Attachment B

Review of Environmental Factors – Pop-Up Cycleway – Fitzroy Street

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City of Sydney Council
10-Mar-2021

Review of Environmental Factors

Fitzroy Street Pop-up cycleway

Review of Environmental Factors

Fitzroy Street - pop-up cycleway

Client: City of Sydney Council

ABN: N/A

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Abbreviations

Abbreviation	Meaning
AAP	Areas of archaeological potential
ASS	Acid Sulfate Soils
ASSMP	Acid sulfate soil management plan
AZP	Archaeological Zoning Plan
BC Act	*Biodiversity Conservation Act 2016*
CBD	Central Business District
CEMP	Construction Environmental Management Plan
The City/Council	The City of Sydney Council
CLM Act	*Contaminated Land Management Act 1997*
CMMP	Contaminated Materials Management Plan
CNVMP	Construction Noise Vibration Management Plan
CO	Carbon Monoxide
dB(A)	A weighted decibels
DCP	Development Control Plan
DPIE	Department of Planning, Industry and Environment
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
ESD	Ecologically Sustainable Development
EMP	Environmental Management Plan
EMMP	Excavated Materials Management Plan
EMS	Environmental Management System
EPA	Environment Protection Authority
EP&A Act	*NSW Environmental Planning and Assessment Act 1979*
EP&A Regulation	*Environmental Planning and Assessment Regulation 2000*
EPI	Environmental Planning Instrument
EPBC Act	*Environment Protection Biodiversity and Conservation Act 1999*
HMP	Heritage Management Plan
ICNG	Interim Construction Noise Guideline
ICOMOS	International Council on Monuments and Sites
Km	Kilometres
LALC	Local Aboriginal Land Council
LEP	Local Environmental Plan
LGA	Local Government Area
m	Metres

Abbreviation	Meaning
NEPM	National Environment Protection Measures
NES	National Environmental Significance
NO_2	Nitrogen Dioxide
NPI	National Pollutant Inventory
NPW Act	*National Parks and Wildlife Act 1974*
O_3	Ozone
OEH	Office of Environment and Heritage
Pb	Lead
PM	Particulate matter
POEO Act	*Protection of the Environment Operations Act 1997*
REF	Review of Environmental Factors
RMS	Roads & Maritime Services
RT Act	*Road Transport Act 2013*
SDS	Safety Data Sheet
SEPP	State Environmental Planning Policy
SO_2	Sulfur Dioxide
STA	State Transit Authority
Streets Code	City of Sydney Streets Code
The Minister	The NSW Minister for Planning
The Regulations	NSW Environmental Impact Assessment Part 5 Procedures Manual (City of Sydney)
TMAP	Transport Management Accessibility Plan
TMP	Traffic management plan
TPZs	Tree protection zones
Transport	Transport for NSW (TfNSW)
WARR Act	*Waste Avoidance and Resource Recovery Act 2001*
WMP	Waste Management Plan

1.0 Introduction

The City of Sydney propose to continue the operation of a pop-up cycleway for up to two years along Fitzroy Street in Surry Hills, as part of the broader NSW Government Co-designed Bicycle Network Blueprint and City of Sydney's Cycling Strategy and Action Plan network (Bike Network). The existing pop-up cycleway was constructed between June and August 2020 under the *Environmental Planning and Assessment (COVID-19 Development-Temporary Cycleways) Order* 2020. The cycleway provides a safe connection from the Eastern Suburbs to Central Sydney and usage has steadily increased over time to an average of 1,731 trips per week in February and 2080 trips in the first week of March.

The City of Sydney will work with Transport for NSW and Woollahra Council to develop a cycleway on Oxford Street between Taylor Square and Centennial Park. When a concept design has been developed the City of Sydney will consult extensively with the community. Once the Oxford Street cycleway is delivered, it is the City of Sydney's intention is to remove the pop-up cycleway on Fitzroy Street.

For the Fitzroy Street pop-up cycleway project, the City of Sydney is both the proponent and the determining authority for this Review of Environmental Factors (REF) under Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

This REF has been prepared by AECOM Australia Pty Ltd (AECOM) on behalf of the City of Sydney for the proposal. The purpose of this REF is to describe the proposal, assesses the potential for the proposal to result in environmental impacts, and to inform the decision to proceed with the proposal. In accordance with clause 94(1) and clause 94(2) of the Infrastructure SEPP, development consent is not required, and the proposal is designated as 'development without consent' under Division 5.1 of the EP&A Act. However, it is still necessary and required to consider environmental impacts of the proposal under Part 5 of the EP&A Act. The proposal and associated environmental impacts have been described in the context of clause 228 of the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation), fulfilling the requirements of Section 5.5 of the EP&A Act.

This assessment finds that the proposal would not result in any significant impacts upon the environment and as such may be approved with relevant mitigations applied. Detail of the environmental assessment is provided in the following sections of this REF.

1.1 Overview of the proposal

1.1.1 Background

Cycling and walking are integral to Sydney's transport future because they are the most accessible, equitable, sustainable and reliable forms of transport. Since 2007, the City of Sydney has invested an average of $11 million per annum to build a safe and connected bike network. This has resulted in the doubling of average cycling trips across Sydney.

The *Cycling Strategy and Action Plan – For a more sustainable Sydney 2018 – 2030* was prepared by the City of Sydney to guide planning and development decisions to make bicycle transport easier, safer, attractive, and a more feasible option for a greater number of people. This strategic planning document is discussed in greater detail in **Section 2.1.2**.

The *NSW State Plan* and the (now superseded) *City of Cities: Sydney Metropolitan Strategy*, both acknowledged that cycling has a significant role to play in the NSW Government's pursuit of a number of initiatives aimed at decreasing car dependence and improving the environment.

Walking and cycling are also key means to supplement the public transport network and reduce demand on the road system while physical distancing measures are in place and beyond. *Future Transport 2056* identifies Transport for NSW's (TfNSW) vision to create a cycleway network connecting strategic centres and local centres, (known as the Principal Bicycle Network) over the next 20 years.

As part of the Bike Network, the City of Sydney proposes to continue the operation of the existing two-way separated cycleway along Fitzroy Street in Surry Hills for two years. The proposal seeks to minimise additional infrastructure requirements whilst contributing positively to the safety, functionality and amenity of the streets for people on bikes, and without compromising essential motorised vehicle

operations, pedestrian space and the legibility of the street as an urban place. This proposal is the subject of this REF.

1.1.2 Key features of the proposal

The core deliverable of the proposal would comprise the continued operation of a two-way, separated cycleway along Fitzroy Street in Surry Hills for two years while the City considers and consults on a permanent project. The cycleway is located on the southern side of Fitzroy Street between Bourke Street and South Dowling Street, providing safe east-west connection for people on bikes. The cycleway currently provides a key connection between the existing Anzac Parade shared path and the Bourke Street cycleway.

At the eastern end people can join the cycleway from the eastern side of the South Dowling Street intersection or use the shared signalised crossing.

At the western end the cycleway currently terminates approximately 10 metres east of Bourke Street intersection. At this point the cycleway merges onto the existing shared path, where people on bikes are required to cross at the pedestrian crossing to access the Bourke Street Cycleway.

1.1.3 Proposal location and context

The proposal is located within the Sydney Local Government Area (LGA), in the suburb of Surry Hills. The proposal is located about one kilometre south east of the Sydney CBD, immediately north of Moore Park West, and about one kilometre west of Central Station. The Eastern Distributor motorway is located directly south east of the proposal. The location of the proposal in a regional context is shown on **Figure 1-1**.

The proposal is located on Fitzroy Street, as shown on **Figure 1-2**. The area surrounding the proposal can be generally described as a developed urban and commercial environment, characterised by historic terrace housing interspersed with a mix of commercial and light industrial premises. Some of these older built features have local heritage significance (refer to **Section 6.4**). This section of Fitzroy Street is a busy thoroughfare with a five restaurants, two bars and a coffee shop, and is popular for pedestrian access between Central Station and the Sydney Cricket Ground. Street trees are located along the extent of the street, with a bus stop located approximately in the centre of this section of cycleway. South Dowling Street, at the eastern end of the cycleway, is designated as a classified road under the NSW Roads Act.

For the purpose of this assessment, the extent of the works as shown on **Figure 1-2** (defined by a red dashed line) is referred to as the proposal area.

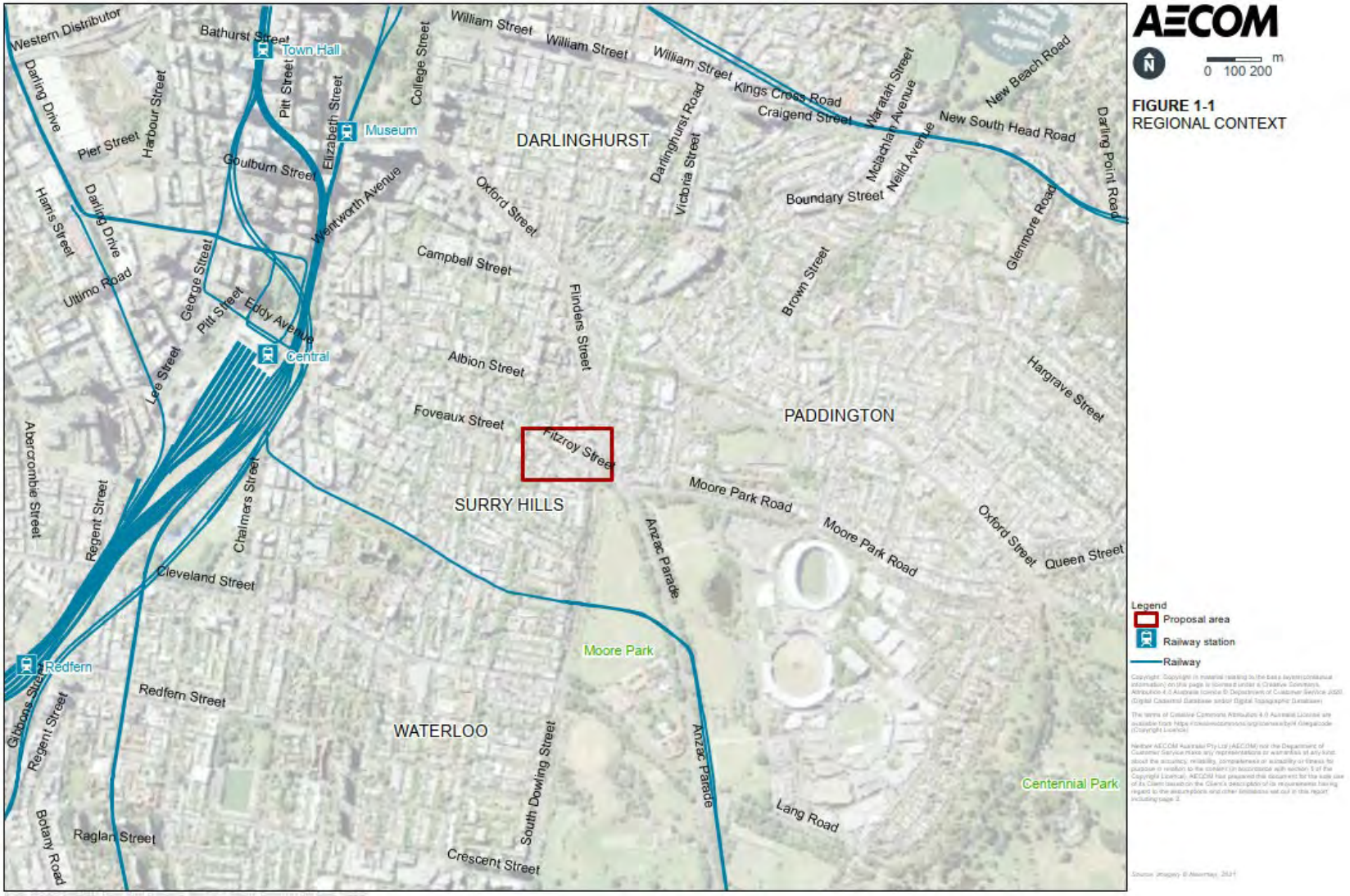

Figure 1-1 Regional context

Figure 1-2 Local context

1.1.4 Existing environment and surrounding land uses

Land uses surrounding the proposal area include office premises, residential premises, food and drink premises, commercial and retail premises, and hotel/motel accommodation.

Key sensitive receivers (land uses which are sensitive to potential noise, air and visual impacts) along the alignment primarily consist of the numerous residences. Other key sensitive receivers that have been identified along the alignment include five restaurants, one café, one hotel and three small businesses.

Key existing infrastructure within the proposal area include:

- Underground electricity, stormwater, sewerage and telecommunications infrastructure
- A bus stop on the southern side of Fitzroy Street, approximately halfway between South Dowling Street and Bourke Street
- Footpaths on both sides of the street
- Street lighting.

1.1.5 Existing pop-up Cycleway

Transport for New South Wales (TfNSW) constructed the existing temporary two-way cycleway on the southern side of Fitzroy Street.

The existing cycleway consists of:

- A separated cycleway on Fitzroy Street at eastern side of intersection at South Dowling Street
- Cycle priority lane through the intersection at South Dowling Street
- Separated two-way cycleway along Fitzroy Street

Construction works started 9 June 2020 and were completed on 7 August 2020. These consisted of:

- Removal of the existing bus lane
- Installation of divider barriers, flexible posts and temporary kerbs
- Installation of bus platform
- Updated line marking.

The construction of the existing pop-up cycleway was completed under the *Environmental Planning and Assessment (COVID-19 Development-Temporary Cycleways) Order 2020* which authorised the construction of the temporary cycleways without the need for any approval under the *Environmental Planning and Assessment Act 1979*, providing the works are undertaken by a pubic authority.

1.1.6 Existing zoning

The applicable land zoning for the proposal is specified by the *Sydney Local Environmental Plan 2012* (Sydney LEP). The proposal area is located within an area zoned as B4 – Mixed Use.

Adjacent land zones to the proposal area comprise the following:

- R1 – General Residential.
- RE1 – Public Recreation.
- B2 – Local Centre.
- B4 – Mixed Use.
- SP2 - Infrastructure (classified road).

1.1.7 Land ownership

The land on which work is carried out is owned by the City of Sydney. The Proposal does not require the acquisition of any property.

2.0 Need and options considered

This chapter discusses the need and objectives of the proposal within the context of the broader objectives of the Bike Network. This chapter also provides a summary of the options that have been considered during development of the proposal and justification as to why the preferred option has been chosen.

2.1 Strategic justification

2.1.1 Overview

The provision of separated cycleways can have immediate and long term impacts on usage, according to the *Inner Sydney Regional Bicycle Network Demand Assessment and Economic Appraisal* (AECOM 2010). Strong shifts in cycling demand have been observed where separated cycleway infrastructure has been constructed, for example, the development of two cycleways by the City on King Street and Bourke Road saw cycling levels increase by up to 30% immediately after opening.

The *Inner Sydney Regional Bicycle Network Demand Assessment and Economic Appraisal* discusses the fragmented and disjointed nature of Sydney's bicycle network. The lack of safe and available cycling connections forces people on bikes to mix with general traffic, which can lead to conflicts with large vehicles. Safety concerns arising from this risk may discourage cycling as an option. However, the report found that up to 84% of non-regular cyclists would be willing to consider cycling or cycling more often if dedicated cycleways and off-road routes were available. The report also included community feedback showing that there is a strong public desire for greater levels of dedicated cycling infrastructure.

2.1.2 Relevant policies and strategies

The proposal would be consistent with the policies and strategies that are described below.

2.1.2.1 Sydney City Centre Access Strategy

The NSW Government's *Sydney City Centre Access Strategy* was the state's first detailed plan of how people will enter, exit and move in and around Sydney's city centre over the next 20 years (TfNSW, 2013). One of the key features of the strategy was to deliver an integrated cycleway network. The proposal would align with the strategy as it would "meet the increased demands within the city centre and make better use of the available street space" and "support the continued growth in cycling within the city centre" (TfNSW, 2013).

2.1.2.2 Environmental Action 2016 – 2021: Strategy and Action Plan

Sustainable Sydney 2030 outlines the community expectation that the Sydney LGA should be an environmental leader on a global scale. To guide the implementation of *Sustainable Sydney 2030*, the City of Sydney developed a series of environmental master plans and strategies between 2008 and 2015. The *Environmental Action 2016 – 2021: Strategy and Action Plan* combines the insights and data from those documents.

2.1.2.3 Sustainable Sydney 2030 Vision

The Sustainable Sydney 2030 Vision proposes a Liveable Green Network to provide safe, quality, continuous routes for pedestrians and people on bikes. It proposes a cycling network that is safe enough for children to use, giving priority to separated, dedicated cycle lanes. The proposal would be consistent with this objective.

2.1.2.4 Cycling Strategy and Action Plan 2018-2030

The City of Sydney's *Cycle Strategy* supports the Sustainable Sydney 2030 vision. The City of Sydney's *Cycling Strategy and Action Plan 2018-2030* outlines the vision for cycling in Sydney. This includes an objective to connect the existing cycleway network and to make it safer for people to use. Actions to achieve this that are relevant to the proposal include:

- Completing the 11 regional bike routes, and substantially complete the local bike network.
- Build the regional routes as separated cycleways where feasible and necessary.

- Add local wayfinding signs.
- Improve safety and access by including measures such as:
  - replacing bicycle shoulder lanes.
  - adding new contra-flow provisions.
  - lowering speeds and reducing traffic on local streets.
  - installing kerb ramps at road closures.
  - upgrading stormwater grates to be bike-safe.
  - maintaining road surfaces and coordinating with utility authorities where required.
  - ensuring regular asset inspections, street cleaning and maintenance of the bike network and associated signage.
- Continue to provide bike parking in the public domain where needed and on request, including on-street bike parking corrals in suitable high demand locations, and continue to provide bike racks for public schools in our area
- Provide separated paths on, and alternative routes for, state roads where the City is not currently permitted to reallocate road space
- Investigate and respond to suggestions and comments from our community about the bike network to improve safety, access and comfort
- Advocate to the NSW Government to complete the Sydney City Centre Access Strategy bike network
- Advocate for TfNSW to fully fund their portion of the network and pursue multi-year funding agreements with TfNSW
- Consider all bike network users, including those on cargo bikes, e-bikes, trishaws and mobility scooters, in the design of infrastructure.

2.1.2.5 Sydney Metropolitan Strategy

A Plan for Growing Sydney (The Sydney Metropolitan Strategy) was released in 2015 as the NSW Government's 20-year plan for the Sydney Metropolitan Area. It provides direction for Sydney's productivity, environmental management and liveability; and for the location of housing, employment, infrastructure and open space. The Plan establishes a vision for Sydney as a strong global city, and great place to live. The vision is supported by key goals and principles aimed at encouraging improvements in transport infrastructure, housing, resilience and sustainability while maintaining a strong and competitive economy. The proposal would be consistent with The Plan, as it would enhance transport infrastructure, improve connectivity, and provide increased amenity for residents, workers and visitors.

2.1.2.6 Future Transport 2056 - TfNSW Principal bicycle network

The *Future Transport 2056 Strategy* and the *Future Transport 2056 - Greater Sydney Services and Infrastructure Plan* includes a section about growing the bicycle network across Sydney. It states that cycling helps reduce congestion, create places, lower carbon emissions, improve public health outcomes, and increase catchments to public transport. It recommends prioritising cycling networks around the Sydney CBD and Strategic Centres. It also recommends that cycling networks form part of the Green Grid (such as connecting parkland).

The Principal Bicycle Network supports shorter distance city-serving and centre-serving journeys. The Proposal is consistent with the TfNSW Principal bicycle network as it would maintaining improved access and improve journey time reliability for cyclists using Fitzroy Street and connecting networks.

2.1.2.7 Our Greater Sydney 2056, A metropolis of three cities

In October 2017, the Greater Sydney Commission published *Our Greater Sydney 2056*, which supports the vision for a metropolis of three cities to balance growth and deliver its benefits more equally and equitably to residents across Greater Sydney.

The Proposal is consistent with the broader metropolitan vision for Greater Sydney by ensuring that it would support local access for an increasing number of residents moving in the area.

2.2 Proposal objectives

The objectives of the proposal are consistent with those that described for the delivery of the overall Bike Network and aim to provide active transport infrastructure that supports the movement of people on bikes along Fitzroy Street that is:

- Safe and functional
- Separated from general traffic and pedestrians
- Meets current and future community needs
- Prioritises people on bikes.

The proposal would comprise the continued operation of the existing two-way pop-up cycleway on Fitzroy Street in Surry Hills for a period of two years. The continued operation of the existing pop-up cycleway would not require construction works as the cycleway is currently operational. The City of Sydney Council would conduct periodic site inspections to ensure the infrastructure remains adequate for continued use. Ongoing maintenance works may be undertaken, involving replacement of the safety barriers with other materials that may be more suitable for ongoing operation.

The existing cycleway was initially installed and intended as a temporary cycleway to facilitate physical distancing and safe cycling to support travel during the COVID-19 recovery. Temporary cycleways were installed where it was identified as a strategic priority. This included locations where existing cycleways were discontinuous, where there was demand for cycling infrastructure, where there was a recognised route to key employment areas or where there was a recognised hot spot of congestion requiring more transport choices including access to recreation.

The continuation of the operation of the pop-up cycleway will provide an ongoing means of active transport to key employment and recreational areas. The average weekly usage was 1,731 trips in the month of February 2021.

2.3 Alternatives considered

2.3.1 Option 1 – 'Do Nothing'

As the proposal was constructed under the *Environmental Planning and Assessment (COVID-19 Development-Temporary Cycleways) Order 2020*, the 'do nothing' option would require that the cycleway be decommissioned, with all existing infrastructure removed. The removal of the pop-up cycleway would reverse the positive impacts and outcomes of the cycleway and therefore be an adverse impact on the area. This option would not achieve the proposal objectives, nor would it achieve the City of Sydney's strategic objectives towards providing a connected active transport network and supporting equitable access and healthy lifestyles. Therefore the 'Do Nothing' option is not the preferred option.

2.3.2 Option 2 – Fitzroy Street pop-up cycleway continued operation

This option meets the objectives of the proposal as well as the relevant strategy documents by maintaining and improving access and safety for people on bikes along Fitzroy Street. It would also improve modal integration by maintaining and improving connectivity between infrastructure that ties in with and complements the wider transport network, inclusive of existing cycleway networks in the area.

Option 2 proposes a solution to support active transport, healthy lifestyles and minimise motorist emissions. It also provides a safe mode of transport for people to ride to work or study, or to access local services, helping to mitigate risks associated with the spread of COVID-19 in the short term and to help mitigate chronic disease in the long term. This is the preferred option.

2.4 Proposal benefits

The *Inner Sydney Regional Bicycle Network Demand Assessment and Economic Appraisal* (AECOM, 2010), found that the key benefit of separated cycleways is the perceived and actual safety they offer

to people on bikes. The level of separation between people on bikes and motorists is a key driver in both actual and perceived safety, which in turn is a key driver of demand for cycling. Continuing operation of the Fitzroy Street pop-up cycleway for two years will retain these benefits. This would encourage the continued use of cycleways and demand for cycling.

Benefits arising from increased uptake of cycling as a mode of transport may include:

- Time travel savings
- Environmental savings including as a result of reduced greenhouse gas emissions, air pollution and noise
- Savings on public transport vehicle procurement, operation and maintenance as well as reduced road infrastructure investment
- Cycling-specific benefits including improved public health and journey ambience.

The proposal would also result in the following specific benefits:

- Maintaining improved access and journey time reliability for people on bikes
- Maintaining improved integration with public transport through reduced vehicle traffic congestion
- Maintaining de-crowding of public transport
- Improved equity and accessibility outcomes
- Improved localised economic activity and potential for wider economic benefits beyond the transport sector
- Reduced energy dependence and transport emissions
- Enhance rider safety and connectivity between the existing cycleway and the Bourke Street cycleway.

City of Sydney Council worked with TfNSW to develop and undertake a monitoring and evaluation of the pop-up cycleway along Fitzroy Street. Benefits observed from the evaluation report (CoS, 2020) include:

- Most people prefer to ride on the pop-up cycleway verses the footpath
- Most people felt safe on Fitzroy Street and said it’s safer than previous road conditions
- Observations recorded high diversity of micro mobility devices such as hover boards, skateboards and electric scooters
- Walking is safer due to fewer riders using the shared paths
- Slight increase in proportion of women riding.

3.0 Proposal description

This chapter describes the proposal in detail and summarises key design features. The description of the proposal is based on the current configuration of the existing pop-up cycleway on Fitzroy Street in Surry Hills.

3.1 The Proposal

As described in **Section 1.1.2**, the primary feature of the proposal involves the continued operation, of a two-way separated cycleway along Fitzroy Street in Surry Hills for a period of two years. The continued operation of the existing pup-up cycleway would not require construction works as the cycleway is currently operational. The City of Sydney Council would conduct periodic site inspections to ensure the infrastructure remains adequate for continued use. Ongoing maintenance works may be undertaken, involving replacement of the safety barriers with other materials that may be more suitable for ongoing operation.

The layout of the existing cycleway is shown on **Figure 3-1** to **Figure 3-3**.

Figure 3-1 Existing pop-up cycleway

Figure 3-2 Existing pop-up cycleway

Figure 3-3 Existing pop-up cycleway

3.1.1 Scope of works

Construction of the existing pop-up cycleway commenced 9 June 2020 and was completed on 7 August 2020 under the Minister for Planning and Public Spaces *Environmental Planning and Assessment (COVID-19 Development-Temporary Cycleways) Order 2020*.

These works consisted of:

- Removal of bus lane
- Temporary closure of bus stop
- Installation of divider barriers, flexible posts and temporary kerbs
- Installation of bus platform
- Change to timed kerbside use
- Reduced speed limit
- New line marking.

As discussed in **Section 3.1**, City of Sydney Council would conduct periodic site inspections to ensure the infrastructure remains adequate for continued use.

3.1.1.1 Previous operation and configuration

From Monday to Friday, 6 AM – 10 AM, 3 PM – 7 PM the road configuration consisted of:

- One bus lane
- Two travel lanes westbound (including a clearway lane).

At other times the road configuration consisted of:

- Two travel lanes westbound
- One lane with 'No Stopping' signs and time limited parking sections.

There was a shared path on both sides of the road and one bus stop. The posted speed limit was 50km/h. **Figure 3-4** shows the previous configuration of Fitzroy Street.

Figure 3-4 Previous configuration of Fitzroy Street, Surry Hills (looking west)

3.1.1.2 Current configuration

During the AM peaks the road configuration consists of a two-way cycleway (3.2 metre wide), 2 travel lanes westbound. Other times, the road configuration consisted of a two-way cycleway, 1 travel lane (westbound) and one lane time limited parking lane. The posted speed limit was reduced to 40km/h (see **Figure 3-5**).

Figure 3-5 Current configuration of Fitzroy Street (looking west)

Fitzroy Street also contained a bus platform with pedestrian crossing to allow bus passengers to have priority when boarding and alighting from the bus. Bus marshals were engaged to facilitate awareness and passenger access. After several weeks of operation the bus operator requested the bus stop to be temporarily closed. **Figure 3-6** shows the raised bus platform.

Figure 3-6 Raised bus platform with pedestrian crossing for bus passengers boarding and alighting

4.0 Statutory and planning framework

This chapter provides a summary of the statutory considerations relevant to the proposal, including a consideration of Commonwealth legislation, NSW legislation and policies, and local environmental planning instruments.

4.1 Commonwealth

4.1.1 *Environment Protection and Biodiversity Conservation Act 1999*

The (Commonwealth) *Environment Protection and Biodiversity Conservation Act* (EPBC Act) provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places – defined in the EPBC Act as 'Matters of National Environmental Significance' (MNES). The EPBC Act requires the assessment of whether the proposal is likely to significantly impact on MNES or Commonwealth land. These matters are considered in full in **Appendix A**.

The proposal would not significantly affect any MNES or Commonwealth land. Therefore, a referral to the Commonwealth Minister for the Environment is not required.

4.2 State

4.2.1 *Environmental Planning and Assessment Act 1979*

The *Environmental Planning and Assessment Act* (EP&A Act) establishes the system of environmental planning and assessment in NSW. This proposal is subject to the environmental impact assessment and planning approval requirements of Division 5.1 of the EP&A Act. This division specifies the environment impact assessment requirements for activities undertaken by public authorities such as City of Sydney, which are permissible without development consent.

In accordance with section 5.5 of the EP&A Act, City of Sydney, as the proponent and determining authority, must examine and consider to the fullest extent possible all matters affecting or likely to affect the environment by reason of the proposal. Clause 228 of the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation) defines the factors which must be considered when determining if an activity assessed under Division 5.1 of the EP&A Act has a significant impact on the environment.

Chapter 6.0 of this REF provides an environmental impact assessment of the proposal in accordance with clause 228, and **Appendix B** specifically responds to the factors for consideration under clause 228.

4.2.2 Other key NSW legislation and regulations

Table 4-1 provides a list of other key relevant legislation applicable to the Proposal.

Table 4-1 Other NSW legislation applicable to the Proposal

Applicable legislation	Considerations
Biodiversity Conservation Act 2016 (BC Act)	The BC Act establishes a framework for assessing and protecting environmental and biodiversity interests that seeks to maintain a healthy, productive and resilient environment. **Section 6.9** of this REF outlines that potential impacts to biodiversity resulting from the Proposal would not be significant.
Heritage Act 1977 **(Heritage Act)**	The following sections of the Heritage Act are relevant to the Proposal: Sections 57 and 60 (approval) where items listed on the State Heritage Register (SHR) are to be affected Sections 139 and 140 (permit) where relics are likely to be exposed Section 170 where items listed on a government agency Heritage and Conservation Register are to be affected.
National Parks and Wildlife Act 1974 **(NPW Act)**	Sections 86, 87 and 90 of the NPW Act require consent from the Department of Planning, Industry and Environment for the destruction or damage of Aboriginal objects.

Applicable legislation	Considerations
	The Proposal would not result in the destruction or damage of any known Aboriginal objects. There are no recorded Aboriginal objects at or near the proposal area. The mitigation measures proposed in **Section 6.5** would prevent potential effects on any identified Aboriginal heritage item.
***Protection of the Environment Operations Act 1997* (POEO Act)**	The Proposal does not involve a 'scheduled' activity under Schedule 1 of the POEO Act. However, in accordance with Part 5.7 of the POEO Act, City of Sydney would notify the EPA of any pollution incidents that occur onsite.
***Roads Act 1993* (Roads Act)**	The two-way pop-up cycleway on Fitzroy Street was designed and constructed by Transport for NSW.
Waste Avoidance and Resource Recovery Act 2001 (WARR Act)	City of Sydney would carry out the Proposal having regard to the requirements of the WARR Act.

4.2.3 State Environmental Planning Policy (Infrastructure) 2007

The *State Environmental Planning Policy (Infrastructure)* 2007 (ISEPP) is the key environmental planning instrument (EPI) which determines the permissibility of a proposal of this nature and how it is assessed under the EP&A Act. Clause 94(1) of the Infrastructure SEPP allows for the development of 'roads and road infrastructure facilities' by or on behalf of a public authority without consent on any land and Clause 94(2)(c) specifically notes "*alterations or additions to an existing road (such as widening, narrowing, duplication or reconstruction of lanes…"* as development permitted without consent.

Clause 93 of the ISEPP defines 'road infrastructure facilities' as those relevant to 'road related areas', as determined by the *Road Transport Act 2013* (RT Act). The RT Act identifies 'road related areas' to include areas open to the public and designated for use by people on bikes. As such, the proposal meets the definition of 'road infrastructure facilities' under Clause 93 of the Infrastructure SEPP.

Therefore, in accordance with the abovementioned Clauses of the Infrastructure SEPP, development consent is not required, and the proposal is designated as 'development without consent' under Division 5.1 of the EP&A Act. However, it is still necessary and required to consider environmental impacts of the proposal under Part 5 of the EP&A Act.

Part 2 of the Infrastructure SEPP contains provisions for public authorities to consult with State Emergency Services and other public authorities prior to the commencement of certain types of development. **Section 5.0** of this REF discusses the consultation undertaken under the requirements of the ISEPP.

It is noted that the ISEPP prevails over all other EPIs except where *State Environmental Planning Policy (State Significant Precincts) 2005* or *State Environmental Planning Policy (Coastal Management) 2018* applies. These SEPPs do not apply to the proposal area or proposed activity and therefore do not require further consideration as part of this REF.

4.2.4 State Environmental Planning Policy 55 – Remediation of Land

State Environmental Planning Policy 55 – Remediation of Land (SEPP 55) provides a State-wide approach to the remediation of contaminated land for the purpose of minimising the risk of harm to the health of humans and the environment. While consent for the Proposal is not required, the provisions of SEPP 55 have still been considered in the preparation of this REF.

Section 0 of this REF contains an assessment of the potential contamination impacts of the Proposal. It is unlikely that any large-scale remediation (Category 1) work would be required as part of the Proposal. The proposed land use does not differ to the existing use and is therefore, unlikely to be affected by any potential contaminants that occur beneath the road surface.

4.2.5 State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017

The *State Environmental Planning Policy (Vegetation in Non-Rural Areas*) *2017* (Vegetation SEPP) provides a mechanism for the protection of vegetation in non-rural areas of the State of NSW including the City of Sydney LGA. This policy aims to protect the biodiversity values of trees and other vegetation and preserve the amenity of non-rural areas of the State.

The Proposal would not involve the removal of any native or non-native vegetation.

4.3 Local

4.3.1 Sydney Local Environmental Plan 2012

The Proposal is located in the Sydney LGA and is subject to The *Sydney Local Environmental Plan 2012* (Sydney LEP).

Table 4-2 summarises the relevant aspects of the Sydney LEP applicable to the Proposal.

Table 4-2 Relevant provisions of the Sydney LEP

Provision description	Relevance to the Proposal
Clause 2.3 – Zone objectives and Land Use Tables	The Proposal is consistent with the objectives of the B4 zoned land on which it is located. The Proposal would not affect the land use objectives of those zones or surrounding land zones.
Clause 5.10 – Heritage conservation	Clause 5.10 of the Sydney LEP 2012 aims to: • conserve the environmental heritage of Sydney. • conserve the heritage significance of heritage items and heritage. • conservation areas, including associated fabric, setting and views. • conserve archaeological sites. • conserve Aboriginal objects and Aboriginal places of heritage significance. The Proposal does not contain any heritage items but is located nearby several locally listed heritage items and three state-listed heritage items. A discussion of impacts to heritage is included in **Section 6.4**.

4.3.2 Ecologically sustainable development

The City of Sydney is committed to ensuring that its projects are implemented in a manner that is consistent with the principles of ecologically sustainable development (ESD). The principles of ESD are generally defined under the provisions of clause 7(4) of Schedule 2 to the EP&A Regulation as:

- The precautionary principle – if there are threats of serious or irreversible damage, a lack of full scientific uncertainty should not be used as a reason for postponing measures to prevent environmental degradation.
- Intergenerational equity – the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations.
- Conservation of biological diversity and ecological integrity – the diversity of genes, species, populations and their communities, as well as the ecosystems and habitats they belong to, should be maintained or improved to ensure their survival.
- Improved valuation, pricing and incentive mechanisms – environmental factors should be included in the valuation of assets and services.

The principles of ESD have been adopted by the City of Sydney throughout the development and assessment of the Proposal. **Chapter 6.0** includes an assessment of the impact of the Proposal on a range of environmental factors, including greenhouse gas emissions and climate change. **Chapter 7.0** lists mitigation measures that incorporate ESD principles during the construction phase of the proposal.

5.0 Consultation

Chapter 5.0 discusses the consultation undertaken to date for the Proposal and the results of consultation with the community, relevant government agencies and stakeholders.

In 2020 the Minister for Planning and Public Spaces made an order under section 10.17 of the *Environment Planning and Assessment Act 1979* named the *Environmental Planning and Assessment (COVID-19 Development-Temporary Cycleways) Order 2020*, authorising development of temporary pop-up cycleways, superseding the normal planning pathway of requiring a Review of Environmental Factors (REF).

The City of Sydney and Transport for New South Wales jointly notified the community prior to construction of the pop-up cycleways and responded to concerns raised over the course of installation.

5.1 Community notification

Transport for New South Wales provided notification prior to work commencing, including a description of the works and the construction period, to properties on the alignment of the cycleway of the pop-up cycleway.

Community members were provided with an opportunity to register their interest in the pop-up cycleway and be consulted when a permanent plan is developed. Community could also provide feedback which can inform the concept design and raise issues relating to the ongoing operation of the pop-up. This opportunity will remain open while the City develops a permanent plan for the street.

The City of Sydney and Transport for New South Wales collected and monitored feedback related to the impacts of the pop-up cycleway on Fitzroy Street on street users including motorists, people on bikes, pedestrians and the broader community between 24 August 2020, through to 16 November 2020. Activities undertaken during this period included:

- Structured site observations and intercept surveys with riders (55 hours total) (CoS, 2020)
- Bike count data: please take this from the evaluation report (100 riders).
- Intercept surveys with people on bikes on Fitzroy Street
- Review of feedback received via online community engagement platform *Sydney Your Say* in relation to the pop-up cycleway on Fitzroy Street

Community members were provided with an opportunity to register their interest in the pop-up cycleway and be consulted when a permanent plan is developed. Community could also provide feedback which can inform the concept design and raise issues relating to the ongoing operation of the pop-up. This opportunity will remain open while the City develops a permanent plan for the street.

Key themes raised included:

- Lack of consultation prior to the installation of the pop-up cycleway on Fitzroy Street
- Reduction of posted speed limit on Fitzroy Street after the construction of the pop-up cycleway
- Removal of parking along the northern side of Fitzroy Street.

5.2 Consultation requirements under the Infrastructure SEPP

Part 2, Division 1 of the Infrastructure SEPP contains provisions for public authorities to consult with local councils and other public authorities prior to the commencement of certain types of development. Clauses 13-16 of the Infrastructure SEPP require that public authorities undertake consultation with councils and other agencies, when proposing to carry out development without consent.

Table 5-1 provides details of consultation requirements under the Infrastructure SEPP for the proposal.

Table 5-1 Infrastructure SEPP consultation requirements

Clause	Clause particulars	Relevance to the Proposal
Clause 15AA - Consultation with State Emergency Service – development with impacts on flood liable land	Where the Proposal occurs on flood liable land – written notice must be given (together with a scope of works) to the State Emergency Service. Any response to the notice received from the State Emergency Service within 21 days after the notice is given must be taken into consideration.	The Proposal is not on flood liable land.
Clause 16 - Consultation with public authorities other than Councils	Where the Proposal is *specified development* as outlined under Clause 16(2), being: • development adjacent to land reserved under the *National Parks and Wildlife Act 1974* • development on land zoned E1 National Parks and Nature Reserves • development adjacent to an aquatic reserve or a marine park • development in the foreshore area • development comprising a fixed or floating structure in or over navigable waters • development for the purposes of a health services facility, correctional centre or group home, or for residential purposes, in an area that is bush fire prone land.	The Proposal is not considered to be specified development under Clause 16 of the Infrastructure SEPP. Consultation with specified authorities is not required.

6.0 Environmental Impact Assessment

Chapter 6.0 of this REF provides a detailed description of the environmental impacts associated with the Proposal. For each likely impact, the existing environment is characterised and then an assessment is undertaken as to how the Proposal would affect the existing environment.

The Proposal is currently constructed and operational. No construction is to be undertaken associated with the proposal.

The City of Sydney Council will continue to conduct periodic site inspections to ensure the infrastructure remains adequate for continued use. Maintenance works may involve replacement of the safety barriers with other materials that may be more suitable for ongoing operation.

This section describes the works undertaken to construct the pop-up cycleway. This environmental impact assessment has been undertaken in accordance with clause 228 of the EP&A Regulation. A checklist of clause 228 factors and how they have been specifically addressed in this REF is included in **Appendix B**.

6.1 Traffic and transport

This section assesses and describes the impacts of the Proposal on traffic, transport and pedestrian and cyclist access within and surrounding the proposal area. The assessment is based on a desktop analysis and from observations made during operation. Detailed traffic counts and modelling were not considered necessary for the Proposal.

6.1.1 Existing environment

6.1.1.1 Public transport

Four bus services travel along Fitzroy street, with the closest bus stops located at Foveaux Street and Crown Street. These routes include:

- Route 339
- Route 374
- Route 376
- Route 391.

Prior to construction of the pop-up cycleway a bus stop was situated midway along the proposal area. This bus stop was developed into a raised bus platform to allow pedestrians to board the bus from the cycleway. The platform was subsequently removed following closure of the stop by Transport for New South Wales at the request of STA due to a perception of unsafe interactions between people on bikes and bus passengers boarding and alighting buses.

The closest train station to the proposal area is Central Station, which is about 720 metres west. Redfern station is the next closest station and is located about 1.7 kilometres south west. These stations provide people with the opportunity to access and transfer between transport modes including buses, taxis and rideshare.

The closest bus stop is located at the intersection of Crown Street and Foveaux Street. This bus stop is located about 90 metres south of Fitzroy Street and services routes 304 and 352.

6.1.1.2 Road network and traffic

Fitzroy Street is situated between Bourke Street to the west, South Dowling Street to the east and Albion Street to the north. There is a separated two-way cycleway along Bourke Street running north – south, a pop up cycleway along Moore Park Road and shared paths through Moore Park, Anzac Parade and the Eastern Distributor. The cycleway on Fitzroy Street currently connects to the cycleways on Moore Park Road and Bourke Street as well as serving as a connection for Central Station and the CBD more broadly.

Prior to construction of the pop-up cycleway there was a bus lane operating in the left lane of Fitzroy Street from the Intersection of South Dowling Street to Bourke Street. This bus lane was removed to construct the pop-up cycleway using temporary lane separators, line markings and on road signage.

Buses still travel along Fitzroy Street, but do so within general traffic lanes instead of a dedicated bus lane.

The current configuration of Fitzroy Street consists of two general traffic lanes heading west, with broken lines separating the lanes. The street is one way heading west. Nichols Street, Farnell Street and Hutchinson Street lead off Fitzroy Street to the north and are two way, while Hutchinson Place is a one-way street leading onto Fitzroy Street on the north side. Marshall Street is a two-way street leading off Fitzroy Street to the south. Access between Fitzroy Street and Marshall Street requires road users to cross the cycleway and give way to people on bikes.

South Dowling Street is a dual carriageway arterial road running north-south on the eastern extent of the proposal area. This intersection is controlled by lights and has no turning traffic crossing the cycleway.

The starting point of the cycleway on the eastern extent is accessible to cycleway users continuing from the Moore Park Road cycleway and users travelling through Moore Park via a pedestrian crossing across the slip road off Fitzroy Street onto South Dowling Street southbound. The cycleway ceases about 10 meters before the traffic lights onto Bourke Street. A kerb ramp was constructed to allow cycleway users may join the shared path to the south-east corner and cross at the shared bicycle and pedestrian signal crossing to the Bourke Street cycleway.

The pop-up cycleway within the proposal area does not impede any property access points/driveways. Shared paths are located on both sides of Fitzroy Street within the proposal area.

Data received from the evaluation report prepared by City of Sydney Council (CoS, 2020) determined that the proposal has the potential to affect (positively and negatively) a range of people. As discussed in Section 2.4, the positive impacts included:

- Most people prefer to ride on the pop-up cycleway verses the shared path
- Most people felt safe on Fitzroy Street and said it's safer than previous road conditions
- Observations recorded high diversity of micro mobility devices such as hover boards, skateboards and electric scooters
- Walking is safer due to fewer riders using the shared paths.

The negative impacts included:

- Reduced posted speed limit for vehicles
- Loss of parking on the north side of Fitzroy Street
- People with restricted mobility experience can no longer access the bus stop due to closure
- Vehicle access to front of properties has been removed, though access to the rear has been maintained.

6.1.1.3 Kerbside use

There are no driveways along the proposal area. Parking is permitted in sections of the northern side of Fitzroy Street from 7pm to 6am Monday to Friday and on weekends. Outside of these hours a clearway is enforced to ease traffic congestion. There is no parking permitted on the southern side of Fitzroy Street.

6.1.2 Potential impacts

6.1.2.1 Operation

Public Transport

Noting that the previous bus stop on Fitzroy Street has been closed, the proposal would be unlikely to cause negative impacts on any other nearby public transport infrastructure or its operation.

Road network and traffic

Continued operation of the cycleway would likely have a positive impact on the surrounding businesses with enhanced access and cyclist through traffic.

The presence of people on bikes on the cycleway may lead to minor delays for motorists wishing to access Fitzroy Street from Nichols Street, Farnell Street, Hutchinson Street and Hutchinson Place due to congestion of turning into and out of Marshall Street. This impact is however considered to be minor.

Access

The proposal would maintain the positive operational impact of connecting people on bikes directly to other existing parts of the cycleway network and the wider city of Sydney, as outlined in the Access Strategy.

The proposal would not result in any changes to access for the businesses fronting the proposal area.

Kerbside use

The continued use of the pop-up cycleway would not affect current kerbside use as there would be no changes in kerbside access or usage.

6.1.3 Mitigation measures

The following mitigation measures are recommended to minimise traffic and transport impacts:

- Continued monitoring of roadway and cycleway traffic to track cycleway usage and possible congestion impacts.

6.2 Noise and vibration

This section assesses and describes the impacts of the proposal of noise and vibration on receivers surrounding the proposal area. The assessment is based on a desktop analysis.

6.2.1 Existing environment

The proposal is situated in an inner-city suburb to the south east of the Sydney CBD. As such, the existing environment is generally of low-moderate noise level during the day and night. The major noise sources include traffic (both local and distant), pedestrians, business operations, and entertainment venues.

6.2.2 Potential impacts

6.2.2.1 Operation

Under continued operation of the cycleway there would be negligible changes in sources of noise and vibration. Over time, the continued use and public awareness of the cycleway would likely result in a positive impact due to reduction in the number or frequency of vehicles travelling along Fitzroy Street, and the surrounding streets in the proposal area. However, a reduction in noise during peak periods had not been observed in the first 12 weeks of operation of the cycleway.

6.2.3 Mitigation measures

No mitigation measures are required for noise and vibration impacts.

6.3 Landscape and visual

6.3.1 Existing environment

The proposal area is located within a mixed residential, commercial and light industrial environment in the midst of the Sydney suburb of Surry Hills. The cycleway commences at the intersection Fitzroy Street and Southern Dowling Street, continues westward along Fitzroy Street and would continue to Bourke Street Intersection.

Fitzroy Street is a two lane one way east to west trafficable road. The street is flanked by a mix of old residential terrace buildings, hotels, restaurants and a café. The eastern extent of the proposal area is flanked by the north western extent Moore Park which includes the Korean War Memorial.

Street trees are found along the extent of the alignment. South Dowling Street is a busy thoroughfare that provides access to and from the Eastern Distributor and inner eastern suburbs. South Dowling Street is designated as a classified road under the NSW Roads Act.

6.3.2 Potential impacts

6.3.2.1 Operation

There would be no direct changes to the existing visual landscape of the proposal area, with all existing on-road cycleway road furniture, line marking and infrastructure to be maintained in place.

In the long term the cycleway may be used by an increasing number of people on bikes. This would include increased lighting at night from bicycles with lights for safety. This would increase the presence of people within the street, but is not expected to substantially change the overall visual environment.

6.3.3 Mitigation measures

No mitigation measures are required for landscape and visual impacts.

6.4 Non-Indigenous heritage

This section assesses and describes the impacts of the Proposal on non-Indigenous heritage within and surrounding the proposal area. This assessment is based on a desktop analysis of the relevant heritage registers. The proposal area includes items of State heritage significance under the NSW State Heritage Register and local heritage significance under the Sydney LEP and Section 170 Heritage and Conservation Register.

6.4.1 Existing environment

A search of the following heritage registers was undertaken in April and June 2020 to identify any potential non-Indigenous heritage items located within the proposal area. This included a search of the following databases:

- Australian Heritage Places Inventory
- Commonwealth EPBC Heritage List
- NSW State Heritage Register (SHR)
- Section 170 Heritage and Conservation Registers
- *Sydney Local Environmental Plan 2012*.

Two local heritage items and one state heritage item are present within the immediate vicinity of the proposal area, as described in **Table 6-1,** with several items in the surrounding area shown in **Figure 6-1**.

Table 6-1 State and local heritage items within the immediate vicinity of the proposal area

Item	Address	Listing	Significance	Location relative to the Proposal
Moore Park	Corner South Dowling Street & Fitzroy Street	State Heritage Register 01384	State	Adjacent to the proposal area (about 20 metres south)
Cricketer's Arms Hotel	106 Fitzroy Street	Sydney LEP I1540	Local	Adjacent to the proposal area (about 15 metres north)
The Hopetoun Hotel	416 Bourke Street	Sydney LEP I1436	Local	Adjacent to the proposal area (about 5 metres south)

Figure 6-1 Non-Indigenous heritage items surrounding proposal area

6.4.2 Potential impacts

6.4.2.1 Operation

During operation, impacts to non-Indigenous heritage items would be expected to be limited to changes to landscape character and visual amenity. As outlined above, there is no substantial change to the landscape or visual amenity of the area and hence no additional impacts upon non- Indigenous heritage.

6.4.3 Mitigation measures

The following mitigation measures are recommended to minimize impacts to non-Indigenous heritage items:

- Continued monitoring of community feedback regarding visual impacts on non-Indigenous heritage items.

6.5 Indigenous heritage

This section assesses and describes the impacts of the Proposal on Indigenous heritage within and surrounding the proposal area. A desktop assessment was undertaken to determine whether the Proposal has the potential to affect Aboriginal cultural heritage (including indigenous sites, objects and places as defined under the NPW Act) and if further assessment or investigation is required.

6.5.1 Existing environment

The proposal area is located within the City of Sydney LGA and Metropolitan Local Aboriginal Land Council (LALC). The Metropolitan LALC covers a large proportion of the Sydney Basin from the Georges River in the south to Yengo National Park in the north. The Gadigal people are the original inhabitants of the land now encompassed by the City of Sydney LGA.

A search of the Aboriginal Heritage Information Management System (AHIMS) was conducted on 22 January 2021 The AHIMS searches did not identify any Aboriginal heritage items within or adjacent to the proposal area (200m buffer) (refer **Appendix C**).

The proposal area does not contain any landscape features that indicate the presence of Indigenous heritage objects and the cultural heritage potential of the proposal area and surrounds appears to be significantly reduced due to past disturbance.

6.5.2 Potential impacts

6.5.2.1 Operation

The operation of the cycleway would not affect Indigenous heritage.

6.5.3 Mitigation measures

No mitigation measures are required for Indigenous heritage impacts.

6.6 Socioeconomic impacts

6.6.1 Existing environment

6.6.1.1 Population and growth

At the 2016 Census, the suburb of Surry Hills had a population of 16,412, while the wider Sydney LGA had a population of 208,374 people. The population is relatively young, with the median age being 34 years old. The industry in the area is mainly comprised of cafes and restaurants, hotels, art and culture, light industrial, medical and education. According to the ABS, approximately 49% of residents have a registered vehicle. In Surry Hills on the day of the Census, the most common methods of travel to work for employed people were walking 32.1%, train 18.2%, driving a car 14.3% and taking the bus 12.4% with public transport accounting for 35.4% of residents' daily commute. This is likely not representative of the current state as more people would be working from home due to COVID-19, as well as altered modes of transport due to the removal of the bus stop and greater access for people on bikes to adjoining cycleways.

The 2019 Population Projections indicated that the population of the Sydney LGA was estimated to increase to 287,100 people. Natural increase is estimated to drive future population growth in the Sydney LGA. People would also continue to move into the City, especially students and young workers.

6.6.1.2 Demographics

According to the 2016 Census, the suburb of Surry Hills features the following demographic characteristics:

- Median age of 34.
- Children aged 0 - 14 years made up 4.9% and people aged 65 years and over made up 8.8% of the population. The highest age group was persons aged 25-29 years, representing 18.8% of the population.
- The suburb is culturally diverse with high proportions of people born overseas. About 58.2% of residents spoke only English at home compared to 30.6% speaking a language other than English.
- The suburb contains a higher proportion of family households (43.6%) compared to single person households and group households (40.8% and 15.6% respectively).
- The majority of the population own motor vehicles. People do not own a motor vehicle make up 47.6%.

6.6.1.3 Social infrastructure

Social infrastructure refers to community facilities, services and networks which help individuals, families, groups and communities meet their social needs, maximise their potential for development and enhance community wellbeing.

The suburb of Surry Hills provides a range of community services and facilities catering for local residents, workers and visitors. This includes education, transport, health and medical, parks and gardens and community support services and facilities. It also boarders the suburbs of Haymarket, Darlinghurst, Paddington and Redfern.

Key social infrastructure located near the Proposal includes:

- Public transport facilities, including (but not limited to) bus stops on Crown Street and Flinders Street and Central Station.
- Emergency and health services, including (but not limited to) medical clinics on Crown Street and Foveaux Street.
- Open space and parks, including (but not limited to):
    - Moore Park, bounded by South Dowling Street and Anzac Parade
    - Shannon Reserve, bounded by Crown Street and Foveaux Street

  - Frog Hollow Reserve, bounded by Albion Street and Riley Street.
  - Fred Miller Park, bounded by Marshall Street.
- Educational facilities, including (but not limited to) Bourke Street Public School, KU John J. Carrol Preschool, Sydney Boys High School, and Crown Street Public School
- Cultural and tourist attractions, including (but not limited to) multiple art gallery's including; Brett Whitely Studio, Filter Fine Art, Ann Snell Art, My Art Hub and UNSW Galleries, the Korean War Memorial, Sydney Football Stadium, Sydney Cricket Ground, and the Horden Pavilion.

To meet the needs of the residents, the City of Sydney has committed to be green, global and connected. Relevantly, the City of Sydney intends to make the city easy to get around, with a local network for walking and cycling, connecting the city's villages, city centre and the rest of inner Sydney (City of Sydney, *Sustainable Sydney 2030 – Community Strategic Plan 2017 – 2021*).

6.6.2 Potential Impacts

6.6.2.1 Operation

The Proposal would enhance part of an existing and expanding bike network within the City of Sydney LGA. It would support longer term modal shifts away from the use of private motor vehicles towards active transport, in response to the growing number of residents and workers who prefer the convenience, mobility and sustainability benefits that cycling provides. This would bring with it, improvements in air quality, noise, the streetscape and equality in transport access. Increases in active transport would also bring broader (and more subtle) public health benefits.

The continued operation of the existing pop-up cycleway would benefit the public domain of Surry Hills by:

- Maintaining improved connectivity and equitable access for residents and businesses.
- Providing stability for transitioning to cycling as a primary mode of transport for residents.
- Avoiding the decommissioning of the cycleway and reversal of positive social impacts associated with the cycleway.
- Helping to reduce the number of private motor vehicles travelling into and through the CBD, making it a safer and more enjoyable place for city residents, workers and tourists.
- Improving safety and amenity by reducing the speed limit.

6.6.3 Mitigation measures

No mitigation measures are required for air quality impacts.

6.7 Contamination, landform, geology and soils

6.7.1 Existing environment

6.7.1.1 Landform, geology and soils

Reference to the 1:100,000 Geological Map of Sydney identified that the underlying geology of the proposal area is mainly underlain by Triassic sedimentary rocks

The elevation of the proposal areas is relatively flat with slight variations. The proposal area has an Australian Height Datum (AHD) of 39 - 45 metres.

The soil landscape of the proposal area is located within the boundaries of the Tuggerah landscape (eSPADE, 2020), which typically have a low-medium capability for urban development although most of the land development in this area has been urban residential and heavy industry. The Tuggerah landscape mainly comprises of gently undulating plains and rolling undulating rises of broad, level to very gently inclined, swales and dunes. Soils are typically deep, Podzols on dunes or Podzols/Humus Podzol integrades on swales. Limitations of this landscape include wind erosion hazard, and non-cohesive soils and other water-based limitations.

Above the recorded soil and geological landscape, the proposal area is likely to consist of human-imported fill material, concrete and road base as a result of the ongoing construction and maintenance of the road.

6.7.1.2 Acid sulfate soils

Acid sulfate soil (ASS) risk maps have been obtained from the Sydney LEP. Based on the ASS map, the proposal area is located on land mapped as containing Class 5 ASS.

6.7.1.3 Contamination

A search of the NSW EPA Contaminated Land Register on 27 January 2021 did not identify any contaminated sites within or nearby the proposal area. The proposal area at this section has not been declared as significantly contaminated and is not regulated under the CLM Act.

Given the urbanised nature of the proposal area in this location, there is potential for contaminants to be present within the soils underlying the road. The construction and ongoing maintenance of the road way would likely have involved the introduction of fill and potential spills of ash, fuel, oil and other chemicals.

6.7.2 Potential Impacts

6.7.2.1 Operation

During the operational phase of the proposal, general, non-periodic maintenance is likely to be required to ensure the continued, efficient operation of the cycleway and the road generally. During maintenance, there is potential for contamination to occur as a result of accidental fuel, oil or chemical spills. The potential impact as a result of this would be mitigated through the appropriate protocols for those maintenance works.

6.7.3 Mitigation measures

No mitigation measures are required for landform, geology or soils impacts.

6.8 Air quality

6.8.1 Existing environment

The air quality of Sydney is comparable with other Australian cities and is relatively good compared to other urban regions overseas. Concentrations of air pollutants including carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2) and lead (Pb) are low and stable, and consistently meet the national air quality standards. However, ozone (O_3) and particulate matter (PM_{10} and $PM_{2.5}$) levels can exceed the national standard from time to time across Sydney (Office of Environment and Heritage, 2018).

The proposal area would generally follow those trends, however it is located within a highly-urbanised locale in the Sydney region and experiences high volumes of vehicle traffic (along with the rest of the City). According to the Office of Environment and Heritage (OEH), transport remains a major source of air pollution in the Sydney region, being the largest source of oxides of nitrogen and carbon monoxide emissions and contributing significantly to total emissions of volatile organic compounds and fine particles (Office of Environment and Heritage, 2018). Given the proposal area is located within a dense urban environment that experiences large volumes of traffic, it is reasonable to deduce that the air quality within the proposal area may be worse than areas of Sydney that do not experience similar levels of traffic.

A search of the National Pollutant Inventory (NPI) database was undertaken on 27 January 2021. Searches were conducted within an extent of 1 kilometre of the proposal area. No Facilities were identified.

Potentially affected receivers within the vicinity of the proposal area include local residents, businesses, community centres and educational facilities surrounding the site.

6.8.2 Potential impacts

6.8.2.1 Operation

The proposal is anticipated to encourage a long-term mode shift to active transport from the use of private vehicles, aiding a reduction in emissions in the long-term. The proposal would also reduce the capacity of kerbside parking and result in improved air quality for pedestrians on Fitzroy Street. By reducing the number of vehicles travelling along Fitzroy Street the proposal may result in a minor improvement in local air quality.

6.8.3 Mitigation

No mitigation measures are necessary for the ongoing operation of the cycleway.

6.9 Biodiversity

6.9.1 Existing environment

6.9.1.1 Landscape context

The Proposal is located within the suburb of Surry Hills south of Sydney's CBD. The area is heavily urbanised and vegetation consists of landscaped areas (vegetated medians, parks and residential gardens) and street trees.

Fitzroy Street is tree lined on both the northern and southern sides of the road. Moore Park is located on the southern side of the eastern extent of the Proposal area and comprises numerous vegetated areas.

6.9.1.2 Database searches

Database searches do not provide the exact species that are located within or around the Proposal area. They provide an indication of the species that may, are likely, or known to occur in the area based on species' sightings, favoured habitats and behaviours.

A search of the Atlas of NSW Wildlife (NSW BioNet) on 27 January found records of 75 threatened flora and fauna species listed under the BC Act within a 10 square kilometre area around the proposal area (**Appendix D)**. According to the BioNet Atlas Map, the following individual species have been recorded in the vicinity of the Proposal area:

- *Pteropus poliocephalus* (Grey-headed flying-fox) numerous sightings, closest at 92 Fitzroy Street, Surry Hills, NSW, 2010 (immediately north of the proposal area).

A further search was undertaking using the EPBC Act Protected Matters Search Tool (27 January 2021). The search was undertaken for the Proposal area and a 1 km buffer around the proposal area. The search identified the following:

- Six listed threatened ecological communities:
    - Castlereagh Scribbly Gum and Agnes Banks Woodlands of the Sydney Basin Bioregion– community may occur within area.
    - Coastal Swamp Oak (*Casuarina glauca*) Forest of New South Wales and South East Queensland ecological community – community may occur within area.
    - Coastal Upland Swamps in the Sydney Basin Bioregion – community may occur within area.
    - Cooks River/Castlereagh Ironbark Forest of the Sydney Basin Bioregion – community may occur within area.
    - River-flat eucalypt forest on costal floodplains of southern New South Wales and eastern Victoria - community may occur within area.
    - Western Sydney Dry Rainforest and Moist Woodland on Shale – community may occur within area.
- 39 listed threatened species
- 18 listed migratory species

- 4 parcels of Commonwealth land
- 25 listed marine species
- 46 invasive species.

6.9.1.3 Flora

The proposal area comprises sealed or paved surfaces and currently features 12 street trees along both the northern and southern side of Fitzroy Street. City of Sydney's Significant Tree Register does not list any significant trees to occur within the proposal area. Garden beds and a number of large Moreton Bay Figs and other trees occur on the northern border of Moore Park on the proposal's eastern extent.

6.9.1.4 Fauna

Targeted surveys for threatened or migratory fauna were not conducted. The proposal area is located within an area subject to ongoing human activity including vehicle and pedestrian movements throughout the day and night. As such the potential habitat value for threatened or migratory fauna is low to non-existent.

Despite this, certain threatened fauna that are adapted to urban environments still occasionally use this area, such as Grey-headed Flying-Fox or microbats, particularly due to the presence of street trees of crevices in nearby buildings. The main presence of fauna within the proposal area is likely to consist of invasive rodent and common urban bird species.

6.9.2 Potential impacts

6.9.2.1 Operation

The likelihood of threatened species occurring is low however cannot be completely excluded. The activities outlined in the proposal would be unlikely to pose significant stress on these populations outside of those found in the current environment.

6.9.3 Mitigation measures

No mitigation measures are required for biodiversity impacts.

6.10 Hydrology and water quality

6.10.1 Existing environment

The nearest watercourse to the proposal area is the Rushcutters Creek located approximately 1.5 kilometres from the corner of South Dowling Street and Fitzroy Street. This creek flows northwards and into Sydney Harbour. The Proposal is also located about 420 metres west of Kippax Lake which is located within Moore Park.

The Proposal is in an area where soils have been heavily modified by urban development. The proposal is located within the Cooks River Catchment and is highly urbanised and contains a high proportion of impervious surfaces. The Cooks River is in a degraded condition. Historically the catchment was stripped of natural vegetation, and dumped with sewerage, industrial and domestic waste, stormwater pollution and rubbish. Industrial pollution is no longer allowed however sewerage overflows, rubbish and stormwater runoff are continuing processes affecting the River's water quality. Water quality that drains to the Cooks River is generally poor. Stormwater from the urban catchment is generally not treated (except for gross pollutants in some locations). Common urban stormwater pollutants are likely to exist.

As outlined in **Section 6.7.1**, a review of the list of NSW Contaminated Sites notified to the Environment Protection Authority as of 27 January 2021 identified no sites within the proposal area. A search of the Office of Environment and Heritage contaminated land record of notices on 27 January 2021 returned no records for locations within the proposal area.

6.10.2 Potential Impacts

6.10.2.1 Operation

The operation of the cycleway would not result in any exposure of soil or increase in impervious surfaces in the Sydney city centre. The design of the cycleway would not alter the existing drainage regime. Therefore, no impacts to hydrology, water quality or drainage are anticipated during operation of the cycleway.

6.10.3 Mitigation measures

No mitigation measures are required for hydrology and water quality impacts.

6.11 Climate change and greenhouse gas emissions

6.11.1 Climate change

The dynamic nature of our climate system indicates a need to focus attention on how to adapt to the changes in climate and understand the limitation of adaptation. The effects of climate on the Sydney Metropolitan region can be assessed in terms of weather changes, storm and rainfall intensities, flooding and increased risk of fire.

Sydney may be affected in future by an increase in maximum and minimum temperatures across all seasons, more days of extreme heat and heatwaves, changes in seasonal rainfall patterns and increased intensity of extreme rainfall events and increased drought conditions.

Climate change could lead to an increase in average temperatures as well as additional extreme heat days over 40°C and increased heatwaves (three consecutive days over 40°C). Impacts associated with extreme heat include compromising the structural integrity of road and access path surfaces, causing heat stress in users of the cycleway and heat stress to landscaped vegetation. Measures such as the provision of landscaping to increase shade should be reviewed for feasibility during detailed design to help reduce impacts from extreme heat.

Climate change is also expected to lead to an increase in average rainfall, increase in extreme rainfall and increased average recurrence interval for hail events. Impacts associated with changes to rainfall include localised flooding and surface flow, damage to aboveground structures where hail and/or damaging winds occur with the rainfall event and damage to vegetation due to overwatering and/or impact damage. Adequate drainage over the road network would help reduce impacts from extreme rainfall.

The proposal area can also be subject to what is known as the “heat island effect”. This occurs in metropolitan areas which have a significantly warmer climate than the surrounding rural area. The heat island effect is primarily due to human activities such as urban development replacing vegetation with hardstand areas. Concrete and asphalt are the main contributors to the heat island effect.

6.11.2 Greenhouse gas emissions

The proposal has the potential to encourage a longer-term mode shift towards the use of active transport and a relative decrease in use of private motor vehicles by commuters travelling around the city. This shift in transport usage would result in a reduction in fuel consumption by private vehicles and therefore a corresponding relative reduction in associated greenhouse gas emissions in the local area.

6.12 Waste

6.12.1 Existing environment

The waste regulatory framework is administered under the POEO Act and the WARR Act as outlined in **Table 4-1**. The purpose of these acts are to prevent degradation of the environment, eliminate harmful wastes, reduce the amount of waste generated and establish priorities for waste reuse, recovery and recycling. The WARR Act establishes a waste hierarchy, which comprises the following principles:

- Avoidance of waste – minimising the amount of waste generated during construction by avoiding unnecessary resource consumption (i.e. avoiding the use of inefficient plant and construction equipment and avoiding materials with excess embodied energy, waste and excessive packaging).
- Resource recovery – reusing, reprocessing and recycling waste products generated during construction to minimise the amount of waste requiring disposal.
- Disposal – where resources cannot be recovered, they would be appropriately disposed of to minimise the potential adverse environmental impacts likely to be associated with their disposal.

By adopting the WARR Act principles, City of Sydney encourages the most efficient use of resources and reduces cost and environmental harm in accordance with the principles of ecologically sustainable development.

The City is committed to recycling and reusing 80% of waste generated during construction.

6.12.2 Potential impacts

6.12.2.1 Operation

The operation of the proposal is unlikely to result in increased waste generation. Any materials left over from maintenance or replacement works would be disposed of or recycled. Materials and spoil declared unsuitable to be reused would be classified in accordance with the *Waste Classification Guidelines* (EPA 2014) and disposed of at an approved recycling or waste disposal facility depending on whether they can be reused or not.

6.12.3 Mitigation

No mitigation measures are required for waste impacts.

6.13 Cumulative impacts

There are currently relevant no nearby developments that would interact with the proposal to continue operation of the cycleway.

6.13.1 Potential impacts

6.13.2.1 Operation

The Proposal would facilitate the integrated movement of people on bikes as identified in City of Sydney's '*Cycling strategy and action plan*'. The Proposal is also part of a wider program to manage traffic congestion and provide transport systems for Sydney's future growth. The predicted increase in daily bicycle movements along the network may be expected to translate into a reduction in vehicle volumes in the surrounding area. This would result in cumulative improvements in traffic congestion and safety as well as overall health benefits from improved air quality and a greater number of individuals participating in active transport.

6.13.2 Mitigation measures

No mitigation measures are required for cumulative impacts.

7.0 Environmental management

This chapter describes how the Proposal would be managed through environmental management plans and specific safeguards, to reduce the potential environmental impacts throughout operation.

Mitigation measures have been developed to be consistent with the Clause 228 guidelines.

7.1 Construction environmental management plans

No construction is to be undertaken associated with the proposal.

7.2 Safeguards and mitigation measures

Environmental safeguards and mitigation measures proposed for the Proposal are outlined in the table below. These safeguards would minimise the potential adverse engineering, environmental and planning impacts of the Proposal described in **Section 6.0**.

Table 7-1 Environmental safeguards and mitigation measures

No.	Impact	Environmental safeguards	Timing
TT1	Congestion	Continued monitoring of roadway and cycleway traffic to track cycleway usage and possible congestion impacts.	Operation
HER1	Visual amenity	Continued monitoring of community feedback regarding visual impacts on non-Indigenous heritage items.	Operation
SE1	Community impacts	Continued monitoring of community feedback relating to the ongoing operation of the pop-up cycleway.	Operation

7.3 Licensing and approvals

No licences or additional approvals will be required for the proposal.

8.0 Conclusion and certification

8.1 Conclusion

This Review of Environmental Factors has been prepared to assess the environmental impacts of the proposed continuation of operation of the pop-up cycleway at Fitzroy Street for two years. This cycleway has been developed by the City of Sydney to improve cycling access throughout the CDB and City of Sydney LGA. The Proposal would generate benefits including:

- Improved journey time reliability for people on bikes
- Improved integration with public transport
- Potential public transport de-crowding
- Improved equity and accessibility outcomes
- Potential for wider economic benefits beyond the transport sector
- Improved localised economic activity
- Reduced energy dependence.
- Improved safety for bicycle riders and pedestrians
- Long term individual and community health benefits from increased active transport.

This Review of Environmental Factors has been prepared in accordance with Part 5 of *the NSW Environmental Planning and Assessment Act 1979* and has assessed those matters listed in Clause 228 of the *NSW Environmental Planning and Assessment Regulation 2000*. The format of the report and level of environmental impact assessment also complies with the *City of Sydney Part 5 Environmental Impact Assessment Procedures* manual.

The Proposal complies with relevant State and local planning strategy and policy, specifically the City's *Cycling Strategy and Action Plan 2018*. This plan includes an objective to connect the network and make it safer for people to ride in Sydney. The Cycling Strategy and Action Plan was adopted by the City in 2007, and incorporated into the City's strategic plan, *Sustainable Sydney 2030.* The strategy aims to achieve the *Sustainable Sydney 2030* target for 10% of all trips in the city to be made by bike. The City has since planned and largely implemented the delivery of the first suite of cycle network projects and updated the Strategy and Action Plan in 2018.

The assessment has confirmed that the proposal would not result in any significant impact on any declared critical habitat, threatened species, populations or ecological communities or their habitats. A Species Impact Statement is therefore not required. The assessment determined that the proposal would improve local access and would integrate within the existing transport network.

The City would continue to work with affected landowners to minimise impacts during operation.

The public exhibition of this REF would provide an opportunity for the community, businesses and landowners to comment on the proposal's benefits.

The REF has assessed key environmental and planning issues including traffic and transport, noise and vibration, non-Indigenous heritage and socio-economic impacts. Mitigation measures outlined in **Chapter 7.0** would also be implemented to minimise environmental impacts associated with the ongoing operation of the cycleway.

The recommended mitigation measures would ensure that the proposal does not result in any significant adverse effect on the environment. In this regard, an Environmental Impact Statement is not required.

8.2 Certification

This review of environmental factors provides a true and fair review of the proposal in relation to its potential effects on the environment. It addresses to the fullest extent possible all matters affecting or likely to affect the environment as a result of the proposal.

Jamie McMahon

Environmental Scientist - Associate Director

AECOM

Date: 10 March 2021

9.0 References

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Appendix A

Consideration of Matters of National Environmental Significance

The table below demonstrates City of Sydney's consideration of the matters of NES under the EPBC Act to be considered in order to determine whether the Proposal should be referred to the Commonwealth Department of the Environment and Energy.

Matters of NES	Impacts
Any impact on a World Heritage property?	**Nil**
Any impact on a National Heritage place?	**Nil**
Any impact on a wetland of international importance?	**Nil**
Any impact on a listed threatened species or communities?	**Nil**
Any impacts on listed migratory species?	**Nil**
Does the Proposal involve a nuclear action (including uranium mining)?	**Nil**
Any impact on a Commonwealth marine area?	**Nil**
Does the Proposal involve development of coal seam gas and/or large coal mine that has the potential to impact on water resources?	**Nil**
Additionally, any impact (direct or indirect) on Commonwealth land?	**Nil**

Appendix B

Consideration of Clause 228

The table below demonstrates City of Sydney's consideration of the specific factors of clause 228 of the EP&A Regulation in determining whether the Proposal would have a significant impact on the environment.

Factor	Impacts
(a) Any environmental impact on a community? **The proposal is located within a highly modified urban area and would not result in any environmental impact on a community. The Proposal may decrease road traffic in the area and provide a positive contribution to the environment.**	Minor
(b) Any transformation of a locality? **There is no transformation of the locality anticipated with the proposal.**	Negligible
(c) Any environmental impact on the ecosystem of the locality? **The proposal exists in a highly modified urban area with limited natural environmental areas or values. There are no identified threatened species or habitats and no affected heritage items within the proposal area.**	Negligible
(d) Any reduction of the aesthetic, recreational, scientific or other environmental quality or value of a locality? **The proposal area has a distinct cultural aesthetic which would not be impacted by the proposal.**	Negligible
(e) Any effect on a locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or other special value for present or future generations? **The proposal would have minor, indirect impacts upon items of heritage significance.** **In addition, the proposal would have a minor positive impact on Fitzroy Street and the adjoining areas serviced by the interconnected cycleway for future generations through the provision of needed active transport infrastructure.**	Minor
(f) Any impact on the habitat of protected fauna (within the meaning of the *National Parks and Wildlife Act 1974*)? **The proposal exists in a highly modified urban environment that is unlikely to contain any habitat of protected fauna.**	Minor
(g) Any endangering of any species of animal, plant or other form of life, whether living on land, in water or in the air? **The proposal exists in a highly modified urban environment that is unlikely to contain any habitat of protected fauna.**	Minor

Factor	Impacts
(h) Any long-term effects on the environment? **The proposal is proposed as a transport solution to improve access in the area and active transport networks. The proposal is aimed at encouraging a modal shift of transport to active transport, reducing the volume of vehicles within the City, thereby reducing vehicle emissions.**	Minor
(i) Any degradation of the quality of the environment? **The proposal would not degrade the quality of the environment.**	Negligible
(j) Any risk to the safety of the environment? **The proposal poses no risks to the safety of the environment. This REF has proposed a number of mitigation measures aimed at reducing any risks to the environment.**	Minor
(k) Any reduction in the range of beneficial uses of the environment? **The proposal would provide for an increase in sustainable transport use and public domain enhancements would provide increased value to the area.** **The Proposal would ensure long term access improvements in the area.**	Minor
(l) Any pollution of the environment? **The proposal would not result in increase in air pollution.**	Negligible
(m) Any environmental problems associated with the disposal of waste? **No waste will be generated in association with the Proposal**	Negligible
(n) Any increased demands on resources (natural or otherwise) that are, or are likely to become, in short supply? **The proposal is unlikely to increase demand on resources (natural or otherwise) that are, or are likely to become, in short supply.**	Negligible
(o) Any cumulative environmental effect with other existing or likely future activities? **The proposal would coincide with the construction of a number of other proposals in the Sydney city centre. Cumulative impacts as a result of concurrent development are unlikely.**	Minor
(p) Any impact on coastal processes and coastal hazards, including those under Proposed climate change conditions? **The proposal is located approximately 5 km from the coastline and is unlikely to impact on coastal processes.**	Negligible

Appendix C

AHIMS Search – 200m Buffer

Office of Environment & Heritage
NSW GOVERNMENT

AHIMS Web Services (AWS)
Search Result

Purchase Order/Reference : Fitzroy Street
Client Service ID : 563079

Nicholas Woodard
17 Warabrook Boulevard
Warabrook New South Wales 2304
Attention: Nicholas Woodard
Email: nicholas.woodard@aecom.com

Date: 22 January 2021

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lat, Long From : -33.8873, 151.2155 - Lat, Long To : -33.8845, 151.2199 with a Buffer of 200 meters, conducted by Nicholas Woodard on 22 January 2021.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.

A search of the Office of the Environment and Heritage AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

0	Aboriginal sites are recorded in or near the above location.
0	Aboriginal places have been declared in or near the above location. *

Appendix D

Protected Matters Search Tool

Australian Government

Department of Agriculture, Water and the Environment

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

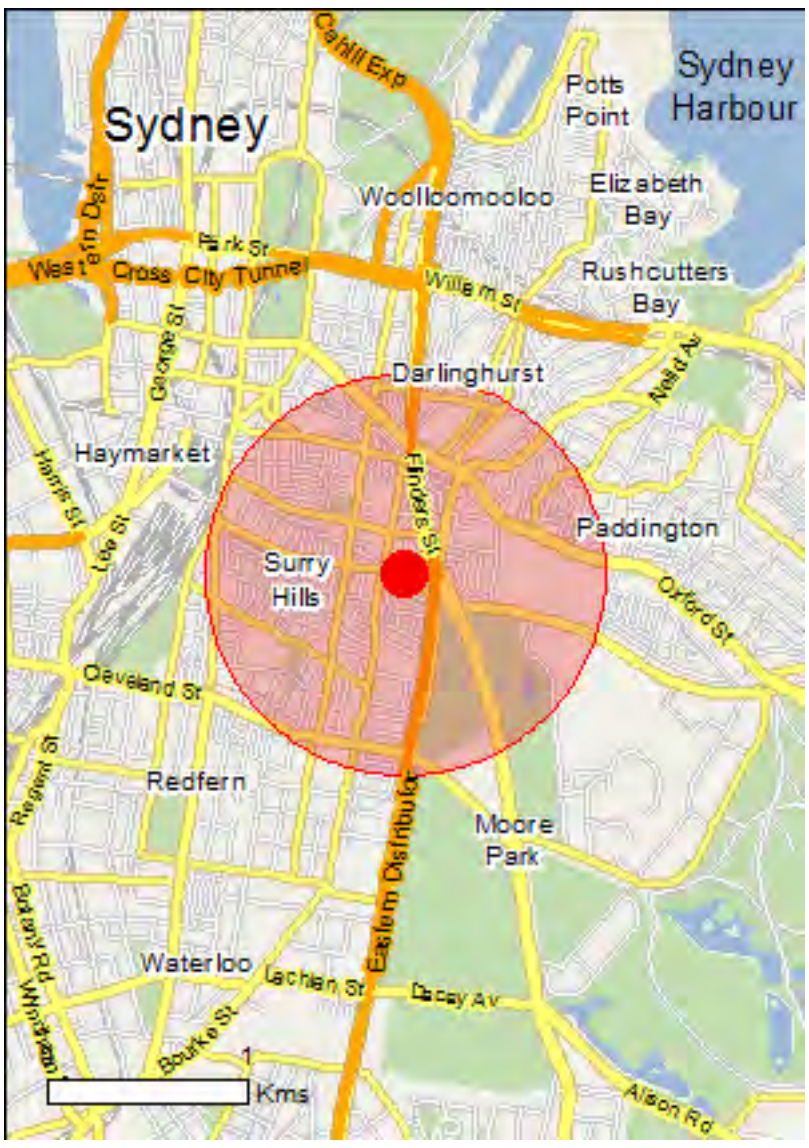
Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about Environment Assessments and the EPBC Act including significance guidelines, forms and application process details.

Report created: 27/01/21 17:01:08

Summary
Details
- Matters of NES
- Other Matters Protected by the EPBC Act
- Extra Information

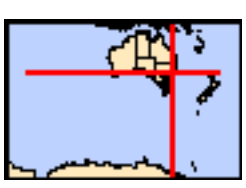
Caveat
Acknowledgements



This map may contain data which are ©Commonwealth of Australia (Geoscience Australia), ©PSMA 2015

Coordinates

Buffer: 1.0Km



Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance.

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	6
Listed Threatened Species:	39
Listed Migratory Species:	18

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at http://www.environment.gov.au/heritage

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Land:	4
Commonwealth Heritage Places:	12
Listed Marine Species:	25
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

State and Territory Reserves:	None
Regional Forest Agreements:	None
Invasive Species:	46
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Listed Threatened Ecological Communities [Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Name	Status	Type of Presence
Castlereagh Scribbly Gum and Agnes Banks Woodlands of the Sydney Basin Bioregion	Endangered	Community may occur within area
Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community	Endangered	Community may occur within area
Coastal Upland Swamps in the Sydney Basin Bioregion	Endangered	Community may occur within area
Cooks River/Castlereagh Ironbark Forest of the Sydney Basin Bioregion	Critically Endangered	Community may occur within area
River-flat eucalypt forest on coastal floodplains of southern New South Wales and eastern Victoria	Critically Endangered	Community may occur within area
Western Sydney Dry Rainforest and Moist Woodland on Shale	Critically Endangered	Community may occur within area

Listed Threatened Species [Resource Information]

Name	Status	Type of Presence
Birds		
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Species or species habitat known to occur within area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat known to occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat may occur within area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat likely to occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area

Name	Status	Type of Presence
Limosa lapponica baueri		
Bar-tailed Godwit (baueri), Western Alaskan Bar-tailed Godwit [86380]	Vulnerable	Species or species habitat known to occur within area
Numenius madagascariensis		
Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Pachyptila turtur subantarctica		
Fairy Prion (southern) [64445]	Vulnerable	Species or species habitat known to occur within area
Rostratula australis		
Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
Sternula nereis nereis		
Australian Fairy Tern [82950]	Vulnerable	Species or species habitat may occur within area
Thinornis cucullatus cucullatus		
Hooded Plover (eastern), Eastern Hooded Plover [90381]	Vulnerable	Species or species habitat may occur within area
Fish		
Macquaria australasica		
Macquarie Perch [66632]	Endangered	Species or species habitat may occur within area
Frogs		
Heleioporus australiacus		
Giant Burrowing Frog [1973]	Vulnerable	Species or species habitat may occur within area
Litoria aurea		
Green and Golden Bell Frog [1870]	Vulnerable	Species or species habitat known to occur within area
Mammals		
Chalinolobus dwyeri		
Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat likely to occur within area
Dasyurus maculatus maculatus (SE mainland population)		
Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat likely to occur within area
Isoodon obesulus obesulus		
Southern Brown Bandicoot (eastern), Southern Brown Bandicoot (south-eastern) [68050]	Endangered	Species or species habitat likely to occur within area
Petauroides volans		
Greater Glider [254]	Vulnerable	Species or species habitat likely to occur within area
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)		
Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Vulnerable	Species or species habitat may occur within area
Pteropus poliocephalus		
Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Plants		
Acacia terminalis subsp. terminalis MS		
Sunshine Wattle (Sydney region) [88882]	Endangered	Species or species habitat may occur within area
Allocasuarina glareicola		
[21932]	Endangered	Species or species habitat may occur within area

Name	Status	Type of Presence
Asterolasia elegans [56780]	Endangered	Species or species habitat may occur within area
Caladenia tessellata Thick-lipped Spider-orchid, Daddy Long-legs [2119]	Vulnerable	Species or species habitat likely to occur within area
Cryptostylis hunteriana Leafless Tongue-orchid [19533]	Vulnerable	Species or species habitat likely to occur within area
Eucalyptus camfieldii Camfield's Stringybark [15460]	Vulnerable	Species or species habitat likely to occur within area
Genoplesium baueri Yellow Gnat-orchid, Bauer's Midge Orchid, Brittle Midge Orchid [7528]	Endangered	Species or species habitat likely to occur within area
Persicaria elatior Knotweed, Tall Knotweed [5831]	Vulnerable	Species or species habitat may occur within area
Persoonia hirsuta Hairy Geebung, Hairy Persoonia [19006]	Endangered	Species or species habitat may occur within area
Pimelea curviflora var. curviflora [4182]	Vulnerable	Species or species habitat may occur within area
Pimelea spicata Spiked Rice-flower [20834]	Endangered	Species or species habitat may occur within area
Rhodamnia rubescens Scrub Turpentine, Brown Malletwood [15763]	Critically Endangered	Species or species habitat likely to occur within area
Rhodomyrtus psidioides Native Guava [19162]	Critically Endangered	Species or species habitat may occur within area
Syzygium paniculatum Magenta Lilly Pilly, Magenta Cherry, Daguba, Scrub Cherry, Creek Lilly Pilly, Brush Cherry [20307]	Vulnerable	Species or species habitat likely to occur within area
Thesium australe Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat may occur within area
Reptiles		
Hoplocephalus bungaroides Broad-headed Snake [1182]	Vulnerable	Species or species habitat may occur within area

Listed Migratory Species [Resource Information]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area
Monarcha trivirgatus Spectacled Monarch [610]		Species or species habitat may occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat known to occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area
Migratory Wetlands Species		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat likely to occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

Other Matters Protected by the EPBC Act

Commonwealth Land [Resource Information]

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Name
Commonwealth Land - Australian Postal Commission
Commonwealth Land - Commonwealth Trading Bank of Australia
Defence - OXFORD ST SYDNEY
Defence - VICTORIA BARRACKS - PADDINGTON

Commonwealth Heritage Places [Resource Information]

Name	State	Status
Historic		
Building VB1 and Parade Ground	NSW	Listed place
Building VB2 Guard House	NSW	Listed place
Buildings MQVB16 and VB56	NSW	Listed place
Buildings VB13, 15, 16 & 17	NSW	Listed place
Buildings VB41, 45 & 53	NSW	Listed place
Buildings VB60 and VB62	NSW	Listed place
Buildings VB69, 75 & 76 including Garden	NSW	Listed place
Buildings VB83, 84, 85, 87 & 89	NSW	Listed place
Buildings VB90, 91, 91A & 92	NSW	Listed place
Victoria Barracks Perimeter Wall and Gates	NSW	Listed place
Victoria Barracks Precinct	NSW	Listed place
Victoria Barracks Squash Courts	NSW	Listed place

Listed Marine Species [Resource Information]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Birds		
Actitis hypoleucos		
Common Sandpiper [59309]		Species or species habitat may occur within area
Apus pacificus		
Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba		
Great Egret, White Egret [59541]		Species or species habitat likely to occur within area
Ardea ibis		
Cattle Egret [59542]		Species or species habitat may occur within area
Calidris acuminata		
Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris canutus		
Red Knot, Knot [855]	Endangered	Species or species habitat may occur within area
Calidris ferruginea		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos		
Pectoral Sandpiper [858]		Species or species habitat may occur within area
Gallinago hardwickii		
Latham's Snipe, Japanese Snipe [863]		Species or species habitat likely to occur within area

Name	Threatened	Type of Presence
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area
Monarcha trivirgatus Spectacled Monarch [610]		Species or species habitat may occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat known to occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Pachyptila turtur Fairy Prion [1066]		Species or species habitat known to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat likely to occur within area
Thinornis rubricollis rubricollis Hooded Plover (eastern) [66726]	Vulnerable*	Species or species habitat may occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

Extra Information

Invasive Species [Resource Information]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resouces Audit, 2001.

Name	Status	Type of Presence
Birds		
Acridotheres tristis Common Myna, Indian Myna [387]		Species or species habitat likely to occur within area
Alauda arvensis Skylark [656]		Species or species habitat likely to occur within area
Anas platyrhynchos Mallard [974]		Species or species habitat likely to occur within area
Carduelis carduelis European Goldfinch [403]		Species or species habitat likely to occur within area
Carduelis chloris European Greenfinch [404]		Species or species habitat likely to occur within area
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Lonchura punctulata Nutmeg Mannikin [399]		Species or species habitat likely to occur within area
Passer domesticus House Sparrow [405]		Species or species habitat likely to occur within area
Passer montanus Eurasian Tree Sparrow [406]		Species or species habitat likely to occur within area
Pycnonotus jocosus Red-whiskered Bulbul [631]		Species or species habitat likely to occur within area
Streptopelia chinensis Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur within area
Turdus merula Common Blackbird, Eurasian Blackbird [596]		Species or species habitat likely to occur within area
Frogs		
Rhinella marina Cane Toad [83218]		Species or species habitat known to occur within area
Mammals		

Name	Status	Type of Presence
Bos taurus Domestic Cattle [16]		Species or species habitat likely to occur within area
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Lepus capensis Brown Hare [127]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Rattus norvegicus Brown Rat, Norway Rat [83]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
Alternanthera philoxeroides Alligator Weed [11620]		Species or species habitat likely to occur within area
Anredera cordifolia Madeira Vine, Jalap, Lamb's-tail, Mignonette Vine, Anredera, Gulf Madeiravine, Heartleaf Madeiravine, Potato Vine [2643]		Species or species habitat likely to occur within area
Asparagus aethiopicus Asparagus Fern, Ground Asparagus, Basket Fern, Sprengi's Fern, Bushy Asparagus, Emerald Asparagus [62425]		Species or species habitat likely to occur within area
Asparagus asparagoides Bridal Creeper, Bridal Veil Creeper, Smilax, Florist's Smilax, Smilax Asparagus [22473]		Species or species habitat likely to occur within area
Asparagus plumosus Climbing Asparagus-fern [48993]		Species or species habitat likely to occur within area
Asparagus scandens Asparagus Fern, Climbing Asparagus Fern [23255]		Species or species habitat likely to occur within area
Cabomba caroliniana Cabomba, Fanwort, Carolina Watershield, Fish Grass, Washington Grass, Watershield, Carolina Fanwort, Common Cabomba [5171]		Species or species habitat likely to occur within area
Chrysanthemoides monilifera Bitou Bush, Boneseed [18983]		Species or species habitat may occur within area
Chrysanthemoides monilifera subsp. monilifera Boneseed [16905]		Species or species habitat likely to occur within area

Name	Status	Type of Presence
Chrysanthemoides monilifera subsp. rotundata Bitou Bush [16332]		Species or species habitat likely to occur within area
Dolichandra unguis-cati Cat's Claw Vine, Yellow Trumpet Vine, Cat's Claw Creeper, Funnel Creeper [85119]		Species or species habitat likely to occur within area
Genista linifolia Flax-leaved Broom, Mediterranean Broom, Flax Broom [2800]		Species or species habitat likely to occur within area
Genista monspessulana Montpellier Broom, Cape Broom, Canary Broom, Common Broom, French Broom, Soft Broom [20126]		Species or species habitat likely to occur within area
Genista sp. X Genista monspessulana Broom [67538]		Species or species habitat may occur within area
Lantana camara Lantana, Common Lantana, Kamara Lantana, Large-leaf Lantana, Pink Flowered Lantana, Red Flowered Lantana, Red-Flowered Sage, White Sage, Wild Sage [10892]		Species or species habitat likely to occur within area
Lycium ferocissimum African Boxthorn, Boxthorn [19235]		Species or species habitat likely to occur within area
Opuntia spp. Prickly Pears [82753]		Species or species habitat likely to occur within area
Pinus radiata Radiata Pine Monterey Pine, Insignis Pine, Wilding Pine [20780]		Species or species habitat may occur within area
Rubus fruticosus aggregate Blackberry, European Blackberry [68406]		Species or species habitat likely to occur within area
Sagittaria platyphylla Delta Arrowhead, Arrowhead, Slender Arrowhead [68483]		Species or species habitat likely to occur within area
Salix spp. except S.babylonica, S.x calodendron & S.x reichardtii Willows except Weeping Willow, Pussy Willow and Sterile Pussy Willow [68497]		Species or species habitat likely to occur within area
Salvinia molesta Salvinia, Giant Salvinia, Aquarium Watermoss, Kariba Weed [13665]		Species or species habitat likely to occur within area
Senecio madagascariensis Fireweed, Madagascar Ragwort, Madagascar Groundsel [2624]		Species or species habitat likely to occur within area

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species distributions have been derived through a variety of methods. Where distributions are well known and if time permits, maps are derived using either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc) together with point locations and described habitat; or environmental modelling (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where very little information is available for species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc). In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More reliable distribution mapping methods are used to update these distributions as time permits.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

Coordinates

-33.88548 151.21672

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

-Office of Environment and Heritage, New South Wales
-Department of Environment and Primary Industries, Victoria
-Department of Primary Industries, Parks, Water and Environment, Tasmania
-Department of Environment, Water and Natural Resources, South Australia
-Department of Land and Resource Management, Northern Territory
-Department of Environmental and Heritage Protection, Queensland
-Department of Parks and Wildlife, Western Australia
-Environment and Planning Directorate, ACT
-Birdlife Australia
-Australian Bird and Bat Banding Scheme
-Australian National Wildlife Collection
-Natural history museums of Australia
-Museum Victoria
-Australian Museum
-South Australian Museum
-Queensland Museum
-Online Zoological Collections of Australian Museums
-Queensland Herbarium
-National Herbarium of NSW
-Royal Botanic Gardens and National Herbarium of Victoria
-Tasmanian Herbarium
-State Herbarium of South Australia
-Northern Territory Herbarium
-Western Australian Herbarium
-Australian National Herbarium, Canberra
-University of New England
-Ocean Biogeographic Information System
-Australian Government, Department of Defence
Forestry Corporation, NSW
-Geoscience Australia
-CSIRO
-Australian Tropical Herbarium, Cairns
-eBird Australia
-Australian Government – Australian Antarctic Data Centre
-Museum and Art Gallery of the Northern Territory
-Australian Government National Environmental Science Program
-Australian Institute of Marine Science
-Reef Life Survey Australia
-American Museum of Natural History
-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania
-Tasmanian Museum and Art Gallery, Hobart, Tasmania
-Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the Contact Us page.

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