



Transport Access Program

Birrong Station Upgrade

Determination Report



Artist's impression of the proposed Birrong Station Upgrade, subject to detailed design



Birrong Station Upgrade – Determination Report

Transport Access Program

Ref – 6409805

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Glossary and abbreviations

Term	Meaning
BC Act	<i>Biodiversity Conservation Act 2016 (NSW)</i>
BDAR	Biodiversity Development Assessment Report
CBD	Central Business District
CCTV	Closed-circuit television
CEMP	Construction Environmental Management Plan
CLMP	Community Liaison Management Plan
Concept design	The concept design is the preliminary design presented in the REF, which would be refined by the Construction Contractor (should the Proposed Activity proceed) to a design suitable for construction (subject to TfNSW acceptance).
Construction Contractor	The Construction Contractor for the Proposed Activity would be appointed by TfNSW to undertake the detailed design and construction of the Proposed Activity.
CPTED	Crime Prevention Through Environmental Design
DDA	<i>Disability Discrimination Act 1992 (Cwlth)</i>
Detailed design	Detailed design broadly refers to the process that the Construction Contractor undertakes (should the Proposed Activity proceed) to refine the concept design to a design suitable for construction (subject to TfNSW acceptance).
Determination Report	This document – a report prepared by TfNSW to assess and address certain matters to allow for a determination of the Proposed Activity under, and in accordance with Division 5.1 of the EP&A Act.
DSAPT	<i>Disability Standards for Accessible Public Transport (2002)</i>
EIS	Environmental Impact Statement
EP&A Act	<i>Environmental Planning and Assessment Act 1979 (NSW)</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000 (NSW)</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cwlth)</i>
Infrastructure SEPP	<i>State Environmental Planning Policy (Infrastructure) 2007 (NSW)</i>
ISCA	Infrastructure Sustainability Council of Australia
Kiss and ride space	A kiss and ride space allows for quick entry and exit which helps minimise congestion and risk when used properly. These types of bays operate under the same conditions as no parking zones, which means a driver may stop to drop off or pick up others for a maximum of two minutes. The driver is required to remain in, or within three metres of their vehicle.
LEP	Local Environmental Plan
LGA	Local Government Area
NES	Matters of 'National Environmental Significance' under the EPBC Act
NSW	New South Wales
Proponent	A person or body proposing to carry out an activity under Division 5.1 of the EP&A Act – in this instance, TfNSW.
Proposed Activity	The construction and operation of the Birrong Station Upgrade

Term	Meaning
REF	Review of Environmental Factors
SIS	Species Impact Statement
TfNSW	Transport for NSW (the Proponent)
TGSI	Tactile ground surface indicators

Executive summary

Overview of Proposed Activity

The Transport Access Program is a NSW Government initiative to provide a better experience for public transport customers by delivering accessible, modern, secure and integrated transport infrastructure. The program aims to provide:

- stations that are accessible to those with disabilities, are less mobile and parents/carers with prams and customers with luggage
- modern buildings and facilities that meet the needs of a growing population
- modern interchanges that support an integrated network and allow seamless transfers for all customers
- safety improvements including extra lighting, lift alarm, fences and security measures at stations.

Birrong Station has been identified for an accessibility upgrade as it does not currently meet key requirements of the *Disability Standards for Accessible Public Transport* (DSAPT) or the Commonwealth *Disability Discrimination Act 1992* (DDA). The proposed upgrade works would aim to provide:

- a new lift and stairs to the station platform from Avalon Street overbridge
- a signposted accessible kiss and ride bay and a new accessible car park space on Teresa Street adjacent to the eastern station entrance, including associated road and kerb adjustments
- upgrades to the existing family accessible toilet and conversion of the existing unisex toilet to a unisex ambulant toilet
- adjustments to station lighting, security systems including CCTV and communication systems.

TfNSW, as the Proponent for the Proposed Activity, has undertaken a Review of Environmental Factors (REF) that details the scope of works and environmental impacts associated with the Proposed Activity (Appendix A). The REF was prepared by 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

Since the public display of the REF, the following key design changes have been made to the Proposed Activity:

- existing station access to be modified to accommodate a new lift concourse and stairs from Avalon Street overbridge to the station platform
- widening of the footpath along the southern side of Avalon Street overbridge to achieve DSAPT compliance
- minor changes to existing construction compound / stockpile areas and two new laydown areas proposed on the eastern side of the rail corridor to facilitate footpath widening and kiss and ride works
- installation of a temporary footbridge to ensure access is maintained to the station during construction.

The impacts associated with the design changes have been considered in accordance with clause 228 of the EP&A Regulation (refer to Chapter 3).

Should further design modifications be required as a result of the detailed design process, these modifications would be assessed to determine consistency with the Conditions of Approval for the Proposed Activity, 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 Birrong Station Upgrade, to comply with its obligations under Division 5.1 of the EP&A Act and determine whether or not to proceed with the carrying out of 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, consideration of the submissions received and the design changes subsequent to the public display of the REF, it is recommended that the Proposed Activity be approved, subject to the mitigation measures included in the REF and the proposed Conditions of Approval (refer Appendix B). TfNSW would continue to liaise with the community and other stakeholders as the Proposed Activity progresses through detailed design and into the construction phase.

1. Introduction

1.1. Background

The Transport Access Program is a NSW Government initiative to provide a better experience for public transport customers by delivering accessible, modern, secure and integrated transport infrastructure. The program aims to provide:

- stations that are accessible to those with disabilities, are less mobile and parents/carers with prams and customers with luggage
- modern buildings and facilities that meet the needs of a growing population
- modern interchanges that support an integrated network and allow seamless transfers for all customers
- safety improvements including extra lighting, lift alarm, fences and security measures at stations.

Birrong Station has been identified for an accessibility upgrade as it does not currently meet key requirements of the *Disability Standards for Accessible Public Transport* (DSAPT) or the Commonwealth *Disability Discrimination Act 1992* (DDA). The non-compliant station entrances and stairs to the platform do not facilitate access for people with reduced mobility, parents/carers with prams or customers with luggage. There are no accessible parking spaces, no lift facilities and inadequate Tactile Ground Surface Indicators (TGSIs) to stairs, platforms and interchange facilities.

TfNSW is the Proponent for the Birrong Station Upgrade (referred to as the 'Proposed Activity' for the purposes of this document). Also refer to Section 1.4 for a description of the Proposed Activity.

1.2. Review of Environmental Factors

A Review of Environmental Factors (REF) has been prepared by TfNSW in accordance with Sections 5.5 and 5.7 of the *Environmental Planning and Assessment 1979* (EP&A Act), and clause 228 of the *Environmental Planning and Assessment Regulation 2000* (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 at Appendix A.

The Birrong Station Upgrade REF was placed on public display from 4 December 2019 until 18 December 2019, with 18 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 1).

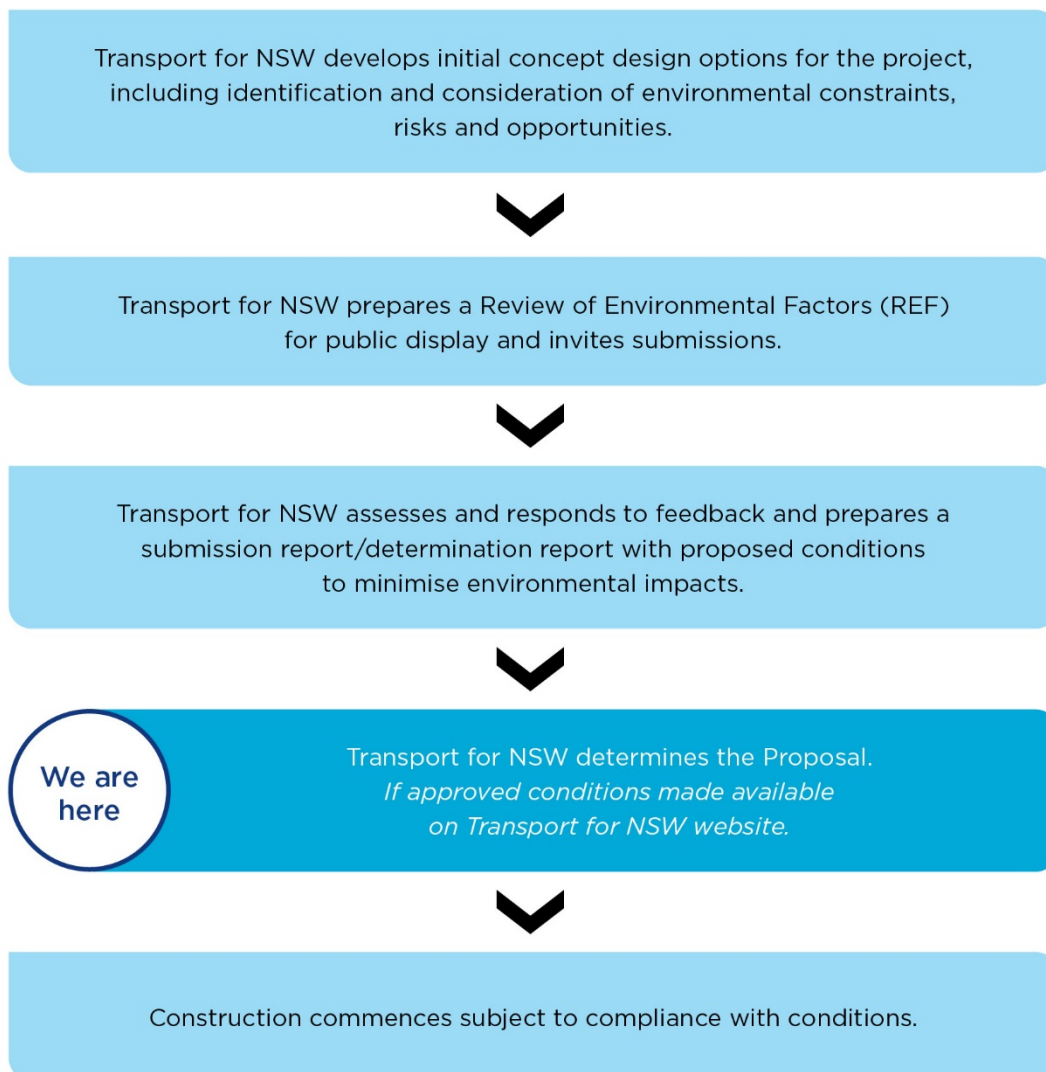


Figure 1 Planning approval process

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

1.4. Description of the Proposed Activity in the REF

Birrong Station is located at Rodd Street, Birrong around 21 kilometres south-west of the Sydney Central Business District (CBD). The station is within the City of Canterbury Bankstown Local Government Area (LGA). Birrong Station is serviced by the T3 Bankstown Line and provides public transport links between Liverpool and Sydney (Central) and the City Circle via Bankstown.

A detailed description of the Proposed Activity was provided in Chapter 3 of the Birrong Station Upgrade REF, which included:

New footbridge, lift and ramps:

- installation of a new pedestrian footbridge south of the existing Avalon Street overbridge which would provide access from Rodd Street (east) over the rail corridor to Rodd Street (west). The footbridge would comprise of a concrete structure with protection screens
- installation of one lift to provide access between the new pedestrian footbridge and the platform
- construction of a new eastern station entrance, to include accessible ramp and stairs to connect to the new footbridge, with landscaping near the entrance
- construction of a new western entrance, to include a new accessible ramp and stairs to connect to the new footbridge, with landscaping near the entrance
- removal of the existing stairs to the platform from the Avalon Street overbridge and reinstating the existing bridge parapet.

Platform and station building works:

- localised platform regrading to ensure accessibility, tactile ground surface indicators and line marking as required for DSAPT compliance
- canopies at the boarding assistance zones (design of these canopies is yet to be determined and would be finalised in detailed design)
- conversion of the existing unisex toilet to a unisex ambulant toilet
- upgrades to the existing family accessible toilet including:
 - replacement of items for compliance with DSAPT
 - new entry ramp
- extension of the roof canopy of the platform building to provide adequate shelter at the family accessible toilet entrance.

Interchange upgrades:

- a signposted accessible kiss and ride bay on Teresa Street adjacent to the eastern station entrance, including associated road and kerb adjustments
- an accessible parking space to the eastern side of the station (adjacent to Birrong Boys High School staff car park entrance)
- conversion of the two existing accessible parking spaces in the commuter car park to standard car parking spaces.

Electrical supply and systems work:

- upgrade to the station power supply and a new 11kV padmount substation to be located on the eastern side of the rail corridor, south of the proposed footbridge
- adjustments to station lighting, security systems including CCTV and communication systems including public announcement and hearing induction loops.

A schematic outlining the key features of the Proposed Activity as described in the REF is provided in Figure 2.

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

Construction is expected to commence in mid-2020 and take around 18 months to complete.

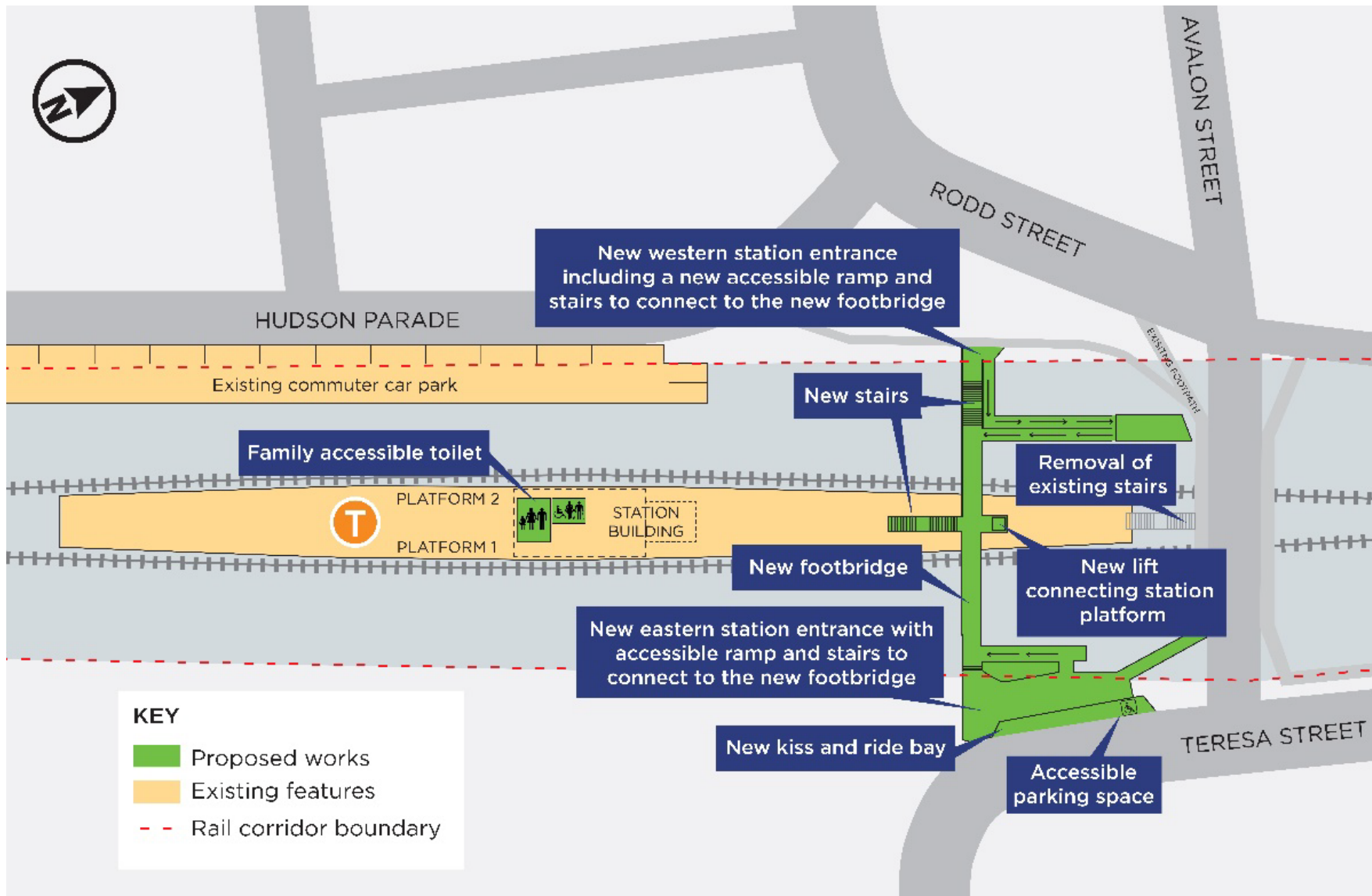


Figure 2 Key features of the Proposed Activity as described in the REF (indicative only, subject to detailed design)

2. Consultation and assessment of submissions

2.1. REF public display

The Birrong Station Upgrade REF was placed on public display from 4 December 2019 and 18 December 2019 at three locations, as well as on the [TfNSW corporate website](#)¹ and the NSW Government [Have Your Say website](#)². It was also advertised on the TfNSW Facebook page.

Community consultation activities undertaken for the public display included:

- a pop-up community information stall on Tuesday 17 December 2019 at Birrong Station
- distribution of flyers to customers at the station and approximately 8,000 flyers letterbox dropped in and around the suburb of Birrong on Thursday 5 December 2020
- installation of project signage at Birrong Station
- public display of the REF at:
 - Bankstown Customer Service Centre
Upper Ground Floor, Bankstown Civic Tower 66-72 Rickard Road
Bankstown NSW 2200
 - Regents Park Library
1 Amy Street
Regents Park NSW 2143
 - Transport for NSW Office
Level 5, Tower A, Zenith Centre
821 Pacific Highway
Chatswood NSW 2067
- advertisement in the Bankstown Canterbury Torch on Wednesday 4 December and Wednesday 11 December 2019, outlining the scope of the Proposed Activity, information on where to view the REF and specialist studies on the TfNSW website, along with details on how to make a submission
- creation of a dedicated project webpage on the TfNSW corporate website
- a briefing to City of Canterbury Bankstown Council officers on 13 January 2020
- a letter outlining the scope of the Proposed Activity, information on where to view the REF and specialist studies on the TfNSW website, along with details on how to make a submission was sent to City of Canterbury Bankstown Council as per the consultation requirements under clause 13, 15 of the *State Environmental Planning Policy (Infrastructure) 2007* (Infrastructure SEPP)
- a letter outlining the scope of the Proposed Activity, information on where to view the REF and specialist studies on the TfNSW website, along with details on how to make a submission was sent to the NSW State Emergency Service as per the consultation requirements under clause 15AA of the Infrastructure SEPP.

¹ <https://www.transport.nsw.gov.au/projects/current-projects/birrong-station-upgrade>

² <https://yoursay.transport.nsw.gov.au/>

2.2. REF submissions

A total of 18 submissions were received via letter, email, telephone and online submissions via the project website. Community submissions are addressed in Table 1, while submissions received from the State Emergency Service (SES) are addressed in Table 2.

Submissions included feedback on a range of issues in relation to the Proposed Activity. In addition to general support for the Proposed Activity, the key issues raised in submissions were:

- requests for more commuter parking, including bicycle parking
- concerns relating to current and future traffic congestion, parking infringement, and safety around the station, car park and kiss and ride
- requests to include additional canopies as part of the Proposed Activity
- requests to provide similar upgrades at nearby stations.

2.3. Consideration and response to submissions

Community submissions

Table 1 Response to community submissions received

No.	Submission no.	Issue/s raised	TfNSW response
1	General		
1.1	BIR01, BIR02, BIR03, BIR06, BIR07, BIR08, BIR011, BIR012	Eight community submissions expressed support for the Proposed Activity.	The respondents' support for the Proposed Activity is noted.
2	Traffic, access and parking		
2.1	BIR01, BIR05, BIR011	Three submissions expressed concerns around the existing and future availability of parking at the station, parking accessibility and/or requested additional parking in the vicinity.	<p>The key objective of the Proposed Activity is to improve accessibility to the Station in accordance with DSAPT and DDA. The Proposed Activity includes the installation of an accessible parking space on Teresa Street. Additional parking spaces beyond this are not part of the scope for the Proposed Activity.</p> <p>It is noted that the Proposed Activity is not anticipated to significantly increase the patronage at Birrong Station (refer to Section 6.1.2 of the REF).</p> <p>TfNSW periodically reviews the capacity of commuter car parks in line with forecast population growth and predicted customer numbers at stations, to ensure that projects consider necessary parking provisions. The request has been noted by TfNSW for future consideration.</p>
2.2	BIR01, BIR011	Two submissions expressed concerns relating to the current and future regulation of parking infringements,	City of Canterbury Bankstown have responsibility for operational regulation of parking spaces and issuing fines. This feedback will be passed on to Council for their consideration.

No.	Submission no.	Issue/s raised	TfNSW response
		particularly at the accessible car parking spaces and the kiss and ride.	
2.3	BIR07	One submission requested improvements to the station car park to enhance access to the station for less mobile people.	The key objective of the Proposed Activity is to improve accessibility to the station in accordance with DSAPT and DDA. The Proposed Activity includes the provision of a new accessible car space on Teresa Street, which would be located closer to the station entrance than the existing accessible car spaces.
2.4	BIR01	One submission suggested the expansion and/or relocation of the proposed kiss and ride to reduce traffic congestion, particularly during peak periods.	<p>The key objective of the Proposed Activity is to improve accessibility to the station in accordance with DSAPT and DDA.</p> <p>The Proposed Activity formalises an existing kiss and ride area, improving the safety for road users. The final location and configuration of the kiss and ride area is subject to detailed design and a road safety audit.</p> <p>It is noted that the Proposed Activity is not anticipated to significantly increase the patronage at Birrong Station (refer to Section 6.1.2 of the REF).</p>
2.5	BIR02, BIR07	Two submissions requested upgrades at nearby stations – Chester Hill and Yagoona respectively.	Planning is currently underway for an accessibility upgrade at Yagoona Station, further information is available on the TfNSW website (https://www.transport.nsw.gov.au/projects/current-projects/yagoona-station-upgrade). The Proposed Activity relates to Birrong Station only. However, TfNSW are progressively upgrading stations across the network to be accessible in accordance with DDA and DSAPT. Feedback to upgrade Chester Hill Station will be considered by TfNSW in future planning.
2.6	BIR09	One submission queried whether there would be a new pedestrian crossing on Teresa Street, adjacent to the kiss and ride.	The configuration of the kiss and ride area is subject to detailed design. A road safety audit would also be undertaken during detailed design (refer Appendix B – Conditions of Approval), which would consider the need for road crossings. Relevant findings of the audit would be provided to Council for consideration.
2.6	BIR09	One submission queried whether pedestrian access would still be available along Avalon Street	Pedestrian access on the Avalon Street overbridge would be staggered depending on the stage of the construction works. When widening of the footpath on the Avalon Street overbridge near the station entrance is undertaken, this existing pedestrian crossing

No.	Submission no.	Issue/s raised	TfNSW response
		and at the existing pedestrian crossing.	would not be available, and pedestrians would be redirected with appropriate traffic controls. The Proposed Activity does not involve modification to the existing pedestrian crossing. Full access along Avalon Street and the existing pedestrian crossing would be available once construction is complete.
3	Customer amenity		
3.1	BIR03, BIR08, BIR09, BIR015	Four submissions requested that additional canopies be provided along the platforms and in other areas for weather protection.	The Proposed Activity includes the installation of canopies at the lift entrances and Boarding Assistance Zones (BAZ). The focus of the Proposed Activity is to improve accessibility in accordance with the DDA and DSAPT and does not include provision for additional canopies at the station or other locations. This feedback will be considered by TfNSW in future planning.
3.2	BIR017	One submission requested that secure bicycle parking be provided at the station.	The Proposed Activity would include the provision of bicycle hoops, with the final location to be determined during detailed design.
4	Safety and security		
4.1	BIR09, BIR010	Two submissions queried whether there would be lighting and security measures installed outside the station boundary, including in the car park and in the vicinity of the kiss and ride.	The Proposed Activity includes improvements to CCTV coverage around the station precinct. Cameras would provide surveillance of lifts (inside and out), help points, and station entrances. New lighting would be installed at the new kiss and ride on the eastern side of the station, if the existing lighting is found to be non-compliant with relevant lighting standards. Final lighting and security systems at the station (including CCTV) would be subject to detailed design.
4.2	BIR016	One submission requested that clear wayfinding signage be provided at train stations to enhance the safety of vulnerable people (such as children and older people), particularly during peak times with higher pedestrian volumes.	Wayfinding signage would be installed at several locations including the kiss and ride bay, station entrance and station platform. The installation of a lift to provide access to the platform would provide the necessary access for disabled users, customers with limited mobility, parents/carers with prams and customers with luggage. Widening of the eastern footpath connecting to the lift and stairs would significantly enhance the ability for the station to accommodate pedestrian flows during peak hours. These improvements would also enhance the sense of safety and wayfinding for pedestrians.

No.	Submission no.	Issue/s raised	TfNSW response
5.	Project justification		
5.1	BIR03	One submission questioned the use of future station patronage data in the current decision making process.	Several sources of information have been utilised in this process in addition to patronage data, including forecast population growth from the <i>South District Plan 2056</i> (Greater Sydney Commission, 2018), Australian Bureau of Statistics census data, and also information from the Bureau of Transport Statistics. Further information on the need and justification for the Proposed Activity is provided in Section 2 of the REF.
6.	Construction impacts		
6.1	BIR04	One submission identified the presence of a private water main in the vicinity in case of any impacts.	The location of the water main has been passed on to the construction manager. Consultation would be undertaken with the private asset owner should any impacts on this sewer main be identified.

Other stakeholder submissions

Table 2 Response to other stakeholder submissions received

Issue no.	Stakeholder	Issue/s raised	TfNSW response
1	State Emergency Service		
1.1		The NSW State Emergency Service (NSW SES) has reviewed the proposed upgrade using the information provided with the proposal and the flood risk information (e.g. local flood Plan, flood studies etc.) available to the NSW SES. Based on this review the proposed works appear to have minimal risk to NSW SES response operations.	The respondents' review of the Proposed Activity is noted.
1.2		If the construction phase of the upgrades causes disruption to the operation of the any roads, this may impact the ability for emergency vehicles to use this route. The NSW SES requests that notification be provided where there are likely to be significant delays in the operation of any roads affected by the upgrades.	The State Emergency Service would be notified of any road closures or disruptions in the vicinity that are likely to cause significant delays in the operation of SES vehicles.

A notification letter outlining the scope of the Proposed Activity was sent to City of Canterbury Bankstown on 3 December 2019 in accordance with the consultation requirements under clause 13 and 15 of the Infrastructure SEPP, with 21 days to provide

comment. Follow up telephone correspondence was made with City of Canterbury Bankstown on 9 January 2020 and 16 January 2020.

At the time of preparing this Determination Report, no written submission had been received from Council. Since public display of the REF, ongoing consultation with Council has been ongoing regarding the revised design of the Proposed Activity. Correspondence from Council on 18 June 2020 noted the following key considerations for this revised design:

- installation of seating for the kiss and ride bay
- installation of public art on the brick wall of Avalon Street overbridge

TfNSW would consider the above comments and continue to consult with Council throughout the detailed design of the Proposed Activity.

2.4. Future consultation

Should TfNSW proceed with the Proposed Activity, consultation activities would continue, including consultation with the City of Canterbury Bankstown 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:

- local 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)³ and TfNSW Infoline (1800 684 490) 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 project website](https://www.transport.nsw.gov.au/projects/current-projects/birrong-station-upgrade)⁴ would also include updates on the progress of construction.

³ projects@transport.nsw.gov.au

⁴ <https://www.transport.nsw.gov.au/projects/current-projects/birrong-station-upgrade>

3. Changes to the Proposed Activity

3.1. Assessment of design changes

A change to the design of the Proposed Activity has been made since the public display of the Birrong Station Upgrade REF. The key changes to the design are:

- replacement of the proposed footbridge structure with a new lift concourse and stair connecting to the Avalon Street overbridge
- widening of the footpath along the southern side of Avalon Street overbridge to achieve DSAPT compliance
- location and configuration of site compounds and temporary works.

The key features of the Revised Proposed Activity are shown in Figure 3.

Further detail on these changes is outlined in Table 3, along with a discussion of the impacts. Where additional mitigation measures are required, these have been included as Conditions of Approval in Appendix B.

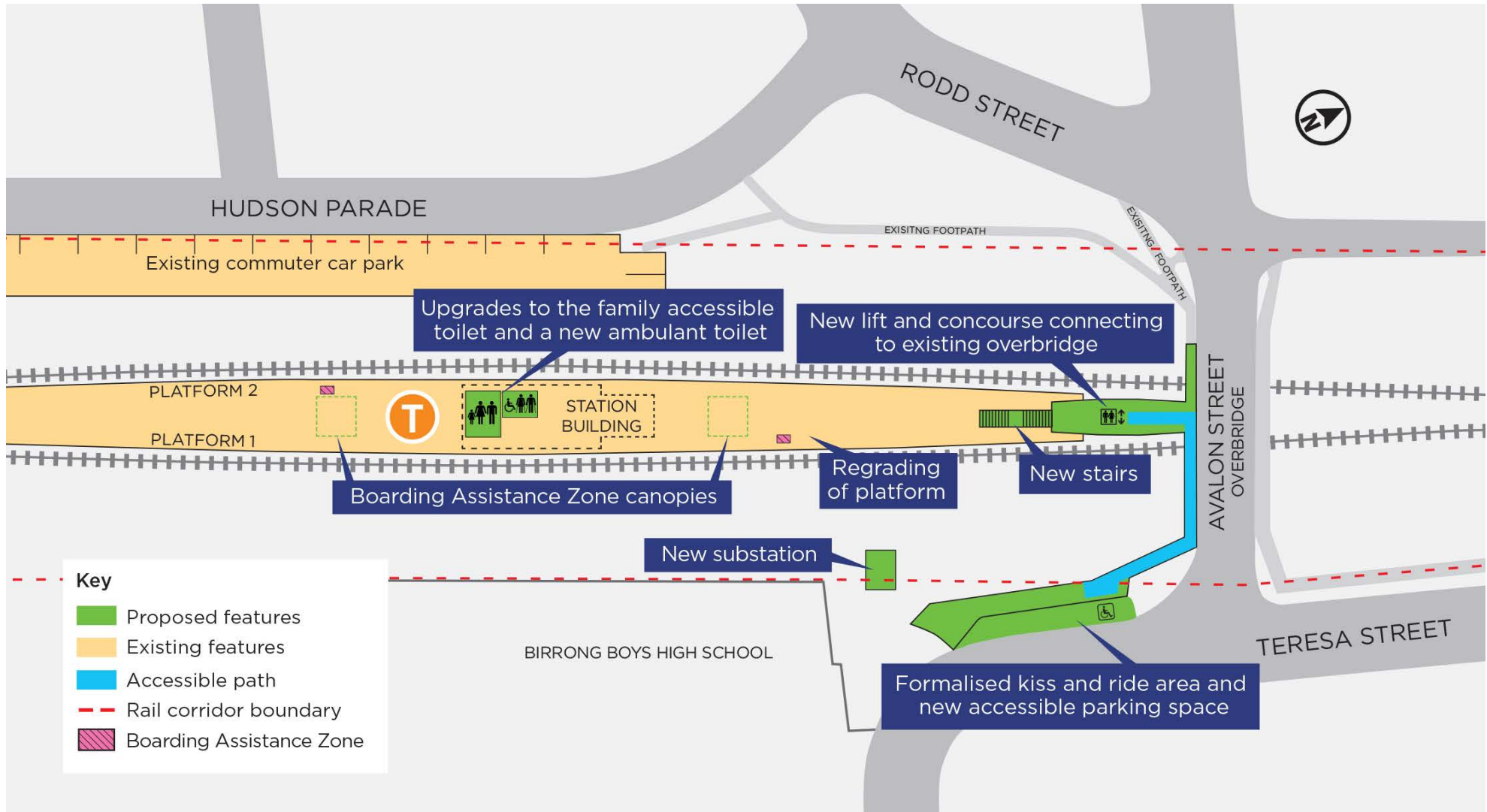


Figure 3 Revised key features of the Proposed Activity (indicative only, subject to detailed design)

Table 3 Assessment of design changes

Aspect of the Proposed Activity	Original Design	Revised Design	Discussion of impacts
Footbridge, lift and stairs	<ul style="list-style-type: none"> removal of the existing stairs to the platform from the Avalon Street overbridge and reinstating the existing bridge parapet installation of a new pedestrian footbridge south of the existing Avalon Street overbridge which would provide access from Rodd Street (east) over the rail corridor to Rodd Street (west). The footbridge would comprise of a concrete structure with protection screens installation of one lift to provide access between the new pedestrian footbridge and the platform construction of a new eastern station entrance, to include accessible ramp and stairs to connect to the new footbridge, with landscaping near the entrance construction of a new western entrance, to include a new accessible ramp and stairs to connect to the new 	<p>Since public display of the REF, design development further explored the opportunity to utilise existing infrastructure to minimise construction impacts and maintenance requirements whilst still achieving TAP program objectives.</p> <p>Subsequently, Option 1 detailed in the REF has been developed to overcome the initial challenges relating to customer access to the station during construction and heavy vehicle access during operation. A temporary footbridge structure would be installed for customers to access the Station duration of construction. Works on the Avalon Street overbridge would include the removal of the existing concrete median island and new line marking is proposed to accommodate footpath widening. These aspects are discussed in the 'Site compound and temporary works' and 'Interchange upgrades' sections of this Table respectively.</p>	<p>The key difference between the original design and the revised design is the replacement of a proposed separate footbridge extending over the rail corridor (including a central lift and stair), with a new lift/concourse/stair arrangement from the existing overbridge on Avalon Street.</p> <p>Further assessment of the revised design has been undertaken to consider the changes to visual and amenity impacts on surrounding receivers, which is detailed below.</p> <p>It is considered that there would be negligible changes to other key environmental impacts such as construction and operational traffic, construction noise and biodiversity. Therefore, the remainder of environmental impact assessments undertaken as part of the REF (December, 2019) remain applicable to the revised design.</p> <p>The following section provides a summary of the addendum landscape character and visual impact assessment that was undertaken for the revised design of the Proposed Activity.</p> <p>Addendum Visual Impact Assessment</p> <p>An addendum Landscape Character and Visual Impact Assessment (LCVIA) report (Envisage, 2020) was undertaken for the revised design of the Proposed Activity (refer to Appendix C).</p> <p>The LCVIA concluded that the revised design of the Proposed Activity would have a reduced overall impact to landscape character and surrounding viewpoints during construction, compared to the original design. Once constructed, the revised design of the Proposed Activity would have a slightly lower visual impact due to its direct association with the Avalon Street overbridge, smaller overall structure and decreased visibility from outside the railway corridor.</p>

Aspect of the Proposed Activity	Original Design	Revised Design	Discussion of impacts
	<p>footbridge, with landscaping near the entrance</p> <ul style="list-style-type: none"> removal of one canopy tree (<i>Eucalyptus crebra</i>) at the site of the new footbridge and stairs on the western side of the Station 	<p>The Avalon Street overbridge would be modified to accommodate a new lift and stair to the station platform (Figure 3), removing the need to construct a new pedestrian footbridge. This would involve the widening of the existing station entrance on Avalon Street overbridge and installation of a new concrete concourse and stair access off the overbridge. A two-stop lift would be installed from the landing access from Avalon Street to the platform. The Proposed Activity would still require the demolition of the existing stair to the platform, however construction of a new eastern and western station entrance, ramps and associated landscaping are no longer required.</p>	<p>As per the LCVIA for the original design of the Proposed Activity, the revised design would enhance the station precinct accessibility and amenity, and the proposed landscaping would improve the general amenity of this precinct. Table 4 outlines the operational visual impact assessment for the viewpoints identified in Figure 4.</p> <p>As per the recommendations of the LCVIA prepared for the REF, any visual impacts from the revised design would be managed through the implementation of mitigation measures, such as ensuring the structure is visually lightweight (minimising the height and width of the lift shaft and protection screens), utilising finishes and materials complementary to the locality and retention of all possible existing trees to help screen the structure.</p> <p>In addition, to improve the landscape, visual and general amenity outcomes, the following design measures are suggested:</p> <ul style="list-style-type: none"> screen the work site and compounds (where visible to residents or in direct public view) by covering temporary construction zone fencing with shade cloth (or similar material) to minimise visual impacts ensure the proposed planting includes canopy trees of a mature size that would provide amenity benefits such as shade and landscape improvement consider installing seating on the eastern side of the platform (near the Kiss and Ride bay) as part of the landscape improvements to increase amenity for railway customers and the general public.
<p>Platform and station building</p>	<ul style="list-style-type: none"> localised platform regrading to ensure accessibility, TGSi and line marking as required for DSAPT compliance canopies at the boarding assistance zones 	<p>The following design elements remain unchanged from the original design:</p> <ul style="list-style-type: none"> localised platform regrading to ensure accessibility, TGSi 	<p>Minor changes to platform and station building design would not introduce additional environmental impacts to what has been assessed in the REF.</p>

Aspect of the Proposed Activity	Original Design	Revised Design	Discussion of impacts
	<ul style="list-style-type: none"> • conversion of the existing unisex toilet to a unisex ambulant toilet • upgrades to the existing family accessible toilet including: <ul style="list-style-type: none"> ○ replacement of items for compliance with DSAPT ○ new entry ramp ○ extension of the roof canopy of the platform building to provide adequate shelter at the family accessible toilet entrance 	<p>and line marking as required for DSAPT compliance</p> <ul style="list-style-type: none"> • canopies at the boarding assistance zones • provide new handrails, stair treads for new and existing stairs and ramps to make DDA compliant • conversion of the existing unisex toilet to a unisex ambulant toilet • upgrades to the existing family accessible toilet include replacement of items for compliance with DSAPT <p>The following design elements have been modified:</p> <ul style="list-style-type: none"> • entrance to the family accessible toilet has been changed to utilise the existing station canopy, therefore an extension of the roof canopy of the platform building is not required • the family accessible toilet floor level would be lowered to match the platform level, removing the need to install a new entry ramp 	

Aspect of the Proposed Activity	Original Design	Revised Design	Discussion of impacts
Interchange upgrades	<ul style="list-style-type: none"> a signposted accessible kiss and ride bay on Teresa Street adjacent to the eastern station entrance, including associated road and kerb adjustments an accessible parking space to the eastern side of the station (adjacent to Birrong Boys High School staff car park entrance) conversion of the two existing accessible parking spaces in the commuter car park to standard car parking spaces 	<p>The following interchange elements remain unchanged from the original design:</p> <ul style="list-style-type: none"> a signposted accessible Kiss and Ride bay on Teresa Street adjacent to the eastern station entrance, including associated road and kerb adjustments installation of an accessible parking space on Teresa Street (adjacent to Birrong Boys High School staff car park entrance) <p>The following interchange elements have been added:</p> <ul style="list-style-type: none"> widening of the footpath along the southern side of Avalon Street overbridge to make DSAPT compliant, including traffic delineation removal of an existing concrete median island at the eastern end of the bridge to maximise available road width, a new line marking arrangement would be applied landscaping along the eastern pedestrian footpath on Teresa Street new bicycle storage hoops 	<p>Option 1 detailed in the REF was initially not preferred due to constraints relating to heavy vehicle access on Avalon Street overbridge during operation. Since publication of the REF, further design development and a Road Safety Audit has confirmed with the removal of the eastern median island, heavy vehicle access can safely be achieved (Jacobs, 2020)</p> <p>Footpath widening would extend the length of the Avalon Street overbridge to Teresa Street, providing a DDA compliant access path from the station entrance to the new Kiss and Ride bay and accessible parking area. The proposed accessible path is shown in Figure 3.</p> <p>To accommodate footpath widening works, changes to lane widths on Avalon Street overbridge are proposed. The Austroads standard for a “wide kerbside lane” is 4.2m (AGRD03). The eastbound lane on Avalon Street overbridge is currently non-compliant (3.9m wide) due to the median island on the eastern end of the bridge. The median island would be removed to maximise lane width (to 4.1m) and a new line marking arrangement would be applied. These measures would reduce the likelihood of wheel impacts and wheel running of heavy vehicles. The westbound lane on Avalon Street overbridge (currently compliant at 4.2m) would be reduced by 0.1m making the lane width non-compliant. Overall, the proposed changes in lane widths are effectively similar to the existing layout. The Road Safety Audit Report concluded the revised design of the Proposed Activity would not pose additional negative impacts on the stopping distance, nor visibility of pedestrians or vehicles accessing the overbridge (Jacobs, 2020).</p> <p>It is noted the revised design of the Proposed Activity would not involve structural changes to the overbridge, and would not impact the structural integrity of the overbridge. It is understood there are no load restrictions on the overbridge. Works undertaken on the</p>

Aspect of the Proposed Activity	Original Design	Revised Design	Discussion of impacts
		<ul style="list-style-type: none"> Avalon Street overbridge/Teresa Street civil works including the removal and relocation of existing fencing, and kerb and gutter adjustments <p>The revised design of the Proposed Activity would no longer include works within the commuter car park, as upgrades have recently been completed by Council, including reinstatement of the two accessible parking spaces originally proposed for conversion to standard parking.</p>	<p>footpath would require temporary diversions for pedestrians at various stages of construction. Appropriate traffic control would be established to manage diversions and ensure pedestrian safety. This would be subject to detailed design closer to construction. Pedestrian impacts would be minor and temporary in nature and, once completed, would improve pedestrian access to the station.</p> <p>The conclusions and recommendations within the REF relating to pedestrian movement and access remain valid.</p>
Electrical supply and systems work	<ul style="list-style-type: none"> upgrade to the station power supply and a new 11kV padmount substation to be located on the eastern side of the rail corridor, south of the proposed footbridge adjustments to station lighting, security systems including CCTV and communication systems including public announcement and hearing induction loops. 	No change from the original design.	Impacts are considered consistent with those assessed in the REF.
Site compounds and	Two temporary construction compound/stockpile areas were identified to facilitate construction activities. The compound area	The two temporary construction compound/stockpile areas would be located in the same locations identified in the original design,	The revised design of the Proposed Activity includes minor changes to the configuration of the proposed site compounds from those assessed in the REF, to move them closer to the new work areas

Aspect of the Proposed Activity	Original Design	Revised Design	Discussion of impacts
temporary works	<p>located in the rail corridor, accessed via a gate off Hudson Parade was proposed to accommodate a site office, amenities, laydown and storage area for materials.</p> <p>Areas on the western site of the station, off Hudson Parade, have been identified for use as construction compound and stockpile areas.</p> <p>The construction compound would be located on land owned by RailCorp. No public parking spaces would be affected by the establishment of the compound.</p>	<p>however the configuration of these areas has been modified to a minor degree. The construction area off Hudson Parade would require a temporary footpath diversion to the perimeter of the compound, following the existing kerb line. A temporary power pole would be installed within the Hudson Parade site compound area to provide power supply to the site office during construction. The power pole would be removed and the area rehabilitated upon completion of construction works,</p> <p>Two additional adjacent laydown areas are proposed off Teresa Street/Rodd Street, backing onto the rail corridor and adjacent to Birrong Boys High School. The extent of these areas is shown in Figure 3. All compound sites and laydown areas would be in use for the full duration of the construction period.</p> <p>The location of a crane pad on the western side of the rail corridor has shifted approximately 20 metres north from the original design, however the crane pad on</p>	<p>and improve overall efficiency during construction. The revised locations are shown in Figure 5.</p> <p>The southern-most site compound located in the rail corridor would be accessed via an existing rail corridor gate off Hudson Parade as described in the REF. The location of the compound has shifted approximately 10 metres north however the area of impact and proposed use as a materials stockpile area remains unchanged (Figure 5). The north-western site compound off Rodd Street/Hudson Parade identified in the REF has shifted further north closer to Avalon Street overbridge, extending east towards the rail corridor and north towards Avalon Street overbridge (Figure 3). The proposed use of this site as a site compound and crane pad area, remains the same as identified in the REF. Subject to approval from Ausgrid, a temporary power pole would be installed within the north-western site compound to supply power to the site compound. This would involve minor localised ground excavation and an aerial run would be connected to an existing Ausgrid power supply on Rodd Street.</p> <p>Two new adjacent laydown areas are proposed on either side of the existing Teresa Street footpath. These areas would be used throughout various stages of construction, allowing footpath access to be maintained (Figure 5). The additional laydown areas would facilitate footpath widening, Kiss and Ride, accessible parking, and civil and landscaping works. No public parking spaces would be impacted by these site compounds.</p> <p>Access to the station via the Avalon Street overbridge would be unavailable during construction. A temporary footbridge structure connecting Hudson Parade footpath to the station platform would be installed to maintain access to the Station (Figure 5). Construction of the temporary footbridge is expected to occur over a two day period and would involve limited ground disturbance.</p>

Aspect of the Proposed Activity	Original Design	Revised Design	Discussion of impacts
		<p>the eastern side of the rail corridor is no longer required.</p> <p>A temporary footbridge connecting Hudson Parade footpath to the station platform would be installed to ensure station access is maintained during construction (Figure 3).</p> <p>To facilitate the installation of the temporary footbridge, three opal card readers would be relocated to a temporary paved area at the footbridge entrance off Hudson Parade, as agreed with Sydney Trains. Opal card readers would be reinstated to permanent locations on the station platform upon removal of the temporary footbridge.</p>	<p>Upon completion of the proposed construction works, all disturbed areas would be rehabilitated. Rehabilitation works would include removal of the construction compound and temporary footbridge, temporary fencing and storage areas; re-turfing of disturbed areas where required. The revised design of the Proposed Activity includes new planting on the eastern side of the Avalon Street overbridge, including a number of trees.</p> <p>Noise and Vibration</p> <p>The revised and additional site compounds are unlikely to result in increased noise impacts to nearby receivers, being located within the construction works area assessed as part of the REF.</p> <p>In the noise and vibration assessment undertaken for the REF, residential receivers located directly adjacent Birrong Station on Rodd Street, Teresa Street, Avalon Street, and Hudson Parade were identified as being highly noise affected. These are the same receivers that would be in close proximity to the revised site compounds. The closest sensitive receivers identified in the REF were less than 10 metres from the site compound areas (measured from the façade). The revised compounds would not be located any closer than this. It is therefore considered that there is no substantial difference in the impacts associated with the revised compounds compared to those assessed in the REF. The conclusions and recommendations within the REF relating to noise and vibration remain valid.</p> <p>Installation of the temporary footbridge and opal card readers off Hudson Parade would introduce new noise sources associated with additional pedestrian and vehicle movements at this location. Due to the temporary and transient nature of these noise sources, the impacts to sensitive receivers are not considered to be significant and would remain consistent with those assessed in the REF.</p>

Aspect of the Proposed Activity	Original Design	Revised Design	Discussion of impacts
			<p>Traffic and Access</p> <p>The revised design of the Proposed Activity is likely to generate a localised increase in the frequency of access and egress by vehicles and plant at the two additional site compounds. Installation of the temporary power pole at the north-western site compound would incur minor traffic delays with traffic control in place. This impact would be minor and temporary in nature. Due to an overall reduction in scope from the original design assessed in the REF, the total number of construction traffic vehicles entering and leaving the wider construction site is not expected to substantially differ from that assessed in the REF.</p> <p>The temporary footbridge would introduce an increase in travel distance for pedestrians accessing the station from a north or easterly direction. Temporary pedestrian diversions would vary throughout different stages of construction and would be confirmed in the detailed design and construction planning phase.</p> <p>A detailed construction methodology and associated management plans (including a Traffic Management Plan (TMP)) would be developed during the next design phase of the Proposal to manage potential traffic and access impacts.</p> <p><u>Mitigation measures</u></p> <p>Additional mitigation measures have been included into the Conditions of Approval (Appendix B) to minimise interactions between construction plant and pedestrians.</p> <p>Visual</p> <p>New temporary site arrangements would increase impacts on views towards the Station during construction. The construction area including the site compounds and laydown areas involve large equipment, dominating the local character within the immediate area. The temporary footbridge would be clearly visible by the public from various viewpoints around the station. These impacts would diminish</p>

Aspect of the Proposed Activity	Original Design	Revised Design	Discussion of impacts
			<p>the scenic quality of the local landscape character however would be temporary in nature.</p> <p>The conclusions and recommendations within the REF relating to landscape character and visual impact during construction remain valid.</p>



Figure 4 Approximate viewshed and representative viewpoints assessed (Envisage, 2020)

Table 4 Summary of operational impacts to viewpoints (Envisage, 2020)

Viewpoint	Summary of visual impact assessment	Assessed visual impact
VP1: View from station platform	The concourse and lift shaft would be a dominant part of the view, introducing larger scale infrastructure, including the centrally located stairs however, the viewers would be the general public (rail customers) that expect to see rail infrastructure as integral to this location. The low sensitivity ranking, combined with the low magnitude of change post-construction, would have an overall low level of impact during operation.	Low
VP2: View from Rodd Street (east)	The new concourse, stairs and lift shaft would introduce a large built element, yet from this location the difference in height would be less apparent due to its elevated location. The access improvements and landscaping on the eastern side would in general increase the attractiveness of this part of the station entry and partially obscure direct views of the concourse and lift over time as the trees mature. The moderate sensitivity ranking, combined with the low magnitude of change post-construction, would have an overall moderate-low level of impact during operation.	Moderate - low
VP3: View from northern Hudson Parade	The upper part of the changes near the overbridge would be seen (concourse, lift and upper stairs) yet not be dominant. In general, the changes would be compatible with the expected character of the railway corridor and Birrong Station.	Low

Viewpoint	Summary of visual impact assessment	Assessed visual impact
	<p>The low sensitivity ranking, combined with the low magnitude of change post-construction, would lead to an overall low level of impact during operation.</p>	
<p>VP4: View from Magdella and Avalon Streets</p>	<p>The upper part of the changes near the overbridge (mostly the lift shaft) would be partially visible behind existing vegetation, overbridge parapet and fencing. The changes would introduce a new built element yet, in general, the changes would be compatible with the expected character of the railway corridor and Birrong Station.</p> <p>The moderate sensitivity ranking, combined with the low magnitude of change post-construction, would lead to an overall moderate-low level of impact during operation.</p>	<p>Moderate - low</p>
<p>VP5: View from Avalon Street overbridge</p>	<p>The upper part of the changes to the station access (mostly the lift shaft which would extend approximately six metres above the road level) would be visible where currently there are no close structures seen, with more distant views that are currently available largely prevented.</p> <p>Changes to the overbridge would include safety palisade fencing alongside a widened footpath. There would no longer be a clear sightline from the footpath/entry to the stairs and station building. Changes to the parapet would match existing materials of the overbridge. In general, the changes would be compatible with the general landscape character of the railway corridor and Birrong Station and replace an existing access landing and stairs from the overbridge.</p> <p>The moderate sensitivity ranking, combined with a low magnitude of change post-construction, leads to an overall moderate-low level of impact during operation.</p>	<p>Moderate - low</p>

Site Compounds and Temporary Footbridge Location



Figure 5 Revised site compound areas and temporary footbridge location

4. Consideration of the environmental impacts

4.1. NSW 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(3) of the EP&A Regulation, an assessment is provided in Chapter 6 and Appendix B of the REF, with design changes assessed in Chapter 3 of this Determination Report. A review of the clause 228 checklist was undertaken to consider the impacts of the design modifications, however no changes were required.

In respect of the Proposed Activity an assessment has been carried out regarding potential impacts on critical habitat, 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?*⁵ It is concluded that the Proposed Activity is not likely to significantly affect the environment (including critical habitat) 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. Commonwealth Environment Protection and Biodiversity Conservation Act 1999

As part of the consideration of the Proposed Activity, all matters of national environmental significance (NES) and any impacts on Commonwealth land for the purposes of the EPBC Act have been assessed. In relation to NES 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. A review of all matters of NES was undertaken to consider the impacts of the design modifications, however no changes were required.

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 matters of NES.

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

5. Conditions of Approval

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

6. Conclusion

Since public display of the REF, further design development has been undertaken and associated impacts have been assessed in the development of this Determination Report. The findings conclude the environmental impacts of the revised design are generally consistent or lesser than those described in the REF.

Having regard to the assessment in the REF, consideration of the submissions received and the design changes subsequent to the public display of the REF, it can be concluded that the Proposed Activity is not likely to significantly affect the environment (including critical habitat) or threatened species, populations of ecological communities, or their habitats. Consequently, an environmental impact statement (EIS) 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 Proposed Activity is expected to provide a better experience for public transport customers by improving interchange facilities and ensuring that Birrong Station is accessible to people with a disability, limited mobility, parents/carers with prams and customers with luggage.

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 to Appendix B).

Determination

Birrong Station Upgrade

APPROVAL

I, Louise Sureda, as delegate of the Secretary, Transport for NSW:

1. Have examined and considered the Proposed Activity in the *Birrong Station Upgrade Review of Environmental Factors* (December 2019) and the *Birrong Station Upgrade Determination Report* (June 2020) in accordance with Section 5.5 of the NSW *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 (June 2020), consistent with the Proposed Activity described in the *Birrong Station Upgrade Review of Environmental Factors* (December 2019).



Louise Sureda
Director Planning and Environment
Environment and Sustainability
Safety, Environment and Regulation Division
Transport for NSW

Date: 30 June 2020

References

Envisage, 2020, *Birrong Station Upgrade Addendum Landscape Character and Visual Impact Assessment*, Sydney

Greater Sydney Commission, 2018, *Our Greater Sydney 2056 – South District Plan*, March.

Jacobs, 2020, *Birrong SDR-2 Stage Road Safety Audit Report*, April, Sydney

TfNSW, 2019, *Birrong Station Upgrade Review of Environmental Factors*, December, Sydney

NSW Government, 2015, *Making It Happen*, Sydney

TfNSW, 2018, *Future Transport 2056*, Sydney

Appendix A Review of Environmental Factors

Please refer to the TfNSW website to access the Birrong Station Upgrade REF (Desksite #6343374):

https://www.transport.nsw.gov.au/system/files/media/documents/2019/Birrong_REF_FINAL_WCAG.pdf

Appendix B Conditions of Approval

CONDITIONS OF APPROVAL

Birrong Station Upgrade

Note: these Conditions of Approval must be read in conjunction with the final mitigation measures in the Birrong Station Upgrade Review of Environmental Factors.

Schedule of acronyms and definitions used:

Acronym	Definition
ADEIA	TfNSW Associate Director Environmental Impact Assessment (or nominated delegate)
ADEM	TfNSW Associate Director Environmental Management (or nominated delegate)
ADSPD	TfNSW Associate Director Sustainability, Planning and Development (or nominated delegate)
CECR	Construction Environmental Compliance Report
CEMP	Construction Environmental Management Plan
CLMP	Community Liaison Management Plan
CMP	Contamination Management Plan
CoA	Condition of Approval
dBA	Decibels (A-weighted scale)
ECM	Environmental Controls Map
EIA	Environmental Impact Assessment
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> .
EMR	Environmental Management Representative
EMS	Environmental Management System
ISCA	Infrastructure Sustainability Council of Australia
ISO	International Standards Organisation
OEH	Former NSW Office of Environment and Heritage
OOHWP	Out of Hours Works Protocol
RBL	Rating Background Level
REF	Review of Environmental Factors
SMP	Sustainability Management Plan
TfNSW	Transport for NSW
TMP	Traffic Management Plan
UDLP	Urban Design and Landscaping Plan

Term	Definition
Construction	Includes all work in respect of the Project, other than survey, acquisitions, fencing, investigative drilling or excavation, building/road dilapidation surveys, or other activities determined by the TfNSW ADEM to have minimal environmental impact such as minor access roads, minor adjustments to services/utilities, establishing temporary construction compounds (in accordance with this approval), or minor clearing (except where threatened species, populations or ecological communities would be affected, unless otherwise agreed by the ADEM).
Contamination	The presence in, on or under land of a substance at a concentration above the concentration at which the substance is normally present in, on or under (respectively) land in the same locality, being a presence that presents a risk of harm to human health or any other aspect of the environment.
Designated Works	Includes tunnelling, blasting, piling, excavation or bulk fill or any vibratory impact works including jack hammering and compaction, for Construction.
Emergency Work	Includes works to avoid loss of life, damage to external property, utilities and infrastructure, prevent immediate harm to the environment, contamination of land or damage to a heritage (Aboriginal or non-Aboriginal) item.
Environmental Impact Assessment (EIA)	The documents listed in Condition 1 of this approval.
Environmental Management Representative (EMR)	An independent environmental representative appointed to the Project or a delegate nominated by Transport for NSW.
Feasible	A work practice or abatement measure is feasible if it is capable of being put into practice or of being engineered and is practical to build given project constraints such as safety and maintenance requirements.
Noise Sensitive Receiver	In addition to residential dwellings, noise sensitive receivers include, but are not limited to, hotels, entertainment venues, pre-schools and day care facilities, educational institutions (e.g. schools, TAFE colleges), health care facilities (e.g. nursing homes, hospitals), recording studios, places of worship/religious facilities (e.g. churches), and other noise sensitive receivers identified in the Environmental Impact Assessment.
Project	The construction and operation of the Birrong Station Upgrade as described in the Environmental Impact Assessment.
Proponent	A person or body proposing to carry out an activity under Division 5.1 of the EP&A Act – in the case of the Project, Transport for NSW.
Reasonable	Selecting reasonable measures from those that are feasible involves making a judgment to determine whether the overall benefits outweigh the overall adverse social, economic and environmental effects, including the cost of the measure.

CoA Condition

General

1. Terms of Approval

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

- a) Birrong Station Upgrade – Review of Environmental Factors (TfNSW, December 2019)
- b) Birrong Station Upgrade – Determination Report (TfNSW, June 2020).

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

2. Project Modifications

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

3. Statutory Requirements

These conditions do not remove any 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 terms and conditions of such licences, permits, approvals and permissions must be complied with at all times.

Communications

4. 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) a comprehensive, project-specific analysis of issues and proposed strategies to manage issues through the duration of the Project
- b) details of the communication tools (traditional and digital) and activities that will be used to inform and engage the community and stakeholders
- c) a program for the implementation of community liaison activities relating to key construction tasks with strategies for minimising impacts and informing the community
- d) policies and procedures for handling community complaints and enquiries, including the Contractor's nominated 24 hour contact for management of complaints and enquiries
- e) analysis of other major projects/influences in the area with the potential to result in cumulative impacts to the community and strategies for managing these.

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

5. 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

CoA Condition

Community Engagement or as required by the Environment Protection Authority (EPA) (where an Environment Protection Licence (EPL) is in effect).

6. Website

Project information shall be made available to members of the public, either on dedicated pages on the TfNSW/Project website or details provided as to where hard copies of this information may be accessed. Project information to be provided includes:

- a) a copy of the documents referred to under Condition 1 of 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*.

7. Complaints Management

A 24 hour construction response line number shall be established and maintained for the duration of construction.

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 Environmental Management Representative (EMR) each working day.

Environmental Management

8. Construction Environmental Management Plan

A Construction Environmental Management Plan (CEMP) shall be prepared prior to the 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) Aboriginal and non-Aboriginal heritage management
- f) biodiversity management
- g) storage and use of hazardous materials
- h) contaminated land management (including acid sulphate soils)
- i) weed management
- j) waste management
- k) bushfire risk
- l) environmental incident reporting and management procedures
- m) non-compliance and corrective/preventative action procedures
- n) details of approvals, licences and permits required to be obtained under any other legislation for the Project.

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 Infrastructure, Planning and Natural Resources, 2004)

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- iii. include a pre-construction environmental compliance matrix for the Project (or such stages of the Project as agreed to by the EMR) that details compliance with all relevant conditions and mitigation measures
- iv. include an Environmental Policy.

In preparing the CEMP the following shall be undertaken:

1. consultation with government agencies and relevant service/utility providers (as required)
2. a copy of the CEMP submitted to the EMR for review
3. a copy of the CEMP submitted to the Associate Director Environmental Management (ADEM) for approval upon completion of the EMR review period
4. review and update the CEMP at regular intervals, and in response to any actions identified as part of the EMR's 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 EMR audit of the document, and be submitted to the EMR for approval.

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

9. 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 such time as otherwise agreed by the ADEM).

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

10. Environmental Management Representative

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

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

- a) considering and advising TfNSW on matters specified in these conditions and compliance with such
- b) reviewing and where required by the ADEM, 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 TfNSW, or as required by the ADEM
- e) issuing a recommendation 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

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- h) providing reports to TfNSW 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.

11. Environmental Controls Map

An Environmental Controls Map (ECM) shall be prepared and implemented in accordance with TfNSW's *Guide to Environmental Controls Map* (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.

A copy of the ECM shall be submitted to the EMR for review and endorsement. The EMR is to be given a minimum period of seven days to review and endorse the ECM. Following receipt of the EMR's endorsement, the ECM shall be submitted to the ADEM for approval, at least 14 days prior to commencement of construction (or such time as is otherwise agreed 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 seven days of the completion of the review or receipt of actions identified by any EMR audit of the document and submitted to the EMR for approval.

Hours of Work

12. Standard Construction Hours

Construction activities shall be restricted to the hours of 7:00 am to 6:00 pm (Monday to Friday); 8:00 am to 1:00 pm (Saturday) and at no time on Sundays and public holidays except for the following works which are permitted outside these standard hours:

- a) any works which do not cause noise emissions to be more than 5dBA higher than the rating background level (RBL) at any nearby residential property and/or other noise sensitive receivers
- b) out of hours work identified and assessed in the 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 and considered essential to the Project, or as approved by EPA (where an EPL is in effect).

13. 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 EPA (where relevant to the issuing of an EPL).

Noise and Vibration

14. Construction Noise and Vibration

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

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- 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 and vibration 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 12 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 EMR and/or ADEM or as approved by EPA (where relevant to the issuing of an EPL). The OOHWP should be consistent with the TfNSW *Construction Noise and Vibration Strategy* (DMS-ST-157)
- f) a description of how the effectiveness of actions and measures shall be monitored during the proposed works, identification of the frequency of monitoring, the locations at which monitoring shall take place, recording and reporting of monitoring results and if any exceedance is detected, the manner in which any non-compliance shall be rectified.

15. 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 - German Standard *DIN 4150: Part 3 – 1999: Structural Vibration in Buildings: Effects on Structures*
- b) if a heritage building or structure has potential for being structurally integrity sensitive to vibration (following assessment by a suitably qualified and experienced structural engineer) a more conservative cosmetic damage objective of 2.5 mm/s peak component particle velocity (from German Standard *DIN 4150:Part 3 – 1999: Structural Vibration in Buildings: Effects on Structures*) shall be considered
- c) 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) which includes British Standard *BS 7385-2:1993 Guide to Evaluation of Human Exposure to Vibration in Buildings (1 Hz to 80 Hz)*.

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

16. 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.

Contamination and Hazardous Materials

17. 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 report prepared to determine the nature, extent and degree of any contamination. The level of reporting must be appropriate for the identified contamination in accordance with relevant EPA guidelines, including the *Guidelines for Consultants Reporting on Contaminated Sites* (Office of Environment and Heritage, 2011).

A copy of any contamination report shall be submitted to the EMR for review. The EMR is to be given a minimum period of seven days to review.

A revised copy of the report shall be submitted 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 17 and Condition 18.*

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18. Asbestos Management

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

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 17 and Condition 18.*

19. Storage and Use of Hazardous Materials

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

- a) the storage of hazardous materials, and refuelling/maintenance of construction plant and equipment are to be undertaken in clearly marked designated areas 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

20. Erosion and Sediment Control

Soil and water management measures shall be prepared, implemented and maintained as part of the CEMP for the mitigation of water quality 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).

Heritage Management

21. Aboriginal and Non-Aboriginal Heritage

If previously unidentified Aboriginal or non-Aboriginal heritage/archaeological items are uncovered during construction works, the procedures contained in the TfNSW *Unexpected Heritage Finds Guideline* (SD-115) shall be followed and all works in the vicinity of the find shall cease. The EMR shall be immediately notified to co-ordinate a response, which may include seeking appropriate advice from a suitably qualified and experienced Heritage Advisor (in consultation with Heritage NSW, and/or the Energy, Environment and Science Group of the Department of Planning, Industry and Environment, as applicable). Works in the vicinity of the find shall not re-commence until clearance has been received from TfNSW and/or the Heritage Advisor.

Supplementary Conditions of Approval

General

CoA Condition

22. Construction Environmental Compliance Report

A Construction Environmental Compliance Report (CECR) for the Project shall be prepared which addresses the following matters:

- a) compliance with the Construction Environmental Management Plan (CEMP) and these conditions
- b) compliance with any approvals or licences issued by relevant authorities for the construction of the Project
- c) implementation and effectiveness of environmental controls (the assessment of effectiveness should be based on a comparison of actual impacts against performance criteria identified in the CEMP)
- d) environmental monitoring results, presented as a results summary and analysis
- e) details of the percentage of waste diverted from landfill and the percentage of spoil beneficially reused
- f) number and details of any complaints, including summary of main areas of complaint, actions taken, responses given and intended strategies to reduce recurring complaints (subject to privacy protection)
- g) details of any review and amendments to the CEMP resulting from construction during the reporting period
- h) any other matter as requested by the ADEM.

The CECR shall:

- i) be submitted to the EMR for review. The EMR is to be given a minimum period of seven days to review and provide any comments to TfNSW in relation to the CECR
- ii) be submitted to the ADEM 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 six weeks 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.

The final CECR shall detail compliance with all Conditions of Approval, licences and permits required to be obtained under any other legislation for the Project.

23. Graffiti and Advertising

Hoardings, site sheds, fencing, acoustic walls around the perimeter of the site, and any structures built as part of the Project shall be maintained free of graffiti and advertising not authorised by TfNSW during the construction period. Graffiti and unauthorised advertising shall 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.

Noise and Vibration

24. 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.

25. Noise Impacts 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.

Flora and Fauna

CoA Condition

26. Removal of Trees or Vegetation

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

27. Replanting Program

All cleared vegetation shall be offset in accordance with TfNSW's *Vegetation Offset Guide* (DMS-ST-149). 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.

Lighting

28. 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 Lighting for Roads and Public Spaces* and *AS 4282 Control of the Obtrusive Effects 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
- 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 TfNSW's technical (design) team for acceptance.

Property

29. 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 20 metres from the edge of the Designated Works
- b) all sensitive structures within 50 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 affected owner. A register of all properties surveyed shall be maintained.

CoA Condition

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).

Sustainability

30. Sustainability Officer

A suitably qualified and experienced Sustainability Officer shall be appointed who is responsible for implementing the sustainability objectives for the Project, in line with the Program's overarching Sustainability Strategic Management Plan.

Details of the Sustainability Officer including defined responsibilities, duration and resource allocation throughout the appointment are to be submitted to the satisfaction of the Associate Director Sustainability, Planning & Development (ADSPD) prior to the preparation of the Sustainability Management Plan.

31. Infrastructure Sustainability Council of Australia (ISCA) Ratings

The Project shall be registered with the Infrastructure Sustainability Council of Australia (ISCA), and shall aim to achieve a minimum 'Infrastructure Sustainability Rating Tool' (v1.2 'Excellent' rating for the "Design" and 'As-Built' components of the Project.

Traffic, Transport and Access

32. Traffic Management Plan

A construction Traffic Management Plan (TMP) shall be prepared as part of the CEMP which addresses, as a minimum, the following matters:

- 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 and schools (including Birrong Boys High School) 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 customers, 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.

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

33. Road Condition Reports

Prior to construction commencement, road condition surveys and reports on the condition of roads and footpaths to be affected by construction shall be prepared. 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.

CoA Condition

34. Road Safety Audit

A Road Safety Audit shall be undertaken as part of the detailed design process and on completion of construction. The Road Safety Audit shall include but not be limited to detailed assessment of sight distances for vehicles and mitigation measures proposed.

The Road Safety Audit is to be submitted to and accepted by TfNSW. The findings of the Road Safety Audit shall be provided to City of Canterbury Bankstown Council for information.

Urban Design and Landscaping

35. Road Condition Reports

Prior to construction commencement, road condition surveys and reports on the condition of roads and footpaths to be affected by construction shall be prepared. 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.

36. Urban Design and Landscaping Plan

The following mitigation measures shall be implemented to reduce the visual impacts of the Proposal:

An Urban Design Plan and Landscaping Plan is to be submitted to TfNSW and endorsed by the Precincts and Urban Design team. The Urban Design Plan is to address the fundamental design principles as outlined in 'Around the Tracks' – urban design for heavy and light rail, TfNSW, Interim 2016. The Urban Design Plan and Landscaping Plan 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 Urban Design Plan and Landscaping Plan is to include the Public Domain Plan for the chosen option and will provide analysis of the:

- a) landscape design approach including design of pedestrian and bicycle pathways, street furniture, interchange facilities, new planting and opportunities for public art
- b) Materials Schedule including materials and finishes for proposed built works, colour schemes, paving and lighting types for public domain, fencing and landscaping
- c) 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 Urban Design Plan and Landscaping Plan for the Proposal:

- a) *TAP Urban Design Plan, Guidelines*, TfNSW, Draft 2018
- b) *Commuter Car Parks*, Urban Design Guidelines, TfNSW, Interim 2017
- c) *Managing Heritage Issues in Rail Projects Guidelines*, TfNSW, Interim 2016
- d) *Creativity Guidelines for Transport Systems*, TfNSW, Interim 2016
- e) *Water Sensitive Urban Design Guidelines for TfNSW Projects*, TfNSW, 2016

Endorsement of the Urban Design Plan and Landscaping Plan will demonstrate compliance with the Conditions of Approval in the Review of Environmental Factors (REF) Determination Report.

The Urban Design Plan and Landscaping Plan shall be:

- i) prepared prior to concept design and finalised
- ii) prepared in consultation with Local Council and relevant stakeholders
- iii) prepared by a registered Architect and/or Landscape Architect

Site Specific Conditions

37. Landscape, Visual and General Amenity

The following measures are to be considered during detailed design development:

- design of the new structure to be as visually lightweight as possible, including minimising the height and width of the lift shaft, and reducing the height of the protection screens
- screen the work site and compounds (where visible to residents or in direct public view) by covering temporary construction zone fencing with shade cloth (or similar material) to minimise visual impacts
- ensure the proposed planting includes canopy trees of a mature size that would provide amenity benefits such as shade and landscape improvement
- investigate the installation of seating on the eastern side of the platform (near the Kiss and Ride bay) as part of the landscape improvements to increase amenity for railway customers and the general public.

Appendix C Landscape Character and Visual Impact Assessment