
Histiogamphelus briggsii Crested Pipefish, Briggs' Crested Pipefish, Briggs' Pipefish [66242]		Species or species habitat may occur within area	In buffer area only
Lissocampus runa Javelin Pipefish [66251]		Species or species habitat may occur within area	In buffer area only
Maroubra perserrata Sawtooth Pipefish [66252]		Species or species habitat may occur within area	In buffer area only
Notiocampus ruber Red Pipefish [66265]		Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Phyllopteryx taeniolatus Common Seadragon, Weedy Seadragon [66268]		Species or species habitat may occur within area	In buffer area only
Solegnathus spinosissimus Spiny Pipehorse, Australian Spiny Pipehorse [66275]		Species or species habitat may occur within area	In buffer area only
Solenostomus cyanopterus Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		Species or species habitat may occur within area	In buffer area only
Solenostomus paradoxus Ornate Ghostpipefish, Harlequin Ghost Pipefish, Ornate Ghost Pipefish [66184]		Species or species habitat may occur within area	In buffer area only
Stigmatopora argus Spotted Pipefish, Gulf Pipefish, Peacock Pipefish [66276]		Species or species habitat may occur within area	In buffer area only
Stigmatopora nigra Widebody Pipefish, Wide-bodied Pipefish, Black Pipefish [66277]		Species or species habitat may occur within area	In buffer area only
Syngnathoides biaculeatus Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area	In buffer area only
Trachyrhamphus bicoarctatus Bentstick Pipefish, Bend Stick Pipefish, Short-tailed Pipefish [66280]		Species or species habitat may occur within area	In buffer area only
Urocampus carinirostris Hairy Pipefish [66282]		Species or species habitat may occur within area	In buffer area only
Vanacampus margaritifer Mother-of-pearl Pipefish [66283]		Species or species habitat may occur within area	In buffer area only
Mammal			
Arctocephalus forsteri Long-nosed Fur-seal, New Zealand Fur-seal [20]		Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Arctocephalus pusillus Australian Fur-seal, Australo-African Fur-seal [21]		Species or species habitat may occur within area	In buffer area only
Dugong dugon Dugong [28]		Species or species habitat may occur within area	In buffer area only
Reptile			
Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area	In buffer area only
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Hydrophis platura as Pelamis platurus Yellow-bellied Sea Snake [93746]		Species or species habitat may occur within area	In buffer area only
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Whales and Other Cetaceans			
[Resource Information]			
Current Scientific Name	Status	Type of Presence	Buffer Status
Mammal			
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area	In buffer area only

Current Scientific Name	Status	Type of Presence	Buffer Status
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area	In buffer area only
Caperea marginata Pygmy Right Whale [39]		Foraging, feeding or related behaviour may occur within area	In buffer area only
Delphinus delphis Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area	In buffer area only
Eubalaena australis Southern Right Whale [40]	Endangered	Species or species habitat known to occur within area	In buffer area only
Lagenorhynchus obscurus Dusky Dolphin [43]		Species or species habitat may occur within area	In buffer area only
Megaptera novaeangliae Humpback Whale [38]		Species or species habitat known to occur within area	In buffer area only
Stenella attenuata Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area	In buffer area only
Tursiops aduncus Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area	In buffer area only
Tursiops truncatus s. str. Bottlenose Dolphin [68417]		Species or species habitat may occur within area	In buffer area only

Extra Information

State and Territory Reserves			[Resource Information]
Protected Area Name	Reserve Type	State	Buffer Status
Lane Cove	National Park	NSW	In buffer area only
Newington	Nature Reserve	NSW	In buffer area only
Parramatta River	Regional Park	NSW	In buffer area only

Protected Area Name	Reserve Type	State	Buffer Status
Sydney Harbour	National Park	NSW	In buffer area only
Towra Point	Aquatic Reserve	NSW	In buffer area only
Wallumatta	Nature Reserve	NSW	In buffer area only
Wolli Creek	Regional Park	NSW	In buffer area only

Nationally Important Wetlands		[Resource Information]	
Wetland Name	State	Buffer Status	
Bicentennial Park	NSW	In buffer area only	
Botany Wetlands	NSW	In buffer area only	
Eve St. Marsh, Arncliffe	NSW	In buffer area only	
Newington Wetlands	NSW	In buffer area only	

EPBC Act Referrals		[Resource Information]		
Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Circular Quay Renewal	2023/09727		Assessment	In buffer area only
Parramatta Light Rail Stage 2	2022/09300		Post-Approval	In buffer area only

Controlled action				
Concept Plan Proposal for residential and commercial development of UTS Kuring-	2008/4083	Controlled Action	Post-Approval	In buffer area only
Construction and operation of the Westconnex New M5, Sydney, NSW	2015/7520	Controlled Action	Post-Approval	In buffer area only
Cook Cove Southern Precinct development, Sydney, NSW	2016/7767	Controlled Action	Post-Approval	In buffer area only
Cooks Cove Development Project	2006/2685	Controlled Action	Post-Approval	In buffer area only
Expansion of Port Botany facilities	2002/543	Controlled Action	Post-Approval	In buffer area only
Garden Island Hammerhead Crane Proposed Removal, NSW	2012/6430	Controlled Action	Post-Approval	In buffer area only
Moriah War Memorial College expansion	2002/575	Controlled Action	Post-Approval	In buffer area only
Relocation of Grey-Headed Flying-Fox Colony	2008/4646	Controlled Action	Post-Approval	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Controlled action				
Sand Reclamation to Towra Beach	2003/1085	Controlled Action	Post-Approval	In buffer area only
Southern section of the Bonnie Doon Golf Course, Pagewood, NSW	2015/7479	Controlled Action	Completed	In buffer area only
Sydney Opera House Building Renewal Program, NSW	2016/7825	Controlled Action	Post-Approval	In buffer area only
Sydney Opera House Building Renewal Program - Concert Hall and associated works	2017/7955	Controlled Action	Post-Approval	In buffer area only
Not controlled action				
ABC Gore Hill, Lanceley Place Site Redevelopment	2002/908	Not Controlled Action	Completed	In buffer area only
ABC Proposed Sale of Property Commonwealth Land	2020/8855	Not Controlled Action	Completed	In buffer area only
Admiralty House, Kirribilli, foreshore works, NSW	2014/7357	Not Controlled Action	Completed	In buffer area only
Artarmon Helipad Relocation	2001/186	Not Controlled Action	Completed	In buffer area only
Botany Rail Duplication	2019/8566	Not Controlled Action	Completed	In buffer area only
BP/Mobil Pipeline to Kingsford Smith Airport	2000/104	Not Controlled Action	Completed	In buffer area only
Bushfire risk reduction works Rookwood Cemetery	2007/3835	Not Controlled Action	Completed	In buffer area only
Change of use of existing room in research laboratory	2002/665	Not Controlled Action	Completed	In buffer area only
Construct and operate an aerial adventure park	2012/6239	Not Controlled Action	Completed	In buffer area only
Construction, operation and maintenance of a new zone substation	2011/5901	Not Controlled Action	Completed	In buffer area only
Construction and Operation of the Parramatta Rail Link - between Parramatta and	2002/673	Not Controlled Action	Completed	In buffer area only
construction of a road linking Newbridge Road and Nuwarra Road	2004/1843	Not Controlled Action	Completed	In buffer area only
Construction Of Two New Fuel Processing Plants On Existing Site	2003/1243	Not Controlled Action	Completed	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
Cox's Creek Reserve	2001/409	Not Controlled Action	Completed	In buffer area only
Decommissioning of Army Depot, Haberfield	2001/217	Not Controlled Action	Completed	In feature area
Decommissioning of NMC and Camperdown Facility	2010/5645	Not Controlled Action	Completed	In buffer area only
Demolition of Ablutions Block, Snapper Island, NSW	2018/8303	Not Controlled Action	Completed	In buffer area only
Development of an Intermodal Terminal for containerised freight at the former En	2002/622	Not Controlled Action	Completed	In buffer area only
Enfield Industrial Subdivision	2007/3727	Not Controlled Action	Completed	In buffer area only
Environmental Works	2001/396	Not Controlled Action	Completed	In buffer area only
Extension of Hale Street to Foreshore Road and Associated Works	2008/4035	Not Controlled Action	Completed	In buffer area only
Fitout works, 4th Floor, Sydney Customs House, 31 Alfred Street	2004/1449	Not Controlled Action	Completed	In buffer area only
Fuel Reduction Proposal Redfield Road, East Killara	2003/1238	Not Controlled Action	Completed	In buffer area only
Garden Island ADI Warehouse	2000/69	Not Controlled Action	Completed	In buffer area only
Georges River Program 2	2003/999	Not Controlled Action	Completed	In feature area
Gore Hill Conservation Management Plan	2000/109	Not Controlled Action	Completed	In buffer area only
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area
INDIGO Central Submarine Telecommunications Cable	2017/8127	Not Controlled Action	Completed	In feature area
Industrial Subdivision	2004/1859	Not Controlled Action	Completed	In buffer area only
Industrial Subdivision, 262-276 Captain Cook Drive	2004/1899	Not Controlled Action	Completed	In buffer area only
Installation of viewing platform	2005/2138	Not Controlled Action	Completed	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
Internal Modifications to Reserve Bank of Australia	2008/4431	Not Controlled Action	Completed	In buffer area only
Noxious weed removal and controlled burn	2003/1272	Not Controlled Action	Completed	In buffer area only
Rabbit Control Anzac Rifle Range	2005/1940	Not Controlled Action	Completed	In buffer area only
RBA HOWP 65 Martin Place, NSW	2020/8870	Not Controlled Action	Completed	In buffer area only
Redevelopment 60 Martin Place, Sydney, NSW	2015/7490	Not Controlled Action	Completed	In buffer area only
Rehabilitation works of the Coogee Sewer Diversion Submain - Maxwell Avenue, Mar	2004/1683	Not Controlled Action	Completed	In buffer area only
Remediation of Contaminated Buildings	2005/1983	Not Controlled Action	Completed	In buffer area only
Remediation of Contaminated Soil	2005/1985	Not Controlled Action	Completed	In buffer area only
Residential subdivision, cnr Doris Hirst Place and Highs Road	2005/2392	Not Controlled Action	Completed	In buffer area only
Residential subdivision and stormwater management facilities	2003/1141	Not Controlled Action	Completed	In buffer area only
Residential subdivision works, Spurway St, Ermington	2003/1130	Not Controlled Action	Completed	In buffer area only
Sale of New South Head Road, Edgecliff	2001/302	Not Controlled Action	Completed	In buffer area only
sewage treatmemt plant process and reliability renewals project	2005/2186	Not Controlled Action	Completed	In buffer area only
Shipment of Spent Nuclear Fuel to USA	2007/3672	Not Controlled Action	Completed	In buffer area only
subdivision and development on the Rhodes Peninsula for residential and commerci	2003/1249	Not Controlled Action	Completed	In feature area
Subdivision and sale of Commonwealth land in Pymble to Ku-ring-gai City Council	2004/1368	Not Controlled Action	Completed	In buffer area only
Supply of a gigabit ethernet connection with associated trenching, boring and ha	2007/3637	Not Controlled Action	Completed	In buffer area only
Sydney Desalination Plant	2005/2331	Not Controlled Action	Completed	In feature area

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
Sydney Metro Network Stage 2	2010/5307	Not Controlled Action	Completed	In buffer area only
Sydney Primary Loop Gas Pipeline	2006/2622	Not Controlled Action	Completed	In buffer area only
Torpedo Factory Renewal Project	2020/8847	Not Controlled Action	Completed	In buffer area only
Undertake a controlled burn of the Eastern Suburbs Banksia Scrub at Byrne Cresce	2004/1728	Not Controlled Action	Completed	In buffer area only
Undertaking of fire protection measures for the bushland regeneration of the Ranwick Environmental P	2003/959	Not Controlled Action	Completed	In buffer area only
V8 Supercars "Sydney 400" Event	2009/4782	Not Controlled Action	Completed	In buffer area only
Widening of the M5 Southwest Motorway	2010/5665	Not Controlled Action	Completed	In buffer area only
Not controlled action (particular manner)				
Construction works on SE corner of the grounds of Admiralty House	2012/6278	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
Hyde Park Barracks Proposed New Passenger Lift	2017/7933	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
INDIGO Marine Cable Route Survey (INDIGO)	2017/7996	Not Controlled Action (Particular Manner)	Post-Approval	In feature area
Kingsford Defence Land Subdivision and Redevelopment	2002/852	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
Moriah Primary School, Centennial Park, Sydney	2004/1676	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
Rhodes 132/11 kV Zone Substation	2010/5779	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
Site 68, Sydney Olympic Park mixed development, Homebush, NSW	2015/7445	Not Controlled Action (Particular	Post-Approval	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action (particular manner)		Manner)		
Transport of intermediate level radioactive waste to Lucas Heights, NSW	2015/7437	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
Transport of OPAL Spent Fuel to France in 2018 and 2025	2016/7841	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
Referral decision				
Breeding program for Grey Nurse Sharks	2007/3245	Referral Decision	Completed	In buffer area only
Construction, operation and maintenance of a new zone substation	2011/5897	Referral Decision	Completed	In buffer area only
Relocation of Grey-Headed Flying-Fox Colony	2008/4568	Referral Decision	Completed	In buffer area only
Summer Hill Flour Mills Residential & Commercial development	2011/5859	Referral Decision	Completed	In feature area

Biologically Important Areas		[Resource Information]		
Scientific Name		Behaviour	Presence	Buffer Status
Dolphins				
Tursiops aduncus				
Indo-Pacific/Spotted Bottlenose Dolphin [68418]		Breeding	Likely to occur	In buffer area only
Sharks				
Carcharias taurus				
Grey Nurse Shark [64469]		Foraging	Known to occur	In buffer area only

Bioregional Assessments		[Resource Information]		
SubRegion	BioRegion	Website	Buffer Status	
Sydney	Sydney Basin	BA website	In feature area	

Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data is available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance on the contents of this report.

3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions when time permits.

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded breeding sites; and
- seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [-Office of Environment and Heritage, New South Wales](#)
- [-Department of Environment and Primary Industries, Victoria](#)
- [-Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [-Department of Environment, Water and Natural Resources, South Australia](#)
- [-Department of Land and Resource Management, Northern Territory](#)
- [-Department of Environmental and Heritage Protection, Queensland](#)
- [-Department of Parks and Wildlife, Western Australia](#)
- [-Environment and Planning Directorate, ACT](#)
- [-Birdlife Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- [-Natural history museums of Australia](#)
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-South Australian Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence](#)
- [Forestry Corporation, NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- [-Australian Tropical Herbarium, Cairns](#)
- [-eBird Australia](#)
- [-Australian Government – Australian Antarctic Data Centre](#)
- [-Museum and Art Gallery of the Northern Territory](#)
- [-Australian Government National Environmental Science Program](#)
- [-Australian Institute of Marine Science](#)
- [-Reef Life Survey Australia](#)
- [-American Museum of Natural History](#)
- [-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [-Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- [-Other groups and individuals](#)

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact us](#) page.

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Appendix D BioNet Search Results

Kingdom	Class	Family	Species Code	Scientific Name	Common Name	NSW status	Commonwealth Status	Record
Animalia	Amphibia	Hylidae	3166	<i>Litoria aurea</i>	Green and Golden Bell Frog	E1,P	V	632
Animalia	Reptilia	Cheloniidae	2004	<i>Caretta caretta</i>	Loggerhead Turtle	E1,P	E	4
Animalia	Reptilia	Elapidae	2675	<i>Hoplocephalus bitorquatus</i>	Pale-headed Snake	V,P		1
Animalia	Aves	Columbidae	0023	<i>Ptilinopus superbus</i>	Superb Fruit-Dove	V,P		6
Animalia	Aves	Apodidae	0334	<i>Hirundapus caudacutus</i>	White-throated Needletail	V,P	V,C,J,K	3
Animalia	Aves	Diomedidae	0086	<i>Diomedea exulans</i>	Wandering Albatross	E1,P	V	1
Animalia	Aves	Ardeidae	0197	<i>Botaurus poiciloptilus</i>	Australasian Bittern	E1,P	E	1
Animalia	Aves	Accipitridae	0226	<i>Haliaeetus leucogaster</i>	White-bellied Sea-Eagle	V,P		19
Animalia	Aves	Accipitridae	0225	<i>Hieraaetus morphnoides</i>	Little Eagle	V,P		1
Animalia	Aves	Accipitridae	0230	<i>^Lophoictinia isura</i>	Square-tailed Kite	V,P,3		1
Animalia	Aves	Burhinidae	0174	<i>Burhinus grallarius</i>	Bush Stone-curlew	E1,P		4
Animalia	Aves	Haematopodidae	0130	<i>Haematopus longirostris</i>	Pied Oystercatcher	E1,P		3
Animalia	Aves	Scolopacidae	0161	<i>Calidris ferruginea</i>	Curlew Sandpiper	E4A,P	CE,C,J,K	21
Animalia	Aves	Scolopacidae	0168	<i>Gallinago hardwickii</i>	Latham's Snipe	V,P	V,J,K	9
Animalia	Aves	Scolopacidae	0160	<i>Xenus cinereus</i>	Terek Sandpiper	V,P	V,C,J,K	1
Animalia	Aves	Laridae	0117	<i>Sternula albifrons</i>	Little Tern	E1,P	C,J,K	2
Animalia	Aves	Psittacidae	0309	<i>Lathamus discolor</i>	Swift Parrot	E1,P	CE	2
Animalia	Aves	Psittacidae	0302	<i>^Neophema pulchella</i>	Turquoise Parrot	V,P,3		1
Animalia	Aves	Strigidae	0248	<i>^Ninox strenua</i>	Powerful Owl	V,P,3		32
Animalia	Aves	Tytonidae	0250	<i>^Tyto novaehollandiae</i>	Masked Owl	V,P,3		1
Animalia	Aves	Meliphagidae	0603	<i>^Anthochaera phrygia</i>	Regent Honeyeater	E4A,P,2	CE	1
Animalia	Aves	Meliphagidae	0598	<i>Grantiella picta</i>	Painted Honeyeater	V,P	V	1
Animalia	Aves	Artamidae	8519	<i>Artamus cyanopterus cyanopterus</i>	Dusky Woodswallow	V,P		4
Animalia	Aves	Petroicidae	0380	<i>Petroica boodang</i>	Scarlet Robin	V,P		2

Kingdom	Class	Family	Species Code	Scientific Name	Common Name	NSW status	Commonwealth Status	Record
Animalia	Aves	Petroicidae	0382	<i>Petroica phoenicea</i>	Flame Robin	V,P		1
Animalia	Aves	Estrildidae	0652	<i>Stagonopleura guttata</i>	Diamond Firetail	V,P	V	1
Animalia	Mammalia	Dasyuridae	1008	<i>Dasyurus maculatus</i>	Spotted-tailed Quoll	V,P	E	1
Animalia	Mammalia	Phascolarctidae	1162	<i>Phascolarctos cinereus</i>	Koala	E1,P	E	6
Animalia	Mammalia	Pteropodidae	1280	<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	V,P	V	1615
Animalia	Mammalia	Emballonuridae	1321	<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheath-tail-bat	V,P		9
Animalia	Mammalia	Molossidae	1329	<i>Micronomus norfolkensis</i>	Eastern Coastal Free-tailed Bat	V,P		11
Animalia	Mammalia	Vespertilionidae	1353	<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat	E1,P	E	1
Animalia	Mammalia	Vespertilionidae	1372	<i>Falsistrellus tasmaniensis</i>	Eastern False Pipistrelle	V,P		5
Animalia	Mammalia	Vespertilionidae	1357	<i>Myotis macropus</i>	Southern Myotis	V,P		12
Animalia	Mammalia	Miniopteridae	1346	<i>Miniopterus australis</i>	Little Bent-winged Bat	V,P		13
Animalia	Mammalia	Miniopteridae	3330	<i>Miniopterus orianae oceanensis</i>	Large Bent-winged Bat	V,P		65
Animalia	Mammalia	Muridae	1466	<i>Pseudomys gracilicaudatus</i>	Eastern Chestnut Mouse	V,P		1
Animalia	Mammalia	Otariidae	1882	<i>Arctocephalus pusillus doriferus</i>	Australian Fur-seal	V,P		1
Animalia	Insecta	Petaluridae	I007	<i>Petalura gigantea</i>	Giant Dragonfly	E1		1

