25 Synthesis of the Environmental Impact Statement

25.1 Introduction

This chapter provides a synthesis of the findings of this EIS.

25.1.1 Secretary's environmental assessment requirements

Table 25-1 sets out the SEARs relating to a synthesis of the EIS and where these requirements have been addressed in this chapter.

Table 25-1 Project synthesis SEARs

Secretary's environmental assessment requirements	Where addressed in this EIS
Environmental Impact Statement	
The EIS must include but not necessarily be limited to the following: (p) a chapter that synthesises the environmental impact assessment and provides:	
• a succinct but full description of the Project for which approval is sought;	**Section 25.2**
• a description of any uncertainties that still exist around design, construction methodologies and/or operational methodologies and how these will be resolved in the next stages of the Project;	**Section 25.3**
• a compilation of the impacts that have not been avoided;	**Section 25.4**
• a compilation of the proposed measures associated with each impact to avoid, minimise (through design refinements or ongoing management during construction and operation) or offset these impacts;	**Section 25.5** and **Section 25.6**
• a compilation of the outcome(s) the proponent commits to achieving; and	**Section 25.7**
• the reasons justifying carrying out the Project as proposed, having regard to the biophysical, economic and social considerations, including ecologically sustainable development and cumulative impacts.	**Section 25.8** and **Section 25.9**

25.2 Description of the Project for which approval is sought

This section provides a description of the Project for which approval is sought under Section 5.14 of the EP&A Act (refer **Chapter 3** of this EIS for further information on the planning and approval process).

25.2.1 Project features

The Project involves the construction of a pedestrian concourse to the south of the existing Lawson Street concourse providing both lift and stair access to Platforms 1-10. The new pedestrian concourse would provide a new connection across the railway corridor, extending between Little Eveleigh Street and Marian Street in the suburbs of Redfern and Eveleigh and include associated interchange upgrades.

The Project is proposed to be undertaken within the Project area shown in Figure 5-1 of **Chapter 5** of the EIS. The key Project features are shown on Figure 5-2 in **Section 5** of the EIS and include the following:

- a six metre wide concourse between Little Eveleigh Street and Marian Street
- new stair and lift access from the concourse to Platforms 1 to 10
- an upgraded station entrance at Marian Street including station services and customer amenities

- a new station entrance at Little Eveleigh Street including station services and customer amenities, requiring the permanent use of 125-127 Little Eveleigh Street (owned by the NSW Government)
- formalisation of a shared zone on Little Eveleigh Street, including:
  - safety improvements to vehicle, cyclist and pedestrian interactions
  - improvements to streetscape such as landscaping, lighting, drainage and pavements
  - relocation of around 20 parking spaces (including 18 resident/restricted parking spaces, one accessible parking space and one car share scheme parking space)
  - utility adjustments
  - bicycle parking spaces
  - heritage interpretation and/or art.
- upgrade of Marian Street/Cornwallis Street/Rosehill Street area, including:
  - extension of existing shared zone including part of Rosehill Street
  - safety improvements to vehicle, cyclist and pedestrian interactions including footpath widening
  - improvements to streetscape such as lighting, drainage, landscaping and pavements as well as utility adjustments
  - changes to street parking arrangements including removal of around 16 parking spaces (including relocation of one car share scheme parking space)
  - bicycle parking spaces
  - changes to street parking arrangements including removal of approximately 16 parking spaces (including relocation of one car share scheme parking space)
  - services building
  - heritage interpretation and/or public art
- operation of the Project.

Other components of the Project include:

- relocation of the shuttle bus zone from Little Eveleigh Street to Lawson Street
- kiss and ride on Lawson Street, and associated footpath upgrade
- kiss and ride on Gibbons Street, and associated footpath upgrade
- footpath widening on Ivy Street
- relocation of a building on Platform 1 to accommodate the concourse
- repurposing, relocation and alteration to platform building features and other platform features, including privacy walls, doors, screens and roofing, platform seats and electrical equipment
- addition of platform canopies
- platform resurfacing on all platforms and associated drainage alterations
- installation of station operational components and infrastructure including:
  - wayfinding and signage
  - tactile ground surface indicators (TGSI)
  - rubbish bins
  - CCTV
  - passenger information system (e.g. passenger information display, public address and hearing loops)

  - emergency equipment (e.g. for fire and life safety)
  - service relocations and upgrades including:
  - relocation of overhead wiring structures
- installation of a new rail signal between Platforms 1 and 2
- removal and trimming of trees.

25.2.2 Construction

Construction of the Project would commence once all necessary approvals (as relevant) are obtained (anticipated to be in late 2020/early 2021) and continue for around 18 months.

Construction of the Project would broadly involve the following key stages:

1. site establishment and enabling works
2. building modification works
3. overhead wiring relocations/adjustments
4. main construction works, including platform preparation works, installation of the concourse and station entrances
5. Little Eveleigh Street/Ivy Street, Marian Street/Cornwallis Street/Rosehill Street, Lawson Street and Gibbons Street road works.

Construction would be undertaken within standard construction hours (i.e. Monday to Friday 7:00 am to 6:00 pm; Saturday 8:00 am to 1:00 pm; and no work on Sundays or public holidays). Work outside of the above hours (including 24 hours per day in some cases) is also proposed in some instances for the safety of workers and to minimise disruptions to customers, pedestrians and motorists. Some of the works would also need to be undertaken during rail possession periods (when trains are not running) to minimise disruption to rail operations and risk to rail worker safety. Examples of works that would be required in possessions and may occur inside or outside standard construction hours include overhead wiring works, provision of cabling for required services, concourse and lift installation and some work on platforms.

It is anticipated that the works would be undertaken over around 20 scheduled rail possession periods with continual work from Friday to Sunday night/Monday morning. Approximately two additional non-scheduled rail possession periods are proposed including a possession across the 2020 Christmas period. There is also the potential for mid-week night work to be required throughout various stages of the Project depending on the activity required.

Construction would include three construction ancillary facility areas, which are shown in Figure 5-4 and included within the Project area depicted in Figure 5-1 of **Chapter 5** of the EIS. The construction ancillary facilities are:

Construction ancillary facility 1

The Eveleigh Maintenance Centre would be utilised as site offices, a waste storage facility, designated stockpile area (outside flood extents), designated area for fabrication activities and an administration centre for the Project. This would include the establishment of several site sheds, car parking facilities and stockpile area.

Construction ancillary facility 2

This area is currently owned by Sydney Trains and would be partially utilised as a construction laydown area and temporary waste storage facility. This laydown area would be accessed from either Carriageworks Way or Little Eveleigh Street and would provide construction parking facilities and rail corridor access. It is anticipated that some components of the concourse would be assembled here prior to installation within the rail corridor.

Construction ancillary facility 3

Part of Gibbons Street Reserve would be used as a laydown area for construction equipment and infrastructure, a temporary waste storage facility and a designated area for fabrication activities. The

facility would be accessed from Gibbons Street. Due to the existing slope of the reserve, it may be necessary to temporarily level part of the Reserve to provide a safe work area. This temporary levelling works would require approximately 200 tonnes of spoil to be removed.

Following completion of works at Redfern Station, the Gibbons Street Reserve would be returned to passive recreational use for the community in consultation with City of Sydney Council.

The existing Sydney Trains car park on Marian Street would be utilised for a site office compound and an administration centre for the Project. This would include the erection of several site sheds and car parking facilities. The Project would also utilise a storage area underneath the existing car park on Marian Street for site facilities and the storage of construction equipment and materials.

Temporary hoarding

Erection of site hoarding and fencing would be required to provide temporary enclosure of work sites and work areas to safely separate the public from the construction works and to facilitate the delivery of plant and materials. Hoarding/fencing would be required in areas of heavy pedestrian usage such as along Gibbons Street, Marian Street and Little Eveleigh Street, including the temporary closure and/or diversion of pedestrian thoroughfares as well as management of pedestrians around work sites and past work site access points. Hoarding/fencing may also be erected to protect buildings or structures and to provide protection from dust, debris and noise generated during construction.

Construction of the Project would require the temporary use of land owned by NSW Government and City of Sydney Council.

25.2.3 Operation

Following construction of the Project, Redfern Station would continue to operate as a major transportation hub with trains arriving and departing throughout the day and night. Key operational components of the Project directly related to customer experience include the following elements:

- covered concourse
- six lifts and stairways providing access to Platforms 1-10
- family accessible toilet and public toilets
- passenger information systems
- kiss and rides
- Opal card readers and top up machines
- bicycle spaces
- Little Eveleigh Street station entrance
- Marian Street station entrance
- formalisation of a shared zone along Little Eveleigh Street, and extension of the shared zone at Marian Street.

Once commissioned, the proposed services building at the Marian Street station entrance would become an integral part of the Station where most of the electrical, mechanical and communications, and wastewater management infrastructure would be controlled and managed. Periodic maintenance including inspections and repairs would take place inside and outside of the building to ensure continuous operation of the Station. The services building would also house cleaning and storage areas for station staff.

During operation, ongoing maintenance would be required for key operational components of the Station. This would be undertaken by Sydney Trains in line with standard maintenance policies. These standard policies would also include incident and emergency management procedures.

25.3 Project uncertainties and approach to design refinements

25.3.1 Project uncertainties

The Project design and construction methodology would continue to evolve through detailed design. A construction contractor for the Project has been engaged by TfNSW, which has assisted in reducing uncertainties for the Project during the preparation of the EIS. However, some uncertainties still remain given that the Project is yet to progress to the detailed design and detailed construction planning phases. In addition, future/ongoing community and stakeholder engagement for the Project would likely identify further opportunities to refine and improve the Project design and construction methodology.

To achieve a level of flexibility without compromising the level of impact assessment, the approach adopted for the purposes of the EIS has been to assess a 'realistic worst case' impact for particular Project elements where there is a reasonable potential for design refinements/changes to occur.

A summary of the Project uncertainties that have the potential to impact on the environment, and how these would be resolved, is provided in **Table 25-2**.

Table 25-2 Project uncertainties

Category of impact	Uncertainty	How the uncertainty will be resolved
Transport, traffic and access	Possession strategy	A number of possession options are being considered for use during construction. The preferred possession option would be developed taking into consideration the final design, and construction planning undertaken by the construction contractor.
Construction noise	Construction methodology	The construction stages and equipment described in the EIS would be confirmed by the construction contractor during detailed construction planning and prior to construction commencing, and further assessment would be undertaken if required.
Noise mitigation	Final noise mitigation requirements	Feasible and reasonable mitigation measures would continue to be considered and developed for the Project during detailed design.
Biodiversity	Extent of tree clearing (removal and trimming), and the specific species and location of vegetation offsets	The extent of tree removal and trimming required during construction is to be confirmed during detailed design. An arborist would be engaged to inform this process. Vegetation offsets and/or landscaping would be undertaken in accordance with the *Vegetation Offset Guide* (TfNSW, 2019b). As per the *Vegetation Offset Guide,* all native vegetation cleared would be offset with replacement tree planting.
Non-Aboriginal heritage	Type/nature of artwork/heritage interpretation	The type/nature of the heritage interpretation/artwork to be installed would be confirmed during detailed design.
Aboriginal heritage	Type/nature of artwork/heritage interpretation	The type/nature of the heritage interpretation/artwork to be installed would be confirmed during detailed design.

Category of impact	Uncertainty	How the uncertainty will be resolved
Waste and resources	Final quantities and classifications of waste streams	The Project would be designed, constructed and operated to achieve the following performance outcomes: • waste from the Project is classified in accordance with the NSW *Waste Classification Guidelines 2014* (NSW EPA, 2014a) • waste types are reviewed against appropriate guidelines to manage waste appropriately • where possible excavated soils suitable for reuse are utilised within the Project area • contaminated and asbestos contaminated wastes are safely managed in accordance with stated protocols.
Construction noise/ soils and contamination/ heritage/hydrology and water quality/air quality/waste and resources	Locations and extent of relocations, protections and adjustments to utilities	Utility investigations are ongoing and will be completed during detailed design, to validate current assessments, and confirm relocation/protection requirements. To minimise potential impacts to utilities and the community, utilities would be managed in accordance with the CEMF (**Appendix D**).
Construction noise/traffic, transport and access/visual/non-Aboriginal heritage	Location of ancillary facilities	The final arrangement and locations of ancillary facilities and site office compound may be subject to refinement as part of the confirmation of the construction methodology. The impacts of any such refinements would be subject to further assessment as part of the planning approvals process.
Traffic, transport and access/construction and operational noise/social	Location of permanent car park	The location of the new car park is within the Redfern North Eveleigh precinct. Planning for the urban renewal of this precinct is underway, and the car park location may therefore be an interim measure. In the event that the car park would be affected by this process, any proposed reconfiguration or relocation of the offset parking arrangements would be undertaken in consultation with relevant stakeholders, and in a manner which ensures that the principle of offset parking is provided in perpetuity, and remains within reasonable walking distance of Little Eveleigh Street.

25.3.2 Approach to design refinements

The design as described in the EIS would be subject to ongoing refinements during the detailed design phase. Refinements may be made to:

- avoid services that present significant construction difficulties in terms of logistics, time and/or cost

- reduce the construction timeframe
- avoid areas of environmental or heritage sensitivity identified following approval
- reduce impacts on the community
- improve operation without increasing the potential environmental impacts.

Such refinements may include, for example:

- changes to the location or extent of construction ancillary facilities
- minor refinement or reorientation of the Project area boundaries
- minor changes to the features of key Project components
- utility relocations outside the existing Project area.

For design refinements, a screening assessment would be undertaken to consider whether the refinement would:

- result in any of the conditions of approval not being met
- be consistent with the objectives and operation of the Project as described in the EIS
- result in a significant change to the approved Project description
- result in any potential environmental or social impacts of a greater scale or impact on previously unaffected receivers than that considered by the EIS.

If any refinements, post approval, are not consistent with the approval issued by the Minister for Planning and Public Spaces, and constitute a modification, an approval would be sought from the Minister for any such modifications in accordance with the requirements of Part 5 Division 5.2 of the EP&A Act.

25.4 Compilation of adverse residual impacts

25.4.1 Impacts that have not been avoided

Chapter 8 to **Chapter 23** of this EIS provide an assessment of the potential impacts of the Project during construction and operation. These would be addressed through the implementation of the mitigation and management measures described throughout the EIS and summarised in **Section 25.6**. These measures relate to performance outcomes which have also been developed for the Project (refer **Section 25.7**). Residual impacts are those impacts identified for either construction or operation that would remain post-implementation of these measures. The key potential adverse residual impacts following the implementation of mitigation and management measures are summarised in **Table 25-3**. The operational residual benefits (positive impacts) of the Project are summarised in **Section 25.8.2**.

The residual impacts would continue to be considered through the development of adaptive managements plans in line with the CEMF. Implementation of the mitigation and management measures proposed would lessen the degree of some of the residual impacts, however other impacts (such as loss of existing parking spaces and commuter noise) would represent a permanent change. Achievement of the performance outcomes would also assist in managing the residual impacts identified. The environmental management approach for the Project is described in **Section 25.5**.

Table 25-3 Summary of key potential residual impacts

Issue	Key potential adverse residual impacts
Landscape character and visual impact	• visual impacts as a result of the presence of construction works, equipment, vehicles and plant, and disturbance.

Issue	Key potential adverse residual impacts
Land use and property	• relocation of the offices of the existing tenant of 125-127 Little Eveleigh Street prior to construction • some areas of land would need to be temporarily occupied for construction compounds and other work sites during construction (including Gibbons Street Reserve).
Social	• access and connectivity surrounding Redfern Station resulting in impediments to vulnerable community members and changes to businesses passing trade • amenity impacts associated with construction activities at and immediately surrounding Redfern Station • heritage and character impacts during construction • amenity impacts to residents on Little Eveleigh Street and Marian Street during operation.
Traffic, transport and access	• cumulative impacts with surrounding projects on the existing pedestrian, cycle, public transport and surrounding road networks during construction • operational residual impacts including: - the relocation of 20 car parking spaces from Little Eveleigh Street to a new car parking area - the loss of about 16 car parking spaces (as a result of the Marian Street/Cornwallis Street/Rosehill Street shared zone upgrade) - relocation of the existing shuttle bus zone on Little Eveleigh Street to Lawson Street (within an existing restricted parking area) - the loss of about three car parking spaces on Lawson Street, and the loss of about three car parking spaces on Gibbons Street (as a result of the new kiss and rides and bus zone relocation) - formalisation of a shared zone on Little Eveleigh Street and upgrade to the shared zone on Marian Street/Cornwallis Street/Rosehill Street, including an associated reduction in the speed limit of the shared zones to 10 kilometres per hour, and potentially higher pedestrian/cyclist interactions - permanent use of 125-127 Little Eveleigh Street for the new station entrance.
Noise and vibration	• exceedances of construction noise criteria after the application of standard noise reducing mitigation measures • cumulative noise impacts from concurrent construction stages of the Project, and potentially from other projects in the surrounding area resulting in an increase in the overall noise level by up to 3dB(A) • noise associated with the commuter use of the new station entrances and surrounding shared zones would be noticeable to the closest residential receivers, however, is unlikely to be considered 'offensive' as defined in the *Protection of the Environment Operations Act 1997*. The Project would investigate further opportunities to minimise noise impacts to residents through the ongoing design development of the Little Eveleigh Street and Marian Street shared zones, as described in **Chapter 13** of this EIS.

Issue	Key potential adverse residual impacts
Non-Aboriginal heritage	• the Project would have a major adverse impact to the aesthetic significance of Redfern Station Railway Group • the Project would result in Moderate adverse impacts to the historic, and rarity values of the Redfern Station Railway Group as a result of the relocation of Platform 1 Office Building • the Project would have a minor adverse impact on both the aesthetic and technical values of the Eveleigh Railway Workshops • the proposed works to 125-127 Little Eveleigh Street have the potential for minor adverse impact on the Darlington Heritage Conservation Area.
Biodiversity	• removal of trees during construction, which would subsequently be offset in accordance with TfNSW's *Vegetation Offset Guide,* however not necessarily within the same locations as those removed.

25.5 Approach to environmental management

25.5.1 Environmental management during construction

As outlined in **Chapter 24** of this EIS, the approach to environmental management during construction involves implementation of the Construction Environmental Management Framework (CEMF) and Construction Noise and Vibration Strategy (CNVS), together with a suite of mitigation measures for each environmental aspect assessed. Importantly mitigation is focussed on delivery of a range of performance outcomes for the Project, set out in **Section 25.7**, which are designed to drive a high level of environmental management during construction.

A Construction Environmental Management Plan (CEMP) would be developed for the Project in accordance with the CEMF and CNVS. The CEMP would contain the performance outcomes and associated mitigation measures for the Project.

Construction Environmental Management Framework

The CEMF is the primary document that will drive the environmental management approach during construction (**Appendix D** of this EIS). The CEMF provides a whole-of-construction life-cycle approach to construction environmental management and includes a range of commitments including the preparation of specific environmental management plans and sub-plans. The early engagement of a construction contractor has enabled TfNSW to prepare the CEMF tailored to the construction contractors systems.

The CEMF identifies the environmental, stakeholder, and community management systems and processes that would be applied during each stage of construction. Specifically, it lists the requirements to be addressed in developing the CEMP, sub-plans, and other supporting documentation for each specific environmental aspect. The CEMF also identifies protocols for approvals, environmental monitoring, inspections, auditing, reporting and review.

Construction Noise and Vibration Strategy

The CNVS (provided in **Appendix E**) defines how construction noise and vibration would be managed for the Project. The strategy identifies the requirements and methodology to develop construction noise impact statements. These would be prepared prior to specific construction activities, based on a more detailed understanding of construction methods, including the size and type of construction equipment.

25.5.2 Environmental management during operation

During operation, the Project would be operated in accordance with Sydney Trains Safety and Environmental Management System. Ongoing maintenance would be required for key operational components, which would be undertaken by Sydney Trains in line with standard maintenance policies under their Safety and Environmental Management System. These standard policies include incident and emergency management procedures.

25.6 Compilation of mitigation and management measures

Table 25-4 provides a compilation of the measures proposed to mitigate and manage the potential impacts of the Project, as provided in Chapters 8 to 23 of this EIS. The measures described in the chapters and compiled in this table were developed based on the findings of all the assessments undertaken for the EIS.

The mitigation measures compiled in **Table 25-4**, together with the approach to environmental management described in **Section 25.5**, provide TfNSW's commitments for the Project. The mitigation measures may be revised in response to submissions raised during public exhibition and/or design changes made following exhibition. The final list of mitigation measures would be provided in the submissions/preferred infrastructure report. If the Project is approved, the conditions of approval, which would include reference to the final mitigation measures, would guide subsequent phases of the Project. The Project would be undertaken in accordance with the conditions of approval and the final list of mitigation measures.

Table 25-4 Compilation of Project specific mitigation and management measures

ID	Management and mitigation measures	Applicable location (s)
Urban design		
Construction		
UD1	Tree retention and planting would continue to be a key priority in informing design decisions throughout detailed design.	Project area
Operation		
UD2	A maintenance plan would be prepared in consultation with City of Sydney and TfNSW outlining the maintenance responsibilities of each entity with a particular focus on the transition areas between the public domain and the Station.	Project area
Landscape and visual		
Construction		
LV1	Provide well-presented and maintained construction hoarding and site fencing with shade cloth (or similar material) (where necessary) to minimise visual impacts on key viewpoints during construction. The construction ancillary facilities would be designed to limit or deter graffiti. Hoardings, site and acoustic fencing would be removed following construction completion.	Project area
LV2	Provide cut-off or directed lighting within the construction areas, with lighting location and direction considered to ensure glare and light spill is minimised.	Project area
LV3	Construction personnel to keep the construction areas clean and tidy, including refuse placed in appropriate waste bins.	Project area
LV4	Implement measures to minimise tracking of dirt and mud into public roads and other public spaces.	Project area
LV5	Limit disturbance of vegetation to the minimum amount necessary to construct the Project, particularly within the streetscapes affected by the Project.	Project area
LV6	Consider measures to limit or deter graffiti within ancillary facilities.	Ancillary facilities
Operation		
LV7	Community artwork opportunities would be investigated in keeping with existing cultural artwork in Redfern surrounding the station.	Pedestrian concourse
LV8	Street trees would be planted on Little Eveleigh Street and Marian Street at the new station entrances. Tall shrub plantings would also be	Little Eveleigh

ID	Management and mitigation measures	Applicable location (s)
	considered along the rail corridor boundary at Marian Street to assist in preserving privacy of residents within the Watertower residential building.	Street and Marian Street
LV9	Lighting would be designed to minimise upward spread of light, and to minimise light spill and glare.	Project area
LV10	Proposed structures/fencing would be designed to limit or deter graffiti.	Project area
LV11	The ongoing maintenance and repair of the concourse and station entrances would be in accordance with Sydney Trains maintenance requirements.	Project area
Land use and property		
Construction		
LP1	Temporary use areas, including public open space at the Gibbons Street Reserve, would be restored to their pre-existing condition (as a minimum) as soon as practicable following completion of construction. This would be undertaken in consultation with Council and/or the landowner.	Project area
Social		
Construction		
SE1	Implementation of the Project's Community Liaison Management Plan including engagement with residents on both Little Eveleigh Street and Marian Street, City of Sydney Council, NSW Police and other stakeholders.	Study area
SE2	Construction ancillary facilities within private and public reserves and parks would be planned to minimise impacts on existing recreational and sporting infrastructure, with construction laydown areas located in areas of open space, where possible. Establishment and use of the laydown areas would consider public safety and maintaining safe access to recreational areas. Private and public reserves and parks proposed for the construction laydown areas would be returned to their original or improved condition following construction (or as otherwise agreed with the relevant authority). Public access to areas of reserves and parks not utilised for construction laydown areas would be maintained throughout construction.	Ancillary facilities
SE3	TfNSW would investigate opportunities to source construction workers from the local community.	Study area
SE4	Access to properties including businesses would be maintained throughout the Project. Temporary measures such as traffic control would need to be implemented to enable this to occur.	Study area
SE5	Construction activities undertaken in proximity to businesses would maintain visibility of business frontage, associated signage and access points, where possible. Temporary signage would be provided in the vicinity of a business if construction works obstruct views to the business. Business impacts resulting from changes to amenity or access would be managed in line with mitigation measures identified for other relevant environmental issues.	Study area

ID	Management and mitigation measures	Applicable location (s)
SE6	Engagement with the local Aboriginal community is ongoing and would continue throughout the Project. Key focus areas for Aboriginal engagement on this Project include: • Project design • heritage interpretation and/or community art opportunities • employment and procurement opportunities.	Study area
Operation		
SE7	During detailed design, the Project would investigate opportunities to encourage the community to use the concourse as a connectivity link. This may include elements such as wayfinding signage to assist customers in identifying exits that help them get to their destination efficiently and signage to inform users that an Opal card or contactless payments (e.g. American Express, Mastercard or Visa debit or credit card), is required to access the concourse, however, once tapped off on the other side, charges would be reversed (i.e. no charge). A customer education campaign would be enacted to inform the community of the process and encourage use of the concourse.	Little Eveleigh Street and Marian Street entrances
SE8	During detailed design, the Project would investigate opportunities to augment the community's sense of place and connection to the community's history through elements associated with heritage interpretation works such as installing historical plaques/signage and public art.	All
SE9	The Project would investigate further opportunities during detailed design to encourage social interaction and reduce opportunistic crime and discourage antisocial behaviour, particularly at Little Eveleigh Street, in accordance with the principles of CPTED and in consultation with NSW Police and the City of Sydney.	All, in particular at Little Eveleigh Street
SE10	Upon opening of the Project, TfNSW would undertake a review of the operation of the shared zones, in consultation with residents and relevant stakeholders, including consideration of any additional mitigation that may be required.	Little Eveleigh Street and Marian Street
Traffic, transport and access		
Construction		
T1	Relocation of bus stops would be carried out by TfNSW in consultation with the City of Sydney, Royal Prince Alfred Hospital, bus operators and other relevant authorities. Wayfinding and customer information would be provided to notify customers of relocated bus stops.	Little Eveleigh Street and Lawson Street
T2	The new offset parking facilities on Little Eveleigh Street would be constructed prior to the removal of parking, to accommodate parking spaces displaced to facilitate construction activities	Little Eveleigh Street
T3	Road Safety Audits would be carried out to address vehicular access and egress, and pedestrian, cyclist and public transport safety. Road Occupancy Licenses (or equivalent) for temporary road/lane closures would be obtained where required. The audit location would be outlined in the Construction Traffic Management Sub-Plan.	The Project area
T4	Appropriate signage and line marking would be provided to guide pedestrians and cyclists past construction sites and on the surrounding network to allow access to be maintained.	The Project area

ID	Management and mitigation measures	Applicable location (s)
	Appropriate access measures would further be developed to guide customers with access requirements for disability, including wheelchair users and people with a visual impairment.	
T5	Community consultation would be carried out and notifications would be issued in advance for any proposed road and pedestrian network changes through appropriate channels and forms of communication.	The Project area
T6	Access to existing properties and buildings would be maintained, where possible, in consultation with property and business owners.	The Project area
T7	Construction sites would be managed to minimise construction worker parking on surrounding streets. Workers would be encouraged to use public or active transport and ride share with the implementation of a Green Travel Plan initiative. A workers' reward scheme would be implemented for those who adhere to the initiative.	The Project area
T8	Construction site traffic would be managed to minimise traffic impacts during the peak periods through scheduling construction vehicle movements outside the peak hours. Where possible, group deliveries would be restricted.	The Project area
Operation		
T9	Enhancement of pedestrian and cycle infrastructure at the Station would be further investigated in consultation with relevant authorities, including TfNSW and the City of Sydney.	The Project area
T10	Carry out pre-parking surveys and post-parking surveys and provide the data to City of Sydney. The surveys are to demonstrate that pressures on parking within the Project area and surrounds are managed in accordance with predicted future supply and demand.	The Project area
Noise and vibration		
Construction		
N1	A Construction Noise and Vibration Management Sub-Plan (CNVMP) would be prepared as part of the CEMP. The CNVMP would include all feasible and reasonable safeguards to manage noise emissions from the Project. The CNVMP would include, as a minimum, the following: • identification of nearby residences and other sensitive land uses • description of approved hours of work and an Out of Hours Protocol • description and identification of all construction activities, including work areas, equipment and duration (and provision for re-assessment of noise and vibration impacts if required due to changes) • description of the work practices (generic and specific) that would be applied to minimise noise and vibration • works scheduling to minimise the noise impact on sensitive receivers, with consideration given to cumulative noise impacts (and provision for re-assessment of noise and vibration impacts if required due to changes to work stages or other surrounding projects) • a complaints handling process • noise and vibration monitoring procedures, including for heritage-listed items/structures • overview of community consultation required for identified noise intensive works. The CNVMP and CEMP must be updated as required to account for any changes in noise and vibration management issues and strategies, to ensure these documents remain adequate for their purposes.	All

ID	Management and mitigation measures	Applicable location (s)
N2	All employees, contractors and subcontractors would receive an environmental induction. As a minimum the induction must include: • all relevant Project specific and standard noise and vibration mitigation measures • relevant licence and approval conditions • permissible hours of work • any limitations on noise generating activities with special audible characteristics (noise with characteristics that can cause annoyance and disturbance, containing noticeable factors such as tonality, low frequency noise, impulsive or intermittent noise events) • location of nearest sensitive receivers • construction employee parking areas • designated loading/unloading areas and procedures • site opening/closing times (including deliveries) • environmental incident procedures and complaint handling procedures.	All
N3	All nearby residents and sensitive receivers impacted by noise levels from the Project which are expected to exceed the NML would be consulted prior to the commencement of the particular activity, with the highest consideration given to those that are predicted to be most affected as a result of the works. The information provided to the receivers will include: • programmed times and locations of construction work • the hours of proposed works • construction noise and vibration impact predictions • construction noise and vibration mitigation measures being implemented on site. Community consultation regarding construction noise and vibration would be detailed in a Community Liaison Management Plan for the construction of the Project and would include a 24 hour hotline and complaints management process.	All
N4	If vibration intensive equipment is to be used within the minimum working distances for cosmetic damage described in this EIS (**Technical report 4 – Noise and vibration**), then attended vibration measurements would be undertaken when work commences, to determine “site specific minimum working distances” and confirm appropriate vibration limits for that structure. The Construction Contractor would be informed of the minimum working distances.	All
N5	For heritage items where the screening criteria are predicted to be exceeded, the more detailed assessment would include condition assessment and specifically consider the heritage values of the structure in consultation with a heritage specialist to ensure sensitive heritage fabric is adequately monitored and managed.	Heritage items
N6	The CNVMP would be implemented with the aim of meeting the construction noise management levels where feasible and reasonable. The following mitigation measures would be included in the CNVMP: • use of at-source noise attenuation around equipment where possible • where feasible and reasonable structures such as site sheds, earth bunds and fencing shall be used to shield residential receivers from noise (e.g. including along appropriate sections of the rail corridor fence line of Little Eveleigh Street and Marian Street, and through the	All

ID	Management and mitigation measures	Applicable location (s)
	use of 1.8 m high fencing around ancillary facility 3). Site topography shall be considered when situating plant • traffic flow (i.e. vehicle movements, including deliveries), parking and loading/unloading areas would be planned to minimise reversing movements within construction sites • loading and unloading of materials/deliveries would occur as far as possible from sensitive receivers • if site access points and roads are altered during detailed design, they would be selected to be as far as possible away from sensitive receivers within rail corridor access constraints • dedicated loading/unloading areas would be shielded if close to sensitive receivers wherever feasible and reasonable • delivery vehicles would be fitted with straps rather than chains for unloading, wherever possible. • non-tonal reversing beepers would be fitted and used on all construction vehicles and mobile plant regularly used on site and for any out of hours work, including delivery vehicles • on-site storage capacity would be maximised to reduce the need for truck movements during sensitive times • the offset distance between noisy plant and adjacent sensitive receivers would be maximised • plant used intermittently would be throttled down or shut down • noise-emitting plant would be directed away from sensitive receivers where feasible and reasonable • the noise levels of plant and equipment must have operating sound power or sound pressure levels as presented in this EIS (Technical report 4 – Noise and vibration) that would meet the predicted noise levels • quieter and less vibration emitting construction methods would be used where feasible and reasonable (e.g. rubber wheeled instead of steel tracked plant) • where practicable, materials would be pre-fabricated and/or prepared off-site to reduce noise with special audible characteristics occurring on site. Materials can then be delivered to site for installation.	
N7	Work generating noise with special audible characteristics (such as jack hammers, rock breakers, piling rigs and diamond saws) and/or vibration levels would be scheduled during less sensitive time periods for receivers (for example, before 10:00 pm or as determined during community consultation) where feasible and reasonable.	All
N8	Vehicle movements would be routed away from sensitive receivers and scheduled during less sensitive times where feasible and reasonable. The speed of vehicles would be limited, and the use of engine compression brakes avoided.	All
N9	A noise and vibration monitoring program would be carried out for the duration of works in accordance with the CNVS, CNVMP and any approval and licence conditions. Monitoring of noise would be undertaken at appropriate intervals and in response to complaints during construction. In addition, vibration intensive work would not proceed within the site specific minimum working distances unless a permanent vibration monitoring system is installed approximately one metre from the building footprint, to warn operators (e.g. via flashing light, audible alarm, SMS) when vibration levels are approaching the peak particle velocity objective.	All

ID	Management and mitigation measures	Applicable location (s)
N10	In accordance with the CNVS, additional mitigation measures should be implemented according to **Table 13-22** and **Table 13-23** (and Appendix B of **Technical report 4 – Noise and vibration**) of this EIS for sensitive receivers where noise levels are predicted to exceed applicable criteria.	As per **Table 13-22** and **Table 13-23** (and Appendix B of **Technical report 4 – Noise and vibration**)
Operation		
N11	Mechanical plant selections should be reviewed during the detailed design phase to ensure compliance with the operational noise criteria detailed in this EIS (**Technical report 4 – Noise and vibration**) is achieved. Standard noise controls such as appropriate selection and placement of mechanical plant and the inclusion of attenuation measures such as duct lining/attenuators are recommended to achieve operational noise criteria.	Redfern Station
N12	Public address system selection should be reviewed during detailed design to ensure that compliance is achieved with the operational noise criteria detailed in **Section 13.2.5**.	Redfern Station
N13	The type and design of the new solid fence proposed to be constructed at the boundary of the proposed car park should be developed to optimise the level of acoustic shielding provided. Depending on the acoustic performance of the proposed fence, consideration would be given to at-receiver treatments for 157 Little Eveleigh Street such as the provision of mechanical ventilation to allow windows to be closed and/or upgraded glazing.	Car park boundary and 157 Little Eveleigh Street
N14	The Project would investigate further opportunities to minimise noise impacts to residents through the ongoing design development of the shared zones at Little Eveleigh Street and Marian Street.	Little Eveleigh Street and Marian Street shared zones
Non-Aboriginal heritage		
Construction		
NAH1	Detailed design of the Project would consider the following Heritage opportunities: • adaptation of Platform 1 Office Building including: • finding temporary use as soon as practicable • finding a permanent use for the building in consultation with the community • moving the building two metres north of the platform to ensure that access to the building for future use can be maintained • developing a landscape plan with heritage input for the area around the proposed car park that interprets the relationship with the Eveleigh Chief Mechanical Engineers Office. Further design refinement in consultation with a heritage architect of the concourse, platform canopies, stairs and lifts including: • reviewing opportunities to increase the transparency of the concourse by: - maintaining perforations in aluminium panels to be large as possible noting the limitations imposed by the ASA standard ESB 003. The proposed perforations are 25 x 25 mm. The intent	Platform 1 Office Car park Marian Street Entrance Concourse

ID	Management and mitigation measures	Applicable location (s)
	is for the perforations to increase gradually to form large openings in succession from the lower portion to the roof of the concourse. Each horizontal section should be assessed for compliance to achieve the maximum opening size i.e. greater than 25 x 25 mm. Where compliance cannot be achieved, dispensation and/or alternative solutions should be exhausted. - installing roof canopies only where necessary and detailing these to be of a slim profile. - incorporating clear glazing on the concourse as much as possible; including the proposed framed views across the rail corridors. The size of these clear glazed elements should be as large as possible - incorporating clear glazed elements into the proposed lifts and ensuring the required structures for lifts and glazing are consolidated to achieve minimal bulk and maximum transparency. • reducing the bulk and scale of the proposed concourse: - detail design should aim for steel framing and supports to be as slim as possible - the height of the concourse should be analysed during detailed design to ensure that overall structural and architectural elements are kept to a minimum profile to achieve an overall reduced height. • assessing perforated aluminium panels for reflectivity to ensure that glare is reduced • ensuring that a separation between heritage fabric and new elements is retained such as the incorporation of glazing or voids at the junction of the concourse and 125-127 Little Eveleigh Street • avoiding inserting advertising on the concourse that would reduce the transparency and disrupt views • ensuring that materiality of new elements at the Marian Street entry is in keeping with the public domain design • ensuring that the design incorporating the independent TfNSW DRP comments is presented to the TfNSW DRP for further review and comment during detailed design.	
NAH2	A heritage architect would be engaged to provide ongoing heritage and conservation advice throughout detailed design and construction and any subsequent relevant design modifications.	General
NAH3	A specialist tradesperson, well versed in working with heritage fabric, would be engaged during the construction stage of the Project.	General
NAH4	A historical record of areas modified would be prepared for future reference. Archival recording should be completed prior to the commencement of construction and at completion of construction. The following elements would be included: • identified significant views • Platform 1 Office Building and surrounding area • Platform 4/5, 6/7 and 8/9 buildings • retaining walls on Platform 1 and 10 • examples of various platform facings • 125-127 Little Eveleigh Street • Little Eveleigh Street streetscape.	General

ID	Management and mitigation measures	Applicable location (s)
NAH5	A Heritage Management Sub-Plan would be included in the CEMP. This would include the following measures: • protecting heritage items from adjacent construction works by: - prioritising protection of heritage elements as part of the early works - monitoring impacts from noise and vibration. If maximum vibration levels are exceeded, or are predicted to exceed applicable standards, consider alternative construction methods to minimise damage to heritage elements • undertaking a dilapidation survey of the area adjacent to the Chief Mechanical Engineers Office Building driveway prior to carrying out the works associated with the new car park and upon completion making good all affected areas • compiling a program of salvageable heritage fabric and a reuse plan, approved by the heritage architect prior to commencing works • avoiding potential damage to heritage items from negligence during construction by implementing a heritage induction to all on-site staff and contractors. The induction should clearly describe the heritage constraints of the site.	General At various heritage elements
NAH6	The heritage elements of the Platform 1 Office Building would be conserved and protected by: • undertaking a dilapidation survey • prior to relocating, the windows and door would be secured and boarded up, using a reversible methodology • undertaking investigative work to avoid disturbance of fabric • maintaining the same alignment when relocating the Building • protecting and conserving Elston's Siding during the works • avoiding installing a concrete finished floor to the Building • ensuring that relocation works are closely supervised by the heritage architect and specialist tradesperson • ensuring the following steps are undertaken during or post building relocation, if damage to the building is sustained: - the nominated Project architect would be contacted immediately - all damage to elements would be recorded - a heritage architect and specialist tradesperson would supervise and undertake required repairs - conserving and retaining the existing path from Platform 1 to the Telecommunications Equipment Centre.	Platform 1 Office Building and surrounding heritage elements
NAH7	Ensuring that the heritage elements on Platform 4/5, 6/7 and 8/9 buildings be conserved and protected by: • using traditional repair and conservation methods for detailing proposed works • ensuring the demolition of the extension to the Platform 8/9 building would not damage the surrounding fabric • retaining original features of the building and their conservation and restoration if feasible • incorporating new sympathetic fabric in accordance with the guidelines of the Burra Charter.	Platform 4/5, 6/7 and 8/9 buildings

ID	Management and mitigation measures	Applicable location (s)
NAH8	Ensuring that the warehouse character of 125-127 Little Eveleigh Street would be retained by: • retaining external building elements: Masonry walls, parapet line of the roof, fenestration, patina (including painted signs) of the brickwork (including remnant painted signs) • internal building elements: Original timber columns, original exposed timber framing to floors and ceilings (subject to detailed structural review) • designing new entry canopies to be a slim profile, sympathetic to the colours and material of the existing building - modifying the external openings, where appropriate, to make reference to the existing fenestration pattern of the building - undertaking conservation works and repair works to the exterior of the building - designing the new Colorbond roof to be sympathetic to the existing colour palette of the building - avoiding anti-graffiti paint to the exterior of the brickwork.	125-127 Little Eveleigh Street
NAH9	Reducing the aesthetic impacts associated with the insertion of the proposed car park through landscaping treatments by: • undertaking a holistic approach when selecting materials and finishes in areas that are located within or adjacent to the Eveleigh Railway Workshops including boundary fencing, planning layouts, signage, materials, and plantings • updating the Urban Design and Public Domain Plan prior to finalisation of detailed design that incorporates a coherent presentation and linkage with the Eveleigh Railway Workshops. Retaining and protecting existing trees • introducing minimal soft landscaping to retain the existing industrial character of the rail yard.	Eveleigh Railway Workshops
NAH10	The existing SHR curtilage of the Eveleigh Chief Mechanical Engineer's Office would be protected by: • retaining and protecting the existing trees • protecting and retaining the existing garden within the heritage boundary of the building and minimising impacts of the proposed works - physically or visually.	Eveleigh Chief Mechanical Engineer's Office
NAH11	The building fabric of the McMurtrie, Kellerman & Co factory at 181 Lawson Street would be protected during construction in particular adjacent to basement windows.	Ivy Street and McMurtrie, Kellerman & Co factory, 181 Lawson Street (I2245)
NAH12	Designing new infrastructure such as OHW as simple clean structures with consolidated service runs to reduce the cluttered look of existing infrastructure at the station.	Ivy Street and McMurtrie, Kellerman & Co factory, 181 Lawson Street (I2245)

ID	Management and mitigation measures	Applicable location (s)
NAH13	Inspection of the following areas would be undertaken to identify movable heritage items: • Platform 1 Office Building • Platforms 4-9 buildings • 125-127 Little Eveleigh Street. If movable heritage items are found: • tag and record items • storage of moveable heritage should be coordinated with the Eveleigh Railway Workshop Collection.	Platform 1 Office Building, Platforms 4-9 buildings, 125-127 Little Eveleigh Street
NAH14	Protecting and managing the potential archaeology on site by undertaking the following: • archaeological test excavation and salvage on the northern side of Marian Street, proposed car park off Little Eveleigh Street and area of relocation of the Platform 1 Office Building, prior to the commencement of bulk excavation works. A Historical Archaeological Research Design (HARD) would be prepared in accordance with the relevant Heritage, DPC guidelines • archaeological monitoring for excavation works in the area of the proposed new car park on Little Eveleigh Street. The methodology for undertaking this archaeological monitoring would be included in the HARD • archaeological monitoring for any excavation works along Marian Street, Rosehill Street and Cornwallis Street to record remains of earlier road surfaces. Once recorded, these road surfaces can be removed. The archaeological monitoring methodology would be included in the HARD • stop-work procedures would be implemented should unexpected finds be uncovered in accordance with TfNSW's Unexpected Heritage Finds Guidelines.	Marion Street Entrance Little Eveleigh Street Car park Marian Street, Rosehill Street and Cornwallis Street General
NAH15	Communicate the heritage value of the Project by the following: • implementing the heritage interpretation strategy for the Project • Considering guidelines provided in *Sydney Trains Heritage Interpretation Guidelines*, and the City of Sydney council signage policies • undertaking further community consultation as part of the Heritage Interpretation Strategy • developing a Signage Plan to ensure that the design is contemporary, of high design quality, and reflects traditional patterns • interpreting the current position of the Platform 1 Office Building after the building is relocated • interpreting the association of Redfern Station with the Aboriginal community of Redfern • interpreting the historic gardens on the platforms at Redfern Station • interpreting the story of the former footbridge (1914-1996) at the proposed car park entry.	General

ID	Management and mitigation measures	Applicable location (s)
NAH16	Consulting with the City of Sydney with regard to refining detailed design in the following areas: • 125-127 Little Eveleigh Street • streetscape works.	125-127 Little Eveleigh Street, Darlington and Golden Grove Heritage Conservation Areas
Operation		
NAH17	Updating the SHR, SHI, s170 listing description for Redfern Railway Station Group and Eveleigh Railway Workshops to reflect the upgrades from the Project, following completion of works.	Operation
Aboriginal heritage		
Construction		
AB1	Consultation with MLALC and DPC would be undertaken in relation to the status of the Wynyard St Midden' (AHIMS ID #45-6-2597) to amend the status of the site on the AHIMS register.	Recorded site of AHIMS site ID #45-6-2597
AB2	A Heritage Management Sub-Plan for construction of the Project would include the following mitigation measures: • all relevant contractors and TfNSW personnel should be made aware of the nature and location of previously identified areas of Potential Archaeological Deposits (PADs) located immediately adjacent to the Project area and avoid impact to these areas. Contractors and TfNSW personnel should also be made aware of TfNSW's legal responsibilities under the NPW Act and the *Heritage Act 1977*and the need to avoid impacts to sites (including heritage interpretation and relevant information in the site induction • in the unlikely event that a site or objects (as defined by the NPW Act) are identified during the Project, the procedure outlined in TfNSW's *Unexpected Heritage Finds Guideline* (Transport for NSW, 2019e) should be followed. Works should immediately cease at the location and the find should be immediately reported to appropriate TfNSW personnel, and the regulator in accordance with legislation. No work should commence in the vicinity of the find until any required approvals have been issued by the regulator.	Project area
Biodiversity		
Construction		
B1	A Flora and Fauna Management Sub-Plan would be prepared and implemented as part of the CEMP.	Project area
B2	Should the detailed design determine the need to remove or trim additional trees not identified in this EIS, the construction contractor would be required to complete the TfNSW Tree Removal Application Form and submit it to TfNSW for approval.	Project area
B3	Disturbance of vegetation would be limited to the minimum necessary to construct the Project. Trees nominated to be removed would be clearly demarcated onsite prior to construction, to avoid unnecessary vegetation removal.	Project area

ID	Management and mitigation measures	Applicable location (s)
B4	A qualified and experienced fauna spotter/ecologist would be engaged to inspect trees prior to and during removal and trimming to relocate any fauna that may be present in each tree. This process should be documented (including photos) for record keeping.	Project area
B5	Where space restrictions allow, Tree Protection Zones (TPZs) would be established around trees to be retained, using an appropriate physical demarcation. Tree protection would be undertaken in line with AS 4970-2009 Protection of Trees on Development Sites and would include exclusion fencing of TPZs. Where TPZs are not feasible, alternative measures would be implemented including branch and trunk protection. An arborist may be consulted if necessary.	Project area
B6	All workers involved in tree removal/trimming would be provided with a specific induction relevant to this task prior to commencing work.	Project area
B7	Equipment would be stored, stockpiled and refuelled within the identified construction ancillary facilities.	Project area
B8	Vegetation offsets and/or landscaping would be undertaken in accordance with the *Vegetation Offset Guide* (TfNSW, 2019b).	Project area
B9	Plant equipment would be turned off when not in use to avoid noise and air impacts to nearby fauna.	Project area
B10	Weed control measures, consistent with TfNSW's *Weed Management and Disposal Guideline* (TfNSW, 2019f), would be developed and implemented as part of the Flora and Fauna Management Sub-Plan to manage the potential dispersal and establishment of weeds during the construction phase of the Project. This would include the management and disposal of weeds in accordance with the *Biosecurity Act 2015*.	Project area
B11	Works must be stopped if any previously undiscovered threatened flora or fauna species or communities are discovered during works. An assessment of the impact and any required approvals must be obtained before proceeding.	Project area
B12	WIRES should be consulted if any injured fauna are encountered, or any fauna is otherwise found within the construction areas and is impeding work.	Project area
B13	Inspections would be undertaken at least every three months for weed infestations and to assess the need for control measures. Any weeds identified would be managed in accordance with the relevant guidelines.	Project area
Soils, geology, groundwater and contamination		
Construction		
SC1	A Soils and Water Management Sub-Plan would be developed to manage the soil and water issues relevant to the construction of the Project. This sub-plan would be part of the CEMP. The sub-plan would include detailed erosion and sediment control plans for each work site and would outline which erosion and sediment control measures would be implemented at each location or for specific works. These control measures would align with the management approaches outlined in *Managing Urban Stormwater: Soils and Construction Volume 1* (Landcom, 2004), *Managing Urban Stormwater: Soils and Construction Volume 2A* (DECC, 2008) (referred to as the Blue Book), the *Water Discharge and Reuse Guideline* (TfNSW, 2015c), *Concrete Washout Guideline* (TfNSW, 2015b), *Water Sensitive Urban Design Guideline* (TfNSW, 2017b) and *Chemical Storage and Spill Response Guideline* (TfNSW, 2015a).	Project area

ID	Management and mitigation measures	Applicable location (s)
SC2	Prior to construction commencing a detailed contamination assessment would be undertaken within the Project area to confirm whether additional contamination risks are present and to develop site and/or location specific management responses if necessary. Where remediation options are required, they would be identified and selected using a sustainability hierarchy.	Project area
SC3	Hazardous materials surveys would be undertaken during detailed design for all proposed demolition activities, and for utility adjustments as required.	Project area
SC4	Should asbestos be identified (in the hazardous material surveys or otherwise) within excavation areas or in buildings requiring demolition, an Asbestos Management Plan (AMP) would be developed and implemented for the relevant works. The AMP would be prepared by a suitably qualified practitioner and in accordance with relevant guidelines.	Project area
SC5	In the event a remediation action plan is required, it would be developed in accordance with *Managing Land Contamination: Planning Guidelines SEPP 55 – Remediation of Land* (Department of Urban Affairs and Planning and Environment Protection Authority, 1998), and a NSW EPA Accredited site auditor suitably qualified and experienced contamination advisor would be engaged to audit the works.	Project area
SC6	In the event that indicators of contamination or acid sulfate soils are encountered during construction (such as odours, visually contaminated materials etc.), work in the immediate area would cease, and the finds would be managed in accordance with the unexpected contamination finds procedure.	Project area
SC7	The NSW EPA would be notified in writing of any contamination identified within the Project area, in accordance with the requirements of Section 60 of the *Contaminated Land Management Act 1997*.	Project area
Flooding, hydrology and water quality		
Construction		
SW1	Temporary drainage or drainage diversions would be installed so that stormwater function is not impeded during construction.	Project area
SW2	Stockpiles and storage areas would be located outside of the five per cent AEP flood extent and ideally outside of the one per cent AEP flood extent where possible, particularly any loose materials with the potential to wash away.	Ancillary Facility 1
SW3	Works would cease in flood prone areas when a severe weather warning is issued for the immediate area, and work sites would be secured accordingly.	Project area
SW4	A Soils and Water Management Sub-Plan would be developed to manage the soil and water issues relevant to the construction of the Project. This sub-plan would be part of the CEMP. The sub-plan would include detailed erosion and sediment control plans for each work site and would outline which erosion and sediment control measures would be implemented at each location or for specific works. These control measures would align with the management approaches outlined in *Managing Urban Stormwater: Soils and Construction Volume 1* (Landcom, 2004), *Managing Urban Stormwater: Soils and Construction Volume 2A* (DECC, 2008) (referred to as the Blue Book), the *Water Discharge and Reuse Guideline* (TfNSW, 2015c), *Concrete Washout Guideline* (TfNSW, 2015b), *Water Sensitive Urban Design Guideline*	Project area

ID	Management and mitigation measures	Applicable location (s)
	(TfNSW, 2017b) and *Chemical Storage and Spill Response Guideline* (TfNSW, 2015a).	
SW5	Undertake consultation with City of Sydney Council and/or Sydney Water (as relevant) prior to connecting to existing stormwater drainage system/s.	Project area
Operation		
SW6	A 300 millimetre wide 'Heel Safe' trench grated drain would be installed either side of Little Eveleigh Street connecting to existing downstream stormwater drainage systems.	Little Eveleigh Street
SW7	The existing localised sag depression would be regraded at Little Eveleigh Street.	Little Eveleigh Street
SW8	A treatment device would be installed to treat the first flush of rainfall from the new concourse.	New concourse
SW9	Stormwater treatment device/s/water sensitive urban design features would be installed in the new car park at Little Eveleigh Street (which may include a vegetated bioretention basin or similar).	At or near proposed car park, Little Eveleigh Street
Air quality		
Construction		
AQ1	An Air Quality Management Sub-Plan would be developed to manage the potential air quality impacts relevant to the construction of the Project. This sub-plan would be part of the CEMP. The sub-plan would identify potential dust and exhaust emission sources and outline appropriate mitigation measures to ensure that the performance objectives noted in the EIS are achieved. Locations within the Project area with contaminants of potential concern at unacceptable levels would be identified within the Air Quality Management Sub-Plan and specific measure put in place to manage risks associated with this material.	Project area
AQ2	The Air Quality Management Sub-Plan would include contingency measures to address air quality complaints if received.	Project area
AQ3	Work activities would be reviewed if the air quality management measures are ineffective in minimising dust or other emissions.	Project area
AQ4	The Air Quality Management Sub-Plan would include measures to manage dust emissions. These would include the following: • when using machinery to handle dusty/dust-generating materials, minimise the distance between where the material is stored and its final location • vehicles carrying loose or potentially dusty material to or from the Project area would be adequately covered • water would be sprayed on unsealed access roads and open areas during conditions conducive to dust generation • a wheel cleaning/washing system would be established for vehicles entering and leaving the Site • on-site vehicle speed limits would be established and enforced to prevent dust emissions • water-assisted dust sweepers would be used on internal access tracks and local roads, to remove material tracked out of the Project area • stockpiled material would be appropriately managed and shaped to reduce wind erosion and covered as appropriate	Project area

ID	Management and mitigation measures	Applicable location (s)
	• stockpiles containing contaminated material would be bunded and covered when not being actively managed, and removed from site as soon as possible in accordance with contaminated waste procedures • during extreme weather events where dust generation cannot be effectively minimised (such as high winds), dust generating works would cease until adequate controls can be implemented or until adverse weather conditions subside • demolition of buildings and structures would be carried out using techniques and practices that minimise dust generation. This may include soft stripping inside buildings before demolition.	
AQ5	Measures to manage exhaust emissions would include the following: • plant, machinery and vehicles would be turned off while not in use, where safe to do so • equipment (including all internal combustion engines) would be properly maintained and would run efficiently to ensure exhaust emissions are minimised, where practicable • construction plant, machinery or vehicles producing excessive visual exhaust would be turned off, tagged 'out of order' and not used • all emission controls used on vehicle and equipment would comply with standards listed in Schedule 4 of the *Protection of the Environment Operations (Clean Air) Regulation 2010* • emissions from plant would be considered as part of pre-acceptance checks.	Project area
AQ6	Construction site layout and placement of plant would consider air quality impacts to nearby receivers.	Project area
AQ7	In the event that odour emissions are generated, work would cease until the source and nature of the odour can be determined and an appropriate course of action carried out. This may include further assessment to determine potential impacts on the nearest sensitive receptors.	Project area
Hazards and risk		
Construction		
HRS1	A hazard analysis would be undertaken during the detailed design stage to identify risks to public safety from the project, and how these can be mitigated through safety in design (with reference to the *International Standard (ISO/IEC 31010) - Risk Assessment Technique and Code of Practice - Managing Risks of Hazardous Chemicals in the Workplace* (NSW Government, 2019b) (or updated equivalent) where relevant).	Project area
HRS2	Relevant standards and guidelines will be applied during detailed design to ensure that EMF emissions comply with relevant limits for all receivers (including the International Commission on Non-Ionizing Radiation Protection's (ICNIRP) *Guidelines for Limiting Exposure to Time-Varying Electric and Magnetic Fields (1Hz – 100kHz),* as adopted by the Australian Radiation Protection and Nuclear Safety Agency.	Project area (and area of potential EMF emission exposure)
HRS3	All hazardous substances that may be required for construction and operation would be stored and managed in accordance with the *Work Health and Safety Act 2011*, *Code of Practice - Managing Risks of Hazardous Chemicals in the Workplace* (NSW Government, 2019b) and the *Hazardous and Offensive Development Application Guidelines: Applying SEPP 33* (Department of Planning, 2011) (or updated equivalent publications).	Project area

ID	Management and mitigation measures	Applicable location (s)
HRS4	The CEMP would include emergency and incident response procedures, as specified by the CEMF. The procedures would specify: • roles and responsibilities • notification and reporting protocols • action and investigation requirements • training programs to ensure that all staff are familiar with the plan • design and management measures to address the potential environmental impacts of an emergency situation.	Project area
HRS5	To minimise hazards related to the demolition or removal of buildings and structures, a risk assessment would be carried out prior to these works commencing. The risk assessment would include: • an assessment of the structural integrity of the structure to be demolished • an assessment of the method of demolition, including sequencing, scheduling, plant and equipment, and the layout of work areas • a hazardous material survey for those buildings and structures suspected of containing hazardous materials (particularly asbestos). Demolition would be carried out by licensed demolition contractors. Asbestos removal would be undertaken by qualified and licensed asbestos removalists in accordance with the *Work Health and Safety Act 2011* and supporting *Work Health and Safety Regulations 2014*, and relevant SafeWork NSW and SafeWork Australia guidelines/codes of practice.	Project area
HRS6	'Dial before you dig' searches would be carried prior to excavation work taking place.	Project area
Waste		
Construction		
WM1	A Waste Management Sub-Plan would be prepared as part of the CEMP. The Sub-Plan would: • identify requirements consistent with the waste and resource management hierarchy and cleaner production initiatives • include relevant measures from the *National Waste Policy: Less Waste, More Resources* (Department of Agriculture, Water and the Environment, 2018) • ensure resource efficiency is delivered through the design and construction practices • provide consistent clear direction on waste and resource handling, storage, stockpiling, use and reuse management measures • outline procedures for stockpiling of wastes (refer to mitigation measure WM2) • set out processes for disposal, including on-site transfer, management and the necessary associated approvals/permits. All waste generated would be regularly removed from site as required by licensed contractors, in order to avoid potential issues associated with odour, visual amenity and attracting animals/pest species • outline that waste generated within the Project area would be segregated at source and suitably stored in designated waste management areas within the Project area • include material tracking measures to track waste and recyclables generated from the Project and removed from the Project area.	Project area

ID	Management and mitigation measures	Applicable location (s)
	Material tracking records would include types, volumes and management measures for waste and resources arising from/used for the Project • outline an unexpected finds protocol to manage the potential for unexpected finds during construction of the Project (i.e. asbestos or other hazardous materials) • include a process for auditing, monitoring and reporting.	
WM2	Stockpiled wastes would be: • appropriately segregated to avoid mixing and contamination • appropriately labelled • appropriately stored to minimise risk of erosion • less than three metres in height with an appropriate height to length batter ratio (e.g. 1:3) • located as far away as practical from sensitive receivers, ecological areas and watercourses.	Project area
WM3	Where a NSW EPA Resource Recovery Order exists for a specific waste material the opportunity to re-use the waste under that order should be considered prior to disposal. Current orders (and exemptions) are found on the NSW EPA website: https://www.epa.nsw.gov.au/your-environment/recycling-and-reuse/resource-recovery-framework/current-orders-and-exemption The current orders should be periodically reviewed during construction for applicability.	Project area
WM4	All waste would be assessed, classified, managed and disposed of (where they cannot be re-used) in accordance with the *Waste Classification Guidelines* (NSW EPA, 2014a).	Project area
WM5	Waste segregation bins would be located at various locations within the Project area, if space permits, to facilitate segregation and prevent cross contamination.	Project area
Sustainability and climate change		
Construction		
SCC1	Sustainability initiatives would be incorporated into the detailed design and construction of the Project to support the achievement of the Project sustainability objectives and would be detailed in the SMP.	All
SCC2	A rating level of 'Excellent' would be targeted under version 1.2 of the IS Rating Tool.	All
SCC3	A workforce development and industry participation strategy would be developed and implemented during construction.	All
SCC4	Adaptation measures, as outlined in the TfNSW *Climate Risk Assessment Guidelines*, would be further assessed during detailed design and where practicable incorporated into the detailed design and construction of the Project.	All
Operation		
SCC5	Sustainability initiatives would be incorporated into the operation of the Project to support the achievement of the Project sustainability objectives and would be detailed in the SMP.	All
SCC6	Adaptation measures, as outlined in the TfNSW *Climate Risk Assessment Guidelines*, would be further assessed during detailed design and where practicable incorporated into the operation of the Project.	All

ID	Management and mitigation measures	Applicable location (s)
SCC7	Periodic review of climate change risks would be undertaken during operations to ensure ongoing resilience to the impacts of climate change.	All
Cumulative impacts		
Construction		
CI1	TfNSW would co-ordinate with other project developers with projects under construction at the same time in regard to potential cumulative impacts (including potential cumulative noise and traffic impacts). Co-ordination and consultation with relevant stakeholders would also occur when necessary (e.g. DPIE, Sydney Trains, State Transit Authority, City of Sydney Council, utility providers, emergency service providers). These stakeholders would be kept informed of construction progress and scheduling, in an effort to minimise community impacts. Co-ordination and consultation with these stakeholders would also include development of mitigation strategies to manage conflicts such as adjustments to the construction program and work activities, co-ordination of traffic management arrangements between projects and coordination of consultation activities to minimise the potential for consultation fatigue.	All
CI2	Noise mitigation measures (refer **Chapter 13** of the EIS) would be reviewed for their appropriateness in line with the *Interim Construction Noise Guideline* (DECC, 2009) where cumulative noise impacts on a receiver are expected and the Project is the dominant source.	All

25.7 Compilation of performance outcomes

The SEARs identify a number of desired performance outcomes for the Project (refer **Appendix A**). These desired performance outcomes outline the broader objectives to be achieved during design, construction, and operation.

Based on the outcomes of the environmental impact assessment, and having regard to the performance outcomes nominated in the SEARs, Project specific performance outcomes have also been developed. These performance outcomes would also assist in managing residual impacts identified for the Project (described in **Section 25.4**).

TfNSW have committed to achieving the Project specific performance outcomes described in **Table 25-5**.

Future design development and any design changes would be considered against these environmental performance outcomes.

Table 25-5 Compilation of environmental performance outcomes

Environmental aspect	Project specific environmental performance outcomes
Urban design	• minimal impacts to existing structures during construction • a public domain that is accessible, legible and safe during construction • a public domain that is accessible, legible and safe during operation • public domain finishes reference the City of Sydney Public Domain Manual • selection of materials that are durable and easy to maintain during operation • clear pedestrian circulation space inside and outside the station, at station entries and adjoining streets during operation • landscaping with street trees selected for canopy and shade.

Environmental aspect	Project specific environmental performance outcomes
Landscape and visual	• construction sites and compounds are planned and managed to minimise adverse visual effects • the obtrusive effects of lighting are minimised during construction • the obtrusive effect of lighting are minimised during operation • materials and finishes for the concourse are selected with consideration of minimising visual impacts • additional tree removal and trimming of vegetation is avoided where possible to minimise changes in landscape character • there is a net increase in trees within the vicinity of the Project area to minimise adverse landscape impacts • community artwork investigated and included as appropriate • graffiti avoidance measures are incorporated into the design.
Land use and property	• effective construction design and planning to minimise residual land to allow integration with adjoining land uses and provide accessibility to properties and community facilities • consultation with individual property owners/managers to identify individual concerns and develop and document strategies to address these concerns.
Social	• adverse social and economic impacts are minimised through ongoing consultation with individual property owners and the community to document, address and develop strategies to address community concerns.
Traffic, transport and access	• safe and efficient access routes are provided for pedestrians, cyclists and road users, including buses • maintain access for all customers to Redfern Station, while the station is operational • access to residences and commercial properties is maintained • access for emergency vehicles, waste management services and deliveries is maintained • the local community, relevant authorities and other proponents undertaking concurrent work close to the Project are consulted to minimise disruptions to road, active transport and public transport users • the local community and relevant authorities are consulted regarding upcoming Project construction activities to minimise disruptions to road, active transport and public transport users the Project provides convenient, safe and direct access for customers to the station during operation.
Noise and vibration	• construction airborne and ground-borne noise and vibration is effectively managed to minimise adverse impacts on acoustic amenity • construction vibration is effectively managed to minimise adverse impacts on the structural integrity of buildings and items • increases in noise emissions and vibration during operation of the Project affecting nearby properties and other sensitive receivers are effectively managed to protect the amenity and well-being of the community • appropriate mitigation measures outlined in the TfNSW CNVS are identified and implemented to minimise noise and vibration impacts • specific notifications to the community are issued no later than seven days prior to construction works.

Environmental aspect	Project specific environmental performance outcomes
Non-Aboriginal heritage	• the Project has considered the following heritage opportunities: - transparency of the concourse is maximised - the bulk and scale of the concourse is minimised - the reflectivity of proposed materials of the concourse is minimised - separation between heritage fabric and new elements is incorporated - bulk and scale of platform canopies are minimised - structures such as billboards or advertising on the concourse that would diminish the transparency of the structure and disrupt views are avoided. • heritage items are sensitively protected and managed during the construction of the Project • heritage elements are protected as far as practicable including: - careful relocation of the Platform 1 Office Building and sensitive work to existing buildings on Platforms 4/5, 6/7 and 8/9 - the warehouse character of 125-127 Little Eveleigh Street is retained. - the industrial character of the Eveleigh Railway workshops is respected - the existing SHR curtilage of the Eveleigh Chief Mechanical Engineer's Office is retained. • materiality of new elements at the Marian Street entry is in keeping with the public domain design • movable heritage items are identified, conserved and protected during construction • heritage fabric is conserved through the reuse of salvageable heritage fabric where possible • a historical record of areas modified by the Project is maintained for future reference through archival recording • heritage interpretation is undertaken that communicates the heritage value of the site to visitors • potential archaeology within the Project area is protected or appropriately managed • heritage inventories are updated to reflect the Project design to ensure that records of heritage items are maintained • avoidance of structures such as billboards or advertising on the concourse that would diminish the transparency of the structure and disrupt views.
Aboriginal heritage	• no impacts to Aboriginal sites, objects and places identified in the assessment during construction • if an unexpected find is encountered during construction, relevant procedures under TfNSW's Unexpected Heritage Finds Guideline (Transport for NSW, 2019e) are followed.
Biodiversity	• impacts are avoided to flora and fauna not already identified in this EIS • flora and fauna habitat is retained/impacts avoided, or enhanced where possible • impacts to threatened ecological communities or endangered species are offset in accordance with the requirements of the TfNSW Vegetation Offset Guide (TfNSW, 2019b) • weeds and plant pathogens are managed in accordance with TfNSW's Weed Management and Disposal Guideline (TfNSW, 2019f) and the Biosecurity Act 2015.

Environmental aspect	Project specific environmental performance outcomes
Soils, geology, groundwater and contamination	• risks to human health and ecological receivers are minimised through effective management of soil and contaminated materials.
Flooding, hydrology and water quality	• stormwater drainage within the Project area is maintained during construction so as not to cause localised flooding or drainage issues as a result of Project works • adverse impacts to stormwater quality during construction are avoided • adverse impacts to stormwater quality during operation are avoided • adverse impacts to local drainage during operation are avoided.
Air quality	• during construction, dust is managed to minimise the release beyond the site boundaries so that dust complaints are avoided • during construction, tracking or spilling of soil/spoil from the Project onto offsite areas is minimised, and offsite road surfaces are cleaned at the end of each day so that they are free of visible, loose soil/spoil material (which may be washed away in runoff or otherwise cause complaints) • dust impacts from soil waste stockpiles are prevented by removing these stockpiles as soon as practicable by an appropriately licenced contractor.
Hazards and risk	• during construction and operation, dangerous goods in the Project area are stored at least the minimum storage distance from sensitive receivers as defined by Applying SEPP 33.
Waste and resources	• waste from construction and operation of the Project is classified in accordance with the Waste Classification Guidelines (NSW EPA, 2014a) • waste types once classified are reviewed against appropriate guidelines to manage waste appropriately • at least 80 percent (by volume) of non-contaminated spoil excavated during construction would be diverted from landfill, either by re-using suitable material on site or identifying other sites/re-purposing facilities where suitable material may be re-used • contaminated and asbestos contaminated wastes are safely disposed of in accordance with their relevant waste classification.
Sustainability and climate change	• the Project reduces the NSW Government's operating costs and ensures the effective and efficient use of resources • conservation of natural resources is maximised • the Project is designed, constructed and operated to be resilient to the future impacts of climate change.
Cumulative impacts	• the Project is coordinated with other projects being constructed in the area to minimise cumulative impacts.

25.8 Project justification

25.8.1 Summary of Project justification

The Project forms part of the TAP, a NSW Government initiative to provide a better experience for public transport customers by delivering accessible, modern, secure and integrated transport infrastructure across NSW.

Redfern Station does not currently meet key requirements of the *Disability Standards for Accessible Public Transport 2002* (DSAPT). Existing platforms are accessed by a single stairway at the northern end of the platforms (with the exception of Platforms 6/7 which are also serviced by an existing lift). The stairways do not provide an accessible path of travel for several groups of people including those with a disability, limited mobility or parents/carers with prams or customers with luggage.

In addition, the Station is located within the Sydney Innovation and Technology Precinct (NSW Government, 2018), which is a commitment by the NSW Government to create a globally competitive innovation and technology precinct located in the Central to Eveleigh corridor. The vision for the Sydney Innovation and Technology Precinct includes the development of around 250,000 square metres of dedicated floorspace for technology companies with a focus on enabling the growth of new companies. The development of this Precinct aims to create 25,000 new innovation jobs, 100 new scale-up companies and triple NSW's technology exports. This precinct contributes to the high forecast demand for the Station.

The Project has been designed to meet the DSAPT and would support the objectives of relevant NSW government policies and plans. The Project would provide safe and equitable access to Platforms 1-10 and the surrounding pedestrian network, along with generally improving customer facilities, amenity and safety. The improvements would in turn facilitate existing demand, ease congestion and assist in supporting the growth in public transport use, providing an improved customer experience for existing and future users of Redfern Station.

25.8.2 Summary of Project benefits

The Project aims to address current demand for the Station and significant forecast growth in the surrounding area associated with the Sydney Innovation and Technology Precinct and subsequent increase in rail patronage.

The Project would enable equitable access to Redfern Station and platforms from both Little Eveleigh Street and Marian Street through the inclusion of lifts to Platforms 1-10. New stairs to platforms would provide a secondary entry/exit point which would serve to reduce capacity issues and improve customer movements within the Station precinct.

The proposed concourse not only provides connectivity between the platforms at Redfern Station and access to both Marian Street and Little Eveleigh Street, but also provides cross corridor connectivity. This would address the existing desire line constraint, by providing access to the Station's above ground platforms closer to South Eveleigh, Carriageworks and the University of Sydney.

25.8.3 Consequence of not proceeding

Redfern Station is currently the sixth busiest station in NSW with around 70,000 customers on an average weekday. It is already at capacity and has deficiencies that restrict capacity to meet future demands and present a risk to customer safety.

Access to the station platforms does not currently comply with DSAPT requirements, as only a single point of access (consisting of a stairway) is available to the majority of platforms. Currently only Platforms 6 and 7 are accessible via a lift, greatly restricting the availability of services for disabled customers and other people with mobility issues.

Should the Project not proceed, the benefits outlined above would not be realised. Existing capacity constraints at Redfern Station would remain and the Station would not comply with DSAPT requirements.

25.8.4 Environmental considerations

Environmental investigations were undertaken during preparation of the EIS to assess the potential impacts of the Project. These included specialist assessments of traffic, transport and access, noise and vibration, non-Aboriginal heritage, Aboriginal heritage, social and economic impacts t, landscape and visual impact and flooding, hydrology and water quality. The EIS has documented the potential environmental impacts, including potential cumulative impacts, considering both potential beneficial and adverse impacts, and identifies mitigation measures to protect and manage identified environmental impacts.

The residual impacts identified on the biophysical, social and cultural environments are summarised in **Section 25.4**.

As described in **Chapter 24** and **Section 25.5**, the Project would incorporate environmental management and design features to ensure that potential impacts are managed and mitigated as far as practicable.

25.8.5 Ecologically sustainable development

The EP&A Act adopts the definition of ecologically sustainable development contained in the *Protection of the Environment Administration Act 1991*. An assessment of the Project against the principles of ecologically sustainable development as per clause 7(4) of Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* is provided below. The Project is targeting an 'Excellent' rating under the ISCA IS Rating Tool, which incorporates best practice benchmarks for sustainable design and construction. The ISCA IS Rating Tool has been designed to help infrastructure meet its full sustainability potential.

Precautionary principle

A range of environmental investigations have been undertaken during the development of the Project and the environmental assessment process, to ensure that potential impacts are understood with a high degree of certainty. The assessment of the potential impacts of the Project is considered to be consistent with the precautionary principle. The assessments undertaken are consistent with accepted scientific and assessment methodologies and have considered relevant statutory and agency requirements. The assessments have applied a conservative approach with regard to construction and operational arrangements, and the modelling used.

The Project has evolved to avoid impacts where possible, and to reflect the findings of the assessments undertaken. A number of safeguards have been proposed to minimise potential impacts. These safeguards would be implemented during construction and operation. No safeguards have been postponed as a result of lack of scientific certainty.

Principle of inter-generational equity

Construction of the Project has the potential for some degree of environmental and social disturbance. These disturbances include amenity impacts during construction, impacts to heritage items and changes to traffic movements and access. However, the potential for environmental and social disturbance as a result of construction has to be balanced against the long-term benefits of the Redfern Station Upgrade overall.

Once operational, the Project would benefit future generations. The Project would provide long term benefits by improving accessibility to a key station on the Sydney Trains network and surrounding education, health and business precincts. The benefits of the Project would be felt most by future generations as the area surrounding the Project continues to develop in line with the Central to Eveleigh Urban Transformation Strategy.

Conservation of biological diversity and ecological integrity

The majority of the Project area is located within an existing transport corridor with minimal habitat value. Two individuals of *Eucalyptus scoparia* have been identified within or next to the Project footprint, near the Platform 10 station entry. This species is listed as endangered under the BC Act and vulnerable under the EPBC Act. The natural range for this species in NSW is between Glen Innes and the Queensland border. The two identified individuals have been planted as part of a landscaping effort and are not part of a naturally occurring population.

Assessments of significance under the BC Act and EPBC Act have been undertaken for this species (refer **Appendix F**). These assessments indicate that the Project would not result in a significant impact upon this species at either the NSW or Commonwealth levels.

Construction of the Project would require the trimming or removal of vegetation in several areas as described in **Chapter 16**. Where possible trees would be retained and branches trimmed or temporarily tied back to facilitate construction activities. Offsets and/or landscaping would be undertaken in accordance with the *Vegetation Offset Guide* (TfNSW, 2016).

Improved valuation and pricing of environmental resources

Economic appraisal draws on several established methodologies that provide for the valuation of externalities, including environmental externalities, and their inclusion in the appraisal process. Environmental parameters that can be valued include air pollution, greenhouse gas emissions, noise pollution and water run-off. Valuations typically adopt broad average values.

The design has been developed with an objective of minimising potential negative impacts on the surrounding environment. This assessment has identified the environmental and other consequences of the Project and identified mitigation measures where appropriate to manage potential impacts. If approved, construction and operation of the Project would be undertaken in accordance with relevant legislation, the conditions of approval, and the environmental management plans described in **Section 25.5**. These requirements would result in an economic cost to the proponent. The implementation of mitigation measures would increase the capital and operating costs of the Project. This signifies that environmental resources have been given appropriate valuation.

25.9 Conclusion

The Project has been developed with the objective of minimising potential impacts on the local and regional environment and community. The design and construction methodology would continue to be developed with this overriding objective in mind and would continue to consider the input of stakeholders and the local community.

The Project's environmental performance would be demonstrated by implementing the CEMF, CEMP (and its' sub-plans) and CNVS. These plans would be designed to comply with relevant legislation and conditions of approval. They would include a range of environmental mitigation measures developed following the environmental assessment documented in this EIS.

With the implementation of the proposed management and mitigation measures, the potential environmental impacts of the Project are considered manageable. The Project is therefore considered justified and should proceed.