



More Trains, More Services

# Waterfall Stabling Yard and Platform Extension Project

Determination Report





Transport  
for NSW

# Waterfall Stabling Yard and Platform Extension Determination Report

**More Trains, More Services**  
**Ref – 6376326**

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## Glossary and abbreviations

Term	Meaning
<b>CBD</b>	Central Business District
<b>CCTV</b>	Closed-circuit television
<b>CEMP</b>	Construction Environmental Management Plan
<b>CoA</b>	Condition of Approval
<b>Concept design</b>	The concept design is the preliminary design presented in the REF, which would be refined by the Construction Contractor (should the Proposal proceed) to a design suitable for construction (subject to TfNSW acceptance)
<b>Construction Contractor</b>	The Construction Contractor for the Proposed Activity would be appointed by TfNSW to undertake the detailed design and construction of the Proposed Activity
<b>DDA</b>	<i>Disability Discrimination Act 1992 (Cwlth)</i>
<b>Detailed design</b>	Detailed design broadly refers to the process that the Construction Contractor undertakes (should the Proposal proceed) to refine the concept design to a design suitable for construction (subject to TfNSW acceptance)
<b>DSAPT</b>	<i>Disability Standards for Accessible Public Transport 2002</i>
<b>EP&amp;A Act</b>	<i>Environmental Planning and Assessment Act 1979 (NSW)</i>
<b>EP&amp;A Regulation</b>	<i>Environmental Planning and Assessment Regulation 2000 (NSW)</i>
<b>EPBC Act</b>	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cwlth)</i>
<b>ISCA</b>	Infrastructure Sustainability Council of Australia
<b>LGA</b>	Local Government Area
<b>MNES</b>	Matters of National Environmental Significance under the EPBC Act
<b>NSW</b>	New South Wales
<b>OEH</b>	(former) NSW Office of Environment and Heritage
<b>Proponent</b>	A person or body proposing to carry out an activity under Division 5.1 of the EP&A Act – in this instance, TfNSW
<b>Proposed Activity</b>	The construction and operation of the Waterfall Stabling Yard and Platform Extension
<b>REF</b>	Review of Environmental Factors
<b>TfNSW</b>	Transport for NSW (the Proponent)
<b>TGSI</b>	Tactile ground surface indicators

# Executive summary

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## Overview of Proposed Activity

Transport for NSW (TfNSW) is responsible for improving the customer experience of transport services, transport policy and regulation, planning and program administration, procuring transport services and infrastructure and freight.

TfNSW is the Proponent for the Waterfall Stabling Yard and Platform Extension (the Proposed Activity), which is part of the More Trains, More Services Program. The Program is a NSW Government initiative to simplify and modernise Sydney's existing heavy rail network. The program aims to improve capacity throughout the network, with a view to providing 'turn up and go' services for many customers.

In summary, the Proposed Activity, as outlined in the Review of Environmental Factors (REF), would provide:

- demolition and extension of the northern end of the existing island platform at Waterfall Station by approximately 40 metres to facilitate new 10-car intercity trains
- reconfiguration of existing track within the existing siding on the western side of the rail corridor, including changes in the location and operation of freight and passenger loops
- new suburban train stabling yard to the west of the existing main line
- a new staff amenities building on the western side of the proposed stabling yard
- an elevated staff footbridge between the new staff amenities building and the platform
- upgrade of the existing access road off the southbound carriageway of the Princes Highway
- reconfiguration and extension of the existing freight refuge loop by approximately 850 metres on the western side of the existing tracks, to accommodate freight trains up to 1500 metres in length
- ancillary works, including new and relocated services, lighting, CCTV, retaining walls, and landscaping
- operation of the Proposal.

An overview of the Proposal is shown in Figure 1 below.

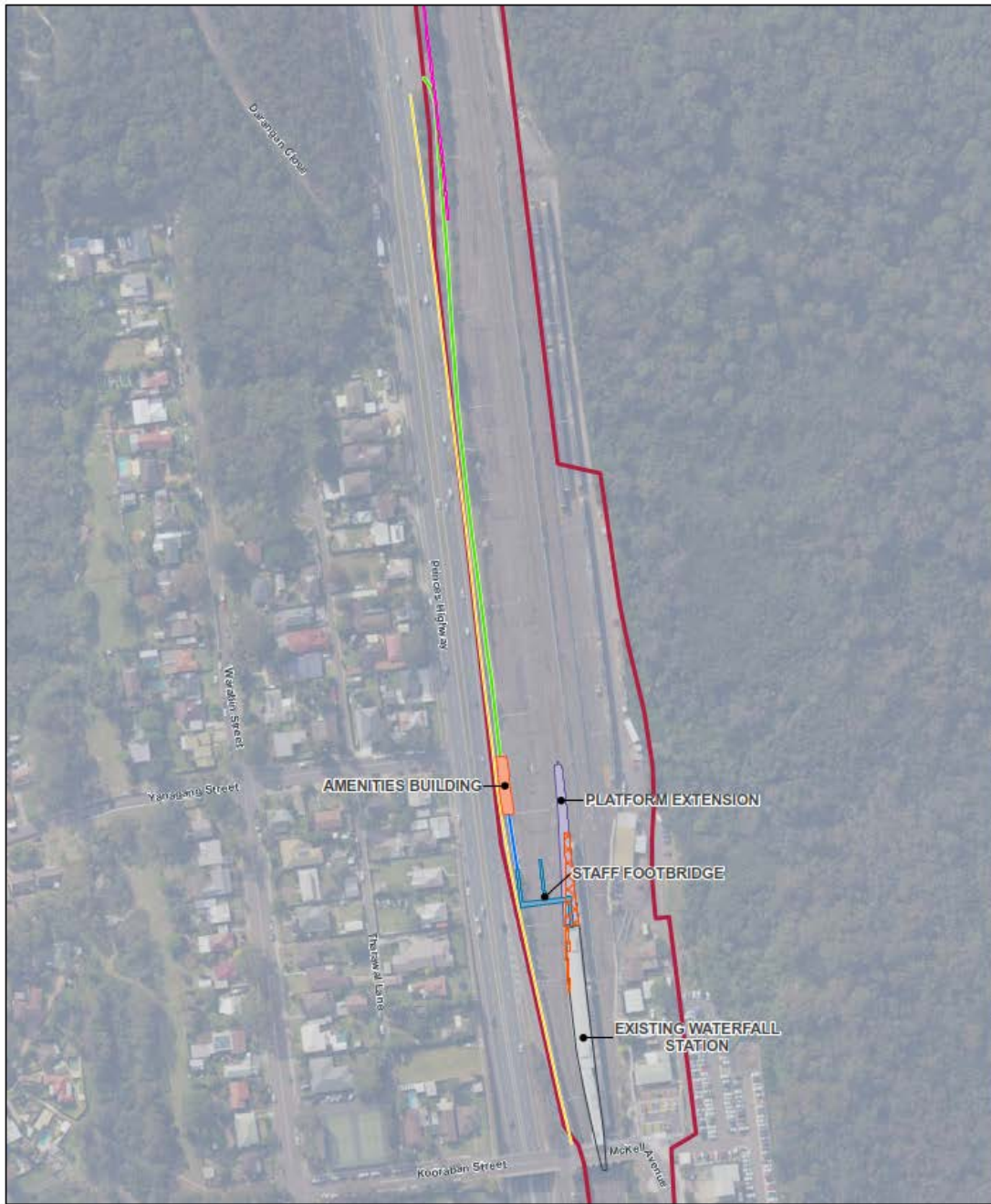


FIGURE 1 - KEY FEATURES OF THE PROPOSAL



Indicative only and subject to detailed design.

Legend

- Proposal Area
- Existing platform
- Platform demolition
- Retaining wall
- Staff footbridge
- Platform extension
- Access road upgrades
- Staff footpath
- Replacement fence

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(Indicative only, subject to detailed design)

Figure 1: Key features of the Proposal

The need for, and benefits of, the Proposed Activity are outlined in Chapter 2 of the REF. Construction is expected to commence in late 2019 and take approximately two and a half years to complete.

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

### **Modifications to the Proposed Activity**

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

### **Purpose of this report**

The purpose of this Determination Report is for TfNSW, as the Proponent of the Waterfall Stabling Yard and Platform Extension, to determine whether or not to proceed with the Proposed Activity. TfNSW must make a determination in accordance with the provisions of Division 5.1 of the EP&A Act.

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

### **Conclusion**

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



# 1 Introduction

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## 1.1 Background

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

While the Program will eventually deliver benefits to the entire network, TfNSW propose to start by targeting improvements on Sydney's busiest lines. The first lines to benefit from the program will be the T4 Eastern Suburbs and Illawarra Line, the South Coast Line and the T8 Airport and South Line. The Program is central to delivering the NSW Government's long-term vision and commitment to the state's transport and infrastructure needs.

The Program proposes to increase the total number of peak services on the T4 Eastern Suburbs and Illawarra Line by approximately 30 percent and providing a more comfortable journey for customers in the Sutherland Shire, Illawarra and South Coast.

As part of the Program, TfNSW proposes to upgrade rail infrastructure in and around Waterfall Station (the Proposal). The upgrade is designed to support changes to the use of the Waterfall Station and stabling yards including a new stabling yard on the western side of the station to better serve the future operation of the T4 Illawarra and South Coast lines.

At Waterfall, TfNSW have identified the following specific needs:

- provision of a stabling yard for ten additional 8-car suburban trains. These additional trains are required to provide additional peak period services on the T4 line, particularly during the morning peak. This additional stabling requirement brings with it the need for additional staff facilities, including the proposed staff footbridge and amenities building
- extension of the existing station platform to allow new 10-car intercity trains to stop at the station for operational and emergency reasons
- extension of the existing freight loop. At present this loop is too short to accommodate the full range of freight trains that operate on the T4 line. The extension of this loop would allow all freight trains to stop in the loop and be overtaken by faster Intercity South Coast services in the city bound direction. This would facilitate improvements to off-peak passenger services on both the T4 Eastern Suburbs and Illawarra, and South Coast lines.

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

## 1.2 Review of Environmental Factors

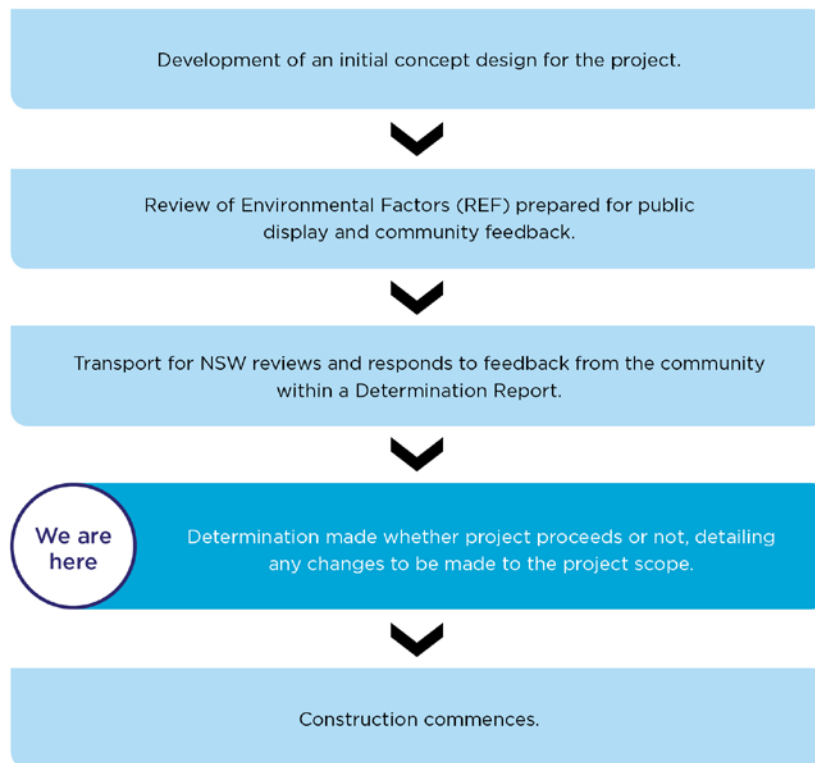
A Review of Environmental Factors (REF) was prepared by TfNSW in accordance with section 5.5 and section 5.7 of the EP&A Act, and clause 228 of the EP&A Regulation, to ensure that TfNSW takes into account to the fullest extent possible, all matters affecting or likely to affect the environment as a result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

The Waterfall Stabling Yard and Platform Extension REF was placed on public display by TfNSW from Friday 23 August 2019 to Friday 6 September 2019, with 17 submissions received.

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

### 1.3 Determination report

Prior to proceeding with the Proposed Activity, the Secretary for TfNSW must make a determination in accordance with Division 5.1 of the EP&A Act (refer Figure 2).



**Figure 2: Planning approval process**

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

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

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

- a) to plan for a transport system that meets the needs and expectations of the public
- b) to promote economic development and investment
- c) to provide integration at the decision-making level across all public transport modes
- d) to promote greater efficiency in the delivery of transport infrastructure projects
- e) to promote the safe and reliable delivery of public transport and freight services.

## 1.4 Description of the Proposed Activity in the REF

Waterfall Station is one of the terminuses on the T4 Eastern Suburbs and Illawarra Line, as well as a stop for trains travelling on the South Coast Line. It is located approximately 38 kilometres south of the Sydney CBD and is located adjacent to the Princes Highway, McKell Avenue and Kooraban Street. The Proposal would be undertaken wholly within the suburb of Waterfall in the Sutherland Shire Local Government Area (LGA).

An overview of the Proposed Activity, which is the subject of the Waterfall Stabling Yard and Platform Extension REF, is provided in the Executive Summary with full details set out in Chapter 3 of the REF. In summary, the Proposed Activity, as outlined in the REF, comprises:

- partial demolition and extension of the northern end of the existing island platform at Waterfall Station by approximately 40 metres to facilitate new 10-car intercity trains
- construction of two new stabling tracks to the west of the existing mainline with a holding capacity of ten 8-car trains
- reconfiguration of existing track located to the west of the mainline, including changes in the location and operation of freight and passenger loops
- a new staff amenities building on the western side of the stabling yard including space for:
  - temporary rubbish storage areas
  - storage of materials and train presentation equipment (cleaning supplies)
  - meal room, toilets, security facilities etc
- upgrade of the existing access road off the southbound carriageway of the Princes Highway to allow for Sydney Trains vehicles to transport rubbish to a dumpster near the access gate
- construction of an elevated staff footbridge between the staff amenities building and the platform
- reconfiguration and extension of the existing freight refuge loop by approximately 850 metres on the western side of the existing tracks, to accommodate freight trains up to 1500 metres in length
- ancillary works, including new and relocated services, lighting, CCTV, retaining walls, and landscaping.

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

Construction is expected to commence in late 2019 and take approximately two and a half years to complete.

## 2 Consultation and assessment of submissions

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### 2.1 REF public display

The Waterfall Stabling Yard and Platform Extension REF was on public display between Friday 23 August 2019 and Friday 6 September 2019 at three locations, as well as on the [TfNSW website](#)<sup>1</sup> and the [yoursay page](#)<sup>2</sup>. Community consultation activities undertaken for the public display included:

- distribution of a project newsletter to the local community outlining the Proposed Activity and inviting feedback on the REF
- installation of signage about the Proposed Activity at the station to promote the proposed work to the local community and rail customers, outlining the Proposal and inviting feedback on the REF
- advertisement of the REF public display in a local newspaper (St George and Sutherland Shire Leader) with a link to the TfNSW website that includes a summary of the Proposed Activity and information on how to provide feedback
- consultation with Sutherland Shire Council, Sydney Trains, NSW TrainLink, Transport for New South Wales (formerly Roads and Maritime Services), the Department of Planning, Industry and Environment and other key stakeholders
- a drop-in stall at Waterfall Station (Tuesday 27 August 4pm - 6pm)
- a drop-in session at Engadine Community Centre (Thursday 29 August 4pm -7pm)
- public display of the REF at:
  - Engadine Library  
116E Caldarra Avenue  
Engadine NSW 2233
  - Transport for NSW Office  
The Gateway  
241 O’Riordan Street  
Mascot, NSW 2020

### 2.2 REF submissions

A total of 17 submissions were received by TfNSW, including one submission from the Waterfall Progress Association, two submissions from the Sutherland Astronomical Society and one submission from the Southern Sydney Branch of the National Parks Association of NSW.

Key issues that were raised in the submissions included:

- requests for more commuter parking
- concerns over visual impacts of the proposed elevated staff footbridge
- concerns regarding light pollution from Waterfall Station
- service frequency at Waterfall Station.

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<sup>1</sup> <https://www.transport.nsw.gov.au/projects/more-trains-more-services>

<sup>2</sup> <https://yoursay.transport.nsw.gov.au/mtms-waterfall>

Additional issues raised by some submissions also included:

- opportunities for non-Aboriginal heritage interpretation at Waterfall Station
- potential odour and human health impacts from the amenities/storage building
- lack of consultation with the local Aboriginal community
- requirement for vegetation removal
- construction timing and alternative transport arrangements
- the scope of the proposal and justification of the preferred option.

Other issues that were identified, including other station upgrades and timing of hazard reduction burns within the Royal National Park are considered out of scope of this proposal.

## **2.3 Consideration and response to submissions**

### **Car parking**

Five submissions (1, 4, 5, 8 and 16), requested that additional commuter car parking spots be provided. One submission also specified the need for a multi-storey car park.

The Proposal relates directly to improving the train services available at Waterfall Station by providing:

- additional capacity for stabling of suburban trains on the T4 Illawarra Line to support an uplift in the number of services
- provide additional freight refuge to allow passenger services to overtake freight services
- provide sufficient platform length to enable new 10-car intercity trains to stop at Waterfall Station.

As such, a new or expanded commuter carpark is not proposed at the station as part of the current scope of works. A number of car parking facilities are presently available around Waterfall Station including the commuter car park on the corner of Kooraban Street and McKell Avenue, providing 207 untimed car parking spaces, including seven DDA-compliant car parking spaces. On-street parking is also available along both Kooraban Street and McKell Avenue, south of the station.

Submissions also raised concerns that commuters have been parking within local public reserves and that the Proposal would result in a worsening of parking availability on local roads for residents. It is noted that TfNSW does not operate or manage on-street parking surrounding the station, however will provide the community responses to Sutherland Shire Council for their consideration. TfNSW will refer the request for more commuter parking to the appropriate branch within the organisation.

Section 6.1.2 of the REF outlines that trains currently departing Waterfall have spare passenger capacity and as such the operation of the proposal (including increased service frequency) would not be expected to induce further demand. On this basis it is not expected that there would be any increased demand on the existing commuter car park and on-street and off-street parking around the station.

Potential need for future upgrades to commuter parking arrangements would be determined in consultation with the local community and, if required, would be subject to a separate environmental assessment.

## Visual impacts

Three submissions (3, 5 and 9), expressed concerns that the proposed elevated staff footbridge would result in visual impacts that are not compatible with the surrounding environment, particularly given the context of the Royal National Park and surrounding residential areas. One submission also requested that additional visual impressions be provided.

Section 6.6.2 of the REF assessed the operational phase impacts to surrounding landscape character zones (LCZ) including LCZ 3 (National Parks) and LCZ 6 (Residential). The assessment concluded that while the proposal would present a change for several LCZs given the scale of the Proposal, no change in landscape character would occur for either LCZ 3 – National Parks or LCZ 6 – Residential.

In addition, the visual impact assessment considered the operational phase visual impacts at four representative visual receptors including:

- Legendary Fish and Chips – representative of the view from the outdoor eating area of the fish and chips shop, as well as passing vehicles and of residents along the Princes Highway
- Kooraban Street Bridge – representative viewpoint for commuters travelling to and from Waterfall station
- Waterfall Station platform – representative of the view that commuters would receive as they wait for trains, as well as views for Sydney Trains staff
- Princes Highway travelling south – representative viewpoint for motorists passing through Waterfall.

The assessment identified that for the Legendary Fish and Chips receptor, the Proposal would result in a moderate neutral rating, while at the Kooraban Street Bridge and Waterfall Station platform receptors, the Proposal would result in a moderate adverse rating. The assessment also identified a high beneficial rating for the Princes Highway receptor, primarily due to the opening up of views towards the Royal National Park.

Overall the visual impact assessment concluded that the Proposal would have a moderate overall visual impact on the majority of people living, working in or travelling through the area surrounding Waterfall Station. The visual impact assessment considered the inclusion of the proposed elevated staff footbridge and concluded that while the elevated staff footbridge would be visually prominent, it is consistent with the function of the existing station. Figure 6.5 within the REF provides a photomontage of the operational Proposal (including the new footbridge), looking east across the Princes Highway from the intersection with Yangan Street.

Mitigation measures as outlined in section 6.2.3 and Appendix C of the REF would be implemented to reduce the potential for adverse visual impacts of the proposed elevated staff footbridge during further detailed design, construction and operation.

## Light pollution

Five submissions (5, 10, 12, 13 and 14), expressed concerns that previous car park upgrade works resulted in light pollution affecting neighbouring residents. In addition, concerns related to the impacts of lighting associated with the Proposal further affecting the use of Waterfall (Royal National Park) Oval for astronomical observation purposes. One submission also expressed concerns relating to the potential impacts of light spillage on migratory birds or endangered species, and the (non-threatened) Bogong Moth (*Agrotis infusa*). Submissions state that existing lights at the station do not comply with Australian Standards and should be rectified as part of the Proposal.

Previous works at Waterfall Station associated with car park upgrades are outside of the scope of this Proposal. In order to minimise potential impacts of light pollution, the Proposal

will be designed and constructed in accordance with relevant Australian Standards, including Australian Standard, *AS/NZS 4282:2019 Control of the Obtrusive Effects of Outdoor Lighting*.

### **Service frequency**

Six submissions (5, 6, 7, 11, 16 and 17), requested that service frequency and capacity of trains at Waterfall Station be increased. Specific comments included:

- request that more country and express trains stop at Waterfall Station
- questions whether trains leaving the stabling yard would proceed directly to Heathcote without picking up passengers at Waterfall
- concerns over trains being overcrowded prior to reaching Waterfall
- requests for increased frequency of services
- questions regarding the need for connecting services to reach Waterfall due to advertised turn up and go services from Bondi Junction to Cronulla.

The proposal relates only to infrastructure upgrades at Waterfall Station and the surrounding area. These upgrades are to facilitate 10-car NIF trains stopping at Waterfall station, stabling for 10 additional 8-car suburban trains, and to allow for freight trains to use the passing loop.

The details of any service changes on the T4 Illawarra Line are still being developed as part of the More Trains, More Services program. As part of the program, the priority will be given to the best outcomes for customers across the network.

This will be undertaken by considering not only customer and community feedback, but through the analysis of Opal data that shows where and when are customers are travelling.

Once finalised, any changes to services at Waterfall Station will be communicated to customers well in advance.

### **Non-Indigenous heritage**

Submission (5) suggested that local history specialists be consulted regarding heritage interpretation included within the design of the Proposal. The submission suggested that the Waterfall Railway turntable be subject to heritage interpretation including placing a historical railway train on the turntable to demonstrate how it once operated.

Section 6.5 and the Statement of Heritage Impact (SoHI) provided in Appendix F of the REF provide a comprehensive history of Waterfall Station and surrounds based on an extensive desktop review and site inspection of the Proposal site.

Section 6.5.4 of the REF outlines that the existing heritage interpretation signage should be retained. The construction contractor would be made aware of the plaques and interpretation boards displayed on the eastern wall of the platform building, and ensure they are not affected during the works.

The potential for additional heritage interpretation to be included with the Proposal would be considered during detailed design and in consultation with the Sydney Trains Heritage team and other relevant heritage groups.

### **Human health, contamination and odour**

Submission (5) expressed concern that the storage of chemicals within the proposed staff amenities building on the western side of the proposed stabling yard would result in potential human health and/or odour impacts for residents and visitors to the nearby local store. The submission suggested that the amenities building be constructed on the eastern side to minimise potential impacts.

In addition, three submissions (12, 13 and 14) outlined that the proposal should include sediment and oil traps to manage litter and contamination from Waterfall Station.

The proposed location of the staff amenities building was selected based on the need to provide safe and efficient servicing of trains stabled on the western side of the Waterfall Yard. Several options were explored including upgrading facilities on the eastern side only. These options were dismissed based on potential safety issues for cleaning staff as they would have to carry their cleaning equipment, including chemicals, to the western side of the proposed stabling yard to clean the trains. Additionally, there are no existing amenities such as toilets on the western side of the proposed stabling yard requiring cleaning staff to return to the eastern side to use these facilities.

Chemicals stored in the amenities building would consist of cleaning products and potentially oils and fuels for maintenance purposes. These substances would not generally be considered to pose a risk to human health or be likely to result in significant odours. As outlined in section 6.9.3 of the REF, all fuels, chemicals and hazardous liquids would be stored away from drainage lines, within an impervious bunded area in accordance with Australian Standards, EPA Guidelines and TfNSW's *Chemical Storage and Spill Response Guidelines* (TfNSW, 2018).

As outlined in section 6.8.2 of the REF, erosion and sediment control measures would be established prior to any clearing, grubbing and site establishment activities and would be maintained and regularly inspected (particularly following rainfall events) to ensure their ongoing functionality. These measures would be maintained and left in place until the works are complete and areas are stabilised. Residual contamination during ongoing operation of the rail line is not considered significant and does not require specific mitigation measures.

### **Indigenous heritage**

Three submissions (12, 13 and 14) expressed concerns regarding the adequacy of the Indigenous heritage assessment as a result of the Dharawal community elders not being consulted.

The Indigenous heritage assessment within the REF was undertaken in accordance with the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (DECCW, 2010), including the requirements for consultation with local Aboriginal communities. Given the scope of the proposed works, previous disturbance of the ground during historic use as a rail corridor and lack of identified Indigenous sites within the proposal area it was not considered necessary to consult with the Aboriginal community during preparation of the REF.

Should unexpected items of Indigenous heritage be uncovered during the works, measures outlined in section 6.4.3 of the REF would minimise potential impacts. Specifically, if unexpected Indigenous heritage objects are uncovered during construction, the procedures contained in TfNSW's *Unexpected Heritage Finds Guideline* (TfNSW, 2019b) would be followed, and works within the vicinity of the find would cease immediately. The contractor would immediately notify the TfNSW Project Manager and TfNSW Environment and Planning Manager so they can assist in co-ordinating the next steps which are likely to involve consultation with an Aboriginal heritage consultant, the Department of Planning, Industry and Environment and the Local Aboriginal Land Council.

### **Tree removal**

One submission (6) raised concerns regarding the removal of trees along the road and rail line.

Section 6.7.3 of the REF outlines that 23 trees require removal due to major encroachment within the tree protection zone (TPZ). These trees are unable to be retained without substantial modification of the proposed footprint. The total area of vegetation for removal is 1.31 hectares and consists of:



- 0.82 hectares of Sydney South Exposed Sandstone Woodland
- 0.41 hectares of Sydney South Exposed Sandstone Woodland Regeneration
- 0.08 hectares of planted native and exotic cover.

Vegetation would be removed and offset in accordance with TfNSW's *Vegetation Management (Protection and Removal) Guideline* (TfNSW, 2019) and relevant ISCA requirements. Measures outlined in section 6.7.4 of the REF would be implemented to minimise any further impacts to vegetation as a result of the Proposal.

### **Construction timing**

One submission (6) questioned when the proposed nine day shutdown period would occur and requested details regarding alternative travel arrangements.

TfNSW and Sydney Trains will work together to minimise impacts on customers and the local community during the shutdown period. The date of the shutdown period would be confirmed with the construction contractor once detailed design of the Proposal has been completed. Customers would be notified in advance of the date of the shutdown. During the shutdown rail replacement buses would be provided.

### **Scope of the Proposal**

Two submissions (15 and 17) raised concerns that the Proposal does not address the key limitations for Waterfall Station. The submissions suggested a number of additional components to include in the Proposal to address operational constraints at the station including:

- add two basic platforms on the refuge lines for terminating suburban trains from Sydney and terminating trains from Waterfall, which would allow South Coast trains to sustain higher speeds through Waterfall using the main lines. This would also require enhancement of the proposed staff pedestrian bridge to allow passengers to move between platforms
- design the refuge lines to be the normal line speed through lines for South Coast trains, including the installation of turnouts from these new 'main lines' with suitable speeds for trains stopping at Waterfall, and use the current main lines north of Waterfall as freight refuges.

Section 2.2 and 2.3 of the REF outline the objectives considered during design development of the Proposal and the various alternatives considered. The preferred option was selected as it would successfully meet the objectives of the Proposal whilst also reducing the proposal footprint and extent of retaining walls.

The track layout of the proposed Waterfall Stabling Yard was driven by the business requirements of the More Trains, More Services program, which is to support the functionality to operate main line movements free from any interface with freight trains. This would be provided by the proposed Up Goods Loop (Freight Loop) achieving a dedicated freight loop away from the station platform and therefore bypassing the main line. Subsequently, the track layout drives the other elements at Waterfall Stabling Yard such as the location of the amenities building, staff footbridge and signal huts.

TfNSW has consulted with relevant stakeholders to optimise the track layout and the type and form of the staff access, which has subsequently influenced the assessment of operational functionality that supports safety, costs, constructability (including enabling works), environmental impacts, and Sydney Trains possession planning.

The preferred option is considered to represent the best option in terms of cost, safety, constructability, environmental impact and consistency with existing Sydney Trains standards.

## Loftus Station upgrades

One submission (2) outlined suggestions for potential future upgrades to pedestrian movements and signage at Loftus Station.

The Proposal relates only to the Waterfall Stabling Yard and Platform Extension. Potential future upgrades to Loftus Station are considered out of scope of the Proposal.

## Bush fire

One submission (6) questioned whether the National Parks and Wildlife Service would be conducting hazard reduction burns along the track from Waterfall to Heathcote to ensure trains can run during bush fires.

Hazard reduction burns are out of scope of the Proposal and continue to be the responsibility of the NSW Rural Fire Service and NSW National Parks and Wildlife Service. TfNSW will pass this request on to the NSW Rural Fire Service and NSW National Parks and Wildlife Service.

## 2.4 Future consultation

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

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

The [TfNSW email address](mailto:projects@transport.nsw.gov.au)<sup>3</sup>, TfNSW Infoline (1800 684 490) and 24-hour Construction Response Line (1800 775 465) would continue to be available during the construction phase. Targeted consultation methods, such as use of letters, notifications, signage and verbal communications, would continue to occur. The [TfNSW website](https://www.transport.nsw.gov.au/projects/more-trains-more-services)<sup>4</sup> would also include updates on the progress of construction.

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<sup>3</sup> [projects@transport.nsw.gov.au](mailto:projects@transport.nsw.gov.au)

<sup>4</sup> <https://www.transport.nsw.gov.au/projects/more-trains-more-services>

### **3 Changes to the Proposed Activity**

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

## 4 Consideration of the environmental impacts

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### 4.1 *Environmental Planning and Assessment Act 1979*

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

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

In respect of the Proposed Activity an assessment has been carried out regarding potential impacts on areas of outstanding biodiversity, threatened species, populations or ecological communities or their habitats, under section 5.7 of the EP&A Act.

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

### 4.2 *Environment Protection and Biodiversity Conservation Act 1999*

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

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

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

## **5 Conditions of Approval**

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

## 6 Conclusion

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

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

The Proposal would contribute to the delivery of service improvements on the T4 Eastern Suburbs and Illawarra, and South Coast Lines, including capacity, reliability and connectivity improvements for customers. The Proposal would provide the following benefits:

- additional capacity for stabling of suburban trains on the T4 Illawarra line to support an uplift in the number of services
- provide additional freight refuge to allow passenger services to overtake freight services
- facilitate new 10-car intercity trains stopping at Waterfall Station.

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

# Determination

## WATERFALL STABLING YARD AND PLATFORM EXTENSION

### APPROVAL

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

1. Have examined and considered the Proposed Activity in the *Waterfall Stabling Yard and Platform Extension Review of Environmental Factors* (August, 2019) and the *Waterfall Stabling Yard and Platform Extension Determination Report* (November, 2019) in accordance with section 5.5 of the *Environmental Planning and Assessment Act 1979*.
2. Determine on behalf of Transport for NSW (the Proponent) that the Proposed Activity may be carried out in accordance with the Conditions of Approval in this Determination Report (November, 2019), consistent with the Proposal described in the *Waterfall Stabling Yard and Platform Extension Review of Environmental Factors* (August, 2019) as amended by this Determination Report (November, 2019).



Louise Sureda  
Director, Planning and Environment  
Infrastructure and Place  
Transport for NSW

Date:

15.11.19

## References

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- TfNSW (November 2018), *Chemical Storage and Spill Response Guidelines*, Sydney
- TfNSW (August 2019), *More Trains, More Services Waterfall Stabling Yard and Platform Extension: Review of Environmental Factors*, Sydney
- TfNSW (April 2019), *Unexpected Heritage Finds Guideline*, Sydney
- TfNSW (July 2019), *Vegetation Management (Protection and Removal) Guideline*, Sydney
- NSW Department of Planning (1995), *Is an EIS required?*, Sydney
- NSW Department of Environment, Climate Change and Water (DECCW) (September 2010), *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales*, Sydney



# Appendix A      Review of Environmental Factors

Please refer to the TfNSW website to access the Waterfall Stabling Yard and Platform Extension REF:

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

# Appendix B Conditions of Approval

## CONDITIONS OF APPROVAL

### Waterfall Stabling Yard and Platform Extension

Note: these conditions of approval must be read in conjunction with the final mitigation measures in the *Waterfall Stabling Yard and Platform Extension Review of Environmental Factors* (August, 2019).

### Schedule of acronyms and definitions used

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

<b>Acronym</b>	<b>Definition</b>
<b>REF</b>	Review of Environmental Factors
<b>TfNSW</b>	Transport for NSW
<b>TMP</b>	Traffic Management Plan
<b>UDP</b>	Urban Design Plan

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

## General

**1 Terms of Approval**

The Project shall be carried out generally in accordance with the environmental impact assessment (EIA) for this Project, which comprises the following documents:

- a) *Waterfall Stabling Yard and Platform Extension – Review of Environmental Factors*, (TfNSW, August 2019)
- b) *Waterfall Stabling Yard and Platform Extension – Determination Report*, (TfNSW, November 2019)

In the event of an inconsistency between these conditions and the EIA, these conditions will prevail to the extent of the inconsistency.

**2 Project Modifications**

Any modification to the Project as approved in the EIA would be subject to further assessment. This assessment would need to demonstrate that any environmental impacts resulting from the modifications have been minimised. The assessment shall be subject to approval under delegated authority by TfNSW. The Proponent shall comply with any additional requirements from the assessment of the Project modification.

**3 Statutory Requirements**

These conditions do not relieve the Proponent of the obligation to obtain all other licences, permits, approvals and land owner consents from all relevant authorities and land owners as required under any other legislation for the Project. The Proponent shall comply with the terms and conditions of such licences, permits, approvals and permissions.

**4 Pre-Construction Environmental Compliance Matrix**

A Pre-Construction Environmental Compliance Matrix (PECM) for the Project (or such stages of the Project as agreed to by the Associate Director Environmental Management (ADEM)) shall be prepared detailing compliance with all relevant conditions and mitigation measures prior to commencement of construction. The PECM shall also include details of approvals, licences and permits required to be obtained under any other legislation for the Project.

A copy of the PECM shall be submitted to the ADEM for approval, at least 21 days prior to commencement of construction of the Project (or within such time as otherwise agreed to by the ADEM).

**5 Construction Environmental Compliance Report**

The Proponent shall prepare a construction environmental compliance report (CECR) which addresses the following matters:

- (a) compliance with the construction environmental management plan (CEMP) and these conditions
- (b) compliance with Infrastructure Sustainability Council of Australia (ISCA) Infrastructure Sustainability Rating Scheme (v1.2)
- (c) compliance with any approvals or licences issued by relevant authorities for construction of the Project
- (d) implementation and effectiveness of environmental controls (the assessment of effectiveness should be based on a comparison of actual impacts against performance criteria identified in the CEMP)
- (e) environmental monitoring results, presented as a results summary and analysis
- (f) details of the percentage of waste diverted from landfill and the percentage of spoil beneficially reused

**CoA  
number****Condition**

- (g) number and details of any complaints, including summary of main areas of complaint, actions taken, responses given and intended strategies to reduce recurring complaints (subject to privacy protection)
- (h) details of any review and amendments to the CEMP resulting from construction during the reporting period
- (i) any other matter as requested by the ADEM.

The Proponent shall:

- i) submit a copy of the CECR to the EMR for review. The EMR is to be given a minimum period of 7 days to review and provide any comments to the Proponent in relation to the CECR
- ii) submit a copy of the CECR to the ADEM (or nominated delegate) for approval upon completion of the EMR review period.

The first CECR shall report on the first six months of construction and be submitted within 21 days of expiry of that period (or at any other time interval agreed to by the ADEM). CECRs shall be submitted no later than six months after the date of submission of the preceding CECR (or at other such periods as requested by the ADEM) for the duration of construction.

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**6 Pre-Operation Compliance Report**

A pre-operation compliance report (POCR) for the Project shall be prepared, prior to commencement of operation of the Project. The POCR shall detail compliance with all conditions of approval, licences and permits required to be obtained under any other legislation for the project.

The Proponent shall:

- (a) submit a copy of the POCR to the EMR for review. The EMR is to be given a minimum period of 7 days to review and provide any comments to the Proponent in relation to the POCR.
- (b) upon completion of the EMR review period submit a copy of the POCR to the ADEM (or nominated delegate) for approval. The POCR is to be provided to the ADEM at least one month prior to the scheduled operation of the Project (or such time as otherwise agreed to by the ADEM).

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**7 Graffiti and advertising**

Hoardings, site sheds, fencing, acoustic walls around the perimeter of the site, and any structures within the project footprint or built as part of the Project are to be maintained free of graffiti and advertising not authorised by the Proponent during the construction period. Graffiti and unauthorised advertising will be removed or covered within the following timeframes:

- (a) offensive graffiti will be removed or concealed within 24 hours
- (b) highly visible (yet inoffensive) graffiti will be removed or concealed within a week
- (c) graffiti that is neither offensive or highly visible will be removed or concealed within a month
- (d) any unauthorised advertising material will be removed or concealed within 24 hours.

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**Communications****8 Community Liaison Management Plan**

A Community Liaison Management Plan (CLMP) shall be prepared and implemented to engage with government agencies, relevant councils, landowners, community members and other relevant stakeholders (such as utility and service providers, bus companies, Taxi Council and businesses). The CLMP shall comply with the obligations of these conditions and should include, but not necessarily be limited to:

- a) details of the protocols and procedures for disseminating information and liaising with

the community and other key stakeholders about construction activities (including timing and staging) and any associated impacts during the construction period

- c) stakeholder and issues identification and analysis
- d) procedures for dealing with complaints or disputes and response requirements, including advertising the 24 hour construction response line number

The CLMP shall be prepared to the satisfaction of the Director Community Engagement (or nominated delegate) prior to the commencement of construction and implemented, reviewed and revised as appropriate during construction of the Project.

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**9 Community Notification and Liaison**

The local community shall be advised of any activities related to the Project with the potential to impact upon them.

Prior to any site activities commencing and throughout the Project duration, the community is to be notified of works to be undertaken, the estimated hours of construction and details of how further information can be obtained (i.e. contact telephone number/email, website, newsletters etc.) including the 24 hour construction response line number.

Construction-specific impacts including information on traffic changes, access changes, detours, services disruptions, public transport changes, high noise generating work activities and work required outside the nominated working hours shall be advised to the local community at least seven days prior to such works being undertaken or other period as agreed to by the Director Community Engagement or as required by the Environment Protection Authority (EPA) (where an Environment Protection Licence (EPL) is in effect).

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**10 Website**

The Proponent shall provide electronic information (or details of where hard copies of this information may be accessed by members of the public) related to the Project, on dedicated pages within its existing website, including:

- a) a copy of the documents referred to under Condition 1 of this approval
- b) a list of environmental management reports that are publicly available
- c) 24 hour contact telephone number for information and complaints.

All documents uploaded to the website must be compliant with the *Web Content Accessibility Guidelines Version 2.0*.

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**11 Complaints Management**

The Proponent shall set up a 24 hour construction response line number.

Details of all complaints received during construction are to be recorded on a complaints register. A verbal response to phone enquiries on what action is proposed to be undertaken is to be provided to the complainant within two hours during all times construction is being undertaken and within 24 hours during non-construction times (unless the complainant agrees otherwise). A verbal response to written complaints (email/letter) should be provided within 48 hours of receipt of the communication. A detailed written response is to be provided to the complainant within seven calendar days for verbal and/or written complaints.

Information on all complaints received during the previous 24 hours shall be forwarded to the TfNSW Community Engagement Manager and the TfNSW Environment and Planning Manager each working day.

## Environmental Management

12

**Construction Environmental Management Plan**

A Construction Environmental Management Plan (CEMP) shall be prepared prior to commencement of construction which addresses the following matters, as a minimum:

- a) traffic and pedestrian management (in consultation with the relevant roads authority)
- b) noise and vibration management
- c) water and soil management
- d) air quality management (including dust suppression)
- e) indigenous and non-indigenous heritage management
- f) flora and fauna management
- g) storage and use of hazardous materials
- h) contaminated land management (including acid sulphate soils)
- i) weed management
- j) waste management
- k) sustainability
- l) environmental incident reporting and management procedures
- m) non-compliance and corrective/preventative action procedures.

The CEMP shall:

- i) comply with the Conditions of Approval, conditions of any licences, permits or other approvals issued by government authorities for the Project, all relevant legislation and regulations, and accepted best practice management
- ii) comply with the relevant requirements of *Guideline for Preparation of Environmental Management Plans* (Department of Infrastructure, Planning and Natural Resources, 2004)
- iii) include an Environmental Policy.

The Proponent shall:

1. consult with government agencies and relevant service/utility providers as part of the preparation of the CEMP
2. submit a copy of the CEMP to EMR for review
3. submit a copy of the CEMP to the ADEM (or nominated delegate) for approval
4. review and update the CEMP at regular intervals, and in response to any actions identified as part of the EMRs audit of the document
5. ensure updates to the CEMP are made within seven days of the completion of the review or receipt of actions identified by any audit of the document, and be submitted to the ADEM for approval.

The CEMP must be approved by the ADEM prior to the commencement of construction work associated with the Project.

13

**Environment Personnel**

Suitably qualified and experienced environmental management personnel shall be available and be responsible for implementing the environmental objectives for the Project, including undertaking regular site inspections, preparation of environmental documentation and ensuring the Project meets the requirements of the Environmental Management System (EMS).

Details of the environmental personnel, including relevant experience, defined responsibilities and resource allocation throughout the project (including time to be spent on-site/off-site) are to be submitted for the approval of the ADEM, at least 21 days prior to commencement of construction of the Project (or within such time as otherwise agreed to by the ADEM).



Any adjustments to environmental resource allocations (on-site or off-site) are to be approved by the ADEM.

14

**Environmental Management Representative**

Prior to the commencement of construction, the Proponent shall appoint an EMR for the duration of the construction period for the Project.

The EMR shall provide advice to the Proponent in relation to the environmental compliance and performance of the Project. The EMR shall have responsibility for:

- (a) considering and advising the Proponent on matters specified in these conditions and compliance with such
- (b) reviewing and, where required by the Proponent, providing advice on the Project's induction and training program for all persons involved in the construction activities and monitoring implementation
- (c) periodically auditing the Project's environmental activities to evaluate the implementation, effectiveness and level of compliance of on-site construction activities with authority approvals and licences, the CEMP and associated plans and procedures, including carrying out site inspections weekly, or as required by the ADEM
- (d) reporting weekly to the Proponent, or as required by the ADEM
- (e) issuing a recommendation to the Proponent for work to stop immediately, if in the view of the EMR circumstances so require. The stop work recommendation may be limited to specific activities if the EMR can easily identify those activities
- (f) requiring reasonable steps to be taken to avoid or minimise unintended or adverse environmental impacts
- (g) reviewing corrective and preventative actions to ensure the implementation of recommendations made from the audits and site inspections
- (h) providing reports to the Proponent on matters relevant to the carrying out of the EMR role as necessary
- (i) where required by the ADEM, providing advice on the content and implementation of the CEMP and environmental controls map (ECM) in accordance with the conditions
- (j) reviewing and approving updates to the CEMP.

The EMR shall be available during construction activities to inspect the site(s) and be present on-site as required.

15

**Environmental Controls Map**

The Proponent shall prepare an environmental controls map (ECM) in accordance with TfNSW's *Guide to Environmental Controls Map (3TP-SD-015)* prior to the commencement of construction for implementation for the duration of construction. The ECM is to be endorsed by the EMR and may be prepared in stages as set out in the CEMP.

The Proponent shall submit a copy of the ECM to the EMR for review and endorsement. The EMR is to be given a minimum period of 7 days to review and endorse the ECM. Following receipt of the EMR's endorsement, the ECM shall be submitted to the ADEM (or nominated delegate) for approval, at least 14 days prior to commencement of construction (or such time as is otherwise agreed to by the ADEM).

The ECM shall be prepared as a map – suitably enlarged (e.g. A3 size or larger) for mounting on the wall of a site office and included in site inductions, supported by relevant written information.

Updates to the ECM shall be made within 7 days of the completion of the review or receipt of actions identified by any EMR audit of the document, and be submitted to the EMR for approval.

**CoA  
number****Condition****Hours of Work****16****Standard Construction Hours**

Construction activities shall be restricted to the hours of 7.00am to 6.00pm (Monday to Friday); 8.00am to 1.00pm (Saturday) and at no time on Sundays and public holidays except for the following works which are permitted outside these standard hours:

- a) any works which do not cause noise emissions to be more than 5 dBA higher than the rating background level (RBL) at any nearby residential property and/or other noise sensitive receivers
- b) out of hours work identified and assessed in the EIA or the approved Out of Hours Work Protocol (OOHWP)
- c) the delivery of plant, equipment and materials which is required outside these hours as requested by police or other authorities for safety reasons and with suitable notification to the community as agreed by the ADEM
- d) Emergency Work to avoid the loss of lives, property and/or to prevent environmental harm
- e) any other work as agreed by the ADEM (or nominated delegate) and considered essential to the Project, or as approved by the EPA (where an EPL is in effect).

**17****High Noise Generating Activities**

Rock breaking or hammering, jack hammering, pile driving, vibratory rolling, cutting of pavement, concrete or steel and any other activities which result in impulsive or tonal noise generation shall not be undertaken for more than three hours, without a minimum one hour respite period unless otherwise agreed to by the ADEM, or as approved by the EPA (where relevant to the issuing of an EPL), unless inaudible at nearby residential properties and/or other noise sensitive receivers.

**Noise and Vibration****18****Construction Noise and Vibration**

Construction noise and vibration mitigation measures shall be implemented through the CEMP, in accordance with TfNSW's *Construction Noise and Vibration Strategy* (7TP-ST-157) and the EPA's *Interim Construction Noise Guideline* (Department of Environment and Climate Change, 2009). The mitigation measures shall include, but not be limited to:

- a) details of construction activities and an indicative schedule for construction works
- b) identification of construction activities that have the potential to generate noise and/or vibration impacts on surrounding land uses, particularly sensitive noise receivers
- c) detail what reasonable and feasible actions and measures shall be implemented to minimise noise impacts (including those identified in the EIA)
- d) procedures for notifying sensitive receivers of construction activities that are likely to affect their noise and vibration amenity, as well as procedures for dealing with and responding to noise complaints
- e) an Out Of Hours Work Protocol (OOHWP) for the assessment, management and approval of works outside the standard construction hours identified in Condition 10 of this approval, including a risk assessment process which deems the out of hours activities to be of low, medium or high environmental risk, is to be developed. All out of hours works are subject to approval by the ADEM, or as approved by the EPA (where relevant to the issuing of an EPL). The OOHWP should be consistent with TfNSW's *Construction Noise and Vibration Strategy* (7TP-ST-157)
- f) a description of how the effectiveness of actions and measures shall be monitored during the proposed works, clearly indicating the frequency of monitoring, the locations at which monitoring shall take place, recording and reporting of monitoring results and if any exceedance is detected, the manner in which any non-compliance shall be

rectified.

**19****Vibration Criteria**

Vibration (other than from blasting) resulting from construction and received at any structure outside of the Project shall be limited to:

- a) for structural damage vibration – British Standard 7385 Part 2–1993 *Evaluation and measurement for vibration in buildings Part 2*
- b) for human exposure to vibration – the acceptable vibration values set out in the *Environmental Noise Management Assessing Vibration: A Technical Guideline* (Department of Environment and Conservation, 2006).

These limits apply unless otherwise approved by the ADEM through the CEMP.

**20****Piling**

Wherever practical, piling activities shall be completed using non-percussive piles. If percussive piles are proposed to be used, approval of the ADEM shall be obtained prior to commencement of piling activities.

**21****Non-Tonal Reversing Beepers**

Non-tonal reversing beepers (or an equivalent mechanism) shall be fitted and used on all construction vehicles and mobile plant regularly used on site (i.e. greater than one day) and for any out of hours work.

**22****Operational Noise and Vibration Review**

The proponent shall prepare an Operational Noise and Vibration Review (ONVR). The objective of the ONVR is to identify a framework for the management of operational noise which, as far as reasonably practical, minimises increases in operational noise levels at surrounding sensitive receivers as a result of rail operations within the new train stabling yard. The ONVR is to be prepared in consultation with Sydney Trains, and is to:

- a) identify the project specific noise levels and targets for surrounding sensitive receivers for stabling operations.
- b) identify all reasonable and feasible noise and vibration mitigation measures which could be applied to the new stabling operations consistent with the *Noise Policy for Industry* (EPA, 2017)
- c) identify specific physical and other mitigation measures for controlling noise (whether at the source and/or the receiver), including location, type and timing of implementation of the proposed operational noise mitigation measures.
- d) seek feedback from directly affected receivers on the final mitigation measures proposed in the review.

The ONVR is to also include a Noise Reduction Program in accordance with:

- i. Section 6.2 of the *NSW Noise Policy for Industry* (EPA, 2017), and
- ii. the operational noise mitigation measures described in Section 6.3.4 of the *Waterfall Stabling Yard and Platform Extension – Review of Environmental Factors*, (TfNSW, August 2019)

A copy of the ONVR shall be submitted to the EMR for review and endorsement. The EMR is to be given a minimum period of 7 days to review and endorse the ONVR. Following receipt of the EMR's endorsement, the ONVR shall be submitted to the ADEM for approval, at least one month prior to commencement of laying of rail track, or the construction of physical noise mitigation structures/measures (or such time as is otherwise agreed by the ADEM).

The approved physical mitigation measures are to be installed prior to the commencement of operations, unless otherwise agreed by the ADEM

23

**Operational Noise Compliance Monitoring**

Monitoring of operational noise levels shall be undertaken within three months of the commencement of operation of the new stabling yard. The noise monitoring shall be undertaken to confirm compliance with the predicted noise levels/targets.

Should the results of the monitoring identify exceedances of the predicted operational noise levels/targets identified in the ONVR, additional reasonable and feasible mitigation measures would be implemented in consultation with the affected property owners, to the satisfaction of the ADEM

24

**Noise impact on educational facilities**

Potentially affected pre-schools, schools, universities and any other affected permanent educational institutions shall be consulted in relation to noise mitigation measures to identify any noise sensitive periods (e.g. exam periods). As much as reasonably practicable noise intensive construction works in the vicinity of affected educational buildings are to be minimised.

25

**Property condition surveys**

Subject to landowner agreement, property condition surveys shall be completed prior to piling, excavation or bulk fill or any vibratory impact works including jack hammering and compaction (Designated Works) in the vicinity of the following buildings/structures:

- (a) all buildings/structures/roads within a plan distance of 50 metres from the edge of the Designated Works
- (b) all heritage listed buildings and other sensitive structures within 100 metres from the edge of the Designated Works.

Property condition surveys need not be undertaken if a risk assessment indicates that selected buildings/structures/roads identified in (a) and (b) will not be affected as determined by a qualified geotechnical and construction engineering expert with appropriate registration on the National Professional Engineers Register prior to commencement of Designated Works.

Selected potentially sensitive buildings and/or structures shall first be surveyed prior to the commencement of the Designated Works and again immediately upon completion of the Designated Works.

All owners of assets to be surveyed, as defined above, are to be advised (at least 14 days prior to the first survey) of the scope and methodology of the survey, and the process for making a claim regarding property damage.

A copy of the survey(s) shall be given to each owner. A register of all properties surveyed shall be maintained.

Any damage to buildings, structures, lawns, trees, sheds, gardens, etc. as a result of construction activity direct and indirect (i.e. including vibration and groundwater changes) shall be rectified at no cost to the owner(s).

**Flora and Fauna**

26

**Replanting program**

All cleared vegetation shall be offset in accordance with TfNSW's *Vegetation Offset Guide* (9TP-SD-087). All vegetation planted on-site is to consist of locally endemic native species, unless otherwise agreed by the ADEM, following consultation with the relevant council, where relevant, and/or the owner of the land upon which the vegetation is to be planted.

**CoA  
number****Condition****27****Removal of trees or vegetation**

Separate approval, in accordance with TfNSW's *Application for Removal or Trimming of Vegetation* (9TP-SD-078), is required for the trimming, cutting, pruning or removal of trees or vegetation where the impact has not already been identified in the EIA for the Project. The trimming, cutting, pruning or removal of trees or vegetation shall be undertaken in accordance with the conditions of that approval.

**Contamination and Hazardous Materials****28****Duty to Notify**

If previously unidentified contamination is identified within the site, the Proponent is to determine whether there is a Duty to Report under section 60 of the *Contaminated Land Management Act 1997*, and notify the EPA in accordance with the EPA's Guidelines on the *Duty to Report Contamination under the Contaminated Land Management Act 1997* (Environment Protection Authority, 2015).

**29****Unidentified Contamination (other than asbestos)**

If previously unidentified contamination (excluding asbestos) is discovered during construction, work in the affected area must cease immediately, and an investigation must be undertaken and a report prepared to determine the nature, extent and degree of any contamination. The level of reporting must be appropriate for the identified contamination in accordance relevant EPA guidelines, including *Guidelines for Consultants Reporting on Contaminated Sites* (OEH, 2011).

The proponent shall:

- (a) submit a copy of any contamination report to the EMR for review. The EMR is to be given a minimum period of seven days to review and provide any comments to the Proponent in relation to the report.
- (b) submit a copy of the report to the ADEM for consideration upon completion of the EMR review period. The ADEM shall determine whether consultation with the relevant council and/or EPA is required prior to continuation of construction works within the affected area.

**Note:** *In circumstances where both previously unidentified asbestos contamination and other contamination are discovered within a common area, nothing in these conditions shall prevent the preparation of a single investigation report to satisfy the requirements of both Condition 29 and Condition 30.*

**30****Asbestos Management**

If previously unidentified asbestos contamination is discovered during construction, work in the affected area must cease immediately, and an investigation must be undertaken and a report prepared to determine the nature, extent and degree of the asbestos contamination. The level of reporting must be appropriate for the identified contamination in accordance with relevant EPA and SafeWork NSW guidelines and include the proposed methodology for the remediation of the asbestos contamination. Remediation activities must not take place until receipt of the investigation report.

Works may only recommence upon receipt of a validation report from a suitably qualified contamination specialist that the remediation activities have been undertaken in accordance with the investigation report and remediation methodology.

**Note:** *In circumstances where both previously unidentified asbestos contamination and other contamination are discovered within a common area, nothing in these conditions shall prevent the preparation of a single investigation report to satisfy the requirements of both Condition 29 and Condition 30.*

**CoA  
number****Condition****31 Storage and Use of Hazardous Materials**

Construction hazard and risk issues associated with the use and storage of hazardous materials shall be addressed through risk management measures, which shall be developed prior to construction as part of the overall CEMP, in accordance with relevant EPA guidelines, TfNSW's *Chemical Storage and Spill Response Guidelines* (9TP-SD-066) and Australian and ISO standards. These measures shall include:

- a) the storage of hazardous materials, and refuelling/maintenance of construction plant and equipment to be undertaken in clearly marked designated areas that are designed to contain spills and leaks
- b) spill kits, appropriate for the type and volume of hazardous materials stored or in use, to be readily available and accessible to construction workers. Kits are to be kept at hazardous materials storage locations, in site compounds and on specific construction vehicles. Where a spill to a watercourse is identified as a risk, spill kits are to be kept in close proximity to potential discharge points in support of preventative controls
- c) all hazardous materials spills and leaks to be reported to site managers and actions to be immediately taken to remedy spills and leaks
- d) training in the use of spill kits to be given to all personnel involved in the storage, distribution or use of hazardous materials.

**Erosion and Sediment Control****32 Erosion and Sediment Control**

Soil and water management measures shall be prepared and implemented as part of the CEMP for the mitigation of water quality and hydrology impacts during construction of the Project. The management measures shall be prepared in accordance with *Managing Urban Stormwater: Soils and Construction - Volume 1*, 4th Edition (Landcom, 2004).

**Lighting****33 Lighting scheme**

A lighting scheme for the construction and operation of the Project is to be developed by a suitably qualified lighting designer and prepared in accordance with AS 1158 "Road Lighting" and AS 4282 "Control of the Obtrusive Effect of Outdoor Lighting". The lighting scheme shall address the following as relevant:

- (a) consideration of lighting demands of different areas
- (b) strategic placement of lighting fixtures to maximise ground coverage
- (c) use of LED lighting
- (d) minimising light spill by directing lighting into the station and platform
- (e) control systems for lighting that dim or switch-off lights settings according to the amount of daylight the zone is receiving
- (f) motion sensors to control low traffic areas
- (g) allowing the lighting system to use low light or switch off light settings while meeting relevant lighting Standards requirements, and
- (h) ensuring security and warning lighting is not directed at neighbouring properties.

The proposed lighting scheme is to be submitted to and endorsed by the TfNSW Technical Design Team.

**Sustainability****34 Sustainability officer**

The Proponent shall appoint a suitably qualified and experienced sustainability officer who is responsible for implementing sustainability objectives for the Project.

Details of the sustainability officer, including defined responsibilities, duration and resource

allocation throughout the appointment consistent with the Proponent's sustainability objectives are to be submitted to the satisfaction of the ADSPD prior to preparation of the pre-construction sustainability report (PCSR).

**35 Pre-construction sustainability report**

Prior to commencement of construction, a PCSR shall be prepared to the satisfaction of the ADSPD. The Report shall include the following minimum components:

- (a) Completed ISCA Scorecard demonstrating credits targeted to meet an ISCA Infrastructure Sustainability Rating Scheme (v1.2) Design and As Built, Excellent Rating
- (b) a statement outlining the Proponent's own corporate sustainability obligations, goals, targets, in house tools, etc.
- (c) a section specifying a process to identify and progress innovation initiatives on the project as appropriate. The process should identify any areas of innovation that are currently being explored and/or implemented on the Project.

The Proponent shall submit a copy of the PCSR to the ADSPD for approval, at least 14 days prior to the commencement of construction (or within such time as otherwise agreed to by the ADSPD).

**Urban design and landscaping****36 Urban Design Plan**

An Urban Design Plan (UDP) is to be submitted to TfNSW and endorsed by the Precincts and Urban Design team during detailed design. The UDP is to address the fundamental design principles as outlined in *'Around the Tracks' – urban design for heavy and light rail, TfNSW, Interim 2016*. The UDP shall:

- a) Demonstrate a robust understanding of the site through a comprehensive site analysis to inform the design direction, demonstrate connectivity with street networks, transport modes, active transport options, and pedestrian distances
- b) Identify opportunities and challenges
- c) Establish site specific principles to guide and test design options
- d) Demonstrate how the preferred design option responds to the design principles established in *'Around the Tracks'*, including consideration of Crime Prevention through Environmental Design Principles

The UDP is to include the Public Domain Plan (PDP) for the chosen option and will provide analysis of the:

- 1) Landscape design approach including design of pedestrian and bicycle pathways, street furniture, interchange facilities, new planting and opportunities for public art
- 2) Materials Schedule including materials and finishes for proposed built works, colour schemes, paving and lighting types for public domain, fencing and landscaping
- 3) An Artist's Impression or Photomontage to communicate the proposed changes to the precinct.

The following design guidelines are available to assist and inform the UDP for the Proposal:

1. *TAP Urban Design Plan, Guidelines*, TfNSW, Draft 2018
2. *Commuter Car Parks, urban design guidelines*, TfNSW, Interim 2017
3. *Managing Heritage Issues in Rail Projects Guidelines*, TfNSW, Interim 2016
4. *Creativity Guidelines for Transport Systems*, TfNSW, Interim 2016
5. *Water Sensitive Urban Design Guidelines for TfNSW Projects*, 2016

**Traffic and Access****37****Traffic Management Plan**

The Proponent shall prepare a construction traffic management plan (TMP) as part of the CEMP which addresses, as a minimum, the following:

- (a) ensuring adequate road signage at construction work sites to inform motorists and pedestrians of the work site ahead to ensure that the risk of road accidents and disruption to surrounding land uses is minimised
- (b) maximising safety and accessibility for pedestrians and cyclists
- (c) ensuring adequate sight lines to allow for safe entry and exit from the site
- (d) ensuring access to railway stations, businesses, entertainment premises and residential properties (unless affected property owners have been consulted and appropriate alternative arrangements made)
- (e) managing impacts and changes to on and off street parking and requirements for any temporary replacement provision
- (f) parking locations for construction workers away from stations and busy residential areas and details of how this will be monitored for compliance
- (g) routes to be used by heavy construction-related vehicles to minimise impacts on sensitive land uses and businesses
- (h) details for relocating kiss-and-ride, taxi ranks and rail replacement bus stops if required, including appropriate signage to direct patrons, in consultation with the relevant bus operator. Particular provisions should also be considered for the accessibility impaired.
- (i) measures to manage traffic flows around the area affected by the Project, including as required regulatory and direction signposting, line marking and variable message signs and all other traffic control devices necessary for the implementation of the TMP.

The Proponent shall consult with the relevant roads authority during preparation of the TMP, as required. The performance of all Project traffic arrangements must be monitored during construction.

**38****Road condition reports**

Prior to construction commencement, the Proponent shall prepare road condition surveys and reports on the condition of roads and footpaths affected by construction. Any damage resulting from the construction of the Project, aside from that resulting from normal wear and tear, shall be repaired at the Proponent's expense.

**39****Road safety audit**

A Road Safety Audit would be undertaken as part of the detailed design process. The Road Safety Audit would include specific assessment of items including access to the new amenities building from the Princess Highway.

The Road Safety Audit is to be submitted to and endorsed by TfNSW. Any recommendations made in the Audit relating to Sutherland Shire Council matters outside the project scope and boundary would be provided to Council for their recommendation and or action.



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**Condition**

**Heritage Management**

**41**

**Indigenous and non-Indigenous heritage**

If previously unidentified Indigenous or non-Indigenous heritage/archaeological items are uncovered during construction works, the procedures contained in the TfNSW *Unexpected Heritage Finds Guideline* (3TP-SD-115) shall be followed and all works in the vicinity of the find shall cease.

The TfNSW Environment and Planning Manager shall be immediately notified to coordinate a response, which may include seeking appropriate advice from a suitably qualified and experienced heritage advisor (in consultation with the Department of Premier and Cabinet (Heritage) where appropriate). Works in the vicinity of the find shall not recommence until clearance has been received from TfNSW and/or the heritage advisor.

**42**

**Vibration Impacts to Heritage Listed Structures at the Station**

To effectively mitigate potential impacts of vibration on the heritage structures within the Proposal Area, activities that cause vibration are to be managed in accordance with TfNSW's *Construction Noise and Vibration Strategy* (7TP-ST-157).

**43**

**Archival recording**

Archival recording is to be undertaken prior to the commencement of construction in accordance with the NSW Heritage Division guidelines *Photographic recording of heritage items using film or digital capture* (NSW Heritage Office, 2006) and *How to prepare archival records* (NSW Heritage Office, 1998). Copies are to be provided to Sydney Trains for future reference.

END OF CONDITIONS