



# Sydney Metro Northwest: Hills Showground Station Precinct Concept State Significant Development Application

## Environmental Impact Statement

<b>Applicable to:</b>	Hills Showground Station Precinct, Sydney Metro Northwest (SSD-9653)
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## Glossary and Abbreviations

Term	Definition
ADG	Apartment Design Guideline
AHD	Australian Height Datum
BC Act	<i>Biodiversity Conservation Act 2016</i>
BDAR	Biodiversity Development Assessment Report
CCTV	Closed-Circuit Television
Concept Proposal	The overall concept for which approval is being sought.
concept SSDA	A concept development application as defined in section 4.22 of the EP&A Act, as a <i>development application that sets out Concept Proposals for the development of a site, and for which detailed proposals for the site or for separate parts of the site are to be the subject of a subsequent development application or applications</i>
CO	carbon monoxide
CEMP	Construction Environmental Management Plan
CNVMP	Construction Noise and Vibration Management Plan
Council	The Hills Shire Council
CPTED	Crime Prevention Through Environmental Design
CSSI	Critical State Significant Infrastructure
DA	Development Application
DA Area	The DA area includes the three development lots to be developed: <ul style="list-style-type: none"> <li>Hills Showground Precinct West Lot 53 DP 1253217</li> <li>Doran Drive Precinct Lot 55 DP 1253217</li> <li>Hills Showground Precinct East – Lot 56 DP 1253217</li> </ul> NB. Concept Subdivision applies to part Lot 50 DP 1253217
DCP	Development Control Plan
DPIE	NSW Department of Planning, Industry and Environment
EPA	Environmental Protection Authority
EIS	Environmental Impact Statement
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i> (NSW)
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000</i> (NSW)
EPBC Act	<i>Environmental Protection and Biodiversity Conservation Act 1999</i>
GANSW	Government Architect NSW
ISEPP	State Environmental Planning Policy (Infrastructure) 2007
LEP	Local Environmental Plan
Local centre	The local centre is shown in <b>Figure 7</b> . It refers to land zoned B2 under The Hills Local Environmental Plan 2012 within the Hills Showground Station Precinct.
PAHs	Polycyclic Aromatic Hydrocarbons

Term	Definition
PCTs	Plant Community Types
PM <sub>10</sub> and PM <sub>2.5</sub> PCTs	airborne particulate matter
MNES	Matters of National Environmental Significance
m	Metre
m <sup>2</sup>	Square metres
NPfI	Noise Policy for Industry
NO <sub>2</sub>	oxides of nitrogen
NWRL	North West Rail Link
OEH	Office of Environment and Heritage
RMS	Roads and Maritime Services
RNP	NSW Road Noise Policy
SEARs	Secretary's Environmental Assessment Requirements
Secretary	Secretary of the NSW Department of Planning Industry and Environment, or their delegate
SEPP	State Environmental Planning Policy
SMNW	Sydney Metro Northwest
SRD SEPP	State Environmental Planning Policy (State and Regional Development) 2011
SSD	State Significant Development
SSDA	State Significant Development Application
SSI_5100	<i>North West Rail Link Major Civil Construction Works</i> CSSI application approved by the Minister for Planning on 25 September 2012
SSI_5414	<i>North West Rail Link – Stations, Rail Infrastructure and Systems</i> CSSI application approved by the Minister for Planning on 8 May 2013
SO <sub>2</sub>	sulphur dioxide
Sydney Metro	Sydney Metro (ABN 12 354 063 515) a New South Wales Government agency constituted under the <i>Transport Administration Act 1988 (NSW)</i>
Sydney Metro Northwest	Construction and operation of a metro rail line together with eight new stations and the upgrade of the railway between Epping and Chatswood. The project is approximately 23 kilometres long (of which approximately 15.5 kilometres is located in underground rail tunnels), extending from Epping Station to just west of the new Tallawong Station. The Sydney Metro Northwest, formerly known as the North West Rail Link, is Stage 1 of the overall Sydney Metro project with Stage 2 involving the construction and operation of a new metro rail line from Chatswood through Sydney's CBD to Sydenham (Sydney Metro City and Southwest).
Hills Showground Station Precinct (The 'Site')	The term the 'Site' reflects the Hills Showground Precinct boundary identified in the State and Regional Development SEPP and includes Lots 50, 52, 53, 54, 55, and 56 DP 1253217 and Mandala Parade, De Clambe Drive, Doran Drive, Andalusian Way.
TfNSW	Transport for NSW
TOD	Transit oriented development
THDCP	The Hills Development Control Plan 2012

Term	Definition
THLEP	The Hills Local Environmental Plan 2012
VOCs	volatile organic compounds

## Project Team

Project element	Team member
Applicant	Landcom on behalf of Sydney Metro
Project Management	Level Six and Aver
Air Quality	GHD
Architect	Cox Architecture
Biodiversity	Williams Sale Partnership (WSP) Australia Pty Limited
Civil Engineering Due Diligence Report	WSP
Contamination	JBS&G Australia Pty. Ltd.
Crime Prevention Through Environmental Design	Cox Architecture
Ecologically Sustainable Development Report	WSP
Geotechnical	Palls Sullivan MyLink (PSM) Consult Pty. Ltd.
Heritage	GML Heritage Pty. Ltd.
Integrated Water Cycle Management	WSP
Noise and vibration	Renzo Tonin & Associates
Public Domain and Landscape	Oculus
Quantity Surveyor	Napier & Blakely
Economics	HillPDA Consulting
Surveyor	RPS
Transport and traffic	SCT Consulting
Urban Planning	Elton Consulting
Utility services infrastructure	WSP
Visual impacts	Cardno (NSW/ACT) Pty Ltd
Wind impacts	Windtech Consultants Pty. Ltd.

# Statement of Validity

Item	Details
<b>Development application details (SSD 9653)</b>	
<b>Applicant name</b>	Landcom on behalf of Sydney Metro
<b>Responsible person</b>	Adam Turnbull
<b>Applicant address</b>	Level 14, 60 Station Street Parramatta NSW 2150
<b>Land to be developed</b>	Lot 53, 55 and 56 DP 1253217 and Part Lot 50 DP 1253217 (Concept Subdivision only)
<b>Proposed development</b>	<p>A concept development application for the Hills Showground Station Precinct, including:</p> <ul style="list-style-type: none"> <li>• building envelopes ranging in height between 13 metres (four storeys) and 68 metres (twenty storeys)</li> <li>• a maximum gross floor area of 175,796m<sup>2</sup>, including a maximum residential floor area of 169,096m<sup>2</sup> (up to 1,900 dwellings, including a minimum of 5% affordable housing) and a non-residential gross floor area between 6,700m<sup>2</sup> and up to 13,600m<sup>2</sup></li> <li>• concept principal subdivision of development Lot 56 DP 1253217 (Hills Showground Precinct East) into future development lots, public domain areas and a new road</li> <li>• a new public plaza with a minimum area of 1,400m<sup>2</sup> (referred to as Doran Drive Plaza)</li> <li>• a new public park with a minimum area of 3,500m<sup>2</sup> (referred to as Precinct East Park)</li> <li>• street hierarchy, layout and staging</li> <li>• design guidelines and strategies to govern future development</li> <li>• provision of up to a maximum of 2,273 car spaces and 799 bicycle spaces.</li> </ul> <p>No construction or other physical work forms part of this application.</p>
<b>Environmental Impact Statement prepared by:</b>	
<b>Name</b>	Vasiliki Cardassis (formerly Andrews), Elton Consulting
<b>Qualifications</b>	<p>Master of Planning, University of NSW</p> <p>Bachelor of Science in Urban Ecology, University of Technology, Sydney</p>
<b>Address</b>	Level 6, 332-342 Oxford Street, Bondi Junction NSW 2022 Australia
<b>Declaration</b>	<p>I declare that I have prepared the contents of this Environmental Impact Statement and to the best of my knowledge:</p> <ul style="list-style-type: none"> <li>• it is in accordance with Schedule 2 of the Environmental Planning and Assessment Regulation 2000</li> <li>• all available information that is relevant to the environmental assessment of the development to which the Statement relates</li> </ul> <p>The information contained in the Statement is neither false nor misleading.</p>

Item	Details
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**Signature**

**Date** 5 November 2019

## Executive Summary

### Purpose of this Statement

This Environmental Impact Statement (EIS) is submitted by Landcom (the Applicant), on behalf of Sydney Metro (land owner), to the Minister for Planning and Public Spaces (the Minister) pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) in support of a concept State Significant Development Application (concept SSDA).

The Concept Proposal is for a high density mixed use precinct with a new public park and plaza and associated facilities located in the Hills Showground Station Precinct (the 'Site'), in The Hills Shire Local Government Area (LGA) across three development lots (the DA area), known as:

- Hills Showground Precinct West (Lot 53 DP 1253217)
- Doran Drive Precinct (Lot 55 DP 1253217)
- Hills Showground Precinct East (Lot 56 DP 1253217).

The proposed subdivision also affects Part Lot 50 DP 1253217.

This concept SSDA has been made under section 4.38(1) of the EP&A Act and sets out the Hills Showground Station Precinct Concept Proposal and establishes the framework for future development. The Applicant requests that the concept SSDA be treated as a concept Development Application (DA) under section 4.22(3) of the EP&A Act.

This EIS has been prepared by Elton Consulting on behalf of the Applicant to accompany the concept SSDA for the Hills Showground Station Precinct. The vision for the proposal has been developed by a collaborative project team with significant input from relevant technical specialists as well as feedback from a wide variety of stakeholders.

This EIS provides a detailed analysis of the Site and assessment of the proposed Hills Showground Station concept SSDA in accordance with the requirements in the EP&A Act and *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation). This includes the Secretary's Environmental Assessment Requirements (SEARs) (as amended) issued by the Secretary of the Department of Planning, Industry and Environment (DPIE) on the 9 October 2019 (**Appendix A**).

The assessment presented in this EIS has included consideration of the relevant legislation and policies applicable to the Concept Proposal, an assessment of key environmental matters and proposed mitigation measures to manage and protect the environment from impacts identified.

### Context and Background

#### Sydney Metro

Sydney Metro Northwest (SMNW), formerly the North West Rail Link, commenced passenger services in May 2019 between Tallawong/Rouse Hill and Chatswood.

Metro rail will extend under Sydney Harbour, through new underground stations in the CBD and beyond to the south west by 2024.

New metro rail will also link the Sydney city centre with Greater Parramatta, and service Greater Western Sydney and the Western Sydney International Airport.

SMNW has eight new metro stations and five upgraded stations, including an upgraded Epping Station linking Sydney's North West with Macquarie Park, Chatswood, North Sydney and the Sydney CBD. The project will provide a catalyst for urban renewal along the corridor, providing connections to areas that will be transformed through both NSW Government and private investment.

### **Sydney Metro Northwest Places Program**

NSW Government owned land surrounding the SMNW stations now includes land that is no longer required to support construction or operation. These sites are available for development that supports NSW Government priorities of housing affordability, local infrastructure delivery and economic development.

Through the SMNW Places Program, Landcom is the master developer for government land around new SMNW stations.

As master developer, Landcom will lead studies to support planning for project sites, work with local councils, DPIE, other government agencies, local businesses and communities to shape plans for projects.

Landcom will appoint private sector development partners to deliver projects across the program.

### **Showground Station Planned Precinct**

This concept SSDA follows previous SSI approvals and the Site's strategic identification as one of eight new SMNW railway station locations in the 2013 NWRL Corridor Strategy and the subsequent nomination of the broader Showground Station area of which the Site falls within as a Planned Precinct (covering 270 hectares). In December 2015, DPIE exhibited the Showground Station Precinct Proposal (December 2015) which outlined the proposed land use and built form controls for the precinct.

On 15 December 2017, the then Minister for Planning approved State Environmental Planning Policy Amendment (Showground Station Precinct) 2017, effecting an amendment to State Environmental Planning Policy (State and Regional Development) 2011 (SRD SEPP) and The Hills Local Environmental Plan 2012 (THLEP), to:

- identify Hills Showground Station Precinct as site for which specified development was declared to be state significant development in Schedule 2 of the SRD SEPP
- rezone of the precinct under THLEP along with changes to height, density, and lot size controls, as well as other supporting controls on land identified in the Showground Station Precinct. The controls will:
  - transform the area around the new Hills Showground Station into a vibrant urban centre
  - provide for a maximum of 5,000 new dwellings and 2,300 new jobs over 20 years

- deliver nearly two hectares of parks and new open space
- provide community facilities, recreation areas and a mix of housing choice for people at all life stages.

## Project vision

This concept SSDA is underpinned by the following vision:

***“The Hills Showground Station Precinct will be a thriving local mixed-use centre that provides a walkable, lively place enhanced by strong connections to world class transport and the cultural and recreational destination of Castle Hill Showground. The precinct will provide diverse housing for different generations and lifestyles, framed by green open spaces that encourage connectivity, and celebrates the Garden Shire outlook.”***

The project vision is supported by comprehensive design guidelines and a design excellence strategy to guide future detailed design and construction of buildings and public domain spaces.

## Project objectives

The objectives of the project are to:

- plan and deliver an urban precinct with a mix of building forms responding to context, precinct activation, and a high-quality public domain experience - with landscaped streets, a new park and new Doran Drive Plaza
- deliver a vibrant mixed-use centre that demonstrates best practice transit-oriented development principles by encouraging walking, cycling and public transport use and reducing demand for private car use
- maximise the supply and diversity of higher density housing within proximity to the station to accommodate different generations, lifestyles and price points
- deliver by development partners, an appropriate scale of long-term retail, community and commercial activities in the local centre – especially on the ground floors and around the station
- incubate a local centre with appropriate non-residential floor space that can be used for a variety of commercial and retail businesses that support the need of the local community
- provide high quality-built form and public domain works to shape the future character of the Hills Showground Station Precinct and integrate with surrounding areas.

## Proposed development

This EIS supports a concept DA for the site. The concept SSDA sets out the vision, planning and development framework that will form the basis for assessment of all future development on the site.

The Concept Proposal seeks approval for:

- building envelopes ranging in height between 13 metres (four storeys) and 68 metres (twenty storeys)

- a total gross floor area (GFA) of 175,796m<sup>2</sup> across three development lots (known as Hills Showground Precinct West, Doran Drive Precinct and Hills Showground Precinct West Precinct East)
- a maximum residential GFA of 169,096m<sup>2</sup> allowing for up to 1,900 dwellings including a minimum of five percent for Affordable Housing
- non-residential uses – a minimum GFA of 6,700m<sup>2</sup> and a maximum GFA for of 13,600m<sup>2</sup>
- Doran Drive Plaza a minimum of 1,400m<sup>2</sup>
- a new public park of a minimum 3,500m<sup>2</sup> referred to as Precinct East Park
- strategies for utilities and services provision, managing stormwater and drainage, achievement of ecologically sustainable development (ESD) and design excellence
- civil plan addressing the timing of future subdivision, construction, release and development of land
- concept principal subdivision of development Lot 56 DP 1253217 (Hills Showground Precinct East) and Part Lot 5o DP 1253217 into future major lots, public domain areas and roads.
- provision of car parking and bicycle rates with up to a maximum of 2,273 car spaces and 799 bicycle spaces.

No consent is sought for any construction or other physical work as part of this application. Once the SSDA is approved, the successful purchasers of the development precincts and/or lots from Sydney Metro, will be responsible for submitting subsequent DAs for the design and construction of the buildings and public domain areas in accordance with the approved Concept Proposal.

## Planning approval pathway

This SSDA forms the first phase of the development assessment process for the station precinct, setting out the Concept Proposal for the station precinct's urban renewal supported by urban design guidelines and design excellence strategy.

In accordance with subsection 4.22(1) of the EP&A Act, separate future DAs will be lodged for detailed proposals within the precinct. These DAs may seek consent for further subdivision, detailed built form, associated civil and infrastructure works or a combination of these.

Future DAs within the station precinct will address any potential impacts of carrying out the proposed development and will be required to demonstrate that they are consistent with the concept SSDA approval in accordance with subsection 4.24(2) of the EP&A Act.

## Assessment of impacts and mitigation measures

This EIS provides an assessment of the environmental impacts arising from the development in accordance with the SEARs and sets out the undertakings to manage and minimise potential impacts arising from the development. Key areas of assessment identified include:

- urban design, built form, and the desired principles for future development
- visual and view impacts
- solar access and overshadowing
- land use mix
- public domain design and treatment
- traffic and transport impacts
- social and economic impacts.
- heritage, wind, and noise.

Identified risk areas are addressed in this EIS and it is demonstrated that the impacts are capable of being ameliorated through the implementation of appropriate mitigation measures as detailed in Sections 8 and 11.

## Stakeholder consultation

Key stakeholders including local residents, surrounding landowners, government agencies, public authorities and The Hills Shire Council (Council) have been consulted during the preparation of the EIS. Details of this consultation are provided in Section 5 of this EIS.

Government agencies have been engaged during the development of the Concept Proposal, in particular, NSW Government Architect (GANSW), DPIE, Transport for NSW (TfNSW), Roads and Maritime Services (RMS) and Council. Landcom's Design Advisory Panel and the State Design Review Panel have also been involved in the consultation process and had the opportunity to provide strategic feedback to inform development of the proposals.

The feedback received during the consultation has assisted the process and taken into account during the development of the Concept Proposal and EIS.

## Conclusion and justification

The Concept Proposal provides up to 1,900 dwellings and up to 13,600m<sup>2</sup> of non-residential floorspace to create a high density residential and mixed use development within approximately 300m of the new Hills Showground Metro Station to meet the future housing and employment needs of the growing population in the Showground Precinct.

The principles of Transit Oriented Development (TOD) have informed the design of the Concept Proposal. The Concept Proposal supports best practice TOD principles, by providing:

- a high-density mixed-use precinct within close proximity to the Hills Showground Station which provides a rapid and frequent metro rail service connecting to jobs, services and strategic centres in the northwest and across Sydney
- residential development supported by appropriate community and open space facilities

- integrated retail, commercial, recreational and community uses, stimulating activity around the new Hills Showground station and Castle Hill Showground
- pedestrian and bicycle connections to the station and the Hills Showground local centre
- a moderate amount of private car parking
- public open spaces for the community that integrate with future land uses and the Metro station.

The proposed development promotes pedestrian and cyclist movements with a permeable internal proposed layout on Hills Showground Precinct East that provides good connection to the surrounding network and to public transport. It will provide an attractive, vibrant and safe place for people to live and work.

This EIS fulfils the requirements of the EP&A Act and addresses the SEARs. Section 8 and 10 set out the mitigation measures to ensure that the potential impacts of the development are acceptable and are able to be managed. Given the planning merits of the proposal, the proposed development warrants approval by the Minister for Planning and Public Spaces.

## Next steps

The applicant is seeking concept approval from the Minister for Planning and Public Spaces for a high-density mixed-use precinct with a new public park and plaza and associated facilities located in the Hills Showground Station Precinct on three development lots (Lot 53, Lot 55, 56 and Part Lot 50 in DP 1253217).

Subsequent steps in the process include:

- Exhibition of the DA and EIS for a minimum of 30 days and invitation for the community and stakeholders to make submissions.
- Consideration of submissions – submissions received by the Secretary of the DPIE will be provided to the applicant and placed on the DPIE's website.
- The applicant may then be required to prepare and submit a response to submissions report. This will outline any proposed changes to the proposal to minimise its environmental impacts or to deal with any other issues raised.
- Determination of the Concept SSDA.

The Minister for Planning and Public Spaces will make a decision on the project and, if approved, may include modifications to the proposal and/or with conditions of consent.

# 1. Introduction

## 1.1. Purpose and structure

This Environmental Impact Statement (EIS) has been prepared for Landcom (the Applicant) on behalf of Sydney Metro (the land owner) to support a concept development application (DA) under Section 4.22 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The proposal meets the criteria to be declared a State Significant Development Application (SSDA) under State Environmental Planning Policy (State and Regional Development) 2011 (SRD SEPP).

This concept SSDA has been made under section 4.38(1) of the EP&A Act and sets out the Concept Proposal for the Hills Showground Station Precinct (the 'Site'). The Applicant requests that the concept SSDA be treated as a concept DA under section 4.22(3) of the EP&A Act.

The concept for which approval is sought (the 'Concept Proposal') is for a high density mixed use precinct with a new public park and plaza, and associated facilities on land located within the Hills Showground Station Precinct on development lots (Lot 53, Lot 55 and 56 in DP 1253217) (the 'DA Area').

The EIS has been prepared by Elton Consulting on behalf of the Applicant to accompany the concept SSDA for the Site. The vision for the proposal has been developed by a collaborative project team with significant input from technical specialists, as well as The Hills Shire Council (Council), the community and government agencies.

This EIS has been prepared in accordance with the following:

- Division 4.7 of the EP&A Act
- Schedule 1 and 2 of the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation)
- Secretary of the Department of Planning, Industry and Environment (DPIE) Environmental Assessment Requirements (the 'SEARs'), dated 9 October 2019 (as amended) (refer to Section 3 and **Appendix A**).

The EIS is structured as follows:

- **Section 1: Introduction and background**
  - Background of the project
  - Brief description of the Site, the Concept Proposal and its objectives
  - Details of planning applications related to the Concept Proposal
  - An overview of the need for the Concept Proposal and the benefits
  - Details of the alternatives considered for the project.

- **Section 2 Site Analysis** - Detailed description of the Site and the local context
- **Section 3 Planning Context** – Summary of general planning context and approval pathway for the project. It includes a summary of the SEARs and indicates where in the EIS the requirements are addressed.
- **Section 4 The Concept Proposal** – Detailed description of the Concept Proposal including key development and land use parameters, concept design features and infrastructure proposed.
- **Section 5 Stakeholder and Community Engagement** – Summary of engagement undertaken with the community and stakeholders as part of preparing the EIS.
- **Section 6 Planning framework** – Assessment of the Concept Proposal's compliance with relevant strategic planning policies and plans (legislation and statutory planning instruments).
- **Section 8 Environmental Impact Assessment** – Results of the assessment of the key issues, including information on the existing environment, potential impacts, and proposed mitigation measures.
- **Section 9 Site suitability** – Assessment of the Site's suitability and whether the project is in the public's interest.
- **Section 10 Mitigation measures** – Summary of the proposed mitigation measures.
- **Section 11 Environmental Risk Assessment** – Provides an environmental risk assessment of the development proposed under this concept SSDA.

This EIS should be read in conjunction with the documentation listed in the Table of Contents.

## 1.2 Background

### 1.2.1 Sydney Metro Program

The New South Wales (NSW) Government is implementing Sydney's Rail Future, a plan to transform and modernise Sydney's rail network so that it can grow with the city's population and meet the needs of customers in the future (TfNSW, 2012).

Sydney Metro is Australia's biggest public transport project. As a new standalone railway, this 21st century network will revolutionise the way Sydney travels.

Figure 1 shows the components of the Sydney Metro network. The Site, to which this proposal relates, is adjacent to the Hills Showground Metro station which is part of Sydney Metro North West.

Sydney Metro has four core components:

### **1. Sydney Metro Northwest (SMNW)**

Passenger services commenced in May 2019 between Tallawong and Chatswood, with a metro train every four minutes in the peak and every 10 minutes in the off peak. The metro services connect to existing Sydney Trains services at Epping and Chatswood.

### **2. Sydney Metro City and Southwest**

The Sydney Metro City and Southwest project includes a new 30km metro line extending the metro rail from the end of Sydney Metro Northwest at Chatswood, under Sydney Harbour, through new CBD stations and southwest to Bankstown. It is due to open in 2024 with the ultimate capacity to run a metro train every two minutes each way through the centre of Sydney.

Sydney Metro City & Southwest will deliver new metro stations at Crows Nest, Victoria Cross, Barangaroo, Martin Place, Pitt Street, Waterloo and new underground metro platforms at Central Station. In addition, it will upgrade and convert all 11 stations between Sydenham and Bankstown to metro standards.

### **3. Sydney Metro West**

Sydney Metro West is a new underground railway between the CBDs of Parramatta and Sydney. This once-in-a-century infrastructure investment will transform Sydney for generations to come, doubling rail capacity between these two areas, linking new communities to rail services and unlocking housing supply and employment growth between the two CBDs.

Sydney Metro West will service key precincts with proposed stations at Westmead, Parramatta, Sydney Olympic Park, North Strathfield, Burwood North, Five Dock, the Bays Precinct and the Sydney CBD.

### **4. Sydney Metro Greater West**

Metro rail will also service Greater Western Sydney and the new Western Sydney International (Nancy Bird Walton) Airport. The new railway line will become the transport spine for the Western Parkland City's growth for generations to come, connecting communities and travellers with the rest of Sydney's public transport system with a fast, safe and easy metro service. The Australian (Federal) and NSW State Governments are equal partners in the delivery of this new railway.

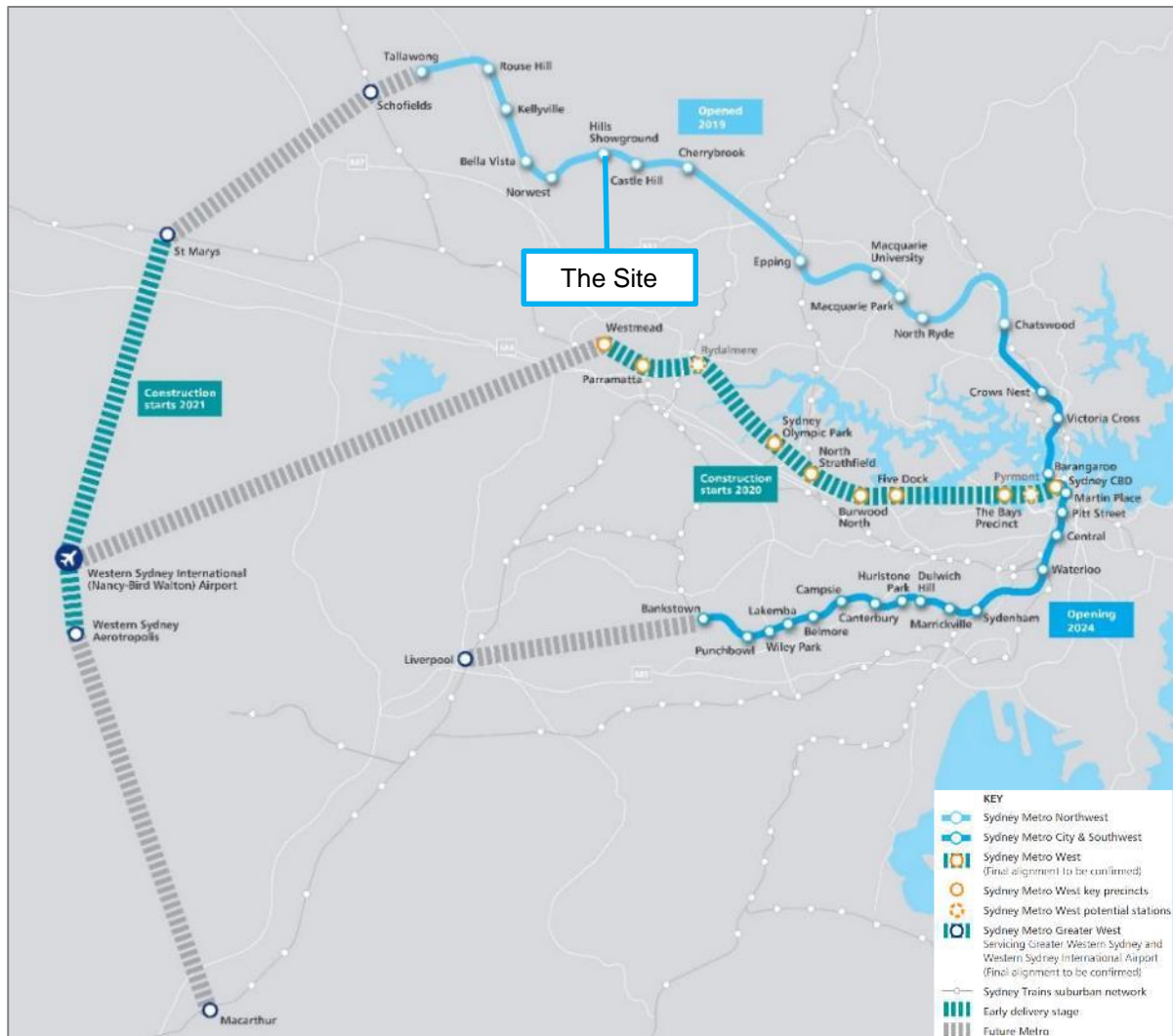
## **Sydney Metro Network**

The SMNW is the first stage of the overall Sydney Metro project and has been designed to integrate with Sydney's transport network. The project under Critical State Significant Infrastructure (CSSI) project approvals SSI-5100 and SSI-5414 detailed in Section 1.4 has delivered:

- eight new stations from Tallawong to Cherrybrook
- 4,000 commuter car parking spaces
- upgrading the railway and stations between Epping and Chatswood to metro rail standards.

The SMNW provides, a reliable public transport service to a region which has some of the highest car ownership levels per household in NSW. Trains run every four minutes during peak eliminating the need for timetables.

The Site, to which this proposal relates, is adjacent to the Hills Showground Metro station which forms part of Stage 1 SMNW.



**Figure 1 Sydney Metro Network Alignment (Sydney Metro 2019)**

### 1.1.1. Sydney Metro Northwest Places Program

Sydney Metro has provided a catalyst to revitalise precincts and communities across the network stimulating the development of new centres and focal points.

A number of parcels of land were acquired by TfNSW to support the delivery and operation of the SMNW project, including land around the Hills Showground Station. The land is being, or has been, used for the construction of the SMNW Project. With the completion of the metro, some portions of land are now available for redevelopment for other purposes that will facilitate the positive urban transformation of the station precinct and wider locality. This is known as the 'SMNW Places Program'.

The SMNW Places Program provides a unique opportunity to integrate land use, transport and infrastructure planning in north west Sydney. The program aims to facilitate the delivery of vibrant and well-designed places that maximise the benefits of the new metro system, and each responding to their unique character, identity and location.

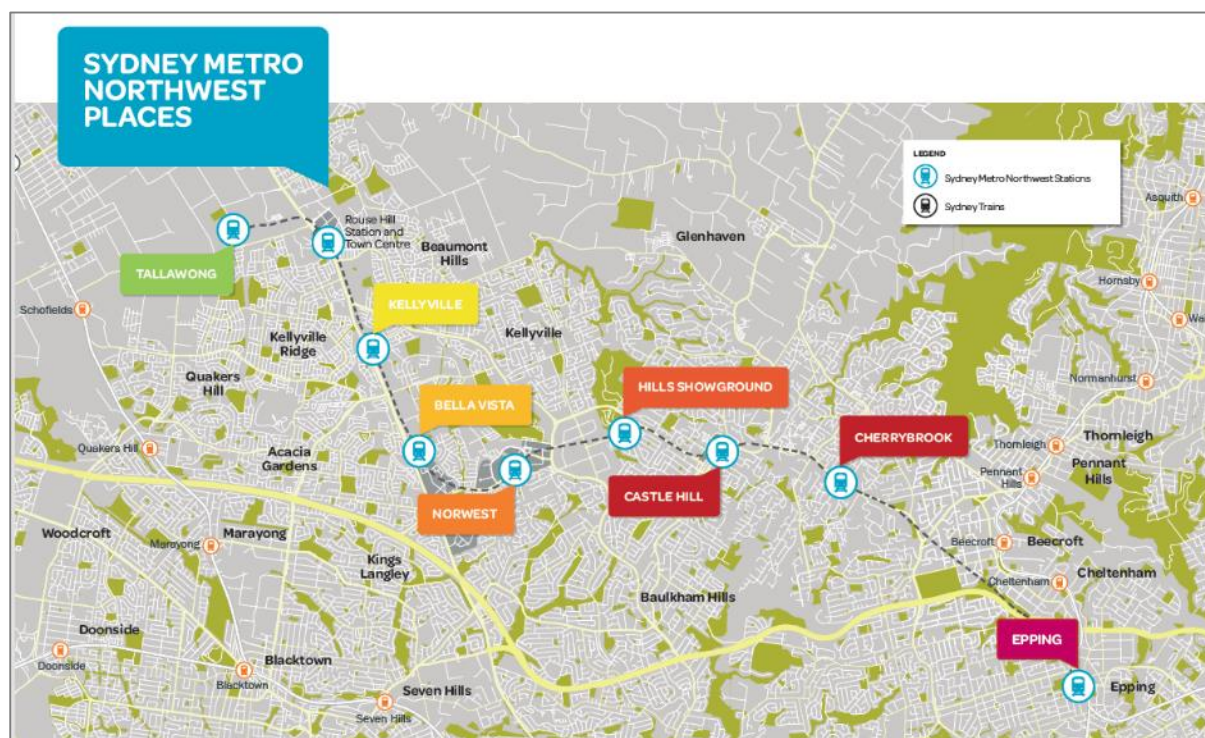
Through the SMNW Program, Landcom is the master developer for government land around new SMNW stations including Cherrybrook, Castle Hill, Hills Showground (to which this proposal relates), Norwest, Bella Vista, Kellyville, Rouse Hill, Tallawong (formerly Cudgegong Road) and a development site adjoining Epping Station.

This delivery program will be undertaken over the next 10 to 15 years and will facilitate:

- early activation around new metro stations to provide safe and vibrant spaces for metro customers and local communities to complement current metro services
- mixed use areas that are active and walkable, and that capitalise on the fast and frequent connections provided by the new metro system
- attractive and well-designed public spaces and buildings
- creative, affordable and diverse housing solutions
- infrastructure to support the long-term growth of the corridor
- strong local economies by attracting long-term investment and a diverse range of jobs.

As master developer, Landcom will lead studies to support planning for project sites, work with local councils, DPIE, other government agencies, local businesses and communities to shape plans for projects. Landcom will appoint private sector development partners to deliver projects across the program.

Projects within SMNW Places Program are shown in **Figure 2** below.



**Figure 2 Sydney Metro Northwest Places Program (Landcom 2019)**

### 1.1.2. Showground Station Planned Precinct

Following the finalisation of the Northwest Rail Link Corridor Strategy (NWRL) in September 2013 (addressed in Section 1.1.4 by the DPIE and TfNSW, Council unanimously voted to nominate the Showground Station Precinct, along with the Bella Vista Station and Kellyville Station Precincts, as Planned Precincts. These precincts were subsequently announced by the NSW Government in August 2014 as a means of implementing the Corridor Strategy and the Council's own corridor strategy known as *'The Hills Corridor Strategy'* adopted in November 2015' (addressed in Section 1.1.3).

The Planned Precincts Program is a NSW Government initiative which aims to:

- provide for new housing and jobs in centres with good existing or planned transport services
- coordinate the delivery of infrastructure to support the growth
- make these centres attractive places to live, work and visit.

On the 15 December 2017, the DPIE rezoned the broader Showground Station Precinct under the Planned Precincts Program by way of SEPP Amendment (Showground Station Precinct) 2017 which amended The Hills Local Environmental Plan 2012 (THLEP).

The SEPP amendment also amended Schedule 2 of the SRD SEPP and identified the Hills Showground Station Precinct as a site for which specified development was declared to be State Significant Development.

The objective of the rezoning and associated changes to height, density, and lot size controls, as well as other supporting controls seek to:

- transform the area around the Hills Showground Station into a vibrant urban centre
- provide for around 5,000 new dwellings and 2,300 new jobs over the next 20 years
- deliver nearly two hectares of parks and new open space
- provide community facilities, recreation areas and a mix of housing choice for people at all life stages.

The Showground Planned Precinct Planning Proposal prepared by DPIE was supported by a number of documents (listed in Table 2) which have been relied on to inform the planning controls, the SEARs request for this Concept Proposal, and the technical documentation that accompanies this EIS.

The planning proposal provided the statutory planning controls for the Showground Station Planned Precinct that were subsequently incorporated into Part 9 of THLEP.

Since the amendment to THLEP commenced, Council has adopted an amendment to The Hills Development Control Plan (THDCP) and a Local Contributions Plan to support the controls in THLEP as follows:

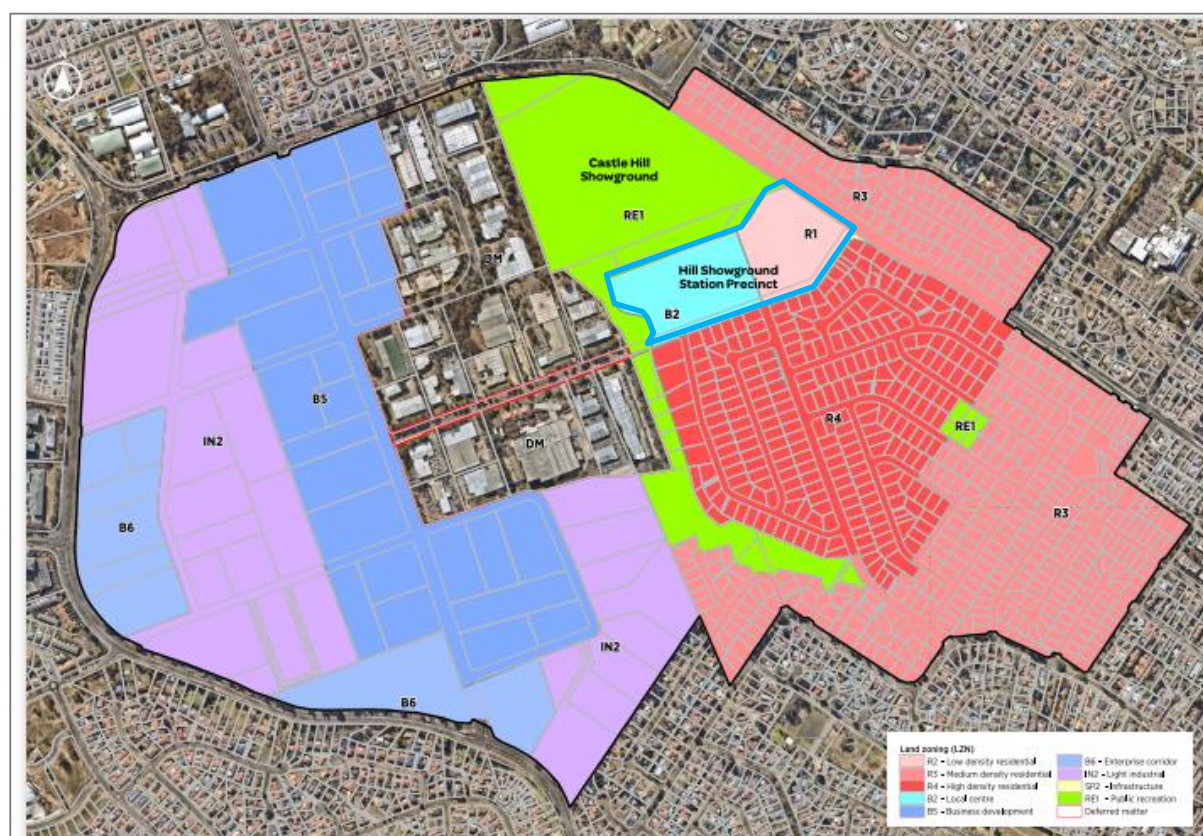
- THDCP 2012 Part D Section 19 - Showground Station Precinct. This has been addressed in Section 7.6.
- section 7.11 Contributions Plan No. 19 Showground Station Precinct adopted 11 September 2018. This has been addressed in Section 7.7.

The zoning of the Site and the broader Showground Station Precinct is illustrated in **Figure 3**. The land to the west of the Site has been deferred from the rezoning.

Refer to Section 3.1 for further detail on planning controls relevant to the Site through the rezoning under the Planned Precinct's Program.

**Table 1 Showground Precinct Rezoning Supporting Studies**

Document	Prepared by	Date
Aboriginal Heritage Assessment	GML Heritage	August 2015
Community Facilities and Open Space Study	Arup	September 2015
Contamination Review	Arup	January 2015
Demographic Profile	NSW DPE	October 2014
Ecological Assessment	Eco Logical Australia	August 2015
Economic Feasibility	Jones Lang Lesalle (JLL)	August 2015
Hydrology and Drainage Report	Arup	August 2015
Non-Aboriginal Heritage Assessment	GML Heritage	August 2015
Transport Plan	TfNSW	December 2015



**Figure 3 Broader Showground Precinct Zoning (DPIE, 2019)**

### 1.1.3. The Hills Corridor Strategy

The Hills Corridor Strategy set out Council's framework for the delivery of growth identified in the NWRL Corridor Strategy. The strategy was prepared to provide a more detailed response to the delivery of future housing and employment growth for all rail station precincts, translating the vision of the State Government Strategy to reflect the values and lifestyle of Hills Shire residents. The strategy was adopted by Council in November 2015.

The Vision for Showground Precinct outlined in the strategy: "High density residential living with access to employment, limited retail, cultural and recreational opportunities."

As shown in the Desired Future Outcomes Plan (**Figure 4**) the Site was identified for high density mixed used development with an estimated 300 dwellings per hectare and employment floor space ratio (FSR) of 0.5:1. Under Council's parameters at the time, this was projected to be 1,498 dwellings and 575 jobs based on a net developable area of 6.2 hectares and residential take up of 80% and a commercial take up of 70% (**Figure 5**).

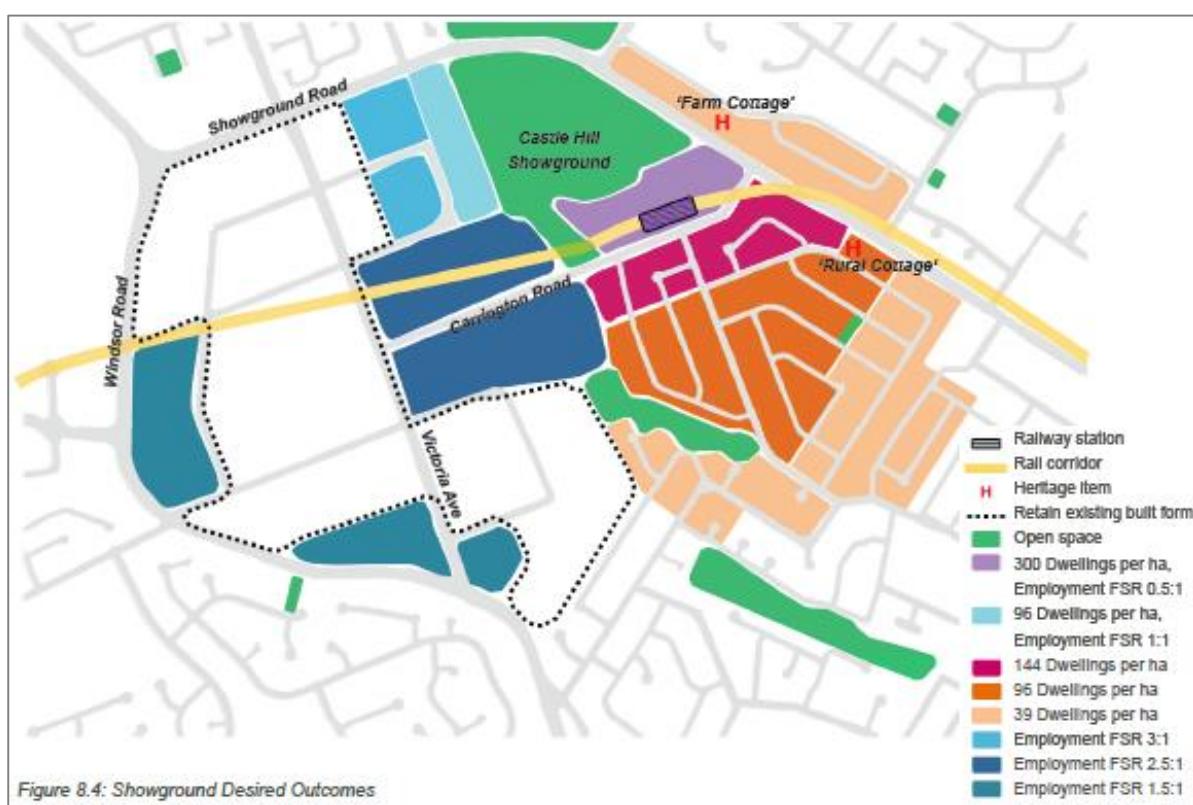


Figure 4 Desired outcomes (The Hills Council, 2015)

Area	Net Developable Area (ha)	Maximum Dw/Ha	Minimum Employment FSR	Residential uptake	Employment uptake	Existing dwellings	Additional dwellings	Existing jobs	Additional jobs
	6.2	300	0.5:1	80%	70%	0	1,498	0	575
	9.7	144	N/A	70%	N/A	92	917	0	0
	22	96	N/A	60%	N/A	214	1,139	0	0
	27.3	39	N/A	50%	N/A	274	395	0	0
	17.6	0	1.5:1	N/A	40%	0	0	451	3,069
	24.6	0	2.5:1	N/A	40%	0	0	670	7,517
	4.7	96	1:1	80%	60%	0	358	309	623
	6.5	N/A	3:1	N/A	40%	0	0	377	2,227
Retain Existing Built Form								6,267	0
<b>Total</b>	<b>118.6</b>					<b>580</b>	<b>4,307</b>	<b>8,074</b>	<b>14,011</b>

**Figure 5 Showground Station Precinct projected yields (The Hills Council, 2015)**

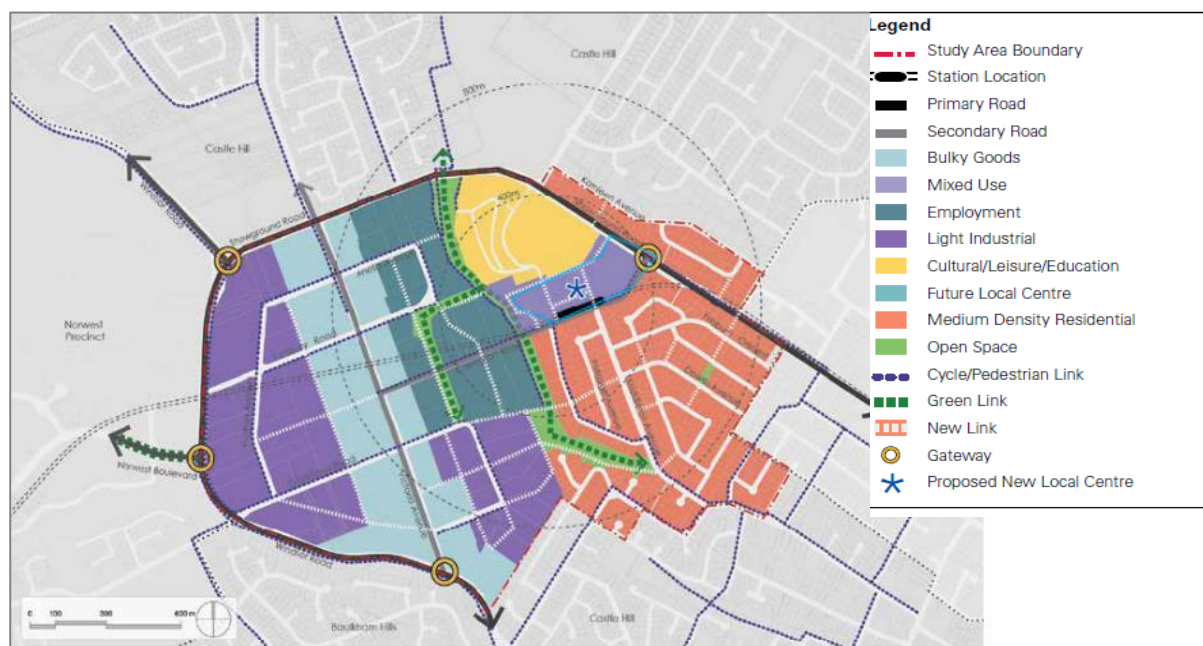
### 1.1.4. North West Rail Link Corridor Strategy

The NWRL Corridor Strategy was published by the DPIE and TfNSW in September 2013 to guide future planning and development along the rail corridor, with a Structure Plan prepared for each of the new eight stations. The strategy:

- identified future visions for the precincts surrounding the new stations
- projected housing and job growth for each precinct and the corridor as a whole
- established a framework for managing future land use change.

The introduction of the NWRL and a station in the Showground Road study area was identified in the strategy as having the potential to provide the catalyst for the development of the area as a mixed-use centre with strong public transport links to the city and other centres throughout the north-west region. A new station will provide further impetus for the area to evolve as a vibrant and active centre comprising offices, retailing, community facilities, recreation, cultural, leisure, education and housing within walking distance of a new station. An excerpt of the Structure Plan for the Showground Precinct is illustrated in **Figure 6**.

The Showground Structure Plan envisaged a new mixed uses centre on the Site and anticipated the centre could accommodate retail, commercial and retail buildings up to 22 storeys with tower form at appropriate locations in close proximity to the metro station. The Structure Plan also sought to integrate and connect the mixed use centre with open space at the Castle Hill Showground and Cattai Creek. DPIE forecast the precinct would grow by 3,600 additional dwellings and 7,700 additional jobs by 2036.



**Figure 6** Structure Plan Showground Road (DPIE, 2013)

## 1.2. Overview of the Concept Proposal

### 1.2.1. Location

The Site is located adjacent to the Hills Showground Station at Castle Hill within the Hills Local Government Area (LGA). The Site is 25km north west of the Sydney CBD and is connected by SMNW to the existing employment and retail centres at Castle Hill, Norwest Business Park and Rouse Hill Town Centre.

### 1.2.2. The Concept Proposal

As part of the NSW Government's SMNW Places Program, government owned land adjacent to the Hills Showground Station is now proposed to be developed based on transit oriented development and best practice in urban design principles.

The concept for which approval is sought (the 'Concept Proposal') comprises residential and non-residential land uses in building envelopes of varying heights from four storeys (13 metres) up to 20 storeys (68 metres) (**Figure 7**).

The proposal also includes a new road, landscaping, services and the provision of Doran Drive Plaza and a new public park. An indicative yield of up to 1,900 dwellings is anticipated to be provided. A more detailed description of the proposal is provided in Section 4.



**Figure 7 Concept Proposal Reference Scheme (Cox Architecture 2019)**

### 1.2.3. SSD Qualification

The Concept Proposal qualifies as SSD for the purposes of the EP&A Act pursuant to section 19(2) Schedule 1 of the SRD SEPP as the:

- site was acquired by TfNSW for the purpose of the construction and operation of the SMNW, and accordingly is within a rail corridor development is associated with rail infrastructure
- development has a Capital Investment Value (CIV) of more than \$30 million and is for the purposes of commercial premises and residential accommodation.

The Concept Proposal also seeks approval for the layout of a principal subdivision of Hills Showground Precinct East establishing major lots, public domain areas and a new road, and as such qualifies for SSDA pursuant to section 14 of Schedule 2.

Further, section 4.55(1) of the EP&A Act requires consideration of draft EPIs. There is currently a draft amendment to Schedule 2 of the SRD SEPP the aim of which is to ensure that state-led, consistent and transparent planning pathway for the development of government land within the eight station precincts along the SMNW. In the event that the amendment is finalised, the proposal would qualify as SSD consistent with the draft amendments.

Refer Section 3.2 for further information regarding the qualification of the project as SSD.

#### 1.2.4. Staging of development applications

The application seeks approval for a concept DA in accordance with section 4.22 of the EP&A Act.

This Concept Proposal SSDA does not seek consent for any physical works. The level of assessment is commensurate with the detail required at this stage pursuant to section 4.22(5). Future DAs would be lodged for further subdivision, detailed built form, associated civil and infrastructure works or a combination of these. Future DAs on the development lots will be required to address any potential impacts of that development and need to demonstrate that they are not inconsistent with the relevant concept SSDA approval pursuant to s.4.24(2) of the EP&A Act.

#### 1.2.1. Project vision and objectives

The project vision is:

***“The Hills Showground Station Precinct will be a thriving local mixed-use centre that provides a walkable, lively place enhanced by strong connections to world class transport and the cultural and recreational destination of Castle Hill Showground. The precinct will provide diverse housing for different generations and lifestyles, framed by green open spaces that encourage connectivity, and celebrates the Garden Shire outlook.”***

The objectives of the project are to:

- plan and deliver a high-density urban precinct with a great variety of products, built forms, activation, and public domain experience - with streets, a new park and plaza
- deliver a vibrant mixed-use centre that demonstrates best practice transit-oriented development principles by encouraging walking, cycling and public transport use and reducing demand for private car use
- maximise the supply and diversity of higher density housing within proximity to the station to accommodate different generations, lifestyles and price points
- deliver by development partners, an appropriate scale of long-term retail, community and commercial activities in the local centre – especially on the ground floors and around the station
- incubate a local centre with appropriate non-residential floor space that can be used for a variety of commercial and retail businesses that support the needs of the local community
- provide high quality built form and public domain works to shape the future character of the Hills Showground Station Precinct and integrate with surrounding areas.

In addition to the above, specific objectives have been developed to inform the SSDA and Urban Design Framework for the Hills Showground Station Precinct. These are detailed in the Urban Design Report and are illustrated in **Figure 37**.

## 1.3. SMNW state significant infrastructure approvals

### 1.3.1. Construction of metro and rail facilities

A summary of the CSSI projects relevant to the construction of the SMNW is provided in **Table 2**.

Works approved under these applications have been completed and the SMNW opened on the 26 May 2019.

**Table 2 Relevant CSSI Approvals for the SMNW**

Application No.	Description of works	Status
SSI 5100 Major Civil Construction Works (Stage 1)	Major civil construction works involving: <ul style="list-style-type: none"> <li>excavation and bulk earthworks associated with the construction of dual 15.5 km rail tunnels between Epping and Bella Vista, linking directly into the Epping to Chatswood rail tunnel</li> <li>excavation of underground station boxes</li> <li>construction of 4.2 km sky train viaduct structure between Bella Vista and Rouse Hill</li> <li>construction of train stabling facilities with a capacity of 16 trains and provision for future expansion to 24 trains.</li> </ul>	Approved 25 September 2012
SSI 5100 Mod 1 Major Civil Construction Works	Modifications to the location of Showground Station and design parameters to accommodate the changed location of Showground Station.	Approved 18 April 2013
Application No SSI 5414 Stations, Rail Infrastructure and Systems (Stage 2)	Construction works (not subject to SSI 5100) and operation of the railway, including: <ul style="list-style-type: none"> <li>construction, fit out and operation of eight new stations and wider precincts, including station access, road construction and commuter car parking</li> <li>services facilities at Epping and Cheltenham and Sydney Metro Stabling Facility at Tallawong Road, Rouse Hill</li> <li>rail infrastructure systems such as railway tracks, signalling systems, ventilation systems, overhead power supply and substations.</li> </ul>	Approved 8 May 2013
Application No 5931 Sydney Metro Stabling Facility	Construction works (not subject to SSI 5100 and SSI 5414) including: <ul style="list-style-type: none"> <li>expanding the train stabling and maintenance facility at Tallawong Road</li> <li>site preparation works including bulk earthworks, demolition and tree removal</li> <li>construction and operation of a rapid transit facility including train stabling, train maintenance, infrastructure maintenance and operations in support of the rapid transit network</li> </ul>	Approved January 2014

Application No.	Description of works	Status
	<ul style="list-style-type: none"> <li>construction of an Operations Control Centre (within the administration building) to monitor and control operations for the rapid transit network</li> <li>vehicular access, internal roads and staff car parking construction of substations, a communications tower, and on-site stormwater detention and treatment ponds.</li> </ul>	
Application No 5414 Mod 1 Stations, Rail Infrastructure and Systems	Changes to the scope of the project including modification of Stage 2, associated with altering the approved viaduct structure over Windsor Road and its integration at Rouse Hill Station.	Approved 20 May 2014

### 1.3.2. Relationship between SSI-5414 approved works and Concept Proposal

Approved works under the North West Rail Link – Stations, Rail Infrastructure and Systems CSSI (SSI\_5414) in relation to Hills Showground Station Precinct are as follows:

- construction of the underground station complex including platforms, vertical supports, intermediate floors, roof slabs (covering the station box for cut and cover stations, and covering the plant rooms for open cut stations), platform canopies (for open cut stations), and mechanical, electrical and architectural fit-out
- construction of the station entry, forecourt and plaza and associated landscaping
- provision of a 600-space commuter car park and bicycle facilities including racks and a storage room
- transport interchanges, park-and-ride facilities, kiss-and-ride, bus stops, taxi ranks and bicycle facilities
- construction of the roads and streets servicing the commuter car park, development lots and the station: De Clambe Drive, Doran Drive, Mandala Parade, and Andalusian Way.
- precinct utility works (excluding sewer) including construction of a drainage reserve and substation.

The above works have been completed and are shown in the Site Plan at **Figure 14**. Consideration of how the Concept Proposal integrates with the Sydney Metro Infrastructure is addressed in Section 0.

### 1.3.3. Subdivision of land by Sydney Metro

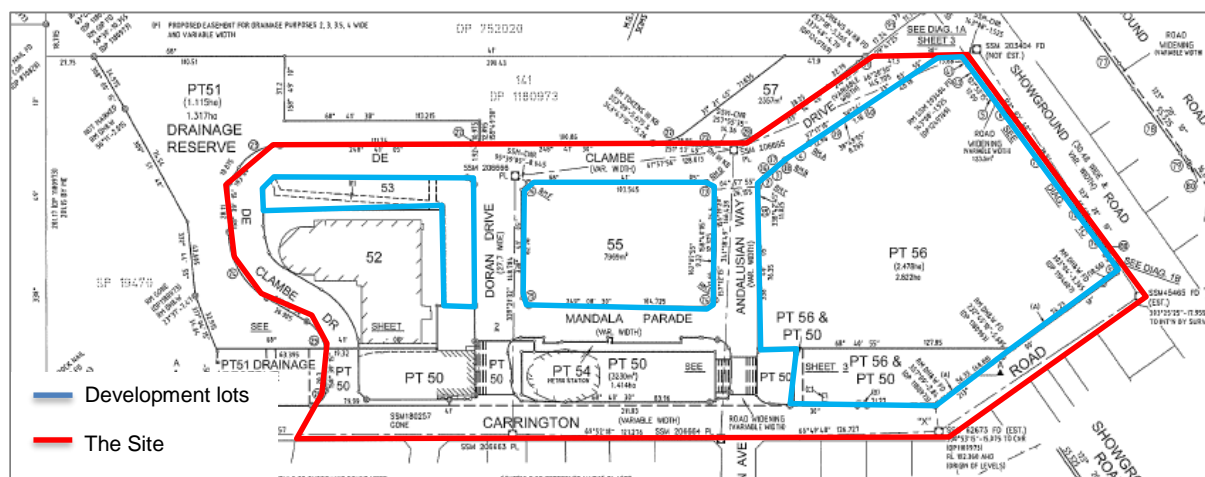
In August 2019, Sydney Metro submitted an application directly to Land Registry Services to subdivide Lot 140 DP 1180973 to create roads and a number of lots in DP 1253217. The subdivision plan (**Figure 8**) was registered on 29 August 2019 and includes:

- Lot 51 Drainage reserve and basin (includes land adjacent to Cattai Creek Corridor)
- Lot 52 Sydney Metro commuter carpark and plaza
- Lot 53 Development lot – Hills Showground Precinct West
- Lot 55 Development lot – Doran Drive Precinct
- Lot 56 Development lot – Hills Showground Precinct East
- Lot 54 and Lot 50 Sydney Metro – Hills Showground Station Box and service facility boxes
- Lot 57 existing carpark around the Showground Oval
- De Clambe Drive, Doran Drive, Mandala Parade, and Andalusian Way.

The roads, drainage reserve and basin (Lot 51) were automatically transferred from Sydney Metro's ownership to Council during the registration of the Subdivision Plan. During construction of the Sydney Metro Northwest Council were informed of the proposed scope of embellishment to the drainage reserve land under the Council Interface Agreement.

The Concept Proposal only relates to the development lots referred to as the DA Area (Lots 53, 55 and 56 in DP 1253217) and Part Lot 50 DP 1253217. Refer Section 0 for further detail.

**Figure 8** illustrates the Showground Station Precinct and various lots created. A copy of the Registered Subdivision Plan is provided at **Appendix P**.



**Figure 8** Excerpt of the Subdivision Plan DP 1253217 (Moyce, 28/08/2019)

### 1.3.4. Demolition of the former Council Administration Building

A separate DA (304/2020/LA) was lodged with Council on the 9 September 2019 in relation to Hills Showground Precinct East (Lot 56 DP 1253217). The DA seeks to:

- demolish the former Council administration building that was more recently used by Sydney Metro as an office during metro construction
- remove external elements such as car parking surfaces and associated kerbing and guttering, concrete and paved pathways, signage structures, lighting elements, brick blade walls, brick planters and concrete and paved forecourt area located on the Showground Road frontage
- remove any materials on site remaining from the adjacent station development
- remove 57 trees from a total of 105 trees: three (3) are dead, 31 are of low retention value and 24 are of medium retention value. More information can be found in the Arborist Report prepared by Creative Planning Solutions (CPS) that accompanied the DA which has informed the Concept Proposal design.

The DA is currently under assessment.

### 1.3.5. Interim activation

The interim activation of the Site is being progressed by Landcom by way of a separate DA to Council. This aim of the DA is to ensure the area surrounding the station is activated while development is completed at the Site.

The DA was lodged with Council in May 2019 (1617/2019/HA) for the early activation works which included

- the use of the space as a 'recreation area' for a maximum five years
- approval for extended trading of mobile food and drink vehicles from one location on private land
- the construction of one shade structure.

## 1.4. Project needs and benefits

The NSW Government is committed to increasing housing supply and employment opportunities in close proximity to good public transport. The construction of the SMNW will transform Sydney's north west, not only significantly improving accessibility and reducing the reliance on private vehicles, but also creating new neighbourhoods which will reflect best practice TOD and urban design principles.

This Concept Proposal project provides the opportunity to create a new transit-oriented community focused around a metro station and local centre, with increased residential densities within an easy walking distance of the station.

The Concept Proposal is needed for the following key reasons to:

- help meet the demand for housing in Sydney
- provide housing that is well connected to employment areas and services via public transport, pedestrian and bicycle links

- maximise public transport patronage use of the SMNW through the appropriate provision of compatible land uses as well as good accessibility and connectivity through the precinct and to the station
- provide an exemplar of high-density mixed-use development that is based on TOD principles, and which reflects best practice urban design.
- optimise the use of government land and provide a return on investment.

The project contributes to the regional needs of a growing population in the Hills and aids in the response to housing and job demands. In particular, it increases housing supply to meet the differing housing needs of the community in accordance with 'A Metropolis of Three Cities' (GSC, 2018) and the *Central City District Plan* (GSC, 2018).

The project also makes the best use of government land and investment in infrastructure. It ensures the orderly and economic use and development of land by creating a well-connected and sustainable community on government land adjacent to a new Metro station.

In addition to the above, the Concept Proposal provides:

- a high density mixed use development within a walkable distance to the Hills Showground Station
- the integration of land use and transport, aligning housing development with the NSW Government's investment in infrastructure
- an attractive high density and sustainable urban precinct, with a variety of products, built forms, activation and public domain experience – with streets, a new park and plaza
- a walkable and active local centre development with high quality pedestrian links, good access to a range of parklands, open space, commercial and retail facilities and the metro station.
- a balanced built form outcome, with the proposal fitting with the future built form framework of the Site and ensuring variation in building massing and typologies
- a significant public benefit through the provision of a high quality and attractive public domain, including a new plaza at Doran Drive and park in the eastern residential precinct
- a minimum of 5% affordable housing targeted to very low, low and moderate income earners
- retail, commercial, recreational and community uses integrated within the Hills Showground Station to support the incoming population and establish a vibrant and well-used public domain
- appropriate rates of private car parking while ensuring pedestrian and bicycle connectivity to Hills Showground Station and nearby recreation and other uses including the Castle Hill Showground.

The project is consistent with the desired future character for the area and is also consistent with the priorities, objectives and actions outlined in the following plans and policies:

- Premier's and State priorities: NSW State Plan (NSW Government, 2015)
- Better Placed and Greener Places Policy (GANSW, 2017)
- Greater Sydney Region Plan - *A Metropolis of Three Cities* (GSC, 2018)
- *Central City District Plan* (GSC, 2018)
- Future Transport 2056 (TfNSW, 2018)
- The draft Hills Council Local Strategic Planning Statement and supporting strategies (The Hills Council, 2019).

The strategic context for the project and assessment of the Concept Proposal against key NSW Government strategic policies is provided in Section 6.

## 1.5. Analysis of alternatives

### 1.5.1. Do Nothing Option

The 'do nothing' option (i.e. no development of the Site) is not a feasible option. The SMNW project has been delivered and is now operating, with TOD a key component to the overall project.

The 'do nothing' option (i.e. no coordinated planning and design response as proposed by the concept SSDA) is considered impractical and fails to meet the NSW Government's vision for the Sydney Metro project. This would fail in turn to maximise land use opportunities surrounding the new metro station and be inconsistent with the goals and directions of the Greater Sydney Region Plan - *A Metropolis of Three Cities* and *Central City District Plan* that identify the site a growth area.

Strategic planning undertaken by the NSW Government in 2013 and the subsequent rezoning of land surrounding the Hills Showground Station in December 2017 confirmed the importance of the SMNW rail corridor and planned station precincts as a catalyst for the urban renewal of these areas to facilitate the delivery of the 30 minute cities vision and to accommodate the projected population growth.

SMNW and Hills Showground Station are now complete and metro services have commenced, moving thousands of new commuters between Sydney's north west and the Sydney CBD, via Chatswood. The 'do nothing' option would sacrifice years of strategic planning and community engagement and a genuine and exciting opportunity to create a vibrant and integrated high-density mixed-use precinct around the Hills Showground Station.

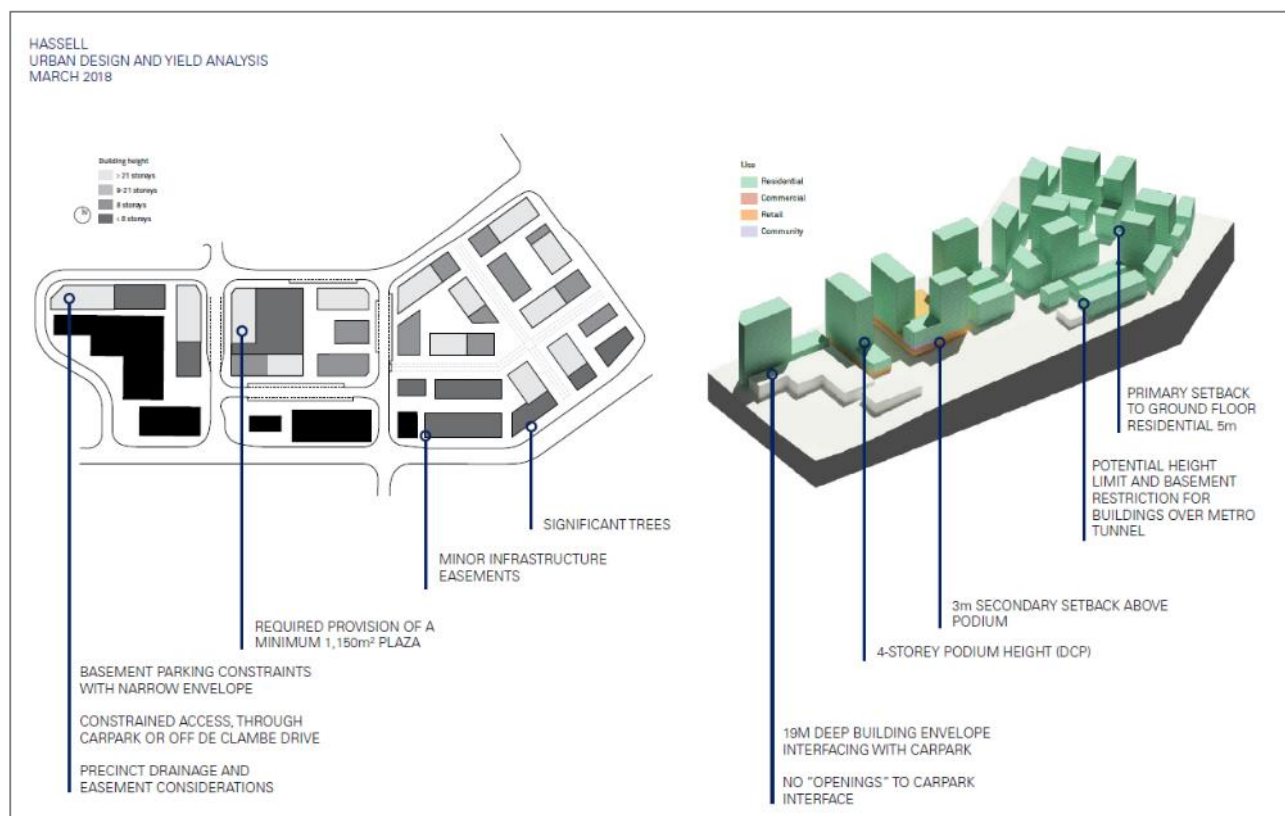
The opportunity cost of not pursuing the urban renewal of the Site would be significant, given the multitude of benefits to Greater Sydney.

### 1.5.2. Development options

The Concept Proposal has been subject to a rigorous design development process involving consideration of various options for the Site and overseen by the Landcom Design Directorate and the State Design Review Panel (SDRP).

The Concept Proposal has been subject to a rigorous design development process involving an initial urban design and yield analysis was undertaken by Hassell in 2018. The objective of this work was to

identify the upper yield that could be achieved within the constraints of the Site. While this did not result in the most desirable outcome from a design perspective, this work provided an indication of the development yield that could be achieved at on the Site. The initial Urban Design and Yield Analysis is illustrated in **Figure 9**.



**Figure 9 Urban Design and Yield Analysis 2018 (Hassall, March 2018)**

The initial Urban Design and Yield Analysis provides a platform for the consideration of a more rigorous approach to the development for the precinct through a Concept Master Plan. A range of design options were explored based on six Precinct Principles as follows:

- Arrival to the precinct via public spaces
- Cohesion between public and private domain
- Defining the public realm with built form
- Maximising the public amenity
- Maximising the private amenity
- Maximising the bushland shire outlook.

The Concept Proposal options evolved from the initial Hassall work to a more succinct proposal and achieve better design outcomes. The evolution of the design options is illustrated in Figure 10.



**Figure 10 Concept Proposal Options (Landcom SDRP Pre-Briefing Package September 2019)**

Design input was provided by Council, the Government Architect NSW (GANSW) and the DPIE. The more significant refinements in the design since the proposal were presented to the SDRP in September 2019. Design refinements included have been:

- a change to the internal road configuration to remove removal of the internal road connection to Carrington Avenue to providing improvements in provision of open space and public domain, avoiding through traffic and creating create a more pedestrian orientated development; and
- better distribute density across on and the site consistent with the objectives of the precinct.

In addition, to the consideration of different alternatives for the master plan compositions, economic research by Hill PDA investigated two scenarios were reviewed to respond to the viability of the non-residential uses over time. This was based on the economic research carried out by Hill PDA, based on this work, Landcom is seeking approval for an approximate GFA of up to 13,600m<sup>2</sup> for the non-residential uses, with a lower limit of 6,700m<sup>2</sup>. This will ensure future developers can meet a viable current market demand while allowing to plan for future growth as the community and surrounding areas grow over the course of the next 15-20 years.

## 2. Site Analysis

### 2.1. Metropolitan context

Hills Showground Station Precinct is located in The Hills Shire LGA, 25km north-west of the Sydney Central Business District (CBD) and 10km north of Parramatta CBD.

The Site is in proximity to the following centres in the region accessible along the North West Metro: Castle Hill, Norwest Business Park and Rouse Hill Town Centre.

## **2.2. Local Context**

The Site forms part of the broader Showground Station Precinct covering 271 hectares, rezoned in 2017 as part of the DPIE's Planned Precinct Program as detailed in Section 1.1.2.

The precinct is bounded by Showground Road and Kathleen Avenue to the north, and Windsor Road to the west and south. The eastern boundary runs along a number of local residential streets including Fishburn Crescent, Anthony Road and Parsonage Road.

### **2.2.1. Existing uses**

There are a range of uses in the Showground Station Precinct which can be broken down into distinct areas as detailed in

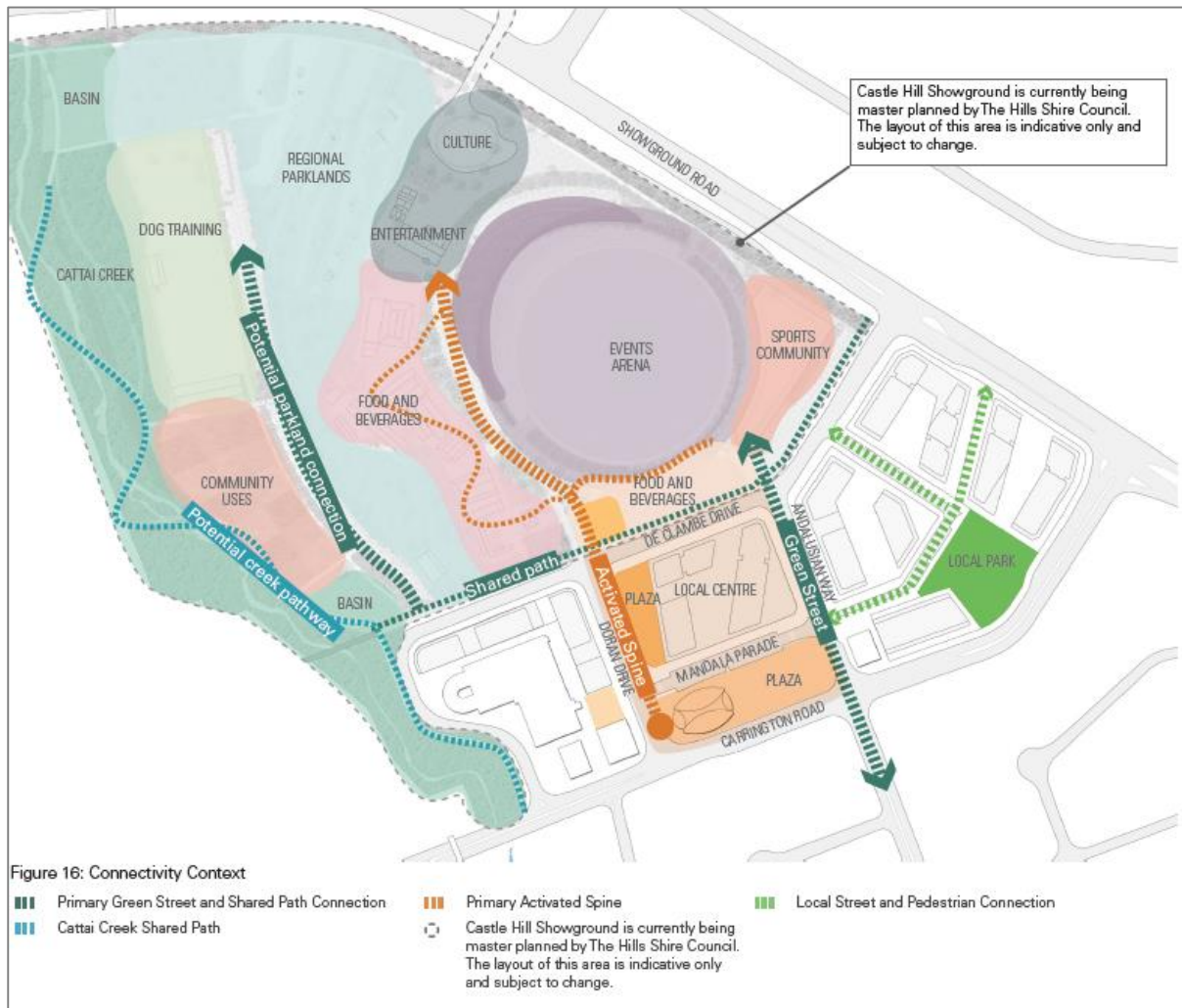
**Table 3 and Figure 11.**



**Figure 11 Existing uses within the broader Showground Station Precinct**

**Table 3 Existing land uses surrounding the site**

Figure 11 Ref	Area	Description
1	The Site	Refer Section 2.
2	Mixed Uses	Comprises existing big box retail and light industrial uses on large land lots with generous landscaped setbacks similar to the light industrial area. It is projected to transition to a mixed-use area comprising commercial and residential uses and is subject to a master planning exercise by the DPIE.
3	Riparian Corridor	Riparian Corridor formed by the vegetation to either side of Cattai Creek. This area is largely inaccessible and could potentially provide for a continuous pedestrian north-south link across the precinct. The Riparian Corridor provides the opportunity for a unique public open space in a natural bushland setting with endemic vegetation and landforms whilst preserving and rehabilitating the natural setting.
4	The Showground	<p>Castle Hill Showground is a regional recreational and event facility of approximately 18 hectares. The facilities on the showground site include the showground arena, stables, community meeting space and Pavilion Theatre. The Castle Hill Showground is currently used for a range of community activities and events including the annual Castle Hill Show, local theatre productions and regular growers' markets.</p> <p>Council is currently preparing a Master Plan to revitalise the Showground to create a thriving cultural hub that will capitalise on surrounding development and the Metro. Council is currently seeking feedback on the design vision for the site with the draft to be publicly exhibited at the end of 2019/early 2020. <b>Figure 12</b> provides an excerpt of the draft master plan and illustrates its relationship to the Site.</p>
5	Mix of light industrial and office uses	<p>Established employment area, featuring a range of uses including light industrial, car sale yards, bulky goods retailing and small strata offices. Lots are generally large, around one hectare or larger with generous landscaped setbacks, with a number being strata titled.</p> <p>The road carriageways are generally wide allowing for large truck movements. This area is a highly functioning light industrial zone set to transition in part to business uses providing a link to the Norwest Business Park.</p>
6	Urban Transformation	<p>Established residential area, with the most common housing types being detached single and two storey houses. Lots are mostly between 800m<sup>2</sup> and 1,000m<sup>2</sup>. There are a few courtyard styles, attached housing developments (with shared driveways) off Warwick Parade and Cecil Ave, one to two storeys in height. This area is subject to change in urban form to medium to high density residential dwellings.</p> <p>See Table 4 and <b>Figure 13</b> below for a summary of DAs and planning proposals lodged within the broader precinct.</p>



**Figure 12 The draft Master Plan for the Castle Hill Showground (The Hills Council 2019 with additions by Cox and Oculus)**

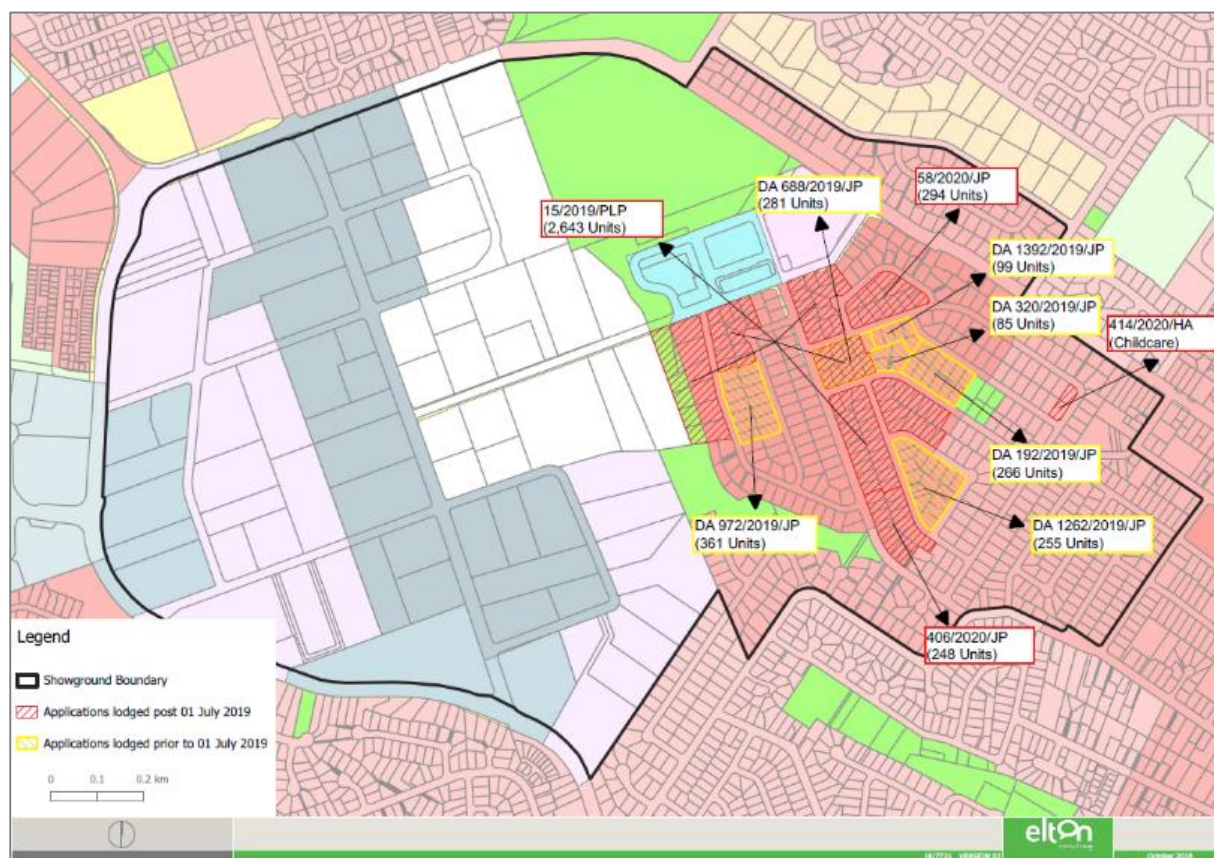
## 2.2.2. Recent development proposals in the Showground Station Planned Precinct

Since the rezoning, there have been a number of DAs and a Planning Proposal lodged with Council for land within the urban transformation area of the broader Showground Station Precinct. A summary of the DAs lodged to date within the Showground Precinct is illustrated in **Figure 13**. As at the 3 October 2019, eight DAs within the broader Showground Precinct had been lodged with a total of 1,523 dwellings. Of these, two DAs had been approved equating to 351 dwellings. A planning proposal for 2,643 dwellings was also under consideration.

**Table 4 DAs lodged within the broader Showground Precinct as at 3 October 2019**

Application Reference	Description	Address	Status	Dwelling yield
<b>192/2019/JP</b>	<p>Proposed demolition of 12 existing detached residential dwellings &amp; associated structures on the site. Site preparation works, excavation &amp; tree removal. Construction of 3 residential buildings with 266 apartments to comprise 55 x 1 bedroom, 159 x 2 bedroom &amp; 52 x 3 bedrooms:</p> <ul style="list-style-type: none"> <li>• Building A - 101 x 6-9 storey apartments.</li> <li>• Building B - 79 x 6-8 storey apartments.</li> <li>• Building C - 86 x 6-8 storey apartments.</li> </ul> <p>Construction of two levels of basement car parking for 431 vehicles including 22 adaptable spaces, 120 bicycle &amp; 9 motorcycle bays, loading facilities &amp; residential storage. 2761.3m<sup>2</sup> communal open space. 861sq m deep soil. Associated landscaping.</p>	16-26 Chapman Avenue 17-27 Dawes Avenue	Lodged 1/08/18 <b>Approved 19/09/19</b>	266
<b>320/2019/JP</b>	<p>Demolition of all existing structures on the site; Site preparation works, excavation and tree removal; Construction of residential apartment development on the amalgamated site, comprising 8 storeys and 85 residential apartments</p> <p>Construction of two basement levels comprising 110 car parking space loading, basement storage facilities and servicing facilities; communal facilities including gym, outdoor fitness stations, BBQ area and pool; and associated landscaping works, including, ground level communal open space; Balcony planters; and landscaped podium roof. Site consolidation.</p>	29-35 Dawes Avenue	Lodged 22/08/18 <b>Approved 30/07/19</b>	85
<b>1262/2019/JP</b>	<p>Concept DA:</p> <ul style="list-style-type: none"> <li>• Five residential flat buildings, with a maximum permissible gross floor area (GFA) of 26,027m<sup>2</sup> (2.09:1 FSR)</li> <li>• Building heights ranging from four to seven storeys</li> <li>• Land dedications to widen existing streets</li> <li>• Landscaping and public domain treatments to improve the quality and character of the streetscape.</li> </ul>	7-23 Cadman Crescent 18-24 Hughes Avenue	Lodged 20/02/19 Information Required	255

Application Reference	Description	Address	Status	Dwelling yield
<b>1392/2019/JP</b>	Demolition of the existing structures and construction of an apartment building containing 94 units and associated works.	11 Fishburn Crescent	Lodged 19/03/19	94
<b>58/2020/JP</b>	Construction of seven residential flat buildings between 8 and 9 storeys in height containing 294 dwellings. The development will comprise a two-level basement car park as well as associated communal open space and landscaping.	2A Sexton Avenue	Lodged 12/07/19 Evaluation	294
<b>406/2020/JP</b>	Demolition of existing structures and construction of 6 residential flat buildings ranging in height from 4-8 Storeys comprising of 248 units and basement parking in four stages.	38 Middleton Avenue	Lodged 26/09/19 Notification	248
<b>414/2020/HA</b>	Demolition of existing structures and construction of a 110-place childcare centre including basement parking.	45 Fishburn Crescent	Lodged 27/09/19 Notification	-
<b>15/2019/PLP</b>	<p>Showground Corporation Key Sites Planning Proposal.</p> <ul style="list-style-type: none"> <li>• Identification of Key Sites 1 and 2 for the purposes of this clause</li> <li>• Requirement that any future development for the purposes of residential flat buildings or shop top housing on the Key Sites include community infrastructure improvements and contributions to affordable housing which are separately defined in the clause</li> <li>• Establishment of a maximum total gross floor area of 100,000m<sup>2</sup> across Key Site 1</li> <li>• Establishment of a maximum total gross floor area of 164,300m<sup>2</sup> across Key Site 2</li> <li>• Requires compliance with the relevant maximum incentive building heights and FSRs denoted on new maps proposed to be inserted into the LEP</li> </ul> <p>15% of the total housing stock is to be provided as affordable housing for first home buyers, key workers and NDIS housing.</p>	36 Carrington Road, Keys sites	Lodged 12/07/19 Evaluation	2,643
<b>688/2019</b>	Demolition of existing structures and construction of four 8-10 storey residential flat buildings comprising 281 units (33 x 1 bedroom, 185 x 2 bedroom and 63 x 3 bedroom) and 477 car parking spaces.	3 Fishburn Crescent, CASTLE HILL NSW 2154	Lodged 26/10/2018 'Stop the clock'	281



**Figure 13 Applications lodged within the broader Showground Precinct as at 3 October 2019 (THLEP Zoning Map, NSW Legislation, with Elton additions)**

## 2.3. The Site

The Hills Showground Station Precinct ('the Site') reflects the Hills Showground Station Precinct boundary identified in the SRDP SEPP and includes the areas detailed in **Table 5**. The Site has a total area of 83,974m<sup>2</sup>.

**Table 5 Hills Showground Station Precinct**

Use	Legal description	Address
Sydney Metro commuter carpark and plaza	Lot 52 1253217	3 De Clambe Drive, Castle Hill
Hills Showground Precinct West –Development lot	Lot 53 DP 1253217	5 De Clambe Drive, Castle Hill
Doran Drive Precinct – Development lot	Lot 55 DP 1253217	2 Mandala Parade, Castle Hill
Hills Showground Precinct East – Development lot	Lot 56 DP 1253217	3 Andalusian Way, Castle Hill

Use	Legal description	Address
Hills Showground Station Box and service facility boxes	Lot 54 & Lot 50 1253217	1 Mandala Parade, Castle Hill
Mandala Parade, De Clambe Drive, Doran Drive, Andalusian Way	N/A	N/A

The eastern part of the Site (Lot 56 DP 1253217) currently contains the former Council administration building and associated parking and landscaping. It was being used as a SMNW construction site office and is proposed to be demolished by way of a separate DA currently under consideration by Council. This is addressed in Section 1.3.4.

The western part of the Site contains the recently opened Hills Showground Metro Station, plaza and commuter car park. The remainder was cleared to create the two development lots (Lots 53 and Lot 55 DP 1253217) and the roads listed in the table above.

Former development on the western part of the Site consisted of The Hills Entertainment Centre which included an Auditorium and Council's works depot that were demolished to make way for the metro.

The Site is bordered by the following:

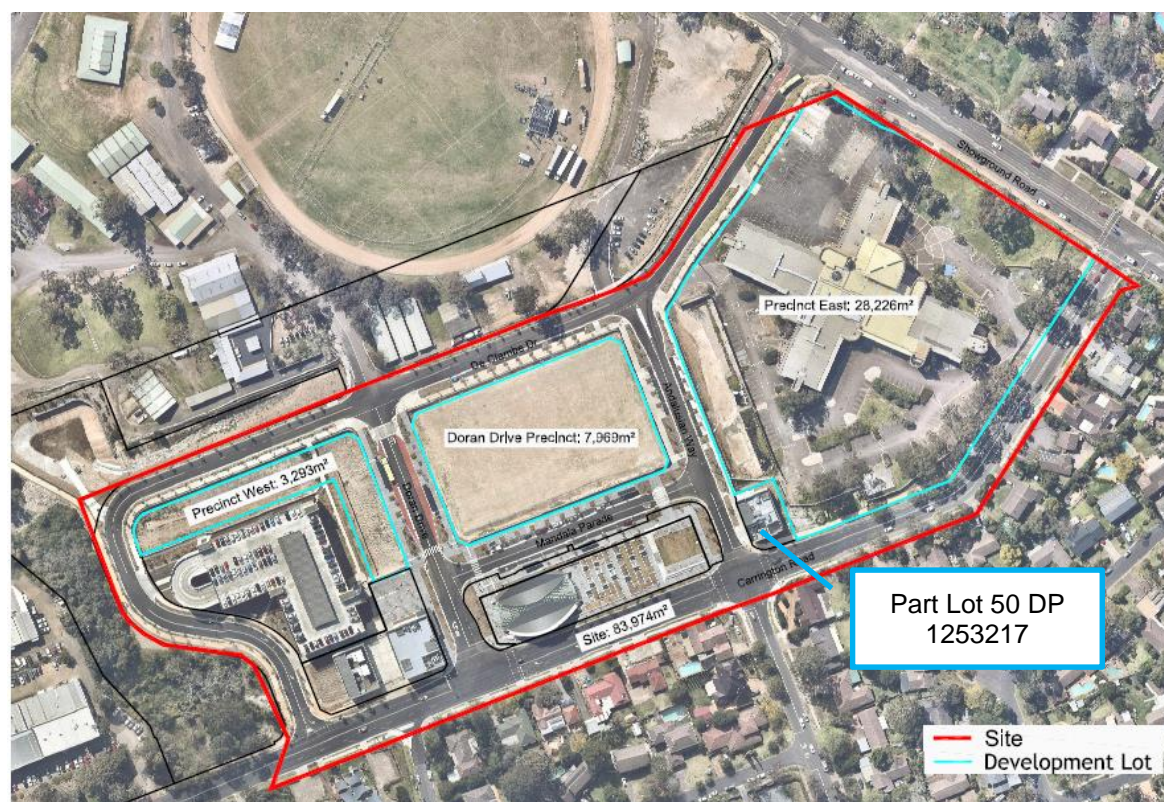
- North and northwest – De Clambe Drive with a drainage basin Castle Hill and The Showground further north
- West – De Clambe Drive and Cattai Creek riparian zone with commercial/industrial warehouses further west
- South to southeast – Carrington Road across which there is low density residential developments a child care and medical/physiotherapy
- East – Showground Road across which there is low density residential development.

## 2.4. The DA Area

The Concept Proposal relates to the government land which comprises three development lots detailed in **Table 6** and **Figure 14** referred to herein as the 'DA Area'. This land is currently owned by Sydney Metro.

**Table 6 The DA Area**

Development lots	Legal Description	Description of existing development	Area (m <sup>2</sup> )
Hills Showground Precinct West	Lot 53 DP 1253217	Newly prepared L shaped vacant lot with an existing stormwater drainage easement on the portion adjacent to De Clambe Drive.  The lot is characterised by sloping batters and levelled batter-toe areas retaining the two street reserves above the carpark ground floor levels with the exception of a set of constructed access stairs and level footpath for the carpark in the northern portion of the Site.	3,293
Doran Drive Precinct	Lot 55 DP 1253217	Newly prepared vacant lot. Lot is secured by construction hoarding and security fencing, surrounded by newly constructed road reserves.	7,969
Hills Showground Precinct East	Lot 56 DP 1253217	Former two storey Council administration building and associated hardstand concrete/asphalt paved parking lots and landscaping. The building, associated structures and some vegetation is removed as detailed in Section 1.3.4.	28,226
	Part Lot 50 1253217	Part Lot 50 – facilitates the expansion of the rail corridor at the point where it exits the station. Sub-terranean limited in height and depth.	



**Figure 14 The Hills Showground Station Precinct (the Site) (Cox Architecture 2019)**

## 2.5. Topography, soils, geology and hydrological features

### 2.5.1. Topography

The Site is located within an undulating regional topography characterised by an approximately north-west to south-east aligned ridge which runs through the Hills Showground Precinct East with the former Council administration building situated on the crest at approximately 100 m Australian Height Datum (AHD). The balance of the Site falls down away from this ridge generally west towards Cattai Creek with an elevation change of approximately 15m apart from a very minor portion at the northern most extent that falls toward Showgrounds Road.

### 2.5.2. Soils and geology

#### Geology

The Site is present within the following natural geological landscapes:

- Hawkesbury Sandstone – typically comprising medium to very coarse-grained quartz sandstone with minor laminated mudstone and siltstone lenses.
- Ashfield Shale – the basal unit of the Wianamatta Group comprising dark black to grey claystone and siltstone grading to a distinct laminate of fine sandstone and siltstone.
- Mittagong Formation – comprising fine grained brown sandstones and interlaminated or interbedded dark grey siltstones.

Hawkesbury sandstone has been observed in excavations and investigations for the majority of the Site. To date, no major regional geological structures such as faults or shears have been identified within the Site. Refer to Section 8.9 and Geotechnical Assessment at **Appendix K**.

#### Soils

The Site is present within the following natural soil landscapes:

- 'Glenorie landscape' – residual, shallow to moderately deep (200 cm) yellow podzolic soils and gleyed podzolic soils along drainage lines.
- 'Hawkesbury' – colluvial, shallow discontinuous lithosols/siliceous sands associated with rocky outcrops, yellow earths, localised yellow and red podzolic soils associated with shale lenses and siliceous sands and secondary yellow earths along drainage lines.

The Site exists within an area of 'moderate salinity potential' outside of drainage line areas. These areas are susceptible to saline affectation if disturbed particularly if saline groundwater/seepage is intercepted and/or if areas of water logging can occur. Areas with this classification exhibit scattered scalding and indicator vegetation, but soil concentrations have not been mapped. Saline soils are identified as potentially existing within these areas. Refer to Section 8.9 and accompanying Geotechnical Report for consideration of salinity impacts.

There is no appreciable risk of acid sulfate soil occurrence in natural soils and/or rock at the Site as to summarised in Section 0 and addressed in the Soil and Contamination Report (**Appendix R**).

### 2.5.3. Hydrological features

#### Groundwater

The regional ground water is expected to be within the Hawkesbury Sandstone at approximately RL 80m (AHD), varying depths from the ground surface (i.e. depth between 5 to 20m). However, some perched groundwater is likely to be present in the top 3 to 5m especially after prolonged rainfall.

#### Hydrology

The nearest surface water body is Cattai Creek abutting the south-western boundary of the Site. The site ground surfaces generally slope toward Cattai Creek, apart from a very minor portion at the northern most extent that falls toward Showground Road. The Showground Road catchment site portion is anticipated to ultimately drain to Castle Hill Creek approximately 300 m to the north of the site, which is also a tributary of Cattai Creek.

Cattai Creek is an urbanised fresh water tributary which flows through mixed rural/residential and commercial/industrial areas before discharging into the Hawkesbury River at Cattai, approximately 20 km to the north-west of the Site.

Details of the existing stormwater drainage infrastructure is outlined in Section 2.9.

## 2.6. Transport and accessibility

### 2.6.1. Street network

The Site is bounded by Carrington Road to the south and Showground Road to the east which connects to Windsor Road, and Victoria Avenue.

Carrington Road is a sub arterial road providing an east-west connection between Showground Road and Victoria Avenue, and runs alongside the Site. Victoria Avenue connects to Showground Road and Windsor Road and is the major north-south link and runs through the existing light industrial area. Windsor Road provides a connection to the M2 Motorway, and to suburbs to the north including Beaumont Hills and Kellyville. Showground Road connects the Site to Windsor Road and Castle Hill, a major centre and bus transport interchange area in the region.

New internal roads within the Site were constructed as part of the SMNW project to service the station and development lots. Key characteristics of these new local roads are summarised below:

- De Clambe Drive provides a connection between Showground Road and Carrington Road and connects to Doran Drive and Andalusian Way
- Doran Drive provides a connection between De Clambe Drive, Mandala Parade and Carrington Road
- Andalusian Way provides a connection between De Clambe Drive, Mandala Parade and Carrington Road
- Mandala Parade provides a connection between Andalusian Way and Doran Drive.

A number of major traffic and transport network improvements within and around the Site have been delivered as part of the delivery of the SMNW and the development of areas within the broader Showground Station Precinct.

Upgrades to transport infrastructure being delivered by TfNSW, Landcom and future individual developers of the broader Showground Station Precinct as development occurs, includes:

- New local and collector roads (including roads within the station site which have been delivered) and proposed new local roads within residential and commercial areas
- Widening of existing roads such as Carrington Road
- Intersection upgrades and signalisation as required at the following intersections:
  - Showground Road and Carrington Road
  - Showground Road and Victoria Avenue.
  - Upgrade of the intersection of Windsor Road and Showground Road (left-turn into Showground Road).

In addition to these works, the following network infrastructure will also be provided under the Contributions Plan by developers of the broader Showground Station Precinct:

- upgrade and widening of Carrington Road to four (4) lanes incorporating a central landscaped median
- A new roundabout at the intersection of Middleton Avenue and Fishburn Crescent
- upgrade of the following intersections:
  - Carrington Road and Victoria Avenue
  - Carrington Road and Middleton Avenue
  - Victoria Avenue and Anella Avenue/Hudson Avenue (left-in/left-out)
  - Victoria Avenue and Hoyle Avenue/Gladstone Road.
  - New road between Fishburn Avenue and Showground Road (left-in/left-out).

The upgrades aim to ensure an acceptable level of access, safety and convenience for all street and road users within the broader Showground Precinct.

**Figure 15** illustrates the existing street hierarchy and transport facilities within the Site.

**Figure 16** illustrates the indicative street network within the site and in the surrounds.

### 2.6.2. Transport facilities

SNNW was opened in May 2019 and the Site has direct access to the Hills Showground Station via Doran Drive. As detailed in Section **Error! Reference source not found.** metro connects major centres, employment areas as well as educational facilities in the Northwest.

The integration of the transport facilities bus/metro/ bicycle/taxi with good pedestrian linkages support and encourage the use of public transport, walking, cycling.

There are six bus routes that service the station and the Site, being routes 651, 715, 730, 626, 660 and 604. The routes all run between a variety of locations including Rouse Hill, Macquarie Park, Seven Hills, Norwest Business Park, Castle Hill and Parramatta. These routes travel via Cherrybrook, Norwest, Bella Vista, Baulkham Hills, Kelly Ville and other adjacent suburbs providing a wide array of local accessibility. These routes are accessible from the bus stops on Doran Drive, Showground Road and Carrington Road. There is also an on-demand bus services that connects to the station.

A multi-storey car park accommodating 600 spaces for commuters of the metro was constructed in the western portion of the Site with access from De Clambe Drive. Sixteen kiss and ride spaces and four taxi spaces are provided on Mandala Parade as well as bicycle parking facilities.

### 2.6.3. Pedestrian and cycling networks and facilities

Footpaths have been provided on both sides of new streets created surrounding the Metro Station and the development lots including Doran Drive, De Clambe Drive, Andalusian Way and Mandala Parade. These streets connect to Carrington and Showground Roads as well as the Castle Hill Showground and neighbouring areas.

Footpaths exist on both sides of Carrington Road and Showground Road with pedestrian crossings at:

- Showground Road at the signalised intersections of Gilbert Road, De Clambe Drive and Carrington Road
- Carrington Road at the signalised intersections of Middleton Avenue and Doran Drive.

Existing cycle networks consist of:

- Off road environment Showground Road from the intersection of Carrington Road to the north west
- Off road environment along Victoria Avenue.

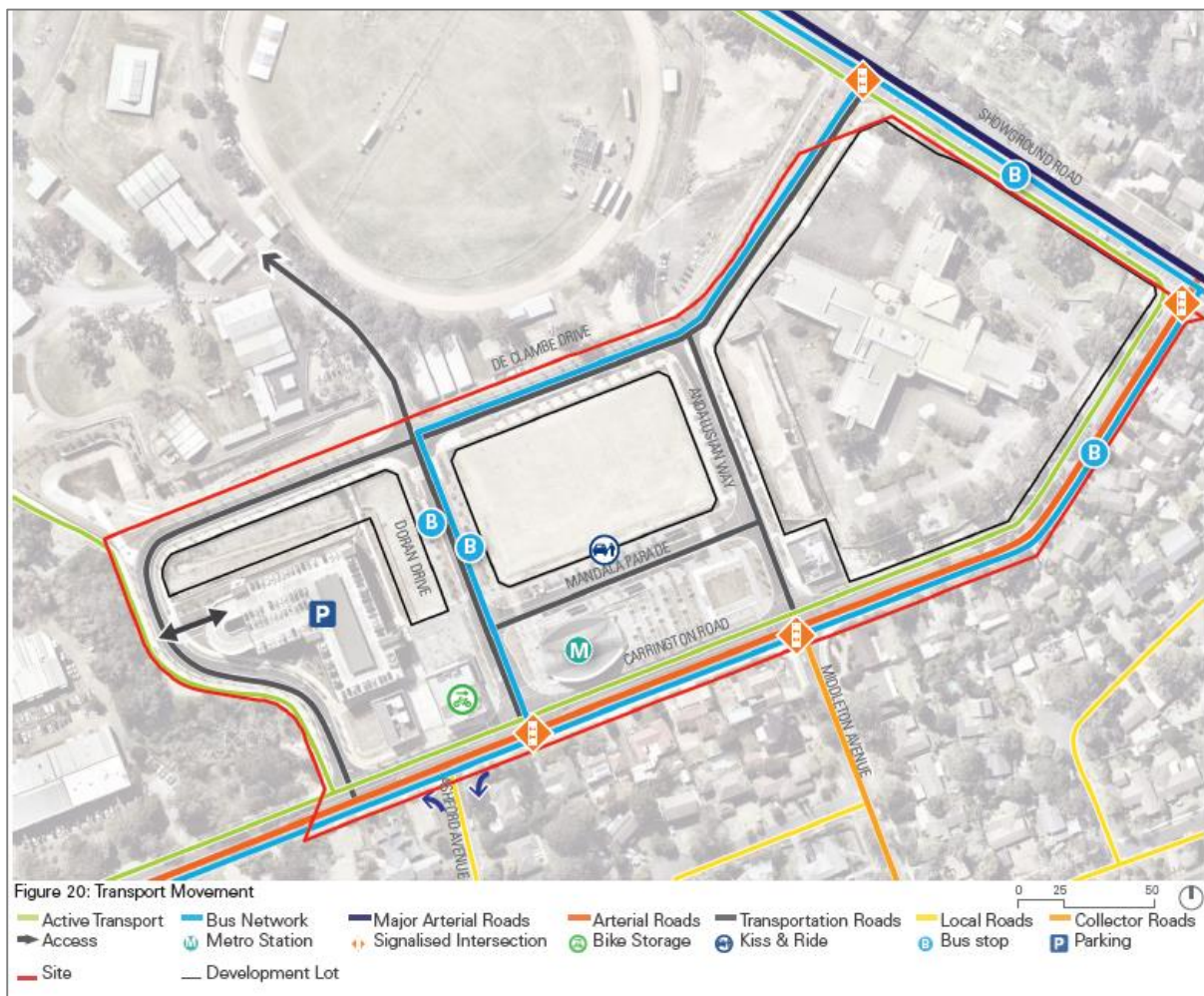
Existing bicycle parking comprise five bike racks and storage room for 40 bikes adjacent to the station which are adjacent to the station entry.

A number of improvements to the pedestrian and cycle networks will improve access and permeability across the broader Showground Precinct. Some of these have been undertaken already by Metro including the construction of the roads and footpaths within the Site, and those that are identified and funded in the Hills Showground Contribution Plan (refer Section 3.1.3), including:

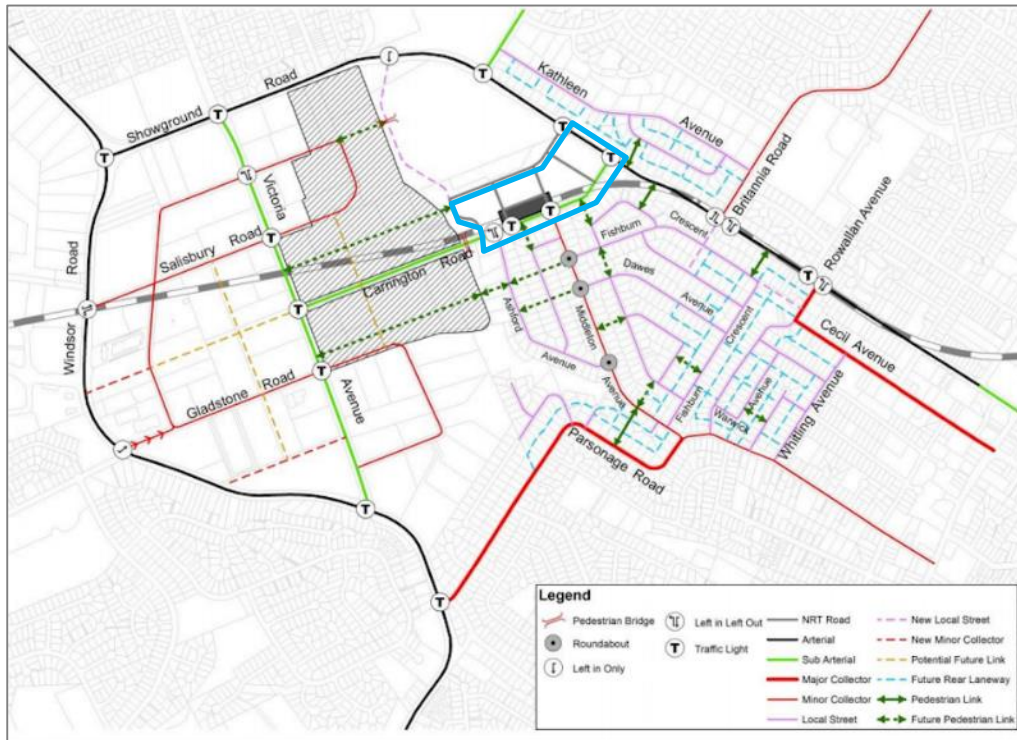
- Pedestrian bridges over Cattai Creek between Anella Avenue and the Showground and over Carrington Road
- Cycleway along Cattai Creek corridor between Showground Road and Cockayne Reserve
- Shared footpaths/cycleways along Salisbury Road (between Victoria and Windsor Road) and the remainder of Victoria Avenue (both sides) (between Showground Road and Windsor Road).

These upgrades aim to promote walking and cycle and ensure that the broader precinct is well connected, accessible and able to accommodate the anticipated growth.

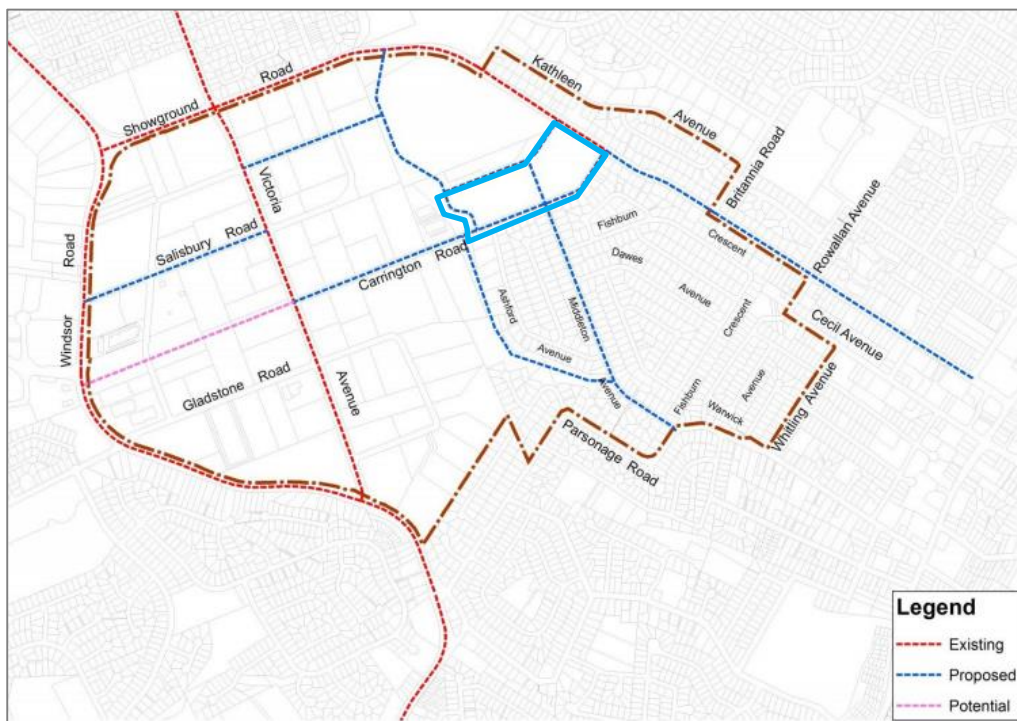
The figures below illustrate the existing and proposed indicative street network (**Figure 16**) cycle networks (**Figure 17**).



**Figure 15 Existing street network (Cox Architecture, 2019)**



**Figure 16** Indicative street network (Hills Shire Council, THDCP 2012)



**Figure 17** Existing and proposed cycle networks (Hills Shire Council, THDCP 2012)

## **2.7. Open space, recreational, educational and community facilities**

A range of open space, recreational, educational and community facilities are located nearby.

Existing open space and recreational facilities within an 800m radius from the station include:

- Castle Hill Showground: a 17-hectare regional and cultural open space facility, bordering the Site to the north. This facility will be upgraded and is currently subject to a separate master planning process by Council (refer

- Table 3 and Figure 12)
- Cockayne Reserve: a large reserve within part of the Cattai Creek corridor, however access and use of this space is limited due to existing vegetation and topography – with plans to be upgraded in conjunction with the Cattai Creek Corridor
- Chapman Avenue Reserve: a neighbourhood park located between Chapman and Dawes Avenue, predominantly grass with some aging play equipment with plans to be upgraded
- Fred Caterson Recreation Reserve: a 12-hectare regional reserve which adjoins the northern side of the broader Showground Precinct. It provides a mix of active sporting uses and passive recreational uses including sports fields, tennis and basketball courts, and BMX tracks.

Other open space areas outside the broader Showground Precinct, but still within 1.6km of the Metro station (Figure 20), include:

- Coolong Reserve – a neighbourhood park providing netball courts, small playing field with cricket pitch, barbeques and picnic shelters, and children's play equipment
- Bert Parkinson Reserve – a small linear local park behind Castle Hill High school which includes a children's playground
- Maurice Hughes Reserve – a small local park which includes a children's playground
- Anson Place Reserve – a small local park which includes a children's playground.

Educational and child care facilities nearby (approximately 3km radius from the Metro Station) include:

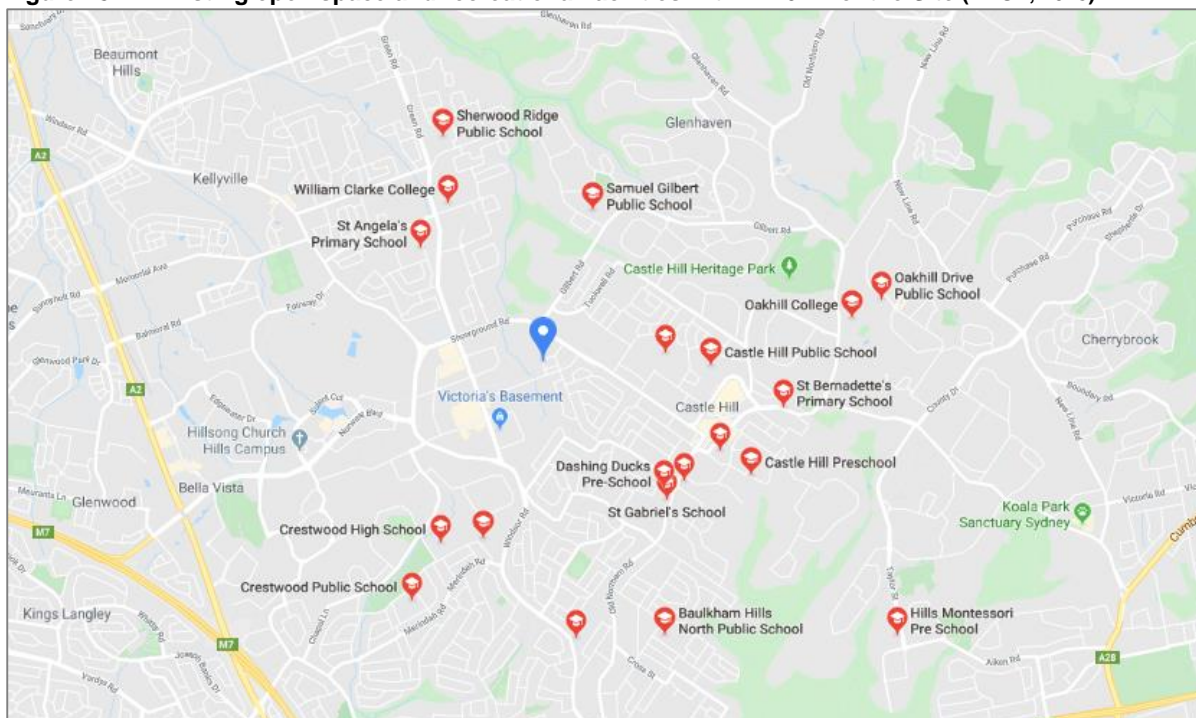
- TAFE NSW The Hills Campus
- Approximately 10 primary schools and over 12 child care centres and preschools
- Five high schools – Castle Hill Public High, William Clarke College, Baulkham Hills High School, Crestwood High School, Oakhill College and Seventh Day Adventist (K-12)

Key community and medical facilities include:

- Norwest Private Hospital (approximately 7km away), Blacktown Hospital (approximately 10km away), Westmead (approximately 14km away)
- Castle Hill Library (including meeting rooms) (approximately 1.8km away).



**Figure 18** Existing open space and recreational facilities within 1.6km of the Site (ARUP, 2015)



**Figure 19** Existing schools in the vicinity of the Site (Google Maps, 2019)

## 2.8. Existing utilities infrastructure and services

The Site is currently connected to, or capable of being connected to, all necessary essential services, including electricity, gas, water, sewer and telecommunications, with limited services connections provided to development lots in the station precinct under the SSI approvals. Appropriate utility and service connections will be sought under future detailed DAs to meet the servicing requirements.

A summary of the existing utilities within the Site and their respective providers is summarised in Table 7. Refer to Section 4.13 for consideration of servicing capacity requirements anticipated for the Concept Proposal and Utility Servicing Impact Assessment in **Appendix Y**.

**Table 7 Existing utility services and respective providers**

Utility type	Utility Provider (s)	Description of existing services
Data and communications	NBNCo, Nextge, Optus, PIPE Network, Telstra, Vocus	Telecommunications infrastructure is located along Carrington Road and Showground Road. Fibre cable of varying size run along these routes through a pit and pipe system. There are no communications towers near the Site.
Electricity	Endeavour Energy	Endeavour Energy operates and maintains the power supply network. The existing electrical distribution network within the Site consists mainly underground assets that are inclusive of both low and high voltage infrastructure, supplying multiple distribution substations located within the Site.  There is electrical supply to the Sydney Metro Hills Showground Station with its own supply of electrical conduits and substation.
Gas	Jemena	The Site is currently supplied by 1050kpa (high pressure) infrastructure along Showground Road and Gilbert Avenue. The high-pressure mains are then reduced in pressure to 210kPa to supply the local area.
Water (Potable)	Sydney Water	The Site is supplied primarily from a looped network of DN200 DICL mains and a DN150 CICL main along Carrington Road. These connect from a DN300 DICL main along Showground Road.
Wastewater (Sewer)		The Site is located at the boundary between two wastewater catchments. One catchment drains south via a DN300 PVC gravity sewer in Carrington Road, then to the north parallel to the creek. The other catchment (potentially only servicing several residential lots east of Carrington Rd) drains north via a DN150 VC sewer across Showground Road. Existing sewers assets identified are limited to the area around Carrington Road.
Water (recycled)	N/A	There is currently no infrastructure on Site to enable rainwater to be captured for reuse

## 2.9. Existing stormwater drainage and water systems

A detailed assessment of the stormwater drainage systems has been undertaken to inform the Integrated Water Management Cycle Strategy (**Appendix M**) and is summarised below. Refer for detail on the proposed water management measures proposed and Section 8.6 for details of the assessment of impacts of the Proposal on the surface and ground water systems.

### Site drainage

The existing drainage system within the Hills Showground precinct has recently been upgraded as part of works for the development of the Hills Showground Metro station and commuter carpark. The majority of the Site drains towards Cattai Creek through a system of stormwater pits/pipes and via overland flow. The yellow areas shown in Figure 20 drain via an On Site Detention basin which has been designed in accordance with the Hills Shire Council Engineering Design Guidelines (NRT, 2016). The blue areas drain via a Humes stormwater filtration device which treats stormwater runoff prior to discharge to Cattai Creek. Several similar stormwater quality treatment devices are located within the stormwater network that drains to the OSD basin (NRT Work as Executed Drawings, 2019: *NWRLOTS-NRT-SHW-DR-DRG 431721 – 431982*).

There is a designated easement adjacent to the commuter carpark on Precinct East (Lot 53 DP 1180973), of which the car park and the station box are the main contributors of flow to this easement. This easement consists of a vegetated swale with base width 0.5m, depth 0.5m and slope of 3:1 (H: V). This swale connects to the OSD via a 600mm diameter pipe.

Details of this easement and the drainage reserves are shown in the Plan of Subdivision DP 1253217 (**Appendix P**) and extract of which is provided at Figure 8. Figure 21 provides an aerial view of the Precinct East and the surrounding infrastructure.

A high point on the eastern end of the site indicates runoff from the eastern most portion of the Site will drain towards the intersection of Carrington Road and Showground Road. Drainage infrastructure in this portion of the Site has not recently been upgraded as per the remainder of the Site. This area is drained by a pipe network that crosses Showground Road and heads north towards a tributary of Cattai Creek. The tributary joins Cattai Creek at Fred Caterson Recreation Reserve, just to the north of the Site.

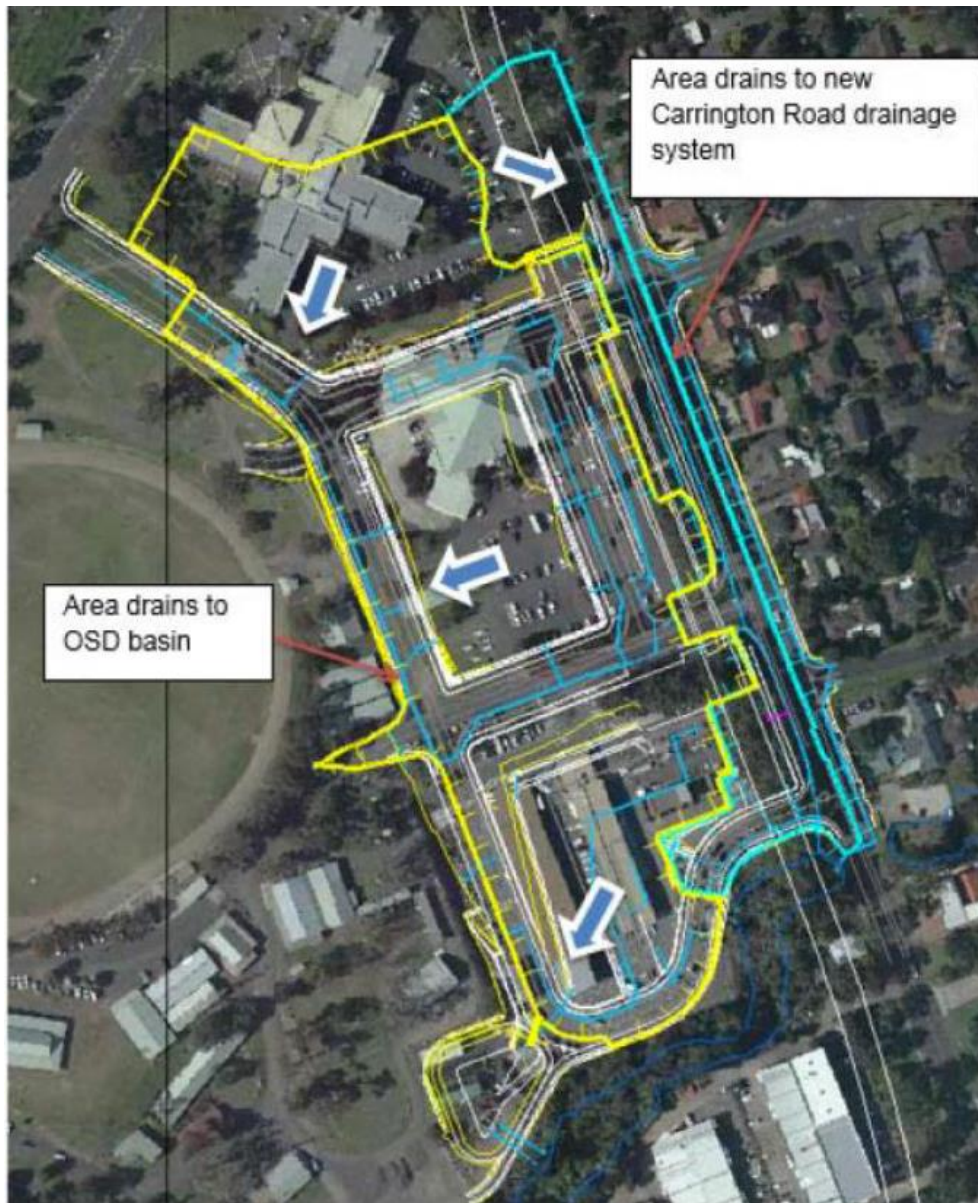
### Water supply and wastewater

As detailed in Section 2.8 above the Site is currently serviced by municipal water supply. There is no groundwater extraction at the Site. It is noted that there is a Sydney Water sewer overflow into Cattai Creek near the Castle Hill Showground (Figure 21).

There is currently no infrastructure on Site to enable rainwater to be captured for reuse.

### Riparian Corridor

Cattai Creek, located to the west of the Site, has a deeply incised open channel that is heavily vegetated. Its upstream catchment consists of a mix of residential and industrial land use.



**Figure 20** Existing Site Drainage (IWSCMS WSP, 2019)



**Figure 21**     **Photos of Drainage Infrastructure (WSP, 2019)**

## 2.10. Site photographs

Photographs of the Site and its existing surrounds area are illustrated below.

**Figure 22** and **Figure 23** provide an aerial view of the Site and immediate surrounds which mainly consists of one and two storey dwellings with that to the south of the Site earmarked to be redeveloped for higher density housing (ranging from up 12 storeys).

**Figure 24** provides an aerial view of Hills Showground Precinct West, the existing multistorey commuter car park and station facilities.

**Figure 25** provides an aerial view of Doran Drive Precinct, the metro station and plaza.

**Figure 26** provides an aerial view of the Hills Showground Precinct East comprising the former Council Administration Building and associated parking and landscaping.



**Figure 22** Aerial view of the Site from the north (TfNSW, 2019)



**Figure 23** Aerial view of the Site from the north-west (TfNSW, 2019)



**Figure 24** Hills Showground Precinct West, commuter car park and station facilities (TfNSW, 2019)



**Figure 25** Doran Drive Precinct (TfNSW, 2019)



**Figure 26** Hills Showground Precinct East (TfNSW, 2019)

### 3. Planning context

This section provides a summary of the general planning context and approval pathway for the project. It includes a summary of the SEARs and indicates where in the EIS the requirements are addressed.

A detailed assessment of the Concept Proposal's compliance with strategic policies and plans, legislative and statutory planning requirements is provided in Section 7 and 8.

#### 3.1. Showground Station Planned Precinct

The Site is located within the broader Showground Station Precinct that was rezoned under the DPIE's Planned Precincts Program in December 2017.

As detailed in Section 1.1.2, the rezoning of the broader precinct was undertaken following the finalisation of the NWRL in September 2013 and nomination by Council of Showground, Bella Vista and Kellyville as Planned Precincts. These precincts were subsequently announced by the NSW Government in August 2014 as a means of implementing the Corridor Strategy. Council subsequently prepared their own corridor strategy known as 'The Hills Corridor Strategy adopted in November 2015' to provide a more detailed response to the delivery of future housing and employment growth for all rail station precincts.

The rezoning investigations involved a comprehensive body of evidence based strategic planning, underpinned by extensive community and stakeholder consultation.

These strategies abovementioned along with the studies that accompanied the Planning Proposal (Table 1) have informed the rezoning of the Showground Station Planned Precinct which resulted in the current planning controls contained within the:

- THLEP with specific controls in Part 9
- THDCP 2012 with specific controls in Part D Section 19 - Showground Station Precinct.

Section 7.11 Contributions Plan No. 19 Showground Station Precinct and Public Domain Plan also support the above planning controls and identifies the local infrastructure required to support the demand generated by additional growth in population and employment floor space within the Precinct.

A summary of the planning controls, contributions and public domain plan is provided below.

##### 3.1.1. The Hills LEP 2012

The Hills LEP is the principal planning instrument applying to the Site, establishing permissible land uses and key development standards.

The key planning controls pertaining to the Site under the Hills LEP are as follows:

- Hills Showground Precinct West is zoned B2 Local Centre with maximum height of 68m and Floor Space Ratio (FSR) of 5:1
- Doran Drive Precinct is zoned B2 Local Centre with maximum height of 68m and FSR of 4:1

- Hills Showground Precinct East is zoned R1 General Residential with a maximum building height of 52m and FSR of 3:1.

Refer Figure 27 for an excerpt of the zoning map, Figure 28 for an excerpt of the FSR map, and Figure 29 for an excerpt of the height map.

Local road widening is required along Carrington Road. This land is zoned SP2 Infrastructure (local road widening) and will be dedicated to Council (refer Figure 27). Development is not permitted on this land unless it is consistent with that purpose.

The Site is not located within a heritage conservation area and there are no heritage items identified within the Site. There are however a number of local heritage items listed in THLEP nearby:

- Item Number 52, Castle Hill Cemetery—10 Gilbert Road
- Item Number 67, 'Dogwoods'—74 Showground Road
- Item Number 68, House—107 Showground Road
- Item Number 69, House—128–132 Showground Road.

Part 9 of the THLEP include specific controls relating to the Showground Station Precinct, as follows:

- Minimum lot sizes for residential flat buildings and shop top housing of 3,600m<sup>2</sup> for buildings over 11m in height
- Ability to include dedicated land in the calculation of site area and allowable GFA
- Minimum building setbacks (refer Figure 28)
- Requirement to prepare site-specific development controls for sites over 3,600m<sup>2</sup>
- Design excellence provisions for the erection of a new building or external alterations to an existing building
- Requirement for active street frontage in certain locations (refer Figure 31).

The above controls, have been considered in developing the Concept Proposal detailed in Section 4. An assessment of the Concept Proposal against the THLEP provision is provided in Section 7.6.

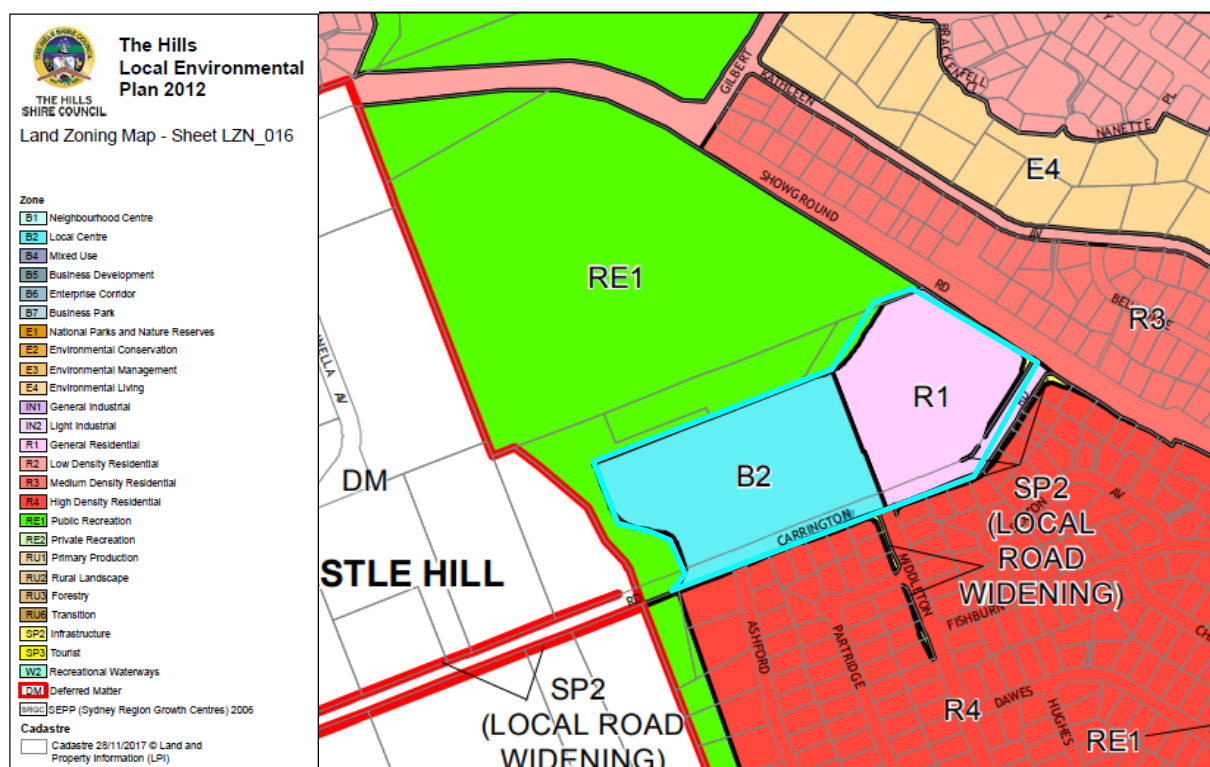


Figure 27 Extract of Zoning Map (The Hills LEP 2012, <https://www.legislation.nsw.gov.au>)

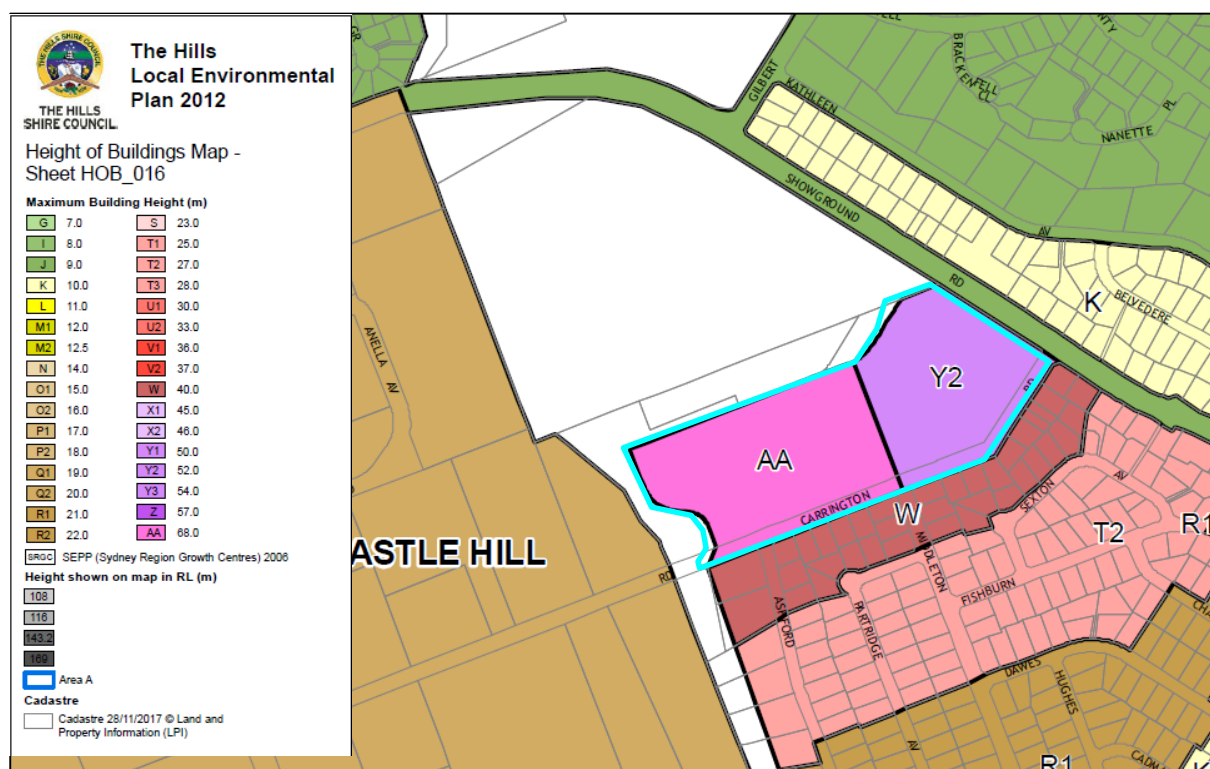
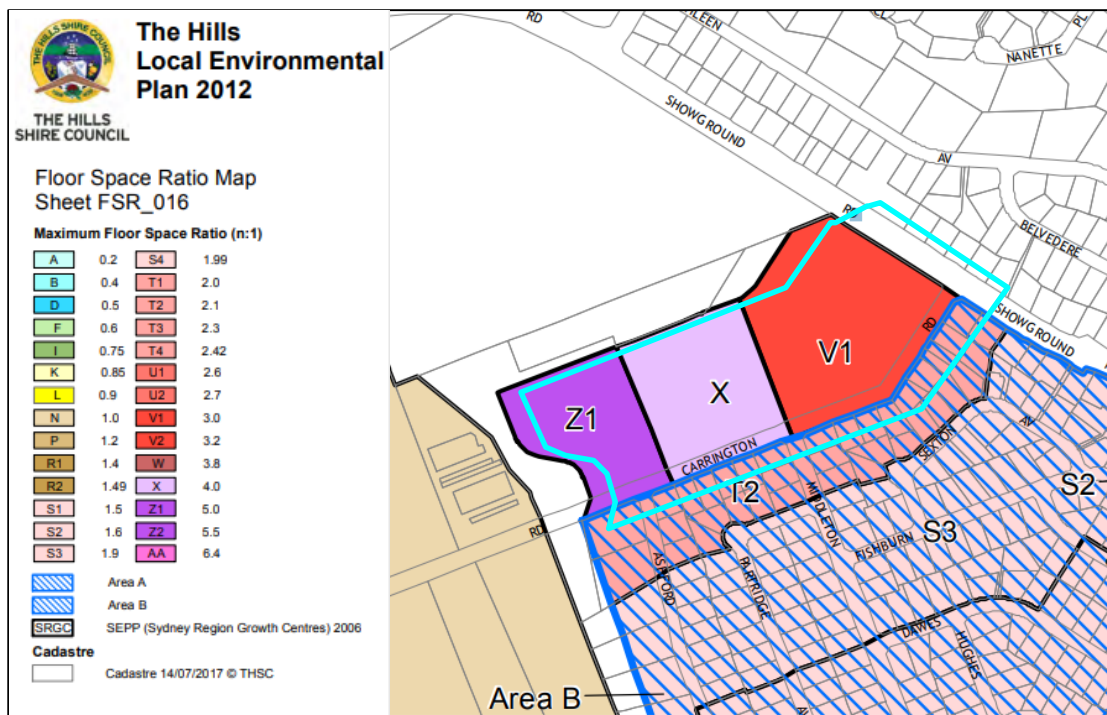
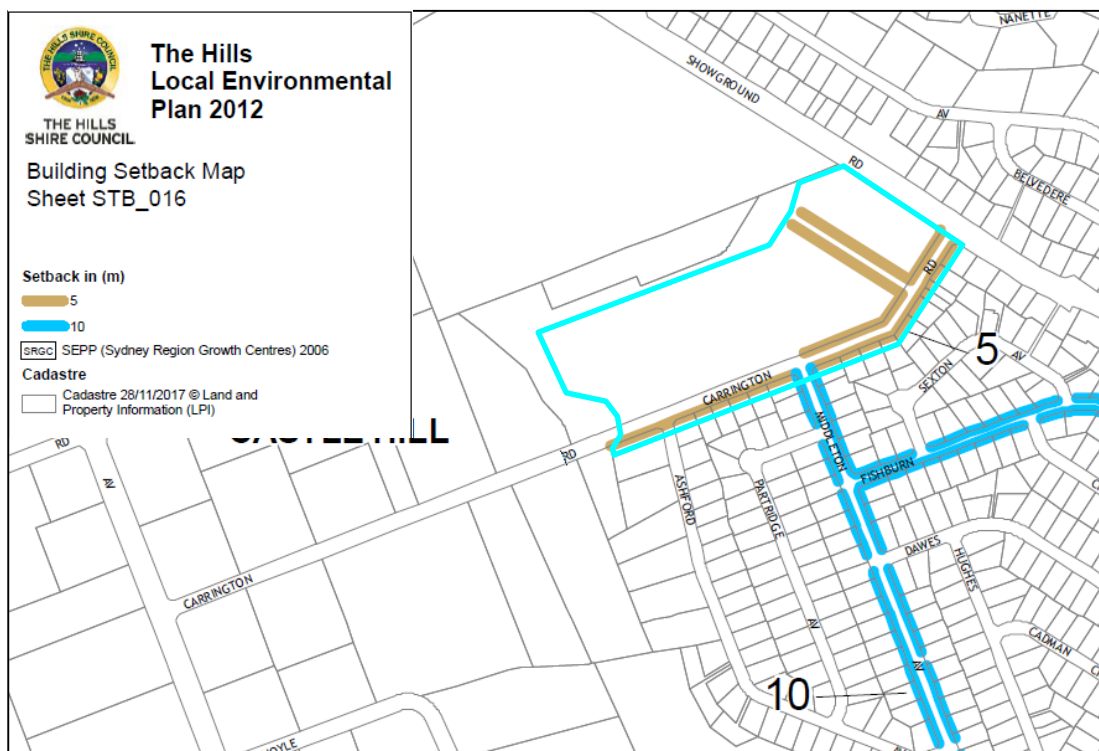


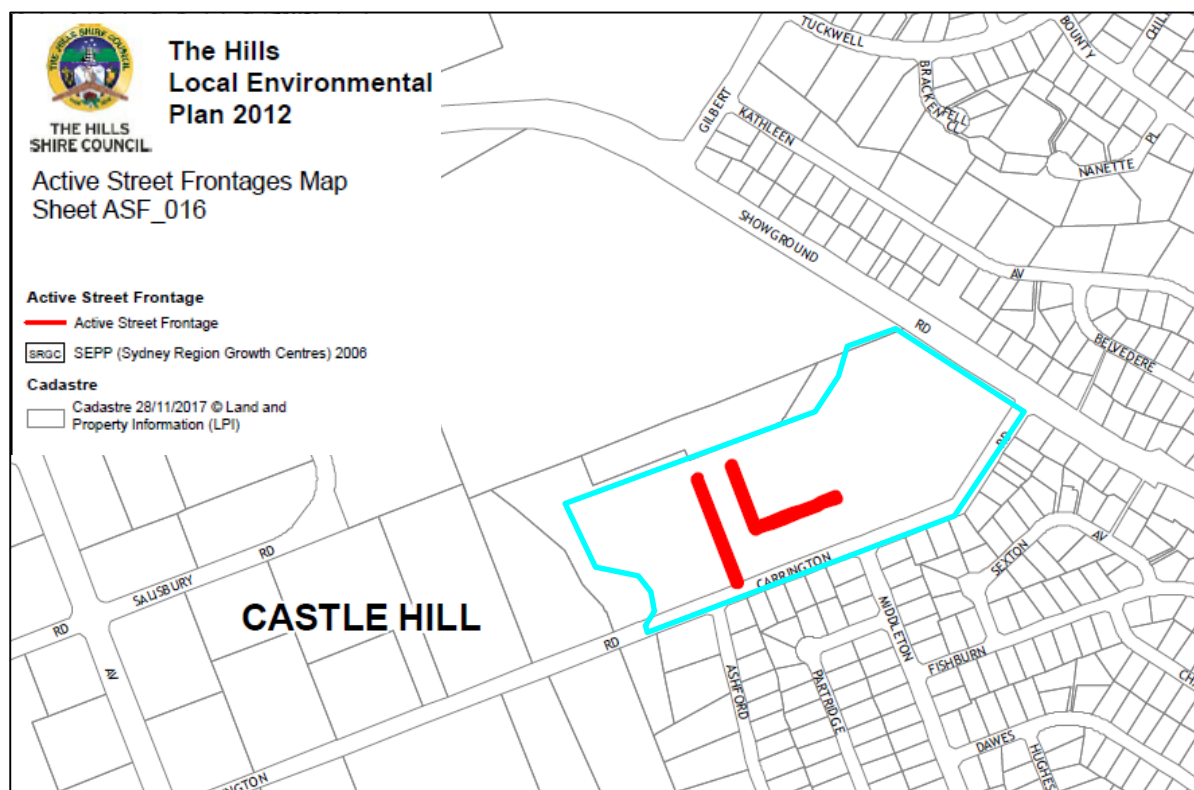
Figure 28 Extract of Height of buildings map (The Hills LEP 2012, <https://www.legislation.nsw.gov.au>)



**Figure 29 Extract of FSR map** (The Hills LEP 2012, Zoning map sheet <https://www.legislation.nsw.gov.au>)



**Figure 30 Extract of Building Setback Map** (The Hills LEP 2012, Zoning map sheet <https://www.legislation.nsw.gov.au>)



**Figure 31 Extract of Active Street Frontages Map** (*The Hills LEP 2012, Zoning map sheet*)  
<https://www.legislation.nsw.gov.au>

### 3.1.2. The Hills Development Control Plan 2012

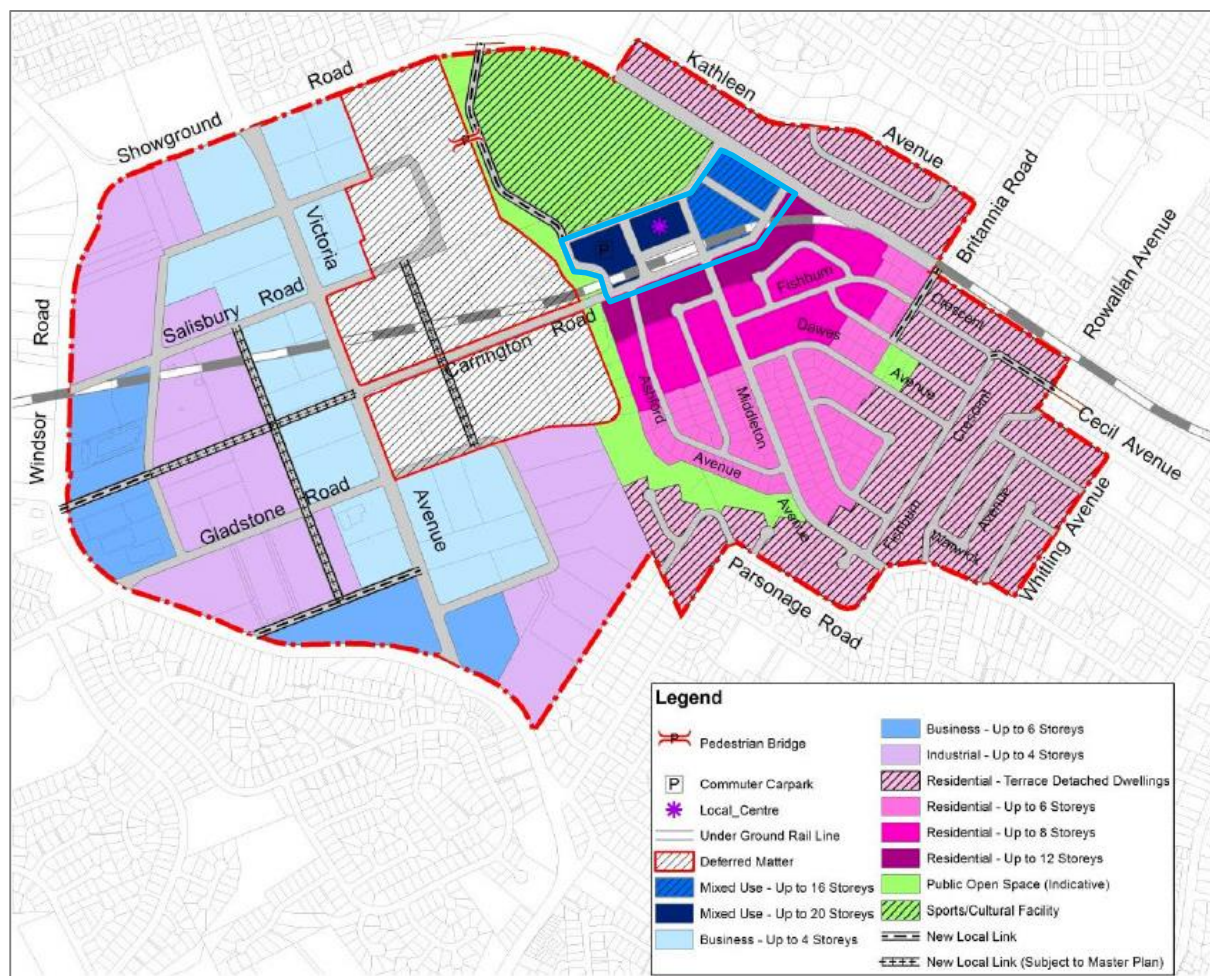
The THDCP 2012 provides detailed controls to support the provisions of THLEP to guide development outcomes in the Hills LGA. It was originally adopted in 2012 and has been amended to accommodate changes over time.

Site specific controls relating to the wider Showground Station Precinct – Part D Section 19 were introduced by Council on the 11 September 2018. The purpose of these site-specific controls is to guide the future development of the broader Showground Station Precinct by identifying the vision, development principles, key elements and indicative structure for the future development of the precinct. The objective of the site-specific controls is to ensure the orderly, efficient and environmentally sensitive development of the precinct to achieve high quality urban design outcomes.

Part D Section 19 – Showground Station Precinct as well as other sections of the THDCP (listed below) have informed the preparation of the Concept Proposal and EIS:

- Part A – Introduction
- Part B – Land Use / Zones
- Part C – General Development.

Clause 11 of the SRD SEPP states that DCPs do not apply to SSD. Notwithstanding this, consideration has been given to THDCP as required by the SEARs and is detailed in Section 7.6.



**Figure 32 Broader Showground Precinct Structure Plan (THDCP 2012)**

### 3.1.3. Contributions Plan No. 19 Showground Station Precinct

Council prepared the Hills Showground Contributions Plan and Public Domain Plan (addressed below) to support future development and growth anticipated for the urban renewal of the broader Showground Precinct. These plans were exhibited with the DCP and came into force on the 11 September 2018.

The Hills Section 7.11 Contributions Plan No.19 – Showground Station Precinct applies to the site and identifies the local infrastructure to support the demand generated by additional growth in population and employment floor space within the Precinct.

The plan enables Council to levy new residential and employment development to collect the funds necessary for the provision of local infrastructure required to support the additional growth. It identifies upgrades and new facilities including playing fields, expansion and embellishment of open space, stormwater management facilities, village plaza, roundabouts, traffic signals, road widening, pedestrian bridges, and other pedestrian facilities.

### Works identified at the site

The Contribution Plan requires a Village Plaza (TS1) of 1,150m<sup>2</sup> (Passive Open space) to be delivered on Doran Drive Precinct linking Castle Hill Showground to the Metro station and residential precinct at Castle Hill Showground (**Figure 33**). The capital works allocated is \$1,472,497 with no acquisition costs being nominated.

### Other works identified within the immediate surrounds

As identified in the plan affecting land within the Site or immediately adjacent include:

- Works to occur within or to facilitate access to the Cattai Creek Corridor including two pedestrian bridges and a cycleway between Showground Road and Cockayne Reserve
- Widening and upgrade of Carrington Road between Showground Road and Victoria Avenue
- Upgrade and signalisation intersections at Showground and Carrington Road (undertaken by TfNSW) and Carrington Road and Middleton Avenue
- Upgrades to the local pipe network to mitigate the impact of flooding
- Embellishment towards open space.

During construction the SMNW Rail, Council were informed of the proposed scope of embellishment to the drainage reserve land under the Council Interface Agreement. The Hills Council were involved in the handover of the land and it is now in Council ownership. As this land is under Council ownership, funding for its embellishment should be covered under the Precinct Support Scheme.

### Payment of contributions and dedication of land

The plan states that payment of local development contributions will be required as part of subsequent applications for residential, non-residential or mixed-use development on 'major lots' created. As such, payment of contributions is not required at this stage. Future developers will be required to pay contributions under the plan.

The Contributions Plan refers to the dedication of land in so far as it does not include any value for the acquisition of public roads. However, Clause 9.2 of THLEP addresses the calculation of site area for the purpose of calculating FSR and allows a developer to harvest FSR from public roads, drainage or open space that is dedicated to Council.

The Contributions Plan states that:

*"Essentially, gross floor area potential which could have otherwise been achieved on this land may be transferred to other land within the development. This provision, which allows a Developer to 'transfer' development potential from dedicated lands, ensures that a Developer's overall yield is not decreased as a result of dedicating land to Council and provides appropriate compensation to the Developer associated with any dedication.*

*All dedication of land to Council (including any capital works or embellishment to that land) that is not identified for funding under this plan shall be completed as part of the works associated with individual developments within the Precinct and shall be provided at no cost to Council. While these works (and the land on which they are located) will serve a public purpose, this plan does not include any value for the completion of works on this land or the subsequent acquisition of this land.*

*Accordingly, unless the acquisition of the land is specifically funded under the Contributions Plan, land within the precinct dedicated to Council for the purpose of roads, drainage, open space or any other public purpose will be at no cost to Council and the Developer will not be eligible for any financial compensation or reduction in section 7.11 payable as a result of dedicating this land to Council or completing works on this land”.*

Clause 9.2 has been utilised to calculate the allowable FSR of the proposed development lots as constructed roads have been dedicated to Council.

### **Community facilities**

Section 3.3 of the Contributions Plan states that the additional population anticipated within the Showground Station Precinct is not catered for within Council’s existing network of community facilities and has not been accounted for under any existing contributions plan. Accordingly, this additional population will increase demand for community facilities such as library centres and multi-purpose community centre spaces.

A Community Facilities and Open Space Study to support the rezoning as well as the DPIE’s Showground Station Precinct Finalisation Report (December 2017), identifies the need for a new multipurpose community centre at Castle Hill Showground, with a minimum floor area of 1,500m<sup>2</sup> (including youth and community needs). This was not able to be included in the Contribution Plan as it was not identified on the DPIE’s “Essential Works List” of items that can be funded through Contributions Plan. Accordingly, the plan states that “potential alternative funding sources for the provision of new community facilities must be investigated”.

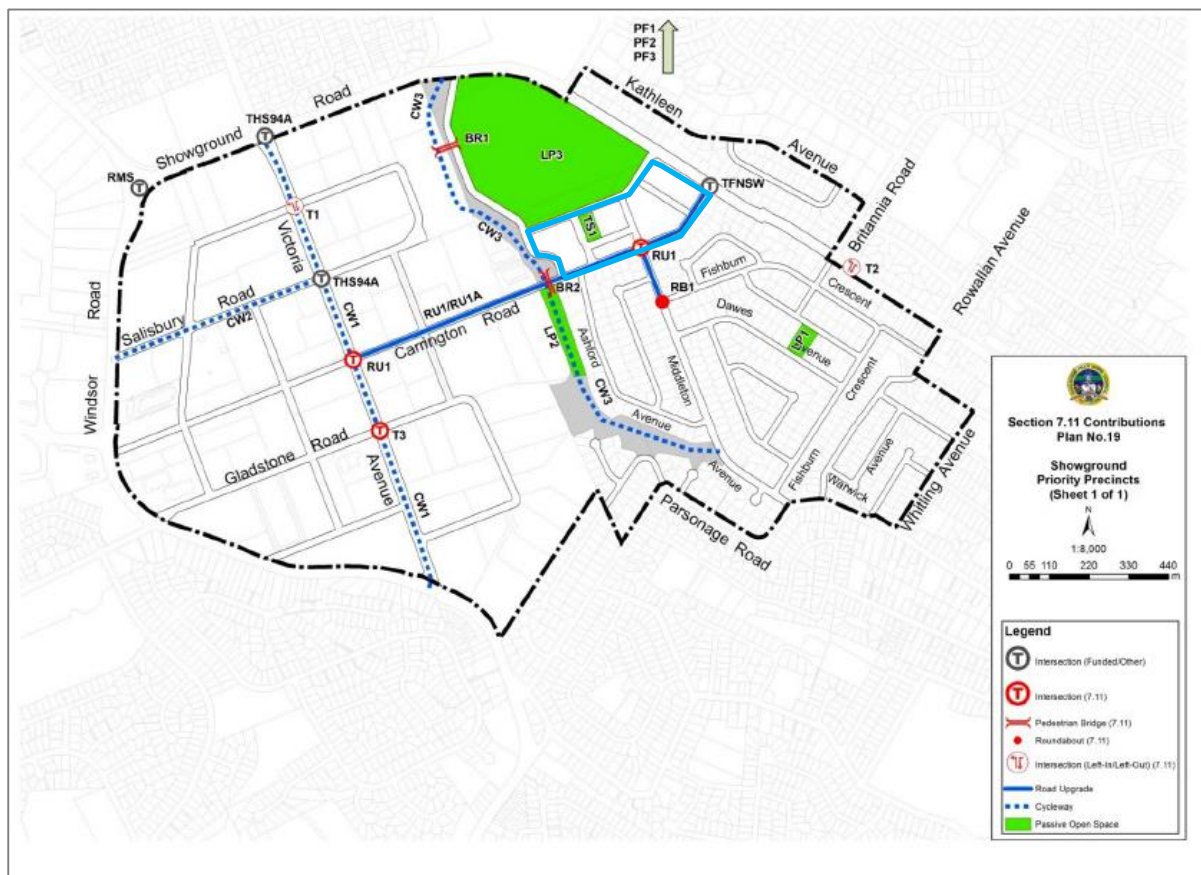
Further, the Community Facilities and Open Space Study also noted that some of the needs generated by the precinct would be met by service in other precincts or the Hills LGA. Services such as a local library are unlikely to be required in the Showground precinct given the proximity to Castle Hill library.

Council’s Contribution Plan lists the following items in the works schedule but does not nominate a capital works value or land acquisition value:

- CF1 Additional Library Floor Space: +1,000m<sup>2</sup> of GFA
- CF2 Multi-Purpose Community Centre (1,500m<sup>2</sup> - 2,000m<sup>2</sup> GFA).

The Concept Proposal makes provision for the Doran Drive Plaza (1,400m<sup>2</sup>) and a new public park (3,500m<sup>2</sup>) and their combined area exceeds that required under the Contributions Plan.

The provision of community uses within commercial floor space will be subject to further discussion with Council as part of future detailed DAs. Refer Section 8.4 for further consideration of the provision of both open space and social infrastructure.



**Figure 33** Location of facilities under Showground Station Precinct S7.11 Contributions Plan (The Hills Shire Council 2019)

### 3.1.4. Public Domain Plan – Hills Showground Station Precinct

A Public Domain Plan has been prepared to provide consistent guidance for the delivery of public domain works (provision of street trees, footpath paving, furniture and landscaping) throughout the Precinct.

The Plan states that the Site is subject to the NWRL Public Domain Plan (now Sydney Metro Northwest) and does not strictly form a part of this plan although common elements are utilised to ensure continuity of public domain treatments. Existing public domain works within the Site have been delivered under the SSI-5414.

Council's Public Domain Plan has been considered in the preparation of the Concept Proposal and the Design Guidelines will guide the future development and treatment of the public domain.

### 3.2. State significant development

The SRD SEPP identifies development which is considered to be State Significant.

Clause 19(2) of Schedule 1 of the SRD SEPP provides that the following development is SSD:

*Development within a rail corridor or associated with railway infrastructure that has a capital investment value of more than \$30 million for any of the following purposes:*

- (a) commercial premises or residential accommodation;*
- (b) container packing, storage or examination facilities;*
- (c) public transport interchanges.*

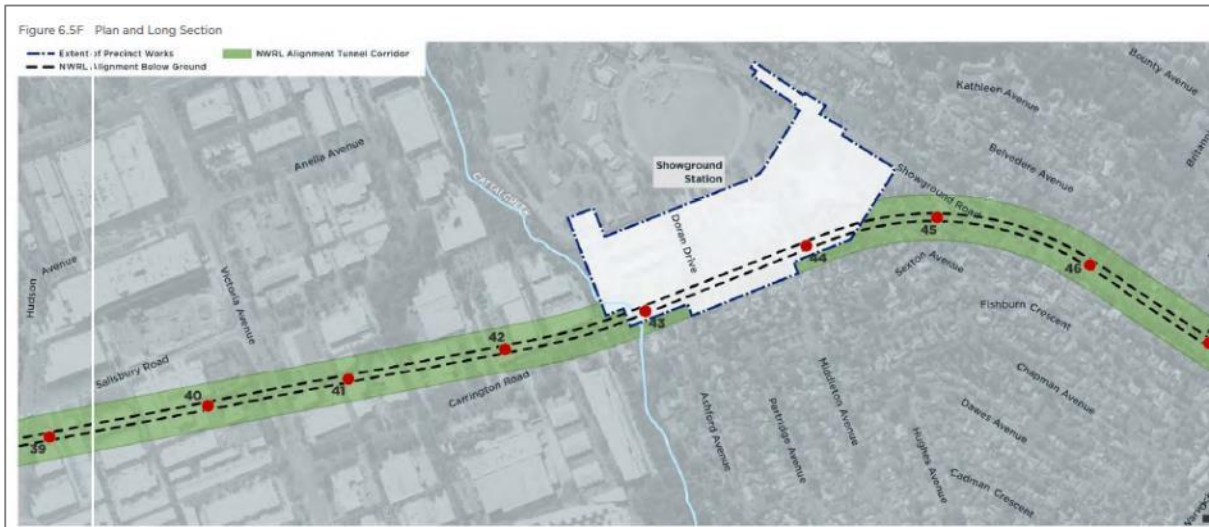
Rail corridor is defined in clause 78 (a) of the SEPP (Infrastructure) 2007 and includes land that is owned by a public authority for the purpose of a railway or rail infrastructure facilities.

Rail infrastructure facilities include:

- (a) railway tracks, associated track structures, cuttings, drainage systems, fences, tunnels, ventilation shafts, emergency accessways, bridges, embankments, level crossings and roads, pedestrian and cycleway facilities, and*
- (b) signalling, train control, communication and security systems, and*
- (c) power supply (including overhead power supply) systems, and*
- (d) railway stations, station platforms and areas in a station complex that commuters use to get access to the platforms, and*
- (e) public amenities for commuters, and*
- (f) associated public transport facilities for railway stations, and*
- (g) facilities for the assembly, maintenance and stabling of rolling stock, and*
- (g1) facilities for the dismantling and stabling of rolling stock taken out of service, and*
- (h) refuelling depots, garages, maintenance facilities and storage facilities that are for the purposes of a railway, and*
- (i) railway workers' facilities, and*
- (j) rail freight terminals, sidings and freight intermodal facilities, and*
- (k) buildings for or related to railway purposes, but do not include buildings or works that are for residential, retail or business purposes and unrelated to railway purposes.*

The Concept Proposal qualifies as SSD for the purposes of the EP&A Act pursuant to section 19(2) Schedule 1 of the SDRP SEPP as the:

- Site was acquired by TfNSW for the purpose of the construction and operation of the SMNW, and accordingly is within a rail corridor (Figure 34)
- development is associated with rail infrastructure (Figure 35)
- development has a CIV of more than \$30 million and is for the purposes of commercial premises and residential accommodation. Refer accompanying CIV Report at **Appendix D**.



**Figure 34 Hills Showground Station Precinct – extent of works for Metro construction (TfNSW 2012)**



**Figure 35 Hills Showground Station Precinct – Metro under construction (TfNSW 2018)**



**Figure 36 Showground Station Precinct SDRP SEPP 2011** (NSW Legislation 2019)

In addition, section 14 of Schedule 2 of the SRD SEPP states:

***Development at Showground Station Precinct Site***

*Development on land identified as being within the Showground Station Precinct Site on the State Significant Development Sites Map if the development is for the purposes of—*

- (a) a principal subdivision establishing major lots or public domain areas, or*
- (b) the creation of new roadways and associated works.*

Refer Figure 36 for an excerpt of the SSD sites map for the Showground Station Precinct Site.

The Concept Proposal also seeks approval for the layout of a principal subdivision of Hills Showground Precinct East establishing major lots, public domain areas and a new road and as such qualifies for SSD pursuant to section 14 of Schedule 2.

Further, section 4.55(1) of the EP&A Act requires consideration of draft EPIs. There is currently a draft amendment to Schedule 2 of the SRD SEPP the aim of which is to ensure that state-led, consistent and transparent planning pathway for the development of government land within the eight station precincts along the SMNW. The proposed amendment, outlined in the consultation paper, nominates the Minister for Planning as the consent authority for future development on identified Government owned land, if the development meets the criteria of SSD.

The draft amendment states:

*The Minister for Planning as the consent authority for future development on identified Government owned land, if the development meets the criteria of SSD.*

*SSD must meet one or more of the following criteria:*

- *A principal subdivision establishing major lots or public domain areas*
- *The creation of new roadways and associated works*
- *Has a capital investment value of more than \$30 million.*

In the event that the draft plan is finalised, the proposal would qualify as SSD consistent with the draft amendments as the application includes a principle subdivision of Lot 56 establishing major lots and public domain areas as well as the creation of new roads all under the Concept Proposal. Section 0 addresses all of the relevant State Environmental Planning Policies.

The EIS has been prepared in accordance with the requirements of Division 4.7 of the EP&A Act, Schedule 1 and 2 of the EP&A Regulation and the SEARs (**Appendix A**).

The Concept Proposal is made under section 4.22 of the EP&A Act and seeks consent for a mixed-use development including land uses, maximum building envelopes, maximum building height, maximum gross floor area, car parking, Doran Drive Plaza, a new public park and associated facilities on land adjacent to The Hills Showground Station. As this is a concept DA only, consent is not sought for any construction or other physical work.

The Concept Proposal is detailed in Section 0 and in the Urban Design Report prepared by Cox Architecture provided at **Appendix AA**. The Concept Proposal drawings for approval are provided at **Appendix O**. Other supporting documents are appended to this Report are listed in Table of Contents.

### 3.3. Secretary's Environmental Assessment Requirements

In accordance with section 4.39 of the EP&A Act, the Secretary of the DPIE issued the SEARs for the preparation of this EIS for State significant development on 26 October 2018. A revision to the SEARs was issued 9 October 2019 to reflect changes to the scope of works of the namely to remove Stage 1 works, clarify the site and development lot boundaries and confirm documentation required to be submitted for the Concept Proposal.

This EIS has addressed the requirements of the SEARs as amended. The SEARs are included in **Appendix A**.

Table 8 provides a detailed summary of the individual matters listed in the SEARs and identifies where each requirement has been addressed in this Report and the accompanying supporting technical studies.

**Table 8 Secretary's Environmental Assessment Requirements**

Requirement / Key Issues	Section of EIS	Technical Document
1. Environmental Planning Instruments (EPIs), Policies and Guidelines		
The relevant statutory provisions applying to the site contained in the relevant EPIs, including:	7	
<ul style="list-style-type: none"><li>SEPP (State &amp; Regional Development) 2011 and exhibited Draft Amendments relevant to the Sydney Metro Northwest</li></ul>		N/A
<ul style="list-style-type: none"><li>SEPP (Affordable Rental Housing) 2009</li></ul>		N/A
<ul style="list-style-type: none"><li>SEPP (Infrastructure) 2007</li></ul>		Traffic and Transport Impact Assessment ( <b>Appendix X</b> ) Noise and Vibration Assessment ( <b>Appendix N</b> )
<ul style="list-style-type: none"><li>SEPP (Building Sustainability Index: BASIX) 2004</li></ul>		ESD Report ( <b>Appendix J</b> )
<ul style="list-style-type: none"><li>SEPP (Vegetation in Non-Rural Areas) 2017</li></ul>		N/A
<ul style="list-style-type: none"><li>SEPP No. 55 – Remediation of Land</li></ul>		Preliminary Contamination Assessment ( <b>Appendix R</b> )
<ul style="list-style-type: none"><li>SEPP No. 64 – Advertising and Signage</li></ul>		N/A Signage not proposed.
<ul style="list-style-type: none"><li>SEPP No. 65 – Design Quality of Residential Apartment Development and the Apartment Design Guide</li></ul>		Urban Design Report ( <b>Appendix AA</b> ) and Guidelines ( <b>Appendix Z</b> ) and SEPP 65 ADG Assessment and Design Verification Statement ( <b>Appendix U</b> )
<ul style="list-style-type: none"><li>SEPP No. 70 – Affordable Housing (Revised Schemes)</li></ul>		N/A
<ul style="list-style-type: none"><li>SREP No. 20 – Hawkesbury Nepean River</li></ul>		
<ul style="list-style-type: none"><li>Draft SEPP (Environment)</li></ul>		
<ul style="list-style-type: none"><li>Draft SEPP (Remediation of Land)</li></ul>		Preliminary Contamination Assessment ( <b>Appendix R</b> )
<ul style="list-style-type: none"><li>The Hills Local Environmental Plan 2012 (THLEP)</li></ul>		Various as relevant
<ul style="list-style-type: none"><li>The Hills Development Control Plan</li></ul>		Various as relevant
2. Address the relevant provisions, goals and objectives in the following:		
<ul style="list-style-type: none"><li>NSW State and Premier Priorities</li></ul>	Section 6	Various as relevant
<ul style="list-style-type: none"><li>A Metropolis of Three Cities</li></ul>		Various as relevant
<ul style="list-style-type: none"><li>Central City District Plan</li></ul>		Various as relevant
<ul style="list-style-type: none"><li>Towards our Greater Sydney 2056</li></ul>	N/A	Towards our Greater Sydney 2056 outlined a draft amendment to A Plan for Growing Sydney that reconceptualises

Requirement / Key Issues	Section of EIS	Technical Document
		Greater Sydney with the metropolis of three cities approach now set out in the Greater Regional Plan and District Plans. This includes the structure of objectives and planning priorities that now form part of the strategic plans governing Greater Metropolitan Sydney.
<ul style="list-style-type: none"> <li>Future Transport Strategy 2056</li> </ul>		Various as relevant
<ul style="list-style-type: none"> <li>State Infrastructure Strategy 2018</li> </ul>		Various as relevant
<ul style="list-style-type: none"> <li>Sydney's Walking Future</li> <li>Sydney's Cycling Future</li> <li>Sydney's Bus Future</li> </ul>	N/A	N/A These strategies have been superseded by the Future Transport Strategy 2056.
<ul style="list-style-type: none"> <li>Development Near Rail Corridors and Busy Roads – Interim Guideline</li> </ul>	6.9	Traffic and Transport Impact Assessment ( <b>Appendix X</b> ) Noise and Vibration Assessment ( <b>Appendix N</b> )
<ul style="list-style-type: none"> <li>Guide to Traffic Generating Developments, Roads and Maritime Services</li> </ul>	6.9	Traffic and Transport Impact Assessment ( <b>Appendix X</b> )
<ul style="list-style-type: none"> <li>Heritage Council Guideline on Heritage Curtilages 1996</li> <li>Heritage Council Guideline, Design in Context – Guidelines for Infill Development in the Historic Environment, 2005</li> <li>Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW (DECCW 2011)</li> </ul>	6.9	Aboriginal and Non-Aboriginal Heritage Assessment and Heritage Interpretation Strategy ( <b>Appendix L</b> )
<ul style="list-style-type: none"> <li>Better Placed – An integrated design policy for the built environment in NSW 2017 and relevant policy documents published by the Government Architect NSW</li> </ul>	6	Urban Design Report ( <b>Appendix AA</b> ) and Guidelines ( <b>Appendix Z</b> ) and SEPP 65 ADG Assessment and Design Verification Statement ( <b>Appendix U</b> )
<ul style="list-style-type: none"> <li>Director General's Design Excellence Guidelines 2011 or Government Architect NSW's Design Excellence Competition Guidelines once adopted</li> </ul>		Urban Design Report ( <b>Appendix AA</b> ) and Design Excellence Strategy ( <b>Appendix I</b> )
<ul style="list-style-type: none"> <li>Draft Contaminated Land Planning Guidelines</li> </ul>		Preliminary Contamination Assessment ( <b>Appendix R</b> )
<ul style="list-style-type: none"> <li>Relevant Council policies, codes and guidelines (where required pursuant to relevant Local Environmental Plan)</li> </ul>		N/A
<ul style="list-style-type: none"> <li>Healthy Urban Development Checklist, NSW Health</li> </ul>		N/A

Requirement / Key Issues	Section of EIS	Technical Document
<ul style="list-style-type: none"> <li>NSW Aquifer Interference Policy (2012) Guidelines for Controlled Activities on Waterfront Land (2018) any relevant Water Sharing Plans</li> </ul>		N/A
<ul style="list-style-type: none"> <li>Planning for Bush Fire Protection (2016)</li> </ul>		BDAR Assessment Report ( <b>Appendix C</b> )
<b>2. Land Use and Density</b> The EIS must:		
<ul style="list-style-type: none"> <li>include a detailed description and analysis for the proposed land uses and floor space identified by lot and land use</li> </ul>	4	Urban Design Report ( <b>Appendix AA</b> )
<ul style="list-style-type: none"> <li>provide plan(s) illustrating street layout, open space, building envelopes (setbacks and heights)</li> </ul>	4	Urban Design Report ( <b>Appendix AA</b> ) and Guidelines ( <b>Appendix Z</b> ) and Plans for Approval ( <b>Appendix Q</b> )
<ul style="list-style-type: none"> <li>demonstrate how the proposed distribution of development density, dwellings, open space, road layout and land uses contribute to the overall strategic planning objectives for the Showground Station Precinct. This may include illustration of how the site fits within any master plan for the whole of the precinct</li> </ul>	4 and 8.3	Urban Design Report ( <b>Appendix AA</b> ) and Guidelines ( <b>Appendix Z</b> )
<ul style="list-style-type: none"> <li>assess the permissibility of the proposal, including consultation with the relevant acquisition authority with respect to any land identified for local drainage, road and other infrastructure.</li> </ul>	7	Urban Design Report ( <b>Appendix AA</b> ) and Guidelines ( <b>Appendix Z</b> )
<b>3. Integration with Sydney Metro Station infrastructure</b> The EIS must:		
<ul style="list-style-type: none"> <li>identify the extent of the proposal that is State Significant Development (SSD) and how this relates to the approved Critical State Significant Infrastructure (CSSI) applications and any modifications</li> </ul>	1.3	N/A
<ul style="list-style-type: none"> <li>identify any specific requirements of the CSSI approval that has influenced the design</li> </ul>		Urban Design Report ( <b>Appendix AA</b> ) and Guidelines ( <b>Appendix Z</b> )
<ul style="list-style-type: none"> <li>illustrate a site design which is responsive to the existing and/or proposed land uses with linkages to key destination points such as station entrance, community facilities, and recreation areas</li> </ul>	4	Urban Design Report ( <b>Appendix AA</b> ) and Guidelines ( <b>Appendix Z</b> )
<ul style="list-style-type: none"> <li>show how the proposal will integrate with the Sydney Metro station infrastructure such as design, access, way finding and construction.</li> </ul>	4	Urban Design Report ( <b>Appendix AA</b> ) and Guidelines ( <b>Appendix Z</b> )
<b>4. Staging and Subdivision</b>		

Requirement / Key Issues	Section of EIS	Technical Document
The EIS must:		
<ul style="list-style-type: none"> <li>outline the proposed stages of the concept development application, including built form, land uses and approval pathways</li> </ul>	4.17	N/A
<ul style="list-style-type: none"> <li>detail alternative design and staging options considered for the redevelopment of the site</li> </ul>	4.17	N/A
<ul style="list-style-type: none"> <li>interim activation strategy for the site with respect to the Metro Station and the Precinct</li> </ul>	1.4.5	N/A
<ul style="list-style-type: none"> <li>the implementation of infrastructure, public domain works, and services required to support the development and relationship to the staging of the proposal</li> </ul>	1.4.5 and 8.11	Civil Engineering Due Diligence Report ( <b>Appendix F</b> ) Utilities Servicing Impact Assessment ( <b>Appendix Y</b> )
<ul style="list-style-type: none"> <li>detail subdivision works comprising the first stage of development (including development plans) and works that will be constructed as part of the CSSI approval such as the North West Rapid Transit Roads consider construction impacts and submit management and mitigation strategy for proposed works.</li> </ul>	1.4.5	N/A
<b>5. Subdivision</b> The EIS shall include a draft Plan of Subdivision which: <ul style="list-style-type: none"> <li>identifies all lots proposed to be created across the site</li> <li>illustrate how the proposed lots will be serviced and any proposed covenants, easements, land dedication and public right of way.</li> </ul>	4.17	Plan of Subdivision (Draft) Lot 56 DP 1253217 ( <b>Appendix Q</b> )
<b>6. Built Form, Urban Design and Public Domain</b>		
The EIS shall:		
<ul style="list-style-type: none"> <li>describe the design process leading to the proposal including an urban design analysis demonstrating how the proposed built form, typologies, orientation, height, setbacks and bulk will fit within the context of the site and the existing and future desired character of the Showground Station Precinct</li> </ul>	4 and 8.4	Urban Design Report ( <b>Appendix AA</b> ), Guidelines ( <b>Appendix Z</b> ), and Design Excellence Strategy ( <b>Appendix I</b> )
<ul style="list-style-type: none"> <li>provide indicative design plans illustrating potential built forms within the proposed building envelopes, including demonstration of feasibility of proposed development density and design excellence</li> </ul>		Urban Design Report ( <b>Appendix AA</b> )
<ul style="list-style-type: none"> <li>provide comparative analysis of proposed built forms with respect to applicable development standards and development controls</li> </ul>		Urban Design Report ( <b>Appendix AA</b> )

Requirement / Key Issues	Section of EIS	Technical Document
<ul style="list-style-type: none"> <li>demonstrate built forms will facilitate appropriate transition of building scale to surrounding developments and the wider area</li> </ul>		Urban Design Report ( <b>Appendix AA</b> ), Guidelines ( <b>Appendix Z</b> ),
<ul style="list-style-type: none"> <li>demonstrate appropriate interface with the adjoining commuter car park and access to the Castle Hill Showground</li> </ul>		Urban Design Report ( <b>Appendix AA</b> ) and Guidelines ( <b>Appendix Z</b> )
<ul style="list-style-type: none"> <li>include options analysis of the proposed built envelopes illustrating the consideration of the benefits and potential impacts of each option</li> </ul>	1.6.2	N/A
<ul style="list-style-type: none"> <li>consider the relevant design guidelines and the North West Rail Link Showground Road Station Structure Plan (DPE, September 2013) and how the proposed development will integrate with future developments including but not limited to infrastructure delivery and public domain and landscaping design in the Showground Station Precinct</li> </ul>	1.2 and 4	Urban Design Report ( <b>Appendix AA</b> ) and Guidelines ( <b>Appendix Z</b> )
<ul style="list-style-type: none"> <li>include design quality guidelines for the future stage(s) of development and built forms with specific guidance on:               <ul style="list-style-type: none"> <li>integration with the Metro station and design to support the use of active transport</li> <li>heritage conservation and interpretation, where appropriate</li> <li>ecologically sustainable design, including opportunities for water reuse and renewable energy features</li> <li>environmental considerations, such as contamination and climate change</li> <li>riparian corridor management</li> <li>building articulation, materials, massing and setbacks</li> <li>connectivity, including any through site links</li> <li>public domain, open space and landscaping</li> <li>street activation</li> <li>microclimate conditions</li> <li>overshadowing</li> <li>public art</li> <li>land uses</li> <li>building entrances</li> <li>parking, loading and servicing arrangements</li> </ul> </li> </ul>	4	Urban Design Report ( <b>Appendix AA</b> ) and Guidelines ( <b>Appendix Z</b> ).  Note the Site does not include riparian land, however consideration has been given to the interface and indirect and direct impacts.
<b>7. Design Excellence</b>  The EIS must demonstrate the proposed built form is capable of achieving design excellence, with specific	4.16	Design Excellence Strategy ( <b>Appendix I</b> )

Requirement / Key Issues	Section of EIS	Technical Document
<p>reference to the considerations under Clause 9.5 of THLEP 2012.</p> <p>This must include a design excellence strategy for the future stage(s) of the development which demonstrates how design excellence will be achieved. The strategy must be prepared in consultation with the Government Architect NSW and must include details on:</p> <ul style="list-style-type: none"> <li>any required competitive design excellence processes</li> <li>a schedule for regular design review throughout the planning process by the State Design Review Panel or alternative endorsed by the Government Architect NSW, including an outline of how feedback will be documented and addressed.</li> <li>The strategy must be supported by evidence of consultation with the Government Architect, including a record of the issues raised during networks, and events associated with the Castle Hill Showground and mitigation measures to protect amenity.</li> </ul>		
<p><b>8. Visual Impacts and View Impacts</b></p> <p>The EIS shall:</p> <ul style="list-style-type: none"> <li>identify important sight lines and visual connectivity to and through the site</li> <li>provide a view analysis to and from the site from adjoining developments, key vantage points and streetscape locations including photomontages or perspectives of the proposed development. The view locations and methodology for the analysis must be prepared in consultation with the DPIE and Council.</li> <li>provide a visual impact assessment to identify the visual changes and impacts on the site and its surrounds when viewed from key vantage points (see plans and documents section).</li> </ul>	4 and 8.12	Visual Impact Assessment (0)
<p><b>9. Amenity</b></p> <p>The EIS shall:</p>		
<ul style="list-style-type: none"> <li>demonstrate consistency with the requirements of SEPP 65 and the Apartment Design Guide</li> </ul>	7	Urban Design Report ( <b>Appendix AA</b> ) and Guidelines ( <b>Appendix Z</b> ) and SEPP 65 ADG Assessment and Design Verification Statement ( <b>Appendix U</b> )
<ul style="list-style-type: none"> <li>address the following in relation to the surrounding area including neighbouring properties/buildings and the public domain. This</li> </ul>	8	Urban Design Report ( <b>Appendix AA</b> ) and Guidelines ( <b>Appendix Z</b> ) Visual Impact Assessment (0)

Requirement / Key Issues	Section of EIS	Technical Document
<p>includes neighbouring buildings within the proposal and future stages adjacent:</p> <ul style="list-style-type: none"> <li>○ solar access / overshadowing</li> <li>○ acoustic impacts</li> <li>○ visual privacy</li> <li>○ views and visual impacts</li> <li>○ reflectivity</li> <li>○ noise and vibration impacts</li> </ul>		Noise and Vibration Assessment ( <b>Appendix N</b> )
<ul style="list-style-type: none"> <li>include a detailed solar access and overshadowing analysis outlining impacts on adjoining developments and the public domain, including future stages. The analysis must include, at a minimum, shadow diagrams at hourly intervals in mid-winter and additional diagrams to detail impacts on any affected public open space and private open space and demonstrate that appropriate amenity is achieved between the hours of 11am and 2pm on 21 June on open space areas</li> </ul>	8.3	Urban Design Report ( <b>Appendix AA</b> ) and Guidelines ( <b>Appendix Z</b> )
<ul style="list-style-type: none"> <li>consider impacts from servicing requirements including waste management, mechanical plant and vehicle accesses</li> </ul>	4	Urban Design Report ( <b>Appendix AA</b> ) and Guidelines ( <b>Appendix Z</b> )  Traffic and Transport Assessment ( <b>Appendix X</b> )
<ul style="list-style-type: none"> <li>provide wind analysis outlining the impacts, in particular any impacts to existing and proposed public domain areas and open space. The wind impact assessment must identify the existing wind characteristics of the site and its locality, significant locations for wind sensitivity and mitigating measures</li> </ul>	8.13	Wind Impact Assessment ( <b>Appendix AC</b> )
<ul style="list-style-type: none"> <li>identify any potential sources of air emissions from surrounding land uses and a description and appraisal of any mitigation and monitoring measures, where required</li> </ul>	8.1	Air Quality Impact Assessment ( <b>Appendix B</b> )
<ul style="list-style-type: none"> <li>provide a Crime Prevention through Environmental Design Report.</li> </ul>	8.3.5	CPTED Assessment ( <b>Appendix H</b> )
<p><b>10. Noise and Vibration</b></p> <p>The EIS shall include a noise impact assessment identifying:</p> <ul style="list-style-type: none"> <li>measures to minimise and mitigate potential noise and vibration impacts of the proposal on surrounding developments</li> <li>the impacts of likely noise and vibration from surrounding land uses, such as noise from the</li> </ul>	8.7	Noise and Vibration Assessment ( <b>Appendix N</b> )

Requirement / Key Issues	Section of EIS	Technical Document
operation of the rail line, road networks, and events associated with the Castle Hill Showground and mitigation measures to protect amenity.		
<b>11. Heritage and Archaeology</b> The EIS shall: <ul style="list-style-type: none"> <li>provide a detailed heritage impact statement (HIS) that identifies and addresses the extent of heritage impact of the proposal on the site, site curtilage and surrounding area, including any built and landscape items, conservation areas, views and settings, and in particular the impact of the proposal on heritage items of local and State significance and on items of Aboriginal culture heritage.</li> <li>consider any endorsed conservation management plans for heritage items and conservation areas in the vicinity of the site and the surrounding area</li> <li>include a heritage interpretation strategy</li> <li>where the heritage impact statement identifies potential historical archaeological impacts, a historical archaeological assessment is to be prepared by a qualified historical archaeologist in accordance with the relevant guidelines published by the Office of Environment and Heritage.</li> </ul>	8.5	Aboriginal and Non-Aboriginal Heritage Assessment and Heritage Interpretation Strategy ( <b>Appendix L</b> )
<b>12. Aboriginal Heritage</b> The EIS shall provide a detailed Aboriginal heritage impact statement (AHIS) that identifies and addresses the extent of Aboriginal heritage impacts of the proposal on the site and the surrounding area, including objects, places or features (including biological diversity) of cultural value within the landscape.  If Aboriginal Cultural Heritage is found at the site, a full Aboriginal Cultural Heritage Assessment Report (ACHAR) together with document of required consultation must be provided in accordance with relevant legislation requirements and guidelines published by the Office of Environment and Heritage.	8.5	Aboriginal and Non-Aboriginal Heritage Assessment and Heritage Interpretation Strategy ( <b>Appendix L</b> )
<b>13. Traffic, Transport Access</b> The EIS must include a Transport and Traffic Impact Assessment that provides, but is not limited to, the following: <ul style="list-style-type: none"> <li>the projected additional yields and traffic volumes for the Precinct and assess the</li> </ul>	8.10	Traffic and Transport Assessment ( <b>Appendix X</b> )

Requirement / Key Issues	Section of EIS	Technical Document
<p>cumulative impacts of the proposal in its developing context</p> <ul style="list-style-type: none"> <li>• accurate details of the current daily and peak hour vehicle, public transport, point to point transport services, pedestrian and bicycle movements from existing or former buildings/uses on the site using the adjacent and surrounding road network</li> <li>• forecast total daily and peak hour trips likely to be generated by the proposed development including vehicle, public transport, point to point transport services, pedestrian and bicycle trips, together with cumulative impacts of existing, proposed and approved developments in the area and any transport/traffic changes anticipated for the road network</li> <li>• detailed assessment of the existing and future performance of key intersections providing access to the site, supported by appropriate modelling and analysis to the satisfaction of the relevant road authorities and TfNSW</li> <li>• measures to mitigate impacts of the proposed development on the operation of existing and future traffic, public transport, pedestrian and bicycle networks including any required upgrades</li> <li>• measures to be implemented to encourage users of the development to make sustainable travel choices, including walking, cycling, public transport and car sharing, such as the</li> <li>• integration with rail and bus infrastructure and provision of adequate bicycle parking and end of trip facilities</li> <li>• proposed car and bicycle parking provision for residents, workers and visitors, including consideration of the availability of public transport and the requirements of the relevant parking codes and Australian Standards</li> <li>• proposed provision of any bus service infrastructure and pedestrian connections to support the bus/rail interchange function of the metro station, including an assessment of the public domain surrounding the site to accommodate the future pedestrian demands safely and adequately and mitigation measures identified</li> <li>• proposed vehicle access arrangements, including for service and loading activities and measures to mitigate impacts to bus services</li> </ul>		

Requirement / Key Issues	Section of EIS	Technical Document
<p>and passengers interchanging between bus and rail</p> <ul style="list-style-type: none"> <li>describe preliminary construction traffic arrangements and management measures, including consideration of the cumulative construction traffic impacts from infrastructure works in the surrounding road/transport network.</li> </ul>		
<p><b>14. Ecologically Sustainable Development</b></p> <p>The EIS shall identify how ESD principles (as defined in clause 7(4) Schedule 2 of the EP&amp;A Regulation 2000) will be incorporated in the design, construction and operation of the development, including commitments to relevant industry benchmarks and best practice in waste and water management strategy.</p>	7.2	ESD Report ( <b>Appendix J</b> )
<p><b>15. Soils and Contamination</b></p> <p>The EIS shall:</p> <ul style="list-style-type: none"> <li>address the requirements of SEPP 55</li> <li>demonstrate the suitability of the site for the development having regard to the site's geotechnical characteristics including erosion potential subsidence, salinity and acid sulfate soils.</li> </ul>	7 and 8.8	Preliminary Contamination Assessment ( <b>Appendix R</b> )
<p><b>16. Flooding and Stormwater</b></p> <p>The EIS shall:</p> <ul style="list-style-type: none"> <li>undertake a concept flood study and flood management plan to inform a detailed flood impact assessment in accordance with the NSW Floodplain Development Manual (2005) and demonstrate consideration of existing flood studies for the catchment area</li> <li>identify minimum floor levels for buildings and recommend flood management and/or evacuation plan as relevant to the Concept Proposal</li> <li>include a stormwater management strategy which considers the relevant Council stormwater management policy and Water Sensitive Urban Design Principles.</li> </ul>	8.6	Integrated Water Management Strategy ( <b>Appendix M</b> )
<p><b>17. Biodiversity</b></p> <p>The EIS shall provide an assessment of the proposal's biodiversity impacts in accordance with the Biodiversity Conservation Act 2016, including the preparation of a Biodiversity Development Assessment Report (BDAR) where required under the Act.</p>	8.2	BDAR ( <b>Appendix C</b> )

Requirement / Key Issues	Section of EIS	Technical Document
<b>18. Water Sources and Riparian Corridor</b> The EIS shall:		
<ul style="list-style-type: none"> <li>assess the proposal's impact on surface and ground water sources (both quality and quantity) including impacts to related infrastructure, adjacent licensed water users, basic landholder rights, watercourses, riparian land, and groundwater dependent ecosystems, and measures proposed to reduce and mitigate these impacts</li> </ul>	8.6	Integrated Water Management Strategy ( <b>Appendix M</b> )
<ul style="list-style-type: none"> <li>detail the method of treating stormwater runoff before discharging it into any riparian corridor</li> </ul>	8.6	Integrated Water Management Strategy ( <b>Appendix M</b> )
<ul style="list-style-type: none"> <li>detail where any services are to be located within the riparian corridors</li> </ul>	N/A	No works are proposed within the riparian area. This land will be dedicated to Council from Sydney Metro with no involvement from Landcom. Council has prepared a Public Domain Plan for the Showground Station Precinct which includes design principles and strategies for the riparian corridor interface areas. Council has advised that they will be seeking to utilise funding from the Precinct Support Scheme to undertake further works to embellish the riparian corridor.
<ul style="list-style-type: none"> <li>identify any surface and groundwater monitoring activities and methodologies</li> </ul>	8.6	Integrated Water Management Strategy ( <b>Appendix M</b> )
<ul style="list-style-type: none"> <li>consider the interface of the riparian land adjoining Cattai Creek which forms part of the site and detail the level of embellishment along the corridor to achieve an acceptable level of amenity and integration with the overall strategy for the riparian corridor.</li> </ul>	8.1 and 8.6	BDAR ( <b>Appendix C</b> ) and Integrated Water Management Strategy ( <b>Appendix M</b> )
<b>19. Utilities</b> The EIS shall identify the existing capacity of the site to service the development proposed and any augmentation requirements for utilities, including arrangements for electrical network requirements, telecommunications, gas, drinking water, waste water and recycled water.	8.11	Utilities Servicing Impact Assessment ( <b>Appendix Y</b> )
<b>20. Contributions and Public Benefits</b> The EIS shall address the applicable s94 Contribution Plan and the provision of public benefit, land dedication, services and infrastructure in consultation with key stakeholders and provide details of any	3.13 and 7	N/A

Requirement / Key Issues	Section of EIS	Technical Document
<ul style="list-style-type: none"> <li>voluntary planning agreement (VPA) or other legally binding</li> <li>instrument agreed between relevant public authorities and the applicant.</li> </ul>		
<p>During the preparation of the EIS, you must consult with relevant local, State or Commonwealth Government authorities, service providers, community groups and affected landowners. In particular, you must consult with:</p> <ul style="list-style-type: none"> <li>The Hills Shire Council</li> <li>Government Architect NSW</li> <li>NSW Roads and Maritime Services</li> <li>Transport for NSW</li> <li>Environment Protection Authority NSW</li> <li>NSW Police</li> <li>NSW Rural Fire Service</li> <li>Fire and Rescue NSW</li> <li>Office of Water (Department of Industry)</li> <li>NSW Office of Environment and Heritage</li> <li>Heritage Division (OEH)</li> <li>Surrounding residents and businesses</li> <li>Relevant community groups</li> <li>Relevant special interest or recreational groups</li> <li>Relevant utility authorities</li> </ul> <p>The EIS must describe the consultation process and the issues raised and identify where the design or proposed outcomes of the development has been amended in response to these issues.</p> <p>Where amendments have not been made to address an issue, a short explanation should be provided.</p>	5	Stakeholder Engagement Outcomes Report ( <b>Appendix V</b> ) and Design Excellence Strategy ( <b>Appendix I</b> )
<p>Further consultation after 2 years</p> <p>If you do not lodge a Development Application and EIS for the development within 2 years of the issue date of these SEARs, you must consult further with the Planning Secretary in relation to the preparation of the EIS.</p>	N/A Noted	Noted.
<p>The assessment of the key issues listed above must consider relevant guidelines, policies, and plans as identified. While not exhaustive, the following attachment contains a list of some of the guidelines, policies, and plans that may be relevant to the environmental assessment of this proposal.</p>	N/A Noted	N/A Noted
<b>Plans and Documents</b>	7.2	<b>Appendix G</b>

Requirement / Key Issues	Section of EIS	Technical Document
The EIS must include all relevant plans, architectural drawings, diagrams and relevant documentation required under Schedules 1 and 2 of the Environmental Planning and Assessment Regulation 2000. Provide these as part of the EIS rather than as separate documents.		
In addition, the EIS must include the following:		
<ul style="list-style-type: none"> <li>clause 4.6 variation written request (if required)</li> </ul>	7.5	<b>Appendix E</b>
<ul style="list-style-type: none"> <li>site title diagrams and survey plan, showing existing levels, location and heights of existing and adjacent structures/ building</li> </ul>		Survey Plan <b>Appendix W</b>
<ul style="list-style-type: none"> <li>site analysis plan</li> </ul>	N/A	Plans for Approval ( <b>Appendix P</b> )
<ul style="list-style-type: none"> <li>schedule of proposed gross floor area per land use and per lot</li> </ul>	4	Urban Design Report ( <b>Appendix AA</b> ) and Guidelines ( <b>Appendix Z</b> )
<ul style="list-style-type: none"> <li>building envelopes showing the relationship with the precinct, including proposed envelope efficiency</li> </ul>	4	Urban Design Report ( <b>Appendix AA</b> ) and Guidelines ( <b>Appendix Z</b> )
<ul style="list-style-type: none"> <li>architectural drawings (to a useable scale at A3) including north point, RLs, scale bar and key dimensions</li> </ul>	N/A	Plans for Approval ( <b>Appendix O</b> )
<ul style="list-style-type: none"> <li>architectural and urban design statement</li> </ul>	N/A	<b>Appendix U</b>
<ul style="list-style-type: none"> <li>physical model and electronic model</li> </ul>	N/A	Physical model note required as agreed with DPIE and Council.
<ul style="list-style-type: none"> <li>visual and view impact analysis and photomontages from key vantage points</li> </ul>	8.12	<b>Appendix AB</b>
<ul style="list-style-type: none"> <li>staging plan</li> </ul>	4.17	<b>Appendix T</b>
<ul style="list-style-type: none"> <li>design guidelines and design excellence strategy</li> </ul>	4	Urban Design Report ( <b>Appendix AA</b> ) and Guidelines ( <b>Appendix Z</b> )
<ul style="list-style-type: none"> <li>heritage impact assessment</li> </ul>	8.5	<b>Appendix L</b>
<ul style="list-style-type: none"> <li>transport traffic and parking assessment</li> </ul>	8.10	<b>Appendix X</b>
<ul style="list-style-type: none"> <li>solar access analysis report and diagrams</li> </ul>	8.3	Urban Design Report ( <b>Appendix AA</b> )
<ul style="list-style-type: none"> <li>wind impact assessment</li> </ul>	8.13	<b>Appendix AC</b>
<ul style="list-style-type: none"> <li>air quality report (if required)</li> </ul>	8.1	<b>Appendix B</b>
<ul style="list-style-type: none"> <li>flood impact assessment/ water management strategy including any geotechnical assessment</li> </ul>	8.6	<b>Appendix K and M</b>
<ul style="list-style-type: none"> <li>soil and contamination report</li> </ul>	8.8	<b>Appendix R</b>
<ul style="list-style-type: none"> <li>ESD statement (incorporating a sustainability framework)</li> </ul>	4.12	<b>Appendix J</b>
<ul style="list-style-type: none"> <li>access / DDA impact statement (if required)</li> </ul>	4.11	N/A

Requirement / Key Issues	Section of EIS	Technical Document
<ul style="list-style-type: none"> <li>services and utilities impact assessment</li> </ul>	8.11	<b>Appendix L</b>
<ul style="list-style-type: none"> <li>signage details (if proposed)</li> </ul>	N/A	
<ul style="list-style-type: none"> <li>noise and vibration report</li> </ul>	8.7	<b>Appendix N</b>
<ul style="list-style-type: none"> <li>CPTED assessment</li> </ul>	8.3	<b>Appendix G</b>
<ul style="list-style-type: none"> <li>preliminary construction management statement</li> </ul>	N/A	Construction not proposed
<ul style="list-style-type: none"> <li>pre-submission consultation report</li> </ul>	5	<b>Appendix V</b>
<ul style="list-style-type: none"> <li>bushfire assessment report (if required)</li> </ul>	6.9	Refer BDAR <b>Appendix C</b>
<p>Documents to be submitted</p> <p>hard copy and 1 electronic copy of all the documents and plans for review prior to exhibition</p> <p>3 hard copies and 10 electronic copies of the documents and plans (once the application is considered acceptable). Electronic copies of the documentation must be on a USB with documents in PDF format with file sizes not exceeding 20Mb, and ideally less than 10Mb. The hard copies should include plans printed in A3. One additional A1 set of plans may also be provided.</p>	N/A	Provided

## 4. The Concept Proposal

This Section provides a detailed description of the Concept Proposal and sets out the planning, design and development framework for subsequent detailed DAs. This SSDA seeks consent for a Concept Proposal, the components of which are set out below.

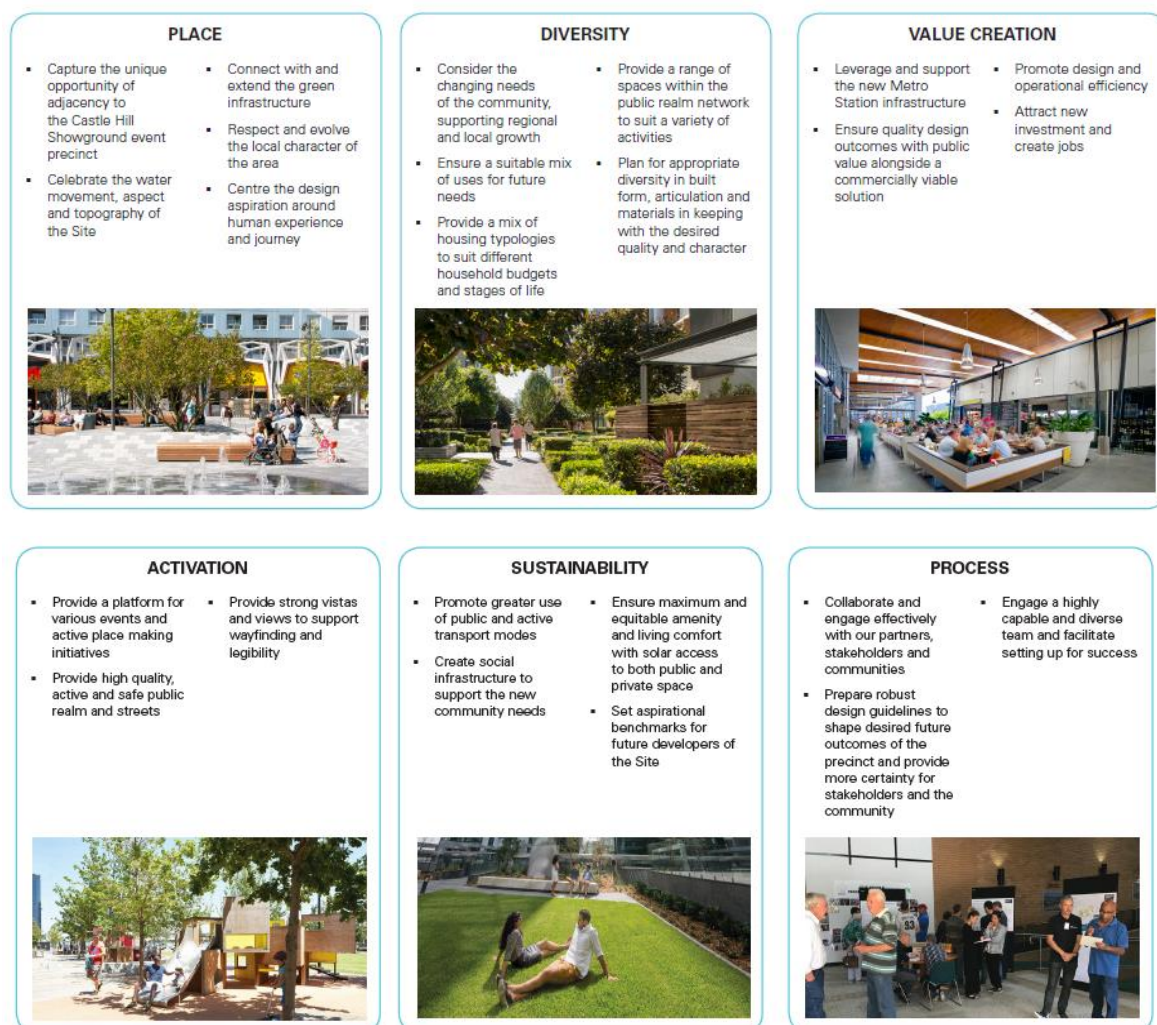
### 4.1. Vision, Objectives and Principles

#### 4.1.1. Vision

*“The Hills Showground Station Precinct will be a thriving local mixed-use centre that provides a walkable, lively place enhanced by strong connections to world class transport and the cultural and recreational destination of Castle Hill Showground. The precinct will provide diverse housing for different generations and lifestyles, framed by green open spaces that encourage connectivity, and celebrates the Garden Shire outlook.”*

### 4.1.2. Objectives

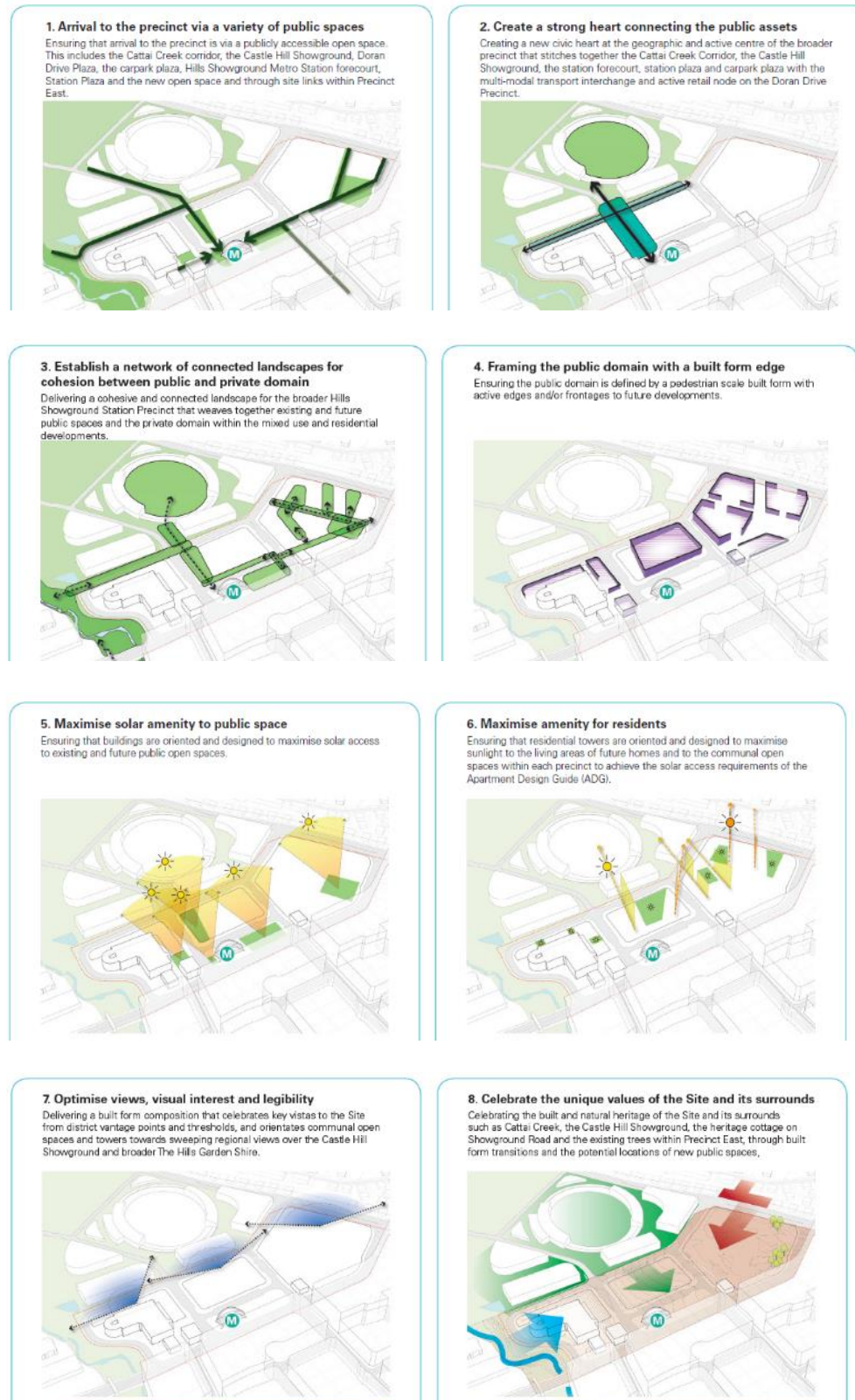
Project objectives have been developed in consultation with project stakeholders under the six themes of place, activation, diversity, sustainability, value creation and process to inform the SSDA and Urban Design Framework for the Hills Showground Station Precinct. An extract of the project objectives is provided at **Figure 34**.



**Figure 37 Project Objectives (Cox Architecture 2019 in consultation with the project team and stakeholders)**

### 4.1.1. Urban design principles

Site specific urban design principles have been developed that reflect the understanding of the local character and opportunities of the Site (**Figure 38**) that are intended to be reinforced through the redevelopment of Precinct East, Doran Drive Precinct and Precinct West. These principles are reflected in the Concept Proposal design and will form part of the Urban Design Guidelines that are to be considered as part of future detailed DAs for the site.



**Figure 38 Urban Design Principles (Cox Architecture 2019)**

## 4.2. Urban Design Framework

The Urban Design Framework (**Appendix AA**) is detailed in the Urban Design Report and provides the evidence base that has informed the Urban Design Guidelines to guide design quality throughout the realisation of the Site in line with the Vision (set out above). The purpose of the framework is to:

- translate the design principles in to Guidelines to ensure future development achieves design excellence
- ensure development responds to the distinct history, character and identity of the Site and its surrounds
- ensure high levels of public and private amenity are achieved across the Site
- ensure development responds to the existing and future development of surrounding sites
- encourage public transport use, walking and cycling to, from and within the Site
- integrate best practice sustainable urban development.

The Urban Design Framework supporting Guidelines and Design Excellence Strategy (Sections 4.2, 4.15 and 4.16) will deliver a level of certainty and commitment to high quality public space and building design outcomes desired by the community and Council while achieving flexibility within the building envelopes and uses to respond to changing market conditions over time and to enable innovation in design.

The Urban Design Framework and Guidelines and subsequent Concept Master Plan have been informed by the planning controls for the Site as well as a number of technical studies and assessments including geotechnical, heritage, wind, visual, soil and contamination, traffic, ESD, civil and air quality as listed in the Table of Contents. In addition, consultation with Council, DPIE, GANSW, other public agencies and the community have also contributed to the development of the Concept Proposal.

The Concept Plans for Approval are provided in **Appendix O**. These Plans provide the overarching-built form controls for the Site to ensure future development is aligned with the Vision, objectives and principles and Concept Proposal. The Plans include: Proposed Uses, Open Space, Deep Soil, Setbacks, Vehicle Movement and Access, Building Heights, Building Entrances, Building Envelope Height Plans, and Sections.

Indicative plans referred to as Proof of Concept Plans for each of the three development lots (Hills Showground Precinct West, Doran Drive Precinct and Hills Showground Precinct East) have been included as part of Urban Design Report at **Appendix AA** for information purposes only. These drawings illustrate a potential built form outcome based on maximum non-residential GFA scenario. The plans demonstrate the developments feasibility, and ability to comply with the planning controls for height and density and urban design framework proposed by the concept SSDA.

### 4.3. Description of the Concept Proposal

The Concept Proposal (figure below) comprises residential and non-residential land uses and building envelopes of varying heights from four (13m) to up to twenty storeys (68m).

The proposal also includes a new road, landscaping, services and the provision of publicly accessible open space in the form of Doran Drive Plaza and a park.

An indicative yield of up to 1,900 dwellings is anticipated to be provided by the proposal.

More specifically, the Concept Proposal comprises:

- total GFA of 175,796m<sup>2</sup> across all three development lots
- a maximum residential GFA of 169,096m<sup>2</sup> equating for up to 1,900 dwellings including a minimum of five percent for affordable housing
- non-residential uses– a minimum GFA of 6,700m<sup>2</sup> and a maximum GFA for of 13,600m<sup>2</sup>
- Doran Drive Plaza – minimum of 1,400m<sup>2</sup>
- a new public park to referred to as Precinct East Park – minimum of 3,500m<sup>2</sup>
- Building envelopes, and allocation of GFA to the three development lots:

Development lot	Maximum Total GFA (m <sup>2</sup> )	Maximum residential GFA (m <sup>2</sup> )	Minimum non-residential GFA (m <sup>2</sup> )	Maximum non-residential GFA (m <sup>2</sup> )
Precinct West	29,154	28,154	1,000	2,760
Doran Drive Precinct	51,004	45,304	5,700	10,840
Precinct East	95,638	95,638	N/A at this stage	N/A at this stage.
	<b>175,796</b>	<b>169,096</b>	<b>6,700</b>	<b>13,600</b>

- provision of car parking in accordance with the following rates up to a maximum of 2,273 car spaces:

Land uses	Minimum vehicle parking rates	Maximum vehicle parking rates
Retail	1 space per 130m <sup>2</sup> of GFA	1 per 60m <sup>2</sup> of GFA
Commercial	1 space per 145m <sup>2</sup> of GFA	1 space per 100m <sup>2</sup> of GFA
Residential		
1 bedroom	0.6 spaces	1 space
2 bedrooms	0.9 spaces	1 space
3 bedrooms	1.4 spaces	1.5 spaces
Visitor	0.1 space per dwelling	

- Bicycle parking rates in accordance with the THDCP with approximately 799 spaces:

Land uses	Minimum rates
Retail	1 space per 450m <sup>2</sup> of GFA for staff.
Commercial	1 space per 600m <sup>2</sup> GFA for staff.
Residential	1 resident space per 3 apartments. 1 visitor space per 12 apartments.

- Strategies for delivery of infrastructure, managing stormwater and drainage, achievement of ESD and design excellence
- Civil plan addressing the timing of future subdivision, construction, release and development of land
- Concept principal subdivision of development Lot 56 DP 1253217 (Hills Showground Precinct East) into future development lots, public domain areas and a new road.

No building or construction works are proposed to be undertaken as part of this Concept Proposal. Once the SSDA is approved, the successful purchasers of the development precincts and/or lots from Sydney Metro, will be responsible for submitting subsequent DAs for the design and construction of the buildings and public domain areas in accordance with the approved Concept.



**Figure 39** Concept Proposal Reference Scheme (Cox Architecture 2019)

**Table 9 Key development information**

Details	
Site area	83,974m <sup>2</sup>
GFA	Total GFA of 175,796m <sup>2</sup> GFA Non-residential uses – minimum 3,600m <sup>2</sup> and maximum 13,600m <sup>2</sup> Maximum GFA residential uses 169,062m <sup>2</sup> Hills Showground Precinct East: 29,154m <sup>2</sup> Doran Drive Precinct: 51,004m <sup>2</sup> Hills Showground Precinct West: 95,638m <sup>2</sup>
No of dwellings	Up to 1,900
FSR*	Hills Showground Precinct East 3:1 Doran Drive Precinct 3.2:1 Hills Showground Precinct West 4:1
Height	Varying heights from four (13m) to up to twenty storeys (68m).
Setbacks	Refer Building Setbacks at <b>Appendix O</b>
Car spaces	Minimum of 2,078 spaces Maximum of 2,273 spaces
Open space	Total: 4,900 m <sup>2</sup> Doran Drive Plaza: 1,400m <sup>2</sup> Precinct East Park: 3,500m <sup>2</sup>

\*Calculated in accordance with in Clause 9.2 of the LEP refer Section 4.5.1.

## 4.4. Proposed land uses

The Concept Proposal provides for a thriving mixed-use centre comprising residential and non-residential uses, commercial, retail and community uses). The proposed uses reflect the vision to deliver a mixed-use, transit-oriented centre at Hills Showground with a diversity of uses, users and activities.

The residential development can accommodate a variety of housing typologies to foster a diverse community of residents. The Urban Design Guidelines for the development lots provide for a mix of housing types.

The primary role of commercial and retail facilities on the Site will be convenience-based, to serve localised demand from residents, workers and commuters. The retail floor space will generally focus on convenience goods, everyday comparison goods, food and beverage offerings to complement the proposed Castle Hill Showground master plan food and beverage retail offer, personal services and complementary non-food speciality e.g. pharmacy and newsagent and apparel and supporting non-retail uses e.g. real estate, medical, financial services, travel agent.

Commercial office floor space is proposed and offers residents the ability to work close to home. The commercial floor space will be designed to be flexible in function and use, offering a mix of co-working/flexible space as well as conventional office space.

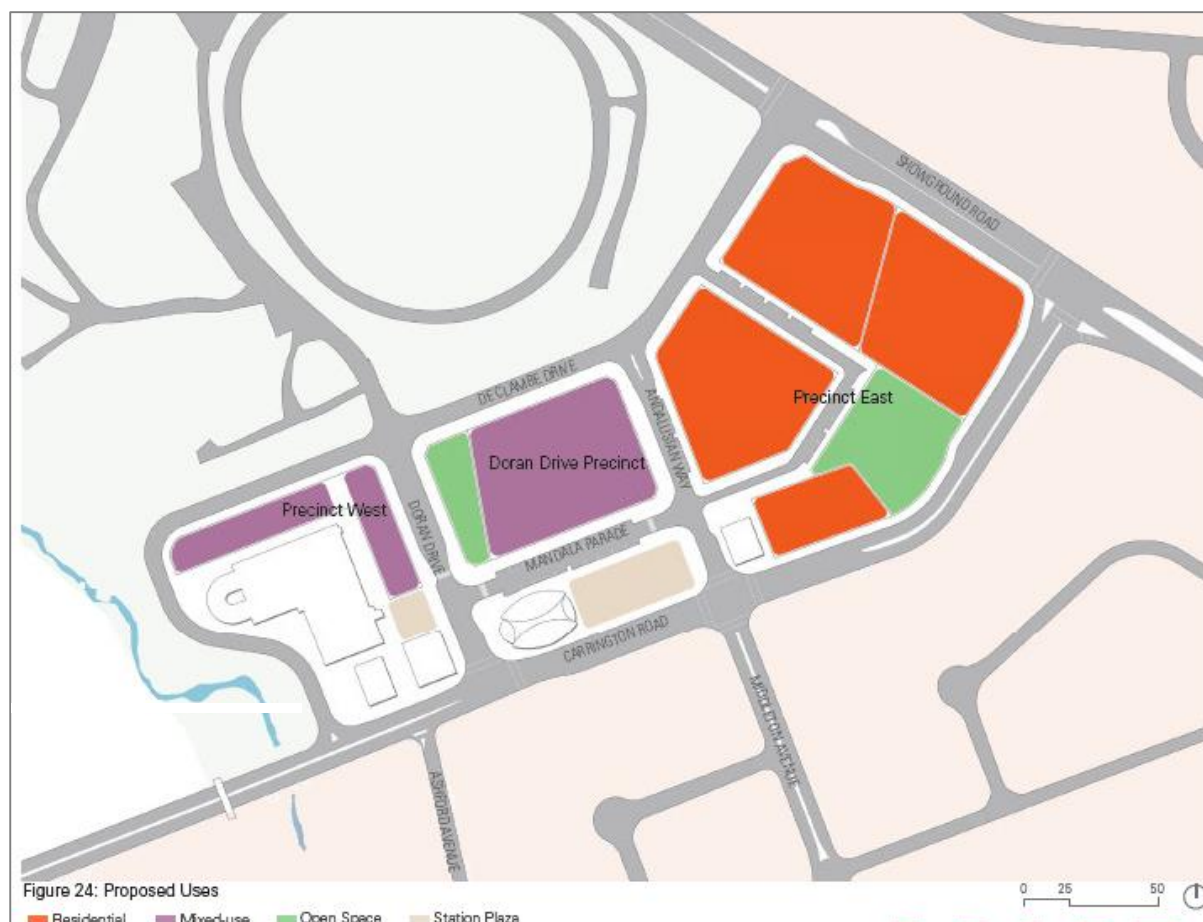
The non-residential floor component is also planned to accommodate other uses that fall outside the definition of commercial use such as recreational facility (indoor) and community facilities. Community uses would contribute to the daily activity and vibrancy of the Site. The location, use and management of the community spaces will be subject to further discussion with Council as part of future detailed DAs.

The non-residential uses are proposed in Hills Showground Precinct West and Doran Drive Precinct as these two precincts are in close proximity to the Station, zoned B2 Local Centre and identified to accommodate active ground floor uses. A residential only development lot on the Hills Showground Precinct East serves as a transition between the future mixed-use centre and existing and future residential communities to the north-east and south-east of the Site.

Based on the economic research carried out by Hill PDA, Landcom is seeking approval for an approximate GFA of up to 13,600m<sup>2</sup> for the non-residential uses, with a lower limit of 6,700m<sup>2</sup> (detailed in Section 4.4). This will ensure future developers can meet a viable current market demand while allowing to plan for future growth as the community and surrounding areas grow over the course of the next 15-20 years.

**Figure 40** illustrates the location of proposed land uses. Further detailed description of the land uses proposed in provided below.

Section 4.5 describes the character envisaged for each of the development lot precincts within the Site.



**Figure 40** Proposed land use plan (Cox Architecture 2019)

#### 4.4.1. Residential uses

As detailed above the Concept Proposal provides for high density residential uses in the form of one, two-and three-bedroom apartments and potential for SOHO apartments.

Apartments will be required to meet the requirements of the SEPP 65 and associated ADG as a minimum as well as Universal Guidelines and Adaptable Housing requirements where these types of units are provided. Indicative layouts have been provided in the proof of concept drawings to demonstrate that minimum solar access and ventilation requirements can be achieved.

Apartment mix is expected to be determined as part of the future detailed design of the buildings and will take into consideration of the following:

- current market demands and future demographic trends
- the demand for social and affordable housing
- different cultural and socioeconomic groups.

The estimated yield of 1,900 dwellings has been based on an apartment mix of 35% 1- bedroom, 55% 2-bedroom and 10% 3-bedroom) with an efficiency rate of 75%. The detailed design of buildings, apartment layouts and mix will be addressed as part of the future detailed DAs.

The built form and residential yield being sought have been informed by the planning controls, detailed design urban design analysis and consultation with stakeholders as detailed in this EIS.

#### 4.4.2. Affordable housing

A minimum of five per cent of the final number of dwellings will be provided as affordable housing targeted to very low, low- and moderate-income earners in line with Landcom's Housing Affordability and Diversity Policy. At a minimum, this housing stock will be managed by a Community Housing Provider for 10 years from the date of practical completion / certification / occupancy. The location and distribution of affordable housing across the development lots within the Site will be further investigated with developers.

#### 4.4.3. Non-residential uses

A comprehensive retail, commercial, industrial and residential Economic Feasibility Analysis was undertaken by JLL to inform the rezoning of the broader Showground precinct. It identified the potential for the precinct to provide approximately 6,000m<sup>2</sup> of neighbourhood retail uses, including a 3,000m<sup>2</sup> full-line supermarket and an additional 3,000m<sup>2</sup> of supporting retail.

A Retail Demand Assessment has been completed by Hill PDA (**Appendix S**) to better understand the quantum and type of retail and commercial related floor space that could be supported at the Site.

HillPDA has forecast demand for around 15,150m<sup>2</sup> of retail floor space by 2041, with a full-line supermarket by 2026. There is no supermarket within 1.5km of the Site. The vision for the Castle Hill Showground includes food and beverage offerings adjacent to the Site. The Castle Hill Showground is expected to absorb some of the demand generated for fast-food outlets and restaurants.

Based on the findings of the retail demand assessment HillPDA recommends a convenience based retail centre of 6,500m<sup>2</sup> to 8,500m<sup>2</sup> to open in 2026 which will largely serve a walkable catchment, including new residents of the Hills Showground Station Precinct.

In order to achieve a viable retail centre, it is important to have the right retail mix. HillPDA has estimated an appropriate retail mix for the subject site based on the expenditure modelling (which quantifies the potential capture of expenditure from residents, workers and commuters by retail store type). This is crossed checked by benchmarking it to similar sized single-supermarket based centres in the Sydney metropolitan. The suggested mix is detailed in Table 10.

Based on a review of similar-sized retail centres in Sydney (ranging from 4,000sqm to 12,000sqm) an additional 20% to 30% of specialty stores should be provided to accommodate non-retail uses to support the retail offer. Non-retail users include services such as banks, real estate agents, travel agents, medical services and the like.

Assuming a retail centre with 6,500m<sup>2</sup> to 8,500m<sup>2</sup> of retail shopfront floorspace would suggest 1,500sqm to 3,500sqm of supporting non-retail uses (ie real estate, medical services, childcare centres etc) by 2026.

As detailed, approval is sought for a minimum of 6,700m<sup>2</sup> to a maximum of 13,600m<sup>2</sup> of non-residential GFA. The Concept Proposal seeks to balance the uncertainties and risks associated with the forecast demand and the recommended optimal mix.

Refer Section 8.16 for an assessment of economic impacts of the project.

**Table 10 Typical composition of a single supermarket-based retail centre**

Use	GFA (m <sup>2</sup> )	Land use definition
Typical composition of a single supermarket-based retail centre	2,900 -3,800	shop
Food specialties	700	shop
Up to restaurant and cafes to complement the Castle Hill Showground Master Plan food and beverage retail offer.	1,500	restaurant or cafes
There is potential for pop-up retail (stalls) to complement the Castle Hill Showground future food and beverage offer:	-	-
Complementary non-food speciality (i.e. pharmacy, newsagent, variety store)	Up to 1,000	Shop
Apparel	Up to 500	Shop
Personal services (hairdresser, drycleaner, optical dispensing, etc.)	Up to 1,000	Business premises
Supporting non-retail shopfront floor space could include financial services, travel services, TAB, leisure and entertainment (including gyms, possible leisure centre), medical services, massage, childcare, education and tutoring and other professional and personal services.	1,500 to 3,500	Business premises, recreational facility indoor, child care facility, medical centre, educational establishment.

Source: HillPDA 2019 (Elton additions 2019)

## 4.5. Built form, density and heights

### 4.5.1. Allowable gross floor area on development lots

The Site has recently been subdivided to enable the development of the Site. Clause 9.2 of THLEP provides for the inclusion of certain dedicated land in the calculation of GFA. The dedicated roads adjacent to the development lots have been included in the site area for the purposes of calculating FSR of the development lots in accordance with Clause 9.2 of THLEP (refer Section 7.5 for an excerpt of the Clause).

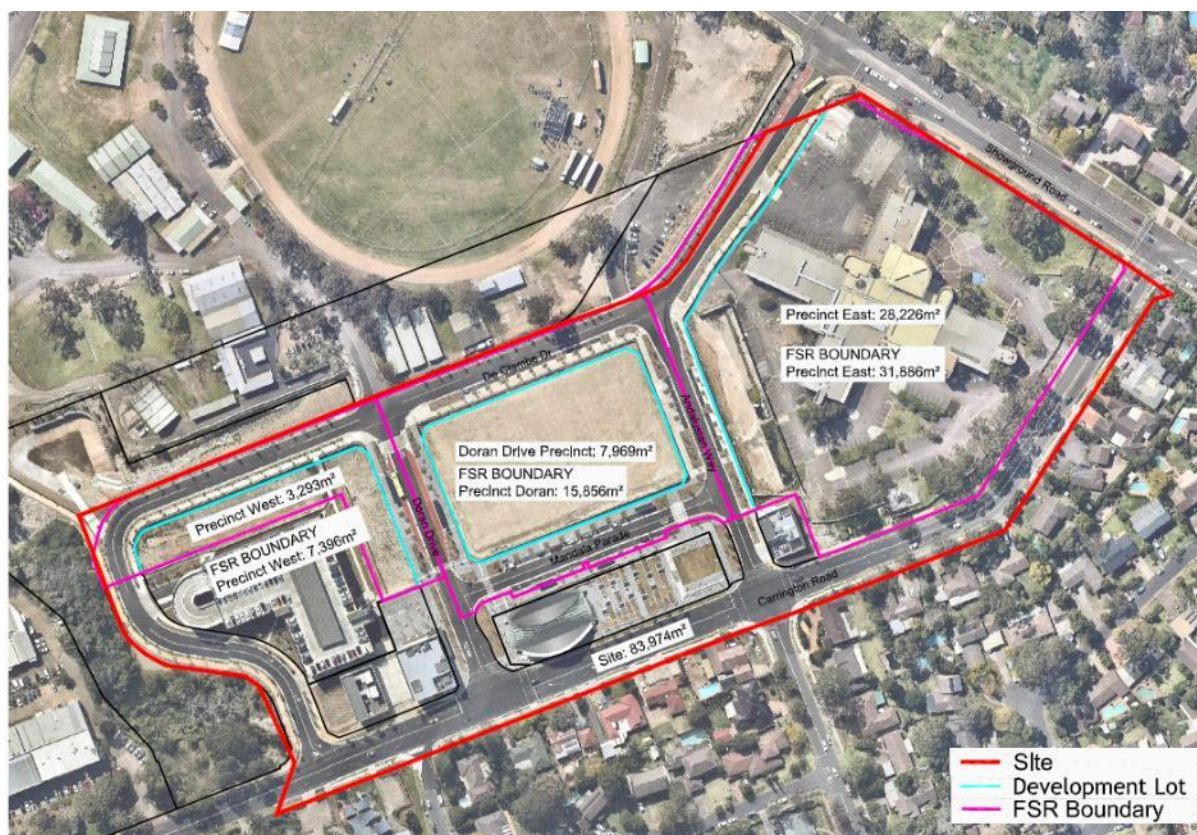
The land transferred to the site area of each of the development lots is outlined below:

- Hills Showground Precinct West – includes a portion of the road (to the centre line) to the east of Doran Drive and the entire road width of De Clambe Drive to the north
- Doran Drive Precinct – includes the road (to the centre line) of Doran Drive and Andalusian Way, and the entire road width of De Clambe Drive and Mandala Parade
- Hills Showground Precinct East – includes the road (to the centre line) to the east (Andalusian Way), the entire road width of De Clambe Drive to the north and area of land subject of road widening along Carrington Road.

**Figure 41** illustrates the development lot and site area boundaries for the purpose of calculating FSR as summarised above. Table 11 provides the details of calculation of the allowable GFA in accordance with Clause 9.2 of THLEP.

**Table 11 Calculation of site area and allowable GFA at the site in accordance with Clause 9.2**

Development lot	Lot Areas (m <sup>2</sup> )	Dedicated land to be included (m <sup>2</sup> )	Total site area for calculating FSR (m <sup>2</sup> )	FSR Control THLEP 2012	Allowable GFA (m <sup>2</sup> )
Hills Showground Precinct West	3,293	4,103	7,396	5:1	36,980
Doran Drive Precinct	7,969	7,887	15,856	4:1	63,424
Hills Showground Precinct East	28,226	3,660	31,886	3:1	95,658
Totals:	39,488	15,650	55,138		196,062



**Figure 41** Site area for the purposes of calculating FSR (Cox Architecture 2019)

### 4.5.2. Proposed floorspace

As outlined above, the total site area for the purpose of calculating FSR is 55,138m<sup>2</sup> and corresponding FSRs provide for a potential GFA up to 196,062m<sup>2</sup>.

The Concept Proposal seeks approval for a total of 175,796m<sup>2</sup> across the three development lots less than what can be achieved and has resulted from detailed urban design analysis, consultation as well as technical studies that demonstrate feasibility for the Concept Proposal. The maximum GFA for each of the development lots being sought, and resulting FSR is specified in **Table 13**.

The Concept Proposal DA is seeking the allocation of the minimum and maximum allowable GFA for non-residential uses for each of the development lots. These figures have been informed by Retail Demand Assessment by HillPDA as detailed in Section 8.4 aiming to ensure that a local centre is delivered but also balance the uncertainties and risks associated with the forecast demand and the recommended optimal mix. In the case of residential GFA the upper limit is being sought as 169,096m<sup>2</sup> to enable flexibility at the detailed design stage.

The allocation of GFA to the individual development lots provides certainty as to future development to be delivered at the Site. It also seeks to ensure that development responds appropriately to the NSW Government's investment in public transport infrastructure and strategic objectives for the Site to be high density, transit orientated mixed use precinct.

**Table 12 Hills Showground Station Precinct Proposed GFA allocation**

Development lot	Maximum GFA per lot (m <sup>2</sup> )	Maximum residential GFA (m <sup>2</sup> )	Minimum non-residential GFA (m <sup>2</sup> )	Maximum non-residential GFA (m <sup>2</sup> )
Precinct West	29,154	28,154	1,000	2,760
Doran Drive Precinct	51,004	45,304	5,700	10,840
Precinct East	95,638	95,638	N/A at this stage	N/A at this stage.
	<b>175,796</b>	<b>169,096</b>	<b>6,700</b>	<b>13,600</b>

**Table 13 Hills Showground Station Precinct Proposed FSR**

Development lot	Site area calculated as per Clause 9.2 & 4.5	Maximum GFA per lot (m <sup>2</sup> )	LEP controls	Proposed FSR
Precinct West	7,396	29,154	5:1	4:1
Doran Drive Precinct	15,856	51,004	4:1	3.2:1
Precinct East	31,886	95,638	3:1	2.9:1
	<b>55,138</b>	<b>175,796</b>		

Proof of Concept Plans have been developed for each of the development lots to demonstrate the feasibility of the proposed development density and design excellence. The Proof of Concept Plans are included as part of Cox's Urban Design Report and are for information purposes only. The drawings demonstrate that the proposed built form, typologies, orientation, height, setbacks and bulk fit within context of the Site and the existing and desired future character of the Hills Showground Station Precinct.

The Proof of Concept Drawings are based on the maximum commercial GFA being delivered at the Site of 13,600m<sup>2</sup>, with the lower bookend of residential 162,196m<sup>2</sup>. A detailed description of the desired future character of each of the development lots based on the proposed land uses and densities sought is addressed in Section 0.

Future DAs across the site will be required to demonstrate that they are not inconsistent with the terms of the concept SSDA. As such, future DAs will be required to meet the minimum GFAs for non-residential uses, but equally not permitted to exceed the maximum of 13,600m<sup>2</sup> or the maximum residential GFA or total allocated GFA to each of the development lot to which the application relates. Future DAs will also need to demonstrate that they:

- meet the area minimum area requirements for Doran Drive Plaza and the new park in Precinct East
- compliance with the car parking and bicycle rates
- consistent with the Design Guidelines, Design Excellence Strategy and ESD Framework developed.

The proposals provide a dwellings per hectare rate within the EIS/Urban Design Report consistent with the Hills Corridor Strategy (which was suggested as 300 dwellings/ha).

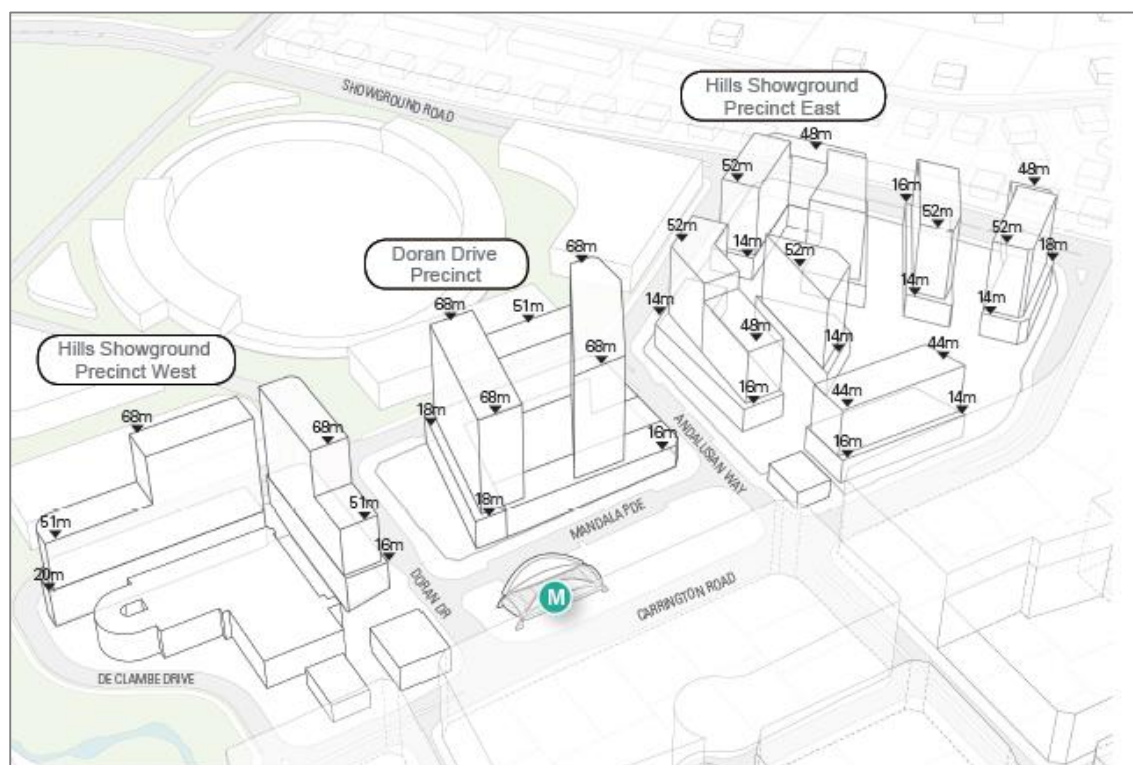
### 4.5.3. Building envelopes

The proposed building envelopes set the parameters for form of future buildings. Details are provided in the plans included as part of the Urban Design Report prepared by Cox Architecture (refer to **Appendix AA**).

Development of buildings within the prescribed envelopes will be subject to future detailed DAs. These future DAs will seek approval for the design, construction and fit out of the buildings.

The building envelopes are shown on the Urban Design Report and Plans for Approval and reproduced in Figure 42 below. The building envelopes have been determined having regard to:

- maximising solar access to existing and future open spaces – a minimum of 2 hours of sunlight between 9am and 3pm during the winter solstice
- maximising solar access to future homes
- consideration of active street nodes and frontages
- creating a variety and visual interest in the urban form
- strong built edge definitions to areas with high pedestrian activity and predominately retail uses
- a range of setbacks to enrich the pedestrian experience, provide landscaped areas and provide protection from weather
- achieving building separation that achieves or exceeds ADG requirements
- providing a pedestrian-scale experience to the public domain, with residential towers set back above 4-storey podiums (13.6m to 16m).



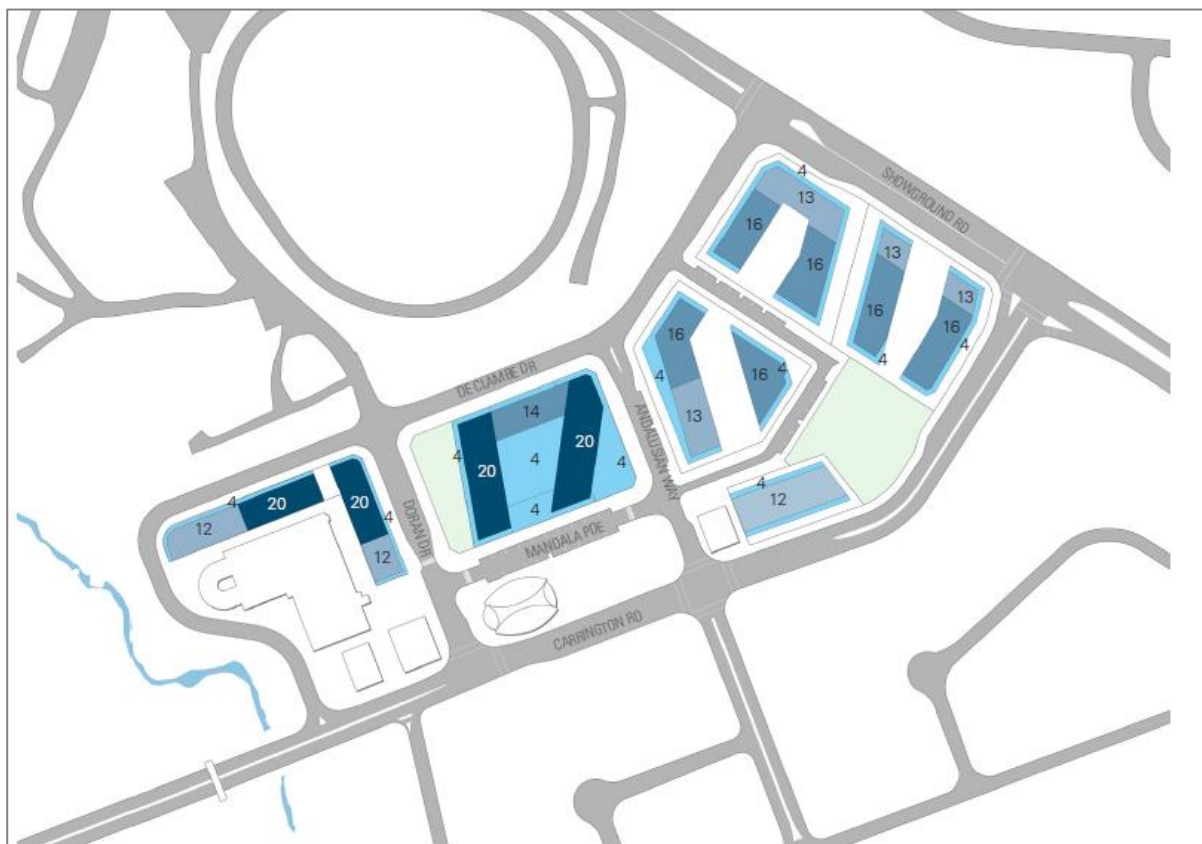
**Figure 42** Building envelope plan (Cox Architecture 2019)

#### 4.5.4. Building heights

The height strategy has been shaped by urban design principles, transition considerations and a series of known constraint. The resulting height strategy is one which will deliver a modulated and diverse built form within the development lots that sympathetically responds to adjoining areas and existing developments, and achieves high levels of amenity and solar access within the primary open spaces.

A maximum height of 68m (20 storeys) is proposed on the Precinct West and Doran Drive Precinct. Precinct East is comprised of a maximum 52m (16 storeys) on the Andalusian Way, De Clambe Drive and Showground Road. Heights step down to 13 storeys to the adjacent residential to the east and Andalusian Way. Buildings are also stepped down to adjoining public spaces such as the plaza and Cattai Creek at 12 storeys. A maximum of 39m (12 storeys) is desired on the Carrington Road interface as this responds to the future scale of the development on the southern side of Carrington Road.

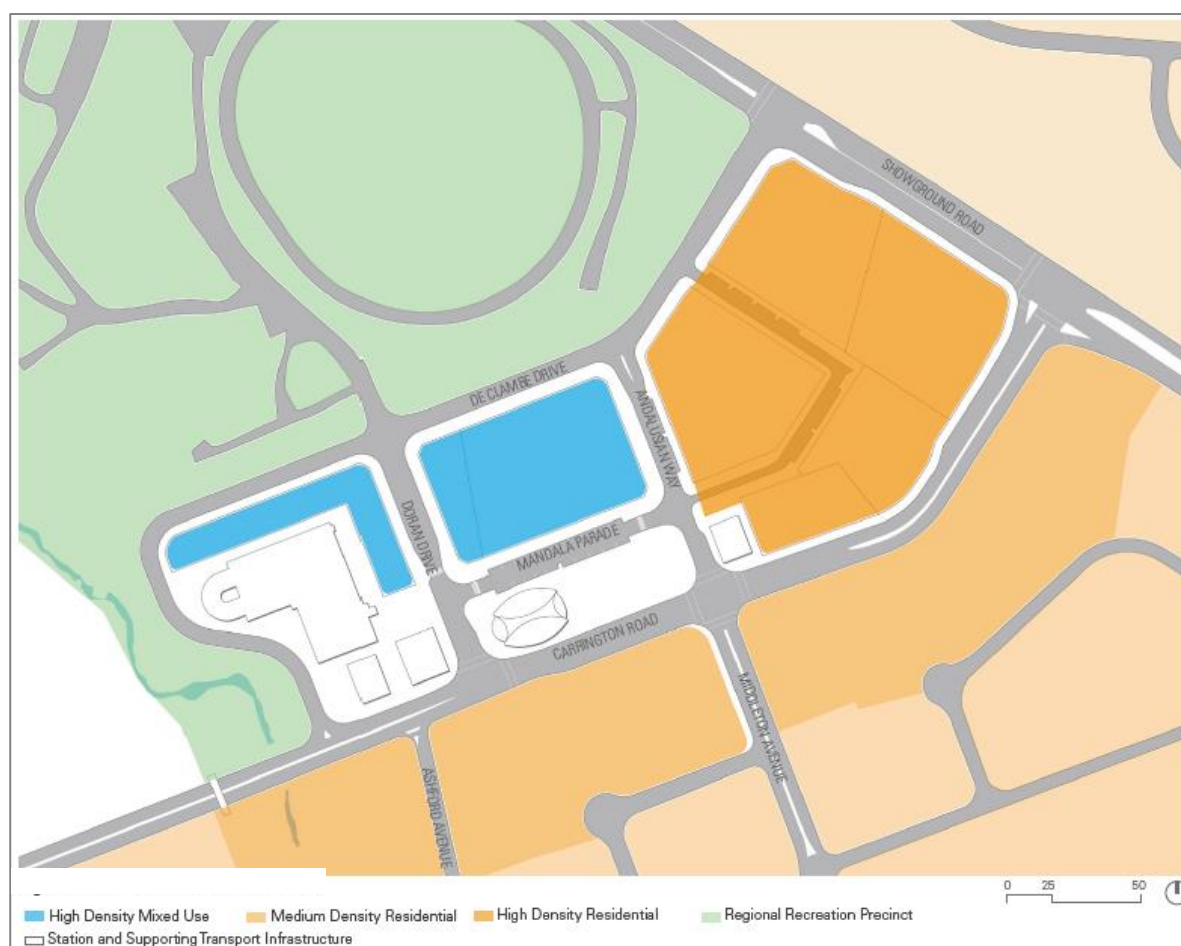
Further justification for the proposed built form is provided in Section 8.3.



**Figure 43** Building height plan (Cox Architecture 2019)

#### 4.5.5. Character of the development precincts

The future precincts of the Site are intended to exhibit similar characteristics, streetscapes, uses, densities, built form and activities. A description of the future character of each precinct is described below and illustrated at **Figure 44**.



**Figure 44** Precinct built form and character (Cox Architecture, 2019)

#### Precinct East Character

Precinct East will be characterised by a variety of residential dwelling choices supported by a new, permeable and complementary public realm.

Ground floor interfaces to the public domain, streets and the new Precinct East Park, will be activated by garden apartments that are accessed via courtyards from the public domain.

A consistent 4-storey street wall will provide a pedestrian-scale experience to the public domain, with residential towers set back above the street walls.

Communal open space within the development lots will be located and planted so that it is experienced as a continuation of the public domain.

### **Doran Drive Precinct Character**

Doran Drive Precinct will be characterised by a mix of uses with a podium that defines the public domain on four sides with tower forms above. The precinct has a direct interface to the active heart of the broader Showground Station Precinct, Doran Drive Plaza, and the Hills Showground Metro Station interchange and plaza. Ground floor uses will comprise of retail on the primary active interfaces of Doran Drive, De Clambe Drive and Mandala Parade with potential commercial and community uses above.

The retail area will include fine grain tenancies that will meet the retail service needs of the residents, workers and visitors that pass through the precinct. The fine grain tenancies would sleeve a larger floorplate tenancy, suitable for accommodating a supermarket, set back within the podium.

Communal open space will be provided on top of the podium. This will be shared between the residents, workers and the community use.

The Site falls from east to west, affording the opportunity to step the built form of the podium down towards Cattai Creek in response to the landform and the ground floor interface on De Clambe Drive.

### **Precinct West Character**

Precinct West will be characterised by a mix of uses within tall, slender towers. The precinct has a direct interface to the active heart of Doran Drive Plaza and the transport interchange. Ground floor non-residential uses such as retail and commercial will provide an active frontage towards the plaza.

The interface to De Clambe Drive and the Castle Hill Showground to the north will afford a flexible floor plate that may accommodate non-residential uses on the ground floor, if the market demand and footfall is there to support it. Alternative uses such as Small Office Home Office may be appropriate on the ground floor as part of an integrated office and dwelling above.

The buildings sleeve the commuter car park on the western and southern boundary. Future buildings will require a carefully considered design to ensure amenity and privacy of the apartments that interface directly with the commuter car park decks. This can be achieved through orientating balconies away from the carpark, using light wells to provide light in the lower floor apartments and using opaque or clerestory windows to ensure visual privacy.

## 4.6. Integration with Sydney Metro Station infrastructure

Existing station infrastructure that has influenced the design include:

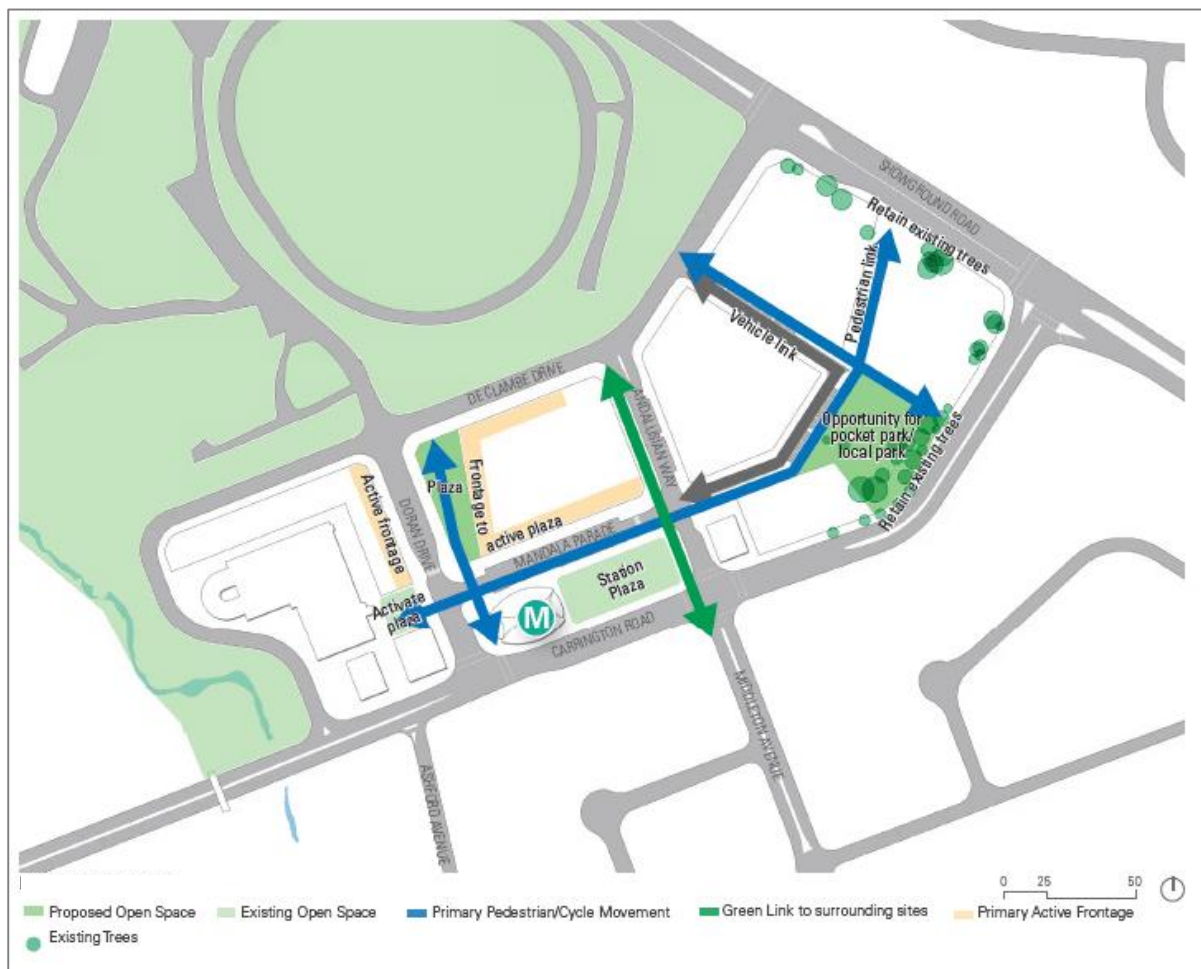
- the station entry and station plaza and its programme of primarily terraced plaza
- the commuter carpark, bicycle facilities and adjacent plaza
- station box and service facilities.

The design framework is illustrated in **Figure 45** which demonstrates the integration of the development with station facilities and the adjacent Castle Hills Showground (refer also **Figure 12**) and the surrounds has been key in developing the Concept Proposal.

The Concept Proposal design seeks to integrate with these facilities through the:

- provision of a new plaza on Doran Drive that serves as the civic heart of the precinct linking the Hills Showground Metro Station with the Castle Hill Showground
- creation of a new road, park and pedestrian links through Precinct East to link to wider network and towards Metro, connecting with Mandala Parade
- stepping down of height of buildings to the better interface of the new park, plazas and communal areas
- proposing built forms that do not significantly overshadow the existing metro station plaza and skylights
- activating street frontages along key streets to promote connectivity and activity towards the station.

Refer to Urban Design Report (**Appendix AA**) for further details.



**Figure 45 Overview of Design Framework** (Cox Architecture 2019)

## 4.7. Public domain, open space and landscaping

### Open space and Public Domain Strategy

An Open Space and Public Domain Strategy (**Figure 46**) has been prepared by Cox and Oculus to guide the future development and treatment of the open space public domain (refer Urban Design Guideline **Appendix Z**).

Two new significant public open spaces - Doran Drive Plaza and Precinct East Park along with a new street and pedestrian linkages in Precinct East. These new spaces will form part of the wider open space network including future regional recreational opportunities established through the Castle Hill Showground master plan and open space connections in the area.



**Figure 46 Open Space and Public Domain Strategy**

### Doran Drive

The Doran Drive Plaza provides a 1,400m<sup>2</sup> active plaza space as part of the community heart of the precinct, seeking to reinforce primary pedestrian connections between the Hills Showground Metro Station and Castle Hill Showground.

The plaza is intended to be a high quality, flexible urban open space that functions both as a permeable connection between the station, buses, retail and the showground, as well as providing an activated and comfortable space for people to use and inhabit day to day. The Plaza is envisaged to accommodate the following as identified in the Urban Design Guidelines:

- comfortable seating and gathering spaces and outdoor dining along the building frontage
- a water feature to 'anchor' the space and provide a focal point, however it may also be public art, sculptural pavilion or other urban element
- maintain clear and generous pedestrian access across all pedestrian desire lines between retail, transport and the Showground
- 45% tree canopy cover across the plaza at expected mature tree sizes.

## **Precinct East Park**

The 3,500m<sup>2</sup> Precinct East Park will form the village centre within Precinct East. Existing trees are intended to be retained within the open space. The park is envisaged to accommodate the following as identified in the Urban Design Guidelines:

- sheltered picnic tables and additional seating across the park.
- play space of a minimum 250m<sup>2</sup> with play elements that cater to the very young (up to 5yo) and primary school age children (5-12yo)
- an open lawn area for passive recreation
- footpath access between areas of the park, adjacent residential building entries and between the surrounding street network
- 70% tree canopy cover across the park at expected mature tree sizes.

## **Pedestrian linkage**

The designated pedestrian link has a total area of 1,500m<sup>2</sup> and seeks to provide a safe and comfortable public pedestrian connection between Showground Road and Precinct East internal street.

## **Private communal open space**

Private communal and rooftop gardens across the Site will complement the public open space network with additional amenity and recreational opportunities for the residents of the precinct.

Communal open space is to provide a range of uses including seating, picnic facilities, play spaces, productive gardens and lawn areas amongst generous planting.

Rooftop gardens across all precincts are to preference native planting for local character however this may be supplemented with exotics for colour and variation, and edible species as part of vegetable or herb gardens.

## **Landscaping**

A Planting Strategy has been prepared to ensure the local character will be clearly expressed, respond to the existing planting across open spaces and streets in the broader precinct, retain existing trees within open space and increase canopy cover and biodiversity.

As the main focus of the precinct, Doran Drive Plaza will have a combination of native and exotic species suited to its urban character, with opportunity for a grove of deciduous trees reflecting the area's history with orchards.

The Precinct East Park, is to have a predominantly native palette including large native trees for scale and shade. Native species are to be used for the Water Sensitive Urban Design (WSUD) rain garden areas and the majority of other low level and shrub planting as they are suited to the local microclimate, create habitat for birds and micro fauna and enhance the ecology of the area.

The existing streets of the precinct, including Doran Drive, De Clambe Drive, Mandala Parade and Andalusian Way have been planted with large eucalyptus species that will provide character, scale and screening to the new built form. *Corymbia maculata* street tree planting for the new local street will complement this existing palette.

Specific requirements and a species list are included in the Urban Design Guidelines (**Appendix Z**).

Discussion regarding open space provision at the site is detailed in Section 8.4.

## 4.8. Public art and heritage interpretation

A Heritage Interpretation Strategy that considers the European and Aboriginal heritage has been prepared to guide the development and implementation of interpretative elements at the Site. The strategy identifies a number of key themes for the Site that will enable important heritage values to be communicated to visitors via interpretation. The themes include:

- Aboriginal Cultural Heritage and History
- Resistance and Rebellion
- Agriculture and Orchardring
- Pride in the Hills.

A number of interpretative devices have been proposed for the Site particularly within Doran Drive Plaza, Precinct East Park and communal areas. These include:

- surface inlays into the ground and furniture
- lighting devices
- public art and murals
- branding and naming.

The Heritage Interpretation Strategy will be considered as part of detailed design of the buildings, plaza and public domain areas.

## 4.9. Water sensitive urban design and flood management

The Water Strategy for the precinct promotes the sustainable use and treatment of water within the public domain, while visually emphasising the flow of water through the Site and the relationship to Cattai Creek. Water treatment is to be integrated across Precinct East through attractive raingardens and swales. A water feature is envisaged for Doran Drive Plaza as outlined above.

The main features of the water strategy seek to protect the receiving environment Cattai Creek from adverse water quality impacts. These features are summarised below.

### Stormwater quality treatment devices

- Rainwater tanks for capture and re-use of stormwater from roof areas
- Gross pollutant traps and filtration devices at major discharge points of the development precincts and catchments.
- Linear bioretention in garden beds to provide additional treatment of runoff from the Site.

These features will complement existing features that have been recently constructed with the Metro station works in order to limit the need for re-work at the Site.

Consideration has also been given to flood issues within the riparian area at Cattai Creek and the De Clambe Drive that require the following design measures to be incorporated into the design of the future buildings at the detailed design stage.

- All floor levels are to be above the 1% AEP level + 0.5m freeboard (i.e. above 83.6 m AHD at the intersection of De Clambe Drive and Carrington Drive, and above 78.7m AHD at the detention basin)
- All garages/ carpark entrances must be protected from inundation by flood waters up to the 1% AEP + 0.5m.

Consideration of stormwater management is addressed in more detail in Section 8.6 and the Integrated Water Cycle Management Strategy prepared by WSP (**Appendix M**).

## 4.10. Connectivity and parking

### Road hierarchy

The majority of the roads within the Site already exist and were designed to support future development including the Metro, commuter car park and the development lots. These roads (De Clambe Drive, Doran Drive, Mandala Parade and Andalusian Way) all perform a local function, with Showground Road and Carrington Road providing the regional connectivity as arterial road and sub arterial road respectively.

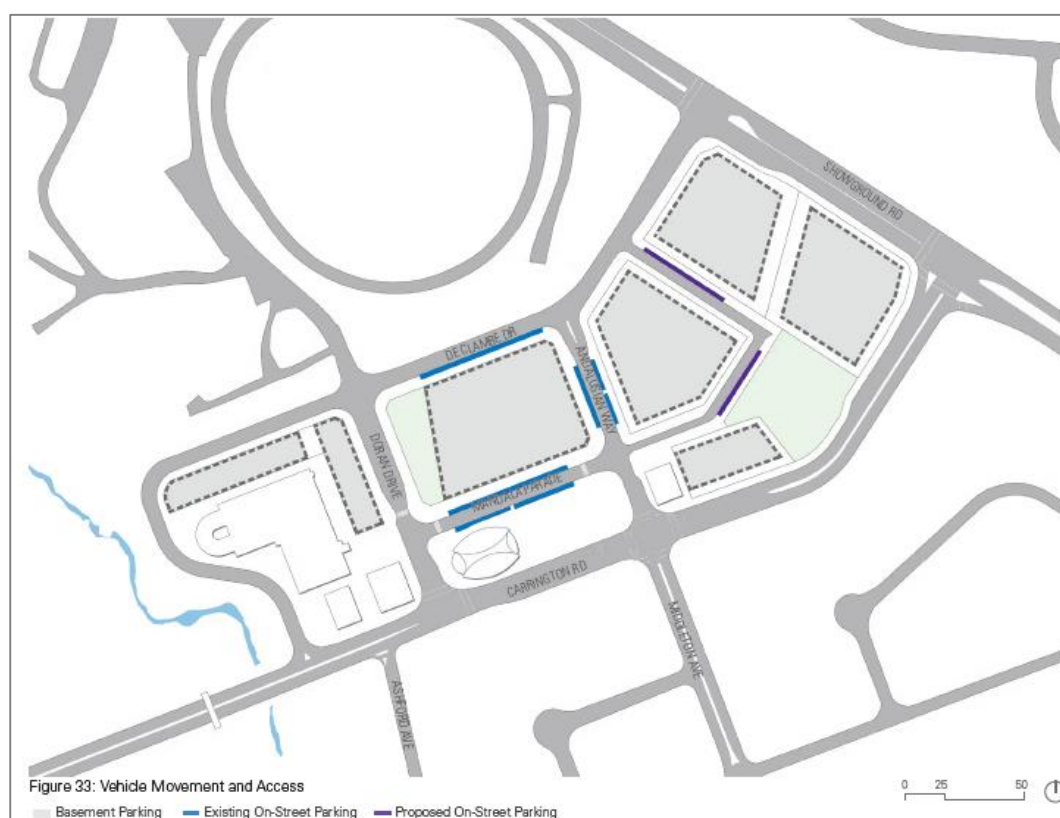
The Concept Proposal seeks to provide a new local road within the Hills Showground Precinct East to deliver a, permeable Site that will provide improved access to the proposed residential buildings and the local park within the Precinct. The location and arrangement of this road has been determined in consultation with RMS and Council.

The new street is proposed to be two-way up to the final residential basements and then one way from the park to Andalusian Way/Manadal Parade. This is to provide a calmer interface with the local park and reduce the amount of traffic using Andalusian Way to access Precinct East, given its role to provide broader connectivity to Middleton Avenue via signalised intersection on Carrington Road.

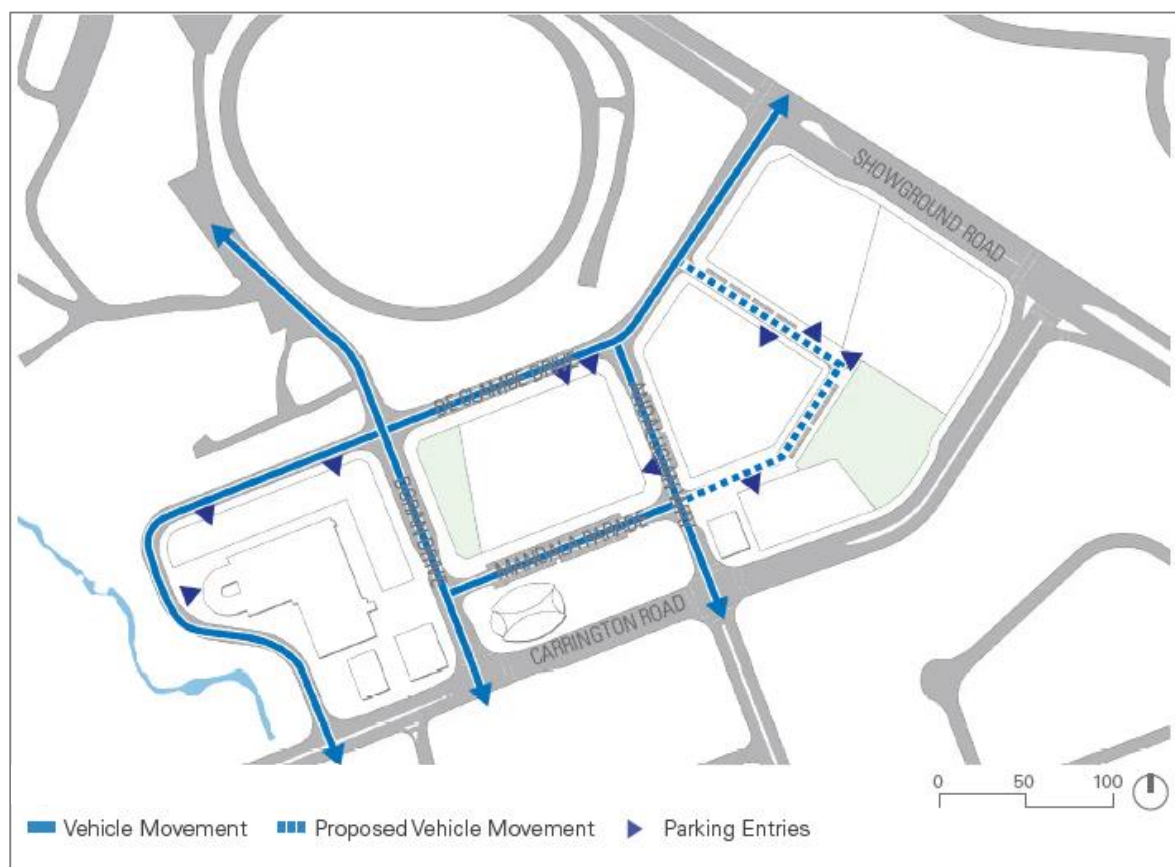
In addition to the existing on-street parking within the broader Site, that new on-street parking will be considered for the new street within Precinct East to provide access to:

- the new local park by car
- the residential buildings for visitors (in addition to the visitor parking provided by each development).

Basement parking is to be provided for each of the buildings proposed. The Concept Proposal and Urban Design Guidelines propose that parking and service vehicle access to the sites and future buildings are located away from the major pedestrian movement corridors, activity nodes and active frontages within the precincts. Vehicle movement (existing and proposed) and parking entries proposed are illustrated in **Figure 47** and **Figure 48**.



**Figure 47** Parking configuration



**Figure 48 Vehicle movement and access**

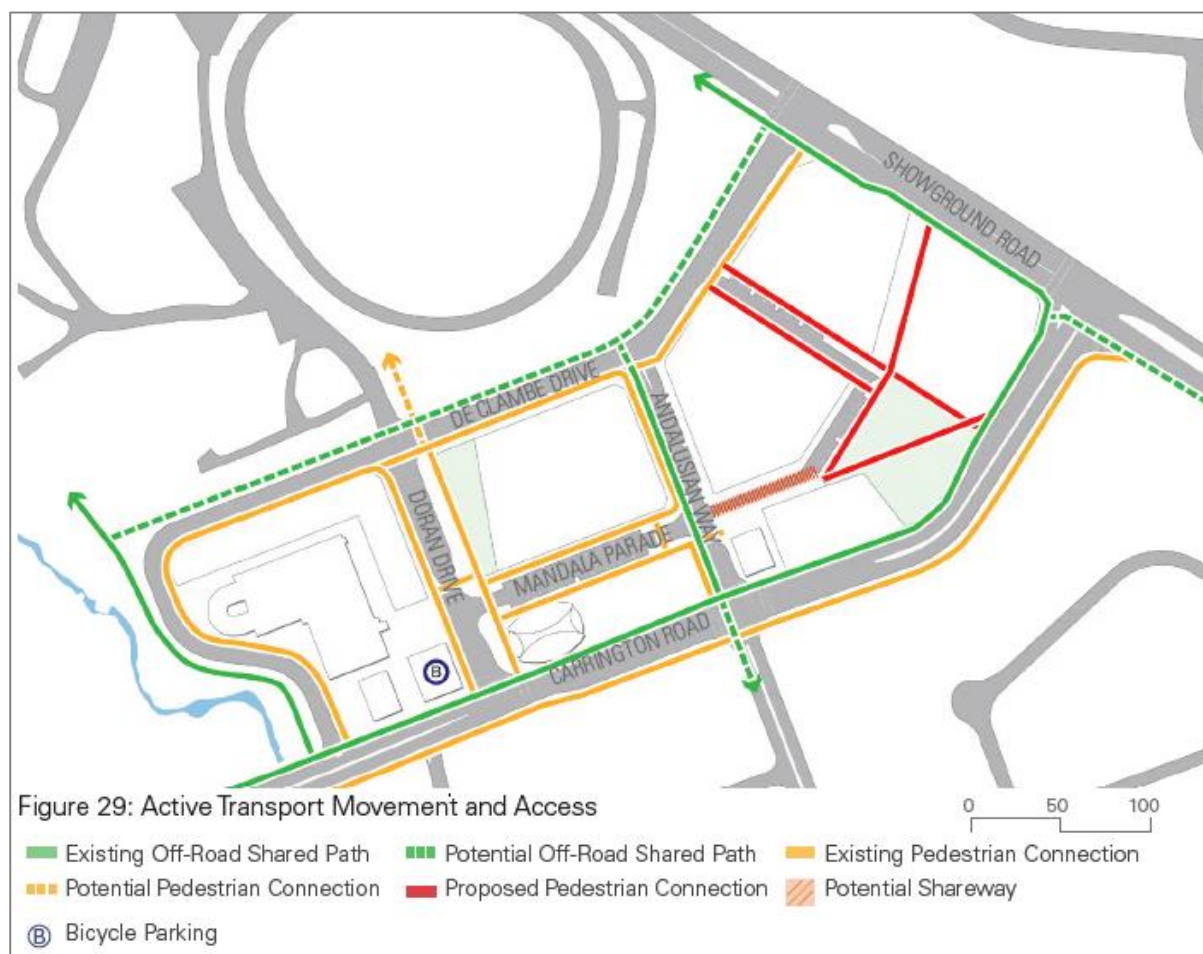
### Active transport movement

Pedestrian and cycle movement will be supported by a comprehensive pedestrian and bicycle network which includes a mixture of dedicated off-road routes, pedestrian and bicycle priority shareways.

The primary pedestrian movement is completed across the Site through the provision of a new local road with footpaths in Precinct East and a mid-block connection through to Showground Road.

The primary bicycle network draws from the existing and future bicycle paths on Carrington Road and Cattai Creek linking to the bicycle parking at the station on Doran Drive. A potential off-road dedicated path may be located in the Showground on the northern side of De Clambe Drive.

A potential shareway may be located on the local road between the Precinct East Park and Andalusian Way.



**Figure 49 Active Transport Movement and Access (Urban Design Report)**

## Parking provision

The Traffic and Transport Impact Assessment prepared by SCT Consulting (**Appendix X**) provides an assessment of appropriate parking provision of the Site, having particular regard to adherence to TOD principles.

The Concept Proposal provides for a total maximum of 2,273 car parking spaces based on the parking rates set out in Table 14. The number of car parking spaces provided is targeted to be lower than those suggested by the relevant guidelines, in order to reduce reliance of future residents and employees on vehicular traffic and take full advantage of a transit-oriented development.

An assessment of traffic impacts is provided in Section 8.9.

**Table 14 Vehicle parking rates**

Land uses	Minimum vehicle parking rates	Maximum vehicle parking rates
Retail	1 space per 130m <sup>2</sup> of GFA	1 per 60m <sup>2</sup> of GFA
Commercial	1 space per 145m <sup>2</sup> of GFA	1 space per 100m <sup>2</sup> of GFA
Residential		
1 bedroom	0.6 spaces	1 space
2 bedrooms	0.9 spaces	1 space
3 bedrooms	1.4 spaces	1.5 spaces
Visitor	0.1 space per dwelling	

**Table 15 Bicycle parking rates**

Land uses	Minimum rates
Retail	1 space per 450m <sup>2</sup> of GFA for staff.
Commercial	1 space per 600m <sup>2</sup> GFA for staff.
Residential	1 resident space per 3 apartments. 1 visitor space per 12 apartments.

One of the key principles of the development is to encourage greater use of bicycles by residents and visitors. Accordingly, it is proposed to provide bicycle parking rates as set out in Table 15. This would equate to a total of approximately 799 bicycle parking spaces being required. Bicycle parking would be provided in safe and accessible locations within the buildings and / or appropriate public domain locations that would encourage higher use of active transport. End of trip facilities will also be provided as part of the new buildings.

## 4.11. Accessibility

Accessibility considerations have been taken into account in the Concept Proposal and Urban Design and Landscape Report and Guidelines. All existing roads/footpaths and access to the metro station have been constructed to meet accessibility provisions of the Building Code of Australia 2016 (BCA) and Australian Standards. In relation to the public domain, it is proposed that the development be designed to incorporate access principles, including the following:

- liveable and active public domain spaces that integrate with the Metro station and are accessible for people of all needs
- a strong, legible framework for pedestrians and cyclists, considering desire lines
- the aims of the *Disability Discrimination Act 1992*.

As part of future detailed DAs developers will be required to demonstrate that public domain areas and buildings meet the accessibility requirements.

## 4.12. Ecologically Sustainable Development

An Ecologically Sustainable Development (ESD) Report has been prepared by WSP (**Appendix J**) to set out an ESD framework to guide the future detailed applications and identifies minimum ESD requirements for future development lot precincts.

The ESD framework has been developed to include best practice principles outlined in the Green Building Code of Australia (GBCA) Green Star Communities National Framework and Landcom's Sustainable Places Strategy. Both frameworks have been adopted to evaluate a broad array of ESD factors and to demonstrate the ESD principles found in clause 7(4), Schedule 2 of the EP&A Regulation and Part 3 of the Protection of the Environment and Operations Act (POEO Act) have been met.

The ESD report outlines minimum sustainability requirements as well as further initiatives that could be investigated to guide future developers, inform tenderers and further enhance ESD outcomes. Further initiatives have not been mandated to allow for further evaluation of practical solutions and flexibility in design development.

The ESD approach is strongly focussed on minimising energy and water consumption during operation of the Site. Reducing waste generation (and increased treatment), resilience to climate change projections, reduction of occupant's dependence on private transport and increase the amount of tree plantings and other types of green areas implemented into the design are also central to the sustainability strategy.

More detail on ESD initiatives will be provided as part of the future DAs as further detailed design, construction and operational project phases are carried out. The recommendations and targets specified in the ESD report will inform developer's requirements. Across the board, key targets in governance, environment, social and economics will be met to ensure that the future urban renewal of the Hills Showground Station Precinct creates a sustainable, healthy and liveable community.

## 4.13. Utility infrastructure and services

Section 2.8 of this report detailed the existing utility services available in the area. Development lots will be required to be serviced. A Utilities Servicing Impact Assessment has been prepared by WSP and is provided at **Appendix Y**. The report:

- summarises the existing services infrastructure and its capacity within the Site and surrounding area
- identifies scope of potential augmentation of existing services infrastructure required to support the proposed development
- considers potential external utility connections and requirements based on advice from the relevant authorities
- summarises next steps including site investigations to confirm the assumptions included in this report.

The report provides options for connecting to utility services prepared in liaison with relevant authorities. Further detailed design will be required to confirm the final layouts of each utility service including lead-in requirements.

This report demonstrates that public infrastructure (including the supply of potable water, wastewater, electricity, gas and telecommunications) has been considered within the proposal and will be made available to adequately service the future development lots.

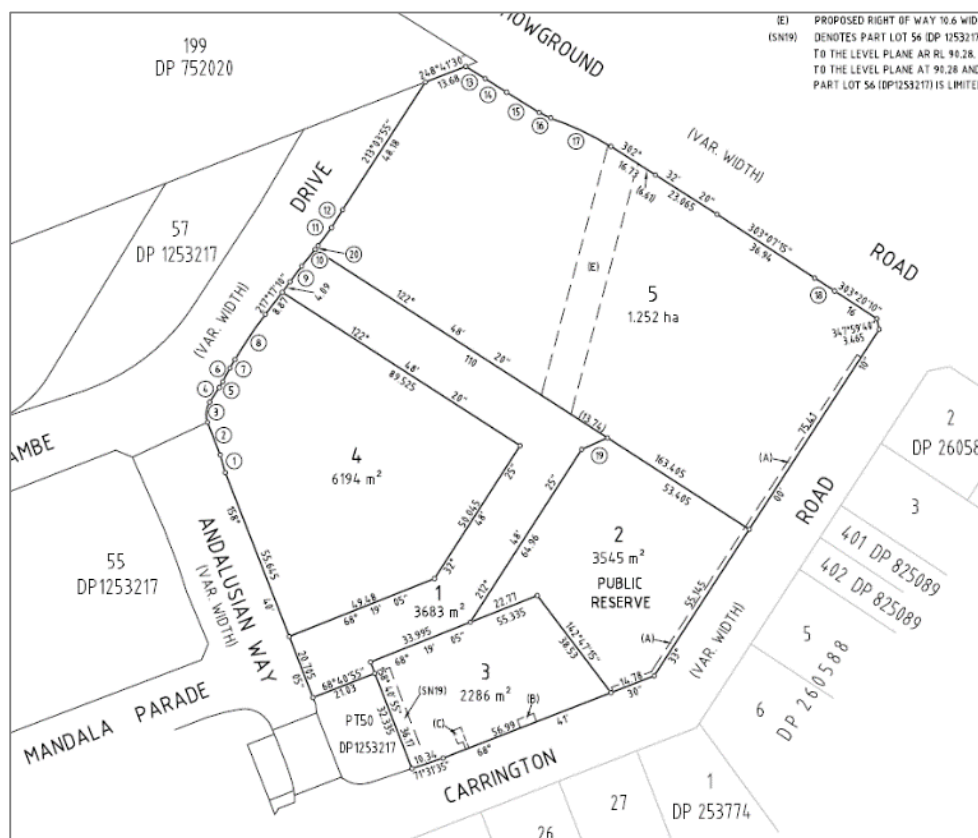
#### 4.14. Precinct East Concept Subdivision and Civil design

The proposal seeks the Concept Subdivision of Hills Showground Precinct East (Lot 56 DP 1253217 and part of Lot 50). Part Lot 50 facilitates the expansion of the rail corridor at the point where it exits the station. The lot is sub-terranean and limited in height and depth and as such has limited bearing on the ground level considerations in terms of developable area and lot sizes.

The Plan of subdivision will create five development lots including a new road to provide access through the Site and Precinct East Park. A description of the lots to be created and easements is identified in **Table 16** and **Figure 50**.

**Table 16 Subdivision of Lot 50 and 56 DP 1253217**

Lot	Description of use	Area (m <sup>2</sup> )	Proposed or existing covenants or easements
1	Local road connecting Andalusian Way to De Clambe Drive	3,683	N/A
2	Precinct East Park (Public Park)	3,545	Existing easement for underground cables
3	Development lot accommodating a building up to 12 storeys	2,286	Existing easement for a padmount substation and existing electricity easement for electricity services Existing substratums associated with the Sydney Metro tunnel protection reserves.
4	Development lot accommodating a building up to 12 storeys	6,194	N/A
5	Development lot accommodating a building up to 12 storeys	12,520	Proposed right of way 10.6m wide to accommodate the pedestrian link Existing easement for underground cables



**Figure 50 Proposed Subdivision (Draft) Plan (Terry Edward Bartlett 2019)**

A Civil Engineering Due Diligence Report has been prepared by WSP for Precinct East and is provided in **Appendix F**.

The Civil Engineering Due Diligence Report provides advice on the infrastructure and works required to service and facilitate access to the new lots. This includes:

- design of the new local road in Precinct East
- changes to the intersection arrangements on De Clambe Drive and construction of a new intersection at Andalusian Way
- pavement design
- stormwater network
- earthworks (cut and fill required)
- utility servicing.

These have been prepared with consideration of the requirements set out in THDCP and Council's 'Design Guidelines Subdivisions/Developments'.

This advice will inform the detailed design work for Hills Showground Precinct East to be addressed as part of future DAs and may need to be supplemented by further survey, Traffic Engineering Assessment of the proposed intersections; and a Geotechnical Investigations.

## 4.15. Design Guidelines

This concept SSDA has been prepared to guide the design of future buildings, landscaping and civil infrastructure across the Site. This will be further assisted via the implementation of the Urban Design Guidelines (**Appendix AA**) in conjunction with the Design Excellence Strategy (**Appendix I**).

The Guidelines provide a reference document for the assessment of future detailed design outcomes, and include parameters for built form, public domain and place, movement and connectivity and legacy outcomes of the development. They have been established to ensure that high quality building and landscape domain outcomes are delivered through the transformation of the site, across all uses and densities.

The Urban Design Guidelines are generally aligned with:

- controls within the THLEP and THDCP
- Showground Station Precinct Planning Report and Finalisation Report
- SEPP 65 and Apartment Design Guidelines
- GANSW's Better Placed and Greener Places
- SEARs that are relevant to built form and landscape controls.

The Guidelines cover the following elements:

- Public Open Spaces Guidelines
- Public Open Spaces Materials and Elements
- Communal Open Space Guidelines
- Public Art and Interpretation
- Built Form Guidelines
- Built Form Finishes and Materials
- Streetscapes
- Solar Access
- Water Sensitive Urban Design Guidelines
- Vehicular Access and Parking

## 4.16. Design Excellence Strategy

Design excellence is a key component of Landcom's commitment to create communities that demonstrate best practice sustainable urban development.

A Design Excellence Strategy has been prepared to outline the framework and process such that design excellence can be achieved as the project progresses through its various phases. This includes detailed roles and responsibilities of those assessing how design excellence will be achieved.

The strategy also details Design Excellence Approach undertaken for this project to demonstrate how design excellence has been achieved. This includes details of consultation with key stakeholders including: Landcom, Sydney Metro, GANSW, Council and DPIE.

The strategy covers the major phases of the project being:

- Tender and Divestment Process
- Detailed Design DAs.

The Design Guidelines provide a robust framework to ensure that design excellence is delivered in future development in accordance with the requirements of Clause 9.5 of THLEP 2012. These have included:

- ensuring it adheres to design best practice, as reflected in the GA NSW's Better Placed: An Integrated Design Policy for Built Environment of NSW (Better Placed) (September 2017) suite of documents
- providing a detailed contextual analysis to obtain a sound understanding of the existing qualities of the Site, the sensitivities of the receiving context and an appreciation of how future proposals will contribute to the existing "sense of place" and desired future character
- ensuring the Design Guidelines were subject to peer review and option testing
- internal design reviews (i.e. Landcom's Design Advisory Panel and client team)
- collaborative workshops with the consultant project team
- engagement with key stakeholders, including Council, GA NSW, TfNSW, Sydney Metro and broader community.

Through consideration of the Design Guidelines and Design Excellence Strategy, future development within the Hills Showground Station Precinct subject to this concept SSDA will deliver design excellence in accordance with clause 9.5 of THLEP 2012.

## 4.17. Development staging and approval pathways

The Metro station, surrounding works and construction of roads have been completed. The roads and drainage reserve (include Cattai Creek Corridor) were dedicated to Council upon the registration of the lots on the 29 August 2019. Refer Section 1.3.3.

### Future proposed stages

Doran Drive Precinct will be the first precinct to be developed as it has been the subject of a Tender Evaluation Process and construction is aimed to commence in early 2021.

Precinct West is the next development lot anticipated to be delivered by mid-2024 followed by Precinct East post 2026. The anticipated staging for the development lots is summarised as in **Table 17**.

**Table 17** Staging of development

Land uses	Doran Drive Precinct	Precinct West	Precinct East
Construction commencement	Early 2021	Mid 2024	Construction of new road and Precinct East Park 2021/22 2026 to 2029
Occupation	Mid 2023	Mid 2026	2028 to 2031

### Alternative design and staging options

Alternative design and staging options have not been considered for the redevelopment of the site. The Doran Drive Precinct is under a tender and an Expression of Interest (EOI) have not been issued for the other development lots.

It is noted that Interim Activation Strategy for the Site with respect to the Metro Station and the Precinct is being undertaken by way of a separate DA that has been lodged with Council as detailed in Section 1.3.5.

### Planning pathways

Landcom will appoint development partner/s to lodge detailed DA/s with the consent authority for the detailed design of individual buildings, compliant with the SSDA. The consent authority places the DAs on public exhibition, reviews feedback and makes a determination. Subject to approval of the DA, construction will commence.

DAs for future stages of the development will be determined by the Minister as SSD unless it is determined that a subsequent stage of the development is to be determined by The Hills Council as consent authority pursuant to s.4.37 of the EP&A Act.

If Council is nominated as the consent authority for future DAs, it is understood that Council will be responsible for assessing the DAs however the determination of the DAs will depend on whether the development is classified as local or regional development and in the case of local development whether the Local Planning Panel has been nominated as the determining authority.

## 5. Stakeholder and community engagement

Landcom and Sydney Metro have undertaken engagement with a range of stakeholders, to discuss planning controls for the site and to inform the current concept proposal. Landcom is committed to continued meaningful engagement with stakeholders who have an interest in the development. To inform the SSDA, Landcom has sought to ensure the interests of stakeholders are identified and addressed through a range of consultation activities. This Section describes the consultation undertaken to date, and that proposed during the detailed design and delivery of the project.

### 5.1. Consultation objectives and overview

The objectives of the pre-lodgement consultation process for Hills Showground Station Precinct were to provide:

- consistent messaging about the SSDA to all stakeholders
- stakeholders with detailed information about the SSDA and its impact on the local community, services and infrastructure
- local community members, businesses and other key stakeholders with an opportunity to provide feedback on the proposal to inform the SSDA
- the opportunity for stakeholder views to be identified, understood and considered during the preparation of the SSDA.

Consultation to date has been undertaken to satisfy the objectives outlined above, as well as to satisfy the SEARs for the Concept proposal. Consultation activities were designed to build upon previous engagement undertaken by both TfNSW and the DPIE, and planned to suit the scale of the project.

Activities included a series of stakeholder meetings (outlined in Table 18) and a community information session for all interested residents, landowners and local stakeholders within an approximate radius of 800m from the Site (see Appendix V). Communications to support consultation activities included the delivery of letters and flyers to local residents, as well as the ongoing operation of the community information line and project email. In addition, the Landcom website continues to be updated with relevant project information to ensure that a wide audience has access to information about the project.

A detailed discussion of the pre-lodgement consultation process is provided in the Stakeholder Engagement Outcomes Summary Report provided at **Appendix V**.

### 5.2. Stakeholder consultation

Landcom has consulted with key stakeholders during the development of the concept proposal, through a number of meetings and other correspondence. A summary of the feedback is detailed in Table 18.

**Table 18 Stakeholder meetings and correspondence**

Consultation dates	Stakeholder	Comments raised
17 May 2019 5 September 2019 2 October 2019	<b>Department of Planning, Industry and Environment</b>	SEARs amendment Program and planning coordination Planning process / pathway Overview of proposal Lodgement of EIS
3 July 2019 4 September 2019	<b>Landcom Design Advisory Panel</b>	Car parking adaptability Retail viability Quality and delivery of public domain Density and bulk Compliance with SEPP65 and ADG
3 September 2019 11 September 2019 (SDRP)	<b>Government Architect NSW</b>	Overview of proposal Recommendations to improve design and amenity relating to: <ul style="list-style-type: none"> <li>• place and context</li> <li>• pedestrian movements and amenity</li> <li>• building envelopes and massing</li> <li>• streets, interfaces, access, connections</li> <li>• sustainability</li> <li>• open space and green infrastructure <ul style="list-style-type: none"> <li>• heritage consideration</li> </ul> </li> </ul>
28 August 2018 4 June 2019 22 July 2019 3 September 2019 13 September 2019 14 September 2019 16 September 2019 10 October 2019	<b>The Hills Shire Council</b>	Overview of proposal and design updates SEARs submission – urban design, heritage, waste management, noise and vibration Integration with Castle Hill Showground masterplan Cohesive planning approach with wider precinct Appropriate parking provision Viability of the retail component and associated traffic issues Apartment mix, diversity and affordability Visual impact assessment Bulk, height and density Traffic and transport Retail floor space Solar access

Consultation dates	Stakeholder	Comments raised
16 September 2019 18 September 2019	<b>Roads and Maritime Services</b>	Overview of proposal SEARs submission Impacts on surrounding road network Traffic study assumptions and considerations
9 October 2019	<b>Transport for NSW</b>	Sydney Metro Rail Corridor Protection Proposed development over the tunnel
16 September 2019	<b>Environment Protection Authority NSW</b>	No response on overview of proposal
6 August 2019	<b>Department of Education</b>	Future requirements for school to service Hills Showground Precinct
23 September 2019	<b>NSW Police</b>	No response on overview of proposal
23 September 2019	<b>NSW Rural Fire Service</b>	No response on overview of proposal
23 September 2019	<b>Fire and Rescue NSW (FRNSW)</b>	No comment or recommendation FRNSW indicated it would comment further if required once more detailed design has been provided by future developer.
16 September 2019 25 September 2019	<b>Office of Water (Department of Industry)</b>	Overview of proposal SEARs submission Recommended incorporation of water sensitive urban design elements to mitigate impacts to the downstream catchment No comments from Crown Lands
16 September 2019	<b>Office of Environment and Heritage</b>	Overview of proposal SEARs submission Aboriginal cultural heritage Ecologically sustainable development Water and soils Flooding Biodiversity
17 September 2019	<b>WaterNSW</b>	Overview of proposal Site is not located in close proximity to WaterNSW land, assets or infrastructure

Consultation dates	Stakeholder	Comments raised
11 June 2019	<b>Endeavour Energy</b>	Submission of formal technical review request
4 July 2019 18 September 2019	<b>Sydney Water</b>	Water and sewer infrastructure requirements for development
20 June 2019	<b>Jemena</b>	Infrastructure capacity, supply constraints and servicing requirements for development
June 2019	<b>Telstra</b>	Infrastructure capacity, supply constraints and servicing requirements for development
18 July 2019	<b>NBN Co.</b>	No assets around Castle Hill Showground
20 June 2019	<b>Optus</b>	Infrastructure capacity, supply constraints and servicing requirements for development
17 September 2019	<b>Transgrid</b>	Site not affected by Transgrid Asset or Easement Corridor
24 June 2019	<b>NextGen</b>	Infrastructure capacity, supply constraints and servicing requirements for development
12 September 2019 11 October 2019	<b>The Hon. Ray Williams MP</b>	Lodgement of SEARs request Update on proposed SSDA to be lodged
16 September 2019	<b>Special interest groups</b> Nearby local businesses	Notification of community information session
7 June 2018 16 September 2019	<b>Special interest groups</b> Castle Hill Showground tenants	Project update Notification of community information session
28 September 2019	<b>Community</b> 60 local residents and landowners <i>Refer to Section 4.4 of Stakeholder Outcomes Report and Table below.</i>	Overview of proposal Opportunity to provide feedback

### 5.3. Community consultation

Landcom hosted a community information session on Saturday 28 September 2019. Local residents were invited to drop-in at any stage between 10.30am- 12.30pm at the former Council Administration building at the Site (details in **Appendix V**).

This information session was advertised to the local community and key stakeholders via newspaper advertisements, flyer letterbox drop to 2,850 properties within an 800m radius, social media adverts Landcom e-news and direct email invitations.

For the duration of the session, representatives of Landcom and Sydney Metro were available to answer questions and explain key aspects of the proposal. A total of 60 people attended the session, providing feedback directly to the project team or via feedback forms.

The feedback forms gave participants the opportunity to identify issues for consideration throughout the planning process.

Communication channels were made available to complement face-to-face consultation activities with the community and key stakeholders. Information about the SMNW Places Program and the Hills Showground Station Precinct Concept Proposal was available through:

- Landcom's Facebook page, Twitter feed and website
- operation of a toll-free 1800 community information line and project email
- SMNW Places program and specific factsheets.

### 5.4. Consultation feedback

Feedback received during consultation activities with the local community identified the following key issues of community interest:

- |  |                       |
|--|-----------------------|
| • housing density and visual amenity   | • retail offering     |
| • provision of community facilities    | • precinct activation |
| • open spaces and green infrastructure | • heritage            |
| • commuter parking and bus services    | • safety.             |

The feedback received during consultation has been considered in the preparation of the Hills Showground Station Precinct concept proposal. Table 19 provides a summary of feedback received and the corresponding project response. Responses are grouped into categories where more than one stakeholder had similar feedback.

**Table 19 Community and Stakeholder Feedback**

Key issues	Project response	Relevant reports
<b>Green infrastructure, public domain, landscaping and open space, sustainability</b>		
The treatment of the public domain and its interface with the built form should demonstrate the principles of transport oriented design.	<p>Our concept for the public domain is to provide definition to the public areas through active and landscaped edges and buildings which provide shape to public spaces. This is achieved through appropriate building setbacks to podium and towers levels, which assists with the softening of the built form.</p> <p>The Doran Drive Plaza has been designed to focus on the desire lines for primary pedestrian connections between the Hills Showground Station and Castle Hill Showground. Multiple gathering spaces for dining and seating with wide pathways and high tree canopy coverages will help soften the interface between the public domain and surrounding built forms.</p> <p>The Concept Proposal responds to the opportunity to create a transit oriented centre by reducing the amount of car parking; reflecting the higher level of public transport services.</p>	<p>Urban Design Report</p> <p>Traffic and Transport Report</p>
The design of the public domain will need to support the ongoing operation of the Castle Hill Showground, including during large events.	<p>We have met with The Hills Shire Council who are preparing the Castle Hill Showground Master Plan to support joint planning. This has included meetings with Council designers to agree key collective urban design principles. An integrated approach is shown in the EIS and Urban Design Report which outlines a shared view of access to open public spaces and complementary retail offerings between the two sites.</p> <p>The primary consideration for the public domain, in particular the Doran Drive Plaza, is the activation and functioning of the precinct throughout the year, even when a significant event is not occurring.</p>	<p>Urban Design Report</p>

Key issues	Project response	Relevant reports
Identify the heart of the precinct, concentrating retail uses in this area and away from the busy street frontages. at the periphery of the precinct.	<p>The Doran Drive Plaza area has been identified in the Concept Proposal as the geographic, economic and social heart of the precinct. The plaza is centred within the broader station catchment to enable passive activation of the space with people walking to and from the station, the Castle Hill Showground and out through the wider precinct.</p> <p>The retail and commercial area is focused in this area, in particular along both sides of Doran Drive as the main 'high street' of the development. The Doran Drive Plaza will be delivered by the future developer.</p>	Urban Design Report and Urban Design Drawing Set
Detail will be required on the provision of communal open space for residents in the Doran Drove Precinct.	Communal open space is addressed in the Proof of Concept scheme as part of the Urban Design Report.	Urban Design Report
Detail on the proposed dimensions and embellishment of the proposed plaza and consider how the plaza extends to the north.	The Doran Drive Plaza is proposed to be around 1,400m <sup>2</sup> . The southern interface of the Doran Drive Plaza is towards the metro station and the northern interface is designed in collaboration with The Hills Shire Council to provide a seamless, walkable connection to the Castle Hill Showground.	Urban Design Report

Key issues	Project response	Relevant reports
Consider provision of adequate public open space to meet community needs.	<p>The open space within the Concept Proposal was developed over time and following feedback from a number of stakeholders, including the community.</p> <p>As a result, additional open space in the form of a larger community park (Precinct Park East) is provided. The concept now demonstrates 14% of the entire development site designated as publicly accessible open space. The configuration and location of open space will permit a complementary network of functions, programmed uses and users.</p> <p>The Concept Proposal provides for new residents to be within 100 metres from open space within the site and adjoining open spaces. The Hills Showground Precinct East site provides for a 3,500m<sup>2</sup> pocket park with frontages to Carrington Road. There is also an area of 1,500m<sup>2</sup> allocated to pedestrian links.</p> <p>The precinct is well located immediately adjacent to large green public open spaces in the Castle Hill Showground and Fred Caterson Reserve.</p>	Urban Design Report
An ambitious sustainability strategy, exceeding baseline standards, is recommended. Sustainability mechanisms should be reinforced to set a benchmark for other station precincts	A strategy has been prepared that encompasses Landcom's sustainability targets, which exceed baseline standards. As part of the site/s sales process, sustainability targets will form part of the competitive selection requirements.	<p>Ecologically Sustainable Development Report</p> <p>Design Excellence Strategy</p>
Ensure generous landscape provision in the public domain (eg verges to maximise tree canopy).	Landscaping has been factored into the setback and landscape approaches for the Concept Proposal. Existing trees and proposed planting of new trees will provide a green and family friendly setting. Generous landscape provisions have been retained in public open spaces, tree reserves and widened street setbacks for added pedestrian amenity.	Urban Design Report

Key issues	Project response	Relevant reports
Provide information on planned tree canopy coverage for the precinct, both public and private open space.	<p>The maturity, species and combined canopy cover of retained trees has been considered through the preparation of the Urban Design Guidelines and concept masterplan.</p> <p>A key intention of the Concept Proposal has been to retain many existing mature trees to ensure instant canopy coverage, maintenance of existing landscape character, and a sustainable approach.</p> <p>Consideration of native and drought tolerant planting has been made within the proposed species palette.</p>	<p>Urban Design Report</p> <p>Ecologically Sustainable Development Report</p>
Investigate opportunities for a physical and visual connection from the heart of the precinct to the creek, and a creek crossing to connect with employment lands beyond.	De Clambe Drive provides a vista and pedestrian access through to the creek area and Castle Hill Showground, which is one side of the heart of the precinct. Council has indicated a creek crossing to connect to the west would be provided as part of the master planning for the creek corridor.	Urban Design Report
The development incorporates green walls, green roof and/or cool roof into the design.	<p>'Indoor Environmental Quality' is a key sustainability consideration. The Concept Proposal includes initiatives that enhance thermal comfort and reduce occupant stress. Roof gardens and vertical walls are planned and the future developers will be expected to follow Landcom's sustainability targets. Requirements will be outlined during the competitive selection process.</p>	<p>Ecologically Sustainable Development Report</p> <p>Design Excellence Strategy</p>
Loss of bushland setting and impact on Castle Hill Showground environment.	The site was previously a cleared and developed site used by The Hills Shire Council. There is no significant impact on bushland. Development will not result in the direct or indirect impact on any remnant native vegetation. No threatened flora species, ecological communities or their habitat, have been determined to be affected by the project. The Castle Hill Showground site has been a key consideration in the design of the Concept Proposal.	<p>Urban Design Report</p> <p>Biodiversity Development Report</p> <p>Heritage Impact Assessment</p>
Maximise use of solar power (on rooftops).	The ecologically sustainable development framework for the Concept Proposal meets relevant planning and policy requirements. This is largely achieved through implementing Landcom's sustainability initiatives as part of the detailed design by future developers and competitive selection requirements.	Ecologically Sustainable Development Report

Key issues	Project response	Relevant reports
Consider water management and soil contamination.	The development footprint drains into the Carrington Road drainage system which drains to the west into Cattai Creek (WSP, 2019). An Integrated Water Cycle Management Strategy for the development site has been undertaken by WSP (2019). This report established the current water quality environment of the development site and identified measures to protect the receiving environment from adverse water quality impacts. Stormwater treatment to mitigate any potential indirect impacts include the installation of rainwater tanks, installation of gross pollutant traps and filtration devices at major discharge points and linear bioretention garden beds. The development has been designed to maintain existing compensatory flood storage levels.	Biodiversity Development Assessment Report
Consider flood mitigation if required.	The Showground Precinct is located outside of the 1% Annual Exceedance Probability (AEP) flood extent so no changes to the flooding regime in Cattai Creek are observed as a result of the project works. This included no change to flooding regime during assessment of the 1% AEP event incorporating climate change.	Integrated Watercycle Management Strategy
Good retail area with restaurants and more public parking.	The retail centre within Doran Drive precinct provides for activation day and night and numerous food and beverage offerings. This will be bolstered by and complement the regional recreation and cultural attractions within the Castle Hill Showground. Public parking is provided to support the retail centre.	Urban Design Report

Key issues	Project response	Relevant reports
Create an attractive area to live with a sense of community.	<p>Design mechanisms provide the framework for the development of an attractive and well-considered area. The mix of retail and commercial spaces that service the community along with the open spaces and potential events – both large and small – that can occur within the spaces and in the adjoining Castle Hill Showground will promote a true community feel.</p> <p>The open space network has been considered as a holistic network around the station and the Castle Hill Showground to ensure that new development complements this local attraction. Private communal open space will complement the public open space in terms of activities and facilities provided and will help to create a sense of community.</p>	Urban Design Report
Responsibility for the delivery, future delivery/quality of the public domain needs to be clarified.	Landcom will deliver the new street and public park in the Station East Precinct. The future developer of the Station East Precinct will deliver the pedestrian link which connects from the new street in the East Precinct to Showground Road. The future developer of the Doran Drive Precinct will deliver Doran Drive Plaza.	EIS
Maximise harvesting and reuse of rainwater.	Implementing stormwater measures will ensure water quality will meet Council water quality pollutant reduction targets for new developments and the stormwater harvesting within the precinct has potential to yield up to four million litres a year.	Integrated Water Management Strategy
Review opportunities to utilise the drainage detention system to add to the public domain.	The existing detention basin is controlled and owned by Council, however it is acknowledge that this would make a positive contribution to the proposal and could form part of the brief for Council's masterplan for the Cattai Creek area.	Integrated Water Management Strategy
<b>Place and Context</b>		
Consider community and Council's expectation that the scheme responds to 'Garden Shire' ideals for the area.	The concept has considered the Council vision to respond to the 'Garden Shire' community culture. This is highlighted in the Urban Design Guideline Report and Urban Design Report.	Urban Design Report

Key issues	Project response	Relevant reports
The Hills Showground Station should be considered as a destination in itself, not just a gateway in and out of the precinct.	The metro station has been considered as a destination and as such, vehicle and pedestrian links have been considered in detail to ensure ease of access through the precinct to the metro.	Urban Design Report
<b>Urban design and built form</b>		
Demonstrate that the Concept Proposal is achieving design excellence and develop a design excellence strategy as part of the Concept Proposal to guide future stages.	<p>The Design Excellence Report demonstrates how design excellence has been achieved in the Concept Proposal, in consultation with the Landcom Design Directorate and the GANSW State Design Review Panel (SDRP).</p> <p>The Design Excellence Report also outlines a design excellence strategy for future stages of the development, which is being further refined in collaboration with the GANSW.</p> <p>Successful private developers will need to demonstrate a commitment to design excellence and through a Design Review Panel (which includes a GANSW technical advisor) oversight of detailed design. The developer will also obtain landholder consent from Landcom and Sydney Metro who will have oversight of the detailed design stage.</p>	Design Excellence Report
Demonstrate how the proposal addresses the urban design elements and objectives contained within "Creating Places for People: an Urban Design Protocol for Australian Cities and the draft "Urban Design Guide" by the Government Architect New South Wales.	The Urban Design Report outlines how the concept masterplan was informed by these guides.	Urban Design Report
Consider the provision of active uses fronting the Castle Hill Showground.	<p>The Doran Drive Precinct will have active retail frontages on De Clambe Drive, specifically opposite the food and beverage area planned for the Castle Hill Showground site to form a strong food and beverage area.</p> <p>An active frontage is also proposed to the eastern frontage of the West Precinct via commercial premises, likely to be a SoHo (Small office, Home office) type product for added diversity to the housing and commercial typologies. The residential buildings within the eastern precinct will have active frontages via wide shared paths supported by generous WSUD areas.</p>	Urban Design Report

Key issues	Project response	Relevant reports
Consider the interface between Hills Showground Precinct West and the commuter car park.	<p>The Hills Showground Station Precinct West is a unique offering and constrained site. A SoHo residential and commercial offering has been proposed to best utilise the site.</p> <p>The site is Apartment Design Guide (ADG) compliant and will mitigate any pollutions (noise and environment) through design. This site has the opportunity to capture views to the riparian corridor to the north-west and will provide a unique offering to the affordable housing market.</p>	Urban Design Report
No overshadowing should occur between the hours of 11am-2pm on 21 June by the future built form.	<p>The proposed orientation of buildings, and building heights, shape and form are designed to allow solar access to key open spaces and minimise overshadowing.</p> <p>The Concept Proposal achieves a minimum of 65% solar access for two hours of sunlight on the winter solstice to the Precinct East Park and existing Station Plaza and 100% to Doran Drive Plaza.</p>	Urban Design Report
Future residential development on the site should not impact or compromise the future plans for the Castle Hill Showground.	<p>Planning for the Concept Proposal has been undertaken in consultation with the Hills Shire Council. The concept scheme is not within the Castle Hill Showground site and is separated by De Clambe Drive. The Hills Shire Council is preparing a masterplan for the Castle Hill Showground. As the planning for the Showground is in the early stages, there will be a need for ongoing communications and development coordination between the sites.</p>	<p>Urban Design Report</p> <p>Acoustic Report</p>
Consideration be given to Council's apartment mix and size requirements. It is recommended that the overall proportion of 1 bedroom units be reduced from 35% to 25% and the proportion of 3+ bedroom units be increased from 10% to 20%.	<p>The Concept Proposal does not seek approval for a particular mix or size for apartments. The proof of Concept Proposals are based on an average apartment size of 90m<sup>2</sup> gross floor area which allows for different apartment types to be determined by future developers depending on the market conditions.</p>	Urban Design Report
Consider a lower yield (eg 1,500 dwellings) to facilitate greater modulation (changes in heights) in the built form.	<p>The ultimate yield is dependent upon the level of non-residential floorspace. The Concept Proposal allows for suitable modulation across the site as well as a bigger public park due to the movement of massing to the over-tunnel area in the eastern precinct.</p>	Urban Design Report

Key issues	Project response	Relevant reports
Review the privacy and amenity issues that may arise from long buildings looking at each other.	The built form separation has been designed to comply with the Apartment Design Guide and will result in suitable privacy. Solar amenity to the apartments is significantly improved due to the orientation of the buildings to ensure more equitable amenity for apartments at different levels of buildings.	Urban Design Report
Minimise wind tunnel effect of tall buildings.	Wind mitigation measures have been incorporated into the design guidelines for the Concept Proposal.	Urban Design Report  Pedestrian Wind Environment Statement
Review the form and orientation of the building envelope above the podiums – there is no need for these to follow the street geometry and they could be more varied in form.	The orientation of tower elements is angled against the podiums to provide better solar access and overall site composition.	Urban Design Report
Review the built form to reduce the density and test increasing the heights along Carrington Road to provide more flexibility for density to be applied flexibly across the site. Consider potential for lower scale interface to Showground Road.	Envelope heights on Showground Road are up to the permissible height limit of 16 storeys. Street wall heights and primary podium setbacks have been incorporated into the concept masterplan to ensure the scale of buildings is an appropriate experience for pedestrians at the street level and further shields pedestrians from down drafts.  Further upper level tower setbacks and slim tower lines provide a sense of space and openness to the sky. The building envelopes in the East site include a height transition to Showground Road.	Urban Design Report  Visual Impact Assessment
Consider adjustments to the height controls to allow for greater variety in height and scale.	Council confirmed preference for development to not exceed height controls. The Concept Proposal is within the existing height limits.	Urban Design Report

Key issues	Project response	Relevant reports
Floor plates look excessive. Overall scale is excessive and inconsistent with the proposals put forward as part of the Department's Planned Precinct exhibition 2015. Delivery in line with this and the Hills Corridor Strategy may assist.	Amendments have been made to the building design, especially within the Hills Showground Precinct East. The purpose of the GFA float is to allow for flexibility, floorplates have not been included in this concept but adhere to SEPP65 and ADG compliances. The scale of the proposals conforms to the outcome of the Planned Precinct process and does not exceed height limits. The proposals provide a dwellings per hectare rate within the EIS/Urban Design Report consistent with the Hills Corridor Strategy (which was suggested as 300 dwellings/ha).	EIS Urban Design Report
Compliance with SEPP 65 and Apartment Design Guide. Detailed shadow plans and a solar access table to be submitted.	The Concept Proposal complies with Apartment Design Guide through testing and is compliant with setbacks and separation distances within SEPP65. Shadow plans/solar access information is provided in the Urban Design Report.	Urban Design Report
Ensure building envelopes are configured to enable innovative design (e.g. envelope surplus well in excess of max GFA) and a high-quality public domain.	Loose fit envelopes are demonstrated in the Urban Design Report.	Urban Design Report
<b>Heritage</b>		
<p>Articulate a clear and meaningful approach to indigenous and European cultural heritage, including:</p> <ul style="list-style-type: none"> <li>•an understanding and acknowledgement of Country, including the local stories which could help inform the character of the precinct</li> <li>•a narrative about Cattai Creek and its role.</li> </ul> <p>Given the slope of the site, the way in which water moves to the creek could help inform the language of the spaces and how they flow.</p>	<p>Aspects of the water sensitive urban design strategy and public domain design reflect heritage considerations.</p> <p>The Concept Proposal includes a heritage interpretation strategy, to be reviewed and implemented by the future developers.</p> <p>Heritage will be recognised through interpretive signage, public art, planting of native and other plants that reflect the agricultural history</p> <p>There are also opportunities that could be considered as part of the development of the Castle Hill Showground site, subject to Council's masterplan ideas included use of interpretive signage.</p>	<p>Heritage Report</p> <p>Urban Design Report</p>

Key issues	Project response	Relevant reports
Consider the interpretation of local heritage.	The detailed design of the public domain will consider ways to embed interpretation of local heritage and history. The community was encouraged to provide specific ideas and stories that could be considered for public domain and public art design and programming. Ideas included interpretive signage and use of plants that reflect the agricultural history, in particular citrus trees.	Urban Design Report  Heritage Impact Statement and Interpretation Strategy
<b>Economic impacts, community benefits and social needs</b>		
Review the viability of the retail component in terms of the split over two sites and the extent of the spread of retail.	Retail is now focused in the active heart of the development – primarily activating Doran Drive and the interface with the Castle Hill Showground. The East Precinct is solely residential to reduce the spread of retail and position it where it is most viable. The extent of retail has been reviewed and approval is sought for a range of non-residential uses that can be supported by demand over time.	Retail and Economic Assessment  Urban Design Report
Justify a full line supermarket is required (as opposed to a neighbourhood supermarket) and that the proposed supermarket will not impact on or detract from the viability of surrounding centres. Also undertake further analysis of demand for retail and preferred location.	The demand for retail/commercial uses will grow over time and as such the Concept Proposal proposes a range of non-residential uses to provide flexibility for future developers to be able to tailor proposals to meet the market. Consideration has been given to the impact on surrounding retail areas.  The ultimate quantum range and configuration of the non residential uses within the concept master plan considers various key drivers including: <ul style="list-style-type: none"> <li>• economic research (supply/demand)</li> <li>• the site's context and potential plans for retail on the adjacent Showground site</li> <li>• the site structure plan and finer grain aspects of viability through retail planning.</li> </ul>	Retail and Economic Assessment  Urban Design Report
Determine/consider the issue of ownership and management of the retail tenancies and supermarket.	This will be determined in conjunction with the future developer of the retail area.	EIS

Key issues	Project response	Relevant reports
Consider a higher percentage of Affordable Housing.	<p>The Concept Proposal is designed for Affordable Housing to be delivered by future developers. Landcom's policy is to provide a minimum 5% Affordable Housing, which will be considered as a specific requirement for competitive selection.</p> <p>While Landcom would welcome a higher percentage to assist with achieving more affordable options for residents in the area, the future developer will have the opportunity to work with a Community Housing Provider to establish the most viable option at the time of development.</p>	<p>EIS</p> <p>Design Excellence Strategy</p>
Consider the provision of a local school.	<p>The Concept Proposal does not include a school on the site. The NSW Government has a coordinated approach to growth and planning for the needs of the community. This includes education and schooling needs. At the time of rezoning, the NSW Department of Planning and Environment identified the need to accommodate schools in the area. Landcom is actively working with the Department of Education to identify appropriate sites in the broader precinct.</p>	EIS
<b>Planning matters/land use mix</b>		
Yield should be capped for individual sites in order to ensure that subsequent development applications do not seek above what is anticipated.	<p>Yield is capped by way of a maximum GFA per site which is outlined in the EIS. The proposals do not seek approval for particular dwelling numbers as the ultimate mix and size of apartments will need to align with the market at the time. Studio apartments may also be a desirable product for affordability.</p>	EIS
Future development applications should not be able to seek additional floor space on the basis of providing Affordable Housing.	<p>Future development applications should not be able to seek additional FSR beyond that identified as part of the concept approval on the basis of providing Affordable Housing under State Environmental Planning Policy (Affordable Rental Housing) 2009.</p>	EIS
The proposal should regard the Hills Development Control Plan 2012.	<p>Strong consideration has been given to the DCP controls, and a compliance table has been included and variations will be justified.</p>	<p>EIS</p> <p>Urban Design Report</p>

Key issues	Project response	Relevant reports
Funding for the future embellishment of the riparian corridor.	During construction of the Sydney Metro Northwest, the Hills Shire Council were informed of the proposed scope of embellishment to the drainage reserve land under the Council Interface Agreement. Hills Council were involved in the handover of the land from Sydney Metro and land is now in Council ownership. Funding under the Precinct Support Scheme has been allocated for the revitalisation of the Cattai Creek corridor.	EIS
<b>Transport, access, mobility, wayfinding, traffic and parking</b>		
<p>Traffic analysis should assess the impact of future growth on north-south accessibility, including the traffic impact and upgrades (including bus priority) required along Carrington Road and Victoria Avenue.</p> <p>Development needs to integrate with upgrade plans already established for Carrington Road.</p>	<p>Landcom consulted with RMS on the approach to the Traffic and Transport Assessment and has provided a comprehensive analysis that considers growth and upgrades to the local road network.</p> <p>RMS advised that the Showground Road and Carrington Road upgrade scheme is proposed as part of the Bus Priority Infrastructure Program (BPIP), which is designed around improving reliability and efficiency of bus services.</p> <p>Not all of the Showground Road and Carrington Road scheme would be delivered at once, so sensitivity tests were undertaken to understand the performance of the network if the upgrades were introduced incrementally in response to increasing traffic demands. The results show that the full Carrington Road and Showground Road upgrades provide sufficient capacity for the cumulative impacts of the precinct up to 2031, and that the SSDA does not trigger any additional infrastructure by itself.</p>	Transport and Traffic Impact Assessment Report
Assess additional vehicles that are likely to use Middleton Avenue Investigation is required as to whether extra capacity or local area traffic management is required.	<p>Landcom consulted with RMS on the approach to the Traffic and Transport Assessment and has provided a comprehensive analysis that considers growth and upgrades to the local road network.</p> <p>According to the Showground Station Precinct Contributions Plan No. 19, the signalisation of Carrington Road and Victoria Avenue and the upgrade of Carrington Road and Middleton Avenue have already been included to meet the future demand, whilst ensuring an acceptable level of access, safety and convenience for all street and road users within the Showground Precinct.</p>	Transport and Traffic Impact Assessment Report

Key issues	Project response	Relevant reports
Consider the cumulative impact of development on traffic generation.	The Concept Proposal responds to the opportunity for a transit oriented centre with reduced car parking to reflect the higher level of public transport services. Given the close proximity to world class public transport, the need for private vehicle journeys will be reduced.	Transport and Traffic Impact Assessment Report
Consider connections to surrounding areas with respect to roadways, cycleway and pedestrian links.	The Concept Proposal has been designed in consultation with The Hills Shire Council and its vision for the Castle Hill Showground. Connections in and through the site have been reviewed and considered through the development of the Concept Proposal and provide for easy walkable access through and around the precinct for pedestrians and vehicles.	Urban Design Report  Transport and Traffic Impact Assessment
Establish a clear street hierarchy, character areas and articulate linkages to/from the Castle Hill Showground.	Diagrams and commentary confirming the approach to these elements is provided in the Urban Design Report.	Urban Design Report
Investigate opportunities for Mandala Parade to be a share way for bus and pedestrian circulation only.	This road is owned by Council and works are not proposed to the existing street as part of the Concept Proposal.	Transport and Traffic Impact Assessment
Review key connections and desire lines (eg more direct connections from Showground Road to Metro station or into the employment lands to the west of the creek).	Connections have been achieved via extending the desire line from the Metro station along Mandala Parade and through to Carrington Road (close to the Showground Road intersection). Verge widths have also been reviewed along Carrington Road to ensure the path of travel all the way to Showground Road has an appropriate level of pedestrian amenity. Cattai Creek is owned by Council so future connections between the Hills Showground Station precinct and the employment lands may be investigated by Council.	Urban Design Report
Ensure access into the site from surrounding areas is clear and pedestrian friendly.  Consider the connections from adjacent residential streets.	This is considered and documented within diagrams in the Urban Design Report.	Urban Design Report

Key issues	Project response	Relevant reports
Investigate opportunities for mid block laneways to improve permeability of larger blocks.	This has been considered during the development of the proposals for the Precinct East site and is evident in the final structure plan which demonstrates pedestrian priority through walkable accessible links around buildings and through podiums, in particular in the Doran Drive Precinct.	Urban Design Report
Car parking	The Concept Proposal seeks approval for a parking rate range and seeks to encourage the use of public transport and car sharing. The approach is outlined in detail in the Traffic and Transport Impact Assessment.	Transport and Traffic Impact Assessment
Consider opportunities for provision of car parking which can be adapted to other uses in the future.	Parking is planned only to be basements. As demand for parking spaces declines over time decreases there may be opportunities for this to be adapted for other uses, however this is not planned for at this stage.	Urban Design Report
<b>Safety and walkability</b>		
Consider pedestrian amenity and safety through to Showground Road.	<p>Street wall heights and primary setbacks have been incorporated in to the Concept Proposal to ensure the scale of buildings is appropriate for pedestrians at street level. Upper level setbacks to towers provide a sense of space and openness to the sky and the podiums shield pedestrians from down-drafts. Footpaths are a minimum 3m to ensure capacity to cater for a high number of walking trips.</p> <p>Appropriate lighting and safety measures will be addressed by future developers through detailed design.</p> <p>The Concept Proposal promotes good visibility and site lines through the pedestrian link, and the design guidelines propose direct access from ground floor entries onto public spaces for added activity and safety.</p>	Urban Design Report (Crime Prevention Through Environmental Design - CPTED)

Key issues	Project response	Relevant reports
Review the perimeter conditions to ensure pedestrian movement through and within the precinct	<p>Footpaths exist on both sides of Carrington Road and Showground Road in the vicinity of the site. Pedestrians (including Sydney Metro customers) can cross at the following designated locations:</p> <p>Showground Road at the signalised intersections of Gilbert Road, De Clambe Drive and Carrington Road</p> <p>Carrington Road at the signalised intersections of Middleton Avenue and Doran Drive.</p> <p>Footpaths exist on both sides of new streets created surrounding the Hills Showground Station including Doran Drive, De Clambe Drive, Andalusian Way and Mandala Parade.</p> <p>Pedestrian and cyclist access has been identified via the cycle and pedestrian paths on De Clambe Drive, Andalusian Way and Doran Drive. These routes will connect cyclists and pedestrians to Hills Showground Metro station, Showground Road and Carrington Road.</p>	<p>Urban Design Report</p> <p>Traffic and Transport Assessment</p> <p>Interchange Access Plan (Sydney Metro)</p>

## 5.5. Future consultation

Landcom has kept all stakeholders, including the local community, adjoining landowners and government authorities informed about the development of the concept proposal. Landcom will continue to engage with stakeholders, including the community, during the statutory exhibition of the SSDA as well as during future stages of the planning and development process. Specifically, Landcom will continue to work closely with Department of Planning, Industry and Environment and The Hills Shire Council to plan and coordinate activation and renewal of land around Hills Showground Station. Landcom will also update its website with program updates and produce regular program updates to send to stakeholders who register an interest.

## 6. Strategic planning framework

This Section addresses the consistency of the Concept Proposal with the relevant provisions, goals and in the following strategic planning policy documents:

- Premier's and State priorities: NSW State Plan (NSW Government, 2015)
- Better Placed and Greener Places Policy (GANSW, 2017)
- Greater Sydney Region Plan - A Metropolis of Three Cities (GSC, 2018) replacing Towards our Greater Sydney 2056 (GSC 2016)
- Central Sydney District Plan (GSC, 2018)
- NSW Long Term Transport Master Plan (TfNSW, 2012)
- Future Transport 2056 (TfNSW, 2018)
- State Infrastructure Strategy (Infrastructure NSW, 2018)
- The draft Hills Council Local Strategic Planning Statement and supporting strategies (The Hills Council, 2019).

### 6.1. NSW State Priorities

The NSW Government has 18 State Priorities, the following which are of relevance to this project: 'Encouraging business investment' and 'Increasing housing supply'.

The Concept Proposal supports the above priorities by providing for up to 1,900 new dwellings and up to 13,600m<sup>2</sup> for new business opportunities in close proximity to excellent public transport services.

Having regard to the Site's proximity to excellent public transport, the Concept Proposal aims to maximise the supply and diversity of higher density housing for different generations, lifestyles and price points that will support future business uses and investment in the area as nearby centres and the broader Sydney region.

There are no other State Priorities relevant to the project.

### 6.2. NSW Premier's Priorities

The NSW Premier has identified 12 key priorities for the State of NSW including creating jobs, delivering infrastructure, keeping our environment clean, making housing more affordable and improving health, education and other services across NSW.

The Concept Proposal is consistent with the Premier's State Priorities as it will:

- provide for new employment opportunities close to public transport, with the creation of approximately 674 jobs within the local area and gross value added to be around \$45 million annually as detailed in HillPDA's Retail Demand Assessment (**Appendix S**)

- allow for the development of higher density housing forms to meet the community's different needs, preferences and budgets
- provide a minimum of five per cent affordable housing targeted to very low, low- and moderate-income earners
- help keep our environment clean through maximising public transport patronage on the new SMNW and reducing car usage
- contribute towards greening Sydney and providing greener public spaces through the provision of:
  - publicly accessible Doran Drive Plaza and a new park on Precinct East
  - generous landscaping integrated with surrounding streets and existing recreational and open space facilities including the Cattai Creek, Castle Hill Showground and station plaza and forecourt.

## 6.3. Better Placed and Greener Places

### 6.3.1. Better Placed

Better Placed (September, 2017) is an integrated design policy for the built environment of NSW, produced by the GANSW. The policy establishes a baseline of what is expected to achieve good design across all projects in NSW. It provides seven objectives to achieve good design throughout the development process and was also developed to support the inclusion of a new Design Object in the EP&A Act (refer Section 7.1 for discussion on EP&A Objects) as part of the review of the EP&A Act.

The Concept Proposal has been subject to extensive review and input by the Landcom's Design Advisory Panel and the State Design Review Panel having regard to the objectives and directions in Better Placed.

#### Assessment

An assessment of the Concept Proposal in relation to the Better Placed objectives is provided in Table 20. The Design Quality Guidelines and the Design Excellence Strategy along with the ESD Framework, intended to be implemented for future stages of the development, will ensure that the objectives of the Better Placed policy are met for the Site.

**Table 20 Assessment of Concept Proposal against Better Placed objectives**

Objective	Assessment
<p><i>Better fit - contextual, local and of its place</i></p> <p><b>Good design in the built environment is informed by and derived from its location, context and social setting. It is place-based and relevant to and resonant with local character, heritage and communal aspirations. It also contributes to evolving and future character and setting.</b></p>	<p>The Concept Proposal Design for the Site builds upon the existing infrastructure delivered under the previous CSSI approvals and has been informed by detailed urban design and spatial analysis.</p> <p>The Urban Design Framework has been established in consultation with stakeholders including the community has involved a detailed review of the Site's location, context (existing and proposed</p>

Objective	Assessment
	surrounding street patterns, and surrounding land uses, history and social setting to develop a series of guiding principles and controls for the transformation of the Site. A Heritage Interpretation Strategy has also been prepared to guide the development and implementation of interpretative elements at the Site. This framework will ensure that future development is responsive to its context as detailed in Section 5.
<p><i>Better performance - sustainable, adaptable and durable</i></p> <p><b>Environmental sustainability and responsiveness is essential to meet the highest performance standards for living and working. Sustainability is no longer an optional extra, but a fundamental aspect of functional, whole of life design.</b></p>	<p>Environmental sustainability has been one of the key design parameters shaping the design of the Concept Proposal with consideration to passive design, urban heat island and WSUD features. These design parameters are reflected in the Urban Design Framework.</p> <p>In addition, an ESD framework for the Site draws on key principles of the Green Building Council of Australia's Green Star Communities National Framework and Landcom's Sustainable Places Strategy. Key to this is Landcom's commitment to target a minimum 5 Star Green Star Communities rating. Future DAs will be required to meet the requirements of this ESD Framework as detailed in Section 8.3.</p>
<p><i>Better for community - inclusive, connected and diverse</i></p> <p><b>The design of the built environment must seek to address growing economic and social disparity and inequity, by creating inclusive, welcoming and equitable environments. Incorporating diverse uses, housing types and economic frameworks will support engaging places and resilient communities.</b></p>	<p>The Concept Proposal provides a variety of opportunities for social interaction in the private communal areas (lobbies, courtyards and rooftop terraces), in the public spaces (new plaza and park, through-site links), and in and around the active ground floor uses.</p> <p>Landcom has a clear mandate to focus on housing supply, affordability and diversity. Through the disposal of the land, Landcom is encouraging developers to propose solutions and demonstrate their ability to deliver housing affordability, diversity and innovation to provide greater housing choice that meets the needs of the local community now and into the future. This will be the case with development at the Site.</p> <p>The Urban Design Guidelines, and Design Excellence Strategy establishes the framework, setting parameters and processes to achieve these solutions</p>
<p><i>Better for people - safe, comfortable and liveable</i></p> <p><b>The built environment must be designed for people with a focus on safety, comfort and the basic requirement of using public space. The many aspects of human comfort which affect the usability of a place must be addressed to support good places for people.</b></p>	<p>The precinct layout, urban and landscape design have adopted CPTED principles and practices as well as given consideration to amenity issues to ensure that the future built environment will be safe, comfortable and liveable as detailed in Section 8.3.</p>

Objective	Assessment
<p><i>Better working - functional, efficient and fit for purpose</i></p> <p><b>Having a considered, tailored response to the program or requirements of a building or place, allows for efficiency and usability with the potential to adapt to change. Buildings and spaces which work well for their proposed use will remain valuable and well-utilised.</b></p>	<p>The Concept Proposal is designed at the urban scale of a master plan to provide a diverse range of urban forms, scales and characters areas that are efficient and flexible to respond to change.</p> <p>The Design Guidelines take into account the potential changing nature of the Site. In particular, buildings in the Hills Showground Precinct East, will have 4m floor to floor heights on the ground floor and 3.4m floor to floor heights on the first floor to provide for flexibility of ground/first floor uses over time.</p> <p>Other measures to allow for efficiency and usability over time include the opportunity for 'smart hub' office space including potential for co-working facilities and shared precinct parking between multiple uses.</p>
<p><i>Better value - creating and adding value</i></p> <p><b>Good design generates ongoing value for people and communities and minimises costs over time. Creating shared value of place in the built environment raises standards and quality of life for users, as well as adding return on investment for industry.</b></p>	<p>The Concept Proposal has been designed to benefit existing and future generations by creating an attractive high-density, transit orientated, mixed-use and sustainable urban precinct. It will provide a great variety of products, built forms, land uses and public domain experiences with the provision of a new Doran Drive Plaza and park. The community will have access to a range of uses, services and amenities as well as employment opportunities. All of which will help to create a neighbourhood that people will want to live and work in.</p>
<p><i>Better look and feel - engaging, inviting and attractive</i></p> <p><b>The built environment should be welcoming and aesthetically pleasing, encouraging communities to use and enjoy local places. The feel of a place, and how we use and relate to our environments is dependent upon the aesthetic quality of our places, spaces and buildings. The visual environment should contribute to its surroundings and promote positive engagement</b></p>	<p>The Concept Proposal has been carefully designed to ensure that the built form and amenity of the future urban environment results in the creation of useable, enjoyable and attractive buildings and public domain. The design is the culmination of a detailed assessment of the Site, its relationship to the Metro Station, the objectives of TOD as well as a range of other design parameters as detailed in the Urban Design Report. The detailed design of the public domain and buildings will be subject to the Design Guidelines and design excellence assessment process (refer discussion in Section 8.3) to ensure that the ultimate built form and public domain outcomes meet the seven objectives set out in the GANSW's <i>Better Place - An integrated design policy for the built environment of New South Wales</i>.</p>

### 6.3.2. Greener Places

Greener Places (October, 2017) is a draft Green Infrastructure state policy produced by the GANSW to guide the design, planning, design and delivery of Green Infrastructure in urban areas across NSW. Greener Places builds on the Sydney Green Grid, the design-led Green Infrastructure Strategy developed to create a network of high-quality green areas that connect town centres, public transport networks and major residential areas in Sydney.

The policy also sets out four key principles that well-designed green infrastructure is to respond to:

1. Integration – combine green infrastructure with urban development and grey infrastructure
2. Connectivity – create an interconnected network of open space
3. Multifunctionality – deliver multiple ecosystem services simultaneously
4. Participation – involve stakeholder in development and implementation.

#### **Assessment**

Consideration of the above principles have been considered in developing the Concept Proposal.

The Open Space and Planting Strategy seeks to connect the spaces within the Site including Doran Drive Plaza, Precinct East Park and green pedestrian linkage, and the existing Station Plaza to create a network of open space that integrates with the future built form as well as the surrounding networks including the Castle Hill Showground and Cattai Creek Corridor. These spaces will be multi-functional, being accessible to all, and incorporating generous landscaping and water sensitive measures contributing to sustainability outcomes.

The green spaces identified in this Concept Proposal will be further complemented by communal open space and potential roof top gardens as part of future detailed DAs for the buildings.

Further consultation on the design of the public spaces will be undertaken as part of future DAs.

### 6.3.3. Other design guidelines

In addition to the documents outlined above, various Design Guides have been developed by GANSW to support the implementation of the following GANSW policies — Better Placed and Greener Places:

- Strategy for Action 2017-18: Delivering Better Placed
- Start with Place
- Design Guidelines for Heritage
- Implementing Good Design
- Evaluating Good Design
- Open Space for Recreation – Green Infrastructure for people
- Bushland and Waterways – Green Infrastructure for habitat and ecological health
- Urban Tree Canopy – Green Infrastructure for climate adaptation and resilience.

#### **Assessment**

These documents have been considered in preparing the Concept Proposal and Urban Design Guidelines including strategies for landscaping and water sensitive urban design measures.

As detailed, the Urban Design Framework has been established through detailed analysis of the Site's location, context (existing and proposed) surrounding street patterns, and surrounding land uses., history and social setting to develop a series of guiding principles and controls for the transformation of the Site.

The Design Guidelines and Design Excellence Strategy establish the framework to ensure that a high-quality design outcome will be achieved.

Specifically, a planting and water strategy has been developed to promote good design and sustainable outcomes at the Site through:

- the use of native and drought tolerant species
- generous landscaping to assist in wind mitigation, urban heat island effect mitigation as well as provide wildlife corridors
- use and treatment of water in the public domain before it reaches Cattai Creek raingardens and swales that will assist in cooling.

The Heritage Interpretation Plan will also assist to ensure that the historical context of the Site and surrounding area is celebrated as part of the development of the Site.

## 6.4. A Metropolis of Three Cities

In March 2018, the NSW Government released the Greater Sydney Region Plan (the Plan), A Metropolis of Three Cities which outlines directions and objectives to achieve the Government's vision of the metropolis of three cities – the Western Parkland City, the Central River City and the Eastern Harbour City – where most residents live within 30 minutes of their jobs, education and health facilities, services and great places.

The Plan:

- sets a 40-year vision (to 2056) and establishes a 20-year plan (the relevant District Plan) to manage growth and change for Greater Sydney in the context of social, economic and environmental matters
- provides the overarching strategic plan for Sydney Metropolitan region
- integrates land use, transport and infrastructure planning between the three tiers of Government and across State agencies, having been prepared concurrently with Future Transport 2056 and State Infrastructure Strategy 2018–2038.

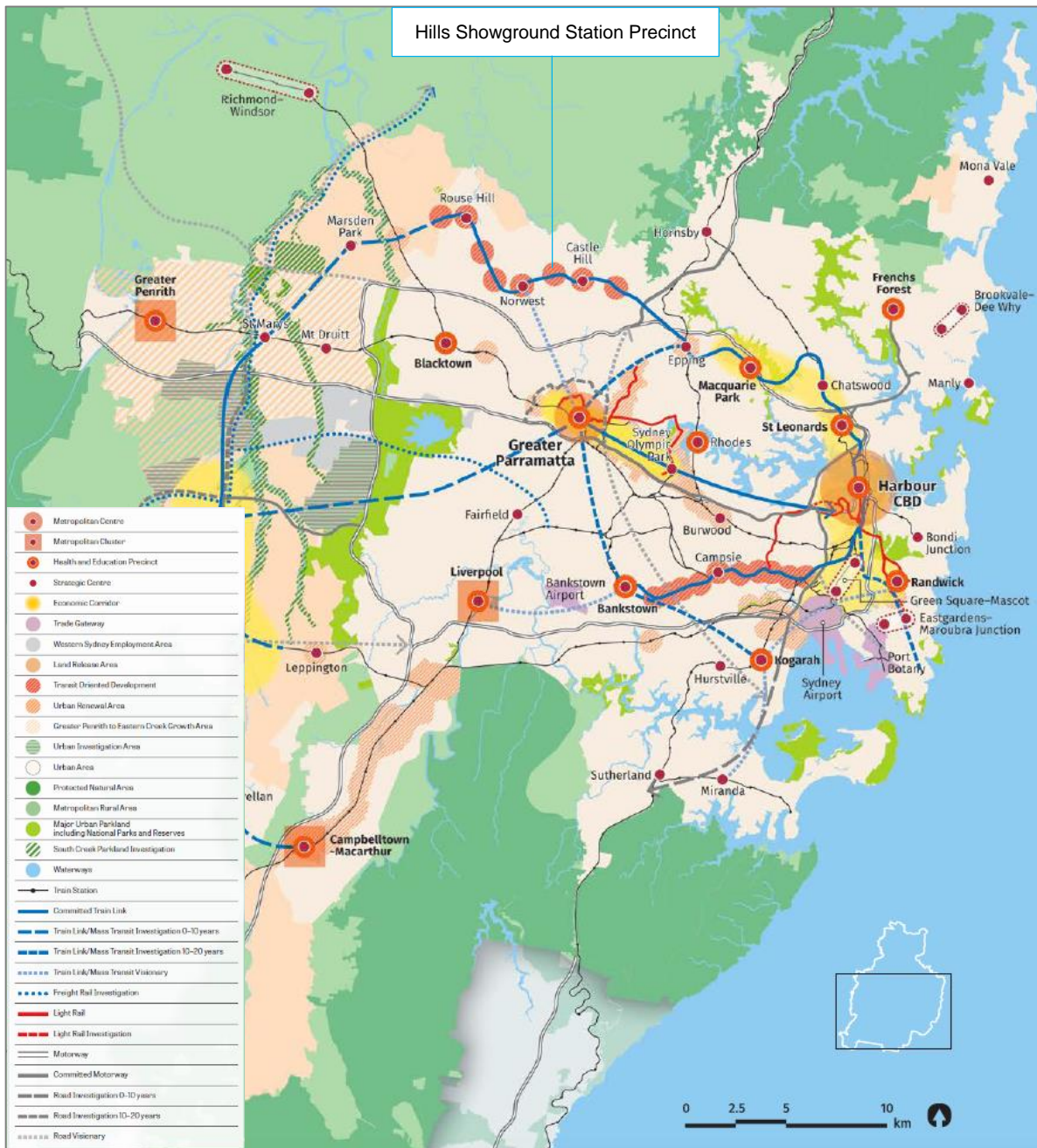
The Site is located in the Central River City in the Central District (**Figure 51**). The Plan supports the optimisation of government-owned land and urban renewal to deliver housing. The Plan also identifies housing targets for the Central City District of 53,500 dwellings in years 0-5 and 207,500 beyond year 20. More specifically the Site is identified in the Plan as a TOD.

### Assessment

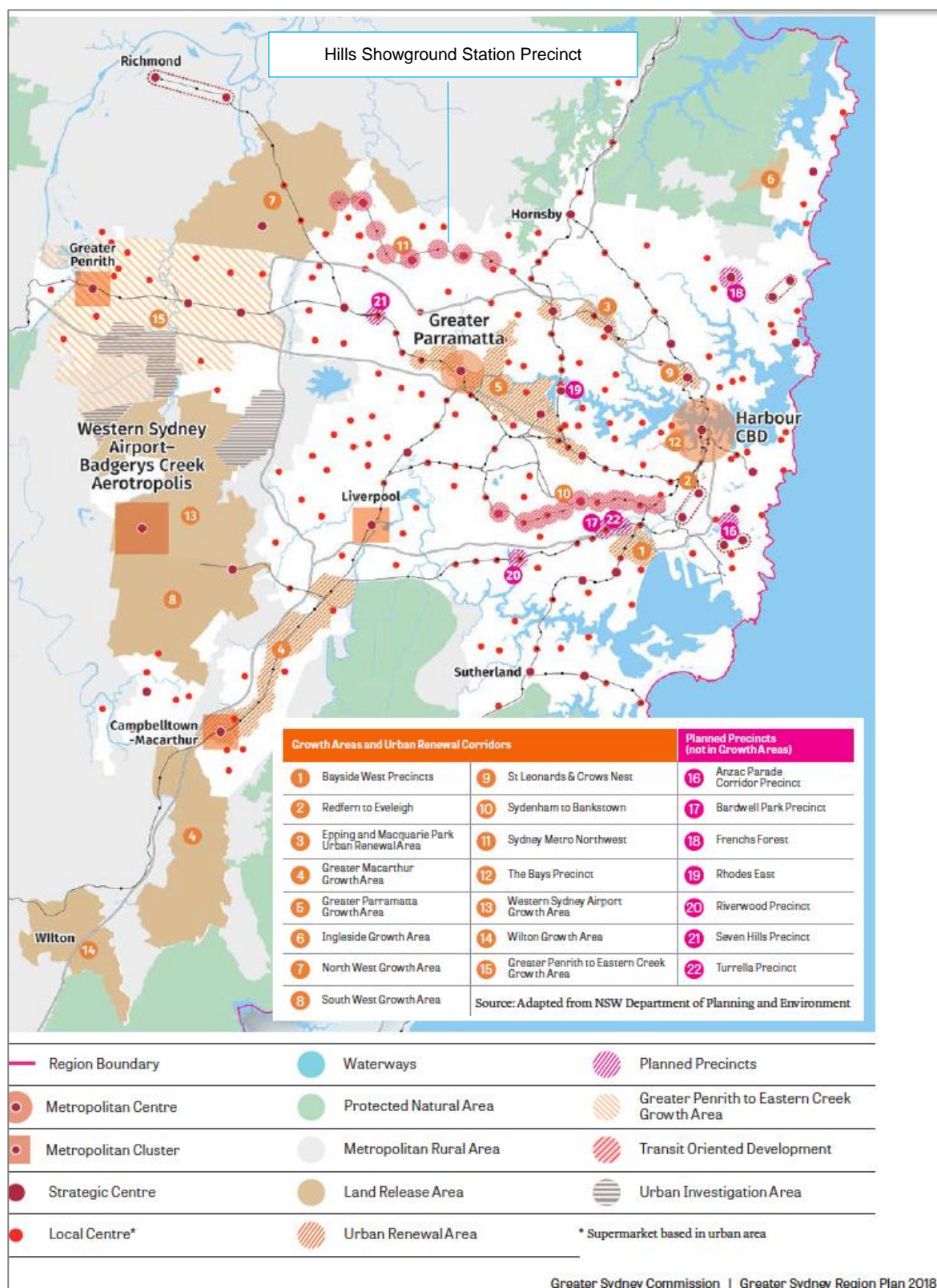
The Concept Proposal is consistent with the key directions, objectives and strategies outlined within the Plan, in that it will:

- supply up to 1,900 new dwellings in the TOD immediately adjacent to the Hills Showground Metro Station helping to achieve housing targets for the Central District
- provide housing choice in a highly accessible location, contributing to the goal of achieving a 30-minute city and optimising infrastructure use
- provide for compact development and contribute to a low carbon future for Sydney.

Refer Table 21 for further assessment of the Concept Proposal against the objectives and directions of the Greater Sydney Region Plan.



**Figure 51** The Vision of Metropolis of three Cities, Greater Sydney Region Plan 2018 (GSC, 2018)



**Figure 52 Future housing: government programs and preferred locations for consideration under Greater Sydney Region Plan (GSC, 2018)**

## 6.5. Central City District Plan

The Central City District Plan was also released in March 2018 and sets out a 20-year vision for the Central City District, which includes Blacktown, The Hills, Parramatta and Cumberland local government areas.

The Central City District Plan sets out priorities and actions for the growth and development of the Central District. The Plan provides the district level framework to implement the directions, objectives, strategies and actions outlined in the Greater Sydney Region Plan.

The Central City District is identified as one of the most dynamic and rapidly growing regions in Australia and one which plays a pivotal role in Greater Sydney's future as an economic and employment powerhouse, a core hub for transport and services, and the home of vibrant and diverse centres and communities.

Consistent with the Greater Sydney Region Plan, the Central City District Plan identifies the Hills Showground Station Precinct as a TOD located adjacent to the SMNW. The Plan notes that additional capacity for housing supply is well progressed across much of the City Central District and that the SMNW Urban Renewal Corridor, as a current State-led initiative, will contribute to the achievement of the Districts housing targets (53,500 in 0-5 years).

### Assessment

The proposal will provide housing close to public transport and employment in support of the 30 minute city concept promoted by the GSC and is consistent with relevant directions and actions outlined in the Central City District Plan as detailed in **Table 21**.

**Table 21 Consistency with The Greater Region Plan and Central City District Plan**

Directions and objectives	Planning Priority	Assessment
<b>A city supported by infrastructure</b>		
Objective 1: Infrastructure supports the three cities	C1 Planning for a city supported by infrastructure	The Concept Proposal will provide a high-density urban precinct adjacent to the Hills Showground Metro Station in line with government policy and investment.  The new community will be connected to employment, recreational, retail and commercial opportunities across Metropolitan Sydney by a fast, high frequency, reliable, mass public transport system.  Infrastructure to support future residents will be delivered through the Hills Showground Contribution Plan.
Objective 2: Infrastructure aligns with forecast growth – growth infrastructure compact		
Objective 3: Infrastructure adapts to meet future needs		
Objective 4: Infrastructure use is optimised		
<b>A collaborative city</b>		
Objective 5: Benefits of growth realised by collaboration of governments, community and business	C2 Working through collaboration	DPIE, GSC, Council, TfNSW, Landcom and other State agencies are working together to maximise the land use benefits of Northwest Metro to deliver greater liveability outcomes. This includes the development of the Hills

Directions and objectives	Planning Priority	Assessment
		Showground Station Precinct through this Concept Proposal.
A City for People		
Objective 6: Services and infrastructure meet communities' changing needs	C3 Providing services and social infrastructure to meet people's changing needs	New infrastructure is planned to be delivered by way of this Concept Proposal, Precinct Support Funding and Hills Showground Contribution Plan to accommodate the incoming population for the Site and broader Showground Precinct.
Objective 7: Communities are healthy, resilient and socially connected	C4 Fostering healthy, creative, culturally rich and socially connected communities	The Concept Proposal provides for a mix of uses (commercial/retail), a new park and plaza that are integrated and connected by walkable streets, pedestrian and cycle connections to other recreational, community, services and cultural facilities in the area including Castle Hill Showground, Cattai Creek, and the Metro Station.  This will provide the community with areas for various activities and experiences to foster connected communities.  The Concept Proposal will provide a range of housing including affordable housing to accommodate a diversity of people from differing socio-economic circumstances and a range of social, cultural, ethnic and linguistic backgrounds.
Objective 8: Greater Sydney's communities are culturally rich with diverse neighbourhoods.		
Objective 9: Greater Sydney celebrates the arts and supports creative industries and innovation.		
Housing the city		
Objective 10: Greater housing supply	C5 Providing housing supply, choice and affordability with access to jobs, services and public transport	The Concept Proposal will supply up to 1,900 new dwellings including a minimum of 5% for affordable dwellings, in a highly accessible location to achieve housing targets for the Central District.
Objective 11: Housing is more diverse and affordable		
A city of great places		
Objective 12: Great places that bring people together	C6 Creating and renewing great places and local centres, and respecting the District's heritage	The Concept Proposal accommodates a place-based approach and will facilitate the provision of high density walkable local centre, people friendly realm with the new Doran Drive Plaza and park providing the opportunity for social connection and integration. CPTED principles and other design measures have been considered in developing the Design Guidelines that will ensure high quality built form and public domain outcomes. Refer Section 8.3.
Objective 13: Environmental heritage is identified, conserved and enhanced.		The heritage values of the Site and surrounds has been identified and celebrated through the implementation of the Heritage Interpretation Strategy. Refer Section 8.4.1.
Jobs and skills for the city		

Directions and objectives	Planning Priority	Assessment
Objective 14: A Metropolis of Three Cities – integrated land use and transport creates walkable and 30-minute cities.	C9 Delivering integrated land use and transport planning and a 30-minute city	The Concept Proposal provides housing choice and employment opportunities in a highly accessible location, contributing to the goal of achieving a 30-minute city and optimising infrastructure use.
Objective 22: Investment and business activity in centres.	C10 Growing investment, business opportunities and jobs in strategic centres	The Concept Proposal will facilitate a new local centre in line with strategic policy that will support the role and function of strategic centres of Metropolitan Sydney particularly those in proximity, including Norwest and Castle Hill.
<b>A city in its landscape</b>		
Objective 25: The coast and waterways are protected and healthier	C13 Protecting and improving the health and enjoyment of the District's waterways	The Integrated Water Management Strategy has demonstrated that the proposed mitigation measures are adequate in ensuring no adverse impacts to the Cattai Creek. Refer Section 8.6.
Objective 27: Biodiversity is protected, urban bushland and remnant vegetation is enhanced	C15: Protecting and enhancing bushland, biodiversity and scenic and cultural landscapes	The provision of new open spaces and the planting of native vegetation will assist in supporting wildlife connections and biodiversity of neighbouring Cattai Creek.
Objective 28: Scenic and cultural landscapes and protected.		<p>The adjacent Castle Hill Showground to the north is an important cultural facility. The Concept Proposal design seeks to celebrate and integrate with this facility by.</p> <ul style="list-style-type: none"> <li>• orientating buildings toward the Hills Showground Station Precinct</li> <li>• creating physical connections by way of an activate spine along Doran Drive, Green Street and along Andalusian Way</li> <li>• activate street frontages along De Clambe Drive.</li> </ul>
Objective 30: Urban tree canopy cover is increased.	C16: Increasing urban tree canopy cover and delivering Green Grid connections	Generous landscaping in the public domain, streets and open space areas that will assist in providing wildlife corridors, mitigating the urban heat island effect, and help create a great place. The ESD Framework provides targets for reducing urban heat island effect that are required to be addressed as part of future DAs.
Objective 32: The Green Grid links parks, open spaces, bushland, and walking and cycling paths.		<p>A well-connected, accessible, high quality, diverse, multifunctional and flexible public open space network is proposed.</p> <p>Street tree planting, Doran Drive Plaza, Precinct East Park and pedestrian linkage have been integrated with the surrounding open space and recreational facilities including the Station Plaza, the Showground and Cattai Creek as well as existing streets and cycle paths.</p>
Objective 31: Public open space is accessible, protected and enhanced.	C17: Delivering high quality open space	
<b>An efficient city</b>		

Directions and objectives	Planning Priority	Assessment
Objective 33: A low-carbon city contributes to net-zero emissions by 2050 and mitigates climate change	C19: Reducing carbon emissions and managing energy, water and waste efficiently	Environmental sustainability has been one of the key design parameters shaping the design of the Concept Proposal with consideration to passive design, urban heat island and WSUD features. These design parameters are reflected in the Urban Design Framework.
Objective 34: Energy and water flows are captured, used and re-used		In addition, the ESD framework for the Site will ensure commitments are met including reducing energy and water demands, and waste as well as water reuse are met. Key to this is a target of a minimum 5 Star Green Star Communities rating. Future DAs will be required to meet the requirements of this ESD Framework as detailed in Section 8.4
Objective 35: More waste is re-used and recycled to support the development of a circular economy		Moreover, the compact development form will contribute to a low carbon future for Sydney.
A resilient city		
Objective 36: People and places adapt to climate change and future shocks and stresses	C20 Adapting to the impacts of urban and natural hazards and climate change	Measures to mitigate against climate change and future shocks and stresses include implementation of minimum sustainability measures including urban heat island targets for development lot precincts, WSUD measures and reduced energy and water demands.
Objective 37: Exposure to natural and urban hazards is reduced		Consideration of flooding along Cattai Creek has been considered for Doran Drive Precinct as detailed in Section 8.5 and reflected in the Urban Design Guidelines.
Objective 38: Heatwaves and extreme heat are managed		Further green roofs and buildings will be encouraged.
Implementation		
Objective 39: A collaborative approach to city planning.	C21 Preparing local strategic planning statements informed by local strategic planning	Consideration of Council's draft LSPS is addressed in Section 6.8.

## 6.6. Future Transport 2056

Future Transport 2056 released by TfNSW in December 2018 is an update of NSW's Long-Term Transport Master Plan. It is a suite of strategies and plans for transport developed in concert with the Greater Sydney Commission's Sydney Region Plan (December 2018) outlined above, Infrastructure NSW's State Infrastructure Strategy, and the DPIE's regional plans, to provide an integrated vision for the state.

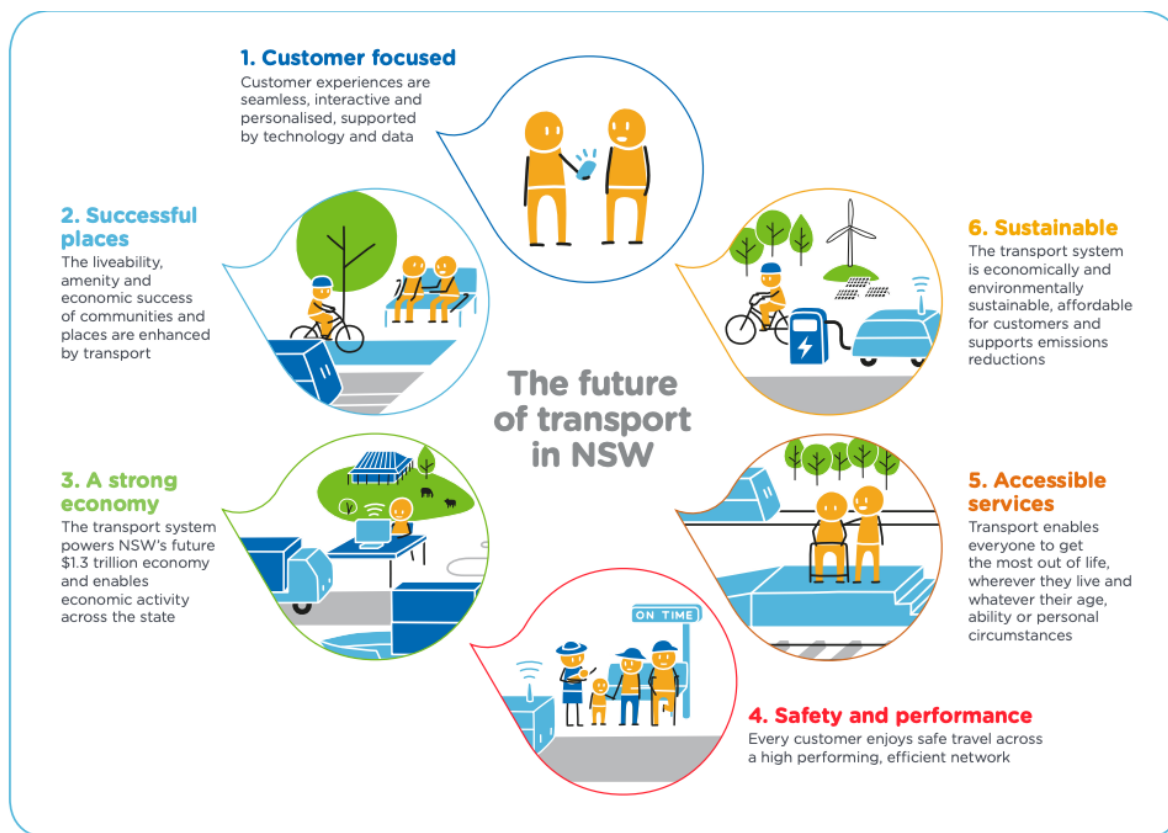
It is a vision for how transport can support growth and the economy of New South Wales over the next 40 years. The strategy is underpinned by the Regional Services and Infrastructure Plan and the Greater Sydney Services and Infrastructure Plan, as well as a number of supporting plans including Road Safety and Tourism.

The Future Transport Strategy 2056 sets the long-term vision for mobility and transport provision in NSW, explains how the customer experience of transport will change and what this means for NSW. The strategy identifies that Sydney will grow as a global metropolis with benefits distributed more evenly across the City. It sets out a vision of three cities to guide many of the planning, investment and customer outcomes including faster, convenient and reliable travel times to major centres:

- 30-minute access for customers to their nearest Centre by public transport 7-days a week
- Fast and convenient interchanging with walking times no longer than 5 minutes between services
- Walking or cycling is the most convenient option for short trips around centres and local areas, supported by a safe road environment and attractive paths
- Fully accessible transport for all customers.

Future Transport 2056 outlines six state-wide outcomes to guide investment, policy and reform and service provision (refer **Figure 53**). They provide a framework for planning and investment aimed at harnessing rapid change and innovation to support a modern, innovative transport network.

The Metro forms part of the city-shaping network providing high frequency transport services to connect metropolitan centres. The strategy identified SMNW as a committed initiative to be delivered within the 0-10 years. The plan also identifies vision to extend the city shaping network to 2056 to connect to Parramatta the Central River CBD and the Western Sydney Airport. This will further be improving residents' access to employment, commercial, retail, medical and other opportunities.



**Figure 53 Future Transport's six state-wide outcomes (TfNSW, 2018)**

### Assessment

The Concept Proposal is consistent with the relevant key outcomes in that it will:

- facilitate the redevelopment of land for a transit orientated, high-density mixed-use precinct, adjacent to the Hills Showground Metro Station in line with government policy and investment.
- capitalise on the benefits of metro rail services to existing and future residents and workers in the region
- establish design controls and guidelines to ensure future developments create high quality streets and public domain areas that provide a sense of place by creating safe, vibrant and active areas linking to the Hills Showground Station and other transport facilities and massing of future development precincts considers public and private views and solar access for the Doran Drive Plaza, Precinct East Park and the Station Plaza.
- seek approval for reduced parking rates and commitments for the provision of charging electrical vehicles in the future buildings that will help reduce emissions.

## 6.7. State Infrastructure Strategy

The State Infrastructure Strategy is a 20-year infrastructure investment plan (2018 -2038) prepared by Infrastructure NSW that places strategic fit and economic merit at the centre of investment decisions. It assesses the current state of infrastructure in NSW and makes recommendations on the need and strategic priorities for infrastructure for the next 20 years.

The strategy assesses infrastructure problems and solutions, and provides recommendations to best grow the State's economy, enhance productivity and improve living standards for the NSW community. It is updated every five years.

The strategy sets six cross-sectoral strategic directions, each designed to achieve 'more with less' from the State's large infrastructure program and asset base.

1. Continuously improve the integration of land and infrastructure planning
2. Plan, prioritise and deliver an infrastructure program that represents the best possible investment and use of public funds.
3. Optimise the management, performance and use of the State's assets
4. Ensure NSW's existing and future infrastructure is resilient to natural hazards and human-related threats
5. Improve state-wide connectivity and realise the benefits of technology, ensuring that NSW becomes a leader in the adoption and use of digital technology.
6. Drive high quality consumer-centric services and expand innovative service delivery models in infrastructure sectors.

The State Infrastructure Strategy acknowledges frequent and fast passenger trains are essential to the economic success of NSW and to the amenity of life, particularly in Global Sydney. The rail system must become world class, financially sustainable and attractive to commuters in Sydney and neighbouring regions.

The State Infrastructure Strategy also endorses the three-tier railway strategy developed by TfNSW as the basis for rail infrastructure investment, including the NWRL. The SMNW is key transport infrastructure that assists in providing high frequency and high-volume access to, and connectivity between, each of the three cities, while enhancing local amenity.

### Assessment

The Concept Proposal is consistent with the strategic objectives of the strategy in that:

- the Site has been the subject of numerous planning processes to ensure that future development of the Site is integrated with infrastructure planning
- supports the Government's vision of a three-city metropolis for Greater Sydney by providing housing in a highly accessible location

- it will facilitate the delivery of a high quality, mixed use transit orientated precinct that optimises the use of the metro.

## 6.8. Draft Local Strategic Planning Statement and supporting strategies

The Hills Future 2036: Draft Local Strategic Planning Statement (LSPS) and six supporting strategies (housing, productivity and centres, recreation, integrated transport and land use, environment, and rural) were released for exhibition between 1 July – 9 August 2019.

The draft LSPS establishes the vision about how Council will manage growth and change as our population increases. The documents set out planning priorities and actions for the next 5 years, as well as longer term actions to be undertaken over the next 20 years that will provide for housing, jobs, parks and services for our growing population.

The opportunities presented by the Metro are recognised. Population and job growth are projected around the station precincts including Showground which is identified as transit centre comprising:

- a Train Station Hub
- retail serving local residents' daily needs
- provision of civic spaces that enable casual social interactions
- high density residential around train station
- a metro scale supermarket - typically metro scale, however this depends on overall market demand
- services such as a dry cleaner, post, medical or health services.

Population growth for the broader Showground Station precinct is estimated at 7,000 dwellings to 2036, with 3,800 post 2036.

### Assessment

The Concept Proposal is consistent with LSPS in that:

- up to 1,900 dwellings will be provided in adjacent to the Hills Showground Station
- a diverse range of housing will be provided with one, two, three-bedroom apartments and terrace style homes
- it will provide for up to 13,600m<sup>2</sup> of GFA for non-residential uses to support the day to day needs of the local residents and visitors such as a supermarket, retail and other uses. Refer Section 4.4.

## 6.9. Other strategic policies, plans and guidelines

Consideration of other strategic policies, plans and guidelines is addressed in **Table 22**.

**Table 22 Summary of consistency with relevant additional planning policies**

Strategic policy/Guideline	Comment
Development near Rail Corridors and Busy Roads – Interim Guideline	<p>The DPIE's Development near Rail Corridors and Busy Roads – Interim Guideline makes recommendations for the assessment of noise impacts to developments from rail and road corridors and for mitigating such impacts. The Interim Guideline seeks to protect the safety and integrity of key transport infrastructure from adjacent development, and ensure that adjacent development achieves an appropriate acoustic amenity by meeting internal noise criteria specified in the Infrastructure SEPP.</p> <p>Pursuant to <i>State Environmental Planning Policy (Infrastructure) 2007</i> (Infrastructure SEPP), a consent authority must take the guideline into consideration before determining an application for residential development in or adjacent to a rail corridor if it considers that the development is likely to be adversely affected by rail noise or vibration.</p> <p>As future development is located next to a rail corridor and existing road networks the NSW 'Development Near Rail Corridors and Busy Roads – Interim Guideline' has been considered in determining the appropriate internal noise criteria for the residential dwellings. This has been discussed in the Noise and Vibration Assessment at <b>Appendix N</b>.</p>
Guide to Traffic Generating Developments	<p>Schedule 3 of <i>State Environmental Planning Policy (Infrastructure) 2007</i> stipulates certain types of development that should be referred to the RMS as a Traffic Generating Development. As the development facilitated by the proposed building envelopes will deliver 300 or more dwelling it will be a development to which this policy applies and will therefore be referred to the RMS.</p> <p>The content of a Guide to Traffic Generating Development has been considered by SCT Consulting as part of preparing the Traffic and Transport Assessment Report (<b>Appendix X</b>).</p>
Heritage Council Guideline on Heritage Curtilages 1996	<p>The Heritage Council were consulted during the preparation of the Aboriginal and non-Aboriginal Heritage Impact Statement (<b>Appendix L</b>).</p>
Heritage Council Guideline, Design in Context – Guidelines for Infill Development in the Historic Environment, 2005	<p>The Design in Context – guidelines for infill development in the Historic Environment, where relevant has been considered as part of the Aboriginal and non-Aboriginal Heritage Impact Statement (<b>Appendix L</b>).</p>
Guide to investigating, assessment and reporting on Aboriginal Cultural Heritage in NSW (DECCW 2011)	<p>The Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW, has been addressed as part of the Aboriginal and non-Aboriginal Heritage Impact Statement (<b>Appendix L</b>).</p>

Strategic policy/Guideline	Comment
Director General's Design Excellence Guidelines 2011 or Government Architect NSW's Design Excellence Competition Guidelines once adopted	<p>The Director General's Design Excellence Guidelines, 2011, provide guidance on undertaking a design competition, as required by LEP. These Guidelines have been revised and updated as part of the Draft Government Architect's Design Excellence Competition Guidelines, 2018. This Guideline would form part of a broader design excellence framework for NSW, bringing together the numerous State and local design excellence initiatives.</p> <p>In response to the Director General's Design Excellence Guidelines 2011, Design Guidelines and a Design Excellence Strategy has been prepared to govern future development of the Site.</p>
Draft Contaminated Land Planning Guidelines	<p>These Contaminated Land Planning Guidelines (Planning Guidelines) have been prepared to assist planning authorities to:</p> <ul style="list-style-type: none"> <li>• address land contamination issues when dealing with rezoning or development applications</li> <li>• assess development applications for remediation works.</li> </ul> <p>The Soils and Contamination Report at <b>Appendix R</b> has been prepared taking into account the Draft Contaminated Land Planning Guidelines.</p>
Relevant Council policies, codes and guidelines (where required pursuant to relevant Local Environmental Plan)	<p>THLEP is addressed in Section 7.5. There are no specific policies or codes reference in the LEP relevant to the project that have been required to be considered.</p>
Healthy Urban Development Checklist, NSW Health	<p>The health, wellbeing and quality of life of future residents and visitors has been a key consideration in developing the Concept Proposal. The following elements will assist in having a positive influence on physical activity and health generally:</p> <ul style="list-style-type: none"> <li>• provision of high density compact mixed-use land use precinct with a range of non-residential land uses to service the daily needs of residents</li> <li>• delivery of a range of housing including affordable housing and adaptable housing</li> <li>• access to other centres and employment areas via high frequency public transport Metro</li> <li>• high quality publicly accessible domain and spaces to provide places for people to social, interact and recreate</li> <li>• good street links (pedestrian and cycle) are provided to adjacent neighbourhoods, recreational areas and key destinations providing safe and inviting alternatives to car travel</li> <li>• CPTED principles incorporated to ensure that development will be safe, comfortable and inviting environment</li> <li>• the non-residential floor space will enable the provision of community facilities</li> <li>• noise and air quality issues can be mitigated through design solutions and will be addressed as part of future DAs.</li> </ul> <p>Design Guidelines as well as measures to mitigate against noise and air quality issues as detailed in Section 8 will guide future detailed DAs to ensure that high quality development is delivered and that health is a key consideration.</p>

Strategic policy/Guideline	Comment
NSW Aquifer Interference Policy (2012)	<p>This Policy:</p> <ul style="list-style-type: none"> <li>clarifies the requirements for obtaining water licences for aquifer interference activities under NSW water legislation <i>Water Management Act 2000</i></li> <li>establishes and objectively defines considerations in assessing and providing advice on whether more than minimal impacts might occur to a key water-dependent asset.</li> </ul> <p>No approval for construction work is sought by this concept SSDA. This policy would be relevant for future DAs involving physical construction works that affect the ground water.</p>
any relevant Water Sharing Plans	This Policy is not relevant to the Concept Proposal as the groundwater is not currently in use for any activities within the Site, nor is it being proposed to be used as a water source.
Guidelines for Controlled Activities on Waterfront Land (2018)	Not relevant as development is not proposed within the riparian corridor Lot 51 or on Lot 57 in DP 1253217.
Planning for Bush Fire Protection (2016)	<p>The Site is not identified as bush fire prone land in Council's certified Bush Fire Prone Map. A Bushfire Zone Buffer is located to the north of the Site on land within the Castle Hill Showground.</p> <p>Further the Site is not mapped as any of the categories requiring specific actions for fire management (e.g. Asset Protection Zone, Strategic Fire Advantage Zone, Fire Exclusion Zone) and so is considered as a Land Management Zone (LMZ) under the definition of the draft Bush Fire Risk Management Plan. Therefore, the Site does not require further assessment. Refer to the BDAR for further information (<b>Appendix C</b>).</p>

## 7. Statutory planning framework

This Section addresses compliance with the relevant statutory legislation and guidelines including:

- EP&A Act:
  - Section 1.3 Objects of the Act
  - Division 4.4 Concept development applications
  - Division 4.7 State Significant Development
- Division 5.1 Environmental impact assessment (except for State significant infrastructure)
- EP&A Regulation
- Schedule 1 Form and 2 Impact Statements
- Environmental Planning Instruments – SEPPs and THLEP 2012
- THDCP 2012
- Showground Station Precinct Contribution Plan No. 19.

### 7.1. Environmental Planning and Assessment Act 1979

#### 7.1.1. EP&A Act Objects

The EP&A Act sets out the laws under which planning in NSW takes place. An assessment of the project in relation to the objects of the EP&A Act is provided in Table 23.

**Table 23      Assessment of Concept Proposal against objects of EP&A Act**

Object	Assessment
<i>1.3(a) to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources</i>	<p>The Concept Proposal will promote the social and economic welfare of the community by:</p> <ul style="list-style-type: none"> <li>• increasing housing supply to meet the differing housing needs, preferences and budgets of the community</li> <li>• aligning housing development with investment in regional and district infrastructure</li> <li>• delivering a high-quality mixed-use precinct with business and employment opportunities and new open space</li> <li>• delivering substantial social and economic benefits as addressed in Section 8.4</li> </ul> <p>The Concept Proposal will also contribute to the proper management, development and conservation of the State's natural and other resources. In particular, measures outlined in the ESD report included in <b>Appendix J</b> will be implemented to ensure the conservation of resources throughout the construction and operational phases.</p>

Object	Assessment
<i>1.3 (b) to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment</i>	The Concept Proposal has been designed in accordance with the principles of ESD, as set out in Section 7(4) of Schedule 2 of the EP&A Regulation 2000. Relevant economic, environmental and social considerations are considered in Section 8.4 of this EIS.
<i>1.3(c) to promote the orderly and economic use and development of land</i>	The Concept Proposal encourages the promotion and co-ordination of the orderly and economic use and development of land by creating a well-connected, sustainable, high density- mixed use precinct on government land adjacent to a new Metro station - in line with government investment in infrastructure and planning policy.  This proposal establishes an Urban Design Framework to guide the orderly development of the land to obtain high quality outcome through future detailed DAs.
<i>1.3(d) to promote the delivery and maintenance of affordable housing</i>	Landcom and Sydney Metro are committed to providing affordable housing that meets the diverse needs of the community. The Concept Proposal will provide for a minimum of five per cent of the final number of dwellings as affordable housing targeted to very low, low- and moderate-income earners in line with Landcom's Housing Affordability and Diversity Policy. (refer discussion in Section 4.4.2).
<i>1.3(e) to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats</i>	The protection of the environment has been considered as part of this proposal, and the underlying CSSI approvals. Additional environmental impact assessment and mitigation has been undertaken as described in this EIS.  This proposal relates to land that has or will be cleared to accommodate development. There are no threatened or other species or their habitat located on the Site. Refer to Section 8.2.
<i>1.3(f) to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage)</i>	The heritage values of the Site and surrounds has been identified and will be celebrated through the implementation of the Heritage Interpretation Strategy as part of future detailed DAs. Refer Section 8.4.
<i>1.3(g) to promote good design and amenity of the built environment</i>	The Concept Proposal has been carefully designed to ensure that the built form and amenity of the future urban environment results in the creation of useable, enjoyable and attractive buildings and public domain. This Concept Proposal sets up a framework to ensure design excellence is achieved.
<i>1.3(h) to promote the proper construction and maintenance of buildings, including the protection of the health and safety of their occupants</i>	This concept SSDA does not seek approval for any construction works. However, future applications for development will consider building construction related matters to meet this objective.
<i>1.3(i) promote the sharing of the responsibility for environmental planning and assessment between the</i>	Future DAs for future stages of the development will be determined by the Minister as SSD unless it is determined that a subsequent stage of the development is to be determined by The Hills Council as consent authority pursuant to s.4.37 of the EP&A Act.

Object	Assessment
<i>different levels of government in the State,</i>	
<i>1.3(j) to provide increased opportunity for community participation in environmental planning and assessment.</i>	<p>Consultation has been undertaken with the community and key stakeholders to inform the Concept Proposal and EIS (refer to Section 5 Pre-Consultation Report at <b>Appendix V</b>).</p> <p>The application will be exhibited as required under the EP&amp;A Act. All relevant government agencies and Council will be provided with the opportunity for further input during the public exhibition period.</p>

### 7.1.2. Concept Development Application

This SSDA is a Concept Proposal for the Hills Showground Station Precinct.

Division 4.4 of the EP&A Act specifies the requirements for Concept DAs. Section 4.22 states that “a *concept DA is a DA that sets out Concept Proposals for the development of a site, and for which detailed proposals for the site or for separate parts of the site are to be the subject of a subsequent DAs or applications*”. Only the impacts of the Concept Proposal (and any first stage of development included in the application) need to be considered and it is not necessary to consider the likely impact of the carrying out of development that may be the subject of subsequent DAs.

Section 4.24 provides that while any consent granted on the determination of a Concept DA for a Site remains in force, the determination of any further DA in respect of that site cannot be inconsistent with that consent.

DAs for future stages of the development will be determined by the Minister as SSD unless it is determined that a subsequent stage of the development is to be determined by The Hills Council as consent authority pursuant to Section 4.37 of the EP&A Act.

### 7.1.3. State significant development

Division 4.7 of the EP&A Act sets out the requirements for SSD. As detailed in Section 3.2 the Concept Proposal is declared SSD under SRD SEPP.

Section 4.40 of the EP&A Act provides that the matters identified in Section 4.15 of the EP&A Act are considered in the determination of an SSDA as detailed in Table 24.

**Table 24**      **Matters for consideration Section 4.15 of the EP&A Act**

Section 4.15 – Matters for Consideration – general	Assessment
(a) <i>the provisions of:</i>	
(i) <i>any environmental planning instrument, and</i>	Consideration of relevant SEPPs and THLEP are addressed in Section 0 and Section 7.5 respectively.
(ii) <i>any proposed instrument that is or has been the subject of public consultation under this Act and that has been notified to the consent authority (unless the Planning Secretary has notified the consent authority that the making of the proposed instrument has been deferred indefinitely or has not been approved), and</i>	Consideration of the draft SDRP SEPP amendment is addressed in Section 7.4.
(iii) <i>any development control plan, and</i>	Clause 11 of the SRD SEPP states that DCPs do not apply to SSD.  Notwithstanding this, consideration has been given to the THDCP as addressed in Section 7.6 and <b>Appendix G</b> .
(iiia) <i>any planning agreement that has been entered into under section 7.4, or any draft planning agreement that a developer has offered to enter into under section 7.4, and</i>	There are no known voluntary planning agreements that have been proposed or entered by the applicant or owner of the land.
(iv) <i>the regulations (to the extent that they prescribe matters for the purposes of this paragraph),</i>	The relevant matters under the EP&A Reg is addressed in Section 7.2.
(b) <i>the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality</i>	The likely impacts of the Concept Proposal are addressed in Section 8.
(c) <i>the suitability of the site for the development,</i>	The Site is suitable for proposed development as addressed in Section 9.
(d) <i>any submissions made in accordance with this Act or the regulations,</i>	Consultation has been undertaken with the community, various levels of government and agencies during the preparation of the Concept Proposal. Refer to Section 5 Stakeholder Engagement Outcomes Report at <b>Appendix V</b> .  Further input will be sought and considered as part of the exhibition and finalisation of the EIS.
(e) <i>the public interest.</i>	The proposed development is in the public interest refer Section 9 of this report.

## 7.2. Environmental Planning and Assessment Regulation 2000

The EP&A Regulation sets out how certain functions under the EP&A Act should be carried out, fees associated with development assessment and other procedures. The following schedules are of relevance to this EIS:

- Schedule 1 of the EP&A Regulation identifies what must be included in a DA.
- Schedule 2 of the EP&A Regulation 2000 provides the requirements for the content of an EIS. The provisions of the Regulation, specifically clauses 6 and 7 relating to the form and content of an EIS are relevant to this document and have been used as the basis for preparing this EIS.

Schedule 2, Clause 7 (4) of the EP&A Regulation lists four principles of ecologically sustainable development to be considered in assessing a project. They are:

- The precautionary principle
- Intergenerational equity
- Conservation of biological diversity and ecological integrity
- Improved valuation and pricing of environmental resources.

An assessment of the Concept Proposal against these principles is addressed below and detailed in the ESD Report at **Appendix I**.

### 7.2.1. The Precautionary Principle

The precautionary principle provides that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

The precautionary principle requires careful evaluation of potential environmental impacts in order to avoid, wherever practicable, serious or irreversible damage to the environment, and an assessment of the risk-weighted consequences of various options.

The Concept Proposal is considered to align with the precautionary principle as there are no adverse environmental impacts on the already developed site, as detailed through the EIS. Measures outlined within the ESD framework further the commitment and actions currently being undertaken to minimise environmental impact of the precinct development, predominantly during the operational phase of the project, that are heavily influenced by design. During construction, the Contractor will be required to implement an Environmental Management Plan, minimising any environmental impact from construction activities. Therefore, the development proposal is consistent with the EP&A Regulations objectives to avoid serious or irreversible damage to the environment.

### 7.2.2. Inter-Generational Equity

Inter-generational equity seeks to ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations. The proposal has been designed to benefit both the existing and future generations by:

- providing for the orderly and sustainable use of government land for housing in an area that will have excellent transport and other services
- creating an attractive high density, mixed use urban precinct with a variety of built forms, land uses, activation, public domain experiences that will create a neighbourhood that people will want to live and work in.
- providing housing choice that will enable existing residents the opportunity to down size and age in place in their local community and contribute to creating diverse community
- providing an Urban Design Framework to ensure high quality-built form outcomes
- minimising resource consumption in the construction, fit out and operation of the Precinct as well as reducing waste production through the ESD Framework.

### 7.2.3. Conservation of Biological Diversity and Ecological Integrity

The principle of conservation of biological diversity and ecological integrity upholds that the conservation of biological diversity and ecological integrity should be a fundamental consideration.

As discussed in Section 8.2, the proposal will not have any significant effect on the biological diversity and ecological integrity of the Site or surrounds.

The area has been largely cleared in and does not contain any significant biodiversity or ecological elements. As such there is limited biological diversity and ecological integrity to remain. The Arboricultural Impact Assessment has been prepared and details trees of high value that are to be protected through construction and integrated into the design. The BDAR identified no remnant native vegetation, associated PCTs, threatened flora species, ecological communities or their habitat were recorded within the Site. This demonstrates the conservation ideology carrying through the planning phase and follows into design with measures proposed for implementing landscaping and communal green spaces initiatives to increase the biological and ecological value of the Precinct.

### 7.2.4. Improved valuation, pricing and incentive mechanisms

The principles of improved valuation, pricing and incentive mechanisms, namely environmental factors should be included in the valuation of assets and services, such as:

- polluter pays, that is, those who generate pollution and waste should bear the cost of containment, avoidance or abatement,
- the users of goods and services should pay prices based on the full life cycle of costs of providing goods and services, including the use of natural resources and assets and the ultimate disposal of any waste,

- environmental goals, having been established, should be pursued in the most cost-effective way, by establishing incentive structures, including market mechanisms, that enable those best placed to maximise benefits or minimise costs to develop their own solutions and responses to environmental problems.

Improved valuation, pricing and incentive mechanisms have been included into the design and operation planning of the Site. This has occurred, and will be enhanced in construction through implementation of an Environmental Management Plan stipulating control under which the construction must be conducted. Predominantly waste generation and pollutant discharging from site are governed by strict pricing mechanisms as well as environmental regulations. The use of natural resource is to be minimised through the operation phase with high efficiency water and energy targets being mandated. This is also the case in construction, building and fit out materials with further assessment to be undertaken and influence design accordingly.

### 7.3. Other NSW legislation that applies

Clause 7(1)(d)(v) of Schedule 2 of the EP&A Regulation requires a list of any approvals that must be obtained under any other Act or law before the development may be carried out. Being a SSDA, the requirement for certain other approvals under other NSW legislation is 'switched off' under section 4.41 of the EP&A Act. This includes:

- a permit under 201, 205 or 209 of the *Fisheries Management Act 1994*
- an approval under Part 4, or an excavation permit under section 139, of the *Heritage Act 1977*
- an Aboriginal heritage impact permit under section 90 of the *National Parks and Wildlife Act 1974*
- a bush fire safety authority under section 100B of the *Rural Fires Act 1997*
- a water use approval under section 89, a water management work approval under section 90 or an activity approval (other than an aquifer interference approval) under section 91 of the *Water Management Act 2000*.

With respect to other approvals that are required, the provision of new road that will connect into Andalusian Way and De Clambe Drive will require consent under section 138 of the *Roads Act 1993* by the road authority, in this case Council (part of future DAs). However, in relation to the SSDA, section 4.42 of the EP&A Act provides that other authorisations may be required, including consent under section 138 of the Roads Act, cannot be refused if it is:

- necessary for carrying out an approved State significant development
- substantially consistent with that approval.

## 7.4. State Environmental Planning Policies

An assessment of the Concept Proposal against relevant current and draft SEPPs are detailed in Table 25. Overall, it is considered that the development is consistent with the provisions contained within the relevant SEPPs (and draft SEPPs). Further assessment against these EPIs would be carried out for future DAs.

**Table 25 Assessment of Concept Proposal against relevant SEPPs**

Plan - description and relevance to the project	Assessment
<b>Currently in force</b>	
<b>SEPP (State &amp; Regional Development) 2011</b>	
<p>The SRD SEPP identifies development which is considered to be State Significant.</p> <p>Clause 19(2) of Schedule 1 of the SRD SEPP provides that the following development is SSD:</p> <p>Development within a rail corridor or associated with railway infrastructure that has a capital investment value of more than \$30 million for any of the following purposes:</p> <p>(a) <i>commercial premises or residential accommodation;</i></p> <p>(b) <i>container packing, storage or examination facilities;</i></p> <p>(c) <i>public transport interchanges.</i></p> <p>Clause 14 of Schedule 2 of the SRD SEPP provides that the following development is SSD:</p> <p>Development on land identified as being within the Showground Station Precinct Site on the State Significant Development Sites Map if the development is for the purposes of:</p> <p>(a) <i>a principal subdivision establishing major lots or public domain areas, or</i></p> <p>(b) <i>the creation of new roadways and associated works.</i></p>	<p><b>Complies</b></p> <p>As detailed in section 3.2 the Concept Proposal meets these criteria and is therefore SSD as the:</p> <ul style="list-style-type: none"> <li>Site was acquired by TfNSW for the purpose of the construction and operation of the SMNW, and accordingly is within a rail corridor (<b>Figure 32</b>)</li> <li>development is associated with rail infrastructure (<b>Figure 33</b>)</li> <li>development has a CIV of more than \$30 million and is for the purposes of commercial premises and residential accommodation. Refer accompanying CIV Report at <b>Appendix D</b>.</li> </ul>
<b>SEPP (Urban Renewal) 2010</b>	
<p>This Policy aims to:</p> <ul style="list-style-type: none"> <li>establish the process for assessing and identifying sites as urban renewal precincts</li> <li>facilitate the orderly and economic development and redevelopment of sites in and around urban renewal precincts</li> <li>facilitate delivery of the objectives of any applicable government State, regional or metropolitan strategies connected with the renewal of urban areas that are accessible by public transport.</li> </ul>	<p><b>Not applicable to the Concept Proposal</b></p> <p>Noting however this was required to be addressed as per the SEARs. This Policy applies to land within a potential precinct. Hills Showground is not identified in a potential precinct and as such it does not apply pursuant to Clause 5.</p>

Plan - description and relevance to the project	Assessment
<b>SEPP (Affordable Rental Housing) 2009</b>	
<p>Provides a consistent planning regime for the provision of affordable rental housing and aims to facilitate the effective delivery of new affordable rental housing through incentives.</p> <p>The SEPP includes provisions for the development of new affordable rental housing and controls for the retention existing of affordable housing.</p> <p>Division 1 of the SEPP enables FSR bonuses for infill affordable housing in certain circumstances.</p>	<p><b>Not applicable</b></p> <p>The Concept Proposal does not seek to construct affordable housing under this policy.</p> <p>The Concept Proposal provides for up to 1,900 apartments including a minimum of 5% for affordable housing. Refer Section 4.4.2.</p> <p>The Concept does not qualify for FSR bonus. Future DAs will need to be consistent with the Concept Proposal and will not be able to apply for an FSR bonus without a modification to the SSD approval.</p>
<b>SEPP (Infrastructure) 2007 (ISEPP)</b>	
<p>Aims to facilitate the effective delivery of infrastructure across the State along with providing for consultation with relevant public authorities during the assessment process. The SEPP supports greater flexibility in the location of infrastructure and service facilities along with improved regulatory certainty and efficiency.</p> <p>In particular, the SEPP requires specific consideration of the following clauses addressed below.</p>	<p><b>Complies</b></p> <p>See below.</p>
<p>Clause 45 Determination of development applications—other development</p> <p>Requires consultation is required with electricity suppliers where development that is likely to affect an electricity transmission or distribution network</p>	<p>As part of the preparation of the SEARs TransGrid confirmed that the proposed development would not impact on their electricity infrastructure. Refer Utilities Services Impact Assessment at <b>Appendix Y</b>.</p>
<p>Clause 86 Excavation in, above, below or adjacent to rail corridors</p> <p>Clause 86 applies where development (other than development to which clause 88 applies) that involves the penetration of ground to a depth of at least 2m below ground level (existing) on land in proximity to rail corridor as detailed.</p>	<p>Future developers who purchase the development lots will need to take into account consideration of Clause 86 as appropriate. It is noted that the design of the building over the metro line has been informed by advice given to date. Refer Section 8.9 and both the Geotechnical Assessment in <b>Appendix K</b> and Urban Design Report at <b>Appendix AA</b>.</p>
<p>Clause 87 Impact of rail noise or vibration on non-rail development and Traffic</p> <p>Clause 87 identifies key considerations for the consent authority in determining whether the site is acoustically suitable for residential development, in proximity to railway infrastructure.</p>	<p>The Concept Proposal identifies land that would comprise future development that would be used for residential accommodation purposes that is above a rail corridor, and therefore Clause 87 applies.</p> <p>A Noise and Vibration Assessment has been prepared (<b>Appendix N</b>) that gives consideration against the <i>Development near Rail Corridors and Busy Roads Interim Guideline</i>. This has been further discussed at Section 8.7.</p>

Plan - description and relevance to the project	Assessment
<p>102 Impact of road noise or vibration on non-road development</p> <p>Clause 102 identifies key considerations for the consent authority in determining whether the site is acoustically suitable for residential development, in proximity to road noise or vibration.</p>	<p>The Concept Proposal identifies land that would comprise future development that would be used for residential accommodation purposes that is in proximity to two busy roads, and therefore Clause 102 applies.</p> <p>A Noise and Vibration Assessment has been prepared (<b>Appendix N</b>) that gives consideration against the <i>Development near Rail Corridors and Busy Roads Interim Guideline</i>. This has been further discussed at Section 8.7.</p>
<p>Clause 104 Traffic-generating development</p> <p>This clause applies to development specified in Column 1 of the Table to Schedule 3 that involves:</p> <p>(a) new premises of the relevant size or capacity, or</p> <p>(b) an enlargement or extension of existing premises, being an alteration or addition of the relevant size or capacity.</p>	<p>The proposal qualifies for traffic generating development as per Schedule 3 of the ISEPP (residential accommodation with over 300 dwellings and GFA of over 10,000sqm for commercial premises with access to a road) and will be referred to TfNSW accordingly.</p> <p>The Guide to Traffic Generating Developments is a relevant consideration and is addressed in the Traffic and Transport Assessment. Refer Section 8.9 and Traffic Impact Assessment at <b>Appendix X</b> for further consideration of traffic and transport issues.</p>
<p><b>SEPP (Building Sustainability Index: BASIX) 2004</b></p>	
<p>Operates in conjunction with provision of the EP&amp;A regulation to encourage sustainable residential development (BASIX scheme).</p> <p>The SEPP ensures consistency in the implementation of BASIX throughout the State by overriding competing provisions in other environmental planning instruments and development control plans, which would otherwise add to, subtract from or modify any obligations arising under the BASIX scheme.</p>	<p><b>Not applicable to the Concept Proposal</b></p> <p>The proposal relates to a Concept Approval only. Subsequent applications for the construction of buildings would need to demonstrate design principles and objectives consistent with BASIX requirements and targets in the ESD Report at <b>Appendix J</b>.</p>
<p><b>SEPP No 19—Bushland in Urban Areas</b></p>	
<p>The general aim of this Policy is to protect and preserve bushland within the urban areas referred to in Schedule 1 (being land zoned RE1 Public Recreation) because of:</p> <ul style="list-style-type: none"> <li>its value to the community as part of the natural heritage,</li> <li>its aesthetic value, and</li> <li>its value as a recreational, educational and scientific resource.</li> </ul> <p>Clause 9 Land adjoining land zoned or reserved for public open space requires consideration:</p> <ul style="list-style-type: none"> <li>the need to retain any bushland on the land</li> <li>the effect of the proposed development on bushland zoned or reserved for public open</li> </ul>	<p><b>Complies</b></p> <p>The Design Guidelines (<b>Appendix Z</b>), Integrated Water Cycle Management Strategy (<b>Appendix M</b>) and the Biodiversity Development Assessment Report (BDAR) (<b>Appendix C</b>) consider the interface of the riparian land adjoining Cattai Creek (zoned RE Public Recreation), and the impacts of this Concept Proposal on this land.</p> <p>Noting however that the Site does not directly adjoin land zoned RE1 being the Cattai Creek Corridor as it is separated by De Clambe Drive.</p> <p>As detailed in Section 8.6 stormwater quality treatment devices will ensure that water quality and quantity impacts do not adversely affect Cattai Creek.</p>

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<p>space purposes and, in particular, on the erosion of soils, the siltation of streams and waterways and the spread of weeds and exotic plants within the bushland, and</p> <ul style="list-style-type: none"> <li>any other matters which, in the opinion of the approving or consent authority, are relevant to the protection and preservation of bushland zoned or reserved for public open space purposes.</li> </ul>	<p>Existing vegetation on Site and future planting of native vegetation at the Site will complement Cattai Creek Corridor.</p>
<b>SEPP (Vegetation in Non-Rural Areas) 2017</b>	
<p>This SEPP aims to:</p> <ul style="list-style-type: none"> <li>protect the biodiversity values of trees and other vegetation in non-rural areas of the State</li> <li>preserve the amenity of non-rural areas of the State through the preservation of trees and other vegetation.</li> </ul> <p>The SEPP sets out provisions relating to the requirement of Council permits for clearing of vegetation in non-rural areas and specifics that approval is required by the Native Vegetation Panel where it exceeds the biodiversity offsets scheme.</p>	<p><b>Not applicable to this Concept Proposal</b></p> <p>No vegetation is proposed to be cleared under this proposal.</p> <p>Clearing of any existing vegetation on Precinct East is planned to be undertaken by way of future DAs.</p>
<b>SEPP No 55 - Remediation of Land</b>	
<p>SEPP 55 provides a State-wide approach to the remediation of contaminated land, and primarily promotes the remediation of contaminated land for the purpose of reducing risk of harm to human health.</p> <p>A consent authority must not grant consent to the carrying out of development unless contamination has been considered and, where relevant, land has been appropriately remediated. Refer Clause 7 of SEPP.</p>	<p><b>Complies</b></p> <p>A Soils and Contamination Report (<b>Appendix R</b>) has been undertaken and concludes that the development lots can be made suitable for the proposed land uses, subject to implementation of an appropriate staged data gap contamination assessment (that may include verification reviews of SMNW stage validation reports) and appropriate management of any small scale remaining contamination issues in accordance with NSW EPA guidance as appropriate prior to commencement of future final construction activities. Refer Section 0 for further discussion.</p>
<b>SEPP No. 64 – Advertising and Signage</b>	
<p>Provides state wide controls relating to advertising and signage.</p>	<p><b>Not applicable</b></p> <p>Signage is not proposed as part of this Concept. However, this SEPP may be relevant to future DAs.</p>
<b>SEPP No. 65 –Design Quality of Residential Apartment Development</b>	
<p>SEP 65 aims to improve the design quality of residential apartment development in NSW.</p>	<p><b>Complies</b></p>

Plan - description and relevance to the project	Assessment
<p>The SEPP is also accompanied by the ADG that provides design guidance to improve the planning and design outcomes of residential apartment development.</p> <p>Pursuant to subclause 4 (1), the SEPP applies to development for the purpose of a residential flat building, shop top housing or mixed-use development with a residential accommodation component if:</p> <p>(a) the development consists of any of the following:</p> <p>(i) the erection of a new building,</p> <p>(ii) the substantial redevelopment or the substantial refurbishment of an existing building,</p> <p>(iii) the conversion of an existing building, and</p> <p>(b) the building concerned is at least 3 or more storeys (not including levels below ground level (existing) or levels that are less than 1.2 metres above ground level (existing) that provide for car parking), and</p> <p>(c) the building concerned contains at least 4 or more dwellings.</p>	<p>The Concept Proposal does not propose or involve any physical works that would align with development outlined in subclause 4(1) of the SEPP and therefore this policy does not strictly apply to the proposal.</p> <p>Further, the Concept Proposal does not set out any detailed proposals for residential apartment development.</p> <p>Notwithstanding, the development blocks established as part of the proposed layout and design of the street network provide sufficient flexibility to enable compliant future built form to be designed within the boundaries of each development block.</p> <p>The proposed building envelope and indicative layouts in the Proof of Concept drawings demonstrate that future residential apartment buildings are capable of achieving the relevant provisions of SEPP 65, and the ADG.</p> <p>Moreover, the Plans for Approval and controls within the Design Guidelines achieve compliance with SEPP 65 and the ADG. Refer to the Urban Design Report in <b>Appendix AA</b> and SEPP 65 and ADG Compliance Table and Design Verification Statement <b>Appendix U</b>.</p> <p>Future DAs for construction of the buildings will be required to demonstrate compliance with the ADG.</p>
<p><b>SEPP No 70 – Affordable Housing (Revised Schemes)</b></p>	
<p>This Policy:</p> <p>identifies that there is a need for affordable housing across the whole of the State, and</p> <p>describes the kinds of households for which affordable housing may be provided, and</p> <p>makes a requirement with respect to the imposition of conditions relating to the provision of affordable housing.</p> <p>Clause 9 of the Policy identifies that there is a need for affordable housing within each area of the State.</p> <p>The SEPP enables councils to impose conditions at the DA stage relating to the provision of affordable housing, having regard to the principles in Schedule 2 pursuant to Section 7.32 of the EP&amp;A Act where there to be contribution plan or scheme in place that is reasonable.</p>	<p>The Hills Council does not currently have an affordable housing contribution plan or scheme in place. Action 8.2 of the LSPS identifies that Council will investigate the viability of an affordable housing scheme for new dwellings in urban renewal areas.</p> <p>Notwithstanding the above, the Concept Proposal proposes to meet a minimum of 5% of the total number of dwellings for affordable housing in line with Landcom's Affordability and Diversity Housing Policy.</p>
<p><b>SREP No 20—Hawkesbury-Nepean River (No 2—1997)</b></p>	
<p>The aim of this plan is to protect the environment of the Hawkesbury-Nepean River system by ensuring that the impacts of future land uses are considered in a regional context.</p>	<p>The Concept Proposal is consistent with the objectives and controls of Sydney Regional Environmental Plan (SREP) 20.</p>

Plan - description and relevance to the project	Assessment
	<p>No works are proposed as part of this Concept Proposal and therefore no immediate impact on the Hawkesbury Nepean River system is expected. The Integrated Water Cycle Management Strategy (<b>Appendix M</b>) demonstrates that stormwater quality treatment devices will ensure that water quality and quantity impacts do not adversely affect Cattai Creek and Nepean System. Refer Section 8.6. Further consideration of stormwater management will be addressed as part of future DAs.</p>
<b>Draft policies under consideration</b>	
<p><b>Sydney Metro Northwest: proposed SEPP amendment – Publicly exhibited 08/06/18 – 06/07/2018</b></p>	
<p>The proposed amendment to the SDRP SEPP aims to ensure a state-led, consistent and transparent planning pathway for the development of government land within the eight station precincts along Australia's largest public transport infrastructure project; the \$8.3 billion Sydney Metro Northwest.</p> <p>The proposed amendment - outlined in the consultation paper nominates the Minister for Planning as the consent authority for future development on identified Government owned land, if the development meets the criteria of SSD.</p> <p>SSD must meet one or more of the following criteria:</p> <ul style="list-style-type: none"> <li>• A principal subdivision establishing major lots or public domain areas</li> <li>• The creation of new roadways and associated works</li> <li>• Has a capital investment value of more than \$30 million.</li> </ul> <p>It is proposed to limit the uptake of this clause to development carried out by or on behalf of TfNSW or the Planning Ministerial Corporation established under the EP&amp;A Act.</p>	<p>The Concept Proposal is being undertaken on behalf of TfNSW and qualifies for SSD under these criteria as it:</p> <ul style="list-style-type: none"> <li>• involves the principal subdivision of Precinct East to create a new road, major lots and public domain areas</li> <li>• has a capital investment value of over \$30 million as detailed in the Quantity Surveyor Report at <b>Appendix D</b>.</li> </ul>
<p><b>Draft SEPP (Environment)Exhibited 31/10/17 – 31/01.18</b></p>	
<p>The proposed SEPP (Environment) is to promote the protection and improvement of key environmental assets for their intrinsic value and the social and economic benefits they provide.</p> <p>The proposed new SEPP will integrate provisions from seven existing SEPPs relating to catchments, waterways, urban bushland and world heritage. It will create a single location for these policies in a</p>	<p>As detailed above the Concept Proposal complies with the provisions of SEPP No. 19—Bushland in Urban Areas and SREP No. 20—Hawkesbury-Nepean River (No.2-1997).</p> <p>Based on a review of the Statement of Intended Outcomes the Concept Proposal will ensure that water quality and quantity impacts to Cattai Creek as well as</p>

Plan - description and relevance to the project	Assessment
<p>simple, modern and accessible document. These include:</p> <ul style="list-style-type: none"> <li>• SEPP No. 19—Bushland in Urban Areas</li> <li>• SEPP (Sydney Drinking Water Catchment) 2011</li> <li>• SEPP No. 50—Canal Estate Development</li> <li>• Greater Metropolitan Regional Environmental Plan No. 2—Georges River Catchment</li> <li>• SREP No. 20—Hawkesbury-Nepean River (No.2-1997)</li> <li>• SREP (Sydney Harbour Catchment) 2005</li> <li>• Willandra Lakes Regional Environmental Plan No. 1—World Heritage Property</li> </ul>	<p>other environment impacts are managed appropriately to minimise any adverse impacts.</p>

## 7.5. The Hills Local Environmental Plan 2012

An assessment of the proposal against the relevant provision of the THLEP is outlined in Table.

In summary, this SSDA complies with all but two provisions of THLEP 2012, including the detailed controls established for the broader Showground Station Precinct as set out in Part 9 of THLEP. As demonstrated in the Urban Design Report, the allocation of land uses and the potential scale of GFA allocated across the Site is consistent with land use zoning, floor space and height development standards prescribed for the Site.

The development proposes departures from the minimum lot size requirements for shop top housing and residential development required under Clause 9.1 and minimum building setbacks required under Clause 9.3. A Clause 4.6 Variation Request detailing the justification for these variations has been prepared and is provided at **Appendix E**.

**Table 26 Assessment of Concept Proposal against The Hills LEP 2012**

Planning Control	Assessment
<b>Part 1 Aims</b>	
<b>1.2 Aims of Plan</b>	
<p>(2) The particular aims of this Plan are as follows:</p> <p>(a) to guide the orderly and sustainable development of The Hills, balancing its economic, environmental and social needs,</p> <p>(b) to provide strategic direction and urban and rural land use management for the benefit of the community,</p> <p>(c) to provide for the development of communities that are liveable, vibrant and safe and that have services and facilities that meet their needs,</p>	<p><b>Consistent</b></p> <p>The Concept Proposal is consistent with the aims in that:</p> <ul style="list-style-type: none"> <li>• it provides for the orderly and sustainable development of the Site by establishing a framework for the provision of future built form, utilities, water management and ESD measures to be delivered</li> <li>• it is consistent with the desired future character of the area by proving a high density, transit</li> </ul>

Planning Control	Assessment
<p>(d) to provide for balanced urban growth through efficient and safe transport infrastructure, a range of housing options, and a built environment that is compatible with the cultural and natural heritage of The Hills,</p> <p>(e) to preserve and protect the natural environment of The Hills and to identify environmentally significant land for the benefit of future generations,</p> <p>(f) to contribute to the development of a modern local economy through the identification and management of land to promote employment opportunities and tourism.</p>	<p>orientated mixed use precinct with a range of housing options while respecting the heritage and cultural values of the area</p> <ul style="list-style-type: none"> <li>the design of the buildings and public spaces and domain, provide safe and inviting environment for people of all generations and abilities to recreate, enjoy, shop and work which assist in creating liveable, vibrant and safe environment</li> <li>it seeks to minimise any adverse impacts to neighbouring Cattai Creek and riparian area</li> <li>it provides employment opportunities through the allocation of areas for non-residential floor space within the Hills Showground West and Doran Drive precincts.</li> </ul>
<b>Part 2 Permitted or prohibited development</b>	
<b>2.3 Zone objectives and Land Use Table</b>	
<p>Hills Showground West and Doran Drive precincts are zoned B2 Local Centre and Hills Showground East is zoned R1 General Residential.</p> <p>Refer <b>Figure 27</b> for an extract of the Land Zoning Map.</p>	<p><b>Complies</b></p> <p>The Site will cater for a diverse range of uses across three development precincts including commercial office areas, ground floor retail, residential flat buildings, and shop top housing.</p> <p>The proposed uses are permitted with consent within the B2 and R1 zone.</p> <ul style="list-style-type: none"> <li>In the case of land zoned R1 Precinct East – roads, residential flat buildings and recreation areas.</li> <li>In the case of the B2 zone - recreational area, shop top housing, residential flat buildings, shop top housing, and a range of non-residential uses including: commercial premises (includes retail premises, business premises and office premises), community facilities, and medical centres.</li> </ul>
<p><b>Zone B2 Local Centre</b></p> <p>1 Objectives of zone</p> <ul style="list-style-type: none"> <li>To provide a range of retail, business, entertainment and community uses that serve the needs of people who live in, work in and visit the local area.</li> <li>To encourage employment opportunities in accessible locations.</li> <li>To maximise public transport patronage and encourage walking and cycling.</li> </ul>	<p><b>Consistent</b></p> <p>The Concept Proposal for Hills Showground West Precinct and Doran Drive Precinct provides:</p> <ul style="list-style-type: none"> <li>a range of non-residential uses GFA to serve the needs of people who live in, work in and visit the area</li> <li>a high-density transit orientated mixed use development that seeks to maximise use of public transport and encourage walking and cycling through well-designed public streets and human scale public domain as well as minimising vehicle use through reduced parking rates.</li> </ul>
<b>Zone R1 General Residential</b>	<b>Consistent</b>

Planning Control	Assessment
<p>1 Objectives of zone</p> <ul style="list-style-type: none"> <li>To provide for the housing needs of the community.</li> <li>To provide for a variety of housing types and densities.</li> <li>To enable other land uses that provide facilities or services to meet the day to day needs of residents.</li> <li>To enable other land uses that support the adjoining or nearby commercial centres and protect the amenity of the adjoining or nearby residential areas.</li> </ul>	<p>The Concept Proposal for Hills Showground East provides:</p> <ul style="list-style-type: none"> <li>for a range of housing types (one, two- and three-bedroom apartments some which are dual level) across a number of buildings of various heights and densities to meet the community's different needs, preferences and budgets of the community</li> <li>residential precinct that will support the viability of non-residential uses on the adjacent B2 zoned land and Castle Hill Showground</li> <li>home business or home occupations are permitted without consent and could be accommodated within the future residences.</li> </ul>
<b>2.6 Subdivision—consent requirements</b>	
Subdivision of land requires consent unless it is specified as exempt development in an applicable environmental planning instrument,	<p><b>Complies</b></p> <p>The Concept Proposal seeks concept approval for the Concept principal subdivision of Precinct East. Future detailed DA will be lodged to undertake the works.</p>
<b>Part 4 Principal development standards</b>	
<b>4.1 Minimum subdivision lot size</b>	
<p>(1) The objectives of this clause are as follows:</p> <p>(a) to provide for the proper and orderly development of land,</p> <p>(b) to prevent fragmentation or isolation of land,</p> <p>(c) to ensure that the prevailing character of the surrounding area is maintained.</p>	<p><b>Variation</b></p> <p>A variation to the minimum lot size control set out in clause 9.1 is sought. A Clause 4.6 Request is included at <b>Appendix E</b> and demonstrates how the development meets the objectives of the clause.</p>
<b>4.3 Height of buildings</b>	
<p>(1) The objectives of this clause are as follows:</p> <p>(a) to ensure the height of buildings is compatible with that of adjoining development and the overall streetscape,</p> <p>(b) to minimise the impact of overshadowing, visual impact, and loss of privacy on adjoining properties and open space areas.</p> <p>The maximum height of any building as per the Height of Buildings Map:</p> <ul style="list-style-type: none"> <li>68m (20 storeys) for land zoned B2 Local Centre comprising the Hills Showground Precinct West and Doran Drive Precinct)</li> <li>52m (16 storeys) for land zoned R1 General Residential (Hills Showground Precinct East)</li> </ul> <p>Refer <b>Figure 28</b>.</p>	<p><b>Complies</b></p> <p>The Concept Proposal is consistent with the objectives of the Clause in that:</p> <ul style="list-style-type: none"> <li>Higher buildings are located at the Doran Drive and West Precincts that are in closest proximity to the station</li> <li>Lower scale buildings are located in Precinct East to provide a transition to the lower scale residential in the east and future scale of the development on the southern side of Carrington Road</li> <li>The proposed built form seeks to minimise impacts (overshadowing, visual, loss of privacy and open space) through articulation and variations to height – refer Section 8.3.</li> </ul>

Planning Control	Assessment
	<p>The Concept Proposal complies with the maximum height controls as follows:</p> <ul style="list-style-type: none"> <li>The building range in scale from approximately 13m (4-storeys) street wall.</li> <li>A maximum 68m (20-storeys) for Doran Drive Precinct and Precinct West.</li> <li>Precinct East is comprised of a maximum 52m (16 storeys) on the Andalusian Way, De Clambe Drive and Showground Road interfaces, and a maximum of 39m (12 storeys) to Carrington Road.</li> </ul> <p>Refer to Section 8.3 and Urban Design Report for further detail.</p>
<b>4.4 Floor space ratio</b>	
<p>(1) The objectives of this clause are as follows:</p> <p>(a) to ensure development is compatible with the bulk, scale and character of existing and future surrounding development,</p> <p>(b) to provide for a built form that is compatible with the role of town and major centres.</p> <p>The maximum FSR for any building on:</p> <ul style="list-style-type: none"> <li>Hills Showground Precinct West is 5:1</li> <li>Doran Drive Precinct is 4:1</li> <li>Hills Showground Precinct East is 3:1</li> </ul> <p>Refer <b>Figure 29</b>.</p>	<p><b>Complies</b></p> <p>The Concept Proposal complies with the FSR controls applicable to the relevant precincts:</p> <ul style="list-style-type: none"> <li>Hills Showground Precinct West is 4:1</li> <li>Doran Drive Precinct is 3.2:1</li> <li>Hills Showground Precinct East is 2.9:1.</li> </ul> <p>Refer to the Precinct-specific Plans and Yields in the Urban Design and Landscape Report for further detail.</p>
<b>4.6 Exceptions to development standards</b>	
<p>(1) The objectives of this clause are as follows:</p> <p>(a) to provide an appropriate degree of flexibility in applying certain development standards to particular development,</p> <p>(b) to achieve better outcomes for and from development by allowing flexibility in particular circumstances.</p>	<p><b>Complies</b></p> <p>The clause provides for a variation to a development standard to support departures to a development standard.</p> <p>A Clause 4.6 Request is provided at <b>Appendix E</b> to support departures from the minimum lot size requirements for shop top housing and residential development required under Clause 9.1 of 3,600sqm and minimum building setbacks that required under Clause 9.3.</p>
<b>Part 5 Miscellaneous provisions</b>	
<b>5.1 Relevant acquisition authority</b>	
<p>(1) The objective of this clause is to identify, for the purposes of section 27 of the Act, the authority of the State that will be the relevant authority to acquire land reserved for certain public purposes if the land is required to be acquired under Division 3 of Part 2 of the Land Acquisition (Just Terms Compensation) Act 1991 (the owner-initiated acquisition provisions).</p>	<p><b>Complies</b></p> <p>Local Road widening required along Carrington Road is associated with the upgrade of the Showground Road and Carrington Road intersection. (See <b>Figure 28</b>). THLEP identifies that this land is to be acquired by Council however it is understood RMS is</p>

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	<p>coordinating this. Development is not permitted on this land unless it is consistent with that purpose.</p> <p>The portion of land identified for acquisition for road widening will be dedicated to Council and has been excluded from the Hills Showground Station Precinct East. Discussions have been ongoing regarding this matter with the RMS.</p>
<b>5.10 Heritage conservation</b>	
<p>The objectives of this clause are as follows:</p> <p>(a) to conserve the environmental heritage of The Hills,</p> <p>(b) to conserve the heritage significance of heritage items and heritage conservation areas, including associated fabric, settings and views,</p> <p>(c) to conserve archaeological sites,</p> <p>(d) to conserve Aboriginal objects and Aboriginal places of heritage significance.</p> <p>(2) Requirement for consent</p> <p>Development consent is required for any of the following:</p> <p>(a) demolishing or moving any of the following or altering the exterior of any of the following (including, in the case of a building, making changes to its detail, fabric, finish or appearance):</p> <p>(i) a heritage item,</p> <p>(ii) an Aboriginal object,</p> <p>(iii) a building, work, relic or tree within a heritage conservation area,</p> <p>(b) altering a heritage item that is a building by making structural changes to its interior or by making changes to anything inside the item that is specified in Schedule 5 in relation to the item,</p> <p>(c) disturbing or excavating an archaeological site while knowing, or having reasonable cause to suspect, that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed,</p> <p>(d) disturbing or excavating an Aboriginal place of heritage significance,</p> <p>(e) erecting a building on land:</p> <p>(i) on which a heritage item is located or that is within a heritage conservation area, or</p> <p>(ii) on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance,</p> <p>(f) subdividing land:</p>	<p><b>Complies</b></p> <p>The Site is not located within a heritage conservation area and there are no heritage items within the Site. However, the Site is in the vicinity of a number of heritage items, including 128–132 Showground Road and 107 Showground Road.</p> <p>The Site is also located directly adjacent to the Castle Hill Showground, which has been identified in previous studies as having cultural significance at a local level.</p> <p>A n Aboriginal and non-Aboriginal Heritage Impact Statement (<b>Appendix L</b>) has been prepared and concluded that the proposal is:</p> <ul style="list-style-type: none"> <li>• unlikely to impact on Aboriginal archaeological objects</li> <li>• unlikely to impact on significant historical archaeological remains and relics.</li> <li>• is not considered to have an adverse impact on the significance of those items in the vicinity, or their setting or curtilage</li> </ul> <p>Refer Section 8.5 for further assessment of heritage impacts.</p>

Planning Control	Assessment
<p>(i) on which a heritage item is located or that is within a heritage conservation area, or</p> <p>(ii) on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance.</p>	

Planning Control	Assessment
<b>7.1 Acid sulfate soils</b>  (1) The objective of this clause is to ensure that development does not disturb, expose or drain acid sulfate soils and cause environmental damage. There is no map sheet no. 16 for Acid Sulfate Soils in THELEP for which the site is located, therefore this clause does not apply.	<b>Not applicable</b>  The Site is not identified on Council's acid sulfate soils maps. Consideration of the site's geology is addressed in the Soils and Contamination Report <b>Appendix R</b> which concluded that is no appreciable risk of acid sulfate soils present within natural residual soils at the Site given the formation environment. Therefore, no future management for the potential presence of acid sulfate soils is required during future ground disturbance works.
<b>7.3 Flood planning</b>  (1) The objectives of this clause are as follows: (a) to minimise the flood risk to life and property associated with the use of land, (b) to allow development on land that is compatible with the land's flood hazard, taking into account projected changes as a result of climate change, (c) to avoid significant adverse impacts on flood behaviour and the environment. (2) This clause applies to land at or below the flood planning level. (3) Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that the development: (a) is compatible with the flood hazard of the land, and (b) is not likely to significantly adversely affect flood behaviour resulting in detrimental increases in the potential flood affectation of other development or properties, and (c) incorporates appropriate measures to manage risk to life from flood, and (d) is not likely to significantly adversely affect the environment or cause avoidable erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses, and (e) is not likely to result in unsustainable social and economic costs to the community as a consequence of flooding.	<b>Complies</b>  The Integrated Water Cycle Management Strategy provided at <b>Appendix M</b> identified that the Cattai Creek 1%AEP flood extent is largely confined to within the existing riparian corridor and flooding from the tributary of Cattai Creek on the eastern side does not inundate the site. The modelling presented in the NRT report (NRT, 2016) showed that the 1%AEP flood extent with climate change considered (by assuming 10% increase to rainfall intensity) is still contained within the riparian corridor and does not impact on the Site. The PMF extent inundates the road areas along De Clambe Drive near the intersection with Carrington Drive.  Refer to Section 8.6 for discussion of flood management measures recommended for the Site.

Planning Control	Assessment								
<b>Part 9 Showground Station Precinct</b>									
<b>9.1 Minimum lot sizes for residential flat buildings and shop top housing</b>									
<p>The minimum lot size for residential flat buildings (RFBs) and shop top housing in the Showground Precinct is as follows:</p> <table border="1"> <thead> <tr> <th>Zoning and use</th><th>Minimum lot size</th></tr> </thead> <tbody> <tr> <td>RFBs &gt;11m Zoned B1 and R1</td><td>3,600sqm</td></tr> <tr> <td>RFBs &lt;11m Zoned R1</td><td>1,800sqm</td></tr> <tr> <td>Shop top housing Zoned B1 and R1</td><td>3,600sqm</td></tr> </tbody> </table>	Zoning and use	Minimum lot size	RFBs >11m Zoned B1 and R1	3,600sqm	RFBs <11m Zoned R1	1,800sqm	Shop top housing Zoned B1 and R1	3,600sqm	<p><b>Partial variation</b></p> <p>Hills Showground Precinct East and Doran Drive Precinct is &gt;3600sqm being 28,200sqm and 7,969sqm respectively. The Concept Proposal SSDA seeks approval for the subdivision of Precinct East into a number of development lots to facilitate the orderly delivery of the built form consistent with the Concept Proposal. The proposed subdivision includes the creation of proposed Lot 3 which at 2,286m<sup>2</sup> is less than the minimum lot size.</p> <p>Hills Showground Precinct West is 3,293sqm and is proposed to have buildings with a height greater than 11m and not comply with the minimum lot size.</p> <p>Refer Clause 4.6 for justification for the variation to this development standard for these lots.</p>
Zoning and use	Minimum lot size								
RFBs >11m Zoned B1 and R1	3,600sqm								
RFBs <11m Zoned R1	1,800sqm								
Shop top housing Zoned B1 and R1	3,600sqm								
<b>9.2 Site area of proposed development includes dedicated land</b>									
<p>The site area of proposed development on land within the Showground Station Precinct is, for the purpose of applying an FSR under clause 4.5, taken to include land that:</p> <p>(a) is dedicated to the Council or a public authority for a public purpose (including roads, drainage or open space), and</p> <p>(b) would have been part of the site area if it had not been so dedicated.</p>	<p><b>Complies</b></p> <p>The site area and allowable FSR has been calculated taking into account land that has or will be dedicated for open space and roads. Refer Section 4.5 which identifies how the areas that have been included to calculate the allowable FSR of the three development lots.</p>								
<b>9.3 Minimum building setbacks</b>									
<p>Development consent must not be granted to development on land within the Showground Station Precinct unless the front building setback of any building resulting from the development is equal to, or greater than, the distance shown for the land on the Building Setback Map.</p> <p>The minimum front building setback of any building on land within Hills Showground Precinct East along Carrington Road or within the new street as shown in <b>Figure 30</b> is 5m.</p>	<p><b>Partial variation</b></p> <p>The Concept Proposal requires a variation to the development standard for setbacks for the proposed internal road. The setback provided is 4.5m, being a minor variation (10%) to the development standard of 5m for this road.</p> <p>Refer Clause 4.6 for justification for the variation to this development standard for these lots.</p>								
<b>9.4 Development requiring the preparation of a development control plan</b>									
<p>(1) The objective of this clause is to ensure that development within the Showground Station Precinct</p>	<p><b>Complies</b></p> <p>Council has prepared a site-specific development controls for the wider Showground Station Precinct</p>								

Planning Control	Assessment
<p>occurs in accordance with a site-specific development control plan.</p> <p>(2) This clause applies to development on land:</p> <p>(a) that has a site area of at least 3,600 square metres, and</p> <p>(b) that is within the Showground Station Precinct.</p> <p>Site specific development controls are to be prepared for development on land that has a site area of at least 3,600 square metres and is within the Showground Station Precinct.</p>	<p>contained within Part D Section 19 of the THDCP 2012 – refer Section 7.6. The approved Concept Drawings and Urban Design Guidelines will form the site-specific controls for the Site.</p>
<b>9.5 Design excellence</b>	
<p>(1) The objective of this clause is to deliver the highest standard of architectural, urban and landscape design.</p> <p>(2) This clause applies to development involving the erection of a new building or external alterations to an existing building on land within the Showground Station Precinct.</p> <p>(3) Development consent must not be granted to development to which this clause applies unless the consent authority considers that the development exhibits design excellence.</p> <p>Subclause (4) prescribes matters that must be considered in determining whether a building exhibits design excellence.</p> <p>Subclause (5) requires:</p> <ul style="list-style-type: none"> <li>Buildings &gt;21m or 6 storeys (or both) and &lt;66m or 20 storeys (or both) it will be required to be reviewed by a Design Excellence Panel (DEP) and the consent authority takes into account the findings of the DEP,</li> <li>Buildings &gt;66m or 20 storeys (or both) an architectural design competition is required to be held and the consent authority takes into account the results of the architectural design competition unless NSW Government Architect certifies that this does not need to occur and the proposal is reviewed by the DEP.</li> </ul>	<p><b>Complies</b></p> <p>No building works are proposed under this application. However, the Design Guidelines proposed by this concept SSDA and the Design Excellence Strategy will support design excellence for future applications within Showground Station Precinct.</p> <p>The Concept Proposal demonstrates that proposed built form is capable of achieving design excellence and has been reviewed by the SDRP and addressed the matters specified in the Urban Design Guidelines.</p> <p>The Design Guidelines at <b>Appendix Z</b> have been prepared for the future stage(s) of development and built forms with specific guidance to ensure design excellence. The Design Excellence Strategy at <b>Appendix I</b> sets out how future stage(s) of the development will achieve design excellence.</p> <p>Future development involving the erection of a new building or external alterations to an existing building within the Site will be required to exhibit design excellence in accordance with this clause.</p>
<b>9.6 Active street frontages in Zones R1 and B2</b>	
<p>Active street frontages are required to be provided as shown in <b>Figure 31</b>.</p>	<p><b>Complies</b></p> <p>Active uses on the ground floor of the buildings will be provided along Doran Drive and Mandala Parade adjacent to the metro station entry as well as along De Clambe Drive. This is detailed in the Urban Design Guidelines refer <b>Appendix Z</b>.</p>
<b>9.8 Maximum number of dwellings</b>	

Planning Control	Assessment
The consent authority must not grant development consent to development that results in more than 5,000 dwellings on land within the Showground Station Precinct.	<p><b>Complies</b></p> <p>The Concept will secure a maximum residential GFA of 169,062m<sup>2</sup> equating to up to 1,900 dwellings.</p> <p>The above dwelling numbers are consistent with what is envisaged for this Site.</p> <p>As noted in the LSPS, population growth for the Showground Station precinct is estimated at 7,000 dwellings to 2036, with 3,800 post 2036. It is envisaged the controls in the LPP will be updated to reflect the.</p>

## 7.6. The Hills Development Control Plan 2012

As detailed above, Clause 11 of the SRD SEPP states that DCPs do not apply to SSD. Notwithstanding this, consideration has been given to THDCP in preparing the Concept Proposal as required by the SEARs.

The Concept Proposal and the Urban Design Report and Guidelines have been informed by the relevant provisions of THLEP together with a number of technical studies including geotechnical, heritage, wind, visual, soil and contamination, traffic, ESD, civil and air quality as listed in the table of contents. In addition, consultation with Council, DPIE, GANSW, other public agencies and the community have contributed as detailed in Section 5.

Once approved, the concept proposal, including the Urban Design Framework (Urban Design Report, Guidelines and Design Excellence Strategy) and ESD Framework will provide the site-specific controls for the Site.

The following sections of the THDCP are relevant to the project and have been considered in preparation of the EIS:

- Part A Introduction
- Part B Section 5 - Residential Flat Building
- Part B Section 8 - Shop Top Housing and Mixed-Use Development
- Part C Section 1 – Parking
- Part C Section 3 – Landscaping
- Part C Section 4 – Heritage
- Part C Section 6 – Flood Controlled Land
- Part D Section 19 - Showground Precinct.

In summary, the Concept Proposal is generally consistent with THDCP:

- The densities and heights, movement network, and location of uses are consistent with the Showground Precinct Structure Plan
- The Integrated Water Cycle Management Strategy demonstrates that subject to the implementation of recommended measures, the Concept Proposal will not adversely affect the operation capacity of the downstream stormwater system
- ESD Framework will ensure that commitments to sustainability are met, many of which go beyond Council's requirements
- Flood controls will be implemented as required
- Built forms provide an appropriately scaled and attractive interface with the Cattai Creek riparian corridor, public open space and the public domain
- Heritage will not be adversely affected and will be celebrated through the implementation of the Heritage Interpretation Strategy
- The Concept Proposal meets communal open space requirements.

Key differences are detailed below.

### **Road layout through Precinct East**

Section 4.1 (1) envisaged a local road from De Clambe Drive to Carrington Road through Precinct East. During the consideration of structure plan options an alternative local road alignment from Andalusian Way and around to De Clambe Drive was deemed a better design outcome as it:

- Discourages through site traffic creating a pedestrian friendly environment
- Provided a better entry for the 12-storey building over the rail line
- Enables better connections to Mandala Parade and the station
- Will provide better surveillance of the park and the ability to retain a significant number of trees.
- Mitigate the concerns of RMS stakeholders who do not endorse an additional intersection onto Carrington Road

In addition, the new location of the street is consistent with the objectives of THDCP control in that:

- the low traffic pedestrianised environment will encourage people to walk and cycle to the station and shops
- the new street will be functional and attractive and cater for the residents of the precinct and users of the public park, and will avoid unnecessary through traffic and associated land use conflicts
- the street complies with requirement of 17m street profile.

## Development adjoining the Cattai Creek Riparian Corridor

Section 4.10 (1) of Section 19 of THDCP sets out guidelines for development of land that is in proximity to the Cattai Creek Corridor.

A small portion of western section Precinct West is located in the riparian interface Area B. The proposed development on this lot generally complies with this section. The exception is the setback above the 4th storey which is proposed to be 2m to a maximum of 12 storeys rather than a setback of 6m to a maximum of 6 storeys.

The proposed built form outcome is considered appropriate scale at this interface given the building is over ~ 35m from the creek line and 20m from the footpath adjacent to the corridor, the development complies with the density and height controls within the LEP. The design of the buildings will be attractive and of high-quality design as ensured through the Design Excellence Strategy.

## Setbacks

Section 5.3 of Section 19 sets out setback controls for the Showground Station Precinct.

Proposed setbacks (See Figure 57) comply with the ADG and have been informed by detailed urban design analysis in consultation with stakeholders and are considered appropriate for a high density mixed use precinct and will deliver high quality public domain outcomes and will be consistent with the objectives of THDCP in that:

- setbacks will create a strong definition to the public domain and create a consistent streetscape
- setbacks will allow for an appropriate level of landscaping and public/private interface design, which is demonstrated within the Urban Design Framework.
- towers will be setback from the street to reduce building scale and bulk and enable adequate sunlight access to the public domain
- the guidelines provide that buildings will be articulated to complement building mass and emphasise key design elements
- in all instances building separation achieves or exceeds ADG requirements.

## Building length

Section 5.5 (6) of Section 19 of the THDCP states that: *On streets with a road reserve of less than 20m in the width, the length of the façade shall not exceed 40m. On streets with a road reservation of 20m or greater in width the street frontage shall not exceed 65m.*

The building on proposed lot 3 in Precinct East is at 54m and responds to both Carrington Road at 20m and the new precinct east street at 17m.

Building proposed on Precinct West to Doran Drive exceed 40m and have frontage to De Clambe Drive at 93m.

Section 5.5 (6) of Section 19 of the THDCP states that: *Buildings are to have a maximum length of 65m. Where a building has a length greater than 30m it is to be separated into at least two parts by a significant recess or projection.*

Podiums in Precinct West and Doran Drive and Podium facing Andalusian Way is greater than 65m.

Appropriate setbacks and articulation requirements in the Urban Guidelines will ensure articulation of podiums and establish positive streetscape with high quality architectural design consistent with the objectives of the control. This will be further ensured through the Design Excellence Strategy.

### **Tower floor plates**

Section 5.1 (17) states that tower floor plate (floors above the 8th storey) is limited to 750m<sup>2</sup> gross floor area per storey.

Some towers have a greater floor plate than 750m<sup>2</sup> with approximately 5 buildings with a maximum of 1,180m<sup>2</sup>.

Larger floor plates have been provided to achieve amenity consistent with the objectives of the control solar access and ventilation requirements of the ADG. Buildings articulated to ensure that they will not be overwhelming in bulk and scale as required by the Urban Design Guidelines as well as setback controls and four storey podiums will provide for open, attractive and distinct skyline.

### **Solar Access and Overshadowing**

Section 5.8(3) of Section 19 requires states that:

*The development shall not create additional overshadowing, of land identified for public open space, between the hours of 11am-2pm on 21 June. This includes public open spaces outside and adjacent to the precinct.*

This Section is relevant for the existing Station Plaza area only as the other public open spaces will be newly created and therefore have no 'additional' overshadowing.

This control is unachievable for the Station Plaza as at the time the Plaza was developed there were no buildings within the Doran Drive Precinct to the north, yet it was always envisaged that the Doran Drive Precinct would ultimately include high density mixed use development. Therefore, it is considered that the application of this control is unreasonable.

We note that all public open spaces within the site will achieve excellent solar gain – a principle that has very much driven the structure plan and orientation of the buildings during the development of the Concept Proposal. The proportion of open space that receives 2hrs sunlight between 9am-3pm on 21<sup>st</sup> June for the communal open space is:

- 100% of Doran Drive Plaza
- 65% Station Plaza
- 70% for Precinct East Park.

The Concept Proposal is consistent with the objective of the control. The development provides adequate solar access to these areas providing for the enjoyment of these spaces during the winter solstice.

### Vehicle parking rates

The parking rates for residential flat buildings and dwellings in shop top housing within the Showground Station Precinct are set out in Part D Section 19 of the DCP is as follows:

- 1 resident space per unit.
- 1 visitor space per 5 units.

Residential rates proposed are based on bedroom sizes and minimum and maximum rate:

Land uses	Minimum vehicle parking rates	Maximum vehicle parking rates
Residential		
1 bedroom	0.6 spaces	1 space
2 bedrooms	0.9 spaces	1 space
3 bedrooms	1.4 spaces	1.5 spaces
Visitor	0.1 space per dwelling	

The Concept Proposal responds to the opportunity to create a transit-oriented centre by reducing the amount of car parking, reflecting the higher level of public transport services and providing walking and cycling facilities to enhance seamless connections with the regional facilities. The recommended parking rates sought to be approved under this Concept Proposal seek to discourage private vehicle use and minimise traffic impacts. Refer Traffic and Transport Impact Assessment (**Appendix X**) for further justification.

A detailed assessment of the Concept Proposal against DCP provisions is provided at **Appendix G**.

## 7.7. Showground Station Precinct Contribution Plan No. 19

Section 7.11 contributions will be levied under the Showgrounds Station Precinct Contributions Plan No. 19 (Contributions Plan) as part of subsequent DAs for residential, non-residential or mixed-use development.

The Concept Proposal provides for Doran Drive Plaza (1,400m<sup>2</sup>) for passive open space at Doran Drive Precinct consistent with the Contributions Plan. The future purchaser will be responsible for negotiating the embellishment works and dedication of this land.

In addition, a new public park (3,500m<sup>2</sup>) is proposed within Precinct East that is not funded under the Contribution Plan. The dedication of this land will be subject to further discussion with Council as part of a future detailed DAs. Further, the Concept Proposal seeks approval of up to 13,600m<sup>2</sup> for non-residential floor space that will provide the opportunity for the delivery of a community uses not funded under the Contribution Plan. The location and size will be subject to further discussion with Council as part of a future detailed DAs

## 8. Assessment of potential impacts

This Section discusses the key environmental, social and economic impacts of the proposal and how these impacts are managed, minimised or mitigated. Technical reports underpinning the assessment and providing further detail are provided in the Appendices.

As required by the SEARs, the assessment of each issue includes an environmental risk assessment (where relevant to that issue) based on:

- adequate baseline data
- consideration of cumulative impacts due to other development in the vicinity
- measures to avoid, minimise and if necessary, offset the predicted impacts including contingency plans for managing significant risks to the environment.

### 8.1. Air quality

A Concept Design Air Quality Assessment (**Appendix B**) has been prepared by GHD to assess the likely air quality impacts on the Site. The Assessment has been prepared in accordance with Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (EPA, 2016) with reference to the DPIE's Guidelines "Development Near Rail Corridors and Busy Roads - Interim Guidelines".

#### 8.1.1. Existing conditions

To enable a qualitative and quantitative assessment of the potential air quality impacts, the assessment has reviewed data collected by the National Pollution Inventory (NPI) of nearby pollutant emitting facilities and the Office of Environment and Heritage's (OEH) ambient air quality monitoring stations. A review of the background air quality recorded from Macquarie Park identified elevated concentrations of PM<sub>10</sub> and PM<sub>2.5</sub>.

The sources of emissions with potential to impact receptors within the Site include:

- rail emissions from metro train movements
- local industrial activities
- road vehicle emissions.

The key air pollutants associated with the identified emission sources include:

- airborne particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>)
- products of combustion such as oxides of nitrogen (NO<sub>2</sub>), carbon monoxide (CO), sulphur dioxide (SO<sub>2</sub>) and volatile organic compounds (VOCs)
- ammonia, boron and compounds, chromium (III) compounds, copper and compounds, fluoride compounds, Manganese & compounds, nickel & compounds, Polycyclic Aromatic Hydrocarbons (PAHs), Zinc and compounds.

Details of air quality emissions from the National Pollution Inventory for nearby industrial activities is provided in **Table 27**.

**Table 27** Nearby polluting facilities (NPI database)

Facility	Air quality pollutant emissions	Approximate distance from proposal
Castle Hill Sewage Treatment Plant	Ammonia	1.5 km North of proposal
HURD HAULAGE PTY LTD, Hy-tec Yarrabee Road Quarry	PM <sub>10</sub> , PM <sub>2.5</sub> , CO, VOC, NO <sub>2</sub> , Boron & compounds, Chromium (III) compounds, Copper & compounds, Fluoride compounds, Manganese & compounds, Nickel & compounds, Polycyclic Aromatic Hydrocarbons (PAHs), sulphur dioxide (SO <sub>2</sub> ), Zinc and compounds	4.7 km South of proposal

### 8.1.2. Air quality impact assessment

Consideration was given to the air quality impact assessment of train movements on nearby sensitive receptors undertaken for the NWRL EIS (Stage 2). The conclusions made in that assessment were that no local air quality impacts would occur as a result of SMNW operations. The EIS deemed emissions from wheel and brake actions were minor, and that the proposed design and positioning of air vents, car parks and 'kiss and ride' facilities will ensure no local air quality impacts on sensitive receivers.

Emissions from the industrial activities in the area (identified in **Table 26**) are not expected to impact on the proposal. These sites operate in accordance with their Environmental Protection Licence (EPL). Assuming the facilities maintain compliance with their EPL, no adverse air quality impacts are expected on the Site.

Road emissions have been assessed from Carrington Road and Showground Road only, as the other roads within and surrounding the development are anticipated to have low traffic levels. The nearest habitable room from Showground Road is 10.5m from the road and the nearest building envelope is 7.5m. The nearest habitable room from Carrington Road is 13m from the road and the nearest building envelope is 10m. It is assumed that the difference is a balcony (3 m wide) which faces the road.

Results of air quality modelling for Carrington Road predicts no exceedances against the assessment criteria. All proposed balconies and habitable spaces facing Carrington Road are more than 10m from the roadway.

Road traffic emission predictions for Showground Road PM<sub>10</sub> and PM<sub>2.5</sub> levels are characterised by relatively high background and lower site specific (incremental) concentrations. The predicted annual PM<sub>2.5</sub> concentration (at 10 m from the roadway) exceeds the assessment. The annual PM<sub>2.5</sub> emissions will increase by 1.6 µg/m<sup>3</sup> due to road emissions and a background component of 7.0 µg/m<sup>3</sup>. The sum of these components is results in a cumulative concentration of 8.6 µg/m<sup>3</sup>, in comparison to an 8 µg/m<sup>3</sup> criteria.

It is important to note that predicted pollutant concentrations are outdoors and do not consider complex building shielding and air flow effects that may reduce direct exposure of the building to the impacts of road traffic emissions. If the buildings are all air conditioned, we can expect an improvement of indoor air quality while in use.

It should be noted that the background annual  $\text{PM}_{2.5}$  concentration of  $7 \mu\text{g}/\text{m}^3$  is high, accounting for 87.5% of the assessment criteria ( $8 \mu\text{g}/\text{m}^3$ ). This background concentration was taken from the Macquarie Park air quality monitoring station. This indicates poor air quality on a regional level and would impact the proposed development regardless of the exact location of the proposed use.

It is important however that all residents and users of the Hills Showground Station Precinct have access to clean air, and efforts should be made during design to reduce the risk of occupants experiencing elevated pollutant levels.

### 8.1.3. Recommendations

Based on the assessment, screening level road traffic emission predictions identified that under worst-case conditions, the annual  $\text{PM}_{2.5}$  emissions may exceed the criteria for dwellings and buildings located directly along Showground Road. Further investigations should be completed during detailed design to confirm the necessary mitigation measures and recommendations below.

The following specific design recommendations are made for any sensitive uses (residential and child care) located directly along Showground Road:

- The internal area of residential dwellings in Precinct East is to be located at least 10m from the roadway
- Any balconies directly facing Showground Road on the ground and first floor should be able to be closed (i.e. a winter garden or sun room). Windows on the balcony should be openable/closable to allow the occupant to prevent direct air flow from Showground Road as desired
- All dwellings and sensitive spaces (such as childcare centres) that directly face Showground Road are to have mechanical ventilation/air conditioning
- Design to consider the formation of urban canyons that can reduce pollutant dispersion. Having buildings of different heights interspersed with open areas, and setting back the upper stories of multi-level buildings helps to avoid urban canyons
- Additional road traffic emissions modelling (such as Graz Lagrangian Model) should be undertaken during detailed design to confirm the necessary mitigation measures, and provide a more detailed and less conservative assessment.

The recommendations have been considered as part of the Concept Proposal and Urban Design Guidelines with regards to air quality.

The assessment concluded that the concept design is feasible from an air quality perspective, based on a conservative assessment and consider the design to be capable of conforming to the recommendations/criteria within this report. Further assessment is recommended during detailed design to confirm air quality considerations.

## 8.2. Biodiversity

A BDAR has been prepared by WSP (**Appendix C**) to assess the impact of the Concept Proposal on biodiversity. The BDAR has been prepared in accordance with the NSW Biodiversity Assessment Method 2017 established under the *Biodiversity Conservation Act 2016* (BC Act).

### 8.2.1. Existing conditions

As detailed in Section 2, Precinct East and Doran Drive Precinct are vacant lots that formed part of construction site for Metro. The only vegetation that exists is within Precinct East which contains Council's former Administration building with surrounding native and non-native plantings. As detailed in Section 1.3.4 the administration building is proposed to be demolished by way of a separate DA currently under assessment. A total of 105 trees are located on this site as identified in the Arborist Report that accompanied the DA, of these 57 are proposed to be removed. A large proportion of the remaining trees are proposed to be retained on Site with the majority to be located within the new Precinct East Park.

Cattai Creek riparian zone is located to the west of the Site adjoining De Clambe Drive and is identified as being of high biodiversity and mapped on the OEH's (now part of DPIE) Biodiversity Values Map. Council has advised that at least two threatened species (Powerful Owl and Eastern Bentwing Bat) are known from this area and both are likely to use the vegetated riparian corridor for foraging and dispersal throughout the landscape.

A summary of the key findings of the BDAR with respect to existing conditions is set out below.

#### Vegetation types

No remnant native vegetation or associated Plant Community Types (PCTs) were recorded on Site. No areas of native landscape plantings are considered to meet any threatened ecological community listing under the BC Act.

The vegetation within Precinct East was identified as being: miscellaneous ecosystem – urban exotic / native landscape plantings. The extent of this vegetation covers an area of 0.87 hectares as illustrated in **Figure 54**. This non-native vegetation type consists of landscape plantings and managed lawn areas. The dominant planted canopy species include:

- *Corymbia maculata* (Spotted gum)
- *Eucalyptus paniculata* (Grey Ironbark)
- *Eucalyptus scoparia* (Wallangarra White Gum)
- *Casuarina cunninghamiana* (River Oak)
- *Casuarina glauca* (Swamp Oak)
- *Phoenix canariensis* (Canary Island Date Palm)
- *Achontophoenix alexandrae*\* (Alexander Palm)
- *Butia capitata*\* (Jelly Palm).

During field surveys, 74 species of plant were recorded. Of these 19 were native and 55 were introduced species. None of the introduced plant species recorded are listed under the *NSW Biosecurity Act 2015* as priority weeds for the Greater Sydney region (Department of Primary Industries, 2019a) or as Weeds of National Significance (Australian Weeds Committee, 2019).



**Figure 54 Vegetation Types (WSP, 2019)**

## Threatened biodiversity

The table below summarises the threatened biodiversity identified to occur within the Site.

**Table 28 Threatened Biodiversity at the Site**

Threatened Biodiversity	Description
Threatened ecological communities	No remnant native vegetation or associated PCTs were recorded in the Site. No areas of native landscape plantings are considered to meet any threatened ecological community listing under the BC Act.
Flora habitats	Precinct East has previously been modified and all patches of native vegetation occur because of landscape plantings. Accordingly, occurrence of native remnant flora and regeneration ability is considered unlikely.
Threatened flora species	As the Site is currently part of the urban environment with no remnant native vegetation the overall likelihood of occurrence for the 36 threatened flora species that are known or predicted to occur within the locality have been assessed as low.  The non-native vegetation types recorded within the site are considered to provide limited to no potential habitat for threatened flora species.

Threatened Biodiversity	Description
Fauna habitats	<ul style="list-style-type: none"> <li>The exotic grassland was identified as providing foraging habitat for common species typical of disturbed environments or parklands (i.e. Australian Magpie, Magpie-lark and Masked Lapwing).</li> <li>The riparian area provides some aquatic habitat for some fauna species. However, due to the disturbed nature it only provides marginal habitat and is likely only to be utilised by locally common species of birds, possums (Brushtail and Ringtail) and frogs (i.e. Striped Marsh Frog).</li> <li>Due to the small amount of potential resources available it is unlikely that the native plantings within the site are highly relied upon by locally occurring fauna (e.g. nectivorous birds). No hollow-bearing trees were identified within Site.</li> </ul>
Threatened fauna species	<p>Background investigations identified 31 threatened fauna species (BC Act) as having been previously recorded or are predicted to occur within the locality (See Appendix B of the BDAR Report). The likelihood of these species occurring within the Site was determined based on field investigations (targeted surveys) and fauna habitat available.</p> <p>The BDAR determined that there is a low likelihood of threatened fauna species occurring within the Site, with no threatened fauna species being identified utilising the Site during field surveys; although the Grey-headed Flying-fox (<i>Pteropus poliocephalus</i>) listed as vulnerable under the BC Act was observed flying over the adjacent riparian zone.</p> <p>Of note, there was no record of the Powerful Owl (<i>Ninox strenua</i>) or Large Bent-wing Bat (<i>Miniopterus orianae oceanensis</i>) utilising the Site or the adjoining riparian area as a result of the targeted surveys completed.</p>
Threatened Aquatic Species	The Site does not contain any mapped watercourses or permanent water bodies that would provide habitat for any listed threatened aquatic species under the FM Act.

## Matters of National Environmental Significance

The *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) seeks to ensure that actions likely to cause a significant impact on 'Matters of National Environmental Significance' (MNES) undergo an assessment and approval process.

The BDAR assessment identified the following with respect to MNES:

- No patches of remnant native vegetation were recorded within the site. The recorded non-native vegetation type does not contain floristic, structural and locational characteristics that would meet key diagnostic characteristics or condition thresholds for any listed threatened ecological community under the *EPBC Act*
- There is a low likelihood of occurrence predicted threatened flora species occurring at the Site
- No EPBC listed threatened fauna species have been identified to have a moderate – high likelihood of occurring within the site. No threatened fauna was identified utilising the site during field survey. While the Grey-headed Flying-fox (*Pteropus poliocephalus*) is considered to have a low likelihood of habitat utilisation within the site, two individuals were observed flying over the adjacent riparian zone. The site does contain a small number of Eucalypt trees that may provide occasional foraging opportunities for this species

- migratory fauna species protected under international agreements to which Australia are a signatory, have a low potential of utilising the site, due to the site's isolated and disturbed nature and unlikely to constitute important habitat for these species
- No world or national heritage properties listed under sections 12 and 12A of the EPBC Act occur within the site
- No wetlands of international importance were identified within the locality of the site.

## 8.2.2. Biodiversity impact assessment

A summary of the assessment of impacts of the Concept Proposal is detailed in Table 29.

**Table 29 Assessment of impacts on biodiversity**

Biodiversity	Assessment of impact
Assessment of impacts on native vegetation and threatened species habitat	
Native vegetation	<p>The Concept Proposal will result in the removal of one non-native vegetation type (Miscellaneous ecosystem) which consists of native and non-native plantings. It has been assumed as part of this assessment that all this vegetation will be removed, however this removal maybe reduced depending upon the impacts from the future DA's to be lodged for the Site. However, as detailed in this EIS a number of existing trees will be retained within Precinct East Park.</p> <p>Based on targeted field surveys and habitat assessments, the non-native vegetation type recorded within the site has been assessed as providing limited to no habitat for any threatened species listed under the BC Act. Approximately 116.4 ha of intact native vegetation has been mapped within 1500ha buffer of the Native Vegetation of the Sydney Metropolitan area (Office of Environment and Heritage, 2016b). Therefore, the removal of a small area (0.87ha) of native plantings and urban exotic vegetation is minor in regard to the larger area of native vegetation extent within the region.</p>
Transport of weeds to Cattai Creek	<p>The clearing of the non-native vegetation type due to earthworks would increase the potential to transport weeds from the site into Cattai Creek. Cattai Creek is highly degraded with a high diversity and density of priority and weeds of national significance. The potential introduction or spread of weed species into Cattai Creek is considered to be minor during routine maintenance (mowing/slashing). Even so, management measures would be required to minimise the risk of introduction and spread of weeds.</p> <p>The ownership of the drainage reserve has been transferred to Hills Shire Council. A master plan for the Showground Station Precinct (Hills Shire Council, 2018) is currently being developed by Hills Shire Council. As part of the proposed Master Plan riparian corridor improvements are proposed these include bank stabilisation, restoration, enhancement and reinstatement of endemic species. This will ensure and improved long-term outcome for the management of weeds within Cattai Creek and fund in perpetuity conservation actions to be carried on the land and provide long-term protection to high biodiversity values.</p>
Threatened flora	No threatened flora species or their habitat, listed under BC Act, have been determined to be affected.
Threatened fauna	No threatened fauna species or their habitat, listed under BC Act, within the site will be adversely affected by the Concept Proposal. An increase in indirect impacts from the Concept Proposal will include an increase in noise and vibration within the Site and immediate surrounds due to vegetation clearing, ground disturbance, machinery and

Biodiversity		Assessment of impact
		vehicle movements. As currently there is high noise levels and light levels currently occurring the increase in light and noise would be minor. These impacts would be managed in accordance with the Construction Management Plan which will be part of future DAs to be lodged.
Serious and irreversible impacts		
Threatened species and ecological communities		No serious and irreversible impacts to threatened ecological community entities or threatened species entities under the BC Act are considered to arise as a result of the Concept Proposal.
Prescribed biodiversity impacts		
Geological areas		No areas of geological significance are present. No caves for breeding by bats are present.
Human made structures and non-native vegetation		No human made structures have been identified within the Site that would provide suitable habitat for any threatened species. A reinforced concrete box cell culvert adjacent to the Site could provide temporary roosting sites for microbats. This culvert was inspected during the field surveys and no microbats (or signs of microbats e.g. guano) were recorded. There are no lift holes, and the culvert join seams are sealed. This culvert will not be impacted by the development. Furthermore, no microbats were recorded during the active Anabat survey.
Connectivity and movement		Connectivity and movement impacts will be addressed as part of future DA's and therefore have not been assessed in this report.
Hydrology		Precinct East drains into the Carrington Road drainage system which drains to the west into Cattai Creek (WSP, 2019). Pollutants and an increase in sediment have the potential to have an impact upon Cattai Creek. The Integrated Water Cycle Management Strategy ( <b>Appendix M</b> ) establishes the current water quality environment of the site and identified measures to protect the receiving environment from adverse water quality impacts. Stormwater treatment to mitigate any potential indirect impacts include the installation of rainwater tanks, installation of gross pollutant traps and filtration devices at major discharge points and linear bioretention garden beds. The Concept Proposal will not result in any adverse changes to the local hydrology, if the above mitigation measures are implemented and the development has been designed to maintained existing compensatory flood storage levels.
Vehicle strike		The Site is in a busy urban area within Sydney, subject to high levels of vehicular traffic. The number of truck and light vehicle movements per day will likely increase as a result of the development. This would increase the risk of fauna mortality or injury because of vehicle strike. Use of vehicles and plant during construction also increase the risk of fauna mortality in areas adjacent to the Site. Few terrestrial fauna species occur in the Site that are at risk of vehicle strike. The increased risk of vehicle strike is unlikely to have a substantial impact on any local populations of fauna species.
Matters of National Environmental Significance		
MNES		<p>Given the general lack of habitat present and small area of mostly non-native vegetation to be removed, the Concept Proposal is considered unlikely to result in a significant impact on any MNES.</p> <p>In respect to the Grey-headed Flying-fox (<i>Pteropus poliocephalus</i>), while it is considered to have a low likelihood of site habitat utilisation, it is recognised that the site does contain a small number (37) of Eucalypt and Melaleuca trees that may provide occasional foraging opportunities for this species. Future DA's that will be lodged will</p>

Biodiversity	Assessment of impact
	<p>determine the actual number of trees to be removed. However, even if all of these trees were to be removed, the impact upon the Grey-headed Flying-Fox would be minor (0.87ha foraging) as there are larger, better quality areas of habitat within the vicinity of the site. The assessment concluded that the Concept Proposal is unlikely to result in a significant impact on the Grey-headed Flying-fox (<i>Pteropus poliocephalus</i>).</p> <p>A referral of this Concept Proposal to the Department of the Environment and Energy is not warranted.</p>
Other impacts	
Ground water dependent ecosystems	<p>As detailed in Section 2.5.3 two potential groundwater systems are to occur within the site:</p> <ul style="list-style-type: none"> <li>• A shallow unconfined to semi-confined aquifer system within the unconsolidated soils of the Glenorie Landscape and</li> <li>• A deeper confined groundwater system resident in primary and secondary porosity of the Ashfield Shale/Hawkesbury Sandstone.</li> </ul> <p>The Miscellaneous ecosystem – Urban exotic / native landscape plantings vegetation type contains large eucalypt trees. These trees are likely to rely of surface water for their water requirements. However, the trees may access groundwater on an intermittent basis during drought conditions. Most of the trees will be removed with any retained trees unlikely to be impacted by any groundwater drawdown that may occur as a result of the Concept Proposal.</p>

### 8.2.3. Recommendations

The BDAR made the following conclusions:

- No remnant native vegetation or associated PCTs were recorded in the Site
- No threatened flora species, ecological communities or their habitat, listed under the BC Act, have been determined to be affected
- No direct impacts will result on any remnant native vegetation or associated PCTs within the Precinct East
- The Concept Proposal has the potential to have indirect impacts to Cattai Creek. These potential indirect impacts include stormwater runoff and the transport of weeds. Mitigation measures (summarised below) will be implemented, and the indirect impacts will be minor
- Biodiversity Offset Scheme is not applicable for this development, given the Concept Proposal will not have any direct impacts on PCTs and only minor impacts upon the adjoining Cattai Creek
- The development is considered unlikely to result in a significant impact on MNES. Given this, a referral of this development under EPBC Act.

The following mitigation measures were recommended:

- Replanting of landscape areas to incorporate native species. Tree Protection zones be incorporated to protect any retained native trees within the Site

- Pre-clearing survey would be undertaken by a suitably qualified ecologist, prior to the removal of any trees. This should be included in the CMP
- Best practise erosion and sedimentation controls in accordance with approved CMP Weed control.

The Planting Strategy including in the Urban Design Framework makes provision for the planting of native species. Other recommended mitigation measures will be addressed as part of future detailed DAs for the construction of buildings, open space, subdivision and associated works.

### **8.3. Built form, Urban Design and Public Domain**

The proposed urban design framework and associated design guidelines, road layout and street hierarchy have been informed by the infrastructure developed by way of detailed urban design analysis the provisions of THLEP and THDCP, GA's Better Placed and Green Places with consideration to creating an active and vibrant high-density mixed-use community that leverages off the high accessibility of the location and connecting to the broader region via the SMNW.

The Concept Proposal has been designed to respond to the existing context including the existing and proposed surrounding street pattern, infrastructure delivered under SSI\_5414 Metro station, the existing low-density neighbourhood and future high-density character of the broader Showground Precinct as well as integration with the Castle Hill Showground currently being master planned.

The Concept Proposal has been designed to create a high density, mixed use, active and walkable neighbourhood with the Metro station at its core consistent with government policy

The primary civic space is located on Doran Drive Plaza as the element that stitches together the Hills Showground Metro Station and the multi-modal transport interchange, primary retail spaces and the Castle Hill Showground. It is intended to be a vibrant and active space all-day and the active heart of the Showground Precinct.

The new street within Precinct East has been designed for pedestrian connectivity and delivers active transport corridors for an inclusive and connected community. The local park will cater to residents and families.

Passive design initiatives have sought to reduce energy use and increase thermal comfort through building orientation, utilisation of natural cross ventilation and use of natural lighting. Across the precinct, street trees have been identified to provide shading and reduce microclimate impacts and urban heat island effect. Deep soil zones have been identified and Water Sensitive Urban Design measures provided for ground water recharge and to reduce surface flows.

### 8.3.1. Bulk, scale and form

DAs for the construction of buildings will include detailed architectural plans that will be required to demonstrate consistency with the urban design principles and guidelines established by this application. The strategy for future built form focuses on maximising amenity across the Site. Managing future building heights are key to achieving these outcomes.

The proposed massing and scale of the buildings seek to:

- arrange building forms (including heights and massing) to reinforce the future desired structure and character of the area being high density mixed uses precinct
- ensure buildings address the existing street, new local road, laneway, new through-site link and open space
- achieve outstanding place making, open space and public domain, pedestrian amenity and resident amenity outcomes.

The development controls of height, FSR, building depth, building separation and setbacks create building envelopes, having been developed taking into account sunlight and daylight access, orientation and overshadowing, natural ventilation, visual and acoustic privacy, ceiling heights, communal open space, deep soil zones, public domain interface, noise and pollution.

The proposed heights within the Site comfortably within the building envelopes and comply with the height and density controls of the THLEP.

The height strategy (**Figure 55**) identified appropriate locations for towers adjacent to areas of highest amenity and activity, and areas where transition to sensitive uses is required. The resulting layout is one with a cohesion and continuity of street wall heights, and a variety of taller residential elements above the podium. The proposed built form provides for an appropriate transition to adjoining public spaces and future residential development (12 storeys south of Carrington Road and 3 storeys east of Showground Road).

The building heights proposed as discussed in Section 4.5 are as follows:

- A maximum height of 68m (20 storeys) proposed on Precinct West and Doran Drive Precinct with a transition in height from the active heart down to Cattai Creek and the car park plaza.
- Precinct East is comprised of a height of a maximum 52m (16 storeys) stepping down to 13m at key interfaces
- A transition in heights of between 12 and 13 storeys is provided as a transition to the existing and future residential communities north of Showground Road and south of Carrington Road.

In all instances building separation achieves or exceeds ADG requirements as shown in the SEPP65 and AGD Compliance Assessment in **Appendix U**. Other measures such as terraced building forms and the location and orientation of habitable rooms above the podium have been explored to achieve compliance.

- This includes a minimum of 14m between the podium levels on Precinct East. The tower forms of Precinct East achieve a minimum 18m separation.
- Doran Drive Precinct surpasses the separation requirements of ADG through the orientation of towers and the location of taller elements above 12 storeys.
- Precinct West achieves the separation requirements of ADG through the location of the two 20-storey towers and separation between the towers and adjoining lower scale buildings.

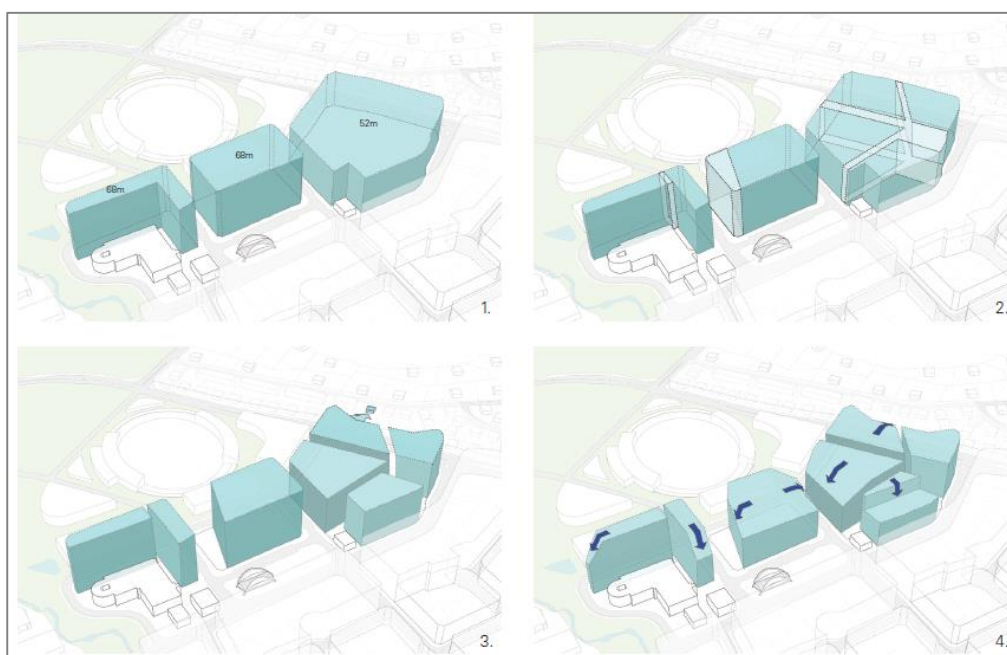
Setback controls as shown in **Figure 57** seek to contribute to the visual experience of the street, provide space for landscaping and courtyards that weave the public and private domain together. No setbacks are provided on the ground floor of Precinct West and Doran Drive to provide an intimate urban experience around the activity node where shops and businesses can be easily viewed and ‘spill out’ into the footpath. Secondary upper level setbacks seek to enhance the pedestrian experience through visual enclosure and scale of streets and provide access to sunlight.

The street wall heights and setbacks ensure the scale of buildings is an appropriate experience for pedestrians at the street level.

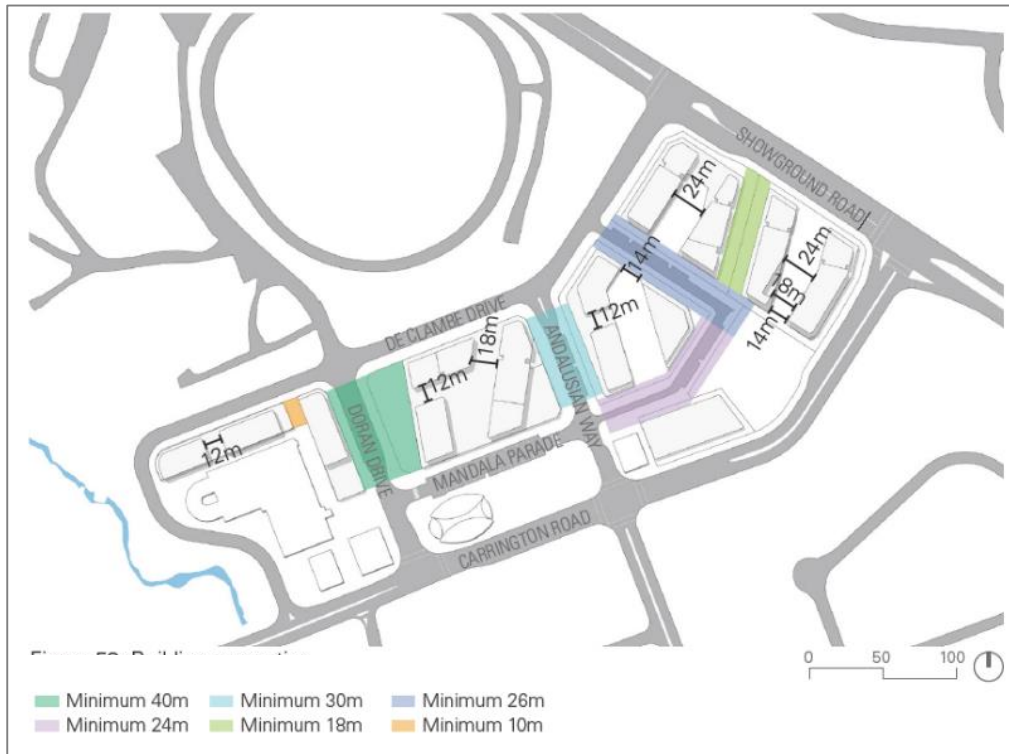
A 4-storey street wall (varying between 13.6m and 16m depending upon uses) is intended for the majority of the Site to define the streets and public open spaces with an appropriately scaled built form.

The southern and eastern edges of the Doran Drive precinct may be lower (to a minimum of 2-storeys) depending upon the total floor space required in the podium and the topographical change across the Site.

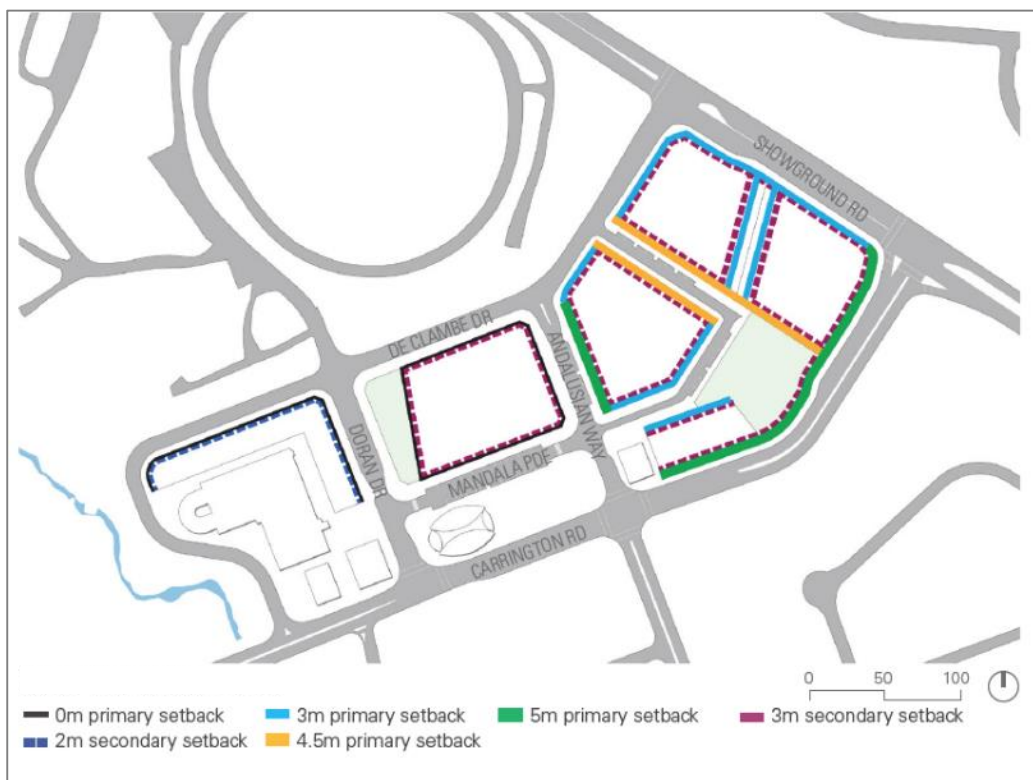
Towers orientated above the street wall to maximise solar access to public and private spaces and habitable rooms, district views to the east, north and west and to minimise wind down draft.



**Figure 55 Built form composition strategy** (Cox Architecture, 2019)



**Figure 56** Proposed building separation (Cox Architecture, 2019)



**Figure 57** Proposed building setbacks

### 8.3.2. Solar access and overshadowing

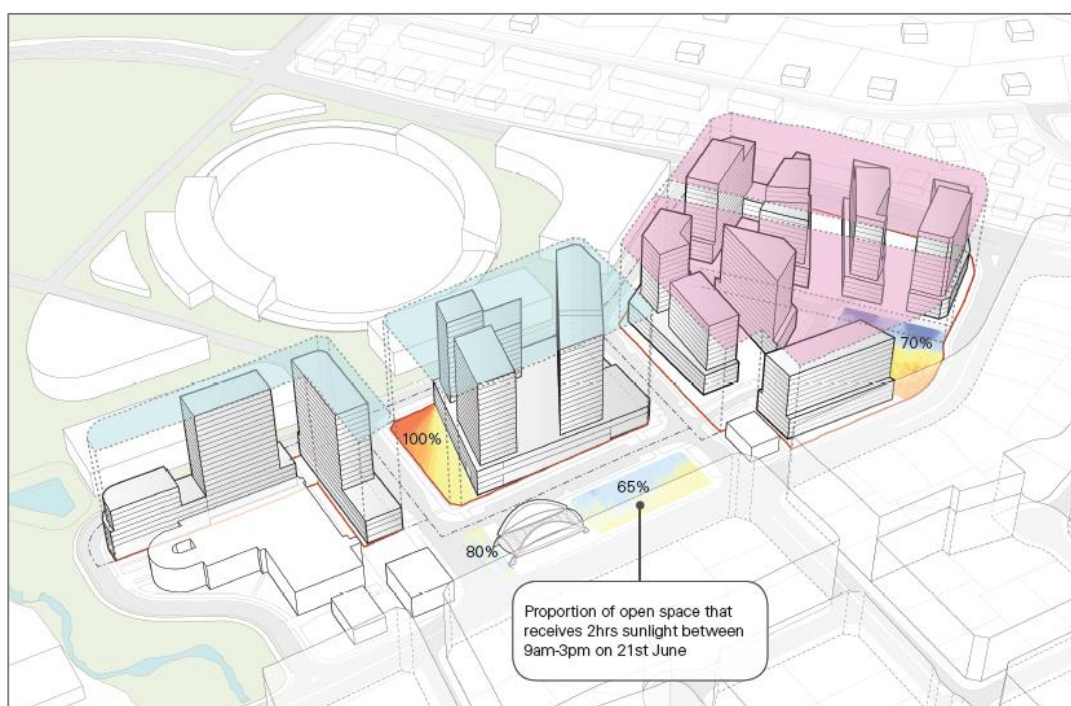
A detailed solar access and overshadowing analysis has been undertaken and is included as part of the Urban Design Report, to identify impacts on adjoining developments and the public domain, including future stages.

The building heights have considered the minimum solar access provisions to key public open spaces to determine the optimal location for lower scale buildings and a transition in built form. This has been achieved through both the orientation of buildings and the tempering of heights to the north of public open space, particularly within Precinct East.

#### Public spaces

The Solar Diagrams demonstrate that on the June 21 (the Winter Solstice) the public open spaces receive a minimum of 2 hours of sunlight between the hours of 9am and 3pm.

The proportion of open space that achieves the 2 hours of sunlight between 9am-3pm for each of the public open spaces is detailed illustrated in **Figure 58**. Solar access requirements have been included in the urban design guidelines for the public open space.



**Figure 58** Solar access (Cox Architecture, 2019)

#### Residential apartments

The SEPP 65 and ADG Assessment (**Appendix U**) includes an assessment of proof of concept designs to test for ADG compliance with respect to the units, including compliance with solar and daylight access. The assessment of the sample designs demonstrates that SEPP 65 and ADG compliance would be possible to achieve when each building is developed. That is that:

- living rooms & private open spaces of at least 70% of apartments in a building receive a minimum of 2 hrs direct sunlight between 9am - 3pm at mid-winter
- a maximum of 15% of apartments in a building receive no direct sunlight between 9 am - 3 pm at mid-winter

In view of the above, it is considered that the site orientation and building envelopes would not be an obstacle to ensuring compliance with the minimum solar access requirements for residential apartment developments under the provision of SEPP 65. It also demonstrates that the urban scale siting of the Concept Proposal has been carefully considered.

### **Adjacent properties**

Due to the orientation of the Site, off-site overshadowing impacts would be largely contained within the Site with the exception of the properties to the south over Carrington Road.

The proposed development has been designed to limit overshadowing on adjacent properties including future 12 storey residential development south of Carrington Road and 12 and 3 storey development easts of Showground Road.

As shown in **Figure 59** below the shadow analysis demonstrates that on June 21 the shadow will move from west to east:

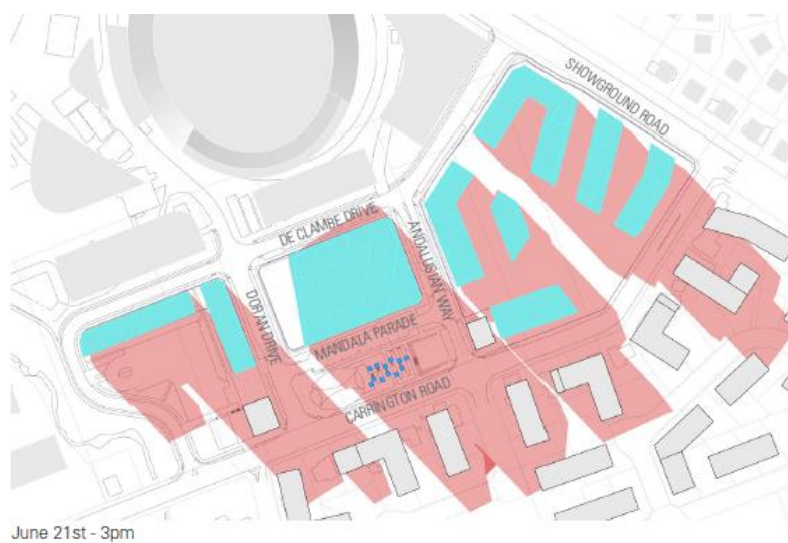
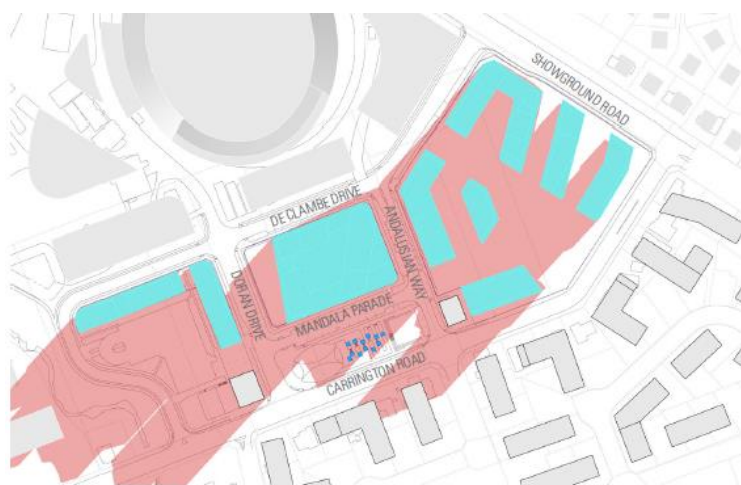
- a small portion of the potential buildings located south will be overshadowed between 9am – 12pm
- overshadowing is at its greatest at 3pm with a more significant proportion of buildings being affected.

Throughout other times of the year however these properties to the south are largely unaffected.

In view of the above, it is considered that the proposed future buildings will not have an issue complying with the ADG requirements.

In relation to the existing properties residents the majority will only be affected at 3pm mid-winter.

During the detailed design stages, compliance with the proposed controls for each building must be adhered to, to ensure overshadowing impacts do not compromise the solar access. Detailed shadow diagrams will be submitted as part of future DAs.



**Figure 59** Shadow analysis 21 June (Cox Architecture 2019)

### 8.3.3. Residential amenity

The Concept Proposal balances amenity, solar access and built form definition of the public domain with high levels of resident amenity through:

- defining the public realm with appropriate built form to a maximum 4-storey street wall
- activating public open spaces with non-residential uses fronting Doran Drive Plaza and access to private residences via courtyards that open on to the Precinct East Park and public domain
- orientating residential towers above the podium so that solar access, natural ventilation and building separation exceed ADG requirements
- orientating and articulating buildings so that views from the Site are shared across the Garden Shire.

The Urban Design Report includes an assessment of a proposed reference scheme that details potential future detailed building across the site. The assessment demonstrates that adequate levels of amenity for residential apartments can be achieved. It is noted that the Concept Proposal is supported by and a proof of concept design (indicative), commensurate with the level of detail required for a concept SSDA and a complete assessment against the provisions of the ADG would be provided as part of a future detailed DA.

Key aspects of the proposal's compliance with the ADG with the exception of solar access (detailed above) is addressed below to demonstrate how the Principles that underpin SEPP 65 have been addressed as part of the Concept Proposal.

#### **Cross Ventilation**

The following criteria are relevant for the purposes of this concept SSDA as per the ADG:

##### *Design Criteria 4B-3*

*1. At least 60 percent of apartments are naturally cross ventilated in the first nine storeys of the building. Apartments at ten storeys or greater are deemed to be cross ventilated only if any enclosure of the balconies at these levels allows adequate natural ventilation and cannot be fully enclosed*

*2. Overall depth of a cross-over or cross-through apartment does not exceed 18 metres, measured glass line to glass line*

No built form is proposed as part of this application, though the proposed development block layout provides sufficient space for future detailed built form to be designed appropriately to achieve the relevant cross ventilation requirements under the ADG. The proof of concept drawings demonstrates that future built form is capable of complying.

Further controls have also been included with respect to maximum building lengths of 70m and tower lengths of 50m that will assist in achieving the above criteria.

It is noted that apartments impacted by traffic noise will require the installation of thickened window glazing to ensure the internal amenity of residential apartments along. All apartments that face Showground Road and Carrington may also require mechanical ventilation/air conditioning as detailed in Section 8.7.

Acknowledging this, the detailed design of future built form will need to have regard to the identified amenity impact and ensure that openings in building facades required to achieve cross ventilation requirements as well as meet noise have regard to this identified impact.

The detailed design of a future scheme, including testing to determine the proportion of apartments which are able to be naturally ventilated, will be subject of future DAs.

### **Building Separation**

*The minimum separation distances for buildings as per the ADG are:*

*Up to four storeys (approximately 12m):*

- *12m between habitable rooms/balconies*
- *9m between habitable and non-habitable rooms*
- *6m between non-habitable rooms*

*Five to eight storeys (approximately 25m):*

- *18m between habitable rooms/balconies*
- *12m between habitable and non-habitable rooms*
- *9m between non-habitable rooms*

*Nine storeys and above (over 25m):*

- *24m between habitable rooms/balconies*
- *18m between habitable and non-habitable rooms*
- *12m between non-habitable rooms*

As detailed above, the Concept Proposal in all instances achieves or exceeds ADG's building separation requirements. Accordingly, this demonstrates that the Concept Proposal is a desirable built form that will be capable of achieving privacy (visual and acoustic) for building occupants. It also assists with outlook, natural ventilation and daylight access

Final heights of buildings across the site would be subject to future DAs and will be required to demonstrate that separation requirements of the Guidelines and ADG are met.

As identified in Section 8.7 depending on the location of non-residential uses, future design measures may be required to ensure the internal amenity of residential apartments. This will be further addressed as part of the detailed design stage.

### **Private Communal open space**

Private communal open space is to add additional amenity and recreational opportunities for the residents of the precinct. Communal open space will provide a range of uses including seating, picnic facilities, play spaces, productive gardens and lawn areas amongst generous planting.

Under the ADG, a minimum area of communal open space equal to 25% of the Site is required. In addition, a minimum of 50% direct sunlight to the principal useable part of the communal open space is required for a minimum of 2 hours between 9 am and 3 pm on 21 June (mid-winter).

The Design Guidelines state that communal open space in the form of podium, rooftop and ground level private communal areas in accordance with the ADG.

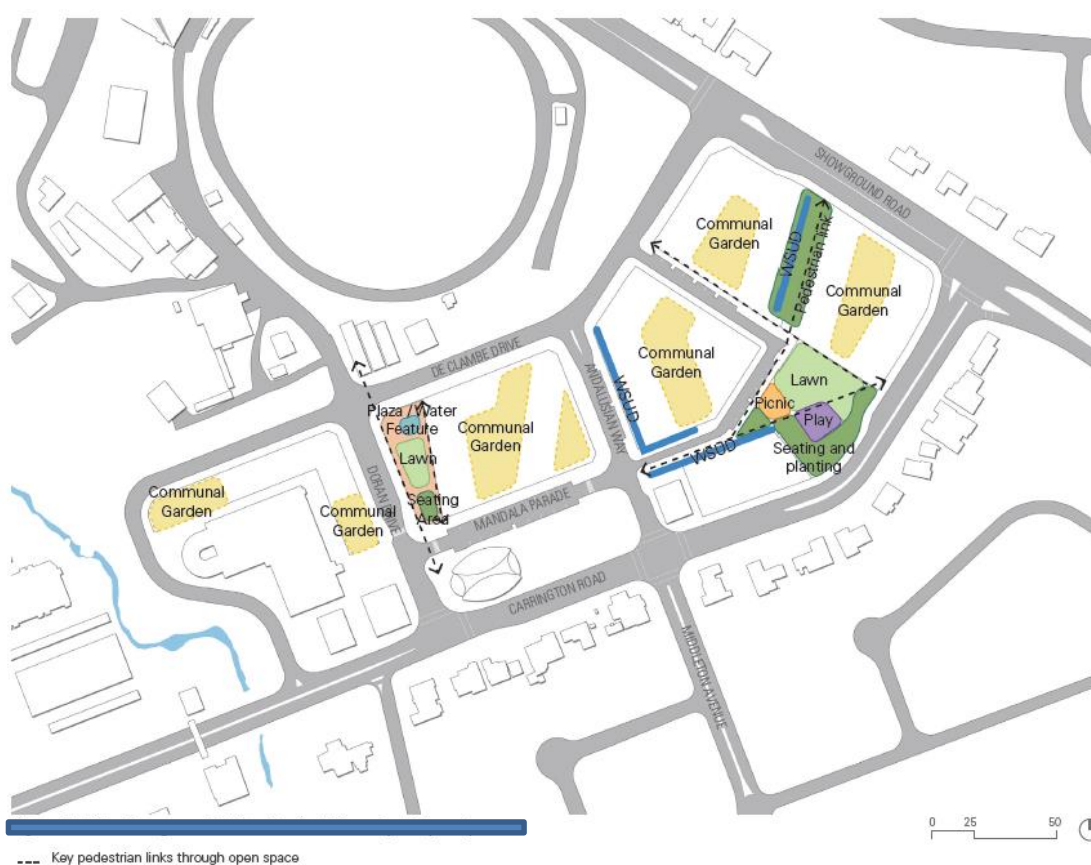
Communal open space in Precinct East is to be at grade where possible and read as a continuation of the Green Node public domain character in planting and materiality.

Communal open space within Doran Drive Precinct is to be provided on top of the podium to be shared between the residents, workers and the community uses provided within Doran Drive Precinct with walkways and grassed areas opened on to by the various uses within the built form adjoining the communal open space.

Communal open space for Doran Drive will also be in the podium.

Rooftop gardens are encouraged across all precincts and are to incorporate native planting to enhance local character.

Details of communal space for future residential development blocks would be assessed as part of future applications, with the intent of complying with the Guidelines and the ADG.



**Figure 60 Hierarchy of open space (Cox Architecture 2019)**

## Deep soil

Deep soil zones provide areas on the site that allow for and support healthy plant and tree growth. They improve residential amenity and promote management of water and air quality.

*The ADG requires deep soil zones to be at least 7% of a site's area to accommodate deep soil zones.*

Deep soil provision on Precinct West is restricted to the access easement from De Clambe Drive to the station services building.

Doran Drive Precinct does not have any deep soil zone as it is sleeved development.

Concept seeks to provide a minimum of 20% deep soil zones in Precinct East to be accommodate within both the public and private domain to reinforce the local character of the broader Hills Showground Station Precinct and the Garden Shire.

## Future DAs

The future detailed DAs would need to provide a detailed assessment and justification of the level of amenity provided within future residential apartments, including a more detailed assessment of the proposal against the relevant provisions of SEPP 65 and the ADG.

#### 8.3.4. Pedestrian amenity

Pedestrian amenity is achieved through:

- The network of streets including a new street within Precinct East and finer grain of mid-block connections to ensure permeability and activity
- Street wall heights and primary setbacks will ensure the scale of buildings is an appropriate experience for pedestrians at the street level
- Upper level, secondary setbacks to towers provide a sense of space and openness to the sky and the podiums shield pedestrians from down-drafts
- Footpaths throughout the Site are a minimum of 2m to ensure capacity to cater for a high number of walking trips and all major circulation spaces will be provided with shelter from the weather.

#### 8.3.5. Crime Prevention Through Environmental Design

A CPTED Report has been prepared by Cox (**Appendix H**) detailing how CPTED principles have been embedded in the Concept Proposal and the Hills Showground Station Precinct Public Domain Plan. The CPTED Report also makes recommendations to be considered as part of the future detailed design of buildings and the public domain.

##### Existing environment

CPTED principles were considered as part of the design and delivery of the Metro and associated infrastructure including the roads and landscaping plantings.

The Hills Showground Station includes the provision of formal Closed-Circuit Television (CCTV) monitoring of the station forecourt, plaza and station itself.

##### Impact Assessment

The Concept Proposal has been designed to create a walkable and active local centre development with good access to a range of open space, commercial and retail facilities and the Metro station. High quality pedestrian links through the Site allow for finer grain pedestrian connections between the residential areas, the local centre, the metro, adjoining neighbourhoods, Castle Hill Showground and Cattai Creek corridor.

Passive surveillance is provided by maintaining good sight lines throughout the Site. The street and pedestrian network layout is legible and provides direct routes to destination points.

The Doran Drive Plaza and new pocket park will provide opportunities for passive recreation and informal community gathering and interaction. The public spaces have been located to ensure they receive good solar access, taking advantage of the topography, being integrated with the metro station and facilities as well as surrounding buildings. These areas will receive good passive surveillance, from numerous vantage points making it a safe place to recreate.

The **Table 30** provides an overview of CPTED principle and details how CPTED considerations have been embedded in the Concept Proposal and the Urban Design Report.

**Table 30 CPTED Assessment**

Principle	Measures
<p><b>Natural Surveillance</b></p> <p>The attractiveness of crime targets can be reduced by providing opportunities for effective surveillance, both natural and technical.</p> <p>Good surveillance means that people can see what others are doing. People feel safe in public areas when they can easily see and interact with others. Would be offenders are often deterred from committing crime in areas with high levels of surveillance. From a design perspective, 'deterrence' can be achieved by:</p> <ul style="list-style-type: none"> <li>• clear sightlines between public and private places</li> <li>• effective lighting of public places</li> <li>• landscaping that makes places attractive, but does not provide offenders with a place to hide or entrap victims.</li> </ul> <p><i>Natural surveillance is achieved when normal space users can see and be seen by others. This highlights the importance of building layout, orientation and location; the strategic use of design; landscaping and lighting – it is a by-product of well-planned, well-designed and well-used space.</i></p> <p><i>Technical/mechanical surveillance is achieved through mechanical/electronic measures such as Closed-Circuit Television (CCTV), help points and mirrored building panels. It is commonly used as a 'patch' to supervise isolated, high risk locations.</i></p> <p><i>Formal (or Organised) surveillance is achieved through the tactical positioning of guardians. An example would be the use of on-site supervisors, e.g. security guards at higher risk locations.</i></p>	<ul style="list-style-type: none"> <li>• Buildings are located and oriented to provide passive surveillance of the existing and new streets, existing and new public open spaces and new publicly accessible open spaces through the typical floorplans which ensure habitable rooms predominantly overlook the public domain.</li> <li>• Garden apartments are to be accessed via the public domain and private courtyards, providing additional surveillance of the public domain when accessing the ground floor dwellings</li> <li>• A minimum 1m and maximum 1.2m stoop for ground floor apartments provides the opportunity for residents to have elevated views over the landscape primary setbacks over the public domain</li> <li>• Communal open spaces within the development lots that are located and rooftops have provided access to the edge of the building so that unobstructed views over the public domain can be achieved from the rooftop communal open space</li> <li>• Ground floor communal open spaces are planned to be part of a contiguous public and private realm and are therefore both be afforded passively surveillance by the residences accessing the communal open space via the courtyards to the garden apartments, but also from the public realm.</li> <li>• Pedestrian access to all building entries is via the public domain to ensure adequate surveillance of residents, workers and visitors to buildings is afforded surveillance from the public domain</li> <li>• All residences are accessed via a straight corridor from the lift core to their door to provide for adequate surveillance of the internal movement areas</li> <li>• The addition of a new local street within Precinct East will ensure that local traffic movements assist in the passive surveillance of all precincts and the two new public open spaces of Doran Drive Plaza and Precinct East Park</li> <li>• Sleeving of large format retail with finer grain retail within the Doran Drive Plaza ensures that there is greater surveillance of the De Clambe</li> </ul>

Principle	Measures
	<p>Drive, Mandala Parade and Doran Drive interfaces</p> <ul style="list-style-type: none"> <li>The Concept Proposal and Urban Design Guidelines nominate locations for potential deep soil zones to provide for larger trees as part of the strategy to deliver an integrated and cohesive public and private realm across the broader Hills Showground Station Precinct. Deep soil zones ideally provide for higher canopy mature trees, so that sightlines to/from the public domain can be achieved.</li> </ul>
<p><b>Access Control</b></p> <p>Physical and symbolic barriers can be used to attract, channel or restrict the movement of people. They minimise opportunities for crime and increase the effort required to commit crime.</p> <p>By making it clear where people are permitted to go or not go, it becomes difficult for potential offenders to reach and victimise people and their property. Illegible boundary markers and confusing spatial definition make it easy for criminals to make excuses for being in restricted areas. However, care needs to be taken to ensure that the barriers are not tall or hostile, creating the effect of a compound.</p> <p>Effective access control can be achieved by creating:</p> <ul style="list-style-type: none"> <li>landscapes and physical locations that channel and group pedestrians into target areas</li> <li>public spaces which attract, rather than discourage people from gathering</li> <li>restricted access to internal areas or high-risk areas (like carpark or other rarely visited areas). This is often achieved through the use of physical barriers.</li> </ul> <p><i>Natural access control includes the tactical use of landforms and waterways features, design measures including building configuration; formal and informal pathways, landscaping, fencing and gardens.</i></p> <p><i>Technical/Mechanical access control includes the employment of security hardware. Crime, Design and Urban Planning: From theory to Practice Formal (or Organised) access control includes on-site guardians such as employed security officers.</i></p> <p><i>Formal (or Organised) access control includes on-site guardians such as employed security officers.</i></p>	<p>The Concept Master Plan identifies multi-level basements within each of the development lots. The entries to these basements are located in areas that would provide for appropriate barriers to be erected to control access to the basement and for access to the basements to be passively surveyed from the public domain.</p> <p>The Urban Design Guidelines includes an indicative palette of materials that could be used in the buildings and the public domain that discourage graffiti and vandalism</p>
<p><b>Territorial Reinforcement</b></p> <p>Community ownership of public space sends positive signals. People often feel comfortable in, and are more likely to visit, places which feel owned and cared for.</p>	<p>As a result of the significant amount of development activity planned within the Concept Master Plan the guardians and custodians of the development lots within the Hills Showground Station Precinct are anticipated to be comprised of a diverse range of</p>

Principle	Measures
<p>Well used places also reduce opportunities for crime and increase risk to criminals. If people feel that they have some ownership of public space, they are more likely to gather and to enjoy that space. Community ownership also increases the likelihood that people who witness crime will respond by quickly reporting it or by attempting to prevent it. Territorial reinforcement can be achieved through:</p> <ul style="list-style-type: none"> <li>• design that encourages people to gather in public space and to feel some responsibility for its use and condition</li> <li>• design with clear transitions and boundaries between public and private space</li> <li>• clear design cues on who is to use space and what it is to be used for. Care is needed to ensure that territorial reinforcement is not achieved by making public spaces private spaces, through gates and enclosures.</li> </ul> <p><i>Territorial Re-enforcement uses actual and symbolic boundary markers, spatial legibility and environmental cues to 'connect' people with space, to encourage communal responsibility for public areas and facilities, and to communicate to people where they should/not be and what activities are appropriate.</i></p>	<p>people so that there is sufficient guardianship across the development lots day and night, weekday and weekend. These guardians include:</p> <ul style="list-style-type: none"> <li>• residents within the dwellings</li> <li>• workers within the retail and commercial spaces</li> <li>• visitors to the local centre and Doran Drive Plaza and Precinct East Park</li> <li>• building managers and body corporate who will manage the buildings and their communal open spaces on a daily basis</li> </ul>
<p><b>Space Management and Maintenance</b></p> <p>Popular public space is often attractive, well maintained and well used space. Linked to the principle of territorial reinforcement, space management ensures that space is appropriately utilised and well cared for.</p> <p>Space management strategies include activity coordination, site cleanliness, rapid repair of vandalism and graffiti, the replacement of burned out pedestrian and car park lighting and the removal or refurbishment of decayed physical elements.</p> <p><i>Space/Activity Management strategies are an important way to develop and maintain natural community control. Space management involves the formal supervision, control and care of the development. All space, even well planned and well-designed areas need to be effectively used and maintained to maximise community safety. Places that are infrequently used are commonly abused. There is a high correlation between urban decay, fear of crime and avoidance behaviour.</i></p>	<p>The Concept proposes a variety of uses that will deliver an appropriate amount of community management of the spaces and places within the development lots. The mixture of uses, and the provision of movement networks through the Site will bring additional activity in to the development lots to ensure that surveillance during the middle of the day and at night is adequately provided.</p>

## Recommendations

The CPTED Report recommends that the following is considered as part of the future detailed design of buildings and the public domain.

- Fencing between the public and private realm should be of a scale and material that provides potential for overlooking of the public domain, whilst preventing the opportunity to be easily scaled from the public domain.
- Landscaping between the public and private domain should provide for some visual connection between the two elements and not be of plantings that are impenetrable to sightlines (i.e. thick hedges).
- Lobbies for residential, commercial, community and other uses should, where possible, include a significant amount of glazing so that line of sight in to building entries from the public domain can be achieved
- Lighting of the new street, on-street parking, public pathways and through-site links to be provided day and night.
- Internal lighting of the basement car parks to consider lighting of the external address points to be provided all night and the internal lighting of the basement car parks.
- Bike storage areas located within communal carpark areas should be secured with a material that allows for visual.
- Connections between communal areas/basement car parks and the storage cages.
- CCTV master plan for the broader Hills Showground Station Precinct should be prepared with the minimum provision of CCTV covering building entries and foyers and all publicly accessible open spaces.
- Appropriate fencing is to be provided around the perimeter of each development lot and/or building that ensures secure access to communal open spaces and private courtyards to garden apartment can be provided either by swipe cards, keys or secure pin numbers. is recommendation.
- Future DAs are to demonstrate that areas of the building that area accessible from the ground level are to be secured by locks and other devices.
- Future DAs should identify finishes and materials that have been assess for their ability to resist graffiti and vandalism. This is particularly relevant for materials and finishes that are accessible from the ground floor of buildings, or communal open spaces, or are public open spaces, i.e. Doran Drive Plaza and Precinct East Park.

Future DAs will be required to consider the above recommendations and demonstrate that CPTED principles have been considered as part of the detailed design of the public domain and buildings.

## 8.4. Economic and Social Impacts

### 8.4.1. Economic impact assessment

A Retail Demand Assessment has been completed by Hill PDA (**Appendix S**). The assessment was prepared to better understand the quantum and type of retail and commercial related floor space that could be supported as detailed in Section 4. The assessment looked at the impacts on the retail hierarchy along with potential economic benefits that can be anticipated from the proposed development.

#### Impact analysis

Assuming a shopping centre of 8,500sqm opened its doors in 2026 at the Hills Showground Station Precinct. HillPDA has estimated retail sales of around \$68 million (\$7,976/sqm measured in 2018 dollars) in its first full year.

Around 80% of the \$68 million will be redirected from surrounding competing centres and around \$27 million of this is expected to be redirected from Castle Hill Towers. This represents a loss of 2.4% of the total retail sales of Castle Hill Towers which is considered to be an insignificant impact. Further in terms of retail turnover density (\$/sqm) Castle Hill Towers is trading around 15% above the national median for large centres (more than 45,000sqm GLA) in Australia. It can therefore sustain an impact of this level without social detriment.

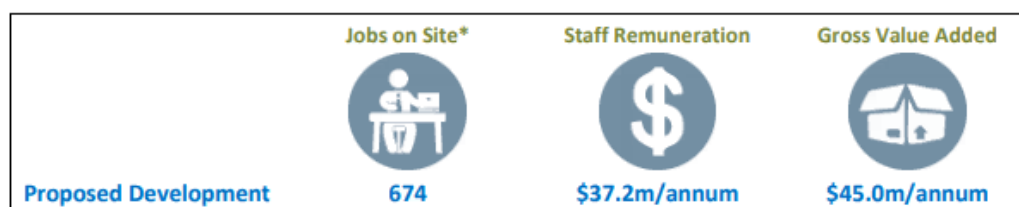
In terms of percentage loss of turnover, the strongest impact will be on Knightsbridge Shopping Centre with an 8.0% loss of trade (or \$1.3m) and on Wrights Road, Kellyville with a 5.0% loss (or \$10.8m). There are no universal measures of significance of economic impact, however there are references in various consultancy reports and statements in the Land and Environment Court which suggest that a loss of trade below 5% is considered insignificant, 5% to 10% is low to moderate, 10% to 15% is moderate to high and above 15% is a strong or significant impact. Accordingly, the impacts are considered to be below moderate level. No other centre is expected to experience more than 4% loss in turnover.

Furthermore, the above impacts are expected in the year of 2026. Over time, these impacts will lessen as a result of population and expenditure growth in the locality. The analysis undertaken by HillPDA (refer to Section 5.2) reveals that all existing centres are expected to enjoy considerable growth in trading levels over this period. All existing centres are expected to achieve trading levels above their current 2018 levels by 2026 with or without the station precinct development. Knightsbridge is the only exception as its trading level in 2026 is expected to be around 0.4% less than its trading level in 2018 due to the impact of the proposed centre. Nevertheless, this impact is considered insignificant.

#### Quantified economic impacts

The indicative development scenario of a mixed use precinct of 1,802 residential dwellings and around 9,100sqm of retail space and 4,500sqm of commercial and community space can be expected to generate a number of economic benefits for the locality and for the Hills Shire as a whole. These benefits are likely to be in the form of the creation of new employment opportunities, introducing new opportunities for residential and commercial development, and expanded levels of household expenditure on a wide range of retail and other services.

A summary of the quantified economic impacts is shown in **Figure 61** below, which demonstrates that the proposed mixed use development will lead to a stronger economic outcome for the Hills Shire. It should be noted that all the jobs created from the development as well as remuneration and gross value added represents a net gain from the base case scenario (do nothing) which assumes the land remains vacant.



**Figure 61** Quantified economic impacts (HillPDA 2019)

### Economic benefits

Other benefits from the Concept Proposal identified in the Retail Demand Assessment included:

- Construction will generate a further \$2.3b of economic activity (direct and indirectly)
- Napier & Blakeley estimate development would provide 1,920 site-based jobs number over the construction period (for varying durations) which is equivalent to around 3,780 job years
- Significant property investment decisions are generally viewed as a strong positive commitment for the local area
- The direct investment proposed by the development would, through a wide range of economic multipliers as outlined above, support investment in associated industries
- The retail element of any new development on this site would likely attract new retailers to the locality, providing an improved range of goods and services for local residents
- Increased competition between retailers is good for consumers in the form of a wider range of goods with competitive prices
- New residents and workers would generate further demand for local retail and commercial goods and services and contribute to their viability
- Increased number and range of shops and services reduces the need for local residents to travel further afield on a regular basis
- Providing a diverse range of housing options suiting a wide variety of household types, including apartment living will also promote a more diverse community which is arguably more sustainable in the long term, as it is able to maintain a range of services and facilities useful to all age groups
- Apartments also offer a more affordable housing alternative and will contribute to housing affordability.

### 8.4.2. Public open space provision

As detailed in Section 4.7, a well-connected, high quality, diverse, multifunctional and flexible network of public open space is proposed. The Concept Proposal provides two new public open spaces Doran Drive Plaza (minimum of 1,400m<sup>2</sup>) and the Precinct East Park (3,500m<sup>2</sup>) to ensure no less than 10% of publicly accessible open space.

A new publicly accessible pedestrian link with a minimum width of 10m is also proposed between Precinct East Park and Showground Road.

The configuration and location of the open spaces is such that they permit a complementary network of functions, programmes use and users within them and the surrounding public open spaces.

The Concept Proposal ensures that no resident is located more than a 100m walk from the open spaces within the development lots and adjoining open spaces.

Private communal and rooftop gardens across the Site will also support the open space network and provide additional areas for people to recreate, relax, and socialise.

Moreover, residents will have access to the Castle Hill Showground a regional recreational facility currently being master planned as well as other recreational facilities in the area including Cattai Creek and Chapman Avenue Reserve.

The Urban Design Guidelines include details around planting, water, materials and elements, public art and interpretation, and the public domain character to ensure high quality design outcomes will be achieved.

Future detailed DAs will be lodged for the public domain, new open spaces and Precinct East Park as well as the communal areas and the applications need to demonstrate compliance with the Concept Approval, Urban Design Guidelines and ADG where referenced.

### 8.4.3. Social infrastructure provision

A Community Facilities and Open Space Study prepared by Arup was publicly exhibited with the draft rezoning proposal for the broader Showground Precinct. The study reviewed the existing facilities available in the area and projected the needs of the future residents to determine what gaps would need to be addressed when planning for community facilities, recreation and open space. The study identified that the precinct will generate future population which triggers the need for additional facilities including:

- Public open space to meet the future active and passive needs of residents, workers and visitors
- 1,500m<sup>2</sup> multi-purpose youth and community centre.

The study also noted that some of the needs generated by the precinct would be met by service in other precincts or the Hills LGA. Services such as a local library are unlikely to be required in the Showground precinct given the proximity to Castle Hill library.

The precinct report also notes that a community centre could be accommodated within a multipurpose facility such as that being considered by The Hills Shire Council at the Castle Hill Showground. This facility could also accommodate a performing arts venue.

Following the rezoning Council has prepared the Showground Station Precinct Contribution Plan which identifies the infrastructure requires to support the needs of the incoming population and workforce.

### **Community facilities**

As identified in Section 3.1.3, the Hills Showground Contribution Plan identifies that population will increase demand for community facilities such as library centres and multi-purpose community centre spaces. The plan lists these items in the works schedule but does not nominate a capital works value or land acquisition value as they are not listed on the DPIE's "Essential Works List" of items that can be funded through Contributions Plan. The items listed include:

- CF1 Additional Library Floor Space: +1,000m<sup>2</sup> of GFA
- CF2 Multi-Purpose Community Centre (1,500m<sup>2</sup> - 2,000m<sup>2</sup> GFA).

Council has identified that alternative funding sources for the provision of new community facilities is to be investigated.

As detailed in this EIS, Council is currently undertaking the master planning for the Showground which may have the potential to accommodate future community uses. Further, it is noted Council identified in their draft LSPS that they would be preparing a library and community facility strategy to ensure the delivery of social infrastructure keeps pace with population growth. It is understood that this strategy will determine catchment areas for existing libraries and community facilities and whether any upgrades or expansions are required to service existing or anticipated demand.

Moreover, the provision of community uses within the non-residential floor space proposed under this Concept Proposal will be subject to further discussion with Council as part of future detailed DAs.

#### **8.4.4. Other social benefits**

The Site has the opportunity to capitalise on the new Hills Showground Metro Station to create a new, vibrant, mixed use, transit orientated community.

The design principles and Urban Design Guideline will set the framework that recognises the constraints and benefits of the Site to establish a unique and distinct local character at a human scale.

Specifically, the Concept Proposal will deliver significant social benefits, including:

- provision of a wide range of uses and services catering to the needs of the local community as well as visitors
- improved housing diversity and housing affordability
- improved accessibility to the Sydney Metropolitan Area
- future built form that exhibits design excellence

- high quality public domain outcomes
- opportunities for involvement and engagement within the local community in public art
- employment and business opportunities.

## 8.5. Heritage

An Aboriginal and Non-Aboriginal Heritage Impact Statement (**Appendix L**) has been prepared by GML Heritage to assess the potential for Aboriginal archaeology, historical archaeology and built heritage and impacts of the Concept Proposal on these.

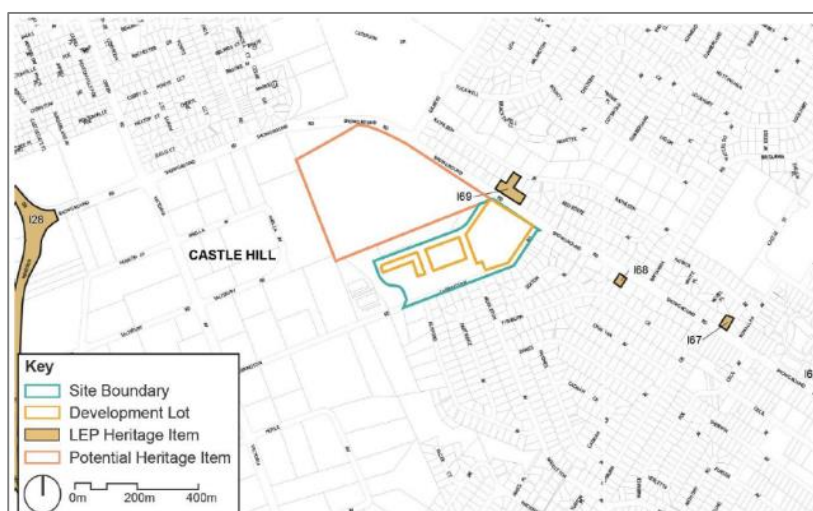
In addition, a Heritage Interpretation Strategy which form part of the Aboriginal and Non-Aboriginal Heritage Impact Statement has also been prepared by GML for the Site. The document provides the policies, strategies and detailed advice for interpreting the history associated with the area.

### 8.5.1. Existing conditions

The Site is not listed as a heritage item on the State Heritage Register (SHR) or within the HLEP 2012. There are no heritage items listed in the SHR located on or adjacent to, or in the vicinity of the Site. There are however, a number of locally significant heritage items listed within THLEP 2012 in the vicinity including 128–132 Showground Road and 107 Showground Road illustrated in **Figure 62**.

In addition, the Castle Hill Showground, has been identified in the North West Rail Link Environmental Impact Statement (NWRL EIS) 1 European Heritage Report (2012) as having potential heritage significance at a local level. Its heritage values were also identified by Mayne-Wilson & Associates in a Draft Heritage and Cultural Landscape Study of Castle Hill Showground, prepared for Baulkham Hills Shire Council in April 1996. Despite this, the Castle Hill Showground is not a listed item in THLEP 2012.

There are no identified archaeological relics or Aboriginal sites identified within the Site under THLEP.



**Figure 62** Heritage items in the vicinity of the site (Source: HLEP 2012 with GML additions, 2019)

### 8.5.2. Impact assessment

The key findings of the Aboriginal and Non-Aboriginal Heritage Impact Statement are outlined as follows:

#### **Aboriginal Due Diligence Process**

- The site inspection did not encounter artefacts or other evidence of Aboriginal archaeological sites.
- The environmental context of the land surrounding the Site, predictive models established to ascertain the likelihood of Aboriginal archaeological sites, and levels of previous land disturbance indicate that it is unlikely that Aboriginal objects will be located within the Site.
- The proposed development is unlikely to impact on Aboriginal archaeological objects.
- This assessment satisfies condition 12 of the SEARs and no further assessments are required.
- If during the process of future physical work, Aboriginal sites and/or objects are suspected and/or identified, an Aboriginal unexpected finds protocol should be enacted. This would be applied as a condition of consent at the DA stage.

#### **Historical Archaeology**

- The Site has been assessed as having nil–low potential for locally significant historical archaeological remains or ‘relics’, as defined by the Heritage Act, associated with the subdivision, houses, timber yard and factories.
- The proposed development is unlikely to impact significant historical archaeological remains and relics.
- If during the process of future physical work, Aboriginal sites and/or objects are suspected and/or identified, an Aboriginal unexpected finds protocol should be enacted. This would be applied as a condition of consent at the DA stage.

#### **Built Heritage**

- The Concept Proposal is not considered to have an adverse impact on the significance of those items in the vicinity, or their setting or curtilage.
- The Site is located directly adjacent to the Castle Hill Showground, which has been identified in previous studies as having cultural significance at a local level.
  - The proposal will not materially impact on the significant fabric, structures or elements of the Castle Hill Showground. The proposed development will, however, alter the scale of development surrounding the showground, impacting the setting and visual curtilage of the showground. However, the area has been rezoned to accommodate this scale of development. In addition, the proposed development will also generate better public access to and awareness of the Showground that will facilitate its ongoing use and conservation, thereby having a positive impact.

- The Hills Shire Council is currently undertaking a master planning process for the Showground to guide its future development.
- It is recommended that, in future detailed design of the buildings on Site, these respond to the interface with the Castle Hill Showground and provide an appropriate transition of scale, through built form articulation and streetscape interface, in order to mitigate the impact on Castle Hill Showground's setting.

Further as detailed in Section 4.8, a Heritage Interpretation Strategy has been prepared to guide the development and implementation of interpretative elements to celebrate the history of the Site.

### 8.5.3. Recommendations

The assessment has made the following recommendations:

#### Aboriginal Archaeology

There is nil–low potential for Aboriginal objects or sites within the development lots. If Aboriginal sites and/or objects are suspected and/or identified during the process of works, the following Aboriginal unexpected finds protocol should be enacted:

- Stop-work order—all works should cease immediately in the area surrounding the suspected objects. Any identified Aboriginal object(s) should be left in situ and not disturbed in accordance with the requirements of section 89A of the NPW Act. The DPIE should be notified immediately; an archaeologist experienced in the identification of Aboriginal cultural material should inspect the suspected Aboriginal objects to make a positive identification.
- If the suspected items are not Aboriginal in origin or manufacture (as defined under the NPW Act), the location and items should be recorded and works may continue.
- If the objects are confirmed to be Aboriginal objects, the site should be registered on the AHIMS administered by the DPIE.
- If the suspected items are Aboriginal objects, an Aboriginal Cultural Heritage Assessment Report would be required before works could continue in the area of the identified objects, as set out in the SEARs. The extent of any works exclusion zone would need to be determined through discussion with the DPIE and Aboriginal community representatives.
- In the unlikely event that human remains were to be discovered at any time during the works, works must cease immediately in the surrounding area. The findings would need to be reported immediately to the New South Wales Coroner's Office and/or the New South Wales Police.

#### Historical Archaeology

The Site has nil–low potential for significant historical archaeological remains and is unlikely to contain relics. Implementation of an unexpected finds procedure is recommended:

- If potential historical archaeological remains are identified during ground disturbance, works in the area must cease until they can be assessed by a qualified historical archaeologist.

- If the suspected items are assessed as not being significant historical archaeological remains or relics, works may continue.
- If the suspected items are found to be significant historical archaeological remains or relics, the NSW Heritage Division should be notified under section 146 of the Heritage Act. Further approvals may be required before works could recommence.

### **Built Heritage**

- Future stages of the design, the scale of the buildings on the Site should step down towards the Castle Hill Showground in order to mitigate the impact on its setting and provide a more appropriate transition of scale.
- The Interpretation Plan should be adopted and implemented as part of the Concept Approval.

The above recommendations with respect to unexpected finds protocol should form part of the conditions of consent. The elements of this strategy have been included in the Urban Design Guidelines that are proposed to be adopted as part of the Concept Approval.

Future detailed designs of buildings would need to consider heritage impacts on nearby items including Castle Hill Showground.

## **8.6. Integrated water cycle management**

An Integrated Water Cycle Management Strategy has been prepared by WSP to assess the Concept Proposal's impact on surface and ground water (both quality and quantity) including impacts to related infrastructure, licensed water users, basic landholder rights, watercourses, riparian land, and groundwater dependent ecosystems, and measures proposed to reduce and mitigate these impacts.

The Strategy aims to review each element of the water cycle and develop a coordinated management approach to holistically manage the entire water cycle. This ensures water is conserved, treated to a standard that is fit for the intended use and reused where appropriate. Interaction with the environment (water quality, waterway ecosystem health), protection of flood corridors, management of stormwater runoff quality and quantity, and interaction with groundwater systems are considered in conjunction with water supply. This Strategy has been prepared taking into account the upgrades to stormwater infrastructure delivered as part of SSI\_5414.

As detailed in this report, the riparian land to the west does not form part of the Site has been transferred to Council upon the dedication of the roads. This Concept Proposal does not propose any works within the area including embellishment works or the provision of infrastructure. Consideration has been given to the impacts both in terms of pollution as well as indirect impacts which have been assessed as part of the BDAR Assessment addressed in Section 8.2.

### **8.6.1. Existing environment**

#### **Surface and ground water conditions**

An overview of the surface and ground water conditions with respect to hydrology of the Site is provided in Section 2. In summary the Site drains towards Cattai Creek through a system of stormwater pits/pipes and via overland flow.

## **Drainage systems**

The existing drainage systems within the Site and the vicinity is detailed in Section 2.9. As detailed, the Site with the exception of the eastern end has been upgraded as part of the works for the development of the Hills Showground station and commuter carpark. The existing stormwater quality treatment provided as part of the NWRL development includes:

- Water quality treatment devices (gross pollutant traps, specifically SPEL Ecoceptor units) on surface inlets and grated drains
- A vegetated swale and a rock lined swale to carry flow to the OSD and to provide additional treatment of runoff from the site
- A 2,135m<sup>3</sup> detention basin (OSD) at the north-west corner of the site.

## **Flooding**

The Cattai Creek 1%AEP flood extent is largely confined to within the existing riparian corridor and flooding from the tributary of Cattai Creek on the eastern side of the Site does not inundate the site. The modelling presented in the NRT report (NRT, 2016) showed that the 1%AEP flood extent with climate change considered (by assuming 10% increase to rainfall intensity) is still contained within the riparian corridor and does not impact on the site. The PMF extent inundates the road areas along De Clambe Drive near the intersection with Carrington Road. Refer **Figure 65**.

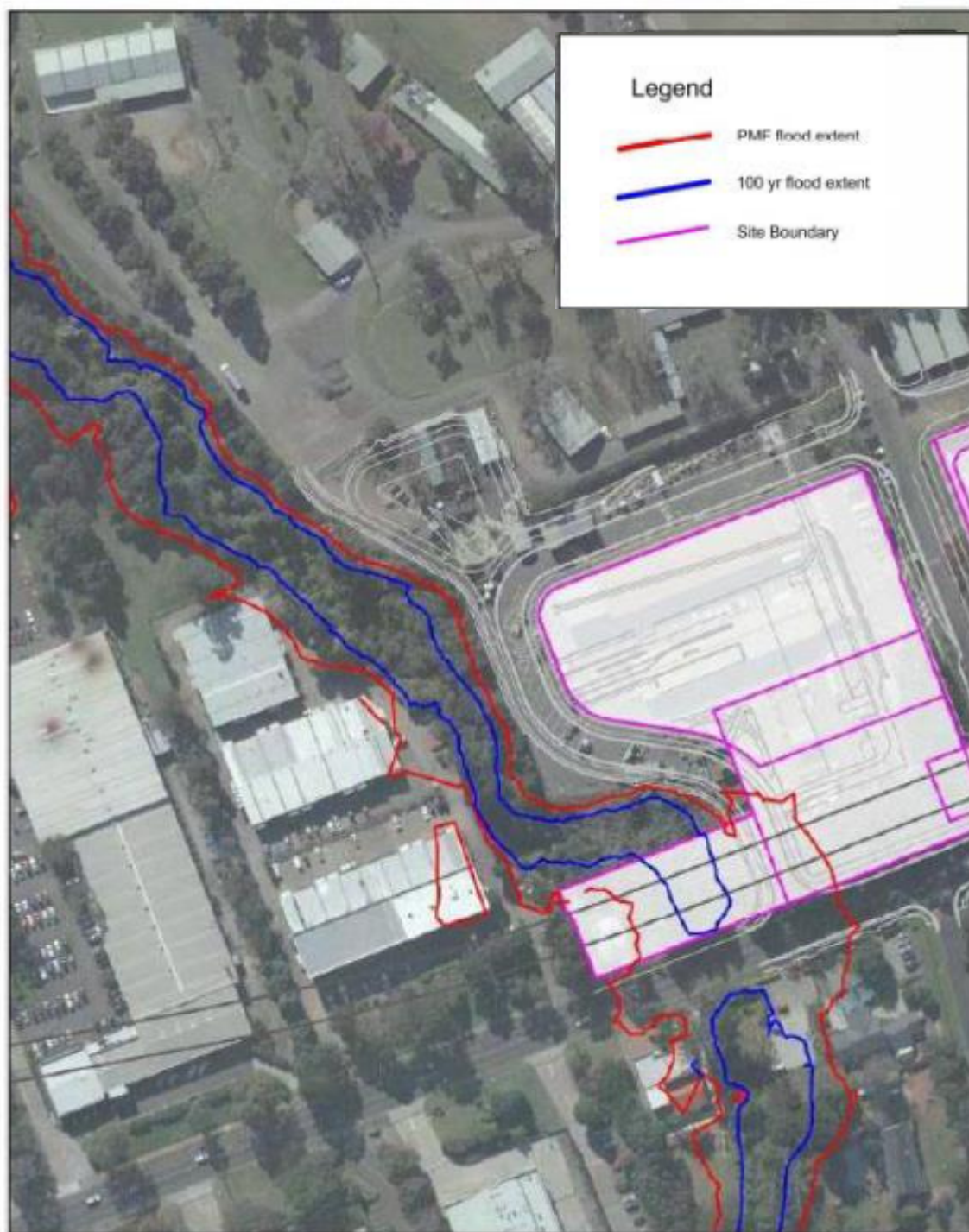
## **Water quality Cattai Creek**

Water quality within Cattai Creek was assessed in the NWRL EIS (AECOM, 2012); the assessment was based on 3 monitoring sites operated by Council located within the vicinity of the Hills Showground Site. The NWRL EIS reported that in general E.coli and nutrients, Total Nitrogen and Total Phosphorous were found to be above the ANZECC guidelines in over half the samples, with dissolved oxygen readings below recommended guidelines. The Hills Shire Council provided additional water quality data from the same sites as reported on within the EIS for a period of up to and including 2013. This data showed similar water quality trends to that noted in the NWRL EIS.

Other than the NWRL and Council monitoring, there is little available information in relation to water quality within Cattai Creek and little information relating to the current ecological health of the waterway. It is noted that a Sydney Water sewer overflow spills into Cattai Creek from the industrial estate to the west of the Site. Information in relation to the spill volume or frequency however is not known.

## **Groundwater quality**

There is no groundwater extraction at the Site and therefore the quality of groundwater resources has not been considered.



**Figure 63** Flood mapping 1%AEP with climate change and PMF (WSP, 2019)

### 8.6.2. Water management impact assessment

#### Flood management

The provision of the detention basin for the attenuation of the proposed scenario runoff ensures that there is no increase in peak flows reaching Cattai Creek. Proposed development associated with the proposed Concept Proposal are located outside the extents of the 1%AEP flood extent, with no negative impacts influencing flood levels.

The following flood management are recommended for the Site consistent with THDCP:

- All floor levels are to be above the 1% AEP level + 0.5m freeboard (i.e. above 83.6m AHD at the intersection of De Clambe Drive and Carrington Road, and above 78.7m AHD at the detention basin)
- All garages/ carpark entrances must be protected from inundation by flood waters up to the 1% AEP + 0.5m.

Given the small portion of the site that is impacted by the PMF extent, the Strategy recommends that the entry threshold levels for the buildings and underground structures are set above PMF levels or protected with raised ground levels to prevent the ingress of flood water for all events up to and including the PMF.

The Strategy concludes the above controls do not impact on the current Concept Proposal as the location of the proposed buildings and carpark entrances are situated on land higher than these levels.

#### Water quality

In addition to the measures which have recently been constructed as part of the work under SSI\_5414, the following stormwater quality treatment measures are proposed:

- Gross pollutant traps and stormwater filtration devices at major low points of the Precincts and catchments. A GPT (EnviroPod unit) and Jellyfish filtration device is to be provided at the discharge point for each Precinct and for the section of the Precinct East which discharge to the east
- Rainwater tanks for capture and re-use of stormwater from roof areas – one rainwater tank per major building
- Linear bioretention in garden and tree beds to provide additional capture and treatment of runoff from the Site. These bioretention measures would be contained within the garden and tree beds that are proposed along the pedestrian and vehicle pathways in the Concept Proposal. These are only proposed to be used within Precinct East.

A Model for Urban Storm Water Conceptualisation (MUSIC) model was prepared for the site to assess the pre-and post-development stormwater conditions for the site and to assess the effectiveness of the water quality treatment devices against the Hills Shire Council targets. The model was prepared in line with the Hills Shire Council's DCP.

The MUSIC modelling indicates that the proposed water quality treatment measures would meet Council's and Landcom water quality pollutant reduction targets. Other water quality treatment and reuse to be investigated as part of future detailed DAs may include:

- Use of vegetated bioretention measures as part of urban design visual amenity
- Placement and sizing of rainwater tanks to improve rainwater capture and reuse applications in the Precincts
- Incorporation of signage at key stormwater management features (e.g. rainwater tanks and bioretention gardens) to provide community education relating to water management.

#### **Relocation of drainage easement Precinct West**

There is an existing private drainage easement within the Precinct West and Concept Proposal shows buildings are proposed where this channel currently flows. To enable the Concept Proposal to proceed, this drainage easement would need to be moved. This would require approval from Council. Any plans to move the easement would need to ensure that the current intent (size/ amount of stormwater its coveys/ provision of an overland flow route) is maintained at any new location.

#### **8.6.3. Recommendations**

In considering the above, future detailed DAs will be required to ensure that water quality of Cattai Creek is maintained and that future development adequately addresses flood issues:

- demonstrate compliance with the flood management controls and take into consideration the recommendations with respect to flooding
- incorporate stormwater quality treatment measures which have been detailed in the Urban Design Guidelines
- confirm the specifications required for individual water quality treatment devices and demonstrate that future buildings are capable of meeting Council's and Landcom water quality pollutant reduction targets set out in the ESD Framework.

## 8.7. Noise and vibration

A Noise and Vibration Assessment (**Appendix N**) has been prepared by Renzo Tonin to:

- investigate the existing acoustic environment
- to assess the acoustic impacts from the use of the site on the surrounding receivers
- to assess the acoustic impacts from the surrounding sources (predominantly road traffic and Metro Rail) on the future residents and users of the subject site.

The assessment gives consideration of NSW Road Noise Policy (RNP), noise and vibration assessment criteria for sensitive uses in the ISEPP, the DPIE's publication 'Development near rail corridors and busy roads – Interim guideline', DECC 'Assessing Vibration; a technical guideline' and criteria for uses in the Australian/New Zealand Standard AS/NZS 2107:2016.

The assessment was also based on data in respect of peak hour traffic volumes provided by SCT Consulting to determine the predicted increase in traffic noise from 2019 to "2031 with development".

### 8.7.1. Existing environment

Acoustic monitoring has been conducted at the Site and at surrounding uses to establish the existing acoustic environment.

The acoustic environment is categorised by the following:

- Noise associated with traffic using Carrington Road and Showground Road
- Noise from the operation of the Castle Hill Showground
- Rail vibration from SMNW operations.

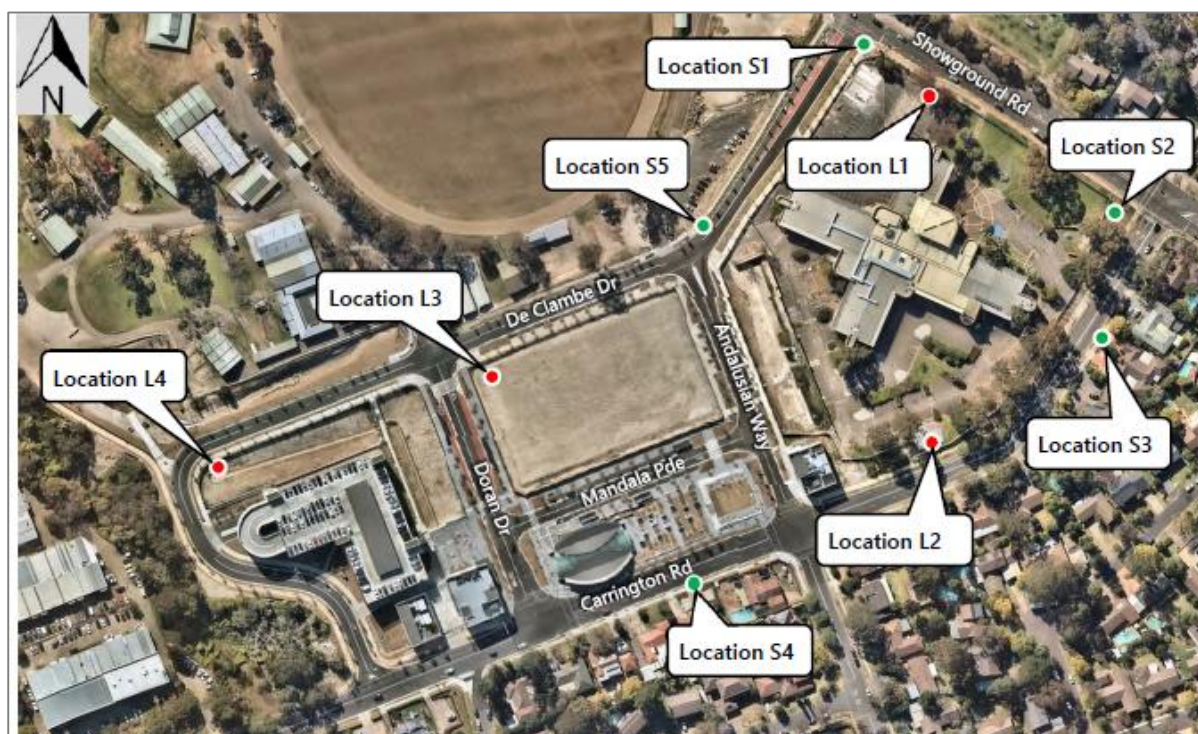
Sensitive uses in the vicinity of the Site typically include the following:

- Existing dwellings across Carrington and Showground
- Childcare across Carrington Road.

#### Ambient and background noise environment

A combination of short-term attended and long-term unattended noise measurements were undertaken surrounding the project site to capture the existing ambient and background noise environment. These are illustrated in Figure 64. IN the case of vibration short term measurements were undertaken and are identified in Figure 65

A summary of the Noise monitoring result is shown in Table 31 and Table 32.



**Figure 64** Locations of unattended noise monitors (Source: Renzo Tonin, 2019)

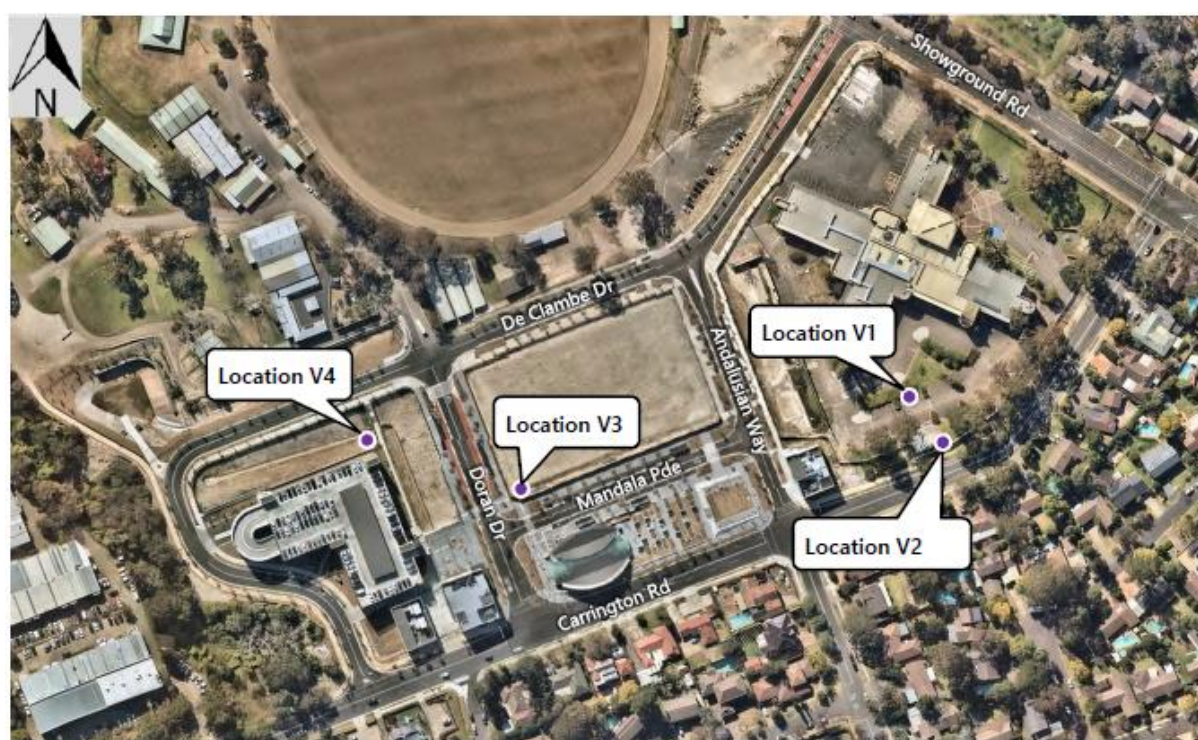
**Table 31** Long-term unattended noise monitoring results

Location	Rating Background Noise Levels <sup>1</sup> dB(A) L <sub>90</sub> (15min)			Environmental Noise (at 1m from a façade) dB(A) L <sub>eq</sub> (period)	
	Day	Evening	Night	Day (7am -10pm)	Night (10pm – 7am)
L1- Showground Road	54	53	34	69	64
L2- Carrington Road	47	43	32	65	57
L3- De Clambe Drive (Castle Hill Showground)	42	41	32	58	54
L4- Cattai Creek	43	42	38	56	51

1. Periods are as defined by the NSW EPA Noise Policy for Industry. Day is 7am – 6pm Monday to Friday and 8am – 6pm Saturday, Sunday and Public Holidays; Evening is 6pm – 10pm daily; Night is 10pm – 7am Monday to Friday and 10pm-8am Saturday, Sunday and Public Holidays

**Table 32** Summary of short-term noise measurements

Location (refer Figure 3 and Table 3)	Measurement date and time	L <sub>eq</sub> , 15min dB(A)	L <sub>90</sub> , 15min dB(A)
Location S1 Showground Road & De Clambe Drive	20 <sup>th</sup> September 2019 1:43pm to 1:58pm	69	58
Location S2 Showground Road & Carrington Road	20 <sup>th</sup> September 2019 2:01pm to 2:16pm	72	62
Location S3 Carrington Road, South East of Hills Showground Precinct East	20 <sup>th</sup> September 2019 2:18pm to 2:33pm	69	54
Location S4 Carrington Road in front of Childcare	20 <sup>th</sup> September 2019 2:45pm to 3:00pm	68	52
Location S5 North-west of the site across De Clambe Drive	20 <sup>th</sup> September 2019 3:06pm to 3:21pm	60	49



**Figure 65** Locations of attended short-term vibration measurements (Source: Renzo Tonin, 2019)

### 8.7.2. Impact assessment

The assessment concluded that the vibration and noise from the operation of the Hills Showground Metro complied with the project criteria for human annoyance in accordance with the DECC 'Assessing Vibration; a technical guideline' (DECC, 2006) and structure borne noise requirements from the ISEPP Guideline 2008.

Daily vibration dose value calculated from the site measured levels was less than 0.01 m/s<sup>1.75</sup> at the worst affected location (V1), which indicates compliance with the project criteria for human annoyance

The measured acceleration at locations V1-V4 were assessed for structure borne noise. The predicted level at the worst affected location (V1) was predicted to be less than 30dB(A) L<sub>Amax</sub> indicating compliance with the project internal noise goals.

Sensitive uses within the proposed development may be impacted by the following noise sources (both existing and future):

- traffic noise from Carrington Road, Showground Road and De Clambe Drive
- noise from the non-loading dock and use of roadways within the Site
- **traffic** noise from the car park adjacent to Precinct West
- noise from the operation of the Castle Hill Showground and active street fronts to receivers within the Site
- noise from construction activities
- noise from the operation of mechanical plant and equipment.

A summary of the findings of the noise assessment and recommended mitigation measures are summarised below.

#### **Traffic noise**

Showground Road carries in excess of 40,000 vehicles per day, triggering mandatory noise assessment under the SEPP (Infrastructure) 2007. Carrington Road has not been identified as a road carrying in excess of 40,000 vehicles per day, however its use does result in noise impacts onto the Site. The goals of the ISEPP Guideline 2008 to residential premises within the Hills Showground Station Precinct as detailed in Table 33.

**Table 33 ISEPP noise criteria for new residential development**

Room	Location	L <sub>Aeq</sub> , 15hr Day 7am – 10pm	L <sub>Aeq</sub> 9hr Night 10pm – 7am
Living rooms <sup>1</sup>	Internal, windows closed	40	40
	Internal, windows open	50	50
	External free-field (allowing windows to remain open) <sup>2</sup>	60	60
Bedrooms <sup>1</sup>	Internal, windows closed	40 <sup>3</sup>	35
	Internal, windows open	50	45
	External free-field (allowing windows to remain open) <sup>2</sup>	60	55

Notes: 1 Requisite for 40,000AADT Roads only under ISEPP 2007.  
2 ISEPP Guideline states that where internal noise criteria are exceeded by more than 10dB(A) with windows open mechanical ventilation is required. External goals have been calculated on the basis of nominal 10dB(A) reduction through an open window to a free-field position. Windows open to 5% of floor area in accordance with the National Construction Code 2019 requirements.  
3. ISEPP does not define noise goals in bedrooms during the Day (7am – 10pm). For residential amenity, Renzo Tonin & Associates propose a limit of 40dB(A) L<sub>eq</sub> (15 hour) internally with windows closed i.e. the same as in a Living Room during the Day.

Based on the above traffic volume increases, the facade noise levels are predicted to increase. Assuming the period average (15 hour / 9 hour) volumes increase by the same rate as the average of peak hours (as period volumes have not been provided), the predicted "2031 With Development" noise levels are predicted at the four (4) monitoring locations, based on the Oculus Cox "Showground Station Precinct - Urban Design and Landscape Report", draft, dated September 2019 (minimum setback 9.5m from the property boundary). The summary results are presented in Table 34 below.

**Table 34 Predicted traffic noise at future facades (2031 with development volumes)**

Location	Predicted Traffic Noise (at 1m from a façade) dB(A) L <sub>eq</sub> (period)	
	Day (7am -10pm)	Night (10pm – 7am)
L1- Showground Road future facade	69	64
L2- Carrington Road	65	57

1. Periods are as defined by the NSW EPA Noise Policy for Industry. Day is 7am – 6pm Monday to Friday and 8am – 6pm Saturday, Sunday and Public Holidays; Evening is 6pm – 10pm daily; Night is 10pm – 7am Monday to Friday and 10pm-8am Saturday, Sunday and Public Holidays

Using the predicted traffic volume increases, the assessment found that the façades of the buildings along Showground (in line with L1) and Carrington Road (in line with L2) as shown in Figure 64 would not comply with noise criteria as per the ISEPP. As such these facades would need glazing and alternative ventilation so that they can close the windows/doors against the traffic noise (if they choose).

Measured average noise levels at Locations 3 and 4 will be impacted by flows on De Clambe Drive. The traffic engineers have predicted a generation rate of 45-55 vehicles per hour on the internal roads. Applying this additional traffic to the existing levels measured by the unattended monitoring predicted an increase of up to 1dB.

Predicted noise from use of the Metro Station carpark and station facilities was presented in the Renzo Tonin & Associates Report prepared as part SSI\_5414 dated the 24 of August 2016 and has determined that glazing treatments would be required to mitigate against noise impacts.

Location	Noise Source	Predicted operational Noise dB(A) $L_{eq}(15min)$	
		Day / Evening (7am -10pm)	Night (10pm – 7am)
Southern façade of Site 3	Carpark	57	54
Near side of Site 3 at 13.5m height	Mechanical plant (at Doran and Carrington)	40-44	40-44
Site 1 – 16m North of Services Building	Mechanical plant (at Andalusian and Carrington)	53	53
Site 1 – 54m North of Services Building	Mechanical plant (at Andalusian and Carrington)	44	44

1. Periods are as defined by the NSW EPA Noise Policy for Industry. Day is 7am – 6pm Monday to Friday and 8am – 6pm Saturday, Sunday and Public Holidays; Evening is 6pm – 10pm daily; Night is 10pm – 7am Monday to Friday and 10pm-8am Saturday, Sunday and Public Holidays

**Figure 66 Predicted operational noise at future facades** (Source: Renzo Tonin, 2019)

The recommended indicative glazing:

- Showground Road (in line with L1)
  - Living Room: 6m x 4m x 2.7; glazed area 4m x 2.7m; glazing 10.38mm laminated with full perimeter acoustic seals, RW 35.
  - Bedroom: 3m x 3.5m x 2.7; glazed area 3m x 2.7m; glazing 10.38mm laminated with full perimeter acoustic seals, RW 35.
- Carrington Road (in line with L2)
  - Living Room: 6m x 4m x 2.7; glazed area 4m x 2.7m; glazing 6.38mm laminated with full perimeter acoustic seals, RW 32.
  - Bedroom: 3m x 3.5m x 2.7; glazed area 3m x 2.7m; glazing 6.38mm laminated with full perimeter acoustic seals, RW 32.
- De Clambe Drive / Doran Drive, facing carpark or street
  - Living Room: 6m x 4m x 2.7; glazed area 4m x 2.7m; glazing 6.38mm Float with full perimeter acoustic seals, RW 28
  - Bedroom: 3m x 3.5m x 2.7; glazed area 3m x 2.7m; glazing 6.38mm laminated with full perimeter acoustic seals, RW 32.

The above treatments are applicable to the façade nearest the road. The treatments will depend on the final building alignments and the distance from the façade to the road. As such, it is subject to detailed design for DA and CC.

For Showground Road and Carrington Road, the noise impacts at L1 and L2 are such that receivers at these locations would need to be provided with alternative ventilation so that they can close the windows/doors against the traffic noise (if they choose).

In remaining areas, it is likely that the design will be more sensitive to noise from traffic generated by the development, noise from the Castle Hill Showground Precinct and noise from the proposed supermarket loading dock which are investigated in further Sections.

Based on the advice of the traffic engineer, all the internal roads within the master plan are considered as "access ways" with traffic generation of 45-55 vehicles per hour and under the ISEPP and RNP, this would not require any further assessment. The noise impacts of these roads upon the buildings within the master plan should be considered in future DAs.

Future DAs for construction of the buildings will need to demonstrate that the noise criteria set out in this report can be met through detailed assessments.

### **Construction noise and vibration**

Construction activities associated with the proposed development will likely result in increased noise levels during construction hours. The works undertaken in the various stages of excavation and construction is likely to consist of a mixture of both high and low noise activities.

Potential impacts of the construction on surrounding areas and the public realm with respect to noise and vibration will be addressed in the future planning and development stages through a Construction Noise and Vibration Management Plan (CNVMP).

The CNVMP will identify potentially noisy activities, their impacts on surrounding receivers, and outline management strategies to control the impacts of noise and vibration during the excavation and civil works, structure construction, building fit out and landscaping.

### **Mechanical plant and equipment and vehicles**

The assessment recommended that external noise emissions from the operation of mechanical plant and equipment and vehicles being driven on site shall be designed for compliance with the NSW EPA Noise Policy for Industry (NPfI), where reasonable and feasible.

Given the proximity of future residential receivers to the loading dock, it may not be feasible to control external noise emissions in accordance with the trigger levels of the NPfI. In that instance, internal noise goals should be set in accordance with AS2107:2016 and the façade designed for compliance internally (based on the loading dock operational requirements). This approach would mean that the affected residences should be provided with alternative ventilation so that they can keep their doors/windows closed against the noise (if they wish).

Noise from traffic generated by the development shall be assessed in accordance with the NSW EPA Road Noise Policy as part of future DAs.

### **Noise from the operation of the Castle Hill Showground and active street fronts to receivers within the Site**

The assessment recommends that reasonable and feasible controls should be set for the management of noise from the Castle Hill Showground. The report noting that at the time the assessment was undertaken that Showground redevelopment master planning was underway and there was little detail is available on the proposed operations

The intention is to activate the Showground site, including at the interface between the Showground and the Showground Station precincts. The Showground redevelopment is intended to allow for high profile sporting fixtures (such as AFL/NRL trial matches), public entertainment (such as concerts and the Castle Hill Show) and will also include food and beverage (licensed premises).

Controls would be set on the basis of:

- Classification of "normal use" and "special uses"
- Corresponding hours, frequency and duration of use; and source noise levels, nature and location/s.

The report noted that having both sites being re-developed under Master-planning arrangements allows for the designs to respond to the relevant risks and opportunities. If the Showground were to operate without any limits on noise emissions, it could preclude residential use on the Site. As such, coordination will be required between the project teams to determine appropriate noise emission limits from the operation of the Showground site, including "normal use" and "special use".

The items which would inform such criteria include the following classification of "normal use" and "special uses" and corresponding hours, frequency and duration of use; and source noise levels, nature and location/s. The assessment makes recommendations for future controls taking into account similar areas and uses detailed below.

### **Mechanical plant and equipment**

Mechanical plant associated with the development has the potential to impact on nearby noise sensitive properties. In order to carry out a quantitative assessment of mechanical equipment, a complete specification of equipment is required. At this stage of the development appropriate detail for mechanical plant is not typically available. A qualitative assessment has been carried out and in-principle noise management measures outlined.

Acoustic assessment of mechanical services equipment should be undertaken during the detail design phase of the development to ensure that the cumulative noise of all equipment does not exceed the applicable noise criteria. Development Consent Conditions typically require detailed assessment of mechanical plant and equipment prior to issue of the Construction Certificate.

Noise control treatment can affect the operation of the mechanical services system. An acoustic engineer should be consulted during the initial design phase of mechanical services system to ensure compliance with relevant noise criteria:

Mechanical plant noise emission can be controlled by appropriate mechanical system design and implementation of common engineering methods, which may include:

- procurement of more 'quiet' plant

- strategic positioning of plant away from sensitive neighbouring premises
- intervening acoustic shielding between the plant and sensitive neighbouring premises
- commercially available acoustic attenuators for air discharge and air intakes of plant
- acoustically lined and lagged ductwork
- acoustic barriers between plant and sensitive neighbouring premises
- partial or complete acoustic enclosures over plant.

The specification and location of mechanical plant should be confirmed prior to installation on site

Fans shall be mounted on vibration isolators and balanced in accordance with Australian Standard 2625 'Rotating and Reciprocating Machinery – Mechanical Vibration'.

### 8.7.3. Recommendations

The assessment concluded that existing environmental noise impacts from road traffic noise on Showground Road and Carrington Road are capable of complying with the requirements of the SEPP (Infrastructure) 2007 and ISEPP Guideline 2008 subject to detailed design.

Noise emission goals from the use of mechanical plant and equipment and vehicles being driven on Site have been set in accordance with the NSW EPA NPfI. Compliance with those goals to existing residential receivers is achievable (subject to careful siting and design).

Criteria have been set for the management of normal noise emissions from use of activated street fronts and use of the Castle Hill Showground. Additional controls have been set for special uses of the Castle Hill Showground. These controls may need to be refined pending the outcomes of the Castle Hill Showground Master Plan. The recommendations are summarised in the **Table 35**.

Future DAs for construction of the buildings will need to demonstrate that the noise criteria set out in this report can be met through detailed assessments.

**Table 35 Noise Assessment Recommendations**

Guidelines/Policies/ Standards	Recommendations
NSW Road Noise Policy (RNP) ISEPP DPIE Development in Rail Corridors and Busy Roads - Interim Guideline (road noise) AS/NZS 2107:2016	Indicative glazing for facades fronting the roads, subject to detailed design
DPIE Development in Rail Corridors and Busy Roads - Interim Guideline (rail noise) DEC Assessing Vibration: A technical guideline (rail vibration)	Vibration impacts from the Metro rail movements were measured and found to be compliant with the DPIE and DEC Guidelines, without additional treatments (based on the proposed range of uses).

Guidelines/Policies/ Standards	Recommendations
The Sydney Metro Underground Corridor Protection - Technical Guidelines	Preparation of a CNVMP during the construction certificate phase.
NPfl	Project noise trigger levels have been set in accordance with the NPfl. Detailed assessments will be required for DA and CC submissions, subject to detailed design.
Liquor and Gaming NSW (patron and music noise from licensed premises to receivers external to the precinct); Barangaroo South Masterplan Noise Assessment	Noise emission goals from the use of a licensed premise to residential receivers outside of the Hills Showground Station Precinct have been set. Controls for compliance shall be subject to detailed design for DA and CC. In addition, goals have been set for the assessment of noise from cumulative operation of the Site licensed premises to existing residential receivers using an approach previously applied at the Barangaroo South Masterplan Noise Assessment.
Noise from active street-fronts – there are no state level guidelines specifically addressing impacts of active street-fronts or community uses on a residential Precinct	<p>Cumulative goals for patron and music noise at Site residential façades have been set for “normal use” of active street-fronts and “normal use” of Castle Hill Showground, as informed by the Barangaroo South Master Plan Noise Assessment. The corresponding cumulative external patron and music noise goals (assuming windows closed and residences provided with alternative ventilation) will be determined by the performance of the facade, subject to detailed design.</p> <p>For the management of noise from “special uses” of the Castle Hill Showground, noise management protocols have been set as informed by the Sydney Cricket Ground and Allianz Stadium Noise Management Plan. The corresponding external goals (assuming windows closed and residences provided with alternative ventilation) will be determined by the performance of the façade, subject to detailed design.</p> <p>Note: The Castle Hill Showground Masterplan is currently being prepared and should be available for acoustic review for DA/CC.</p>
National Construction Code / Building Code of Australia Part F5	The design of compliant systems for the acoustic separation of sole occupancy units and separation of different classifications is to be addressed in detailed design. The version of the code applicable to the Site will depend on the “Stop the clock” date for that Site. The current NCC/BCA 2019 acoustic separation requirements are included for information.

## 8.8. Soils and contamination

### 8.8.1. Contamination

A Preliminary Contamination Assessment (**Appendix R**) was prepared by JBS&G Australia Pty Ltd (JBS&G) for the Site to address the requirements of SEPP 55 and demonstrate the suitability of the site for the development having regard to the Site's geotechnical characteristics including erosion potential subsidence, salinity and acid sulfate soils.

This report is based on a desktop review of potential contamination including a review of available (pre-SMNW Project) site investigation reports, more general site history and regional condition information and a site inspection to evaluate the potential for contamination concerns at the Site.

### 8.8.2. Existing conditions

A description of the Site is provided in Section 2 and includes consideration of topography, soils and geology, and hydrology.

### 8.8.3. Impact Assessment

A detailed inspection of the site was conducted from publicly accessible places within the Showground Station Precinct. No indicators of gross and/or widespread contamination were identified at the Site during the inspection. However, based on the site history review, there remains the potential for historical site activities and/or environmental incidents ancillary to the recent construction works to have resulted in contamination of site media, as discussed below.

**Table 36 Assessment of development lots**

Development lot	Existing site conditions
Hills Showground Precinct East	<p>The significant ground disturbance activities have primarily been limited to the central and south-west portions of the site, with little apparent ground level works being completed within the Hills Shire Council parcel in the north-east of the site (Hills Showground Precinct East). Previous investigations pertaining to the Hills Showground Precinct East have recently included a HBMS (JBS&amp;G 2019) which identified the presence of hazardous building materials within the former Council Chambers and Administration building.</p> <p>JBS&amp;G note no investigations pertaining to the contamination status of soils/groundwater within the Hills Showground Precinct East were identified and/or made available for review as part of this investigation. Notwithstanding, the potential for contamination in this area of the site is low and considered to be likely associated with fill of unknown origin (used to form current site levels), former agricultural/open space uses and/or associated with the presence of hazardous building materials within existing/former site structures that may have cross-contaminated surface soils. It is also noted that the depth to bedrock, being located at the crest of the ridge is likely shallow, and groundwater may be at greater depth that has been encountered at the balance of the site, being situated at the top of the catchment.</p>
Doran Drive Precinct	<p>Within the central portion of the Site, substantial ground disturbance activities were completed during the SMNW Project activities. These included significant regrading upon completion of construction of the Metro within this portion of the Site to generate current site levels. In the absence of Project period management records, it is considered that the operation (storage, refuelling, working, maintenance etc.) of plant/machinery, construction/filling of temporary detention basins, operation of waste</p>

Development lot	Existing site conditions
	water treatment plants, stockpiling of materials, etc comprise activities with low to moderate potential to have introduced contamination to the site.
Hills Showground Precinct West	<p>The former Council Depot area in the south western portion of the Site, now occupied by the commuter carpark, comprising the Hills Showground Precinct West and surrounding public domain areas has undergone significant ground disturbance during the SMNW Project activities.</p> <p>Preliminary investigations conducted prior to the commencement of the SMNW Project construction period, as summarised in Section 4, identified historical AEC and isolated soil/groundwater contamination within the former Hills Council Depot. These included in-situ fuel infrastructure and associated soil/groundwater impacts. Asbestos had also previously been identified as fragments on the ground surface and as fibre bundles by JBS (2009) and Coffey (2012) within shallow fill materials in the southern, northern and western portions of the Council Depot. Isolated heavy metal and PAH impacted soils were also identified during these investigations.</p> <p>The area appears to have been subject to bulk cut/fill activities to establish current site levels, including generation of the significant batter faces within the Hills Showground Precinct West. A review of records as held by SafeWork NSW (Section 3.9) indicated three USTs within the former Council Depot site had been abandoned and were removed during the Project activities, with records indicating two USTs potentially remained abandoned in-situ at the site prior to the Project activities. A review of supplied documentation confirmed 4 former petroleum storage tanks (one decommissioned UST was encountered during removal of the other three) were excavated and removed from the site during Project Activities, with some of the associated materials validated for reuse within the Site.</p> <p>It is noted that the available validation report did not include documentation of the off-site disposal of contaminated stockpiles unsuitable to remain on-site, or the completion of validation works as per NSW EPA endorsed guidelines (the absence of groundwater characterisation and validation of fuel line and bowser locations). In addition, it is noted that whilst previous investigations had identified asbestos in soil impacts at the site, in the absence of further Project implementation stage validation documentation, the status of previously identified asbestos impacts, in addition to the fate of stockpiled petroleum hydrocarbon material reported as unsuitable for reuse on site, and/or other potential contamination known to previously occur at the site is currently uncertain. Should additional SMNW Project implementation station site contamination validation reports become available, these may close out the remaining data gaps at the site. Alternatively, if this material was not removed during SMNW project works, there is the potential for that these contaminated materials to remain within the Hills Showground Precinct West site portion.</p>

#### 8.8.4. Impact Assessment

Based on the scope of investigation undertaken, the following conclusions are provided:

- This desktop assessment of potential contamination included a review of available (pre- SMNW Project) site investigation reports, more general site history and regional condition information and a site inspection to evaluate the potential for contamination concerns in relation to three proposed development Precincts at the site.
- Prior to the commencement of the SMNW Project activities, the site comprised three main areas: the Hills Shire Council Chambers and Administration building and surrounds (Hills Showground Precinct East); the former performing arts centre and associated carparking area

(central portion including Showground Station and Doran Drive Precinct); and the Council Works Depot (Hills Showground Precinct West and constructed carpark infrastructure).

- Historical site investigation reports as available for assessment are limited to the former Council Works Depot footprint. These investigations identified the presence of small-scale soil and groundwater contamination and underground fuel infrastructure (considered significant point sources of potential contamination), prior to the commencement of the SMNW Project activities. Records obtained from SafeWork NSW have indicated removal of at least a portion of the fuel infrastructure, however the current absence of remedial action plans and/or validation documentation as may have been prepared as was required by Project Approval consent conditions, results in uncertainty as to the extent of works completed and the current contamination status of this site portion
- In addition, significant ground disturbance works have been completed within the central portion of the Site (Doran Drive Precinct) during the SMNW Project activities. This area is currently surfaced with exposed fill material. Subject to the availability of validation documentation confirming the status of ground conditions in this portion of the Site, there is also a remaining data gap as to the current characterisation of this area given the potentially contaminating activities as have occurred within this area.
- Within the northern portion of the Site, occupied by the former Council chambers, the potential for site contamination has been identified as relatively low, being associated with historical agricultural/open space management, the historical use of hazardous building materials (asbestos and lead paint) and the potential presence of limited profile of fill material of unknown origin. However, the absence of existing characterisation data, again remains an open data gap with regard to drawing conclusions on the suitability of the Site for the proposed land uses.
- There is no appreciable risk of acid sulfate soil presence within natural residual soils at the Site given the formation environment, and therefore no future management for the potential presence of acid sulfate soil is required during future ground disturbance works.

#### 8.8.5. Recommendations

With consideration of the above, it is considered that the Site can be made suitable for the proposed land uses, subject to implementation of an appropriate staged data gap contamination assessment (that may include verification reviews of SMNW stage validation reports) and appropriate management of any small scale remaining contamination issues undertaken in accordance with NSW EPA guidance prior to commencement of construction activities.

This will be addressed as part of future detailed DAs for the Site.

### 8.9. Geotechnical

A Geotechnical Desktop Assessment (**Appendix K**) was prepared by PSM to identify local soil conditions and any unusual geotechnical conditions that may impact on the Concept Design with a separate piece of assessment prepared with respect to proposed development located over the SMNW running tunnels on Precinct East.

### 8.9.1. Existing conditions

A description of the Site is provided in Section 2.5 and includes consideration of topography, soils and geology, and hydrology.

### 8.9.2. Impact Assessment

#### Site wide considerations

The assessment provides the following high-level advice and commentary around the geotechnical aspects of the Site:

- Excavation should be able to be undertaken using conventional approaches.
- Recommendations regarding conventional shoring system and foundations to be used in these conditions.
- Requirement for further assessments by road and rail authorities of the excavation induced ground movements on adjacent infrastructure – likely to include a predicted effects assessment, pre and post construction dilapidation surveys as well as survey of ground movement during the works.
- Civil works should not present any unusual geotechnical challenge.
- Ability to use material won from any bulk excavations.
- Recommendation for further target geotechnical investigations at the detailed design stage to supplement existing information and fill in any gaps by designers.
- Any development in the vicinity of the SMNW infrastructure would need to consider the protection of the corridor around such infrastructure.

#### East Precinct

Specific geotechnical consideration was given with respect to the development of the land over the SMNW tunnels on Precinct East. This assessment was based on available information including geological maps and factual and interpretive data supplied to tenderers for the SMNW project as well as previous involvement in the SMNW project.

The advice identified that based on the inferred ground conditions, and approximate depth of the SMNW running tunnels, construction of a 16-storey building on the Site could be feasible. However, it was recommended that the any basement excavation be limited to basement of at least 2.5 levels would be feasible. This advice has informed the Concept Proposal and proof of concept design.

The advice identified the ground conditions from a borehole (NWR-BH155) that was drilled as part of the SMNW geotechnical site investigation. Based on the encountered conditions, PSM identified that shallow pad footings should be able to be founded on the Class III Siltstone or Class II Sandstone and recommended an allowable bearing pressure (ABP) for centric vertical loads. This should however be confirmed with the structural designer as part of the preparation of detailed DAs.

### **8.9.3. Recommendations**

The assessment concluded that they do not expect geotechnical conditions that are unusual for north western Sydney to exist on this Site. In general, normal civil engineering and building approaches will be satisfactory for geotechnical aspects of the proposed development.

Any planned development within the existing SMNW protection corridor would be required to meet the requirements set out in the TfNSW ASA Standard “Development Near Rail Tunnels” which forms the basis of the TfNSW document specific to Sydney Metro infrastructure, “Sydney Metro Underground Corridor Protection – Technical Guidelines”.

Future applications would be required to undertake further geotechnical investigations as part of the detailed design and construction of the buildings.

## 8.10. Transport and accessibility

A Traffic and Transport Assessment (**Appendix X**) has been prepared by SCT Consulting to assess the transport, traffic and pedestrian implications associated with the Concept Proposal.

These assessment presents the findings of the traffic, transport and car parking assessment, identifies potential transport related impacts of the Proposal and outlines mitigation measures to address identified impacts.

### 8.10.1. Existing environment

Details of the existing road, pedestrian and cycle networks as well as proposed upgrades is addressed in Section 2 of this report.

#### Travel behaviour

Journey to work data from the 2016 Census for f Castle Hill was analysed to determine travel behaviour of the existing residents in the vicinity of the Site.

The travel mode split is shown in Figure 67, where the majority were undertaken by private vehicle with over 60%. Prior to the commencement of the SMNW, most public transport trips were undertaken by bus. Rail trips on the heavy rail network were low, being in the order of 3%. Active transport in the form of walking and other (cycle) also forms a small proportion of trips, being less than 3% of trips undertaken. Around 14% of people reported they do not travel to work or did not work from home.

The start of regular metro services is contributing to a mode shift from private vehicle to metro rail and associated interchange services over time.

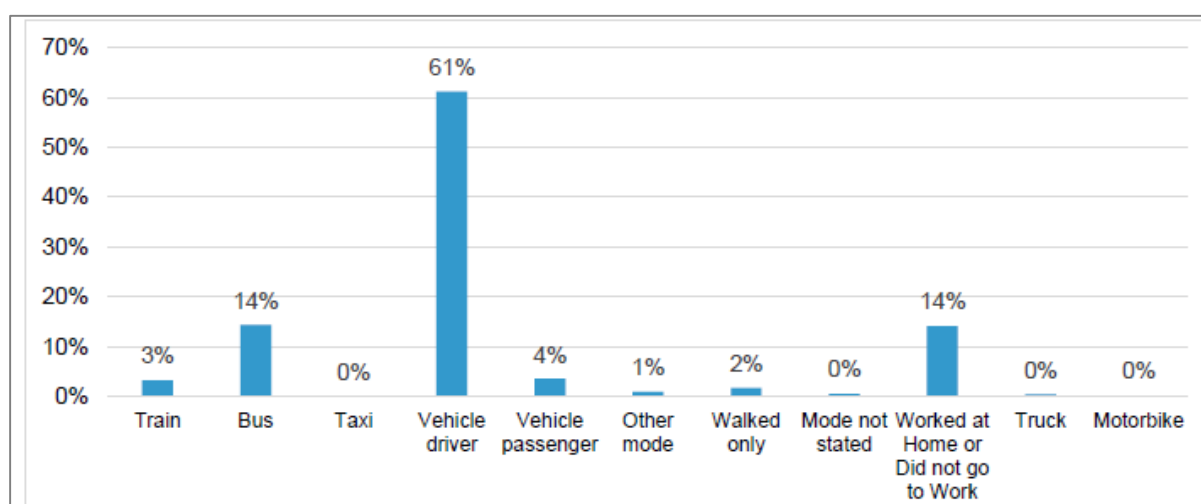


Figure 67 Travel modes for journey to work in Castle Hill (SCT Consulting, 2019)

## Intersection performance

Key roads servicing the development are Showground Road and Carrington Road with the intersections modelled being:

- Showground Road / De Clambe Drive
- Showground Road / Carrington Road
- Carrington Road / Andalusian Way / Middleton Avenue
- Carrington Road / Doran Drive
- Carrington Road / De Clambe Drive
- Carrington Road / Victoria Avenue.

The modelled road network currently operates with a performance of Level of Service D or better. A few intersections operate over capacity without any infrastructure improvement in 2031, as a result of background traffic growth.

### 8.10.2. Traffic impact assessment

The Concept Proposals seek approval for a range of non-residential GFAs, hence there is a range of residential dwelling yield between 1,802 and 1,879 dwellings including a minimum of five percent for affordable housing. The higher and lower non-residential schemes both yield a total GFA 175,796 m<sup>2</sup>. In order to understand the implications of both scenarios and to undertake a worst-case assessment, the parking assessment has considered the more onerous condition with the upper limit of both non-residential and residential GFAs.

On the other hand, the trip generation and traffic modelling exercise have considered the more onerous condition with the upper limit of both non-residential and the lower limit residential GFAs, which would generate the highest vehicular trips. Hence the impacts highlighted in this report would be overstated if the lower limit of the non-residential is delivered with the upper limit of residential component.

Up to 2,273 car parking spaces and 799 bicycle parking spaces are also proposed, based on the yield and land use mix of the proposed development and the recommended maximum car parking rates and minimum bicycle parking rates for each type of uses respectively.

The SSDA would facilitate development which supports best practice transit-oriented development principles, by providing increased residential and employment density in proximity to existing and planned transport infrastructure upgrades that provides employees with greater access to public transport and employment options, while promoting the use of sustainable travel options.

The Concept Proposal responds to the opportunity to create a transit-oriented centre by reducing the amount of car parking, reflecting the higher level of public transport services and providing walking and cycling facilities to enhance seamless connections with the regional facilities. The best approach to facilitate / influence reduced car use and to minimise additional congestion to the surrounding road network is to restrain parking provision (while offering attractive public transport alternative in this case Sydney Metro and its connecting bus network). Hence the need to predict and provide parking provision

based on historical data / trends does not align with the principle of the Hills Showground Station Precinct.

The recommended parking rates sought to be approved under this Concept Proposal seek to discourage private vehicle use and minimise traffic impacts

### **Trip generation and traffic impacts**

The Concept Proposal would generate 710 and 927 peak hour vehicular trips during the AM and PM peak hours respectively. The proposed cap on vehicular parking spaces below the requirements of the rates suggested in THDCP is one of the tools used to reduce the traffic impacts of this proposal.

The intersections aforementioned were modelled in SIDRA Network. Their performance can be maintained at Level of Service D or better provided the following infrastructure at each development scenario:

**2031 without development (background traffic growth only),** which includes:

- Intersection widening for Showground Road as per scheme proposed by RMS
- Carrington Road as per scheme proposed by RMS to Middleton Avenue
- Signalisation of Carrington Road / Victoria Avenue within road footprint, as per scheme proposed by RMS.

**2031 with development, which requires:** same as above with no additional upgrades.

RMS provided the current scheme for the Showground Road and Carrington Road upgrades, which were used to identify infrastructure requirements as above.

Traffic modelling indicates that the traffic network requires the full Showground Road and Carrington Road upgrade scheme including the signalisation of Carrington Road / Victoria Avenue in order to achieve acceptable performance to cater for background traffic growth and development traffic. It should be noted that no additional infrastructure upgrades are required to cater for the proposed development, once the full Showground Road and Carrington Road upgrade scheme including the signalisation of Carrington Road / Victoria Avenue is delivered.

According to the Showground Station Precinct Contributions Plan No. 19, the signalisation of Carrington Road and Victoria Avenue and the upgrade of Carrington Road and Middleton Avenue have already been included to meet the future demand, while ensuring an acceptable level of access, safety and convenience for all street and road users within the Showground Precinct. Hence, the upgrade of this intersection, as confirmed by the traffic modelling to cater for background traffic growth and development traffic, will be funded by all relevant section 7.11 contributions. On the other hand, as also stated in the Contributions Plan No. 19, the upgrade of Showground Road / Carrington Road will be provided by parties other than Council (including TfNSW and future individual developers within the Precincts) as development occurs.

It is also estimated the development would generate approximately 670 and 542 person-trips during the weekday AM and PM peak hours respectively – i.e. trips across all modes of transport. Given the site is located adjacent to the Hills Showground Station, most of the walking trips are expected to be using

surrounding public transport services and a small proportion would be walking / cycling to / from local origins. Given the high frequency of train services, the pedestrian demand between the proposed development and the station would be very well-spread across the peak hours, hence reducing the likely crowding levels and additional upgrade of current footpaths and shared paths which are delivered for significantly higher demand and are currently observed to have significant spare capacities.

### **Public transport**

The additional public transport trips generated during the peak hours can be accommodated through the high frequency Metro services (4-minute frequency during the peak hours) and up to 19 bus services per hour across six bus routes in the peak travel demand direction during AM and PM peak hour periods.

### **Active transport**

Pedestrian and cyclist access to the site has been identified in the Interchange Access Plan via the cycle and pedestrian paths on De Clambe Drive, Andalusian Way and Doran Drive. These routes will connect cyclists and pedestrians to station, Showground Road and Carrington Road.

The increased yield of the Illustrative Concept Proposal could generate approximately 670 person-trips per peak hour, of which only a small proportion would be walking / cycling to / from the origins of their trips.

### **8.10.3. Recommendations**

This assessment concludes that:

- the location of the site directly adjacent to Hills Showground Station will provide future residents and employees with improved access to high frequency public transport services, which will provide an alternative to private vehicle use especially for commuter trips
- footpath and pedestrian crossing facilities are well provided around the site to support safe and convenient walk to / from Hills Showground Station
- dedicated cycle routes around the site connecting to the regional routes will cater for more short trips by cycling to nearby activities and destinations
- parking rates are proposed for the Concept Proposal to create a transit-oriented centre in line with metro's vision, reflecting the higher level of public transport services and to minimise additional congestion to the surrounding road network
- the total number of parking spaces is appropriate for this TOD and in line with RMS's to traffic generating developments and will naturally limit the traffic impacts of this proposal. The additional vehicle trips will not have any significant adverse traffic implications on the public road network.

Further the assessment notes that, that the proposal is supported by TDM strategies with a number of green travel initiatives / principles developed specifically for a transit-oriented development at this location that provide significant opportunities for alternative travel options and reduce the need of car travel. A Travel Plan will be developed by the future developers as part of detailed DAs to deliver best practice travel programs and initiatives to manage travel demand for a TOD.

## 8.11. Utilities infrastructure and servicing

A Utility Servicing Impact Assessment (**Appendix Y**) has been prepared by WSP to identify the existing capacity of the site to service the development proposed and any augmentation requirements for utilities, including arrangements for electrical network requirements, telecommunications, gas, and water (drinking water and waste water). Recycled water is addressed in the Integrated Water Cycle Management Strategy.

### 8.11.1. Existing services

As summarised in Section 2.8 necessary essential services, including electricity, gas, water, sewer and telecommunications are currently available of being connected to service the development lots.

### 8.11.2. Impact Assessment

A summary of the existing capacity of each of the services and augmentation required to service the development lots is set out below. The servicing information has been obtained by through dial before you dig records and engagement with utility providers.

#### Data and telecommunications

The Precinct is well serviced by telecommunications networks along Carrington Road and Showground Road as shown in **Figure 68**. Local extensions of telecommunications networks are feasible and will be driven by consumer demand and needs.

- Optus have confirmed that there is a 144 fibre and 312 fibre cables along Carrington Road and Showground Road.
- NBNCo have confirmed they have assets along Carrington Road and Showground Road however the size of these is unknown
- Vocus – have confirmed they have a Vocus 720 fibre (Cable ID CB25106) running along Carrington Road and a Nextgen 288 fibre (Cable ID WSYD\_4001) running along Carrington Road
- Telstra has not responded to the original request regarding existing network capacity.



**Figure 68 Existing telecommunications network (WSP, 2019)**

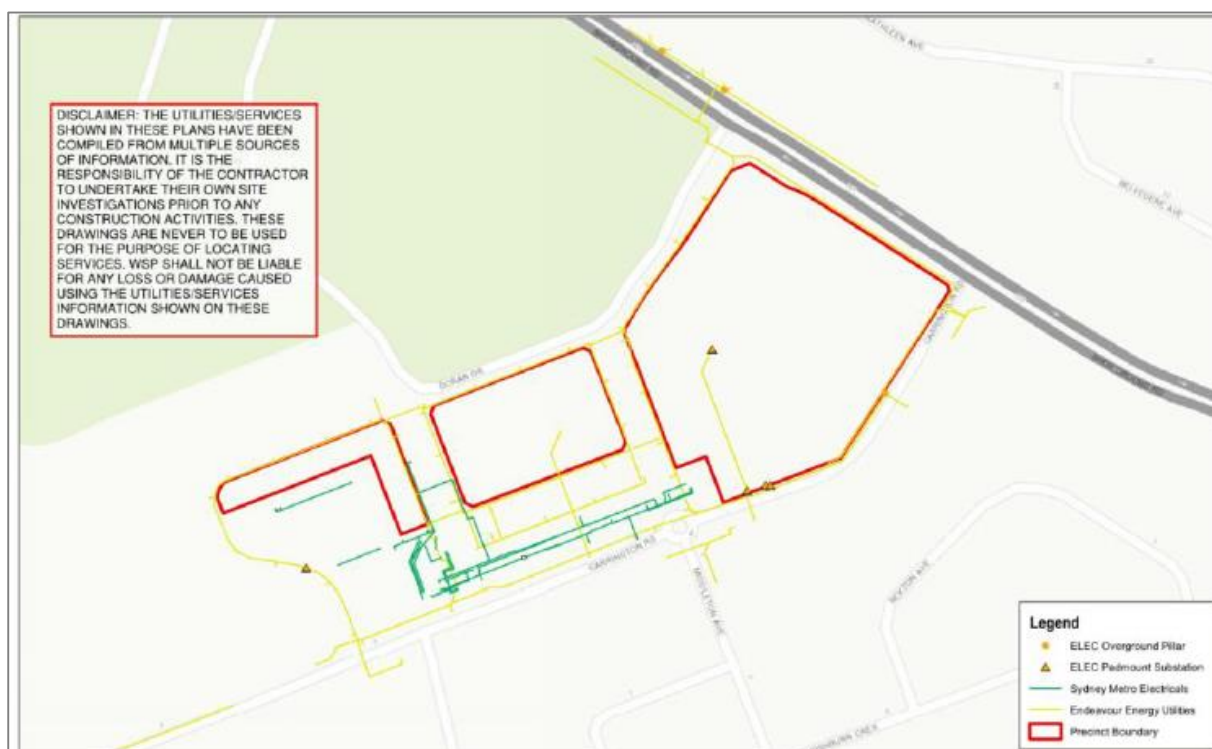
### Electrical network requirements

Endeavour Energy have confirmed that there are two electrical feeders available to service the Precinct (CJ1227 and CJ1282). Each have an available capacity of 4.5 MVA, 9 MVA total.

Future demand calculations estimated a total demand of 8.44 MVA. This is below the available existing 9MVA capacity, therefore there is sufficient current capacity to supply the demand for the development option being considered.

Note however, capacity is not reserved for this development and further consultation with Endeavour Energy will be required at the time of considering a development proposal.

It is noted the future demand calculations are an estimate based on the provided schedule of accommodation and the listed assumptions. The future developers of the site will calculate the final demand requirements as part of the detailed DA process.



**Figure 69 Existing electrical network (WSP, 2019)**

## Gas

The 210 kPa gas main located along Carrington Road is sufficient to service the development lots based on a proposed gas load of 125,756GJ p.a. There is also a 1050 kPa gas main along Showground Road, north of the Precinct available to serve as a connection point should the 210 kPa be insufficient to service the precinct. Refer Figure 70. The gas mains are located adjacent to each of the three precinct sites which provides good opportunity to connect future developments to the gas network.



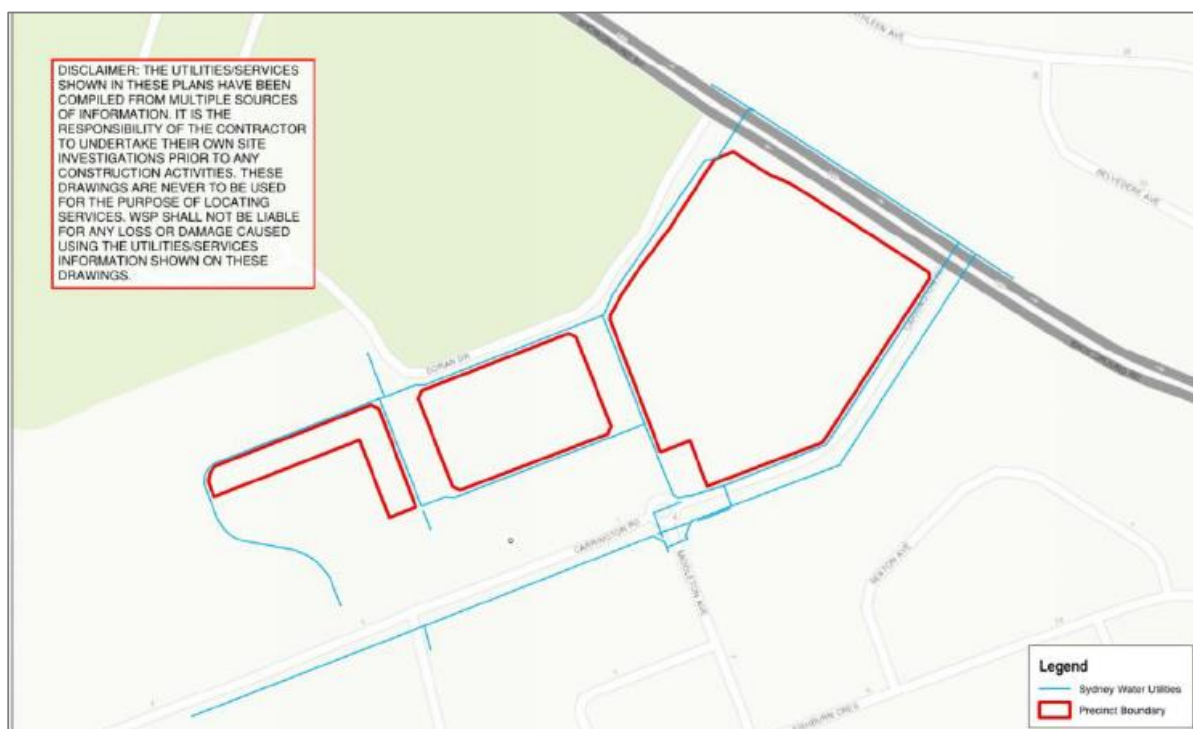
**Figure 70 Gas network (WSP, 2019)**

### **Water (potable/drinking water)**

There are several DN200 water mains adjacent to each lot (Figure 71). Sydney Water has confirmed that the Looped DN200 mains will have adequate hydraulic capacity for this type of development and network upgrades are unlikely to be required. As there are several DN200 mains adjacent to each lot, there is likely to be some flexibility to locate service connections to suit the proposed architectural and internal building servicing design.

It is recommended that the DN150 CIL main in Carrington Rd is not used for servicing the development due to its smaller size. No comment was made on the DN150mm CIL water main by Sydney water on its adequacy to be used in the development of this precinct.

It is noted the future demand calculation is an estimate based on the schedule of accommodation and listed assumptions. If the total load increases in the future, further consultation with Sydney Water will be required by the future developer.



**Figure 71 Existing water network (WSP, 2019)**

## Sewerage

Sewage connection points are required for each of the development lots. The existing DN300 PVC sewer mains in Carrington Road has adequate capacity to accommodate the proposed development.

Hills Showground East Precinct has two existing connection points, one along Showground Road and one along Carrington Road. Connection to Showground Road is via a 150VC pipe uphill, while the connection to Carrington Road is via a 300PVC concrete encased pipe. It is recommended that 300PVC concrete encased pipe is used to service Hills Showground East Precinct due to its larger capacity and location which is topographically lower, allowing a gravity fed system to be utilised.

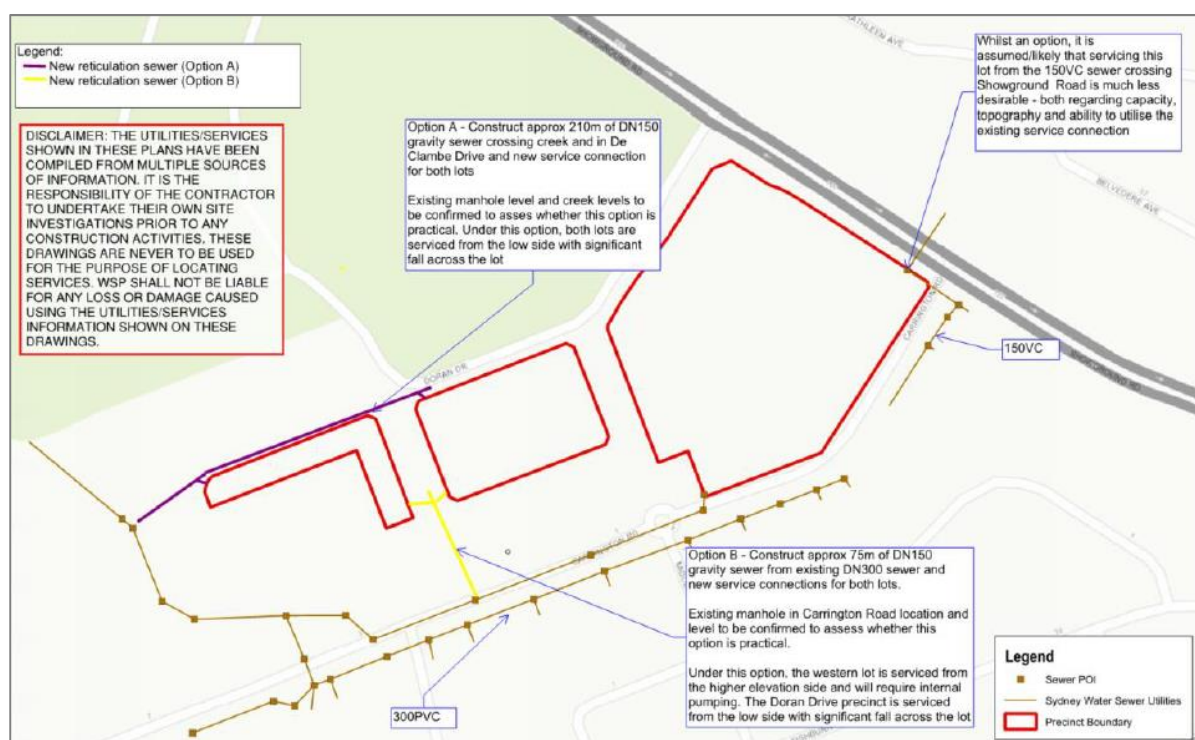
Currently there is no direct sewer connections for the proposed Doran Drive Precinct and Hills Showground West Precinct. Two strategic options are suggested to service these two areas (Figure 72).

- Option A– Construct a DN150 sewer pipe along the eastern side of De Clambe Drive with connections from Hills Showground West Precinct and Doran Drive Precinct. This connection will go to the main adjacent Cattai Creek. There are limited clashes with existing services along De Clambe Drive, however the connection to the manhole would require the new sewer to cross Cattai Creek. This would require appropriate approvals from both Sydney Water and environmental authorities and poses a credible risk to the feasibility of this option. This option will flow via a gravity fed system.
- Option B – Construct a DN150 sewer pipe along the southern side of Doran Drive with connections from Hills Showground West Precinct and Doran Drive Precinct. This will connect to the manhole at the intersection of Doran Drive and Carrington Road. This option will require

detailed investigation and co-ordination with services running along Carrington Road and Doran Drive. The new Metro station area is highly congested area and at this location on the line is quite shallow to the road surface. As a result, this option may carry with it the risk that it may not be possible to undertake this route at a grade that would be suitable for sewer mains. WSP notes that further investigation into the possibility of this option is not possible through desktop analysis and that more data is required through survey and consultation with Sydney Metro. This option will flow via a gravity fed system.

Each of these options will be further investigated by the future developer as part of the detailed DA to confirm the feasibility and risks associated with the proposed development.

If the total load increases in the future, further consultation with Sydney Water will be required by the future developer. WSP notes that the current desktop feasibility study undertaken is not adequate to fully determine the complete viability of some of the options shown and as such would recommend a detailed feasibility study to further investigate the risk and its mitigation. All options presented have varying levels of risk associated with the installation and final design locations which WSP recommends be considered in the decision of these options.



**Figure 72 Proposed Sewer Infrastructure Options (WSP, 2019)**

## Recycled water

As part of a WSUD management, rainwater tanks are proposed to be installed for capture and re-use of stormwater from roof areas to meet a portion of water supply such as landscape irrigation.

The Integrated Water Cycle Management Strategy assumes one rainwater tank per major building proposed in the Concept Proposal (refer to **Appendix M**). The location of rainwater tanks will be determined as part of the detailed design as part of future DAs.

### 8.11.3. Recommendations

The Utility Services Impact Assessment demonstrates that the Concept Proposal can generally be serviced by existing utility infrastructure, other than for sewer where further investigation at the future DA stage is required. The strategic options for sewer upgrades will be further developed by the future developers of the site and an appropriate solution will form part of the future detailed development application for their final development proposals. Detailed utility investigation and further discussions with the relevant authorities will occur at the time.

Further consultation with utility providers will be required at the time of considering detailed DAs and will be required to calculate the final demand requirements as part of the detailed DA process.

## 8.12. Visual

Visual Impact Assessment (**Appendix AB**) has been prepared by Cardno to assess the visual changes and impacts on the Site and its surrounds when viewed from key vantage points. The analysis of the potential visual impacts of the Concept Proposal has been carried out along conventional lines for visual assessment of built developments and included:

- Identification of representative locations with the identified visual catchment that may potentially be impacted by the development with regard to visual quality
- Identification of critical viewpoints toward the development site in consultation with the DPIE and Council
- Preparation of locationally accurate computer-generated photomontages from each of the agreed critical viewpoints. These photomontages have been prepared in accordance with the NSW Land and Environment Court Guidelines for Use of Photomontages.
- Assessment of the likely impacts of the proposal on local visual quality via a process of qualitatively assessing:
  - Viewpoint sensitivity – the level of value that viewers would be likely to attribute to the quality of views from a given location.
  - Change magnitude – the amount of change to views from given locations that would likely result from implementation of the proposed development.

- Composite impact level – a value judgement based on the assessed sensitivity of the viewpoint and the amount of change that would be likely to occur to the specific view or views from similar locations.

Assessments of each view have been made as Low, Medium or High.

The above approach is consistent with the process adopted by NSW RMS' in Guideline for landscape character and visual impact assessment – Environmental impact assessment practice note EIA-NO4 (December 2018). The process is generally accepted as appropriate for visual impact assessment in NSW.

### 8.12.1. Existing conditions

Critical viewpoints within the identified view catchment have been selected through a process of analysis of the visibility diagrams to identify representative viewpoints that would:

- Be likely to be subject to changes in views as a result of the development
- Be sensitive to these changes to views as a result of the expectations of viewers. In this regard, a typical hierarchy in sensitivity has been assumed. Residential and recreational areas are considered to have higher sensitivity to change than industrial or employment areas. Views from roads are considered to have high sensitivity if they are close to the development site or if the views are on an axis to the site.

These viewpoints have been selected in consultation with Council and DPIE. Selected viewpoints include:

Selected viewpoints – 1km radius

1. Castle Hill Showground
2. Metro Station entry
3. Middleton Avenue / Partridge Avenue
4. Showground Road / Carrington Road
5. Gilbert Road / Hills District Pony Club
6. Carrington Road at Cattai Creek

Selected viewpoint – 4km radius

7. Old Northern Road, Castle Hill




A base case scenario and photomontage has been prepared to illustrate the existing view and changes to these views that would result from the Concept Proposal is shown in **Table 37**.



## 8.12.2. Visual impact assessment




A summary of the impacts of the Concept Proposal on each critical viewpoints and recommended mitigation measures is detailed in **Table 37**.




**Table 37 Critical Viewpoints and view impacts of the Concept Proposal**




Base photo		Photomontage (Virtual Ideas) – future built form	
Selected viewpoints – 1km radius			
1 – Castle Hill Showground			
			
Base photo - Panorama		Photomontage panorama (Virtual Ideas) - Concept Proposal development only	
			
Photomontage panorama (Virtual Ideas) - future built form outside of Concept Proposal site in blue tone			
<b>Viewpoint sensitivity: High</b> <p>Castle Hill Showground is a recognised recreational area with potential heritage values. The level of visitation to the site would be high and would be expected to increase with its refurbishment under the future master plan (underway). Sensitive components of the view towards the Concept Proposal site would include:</p> <ul style="list-style-type: none"><li>• The presence of individual trees and tree groups as a significant natural element in the view</li><li>• The low scale of the existing built form and the presence of substantial amounts of open sky.</li></ul>			
<b>Change magnitude: High</b> <p>The montages indicate that there will be major change to views towards the Concept Proposal site from elevated areas within the Castle Hill Showground. The composition of these views will change from low scale built form with a predominance of sky and vegetation to a view with a major component of new built form. Existing stands of trees and individual trees would remain as softening elements prior to future development outside of the Concept Proposal site.</p> <p>The last image above is a representation of the likely view after construction of a new grandstand which is proposed for the Castle Hill Showground site. The electronic model that includes the grandstand has been “clipped” in this image at a distance of approximately 40m from the viewpoint and it appears in section in the panorama montage at that point. This allows a true representation of the view that would be available to a person sitting in the completed stand at the viewpoint. The montages illustrate that with the proposed construction on the Showground site, the dominance of built form will increase substantially and most of the previously visible trees will be obscured by the new built form.</p>			
<b>Composite impact level: High</b>			




Base photo	Photomontage (Virtual Ideas) – future built form
<p><b>Potential mitigating measures</b></p> <ul style="list-style-type: none"> <li>Planting of trees where opportunities arise in the public domain or within future development sites that would achieve mature heights between 10 and 20m as part of an integrated landscape scheme for the overall Precinct and for each individual development site. Potential locations for these plantings could include Doran Drive Plaza and other public / semi-public spaces in the new blocks in the Doran Drive Precinct and Precinct East.</li> <li>Enhance the visual connection between the Concept Proposal site and Castle Hill Showground via implementation of the north-south view corridors indicated in the Concept Proposal (specifically within the Doran Drive Precinct)</li> <li>Achievement of design excellence in the completed development, with particular regard to the architectural design of the proposed tall buildings. The buildings should be designed to achieve the following objectives: <ul style="list-style-type: none"> <li>Design consistent with State Environmental Planning Policy 55 – Design Quality of Residential Apartments and the Apartment Design Guide – Part 1 Identifying the Context, Part 2 Siting the development and Part 4 Design the building.</li> <li>Design with slender plan forms which achieve separation between tall buildings to maximise appearance of sky in the view.</li> </ul> </li> </ul> <p>Design to include materials and finishes consistent with the Materials and Elements Strategy included in the Hills Showground Station Precinct Urban Design and Landscape Report (Cox / Oculus). Materials should be selected to respond appropriately to the local context and result in locally appropriate built form.</p>	
<p><b>Viewpoint 2 – Metro Station entry</b></p>	
	
<p>Photomontage 24mm focal length (Virtual Ideas) - Concept Proposal development only</p>	<p>Photomontage 24mm focal length (Virtual Ideas) - future built form outside of Concept Proposal site in blue tone</p>
	
<p>24mm focal length (Virtual Ideas) - future built form outside of Concept Proposal site in blue tone</p>	
<p><b>Viewpoint sensitivity: Moderate</b></p> <p>This view looking north along Doran Drive is at the junction between the proposed Doran Drive Precinct and the Hills Showground Precinct West. Trees on the Castle Hill Showground site are prominent horizon elements in the current view. The Metro Station precinct has undergone significant recent change and public expectations would be that more change will occur in the future. The level of visitation to the precinct would be high and would be</p>	

Base photo	Photomontage (Virtual Ideas) – future built form
<p>expected to increase in the short to medium term. Against these expectations, the visually sensitive elements in these views would include existing tree groups and substantial visibility of open sky.</p>	
<p><b>Change magnitude - Moderate</b></p>	
<p>The photomontages illustrate that views from this location would include new built form on either side of the existing road but that existing vegetation and sky views would not be substantially impacted. The Concept Proposal indicates deep soil planting opportunities along Doran Drive Plaza. The montages also indicate that street trees have been recently planted along Doran Drive. The cumulative results of these existing and future tree plantings will assist in providing human scale and mitigating the impacts of the proposal in this view and similar views from the south.</p>	
<p><b>Composite impact level - Moderate</b></p>	
<p><b>Potential mitigating measures</b></p>	
<p>Urban design principles in the Urban Design / Landscape Report (Cox/Oculus, op cit) include visual and landscape connections between the Metro Station and Castle Hill Showground along Doran Drive. A tree planting scheme consistent with the Urban Design / Landscape Report (Cox/Oculus op cit) should be implemented in streets and the general public and semi-public domain.</p>	
<p>Existing horizon trees on the axis of the view within the Castle Hill Showground site should be retained. These existing trees on the Showground site (visible in the photomontages at the northern end of Doran Drive) would constitute a visual cue to the connection to the Showground and, for this reason, they should be retained and protected in future development.</p>	
<p><b>Viewpoint 3 – Middleton Avenue / Partridge Avenue</b></p>	
	
<p>Base photo – 24mm focal length</p>	<p>Photomontage 24mm focal length (Virtual Ideas) - future built form outside of Concept Proposal site in blue tone</p>
<p><b>Viewpoint sensitivity: Moderate</b></p>	
<p>The view extends from Middleton Avenue and transects the Showground Station site along Andalusian Way between the Doran Drive Precinct and Precinct East. The distant view includes existing substantial trees on the street to the south of the Station Precinct, relatively new street tree plantings within the Station Precinct on Andalusian Drive and a tree lined horizon, consisting largely of existing trees within the Castle Hill Showground. The neighbourhood along Middleton Drive is a low-density residential environment but is zoned for high density. Residents would be sensitive to changes in views but would have an expectation that the area will be subject to future change in visual character resulting from new high density-built form. Viewers would be residents or people passing through the neighbourhood. The level of visitation would be expected to increase with the redevelopment of the locality and the Metro precinct. Significant trees and sky views would again be the main elements of visual sensitivity.</p>	
<p><b>Change magnitude: High</b></p>	
<p>New built form both within the Concept Proposal site and in the immediate surroundings, south and north of the Station Precinct will dominate these views and the local visual character will change accordingly. The montages also illustrate that the majority of tree growth on the horizon would be obscured by new development within the Showground. Existing street trees and many trees within building setbacks in Middleton Drive will be retained in the redevelopment of these areas.</p>	
<p><b>Composite impact level - Moderate</b></p>	

Base photo	Photomontage (Virtual Ideas) – future built form
<p>The composite impact level would be moderated by the expectations of viewers that, due to changed zonings in the locality and the recent construction of the Metro Station, the character of these views is likely to change significantly.</p>	
<p><b>Potential mitigating measures</b></p> <p>The Urban Design Framework within the Urban Design / Landscape Report (Cox/Oculus op cit) identifies Andalusian Drive as a Green Link between The Castle Hill Showground, the Station Precinct and the developing high-density residential area to the south. Tree planting along Andalusian Drive, at the Station Plaza and generally within the proposed public / semi-public setback areas will be instrumental in developing this link and maintaining human scale and visual quality.</p> <p>Development of a four-storey street podium, as proposed in the Urban Design Framework will also be important to retain human scale at the street level.</p>	
<p><b>Viewpoint 4 – Showground Road / Carrington Road</b></p>	
	
<p>Base photo – 24mm focal length</p>	<p>Photomontage 24mm focal length (Virtual Ideas) - Concept Proposal development only</p>
	
<p>Viewpoint 4 – photomontage 24mm focal length (Virtual Ideas) - future built form outside of Concept Proposal site in blue tone</p>	
<p><b>Viewpoint sensitivity: Low to moderate</b></p> <p>This location is identified in the Showground Road Station Structure Plan as a Gateway to the Showground Station Precinct. Viewers would be chiefly travellers on Showground Road. There would be a large number of viewers but the majority of these would view the site for a short period of time as part of a travel experience. Moreover, the quality of the view in its current form would be moderate only. Sensitivities to change would be expected to be the height of the existing built form on the site, the visibility of sky and the presence of significant trees. Expectations of the quality of the view would be expected to be low to moderate.</p>	
<p><b>Change magnitude: High</b></p> <p>The montages indicate that new built form will occupy the majority of this view and much of the currently visible sky will be lost. The existing foreground trees in the view (on the corner of Showground and Carrington Roads)</p>	

Base photo	Photomontage (Virtual Ideas) – future built form
are indicated for retention in the Concept Proposal and this will be a significant and important mitigating factor with regard to visual impacts from this location.	
<b>Composite impact level: High</b>	
<b>Potential mitigating measures</b> <ul style="list-style-type: none"> <li>Positioning of new buildings to retain and protect existing significant trees where possible and implementation of the Precinct East public domain plan as indicated in the Concept Proposal. Retention of the existing mature trees in the view, as proposed, will be critical to the quality of views from Showground Road. Tree planting in the proposed community park should incorporate some trees of similar mature scale to the existing trees indicated to be retained.</li> <li>Implementation of the Desired Character guidelines indicated on the Precinct East New Street Section</li> <li>As the new buildings will be dominant in these views, achievement of high-quality design in the built form, materials and finishes will be critical to the success of the development as a new built element in the view. Design excellence in the completed development should be a key planning and design objective, consistent with “Better Placed – an integrated policy for the built environment in NSW” (op cit) with particular regard to the architectural design of the proposed tall buildings.</li> </ul>	
<b>Viewpoint 5 – Gilbert Road / Hills District Pony Club</b>	
	
24mm focal length	Photomontage 24mm focal length (Virtual Ideas) - Concept Proposal development only
	
Photomontage panorama (Virtual Ideas) - future built form outside of Concept Proposal site in blue tone	
<b>Visual sensitivity: Moderate</b> <p>The locality includes elements of natural bushland which would influence expectations regarding quality of views. Viewers would be residents of adjacent low-density housing, users of the Pony Club and bushland and travellers along Gilbert Road. Levels of visitation would be likely to increase moderately in response to regional redevelopment but residential populations would not be expected to increase. The dominance of vegetation over built form and the level of visibility of sky would contribute to visual sensitivity of these views.</p>	
<b>Change magnitude: High</b>	

Base photo	Photomontage (Virtual Ideas) – future built form
<p>The photomontage from Viewpoint 5 indicates that the developed site would appear as a series of new towers extending the skyline to the east. The new skyline elements would be significantly visible from Gilbert Road and from existing housing on slopes to the south east orientated towards the site. The vegetated foreground will remain as a softening element in these views and although visible sky will decrease as a proportion of these views, it would still remain as a dominant visual element. Notably, the new buildings would read as towers separated by sky and not as continuous walls of built form. With respect to visual quality, the success of the development when viewed from these locations will be largely contingent on the architectural quality of the new buildings and their response to their local context.</p>	
<p><b>Composite impact level: Moderate to high</b></p>	
<p><b>Potential mitigating measures:</b></p> <p>Impacts of the Concept Proposal on the quality of elevated mid–distant views such as from Viewpoint 5 will be a function of the architectural quality of the new tall buildings. Achievement of design excellence as articulated in “Better Placed – an integrated policy for the built environment in NSW” (GA NSW, September 2017) will be necessary to ensure that these prominent new built elements contribute positively to the quality of views from these locations.</p> <ul style="list-style-type: none"> <li>• Selection of building materials and finishes should be consistent with the future character statements for each precinct included in the Cox / Oculus Station Precinct Urban Design &amp; Landscape Report.</li> <li>• Buildings should be designed as tall, slender tower forms so as to maximise the appearance of sky between built form.</li> <li>• &gt; Materials and finishes should be contemporary and generally non-reflective.</li> </ul>	
<p><b>Viewpoint 6 – Carrington Road at Cattai Creek</b></p>	
	
<p>24mm focal length</p>	<p>Photomontage 24mm focal length (Virtual Ideas) - Concept Proposal development only</p>
	
<p>Photomontage 24mm focal length (Virtual Ideas) - future built form outside of Concept Proposal site in blue tone</p>	
<p><b>Visual sensitivity: Low</b></p> <p>The viewpoint 6 photomontage indicates a high level of change to views including some visually continuous new built form and loss of a significant amount of existing visible sky. Notwithstanding the fact that the visual character of this locality is changing in response to the transition to a high-density environment, the substantial loss of sky and the introduction of substantial and partially continuous built elements into the view has resulted in a high</p>	

Base photo	Photomontage (Virtual Ideas) – future built form
category of change magnitude. Moreover, the existing commuter carpark on the western boundary minimises opportunities to provide an activated street interface and soften the new built form with landscape treatment.	
<b>Change magnitude: High</b> The viewpoint 6 photomontage indicates a high level of change to views including continuous new built form and loss of most of the existing visible sky. Notwithstanding the fact that the visual character of this locality is changing in response to the transition to a high-density environment, the substantial loss of sky and the introduction of continuous built elements into the view has resulted in a high category of change magnitude.	
<b>Composite impact level: Moderate</b>	
<b>Potential mitigating measures:</b> <ul style="list-style-type: none"> <li>• Similar to elevated mid distant views, the impacts of the Concept Proposal on visual quality in close views from the west and south west will be contingent on achieving design excellence as articulated in “Better Placed – an integrated policy for the built environment in NSW” (op cit). Reflectivity of building materials on west facing facades should be minimised and a high level of articulation of building facades should be achieved to provide visual interest and relief.</li> <li>• As per the Precinct West Character statement (Urban Design / Landscape Report -Cox/Oculus op cit), tall, slender towers should be an objective for development of the built form.</li> <li>• Trees should be planted where opportunities arise between and in front of buildings in the public domain or within future development sites that would achieve mature heights between 10 and 20m as part of an integrated landscape scheme for the overall Precinct and for each individual development site. In this regard there may be potential to plant more tall trees on the newly planted verge in the foreground of the photo.</li> </ul>	
<b>Viewpoint 7 – Old Northern Road, Castle Hill (approximately 3kms from the Concept Proposal site)</b>	
	
Base photo – 24mm focal length	Photomontage 24mm focal length (Virtual Ideas) - Concept Proposal development only
	
Photomontage 24mm focal length (Virtual Ideas) - future built form outside of Concept Proposal site in blue tone	

Base photo	Photomontage (Virtual Ideas) – future built form
<b>Visual sensitivity: Moderate</b> The location is elevated and enjoys panoramic views to the south west which would include the development site. However, the locality is not a recognised viewing point and would receive limited visitation. Viewers from this location and similar would include travellers on Old Northern Road and residents of houses on the south west facing slopes. Viewers' expectations with regard to visual quality would be that the panoramic views would remain and that vegetation and sky views would remain dominant visual elements.	
<b>Change magnitude: Moderate</b> The montage from Viewpoint 7 indicates that the developed site will appear as a consolidated group of tall buildings within the existing broad, substantially vegetated plain. Vegetation and sky would remain as dominant elements in these views and the development would read as a new built element occupying a relatively small component in the overall view.	
<b>Composite impact level: Moderate</b> <b>Potential mitigating measures:</b> Similar to mid – distant views, the contribution of the developed Concept Proposal site to the quality of elevated distant views such as from Viewpoint 7 will be contingent on: <ul style="list-style-type: none"> <li>• Achievement of design excellence consistent with “Better Placed – an integrated policy for the built environment in NSW” (Government Architect, op cit);</li> <li>• Use of contemporary, generally non-reflective building materials and finishes in new buildings;</li> <li>• Specific to these longer distant views where the new development will tend to read as a consolidated group of buildings that are distinct and separate from the surrounding built form, the development should:               <ul style="list-style-type: none"> <li>○ Include buildings of varying heights to create a varied and articulated skyline;</li> <li>○ Exhibit variation in architectural style and design; and</li> <li>○ Include well-articulated facades to provide visual interest when read as a group.</li> </ul> </li> </ul>	

In summary the assessment determined that:

### Close views (0 - 1km from the Site boundaries)

The assessment has found that close views to the Site will experience Moderate to High visual impacts. These impacts should be addressed via:

- A scheme for strategically located plantings of large trees to provide human scale to the tall buildings and relieve views where there is the potential for new buildings to read as continuous walls of built form.
- Architectural quality and urban design practices leading to a high-quality public domain will also be critical to addressing visual impacts.

### Mid distance views (1 to 2kms from the Site boundaries)

Visual impacts of the Concept Proposal have also been found to be moderate to high, largely due to the fact that the developed Site will result in a significant introduction of new buildings in skyline views. These impacts should be addressed via:

- Positioning of buildings to allow for visibility of sky between new towers and to avoid new buildings reading as continuous walls of built form.
- Implementation of the principles of design excellence in the development of the design of the individual buildings and building groups.

### **Distant views (greater than 2km from the Site boundaries)**

The composite impact level of the proposal has been found to be moderate. Implementation of the principles of design excellence would be expected to ensure that the developed site would have an acceptable impact on local visual character in these views.

#### **8.12.1. Recommendations**

##### **Overarching visual mitigation measures**

In addition to those identified in Table 33, the assessment recommended the following overarching mitigation measures to ensure a high-quality development that will have an acceptable impact on the developing visual character of the Concept Proposal and its environs:

- Subsequent to approval of the Concept Proposal, implement principles of design excellence as articulated in “Better Placed – an integrated policy for the built environment in NSW” (Government Architect NSW, September 2017) for precinct plans and development applications for individual buildings. Specifically, planning approvals for precincts or individual buildings within the Concept Proposal should be subject to a Design Review process via a recognised local or state government Design Review Panel. At the discretion of the Consent Authority, consideration could also be given to running of Design Competitions for key buildings within the Concept Proposal in order to ensure that they achieve Design Excellence consistent with the Better Placed policy.
- Prepare and implement an integrated public domain plan that includes judicious planting of trees that will reach mature heights sufficient to provide tree canopies consistent with the existing local tree canopy. With respect to visual character, the objective of the tree planting scheme should be to break up continuous built form and provide human scale. Trees with mature heights between 10 and 20m would be expected to achieve this objective. Tree species identified in the Hills Showground Station Precinct Urban Design and Landscape Report (Cox / Oculus) that would achieve these mature heights would be suitable to achieve this objective.

The Visual Impact Assessment concluded that:

- The proposal is consistent with current planning for north western Sydney incorporating a range of new centres of activity around Metro Stations at Hills Showground, Tallawong, Kellyville, Bella Vista, Norwest, Castle Hill, Cherrybrook and Epping. Where visible in distant views from the public domain it will present as a consolidated new urban centre within the context of the other developing centres.
- In long distant views (between 2 and 4kms from the site), the developed site will read as a new consolidated built element within existing broad and expansive views that include significant tracts of vegetation, building groups and a dominance of sky. These existing elements will remain dominant. Contingent on the quality of the architecture, urban and landscape design, the proposal will have an acceptable impact on the quality of these views.
- The Concept Proposal will have an acceptable impact on the integrity of two Heritage Items of Local Significance that are closer than 1km from the site.

- In medium distant views (between 1 and 2kms from the site), the proposal would read as a substantial new built element. Its impact in visual quality would be acceptable contingent on generally retaining separation between the new skyline-built elements and achievement of design excellence in the completed development, with particular regard to the architectural design of the proposed tall buildings.
- In close views (less than 1km from the site) the proposal will significantly change the existing visual character. Its visibility will be variable depending on the context and the existence of local vegetation but it will generally read as a substantial new building group that will differ significantly from the existing visual character. Its impact will be mitigated by the expectations of most residents and visitors to the locality that the local visual character is subject to change as a result of implementation of planning strategies associated with development within and in the vicinity of the new Metro Stations. Mitigation measures to address these impacts will include design development to result in a high-quality ground plane including allowance for healthy growth of forest scale trees in the street and other proposed public places.

Contingent on the recommended mitigation measures, the proposal has been found to be worthy of support with regard to its effects on the existing visual environment of the Concept Proposal site and its locality.

## 8.13. Wind impacts

A Pedestrian Wind Environment Statement (**Appendix CC**) has been prepared by Windtech to identify the likely wind conditions affecting the various trafficable outdoor areas within and around the development having regard to local wind climate, building morphology and land topography. The interaction between the wind and the building morphology in the area was considered, and important features taken into account include the distances between the building forms, their overall heights and bulk, as well as the landform.

### 8.13.1. Existing environment

The region is governed by three principal wind directions, and these can potentially affect the subject development. These winds prevail from the north-east, south-south-east and west.

### 8.13.2. Impact assessment

The assessment indicates that the development will be exposed to the prevailing winds from all directions due to the low-rise surrounding structures. However, the prevailing winds are expected to be shielded by the development itself for specific wind directions as well as future development in the surrounds.

Certain regions of the development may be prone to adverse wind effects due to the interaction of the prevailing winds with the built form. These potentially adverse wind effects include the direct impact of the prevailing winds, funnelling winds between the various podia and towers due to the alignment of the buildings with respect to the prevailing winds, the side-streaming and acceleration of winds around the various corners of the development and downwash caused by the prevailing winds impacting the building and redirecting winds downwards.

### 8.13.3. Recommendations

To address the potential for adverse wind effects impacting the comfort of pedestrians within and around the development, the report recommends the following wind mitigation treatments:

- retention of proposed planting and vegetation throughout the site. Undergrowth such as shrubs or hedges are expected to further improve wind conditions.
- inclusion of continuous awnings over trafficable areas below towers or podia of a significant height which are exposed to the prevailing winds
- inclusion of localised screening where longer duration activities are expected
- inclusion of operable screening to be utilised by the various retail tenancy owners for patron flexibility
- inclusion of wind screens or planting within through site links, and at corners of buildings.

The report notes that for tree planting/landscaping to be effective as a wind mitigation device, the species need to be of a densely foliating evergreen variety to ensure year-round effectiveness. Trees also need to be planted in clusters with interlocking canopies to effectively absorb incident winds. The planting of undergrowth such as shrubs or hedges will also further improve wind conditions.

The recommendations of the Pedestrian Wind Environment Statement have been incorporated into the Concept Proposal and Urban Design Guidelines and will be further considered during the detailed design of the building as part of future DAs.

The report concludes that with the inclusion of the above considerations in the detailed design of the development, wind conditions within outdoor trafficable areas are expected to be suitable for their intended uses. It also recommends that further detailed wind tunnel testing be undertaken at the future DA stage.

The wind mitigation measures outlined above and detail in the Pedestrian Wind Environment Statement (**Appendix CC**) will be taken into account during the detailed design of the buildings. Future DAs may be required to undertake wind tunnel testing to provide quantitative results.

## 9. Site suitability and public interest

In accordance with section 4.15(1)(c) and (e), this section summarises why the Concept Proposal is suitable for the site and in the public interest.

### 9.1.1. Site suitability

The proposal comprises a high-density mixed-use precinct located adjacent to Hill Showground Metro Station.

Strategic planning undertaken by the NSW Government in 2013 and the subsequent rezoning of land surrounding the Hills Showground Station in December 2017 has confirmed the importance of the SMNW rail corridor and planned station precincts suitable for urban renewal.

On the basis of the Urban Design Report as well as supporting technical reports have demonstrated the site suitability of the Site to accommodate the proposed development in the Concept Proposal.

In this regard, the Site is considered suitable for the Concept Proposal as the:

- proposal comprises a prime opportunity to take advantage of the now operational SMNW and Hills Showground Station to create a vibrant TOD community with opportunities for new residential, retail and employment uses
- urban design analysis has demonstrated that development precincts to be created can cater for a wide range of future building types and designs in line with density and height envisaged that are capable of meeting the requirements of ADG and achieving design excellence
- the site's location is well suited to provide retail, commercial office and business services and other non-residential uses to support the future community as demonstrated in the retail demand assessment
- the proposed scale and density of the development is highly appropriate in the context of other identified transit-oriented centres throughout the Central City District and Greater Sydney and in line with current controls and the desired future character of the Site as a High density, mixed use precinct
- the proposed street layout and design structure integrate with Sydney Metro infrastructure as well as providing effective movement of pedestrians through and around the site and to adjoining areas
- it would result in minor environmental impacts that can be appropriately managed and mitigated
- technical studies demonstrate that the Site can be readily serviced and developed, subject to the recommendations of the technical studies accompanying this EIS

### 9.1.2. Public interest

The proposal is in the public interest as it would establish a development framework to deliver a new transit orientated mixed use precinct in line with strategic plans, strategies and policies as well as the current statutory controls.

Specifically, the Hills Showground Station Precinct is considered to be in the public interest as the proposal:

- provides additional dwellings in a location which reinforces the '30-minute city' concept proposed by the Greater Sydney Commission, locating dwellings and employment in a location which is close to services, open space, transport and jobs
- provide a high-quality mixed-use development with a range of businesses, pursuits and events, promoting activity during the day and throughout the evening, contributing to a safe, attractive, inclusive environment
- contributes to the delivery of new public domain areas, providing for a higher quality pedestrian environment around the site which would link civic, open space and employment precincts in proximity of the Site
- provides a framework which would ensure that future development at the site exhibit design excellence, working alongside the metro station to deliver a high design quality
- provides opportunities for the heritage of the area to be celebrated
- provide new business and employment opportunities thereby encouraging employment economic growth
- the development has been designed in such a manner which ensures that sustainability requirements can be achieved or exceeded.

## 10. Mitigation Measures

A full list of measures required to mitigate the potential impacts associated with the Concept Proposal are detailed at **Table 38**

**Table 38 Mitigation measures**

Item	Proposed measure
<b>Accessibility</b>	As part of future detailed DAs developers will be required to demonstrate that public domain areas and buildings meet the accessibility requirements as per the <i>Disability Discrimination Act 1992</i> .
<b>Air Quality</b>	<p>Future development should consider the specific design recommendations outlined in the Urban Design Guidelines, particularly the dwellings and buildings located directly along Showground Road. Any sensitive uses (such as childcare centres) should not be located or directly facing Showground Road.</p> <p>Additional detailed modelling will assist in confirming the need for additional air quality mitigation.</p>
<b>Biodiversity</b>	<p>Future development should consider the specific design recommendations outlined in the Urban Design Guidelines with respect to tree planting and species selection.</p> <p>Future DAs are recommended to:</p> <ul style="list-style-type: none"> <li>• undertake a pre-clearing survey would be undertaken by a suitably qualified ecologist, prior to the removal of any trees. This should be included in the CMP</li> <li>• tree protection zones be incorporated to protect any retained native trees within the Site during construction works</li> <li>• implement best practise erosion and sedimentation controls in accordance with approved CMP Weed control in accordance with approved CMP</li> </ul>
<b>Built form and urban design</b>	The detailed design of future development would be undertaken in accordance with the Design Guidelines and ADG. Detailed future DAS must have regard to the controls outlined in the THLEP, Design Guidelines, AG and measures included in Landcom's draft Design Excellence Strategy.
<b>Contamination</b>	Implementation of an appropriate staged data gap contamination assessment (that may include verification reviews of SMNW stage validation reports) and appropriate management of any small-scale remaining contamination issues in accordance with NSW EPA guidance as appropriate prior to commencement of future final construction activities.
<b>CPTED</b>	Future detailed DAs must consider the recommendation of the CPTED Assessment ( <b>Appendix H</b> ).
<b>ESD</b>	Future detailed DAs must have regard to the sustainability framework and strategies, including the minimum targets identified in the ESD Report.
<b>Geotechnical</b>	Any planned development within the existing SMNW protection corridor is required to meet the requirements set out in then the TfNSW ASA Standard "Development Near Rail Tunnels" which forms the basis of the TfNSW document specific to Sydney Metro infrastructure, "Sydney Metro Underground Corridor Protection – Technical Guidelines".

Item	Proposed measure
	Future applications would be required to undertake further geotechnical investigations as part of the detailed design and construction of the buildings.
<b>Heritage</b>	<p>An unexpected finds protocol should be enacted through a condition of consent and implemented through a CMP.</p> <p>Detailed DAs must address how the recommendations made in the Heritage Assessment report have been addressed to ensure the development achieves a positive heritage outcome for the Site. Heritage Interpretation opportunities should also be explored.</p>
<b>Noise and vibration</b>	<p>Future development to consider design measures (glazing and alternative ventilation) for residential areas affected by traffic noise.</p> <p>A CNVMP will be prepared during the construction certificate phase and vibrations to be measured and found compliant with the DPIE and DEC guideline.</p> <p>Future DAs for construction of the buildings will need to demonstrate that the noise criteria set out in the Noise and Vibration Assessment can be met through detailed assessments.</p>
<b>Public domain overshadowing</b>	Future development is to be consistent with the proposed building envelopes so as to ensure that the overshadowing impacts are consistent with those assessed under this application.
<b>Residential amenity</b>	Detailed DAs for residential development are to address the relevant provisions of the ADG to demonstrate that appropriate levels of residential amenity are achieved for existing and future residential dwellings.
<b>Stormwater management and flooding</b>	<p>Detailed DAs will be required to ensure that water quality of Cattai Creek is maintained and that future development adequately addresses flood issues. Future DAs must ensure:</p> <ul style="list-style-type: none"> <li>• Compliance with the flood management controls will be required</li> <li>• Stormwater quality treatment measures which have been detailed in the Urban Design Guidelines are to be incorporated into future DAs.</li> </ul> <p>Specifications required for individual water quality treatment devices and demonstrate that future buildings are capable of meeting Council's and Landcom water quality pollutant reduction targets set out in the ESD Framework.</p>
<b>Transport, traffic, parking and access</b>	<p>Detailed DAs must comply with the recommendation of the TIA, including:</p> <ul style="list-style-type: none"> <li>• Servicing planning principles and commitment to develop servicing plans to manage loading dock operations are to be adopted as part of the detailed development application process.</li> <li>• Provide off-street car parking and adopt the proposed car parking rates for commercial, retail and residential uses, which will reduce car usage and minimise additional congestion to the surrounding road networks.</li> <li>• All pedestrian access points and corridors are to be designed to comply with AS1428.1 and 1428.2 and are to form part of the detailed design of the project.</li> <li>• All parking areas are to be designed to comply with the relevant Australian Standards including AS 2890.1, 2890.2, 1428.1 and 1428.2 to help manage vehicle access and circulation in parking areas.</li> </ul>

Item	Proposed measure
	<ul style="list-style-type: none"> <li>• The detailed design of the site and vehicle access locations considers the needs of service vehicles access - for Hills Showground Precinct West and Doran Drive Precinct access are located on the northern boundary of the site off De Clambe Drive, this ensures safe access for interchanging customers using bus and metro users on Doran Drive and Mandala Parade.</li> <li>• A Travel Plan to be developed by the future developer will ensure best practice travel programs and initiatives to manage travel demand for a transit-orientated development</li> <li>• The detailed design of future development lots should include access assessments that include an assessment of consistency with the Station Access Plans required under Condition C5 of SSI 5414. This should also consider the Pedestrian and Cyclist Network and Facilities Strategy required under Condition C10 of SSI 5414.</li> </ul>
<b>Visual and view impacts</b>	<p>Future development is to be consistent with the proposed maximum development blocks to ensure that the visual and view impacts are not worse than those assessed in this application.</p> <p>Implementation of the NSW Government Architect's Office principles and guidelines for individual buildings in support of local/State design reviews will ensure high quality architectural designs. Future planting of trees and adequate landscaping would assist in mitigating potential visual and view impacts.</p>
<b>Utilities, infrastructure and services</b>	<p>Further consultation with utility providers will be required at the time of considering detailed DAs and will be required to calculate the final demand requirements as part of the detailed DA process.</p> <p>Strategic options will be further developed for sewer provision for Doran Drive Precinct and Precinct West. Detailed utility investigation and further discussions with the relevant authorities will occur at the time per standard process.</p>
<b>Wind impacts</b>	<p>Future developments are recommended to provide quantitative results which can be undertaken through a wind tunnel test. Mitigation measures and locations for pedestrian amenity can be found in the Urban Design Guidelines report.</p>

## 11. Environmental risk

This section provides an environmental risk assessment (ERA) of the development proposed under this concept SSDA. The ERA, which has been adapted from Australian Standard AS4369:1999 Risk Management and Environmental Risk Tools, identifies all potential impacts, the significance and manageability of each impact, and any potential residual impacts following mitigation.

The significance of impact is assigned a value between 1 and 5 based on the:

- receiving environment
- level of understanding of the type and extent of impacts
- likely community response to the environmental consequence of the project.

The manageability of environmental impacts is assigned a value of between 1 and 5 based on the:

- complexity of mitigation measures
- known level of performance of the safeguards proposed
- opportunity for adaptive management.

The sum of the significance and manageability values provides an indicative ranking (between 1 and 10) of the potential residual impacts after the mitigation measures are implemented, in accordance with the Risk Assessment Matrix in Table 33 below. A full list of the mitigation measures is presented in the section above.

**Table 39 Risk Assessment Matrix**

Significance of Impact	Manageability of Impact				
	5 Complex	4 Substantial	3 Elementary	2 Standard	1 Simple
1 – Low	6 (Medium)	5 (Low/Medium)	4 (Low/Medium)	3 (Low)	2 (Low)
2 – Minor	7 (High/Medium)	6 (Medium)	5 (Low/Medium)	4 (Low/Medium)	3 (Low)
3 – Moderate	8 (High/Medium)	7 (High/Medium)	6 (Medium)	5 (Low/Medium)	4 (Low/Medium)
4 -- High	9 (High)	8 (High/Medium)	7 (High/Medium)	6 (Medium)	5 (Low/Medium)
5 – Extreme	10 (High)	9 (High)	8 (High/Medium)	7 (High/Medium)	6 (Medium)

**Table 40 Environmental risk assessment**

Item	Phase	Potential Environmental Impact	Significance of impact	Manageability of impact	Residual impact
<b>Air Quality</b>	Construction	<ul style="list-style-type: none"> <li>Dust associated with construction activities</li> <li>Emissions associated with construction vehicles</li> </ul>	3	2	5 (Low/Medium) CEMP to be implemented
	Operational	<ul style="list-style-type: none"> <li>Emissions associated with vehicle traffic and SMNW rail movements</li> <li>Plant and equipment emissions</li> </ul>	1	2	3 (low) Impacts considered to be minor. Further details to be provided in detailed DAs that may include mechanical ventilation for impacted areas.
<b>Biodiversity</b>	Construction	Removal of vegetation	4	2	6 (Medium) Replanting of native vegetation Tree protection zones
		Impact on threatened flora species	1	2	2 (Low) Planting of native vegetation
		Impact on threatened and native fauna species	3	3	6 (Medium) Pre-clearing survey Planting of native vegetation
		Impact on adjacent Cattai Creek	4	2	6 (Medium) Planting of native vegetation

Item	Phase	Potential Environmental Impact	Significance of impact	Manageability of impact	Residual impact
					Best practise erosion and sedimentation controls. Installation of stormwater quality treatment measures
<b>CPTED</b>	Operation	Antisocial behaviour and crime	3	2	5 (Low/Medium) Recommendations of CPTED to be considered as part of future DAs.
<b>Contamination</b>	Construction	Exposure of contamination of hazardous materials during construction	2	2	4 (low/medium) Limited risk of widespread contamination identified across the site. Future DAs to be accompanied by detailed contamination assessments that will identify any areas of potential contamination requiring remediation.
<b>Business impacts</b>	Construction	Impacts on surrounding business during construction (due to loss of amenity)	1	1	2 (low) CMNVP to be implemented.
	Operation	<ul style="list-style-type: none"> <li>Altered access and visibility to surrounding businesses</li> <li>Impacts on surrounding business during operation</li> </ul>	2	2	4 (low/medium) Potential impacts assessed to be within the standard range for rapidly growing new urban areas. Generous landscaping and quality public domain improvements.
<b>Public domain overshadowing</b>	Operation	<ul style="list-style-type: none"> <li>Overshadowing to surrounding public domain open space.</li> </ul>	3	2	5 (low/medium) Future DAs required to meet Design Guidelines to ensure minimum

Item	Phase	Potential Environmental Impact	Significance of impact	Manageability of impact	Residual impact
					amenity levels are achieved in future open space and public domain areas.
<b>Traffic, transport and pedestrian movement</b>	Construction	<ul style="list-style-type: none"> <li>Increased traffic on surrounding roads</li> <li>Conflict with pedestrians</li> </ul>	3	4	<p>8 (high/medium)</p> <p>Appropriate mitigation measures to be addressed as part of future detailed DAs and through Traffic Management Plan.</p>
	Operation	<ul style="list-style-type: none"> <li>Increased traffic on local roads</li> <li>Conflict with pedestrians</li> </ul>	2	5	<p>5 (low/medium)</p> <p>Recommended road network upgrades will ensure impacts from traffic generated by future development is reduced.</p> <p>Future DAs will be required to comply with applicable parking requirements to minimise traffic generation from future development.</p>
<b>Non-Indigenous heritage</b>	Construction	<ul style="list-style-type: none"> <li>Impact on adjacent heritage items</li> </ul>	1	1	<p>2 (low)</p> <p>Potential impacts considered to be minor.</p> <p>CEMP to be implemented.</p>
	Operation	<ul style="list-style-type: none"> <li>Impact on heritage items in the vicinity</li> </ul>	3	2	<p>5 (Low/Medium).</p> <p>Heritage to be addressed as part of future DAs.</p>
<b>Indigenous heritage</b>	Construction	<ul style="list-style-type: none"> <li>Impact on potential indigenous heritage items</li> </ul>	1	1	<p>2 (Low)</p> <p>CEMP to be implemented.</p>
	Operation				
	Construction	<ul style="list-style-type: none"> <li>Increase in noise and vibration</li> </ul>	2	2	4 (low/medium)

Item	Phase	Potential Environmental Impact	Significance of impact	Manageability of impact	Residual impact
<b>Noise and vibration</b>		associated with construction including from vehicles and machinery			Future DAs will be required to appropriately address potential construction noise and vibration impacts. Likely to include implementation of CEMP.
	Operation	<ul style="list-style-type: none"> <li>Increase in noise and vibration associated with emissions from SMNW rail operations</li> <li>Exposure to road traffic noise emissions</li> </ul>	3	2	5 (low/medium) Future DAs to provide further consideration of potential impacts from nearby noise sources. Anticipated that future DAs include detailed façade and building design treatment to mitigate against potential noise impacts.
<b>Infrastructure and utilities</b>	Operation	<ul style="list-style-type: none"> <li>Adequate connection to infrastructure and utilities</li> <li>Adequate capacity to service building</li> </ul>	2	2	4 (low/medium) Consideration of services and infrastructure connections demonstrates sufficient capacity is available to service future demands. Future DAs will be required to address in greater detail.
<b>Flooding</b>	Operation	<ul style="list-style-type: none"> <li>Potential flooding of development</li> <li>Adequate stormwater management for development</li> </ul>	2	4	6 (medium) Future building designs to ensure minimum floor levels, inclusive of any required freeboard, are accommodated in future detailed designs.
<b>Environmental and construction management</b>	Construction	<ul style="list-style-type: none"> <li>Noise, dust, air quality, waste management and traffic impacts</li> </ul>	2	2	4 (low/medium) Future DAs will be required to appropriately address potential construction dust and air quality impacts. Likely to include implementation of CEMP.

Item	Phase	Potential Environmental Impact	Significance of impact	Manageability of impact	Residual impact
<b>ESD</b>	Operation	<ul style="list-style-type: none"> <li>Energy consumption</li> <li>Thermal comfort of building occupants</li> </ul>	3	3	<p>6 (medium)</p> <p>Future DAs will be required to demonstrate how ESD measures are incorporated into the detailed design and operation of buildings and residential apartments.</p>
<b>Social Impact</b>	Construction	<ul style="list-style-type: none"> <li>General disruption to community associated with large scale construction</li> </ul>	1	2	<p>3 (low/medium)</p> <p>Minimal disruption to broader community expected, with the exception of potential construction traffic impacts.</p> <p>Any impacts would be short term in nature and mitigated via CEMP.</p>
	Operation	<ul style="list-style-type: none"> <li>Antisocial behaviour and crime</li> </ul>	3	2	<p>5 (low/medium)</p> <p>Appropriate mitigation measures would be integrated into the design and operation of future buildings and public domain/open space areas.</p>
<b>Property and land use</b>	Operation	<ul style="list-style-type: none"> <li>Compatibility between Hills Site and station/surrounding uses</li> </ul>	1	1	<p>2 (low)</p> <p>Potential impacts considered to be minor. Proposal is consistent with zoning, FSR and height controls and intent for the Site TOD.</p>
<b>Water quality</b>	Construction	<ul style="list-style-type: none"> <li>Potential erosion and sediment impacts on drainage system</li> </ul>	2	2	<p>4 (low/medium)</p> <p>Appropriate mitigation measures to be addressed as part of future detailed DAs and through CEMP.</p>
	Operation	<ul style="list-style-type: none"> <li>Impacts on quality of stormwater Cattai Creek</li> </ul>	2	3	<p>5 (low/medium)</p>

Item	Phase	Potential Environmental Impact	Significance of impact	Manageability of impact	Residual impact
					<p>Best practise erosion and sedimentation controls.</p> <p>Installation of stormwater quality treatment measures.</p>

## 12.0 Conclusion

This EIS provides a comprehensive assessment of the environmental, social and economic impacts of the concept SSDA for the Hills Showground Station Precinct. This EIS has addressed the requirements of the SEARs, as well as the relevant requirements contained at Schedule 1 and 2 of the EP&A Regulation.

The proposal builds upon previous strategic planning undertaken by both Council and the DPIE, where land surrounding the Hills Showground Station was identified for urban renewal. The SSDA facilitates development which supports best practice transit-oriented development principles, by providing increased residential and employment density in proximity to existing and planned transport infrastructure upgrades that provides employees with greater access to public transport and employment options, while promoting the use of sustainable travel options.

The proposed urban design framework and associated design guidelines, have been informed by the infrastructure developed by way of detailed urban design analysis the provisions of THLEP and THDCP, GA's Better Placed and Green Places with consideration to creating an active and vibrant high-density mixed-use community that leverages off the high accessibility of the location and connecting to the broader region via the SMNW. Having regard to the above, the Concept Proposal is considered to warrant approval for the following key reasons:

- a full assessment has been undertaken of the environmental impacts of the proposal which demonstrates that potential impacts have been avoided, adequately justified or appropriately mitigated. On this basis, the land use, GFA mix, conceptual road and open space layout and building envelopes are capable of providing future development that is appropriate within the site and its surroundings
- the proposal directly responds to the demand for provision of additional housing in locations close to jobs, consistent with the '30-minute city' concept,
- the proposal also facilitates the provision a range of non-residential uses to service the needs of future residents, workers and visitors
- the proposal includes a robust urban design framework supported by Design Guidelines and Design Excellence Framework to ensure design excellence is achieved in future detailed built form
- the Concept Proposal would not result in any significant adverse social or economic impacts, but significant benefits including the provision of approximately 674 jobs on site and 1,920 site-based jobs number over the construction period (for varying durations)
- the site is suitable for the proposed development and consistent with the desired character and use of the area

Overall, it can be considered that there are substantial benefits from the proposed Concept Proposal on the surrounding area, which would help to contribute to the strong legacy of the Sydney Metro project. Where potential impacts have been identified, these have been considered and evaluated as being appropriate in the context of the site and can be addressed in detail as part of detailed future SSDAs. On this basis, it is considered that the Concept Proposal is able to be approved, subject to appropriate conditions of consent.

## **Appendix A     Secretary Environmental Assessment Requirements**

## **Appendix B     Air Quality Assessment**

## **Appendix C    Biodiversity Development Assessment Report**

## **Appendix D     Capital Investment Value Report**

## **Appendix E      Clause 4.6 Variation Request**

## **Appendix F      Civil Engineering Due Diligence Report**

## **Appendix G      Compliance Table – EPA Regulation and THDCP**

## **Appendix H     Crime Prevention Through Environmental Design Assessment Report**

## **Appendix I      Design Excellence Strategy**

## **Appendix J      Environmentally Sustainable Development Report**

## **Appendix K      Geotechnical Assessment**

## **Appendix L      Historical and Aboriginal Archaeological Assessment and Heritage Impact Statement and Heritage Interpretation Strategy**

## **Appendix M      Integrated Water Cycle Management Strategy**

## **Appendix N      Noise and Vibration Assessment**

## **Appendix O    Plans for Approval**

## **Appendix P      Plan of Subdivision Plan DP 1253217**

## **Appendix Q      Plan of Subdivision (Draft) Lot 56 DP 1253217**

## **Appendix R   Preliminary Contamination Assessment**

## **Appendix S     Retail Demand and Impact Assessment**

## **Appendix T      Staging Plan**

## **Appendix U      SEPP 65 ADG Compliance Table**

## **Appendix V      Stakeholder Engagement Outcomes Report**

## **Appendix W    Survey Plan**

## **Appendix X    Traffic and Transport Impact Assessment**

## **Appendix Y      Utilities Servicing Strategy**

## **Appendix Z      Urban Design Guidelines**

## **Appendix AA   Urban Design Report**

## **Appendix AB Visual Impact Assessment**

## **Appendix AC Wind Impact Assessment**

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## **Appendix AD   Design Verification Statement**