

METRON T2M
Lakemba Station
Design & Precinct Plan

Sydney Metro Southwest Metro Design Services (SMDS)

25 February 2021

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A Joint Venture of



Principal sub-consultant



Approval Record

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Amendment Record

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1. Introduction



1.0 Introduction

1.1 Project description

1.1.1 Overview

Sydney Metro is Australia's biggest public transport project. In 2024, Sydney will have 31 metro railway stations and a 66km standalone metro railway system, revolutionising the way Australia's biggest city travels. Sydney's first metro line, the Metro North West, opened on 26 May 2019. Services at the 13 metro stations operate every four minutes in the peak in each direction on Australia's first driverless railway.

1.1.2 Sydney Metro Network

There are four core components:

Sydney Metro Northwest

This project is now complete and passenger services commenced in May 2019 between Tallawong Station in Rouse Hill and Chatswood, with a metro train every four minutes in the peak. The project was delivered on time and \$1 billion under budget.

Sydney Metro City & Southwest

Sydney Metro City & Southwest project includes a new 30km metro line extending metro rail from the end of 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.

In 2024, customers will benefit from a new fully-air conditioned Sydney Metro train every four minutes in the peak in each direction with lifts, level platforms and platform screen doors for safety, accessibility and increased security.

Sydney Metro West

Sydney Metro West is a new underground railway connecting Greater Parramatta and the Sydney CBD. 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 supporting employment growth and housing supply between the two CBDs.

Sydney Metro West stations have been confirmed at Westmead, Parramatta, Sydney Olympic Park, North Strathfield, Burwood North, Five Dock, The Bays, Pyrmont and the Sydney CBD. Further planning is underway to determine the locations of the Pyrmont and Sydney CBD stations.

Greater Western Sydney

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 and NSW governments are partners in the delivery of this new railway.

Additional information can be obtained from the Sydney Metro website at www.sydneymetro.info.

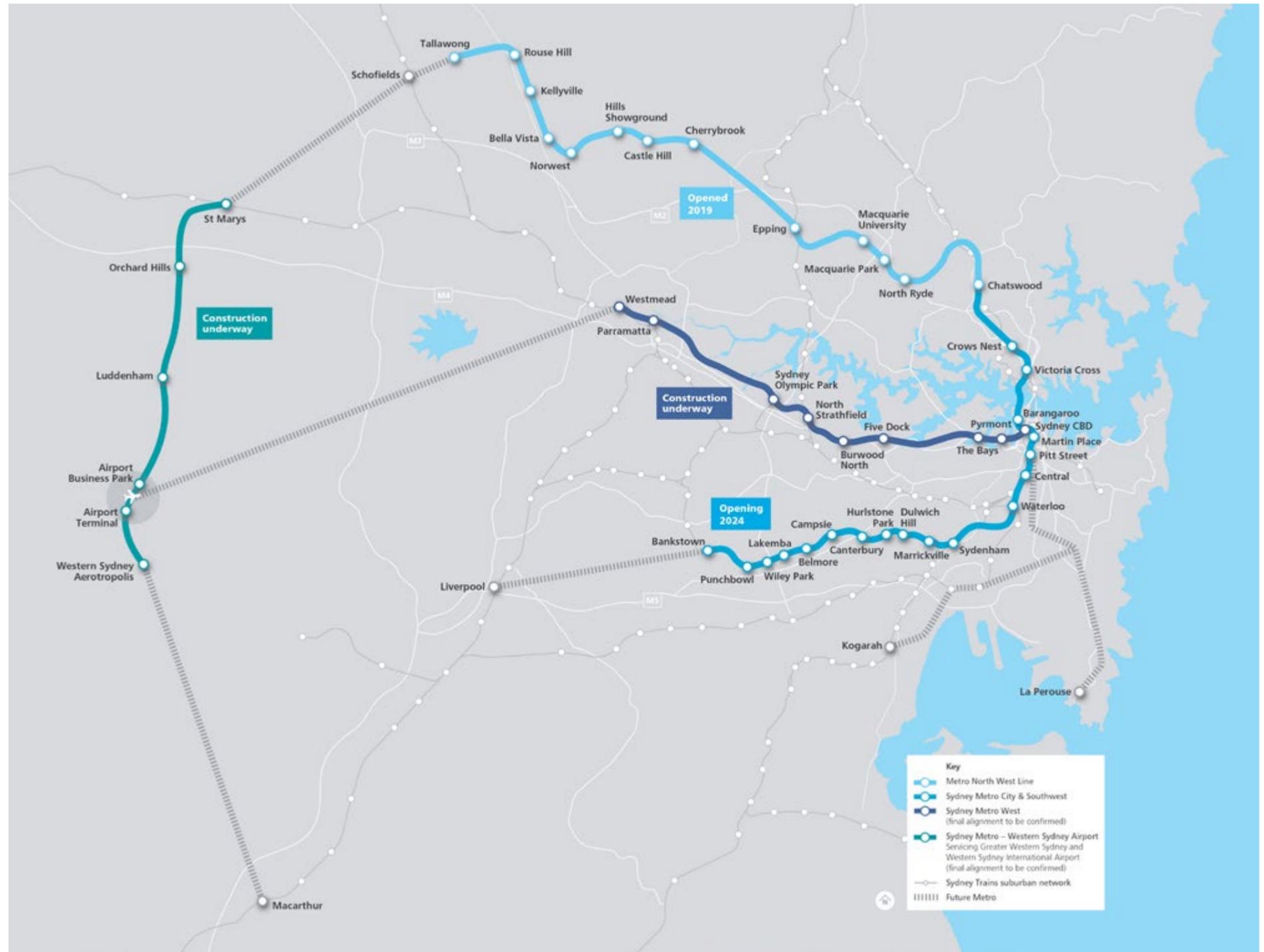


Figure 1.1 Sydney Metro Route Map

1.2 Purpose and Scope

1.2.1 Purpose of the Station Design and Precinct Plans

This report is the Station Design and Precinct Plan (SDPP) for the Southwest Metro upgrade of Lakemba Station. Preparation of the SDPP is a requirement of Condition E56 of the Sydenham to Bankstown Planning Approval SSI 8256, under Section 5.19 of the Environmental Planning and Assessment Act 1979.

The purpose of the SDPP under the Planning Approval is twofold: to inform the final design of the Critical State Significant Infrastructure (CSSI); and to demonstrate that the design gives effect to the commitments made in the Environmental Impact Statement (as modified by the Submissions and Preferred Infrastructure Report, and the Submissions Report).

This SDPP illustrates and describes the urban, landscape and architectural design for the Project. It is not a substitute for the Detailed Design documentation, but a supplementary report that shows how the permanent works, as a whole, are integrated with the surrounding Precinct context.

This is one of ten SDPPs prepared for:

- Marrickville Station
- Dulwich Hill Station
- Hurlstone Park Station
- Canterbury Station
- Campsie Station
- Belmore Station
- Lakemba Station
- Wiley Park Station
- Punchbowl Station
- Bankstown Station.

1.2.2 Project design objectives

This SDPP references and supports the Southwest Metro design objectives, which are:

- i) designing the base station infrastructure to support the Sydney Metro City & Southwest service from Marrickville to Bankstown.
- ii) providing an easy customer experience:
 - a) customer experience and needs are the starting point for all aspects of planning and design;
 - b) spaces, products, services and systems reflect customer needs, motivations and behaviour and meet the needs of all customers and journey types; and
 - c) the stations, must be intuitive with simple, uncluttered spaces that ensure a safe experience for a diverse range of customers; and
- iii) providing a fully integrated transport system design that:
 - a) achieves clear and legible connections and integration of existing transport modes and services;
 - b) improves the accessibility and connectivity between transport modes within and across the Station Precincts;
 - c) provides equitable and universal accessibility within each station;
 - d) is a social and cultural asset; and
 - e) supports Sydney Metro City & Southwest operations;
- iv) being responsive to distinct local character of existing contexts and communities; and
- v) designing an enduring and sustainable legacy for Sydney where heritage is integral to the identity of the places.

1.2.3 Scope of the Station Design and Precinct Plan

This SDPP presents integrated urban, landscape and architectural design outcomes for the Project works within the Lakemba Station precinct, being:

Scope of station work

- Refurbish and re-use overhead booking office and platform buildings
- Platform re-levelling, installation of mechanical gap fillers to remove the gap between train and platform, edge screens and platform screen doors
- Repair stairs
- Remove / replace fencing

Scope of precinct works

- Install new vertical protection screens to Haldon Street overbridge
- Provide new bike parking hoops added to the northern entry
- Upgrade paving and entry to lift plaza on northern side
- New secondary plaza and landscaping works adjacent to the northern entry
- New taxi bay to The Boulevarde
- Site levelling, draining and retaining walls for the metro services building zone and security fence
- New metro services building

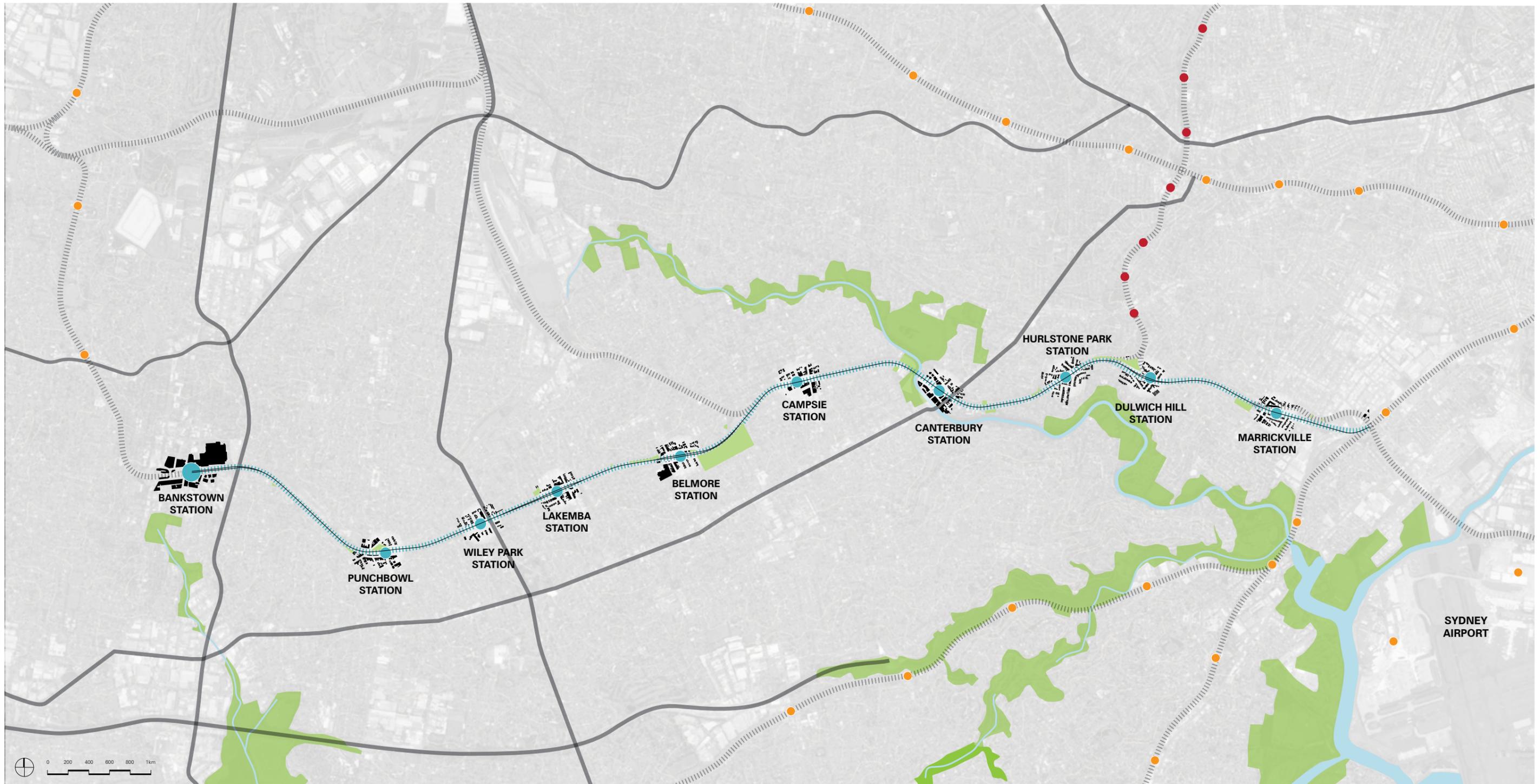


Figure 1.2 Sydney Metro Southwest stations

1.2.4 Lakemba Station Precinct

Lakemba is 15km southwest of the Sydney CBD within the Canterbury-Bankstown Local Government Area. The suburb is bounded by Greenacre to the north, Belmore to the east, Roselands to the south and Wiley Park to the west.

The study area for this SDPP is the Lakemba station precinct, defined in Condition E57 as “an area within 200 metres radius of a station, or beyond for the purposes of connecting pedestrian and cycle paths from stations to existing or planned future pedestrian and cycle paths”. The precinct includes the Lakemba local centre, with a wide variety of land uses including community, religious, cultural and educational uses, and open space. The retail streets around the station are well used, pedestrian friendly and vibrant.

Figure 1.3 shows the 200m station precinct radius in its context.



Platform building



Concourse building

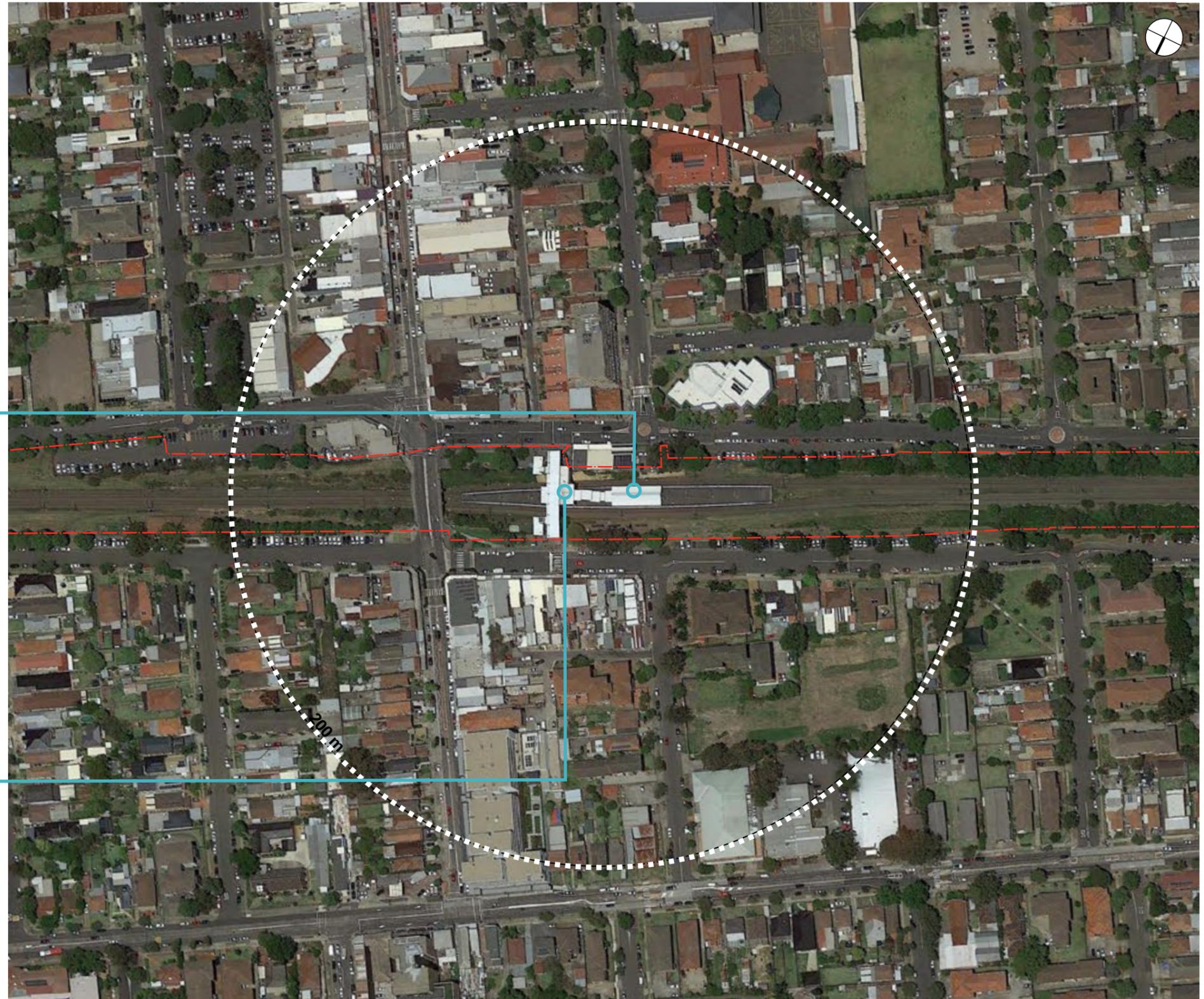


Figure 1.3 Lakemba Station Precinct

1.3 Strategic context

1.3.1 Background documents

Policies and plans that set the broad strategic direction for the region are:

- *Greater Sydney Region Plan* (Greater Sydney Commission), 2018
- *Eastern District Plan* (GSC), 2018.

The suite of Government Architect NSW (GANSW) documents that promotes design excellence through place outcomes as well as stronger design-led and integrative processes is:

- *Better Placed*, 2017
- *Good Urban Design*, 2018, draft
- *Greener Places*, 2017, draft
- *Sydney Green Grid – Central District*, 2017.

1.3.2 Foundation documents (Project-wide)

Relevant plans, policies and guidelines that frame the Project’s urban and landscape design for all Station Precincts are:

- *Sydenham to Bankstown Submissions and Preferred Infrastructure Report (SPIR)*
- *Environmental Impact Statement* (EIS), 2017. The EIS contains appendices that describe the context, existing conditions and urban interfaces of each station, and whose analysis and urban design principles have informed the development of the design as illustrated in this SDPP:
 - » *Sydenham to Bankstown Design Guidelines* (Volume 1C, Appendix C)
 - » *Sydney Metro Southwest Urban Design and Place Making Paper* (Volume 1C, Appendix H).
- *Sydney Metro City & Southwest: Sydenham to Bankstown Line - Heritage Interpretation Strategy* (Artefact), 2020
- *Walking and Cycling Strategy - Sydenham to Bankstown* (TfNSW), 2019, draft
- *SDPP for Sydenham Station and Pit* (approved 11 June 2019). The SDPP for Sydenham Station and Pit is relevant for continuity, as it adjoins this project. The following urban and landscape outcomes were considered and have influenced the design:
 - » adaptive re-use of heritage buildings (refer Section 4.5)
 - » generous, open plazas (refer Section 4.6); simple profile to canopies (refer Section 4.6.2)
 - » open and transparent station environment (refer Section 4.6)
 - » materials palette that, while not duplicating NorthWest and Sydenham outcomes, responds to them and to the Council’s requirements for the specific precinct (refer Section 4.12.3).

- *Around the Tracks: urban design for heavy and light rail* (TfNSW), 2016. This is a part of a wider suite of guidelines for the design of rail infrastructure and the precincts around them. It is a high-level document with a series of key urban design objectives and principles to drive integrated outcomes. All eight principles are relevant to, and have been reflected in the design principles and design response for this project:
 - » Draw on a comprehensive site and context analysis to inform the design direction
 - » Provide value-for-money design solutions that achieve high-quality low maintenance architectural and urban design outcomes that have longevity
 - » Provide connectivity and permeability for pedestrians
 - » Integrate the project with the surrounding area
 - » Maximise the amenity of the public domain
 - » Protect and enhance heritage features and significant trees
 - » Maximise positive view opportunities
 - » Design an efficient and functional transport solution which enhances and contributes to local amenity and prosperity.

1.3.3 Historical (non-statutory) documents

Prior to the current project, a number of urban design and related documents were produced including urban and landscape design direction relevant to the Sydenham to Bankstown corridor and its context. While not prescriptive, they provided a helpful layer of information for the urban design approach. Key documents reviewed were:

- *Chatswood to Sydenham Design Guidelines*, 2017
- *Sydney Metro Northwest urban design and corridor landscape plan*, 2016
- *Sydney Metro Northwest pedestrian-cycle network & facilities strategy*, 2015
- ‘Fine Grain Public Domain and Station Integration Studies’ and Station Precinct Plans (2016) that informed the *Sydenham to Bankstown Urban Renewal Corridor Strategy* (NSW DPE), revised 2017.

1.3.4 Council plans and initiatives

Lakemba is a local centre for Canterbury-Bankstown Council. Council has developed a Local Strategic Planning Statement (LSPS) for the Local Government Area (LGA), *Connective City 2036*, which was exhibited in 2019 and whose high level objectives are a consideration for the SDPP.

1.4 Approval requirements

1.4.1 Conditions of Approval

The SDPP has been prepared in accordance with the requirements of Schedule 1, Application no. SS1 8256, under Section 5.19 of the Environmental Planning & Assessment Act 1979. It is one component of a suite of reports and notifications required to be provided to the Planning Secretary under the terms of the approval.

1.4.2 EIS, Submissions Report, and Preferred Infrastructure Report Compliance

The EIS (EIS Volume 1C Appendix C) required that:

“The design of Sydney Metro City and Southwest will draw on the landscapes and heritage, the cultural history and the communities of the Bankstown Line, revealing and enhancing the qualities of these places, making new connections between communities and contributing to the regeneration of town centres”.

This generated three design themes: re-discover, re-connect, re-generate. Albeit the project scope is reduced from the EIS, the intent of the design themes remains relevant to the principles developed for each precinct.

1.4.3 Scope of Works and Technical Criteria (SWTC)

The SWTC forms the design requirements for the Southwest Metro Design Services. The scope is divided into Metro Station Works and Metro Corridor Works.

The design scope for Metro Stations includes the station and the surrounding station precinct and public domain. The SDPP illustrates both the architectural design for the station buildings, and the landscape design for plazas, streetscapes and street furniture within scope.

1.4.4 Structure of the SDPP to address the Conditions

The SDPP has been formatted to respond to the Urban Design Conditions (Conditions E56-63).

- 1 Part 1: Introduction**
 - this section includes the background to the Project including the strategic context and the Conditions of Approval
- 2 Part 2: Design Principles**
 - this section includes Metro objectives and related corridor-wide principles, referencing the SSI 7400 (Chatswood to Sydenham) outcomes
- 3 Part 3: Context and Form**
 - this section includes the station and precinct analysis, covering the strategic context, and the built, natural and community context. It includes constraints, opportunities both for the Project and beyond, the design response (in scope) and where the Project safeguards future aspirations
- 4 Part 4: Design**
 - this section communicates the holistic design approach for the station and precinct, including the interface with the surrounding public domain, movement and access network and landscape and built form setting
- 5 Part 5: Transport and Access**
 - this section references the key outcomes from the walking and cycling strategy, and how the strategy relates to the project design
- 6 Part 6: Consultation**
 - this section summarises the outcomes of the process, including design response to feedback from stakeholders and the Design Review Panel
- 7 Part 7: Appendices**

1.4.5 Compliance with the Conditions of Approval

The table below references where and how in the SDPP the applicable Condition of Approval is addressed.

Condition number	Requirement (paraphrased)	How condition is met: refer to relevant section of SDPP & page no.
E14	A Heritage Interpretation Plan(s) must be prepared, consistent with the Heritage Interpretation Strategy which identifies heritage items to be used in the final design of the project. The plan(s) must identify how items will be interpreted and provide a timeframe for their implementation which must be no later than the commencement of Operation. Heritage interpretation in any station precinct must be identified in the relevant Station Design and Precinct Plan(s) required in Condition E56.	Heritage Design Principles are set out in Section 2.3.2. A Heritage Interpretation Plan for Lakemba Station that is consistent with the Heritage Interpretation Strategy has been developed by a suitably qualified heritage specialist. Heritage interpretation is identified in this document (Refer Section 4.5.2) and is referenced within the Heritage Interpretation Plan for Lakemba Station
E53	The Walking and Cycling Strategy must be prepared in consultation with relevant council(s), local bike user groups and relevant stakeholder(s). Identified opportunities and works, where relevant, must be integrated with the relevant Station Design and Precinct Plan(s).	A Walking and Cycling Strategy has been prepared for the project. Opportunities and actions from the Strategy that are relevant to the station precinct are described in Section 5.2 of the SDPP Section 5.2 includes a table that references these initiatives against the design response in this Project, and how they are integrated. Section 4.9 Connectivity and Access also summarises key actions
E56	Station Design and Precinct Plans must be prepared to inform the final design of the CSSI and to give effect to the commitments made in the documents listed in Conditions A1 and A2. The Station Design and Precinct Plans do not apply to those elements, which for technical, engineering, or ecological requirements, or requirements as agreed by the Planning Secretary, do not allow for alternate design outcomes	This document
E57	SDPPs must be prepared by a suitably qualified and experienced person in consultation with the relevant council(s), the community and affected landowners for the area within 200m radius of a station or beyond for connecting pedestrian and cycle paths. The SDPPs must include:	This SDPP was prepared by a team comprising urban, architectural and graphic designers. The project Urban Design Project Lead, and the primary SDPP author, both have over 20 years' experience Refer Section 1.3, Section 1.2.4 shows the 200m radius of the station precinct. All analysis diagrams include the 200m radius Regular fortnightly consultation with the City of Canterbury Bankstown has informed the development of the design and this SDPP for Lakemba Station and Precinct. Refer Section 6.1 Public exhibition of the Lakemba SDPP was conducted in June and July 2020. A summary of the consultation process, submissions and the Project's responses are summarised in Section 6.2
E57(a)	Context and form	Refer Section 3.0 Context and Form
(i)	an analysis of the built, natural and community context and the urban design objectives, principles and standards for the CSSI	Section 1.3 sets out the strategic context including documents that set the direction and standards for the urban design Section 2.0 sets out objectives and principles for the CSSI, incorporating design objectives carried through from the EIS Section 3.3 contains context analysis, covering built form and heritage, landscape and open space, access and connectivity and public domain spatial character Section 3.4 describes the constraints and opportunities arising from the context analysis

Condition number	Requirement (paraphrased)	How condition is met: refer to relevant section of SDPP & page no.
(ii)	the location of existing heritage items,	Heritage items are described in Section 3.3.4 and mapped in Figure 3.2 Built form, landuse and heritage.
(iii)	the location and type of existing vegetation	Existing street trees and important streetscapes are mapped diagrammatically in Figure 3.4 Landscape, topography and views Further details of significant vegetation is provided in Section 4.11
(iv)	detailed consideration of integration and continuity with urban design and landscape outcomes for SSI 7400, taking into account the approved station design and precinct plans for that project	SSI 7400 (Chatswood to Sydenham) design principles were considered, as were the Sydenham Station and Pit SDPP outcomes (refer Section 1.3.2)
E57(b)	Design	Section 4.0 of this document describes and illustrates key aspects of the station and precinct design
(i)	the design of the CSSI elements including their form, materials and detail,	Refer Section 4.3 – 4.15
(ii)	the design of the CSSI landform and earthworks,	Significant earthworks are not required to deliver proposed design solution for Lakemba Station. Section 3.3.5 discusses topography and landform
(iii)	visual screening requirements for the CSSI,	Refer Section 4.3 – 4.15 Visual screening is detailed in the relevant section where it is required
(iv)	developed visuals, cross sections and plans showing the proposed design outcome of the CSSI,	Section 4.0 Design includes illustrative material in plan, section and 3D form that shows the design outcomes
(v)	consideration of opportunities for provision of public art within each station precinct,	Refer Section 4.14
(vi)	consideration of the principles of Crime Prevention Through Environmental Design (CPTED)	Section 2.3.5 sets out the CPTED principles for the Project. Section 4.12.3 includes key issues from the CPTED assessment, the principles they related to, and how they are addressed in the design
E57(c)	Landscaping	Section 4.11
(i)	areas of vegetation to be retained and proposed planting and seeding details, including the use of local indigenous species for revegetation activities,	Refer Section 4.11.1 - 4.11.3
(ii)	details of strategies to rehabilitate, regenerate or revegetate disturbed areas and successfully establish and maintain the resulting new landscape;	Section 4.11.5
E57(d)	Transport and Access	Section 5.0
(i)	design measures to maximise the amenity of public spaces, permeability around entrances to stations and integration with other transport modes,	Section 5.1 summarises the design measures. Further detail is also described in Section 4.9 Connectivity and access
(ii)	measures to safeguard a new pedestrian crossing of the rail corridor to the west of Foord Avenue and east of Melford Street in Hurlstone Park,	This requirement is not relevant to the Lakemba Station Design and Precinct Plan. This requirement addressed in the Hurlstone Park Station Design and Precinct Plan
(iii)	integrate with relevant initiatives identified in the Sydney Metro Sydenham to Bankstown Walking and Cycling Strategy,	Refer Section 5.2

Condition number	Requirement (paraphrased)	How condition is met: refer to relevant section of SDPP & page no.
(iv)	detailed consideration of measures to allow for the removal and/or relocation of existing ancillary infrastructure (such as fencing, substations and signalling boxes) and any structures that may be made redundant by the CSSI that may inhibit or detrimentally impact the provision of open space, pedestrian and cyclist pathways along the rail corridor or new access points into the stations in the future,	There has been investigations to rationalise and remove residual assets as required in order to safeguard future use and connections. Section 4.9 describes these connections and sections 3.5 and 4.10.1 summarise safeguarded measures
(v)	detailed consideration of design measures to ensure the location of infrastructure does not preclude future enhancements and upgrades to existing parks and public open spaces adjoining the rail corridor	No infrastructure whose location would preclude future enhancements or upgrades to existing parts and public open spaces has been identified within the Lakemba Station precinct
E57(e)	Evidence of consultation with the community, the relevant council(s) in the preparation of the Station Design and Precinct Plans and how feedback has been addressed before seeking review by the Design Review Panel, where required.	Public exhibition of the Lakemba SDPP was conducted in June and July 2020. A summary of the consultation process, submissions and the Project's responses are summarised in Section 6.2 and 6.3
REMM LV3	Sydney Metro would prepare Station Design and Precinct Plans for each station. The plans would aim to ensure that the stations and facilities are sympathetic and complement local character, and are integrated with future plans for development. The plans would consider the following: <ul style="list-style-type: none"> – urban design context – sustainable design and maintenance – community safety, amenity and privacy, including 'safer by design' principles where relevant – opportunities for public art – landscaping and design opportunities to mitigate the visual impacts of rail infrastructure and operation facilities – incorporation of salvaged historic and artistic elements on the project design – details of where and how recommendations from the Design Review Panel have been considered in the plan. Documents to be considered by the plans include, but are not limited to: <ul style="list-style-type: none"> – Inner West Council's Dulwich Hill Station Precinct public domain master plan – Outcomes of the master plan for Bankstown Station. The plans would be prepared and implemented in consultation with the Department of Planning, Industry and Environment (DPIE), Inner West and City of Canterbury Bankstown Councils.	Noted, covered under Conditions of Approval above

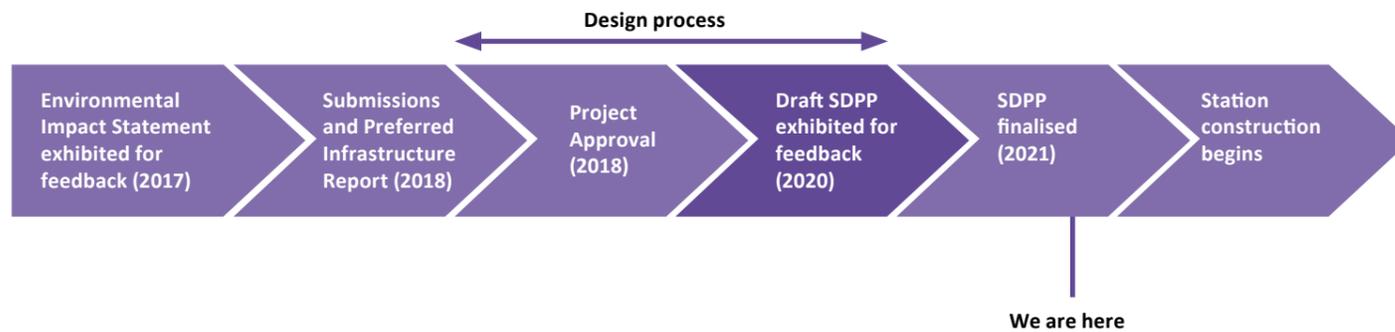
1.4.6 Design process

The design for the project has developed through an iterative and collaborative process. It stepped through from over-arching objectives and design principles, to context analysis, to the developing design. Consultation with City of Canterbury Bankstown Council has been a key part of the process and has informed the station design and future opportunities to be safeguarded.

In summary, the steps involved were:

1. Project understanding
 - » Build on Sydney Metro City & Southwest line-wide and specific project design objectives
 - » Test and refine design principles, and share with project team
 - » Establish the structure and draft outline for the SDPP (this document).
2. Context analysis
 - » Review all EIS supporting documentation including specialist assessments and reports
 - » Update analysis of strategic policy context, environmental and cultural context
 - » Develop appreciation of key issues and precinct opportunities
 - » Identify where the project can support precinct opportunities through the design.
3. Design
 - » Cross-disciplinary workshops and discussions to integrate the work of all disciplines, from engineering through to human factors / customer centred design, heritage, landscape, architecture, and urban design
 - » Regular consultation with Council for feedback on developing design
 - » Design Review Panel’s regular review.
4. Public exhibition
 - » Exhibition of the draft SDPP for public comment
 - » Progress the design based on feedback from the exhibition
 - » Finalise SDPP. – **we are here**

These design steps form a key part of the projects development and a summary of the entire process is provided below:





2. Design Principles



2.0 Design Principles

2.1 Corridor character

Each station precinct is its own place, with its own geology, topography, history and culture. Each has a particular mix of heritage station buildings and later additions. Each is also woven into its immediate context – its precinct – and into the wider neighbourhood in its own way.

Two Aboriginal nations, the Eora and Dharug, were the original inhabitants of the area traversed by the project, broadly meeting at the Cooks River. The river – Goolay-yari (pelican) – was a place that brought people together as much as divided them, with its rich harvest of fish and shellfish. The Bediagal clan occupied land to the south; the Wangal to the west, and the Gadigal to the east.

Southwest Metro will run through a landscape that has been homogenised by urbanization although there is a diversity in communities and the urban character of each suburb. The undulating topography and geology is still legible – particularly as the corridor literally cuts through the contours. Built development has overlaid the silt, sand and clay around Marrickville, sandstone at Dulwich Hill and Hurlstone Park, estuarine wetlands at Canterbury, the Turpentine/ Ironbark forests endemic to Campsie, Belmore and Lakemba, and the Iron Bark/ Melaleuca Scrub and Salt Pan Creek environs of Wiley Park and Punchbowl.

The T3 Bankstown line is the main thread around which the developing suburbs grew and intertwined. The stories of successive waves of immigrants to Sydney are woven into the fabric of the urban form. While neighbourhoods have changed over time and will continue to change, metro stations will continue to serve as both destinations and departure points, connecting neighbourhoods and landscapes either side of the corridor.

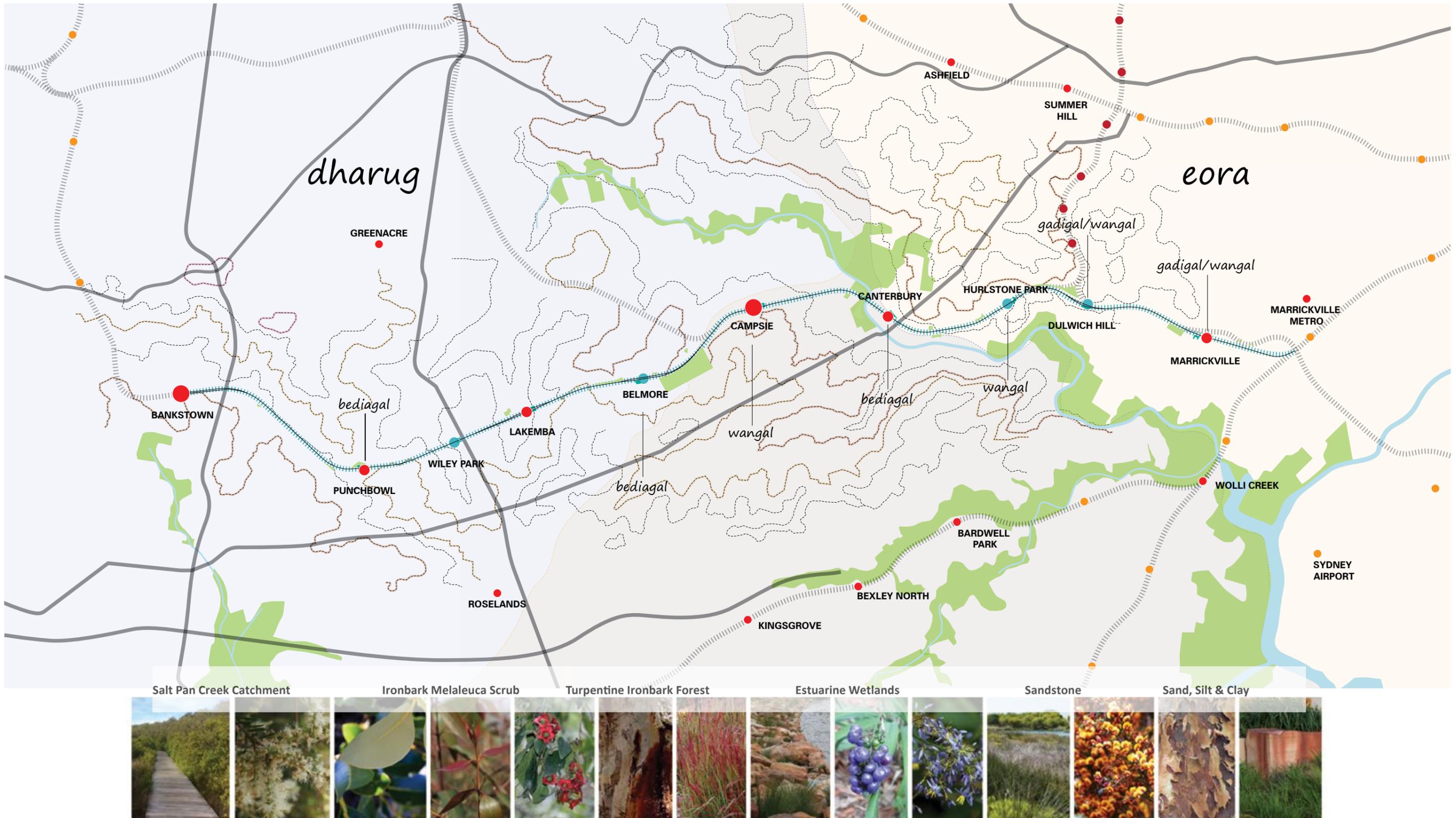


Figure 2.1 The corridor in context

2.2 Urban design vision

The EIS requires that

“The urban design aspects would continue to be developed and refined during future design stages, taking into account considerations such as each station’s place making role, future urban development opportunities, heritage, links to the surrounding town centres, and feedback from stakeholders and the community. To reflect local conditions and heritage values, heritage interpretation, public art, and landscaping would be incorporated into the design of each station, in accordance with the design guidelines, and based on consultation with local stakeholders.” (EIS, Volume 1A, p. vi)

The urban design vision for the corridor as a whole, accordingly, is based on the design philosophy and themes set out in the EIS design guidelines. The vision is:

- Stations and their precincts are well known, well used, and well loved by local communities
- They are integral parts of the neighbourhood, fitting comfortably in the streetscape
- They contribute both to a sense of place and to an easy travel experience.

The supporting design themes are:



Re-discover

- The heritage fabric of the line – design that responds to, reveals and repurposes heritage buildings and structures
- The diversity of centres and communities – design that draws on and expresses culture and community.



Re-connect

- All transport modes at stations – design for easy, accessible interchange and to prioritise walking and cycling
- Links into precincts – design to maintain and enhance the legibility of stations and connections into the surrounding street and open space network.



Re-generate

- The public domain – design new and existing public spaces and their interfaces to enable town and village centre revitalisation
- Existing vegetation – build on landscape character to protect, enhance, create and connect green areas.

2.3 Urban design objectives and principles

2.3.1 Project design objectives

The urban design has been guided by the project design objectives and supporting principles and standards. The principles have been developed to reflect the current Project scope while maintaining continuity with the Sydney Metro City & Southwest Chatswood to Sydenham (SSI 7400) Design Guidelines and the Sydenham Station Design and Precinct Plan.

The over-arching objectives are:

1 OBJECTIVE:
 Ensuring an easy customer experience.

PRINCIPLE: Sydney Metro places the customer first. Stations are welcoming and intuitive with simple, uncluttered spaces that ensure a comfortable, enjoyable and safe experience for a diverse range of customers.

Design outcomes sought:

- A safe, comfortable and pleasant journey to the station, between modes and on trains
- Clear wayfinding – a ‘self-explaining’ environment
- Public spaces, local connections and station environments with good amenity.

2 OBJECTIVE:
 Providing a fully integrated transport system design.

PRINCIPLE: Sydney Metro is a transit-oriented project that prioritises clear and legible connections with other public and active transport modes within the wider metropolitan travel network that intersects with it.

Design outcomes sought:

- Station legibility within the precinct
- Seamless interchange between modes – light rail, bicycle, pedestrians, buses
- Pedestrian priority
- Clarity of wayfinding, timetable and modal information
- Connections to walking, cycling and open space networks.

3 OBJECTIVE:
 Delivering an enduring and sustainable legacy for Sydney where heritage is integral to the identity of the places.

PRINCIPLE: Heritage structures are a valued and positive legacy of rail’s contribution to a growing city. Retaining and integrating them with the station design underlines their value now and for future generations.

Design outcomes sought:

- Heritage buildings are retained, refreshed and re-purposed, while new structures are complementary and contemporary in design.

4 OBJECTIVE:
 Being responsive to distinct local character of existing contexts and communities.

PRINCIPLE: Sydney Metro’s identity is stronger for the unique local character of the centres and communities through which it passes. It is supported by public domain and architectural design that is consciously integrated with the existing urban fabric.

Design outcomes sought:

- Place-making values embedded in precinct design: acknowledge and respond to local history, culture and form for public spaces, urban elements, landscape and public art
- Station architecture that contributes positively to the identity of Sydney Metro
- Positive connections into existing and proposed open space and active transport networks.

2.3.2 Heritage principles



OBJECTIVE:

Delivering an enduring and sustainable legacy for Sydney where heritage is integral to the identity of the places.

PRINCIPLE: Heritage structures are a valued and positive legacy of rail’s contribution to a growing city. Retaining and integrating them with the station design underlines their value now and for future generations.

Design outcomes sought:

- Heritage built fabric is retained, re-used and adapted
- Contemporary elements are complementary and responsive to heritage scale, form and materials
- Existing heritage vistas and views within and around the station are maintained and enhanced
- New architecture elements are sensitively integrated and sympathetic in scale
- New services are rationalised, consolidated and concealed as far as possible.

2.3.3 Public domain principles



OBJECTIVE:

Being responsive to distinct local character of existing contexts and communities.

PRINCIPLE: Station forecourts and plazas extend the public domain to contribute to their shared use and enjoyment by Metro users and the community.

Design outcomes sought:

- Plazas that are active and lively; that encourage pedestrian activity and form a place to stay and stop rather than just a space to walk through
- Station forecourts that extend seamlessly from adjacent public footpaths and ‘read’ as fully accessible public spaces
- Street furniture, lighting and paving palettes that achieve consistency across the corridor while also matching into Councils’ desired public domain character
- Interpretive signage to describe the cultural, historical, natural and built characteristics of the environment – helping to tell the story of the area
- Where large retaining walls are unavoidable, they are designed and detailed to be visually interesting for pedestrians and cyclists, including referencing cultural narratives in places of significance.

2.3.4 Sustainability principles



OBJECTIVE:

Delivering an enduring and sustainable legacy for Sydney where heritage is integral to the identity of the places.

PRINCIPLE: Urban, landscape and architectural design follow best practice guidelines and are assessed under performance based sustainable design tools

Design outcomes sought:

- Draw on a comprehensive site and context analysis to inform the design direction
- Provide value-for-money design solutions that achieve high quality low maintenance architectural and urban design outcomes that have longevity
- Provide connectivity and permeability for pedestrians
- Integrate the project with the surrounding area
- Maximise the amenity of the public domain
- Protect and enhance heritage features and significant trees
- Maximise positive view opportunities
- Design an efficient and functional transport solution which enhances and contributes to local amenity and prosperity.

2.3.5 CPTED principles



OBJECTIVE:

Providing a fully integrated transport system design.

PRINCIPLE: Movement networks are legible: people can easily see where they are going, with clear and direct lines of sight and minimal spaces for concealment

Design outcomes sought:

- New connections (including pedestrian overbridges) tie into and support existing and future desire line
- Landscape planting that softens the corridor while still enabling passive surveillance and good forward sightlines for pedestrians
- A signage strategy that provides directional details including time and distance to ensure clarity of route for path users.

2.3.6 Architectural design principles



OBJECTIVE:

Being responsive to distinct local character of existing contexts and communities.

PRINCIPLE: Architectural design is well integrated with the existing urban fabric, sensitive to existing materials and sympathetic in scale

Design outcomes sought:

- Retention of the station as a local landmark, including views to the concourse and platforms
- Cross-corridor views and locating views to the surrounding areas are maintained
- Stair canopy design is low in height and with minimal overhangs
- Stair and lift structures are lightweight, ‘skeletal’ and open, with minimal additional columns
- New interventions are sympathetic to the geometry and scale of heritage buildings and structures
- Vertical protection screens do not dominate the streetscape
- The scale of roofscapes is broken down with different sizes and heights of roof to different spaces and structures.



OBJECTIVE:

Ensuring an easy customer experience.

PRINCIPLE: Stations and their approaches are designed to increase activity and opportunities for casual surveillance

Design outcomes sought:

- Visual connections between the public domain and station concourse, stairs and platforms
- Multiple paths of travel through plazas, for movement choice and the ability to exit paths and walkways with long paths of travel
- Landscape planting that deters vandalism of potentially targeted areas through creating physical and visual barriers to restrict access
- Lighting that enables the use of parts of the shared path network that are required after dark and that discourages the use of areas that are not intended to be used; and that provides a consistent level of illumination so as to avoid the creation of pools of light or dark that can create potential areas of isolation or entrapment
- Design of retaining walls and fences edging public spaces, shared paths and cycleways to minimise their size and their apparent scale.

2.3.7 Landscape planting principles



OBJECTIVE:

Delivering an enduring and sustainable legacy for Sydney [where heritage is integral to the identity of the places].

PRINCIPLE: Landscape design and species selection reinforce the local landscape and streetscape character

Design outcomes sought:

- Existing vegetation is protected and retained where possible. Where not possible, identify areas for replacement and new planting that prioritise pedestrian amenity (eg. walking and cycling connectivity, public plazas)
- Planting design that retains or frames views to heritage and character buildings
- Use of naturally occurring indigenous species, or species that have a connection to the local community and environment
- Embankments are less than 2:1 slope to enable planting
- Environmentally responsive and integrated design and maintenance, for example: protecting adjacent waterways from potential stormwater run off, grading pavements to drain to garden beds, Water Sensitive Urban Design, and robust and low-maintenance species selection.



OBJECTIVE:

Being responsive to distinct local character of existing contexts and communities.

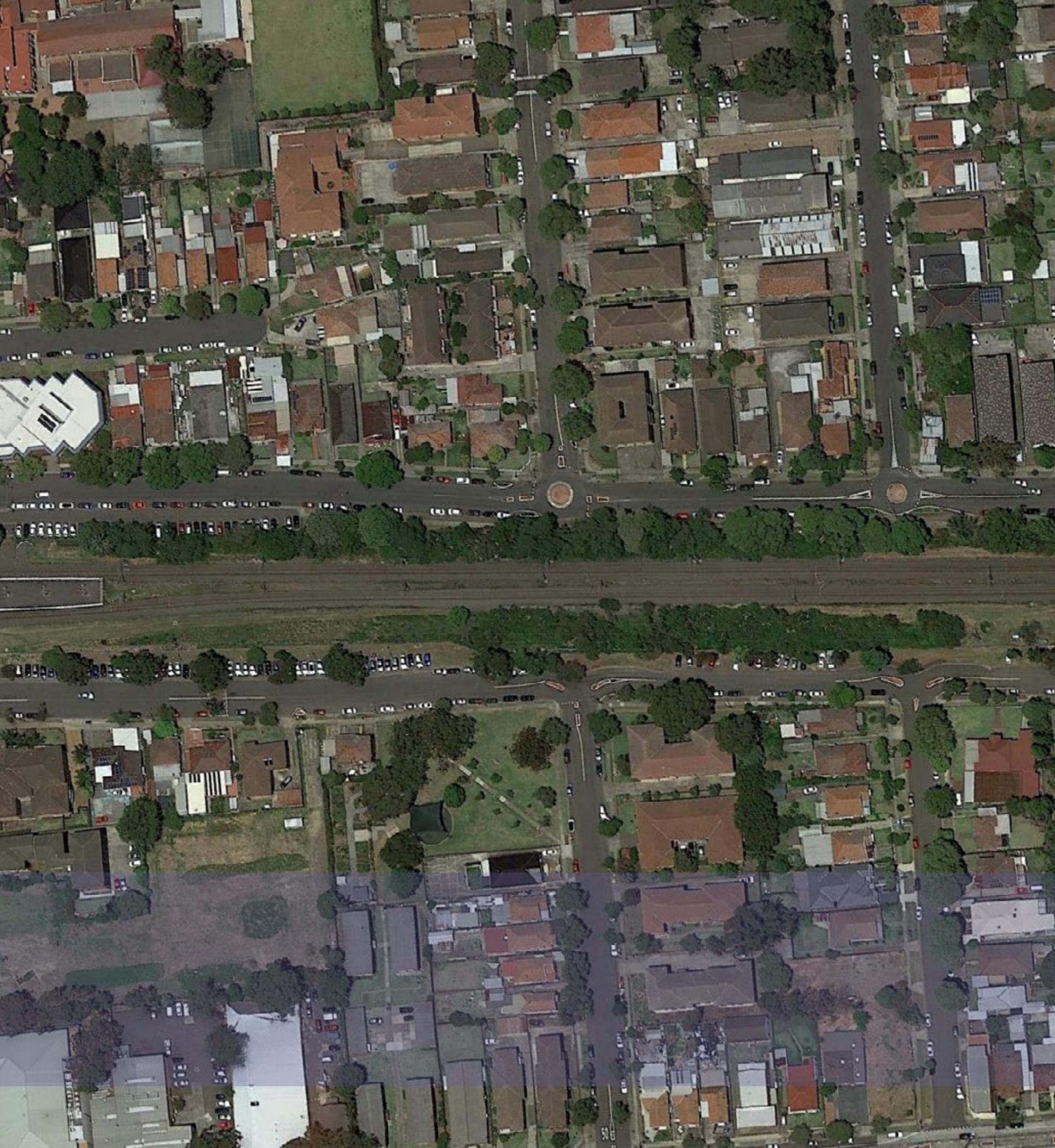
PRINCIPLE: Landscape design and species selection reinforce the local landscape and streetscape character

Design outcomes sought:

- Use of naturally occurring indigenous species, or species that have a connection to the local community and environment
- Tree species consistent with Councils’ planting palette / preferred species
- Integrated soft and hard landscape that draws on the underlying geology and remnant vegetation communities.



3. Context and Form



3.0 Context and Form

3.1 Historical context

3.1.1 Pre-European landscape

The study area is located within the traditional lands of the Bediagal people, with the Kameygal and Wangal people to the east. The study area is located within an area rich with resources. Prior to colonisation, it appears Georges River Road was a trade and transit corridor connecting the lands of the Wangal and Kameygal via the present-day Punchbowl Road at the edge of the study area.

The nearby Cooks River and Salt Pan Creek were important features of their Country. They provided not only an abundant food source, but a means of transport and connection. The wetlands associated with the Cooks River and Gumbramorra Swamp would have been reliable fresh water and food sources and observations of Aboriginal people living on the Cooks River made early after the British arrival in Australia indicate the importance of these riverine and estuarine environments for Aboriginal people.

Part drawn from Heritage Interpretation Plan; Lakemba Station, Artefact

3.1.2 European settlement and land use

As demand for agriculture and settlement progressed westwards, so too did the land holdings of migrants with a diverse range of backgrounds. Lakemba was originally part of an 1831 grant of 50 acres to John Wall, called “Ashford”.

Prior to the arrival of the railway, the surrounding area consisted predominantly of bushland dotted sparsely with small homesteads. Early industry included a tannery, charcoal burning and brickmaking, and agricultural industries such as a piggery on Haldon street. By 1895 following a series of purchases and subdivisions, Lakemba's gridded pattern of north-south aligned streets emerged. Haldon Street remaining to this day, although the railway line has disrupted a number of original street connections.

Development of the area north of the Cooks River was relatively slow until the arrival of the railway. The introduction of the Belmore line with the initial terminus at Belmore shifted the mode of settlement from one that was primarily guided by topography to one that was guided by infrastructure. Land values rose dramatically after construction of the station in 1909 and shopfronts on Haldon Street were highly sought after by the mid-1920s. Lakemba's near-flat topography, and the early forming of Haldon Street, enabled the town centre to develop in a traditional strip retail form along the main street for almost a kilometre. More recent 3-6 storey mixed use developments are towards the edge of the commercial core.

Part drawn from Heritage Interpretation Plan; Lakemba Station, Artefact

3.1.3 The station

The Belmore Line was extended to Bankstown in 1909 to service suburban development in an expanding Sydney. Lakemba Station was opened in 1909, consisting of a small timber station building with associated ticketing and parcels office. The present station layout and some station buildings date to 1919, with new brick station building (1919) replacing the original. A haunched beam footbridge and overhead booking office was a later addition, established at the electrification of the line in 1926. The station entry has been recently upgraded as part of the Transport Access Program (TAP), including a central aerial concourse traversing the rail corridor including erected on the original footbridge, with stair and lift access to the station plazas in Railway Parade and The Boulevard.

Part drawn from Technical Paper 3, Non-Aboriginal Heritage Impact Assessment, and the Design and Place Making Paper, both from the EIS

3.2 Strategic context

3.2.1 Urban Renewal Strategy

The NSW Department of Planning, Industry and Environment (DPIE) developed a 20-year Urban Renewal Corridor Strategy for the Sydenham to Bankstown Corridor to guide future development and infrastructure delivery. The first draft was published in October 2015, followed by a revised Strategy exhibited between June and September 2017 that responded to identified constraints and feedback from public submissions, community workshops, meetings and technical studies.

In July 2018, DPIE identified a revised approach for the Sydenham to Bankstown Urban Renewal Corridor Strategy. DPIE will develop the principle based, high level strategy for the corridor in collaboration with Councils. Councils will then undertake a review of their local environmental plan in accordance with this framework. Sydney Metro would work with the DPIE and local councils, as key stakeholders, once a program for the development of this strategy has been provided.

3.2.2 Eastern City District Plan and South District Plan

The Sydenham to Bankstown Urban Renewal Area is identified in the Eastern City District Plan and the South District Plan (2018) for transit-oriented development. Planning priorities relevant to the Project include “Creating and renewing great places and local centres, respecting the area’s heritage” and “increasing urban tree canopy cover and delivering Green Grid connections and high quality open space”. These are opportunities for the SDPP.

3.2.3 The Green Grid

Sydney Green Grid – Central District, 2017, is a Government Architect NSW-led program to increase open space, biodiversity and connectivity corridors and connect town centres, public transport hubs and major residential areas across Greater Sydney.

Opportunities for the SDPP:

- Provide enhanced tree cover / urban canopy by using the Project tree offset to strengthen street tree planting within 500m of the station.

3.2.4 Canterbury-Bankstown Local Strategic Planning Statement

City of Canterbury-Bankstown Council has exhibited its draft Local Strategic Planning Statement, *Connective City 2036* (September 2019), which outlines the council’s priorities and actions that will shape the city up to 2036. Described as “a consolidated vision for Canterbury-Bankstown that guides growth and balances what makes a city complete”. It includes revised strategic targets that build upon ‘CBCity2028’ and will set the tone for future planning around land use, key infrastructure, housing and growth, and ecology and recreation.



Council has identified the Sydney Metro Southwest project as being a catalyst for driving change and growth in larger centres, while in smaller neighbourhoods increased access to public transport will reinvigorate established main streets. The hierarchy of centres is:

- City centre – Bankstown
- Town Centre – Campsie
- Local Centre – Canterbury, Belmore, Lakemba
- Village centres – Punchbowl, Wiley Park
- Small village centre – Hurlstone Park.

Lakemba, as a local centre, is located at the metro station and will provide fast and efficient access across Sydney. It is suitable for a greater mix of housing and urban services, with commercial renewal around the station.

Key findings:

- Under the ‘5 City Directions’, the Local Strategic Planning Statement notes the importance of protecting established traditional main streets
- There is potential to connect centres including Lakemba with north-south recreational cycleways
- Haldon Street from Lakemba Street to Grace Avenue is envisaged as being ‘converted from a vibrant street to a place for people.’

Implications for the SDPP:

- Protection and enhancement of existing heritage fabric and the traditional main street character is a key consideration for the project
- Integrate future walking and cycling connectivity with the station precinct
- Capitalise on walking and cycling connectivity adjacent to the station, and the potential to ‘green’ the cycle and shared paths, to connect the Metro station into the greater green web network
- Optimise planting of trees along both for user amenity and urban canopy.

3.2.5 Walking and Cycling Strategy

In accordance with Condition E53 of the Conditions of Approval for the construction and operation of the Sydney Metro between Marrickville and Bankstown, a Walking and Cycling Strategy for Sydenham to Bankstown has been prepared. This SDPP includes analysis of the existing walking and cycling environment, opportunities and design responses that are consistent with the intent of the draft Strategy.

Opportunities for the SDPP:

- Improve connectivity for pedestrians and cyclists through the precinct and around the station
- Provide clear, accessible connections between the station and transport interchange areas.

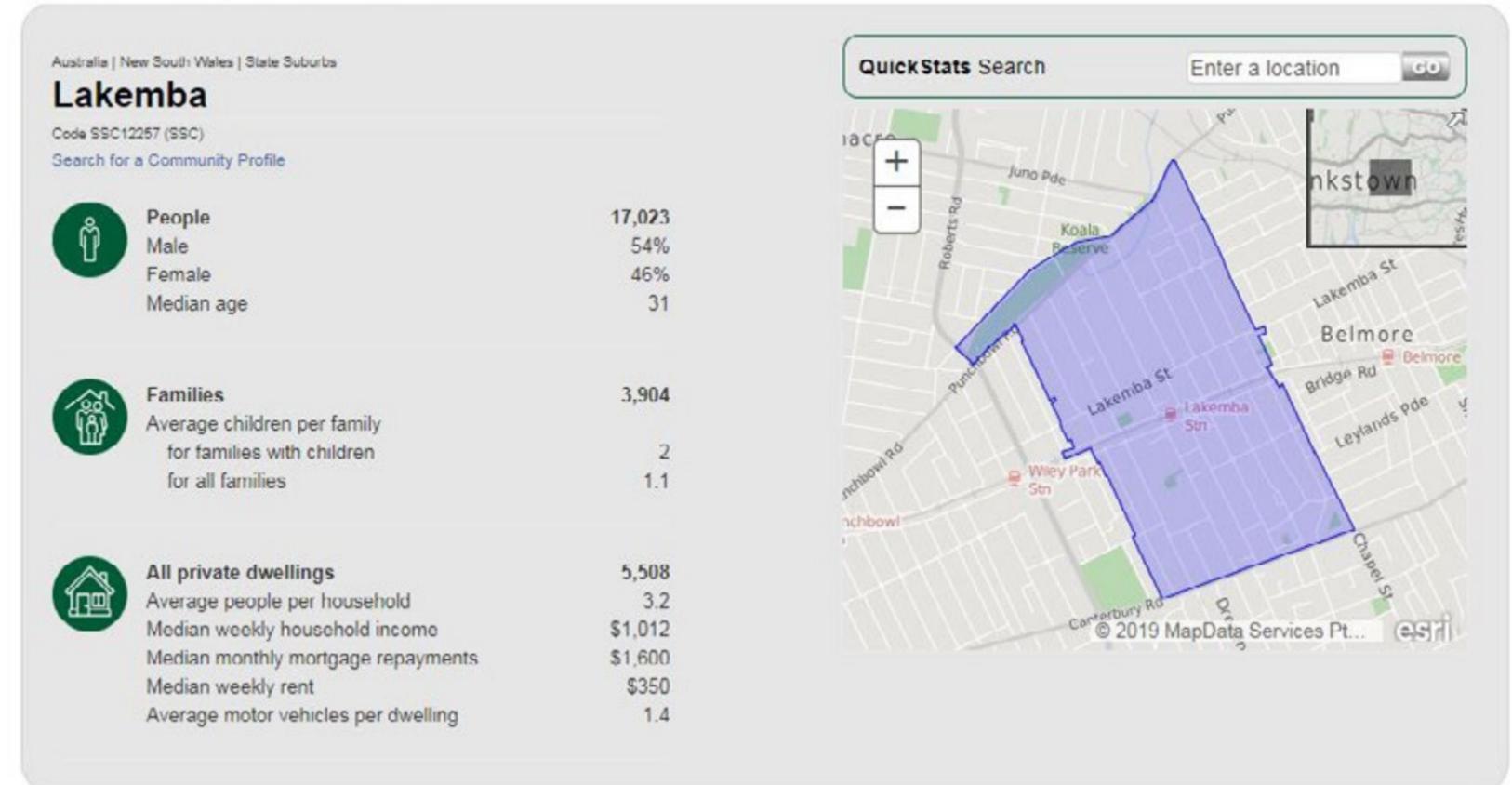
3.3 Built, natural and community context

3.3.1 Community profile

Key findings from the Australian Bureau of Statistics' 2016 census show that Lakemba has:

- A median age of 31, with 25.2% of the population under 15 and 9.1% aged 65 or over
- 68.5% of people born overseas – almost double than the national average of 34.5%. of people born overseas, the top countries of origin (in order) are Bangladesh (15.4%), Pakistan, India, Myanmar and Lebanon
- 85.3% of people who speak a language other than English at home
- A median weekly household income of \$1,012, lower than the NSW average of \$1,486
- Flats or apartments account for 70.4% of the dwelling stock, much higher than the NSW average of 19.9%; and renting accounts for 56.4% of tenure
- 49.5% of people who were employed full time, 31.9% employed part-time and 13.5% unemployed
- A spread of occupations. Lakemba has a lower proportion of professional and managerial occupations than the NSW average, and a higher proportion of Labourers, machinery operators and drivers and community and personal service workers
- Taxi and other road transport as the highest industry of employment.

2016 Census QuickStats

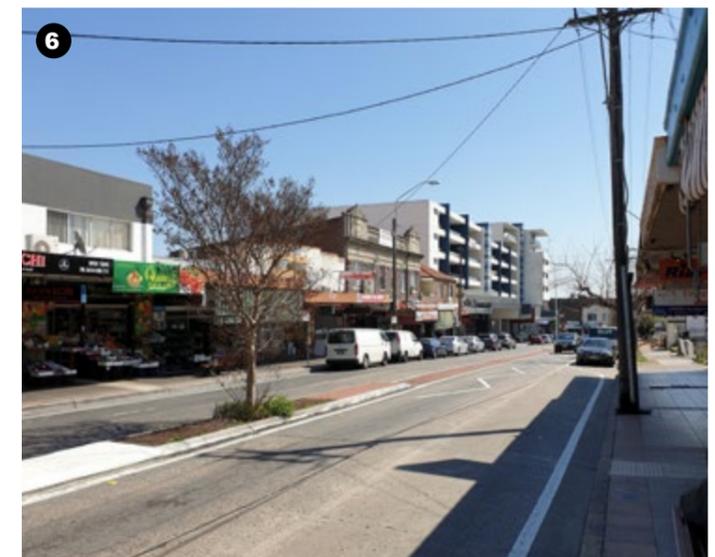


3.3.2 The station in its precinct

Lakemba Station is located near the Haldon Street overbridge which forms part of a busy, vibrant streetscape, at the heart of the Haldon Street town centre. This is possible as the station concourse is set back but parallel to the Haldon Street town centre, with cross-corridor connectivity created by the footbridge. The dual station entries allow the main street character to continue along The Boulevard and Railway Parade with 1-2 storey shop-tops located opposite the station to the north and south.

The station's relatively recent upgrades (2001 and 2016) have resulted in accessible connection from both streets to the platforms. The station entries are open, relatively uncluttered and welcoming, with the south entry situated between a generous public plaza with civic quality features that extends to Haldon Street and a strip of four 1 storey retail tenancies to the west. The north entry is less open, with narrower footpaths continuing in both directions, a small formal garden to the east and a sparsely vegetated area to the west, often used as an informal gathering space.

The form and style of the new overhead booking office and canopies (glass, metal) is in contrast with the painted brick and decorative features of the heritage platform buildings below. The awning over the station, being contemporary, angled and of glass, is distinctive among the other solid, flat awnings along the street.



Refer Figure 3.1 Urban spatial qualities, for references to the images above.

- 1** Haldon Street hosts a vibrant, active retail and dining strip a mixture of traditional 1-2 storey shop-top, and newer developments to the south. Fine-grained and human scale with continuous connection to Lakemba Station via the south entry along The Boulevard and via the north entry on Railway Parade
- 2** On-grade car parking makes up a significant portion of built form adjacent the established town centre and the rail corridor
- 3** A small plaza adjacent the station entry contains seating, established trees and a formal war memorial. It has a civic quality
- 4** The public domain extends down The Boulevard adjacent the station where a cluster of shop fronts create a fine grain edge that integrates with the station entry
- 5** To the north a small pocket park with a civic quality addresses both the street and the station. It contains a small formal garden and seating
- 6** While the intersection of Lakemba Street and Haldon Street contains traditional 1-2 storey shop-top housing, they front the busier Lakemba Street and feel disconnected from the established town centre

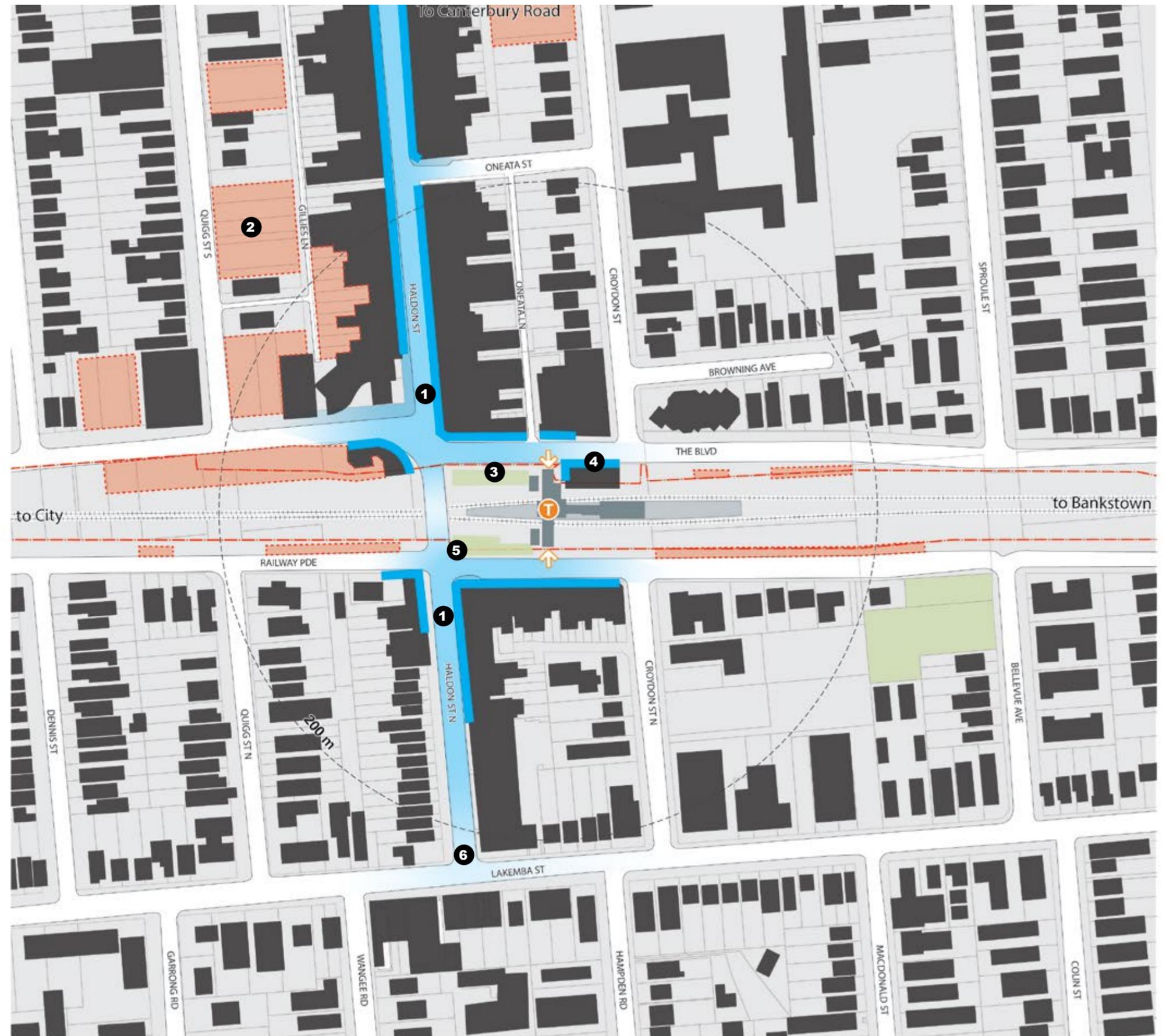


Figure 3.1 Urban spatial qualities

3.3.3 Urban form

Lakemba town centre occupies a linear retail strip on Haldon Street, with active uses continuing to connecting side streets including The Boulevard and Railway Parade at Lakemba Station. The subdivision pattern has resulted in fine grain-built form with narrow frontages; the scale is mostly 1-2 storeys. Generally consistent building heights and street edge offsets the mix of building stock creating a cohesive streetscape. Awnings, where they are continuous, also unify the built form. The Centre is divided at the rail corridor, where the rail overbridge creates a gap in continuity of active frontages at north and south Haldon Street.

Public open space within the station precinct is concentrated at the station, with two public plazas supporting the stations function. Public life is lived on the lively and successful main street, whose busy, crowded pavements are part of its character. Street furniture, planting and continuous awnings provide places for people to pass by and stay.

Larger scale buildings within the station precinct that contribute to local character includes the five storey brick telephone exchange building, which is clearly identifiable against the backdrop of 1-2 storey shoptop houses. There are also a number of more recent mixed use four to eight storey developments, generally located on the northern and southern perimeter of the Haldon Street commercial strip. The residential areas surrounding the commercial core is characterised by predominately detached Federation and inter-war style homes. Walk-up apartments from the mid to late 20th century are clustered sporadically throughout the precinct.

3.3.4 Heritage

The Lakemba Railway Station Group (structures, platform buildings, footbridge, overhead booking office, platforms, canopies, war memorial) has local significance (Canterbury LEP 2012) and is listed on the RailCorp Section 170 Heritage and Conservation Register. The existing and largely preserved platform buildings (1919), footbridge (1926) and associated stairs are representative of railway structures of this period. The platform buildings are typical of the era, incorporating painted rectangular face brick, gabled roofing and cantilevered platform awnings. The group's significance lies in being part of the 1909 extension of the Belmore line to Bankstown, the layout and form of the heritage platform buildings are associated with the suburban post World War I development.

While there are few heritage listings along Haldon Street, it maintains its traditional main street character as it was established in the pre-war era. In the wider station precinct local heritage items are limited to the brick postal and telecommunications exchange building located opposite the station on The Boulevard which dates to 1924.



Haldon Street, 1914



Refer Figure 3.2 Precinct built form, landuse and heritage, for references to the images above.

- 1 Lakemba Station is accessed from both The Boulevard and Railway Parade via a pedestrian footbridge (1926) with newer steel framed canopies and consolidated booking office and station concourse constructed in 2001
- 2 Heritage brick platform building (1919) with gabled roof
- 3 Haldon Street hosts a vibrant, active retail and dining strip a mixture of traditional 1-2 storey shop-top, and newer developments to the south. While there are not many heritage listed buildings, Haldon Street was established pre-war.
- 4 The Site at 5-7 Croydon Street has a previous approval under the former Canterbury Council for the construction of a six storey affordable housing development. The lot is currently vacant
- 5 Built form is characterised by predominately detached Federation and inter-war style homes. Walk-up apartments from the mid to late C20 are clustered sporadically throughout the precinct
- 6 The precinct is well serviced by several community facilities including two schools, a community garden, a public library and multiple places of worship
- 7 Approved development application for a 50 car on-grade car park to support the Lakemba Club
- 8 The heritage post office creates a pleasant scale to The Boulevard street frontage
- 9 A recent, modern development of up to eight stories includes large retail shops at street level and apartments above

- | | | | |
|--|--------------------------------|--|------------------------|
| | Project boundary | | Heritage area / item |
| | Rail line and station | | Approved & current DAs |
| | Station entry | | Community facilities |
| | Platform and station buildings | | 1 Storey built form |
| | Station precinct (200m radius) | | 2 Storey built form |
| | Open space | | 3 Storey built form |
| | Local centre zoning | | 4 Storey built form |
| | | | 5 Storey built form |
| | | | 6-8 Storey built form |

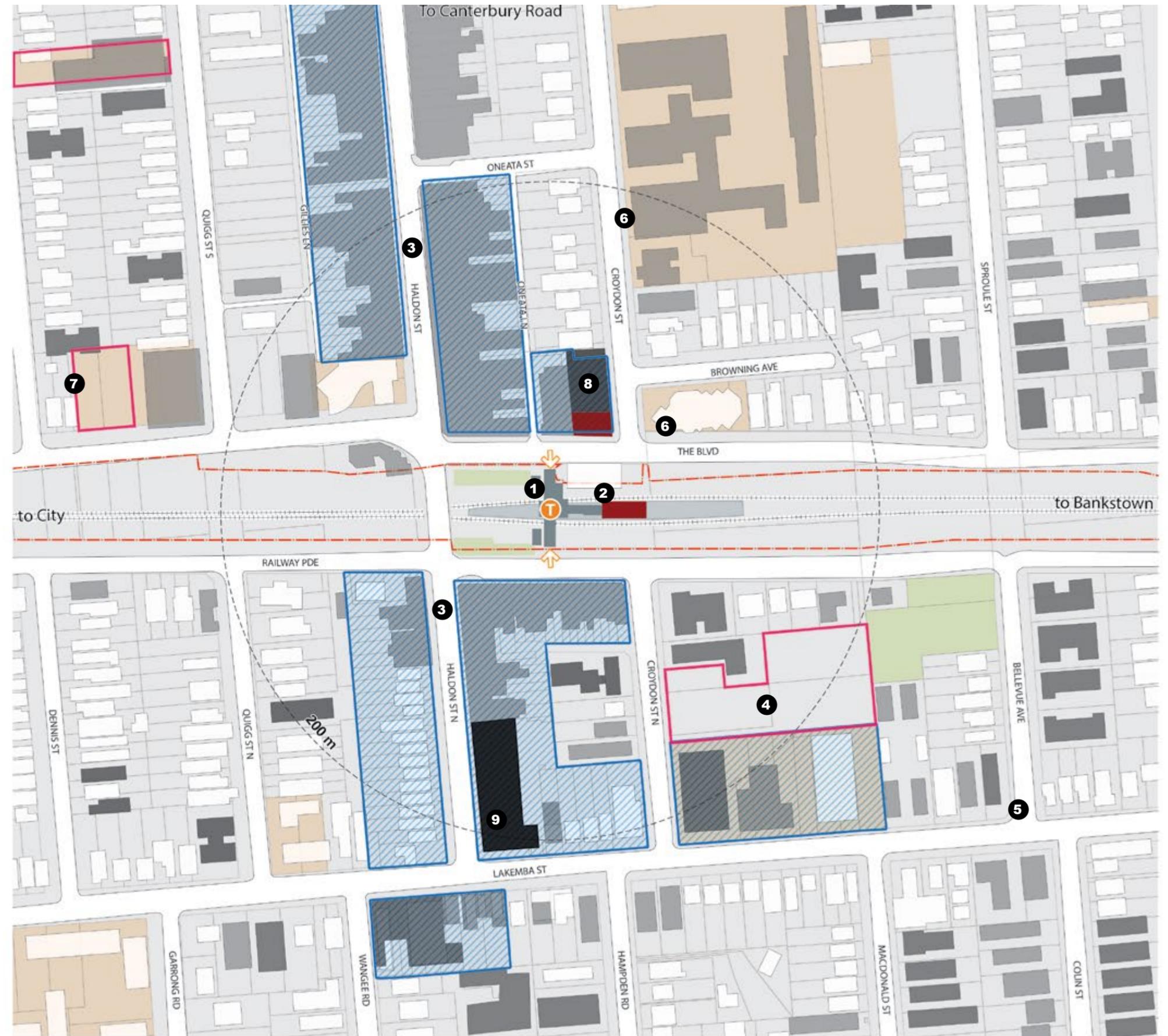


Figure 3.2 Precinct built form, landuse and heritage

3.3.5 Landscape, vegetation and topography

As the local topography gently slopes upward towards Haldon Street, the rail corridor transitions from embankment to in-cut at Haldon Street as shown in Figure 3.3. In comparison, Haldon Street is a high point locally, but is level and flat for its length through the town centre, resulting in long vistas in both a north-south and east-west direction. Street trees and vegetation in the immediate precinct are generally limited to side streets, to occasional single trees located within median planting. While some of the surrounding land uses and building typologies have changed, the street trees within residential zones are a remnant of typically inter-war residential streetscapes.

The southern station plaza at the corner of Haldon Street and The Boulevard opens up the streetscape. It is well used, has mature trees consistent in scale to the surrounding built form, and areas for walking, sitting, and meeting. The retail shops 'turn the corner' to front the park, adding to its amenity and appeal. The northern station plaza at Railway Parade is smaller, taking on a formal quality with its arrangement of manicured hedges. It provides limited shade and amenity, and is incongruent within the character of the streetscape.

Jubilee Reserve is the largest area of public open space within the station precinct, featuring large mature trees, a local scale playground, community garden and diagonal pathway, allowing pedestrians to 'cut the corner'. It is well-used by the local community and provides a green character.



Refer Figure 3.4 Precinct landscape, topography and views, for references to the images above.



Figure 3.3 Change in topography across the Lakemba station precinct



- 1 Views from the over bridge at Haldon Street along the corridor to the east and of the station footbridge and platform to the west. Views westward along the corridor are also possible from the station platform
- 2 The Boulevard creates a visual east-west connection due to its linear aspect and undulating topography. It features fairly consistent street tree planting particularly along the edge of the rail corridor
- 3 Jubilee Reserve features open green space, a playground and a community garden. It is the only open space within the station precinct and has a suburban character
- 4 East of the station where the land form flattens there are large grassy open areas within or adjacent to the rail corridor which are underutilised
- 5 Consistent planting of street trees along Railway Parade, particularly along the rail corridor edge which provides significant shade for the footpaths
- 6 Mature street trees create an arched canopy over the street and provide shade for pedestrians
- 7 Mature street trees planted within footpath verges are well proportioned and consistently planted.
- 8 A small plaza adjacent the station with a prominent feature planting of a single semi-mature Lebanese Cedar *Cedrus libani*
- 9 A small plaza adjacent the station entry contains seating, established trees and a formal war memorial. It has a civic quality

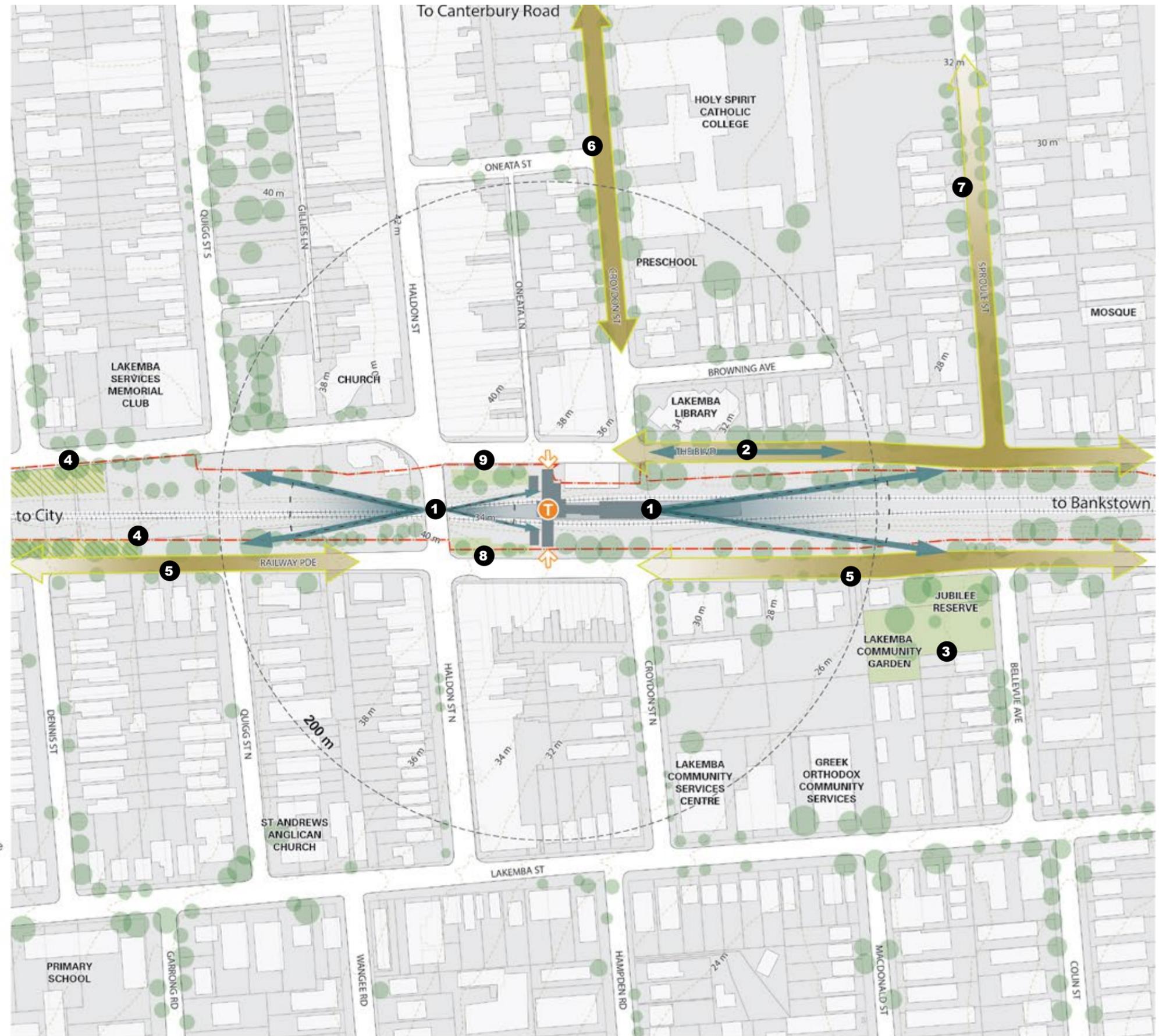


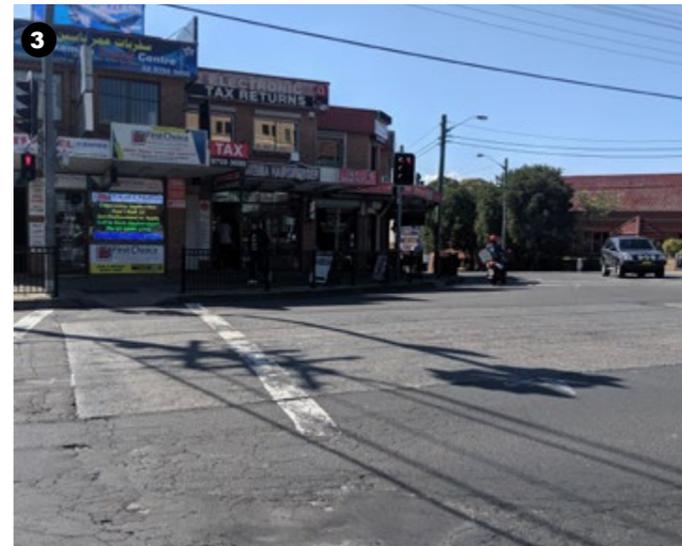
Figure 3.4 Precinct landscape, topography and views

3.3.6 Transport and access

The station is well integrated with the surrounding street network. The station footbridge creates an additional cross-corridor connection parallel to and set back from the main street, while recent TAP upgrades have improved the stations accessibility through the addition of lifts which enable access to the platform.

The suburb of Lakemba is well connected internally and externally through a hierarchical and gridded street network. Haldon Street is the primary north-south connection for pedestrians and vehicles alike, providing traffic calming elements that prioritise pedestrian movement. Frequent pedestrian crossings at key junctions enable multiple paths of travel for pedestrians. Secondary connections are located at The Boulevard and Lakemba Street, facilitating east-west movement to neighbouring suburbs including Campsie, Wiley Park and Belmore. Railway Parade is a neighbourhood connection with numerous examples of on-grade parking. Footpath provision is interrupted by car parking adjacent the rail corridor.

Existing bicycle parking is provided at both station entries in areas with high passive surveillance. An existing on road cycleway is provided just outside the station precinct at Lakemba Street, however there are no marked cycling connections to and from the station. The station is in close proximity to bus stops on The Boulevard, Haldon Street and Railway Parade and safe transfer is provided at the raised pedestrian crossing located at the two station entries.



Refer Figure 3.5 Precinct access and connectivity, for references to the images above

- 1 The station concourse entry is via the overbridge on The Boulevard and Railway Parade which creates a pedestrian link between the two streets. Access to the platform is via stairs and lifts at both ends
- 2 The station is in close proximity to bus stops on The Boulevard, Haldon Street and Railway Parade. Safe transfer is provided at the raised pedestrian crossing located at the two station entries
- 3 Key intersection at the junction of Haldon Street and The Boulevard. It features a signalised crossing, active frontages and a memorial plaza
- 4 Haldon Street is the primary north-south connection in Lakemba for pedestrians and vehicles. It is a vibrant established main street with traffic calming elements that prioritise pedestrian movement
- 5 The Boulevard and Lakemba Street are significant east-west connectors which create local connections to Campsie, Wiley Park and Belmore
- 6 Key intersection at the junction of Haldon Street and Railway Parade. It features a raised pedestrian crossings, active frontages and a small landscaped pocket park
- 7 Railway Parade is a neighbourhood connection with numerous examples of on-grade parking. Footpath provision is interrupted by car parking adjacent the rail corridor
- 8 Existing on-road cycleway has no marked connection to the station
- 9 Key intersection at the junction of Haldon Street and Lakemba Street with active frontages and heritage character
- 10 Pedestrian crossing at the station entry on The Boulevard is signalised with a generous footpath allowing for unimpeded pedestrian circulation



Figure 3.5 Precinct access and connectivity

3.4 Issues and Opportunities

Analysis of the built, natural and community context has highlighted both constraints, and opportunities to enhance the station and its precinct character, amenity and connectivity. This section of the SDPP summarises the key findings from the precinct analysis studies where the project has the greatest potential to influence the wider context.

As many of the issues and opportunities extend beyond the scope of the project, there is a distinction between what is delivered as part of the project ('opportunities delivered') and what are opportunities safeguarded by the project ('opportunities safeguarded'). The table in Section 3.5 (to be read in conjunction with Figure 3.7 Issues and Opportunities) below therefore shows the relationship between opportunities, the project response (within its scope) and those items which are safeguarded for future actions.



Figure 3.6 Haldon Street festival 2015

source letsgokids.com.au

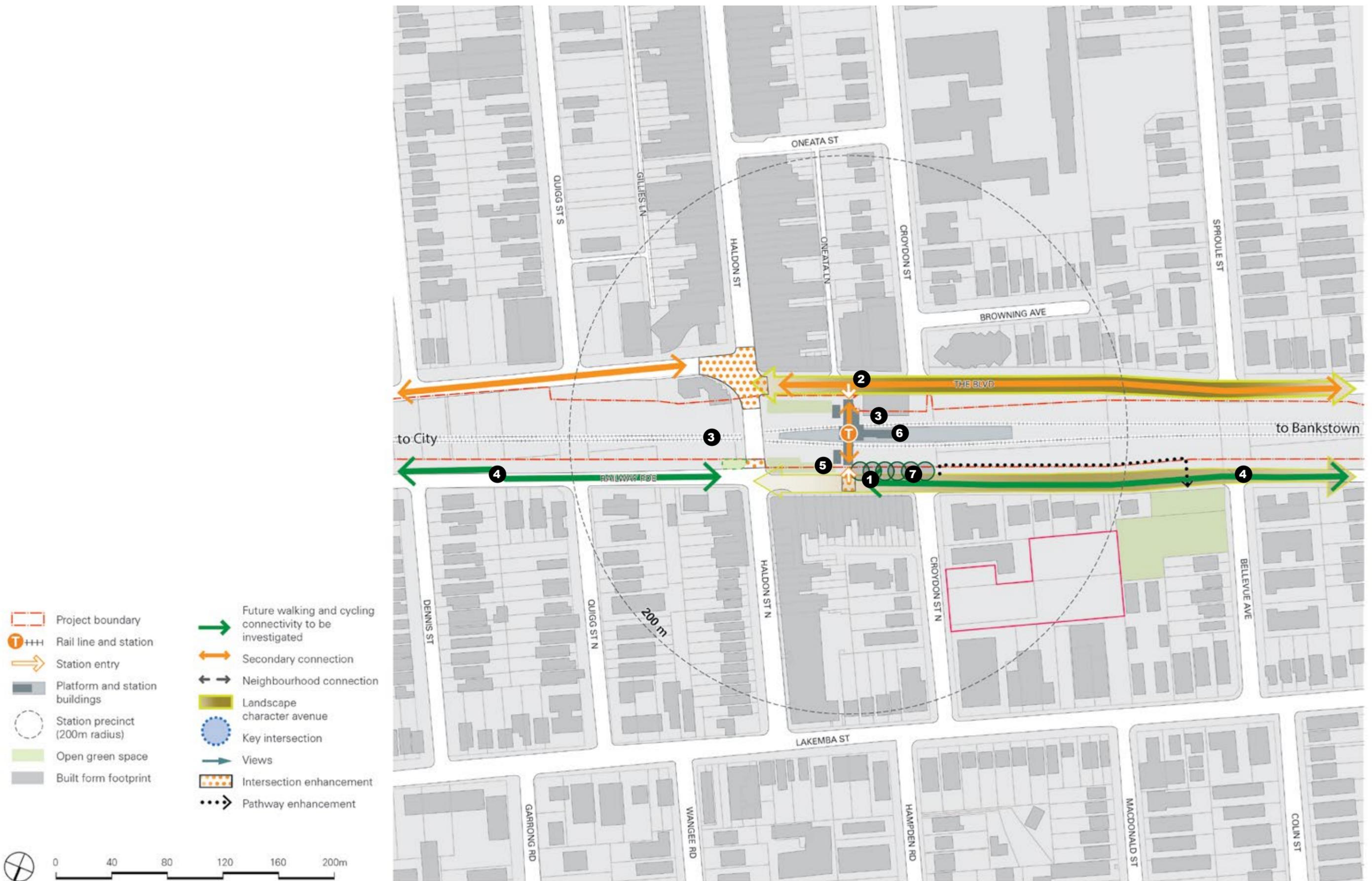


Figure 3.7 Issues and opportunities. Refer 3.5 Design response, for references to the items above.

3.5 Design response

	#	Key issue / opportunity	Opportunities delivered by the Project	Opportunities safeguarded by the Project
Public Domain	1	Open space directly outside the station concourse entry is underutilised	– A new public plaza will be created on the northern side of the station. It will include paved, shaded areas for sitting, new landscaping and provide additional bicycle parking close to the station entry	
	2	The Boulevard is a major link from Haldon Street and the station entry to public facilities such as schools and library. There are opportunities to formalise the civic quality and further strengthen the connection to adjacent Metro stations	– The station entry to The Boulevard will be refreshed with new wayfinding, signage and provision for kiss and ride parking	– Street enhancements that align with future development could strengthen the connection capacity between adjacent stations, increasing the civic quality and encouraging active transportation
	3	Views along the rail corridor from both the Haldon Street overbridge looking west and from the station concourse looking east provide quality view corridors with substantial tree planting	– Overbridge and concourse vertical protection screens will be glass to maintain views	
Connectivity and access	4	There are a lack of formalised cycle routes, both on and off-road within the precinct. The new plaza and concourse entry improvements anticipate future pedestrian and cycle connectivity	– Additional bicycle hoops will be added to the station’s northern side	– The walking cycling strategy is also investigating active transport connections along the rail corridor
	5	Existing quantities of bicycle parking is insufficient outside the station entries leading to bicycles secured ad hoc and cluttering the footpaths	– The existing three bicycle hoops adjacent the northern station entry will be replaced with a total of 12 new hoops (24 bicycle parking spaces)	
Built and landscape character	6	Protection and enhanced appreciation of heritage fabric	– Retention, refresh and re-use of the station platform building as a recognisable part of the local character	
	7	Existing street trees along Railway Parade are of inconsistent species and are not well placed to provide adequate shade for the new plaza	– New trees will be provided within the plaza and a mix of shrubs and ground cover planting to adjacent garden beds, for biodiversity and to provide shade and urban tree canopy. Water Sensitive Urban Design approach for plaza trees	– Further improvements to the urban canopy for both shade and visual character along Railway Parade

Refer Fig 3.7 and Fig 3.8 for location details



Figure 3.8 Safeguarding the future. Refer Section 3.5 Design response, for references to the items above.



4. Design



4.0 Design

4.1 Project design

4.1.1 Design intent

Sydney Metro is committed to easy, safe and reliable turn-up-and-go services, and active precincts and places. The Project design supports this commitment with a holistic approach that responds to the station context as well as to the line-wide requirements of Sydney Metro.

The metro stations will provide renovated and modernised concourse and platform environments, and an upgraded public domain at station entries. Each station design aims to contribute positively to the wider precinct by achieving a sensitive fit with existing and future precinct planning, and to the community and heritage aspects of each place. For all stations, retention and re-use of heritage buildings is key. At Lakemba, the existing station entry and concourse building have been recently developed. Project works will continue this modernisation and also strengthen the visibility of the station, the quality of the streetscape, and the vibrancy of the town centre.

The designs have been developed in partnership with the design team to minimise impacts on existing railway assets and Sydney Trains operations by maximising off-site fabrication and assembly and by reusing existing assets, such as the station platform buildings, overhead wiring structures and road bridges.

4.2 Station precinct design

4.2.1 Station legibility

The role of the station as a central transport hub within the town centre is somewhat established, with recent TAP upgrades reinforcing the station's role within the community. The current concourse building, overbridge, associated canopies and station forecourt plazas are distinctive amongst the surrounding built form and are in keeping with line-wide station identity. The project will build on this to create a more inviting and legible and accessible dual station entry and forecourt connected to the town centre. Views of the station concourse are preserved from Haldon Street Bridge through the use of transparent vertical screens.

The design will retain this existing function and character on the street, while adding to the visibility and richness of the station environment with a refreshed station entry and new plaza to the north. The plaza will support pedestrian and cycle movements, contribute to 'greening' the urban domain, and strengthen the legibility of the station within the precinct.

4.2.2 Urban character

The current station entry to Railway Parade is more disconnected from the rest of the station precinct, with few places to stop, rest and meet. The new plaza and public domain upgrades will provide for shaded seating and bicycle parking, serving the general public as well as Sydney Metro users. It will complement the existing town centre offerings opposite at Railway Parade with a contemporary, uncluttered urban space that reflects local identity and is consistent with line-wide design.

4.2.3 Built form and scale

Lakemba was redeveloped in 2001 with the introduction of new concourse infrastructure that fit comfortably within the 1-2 storey streetscape. As part of TAP upgrade works (2016), contemporary finishes and services were added. The proposed design maintains the precinct scale relationship with no changes to the form and character of existing station entries, including lifts, stairs, canopies and concourse. Instead, architectural treatment is minimal and takes on a 'light touch' to the existing concourse and precinct, aiming to strengthen the role of the station, without impacting the village-scale of its urban fabric.

4.3 Station precinct plan



Figure 4.1 Station precinct plan

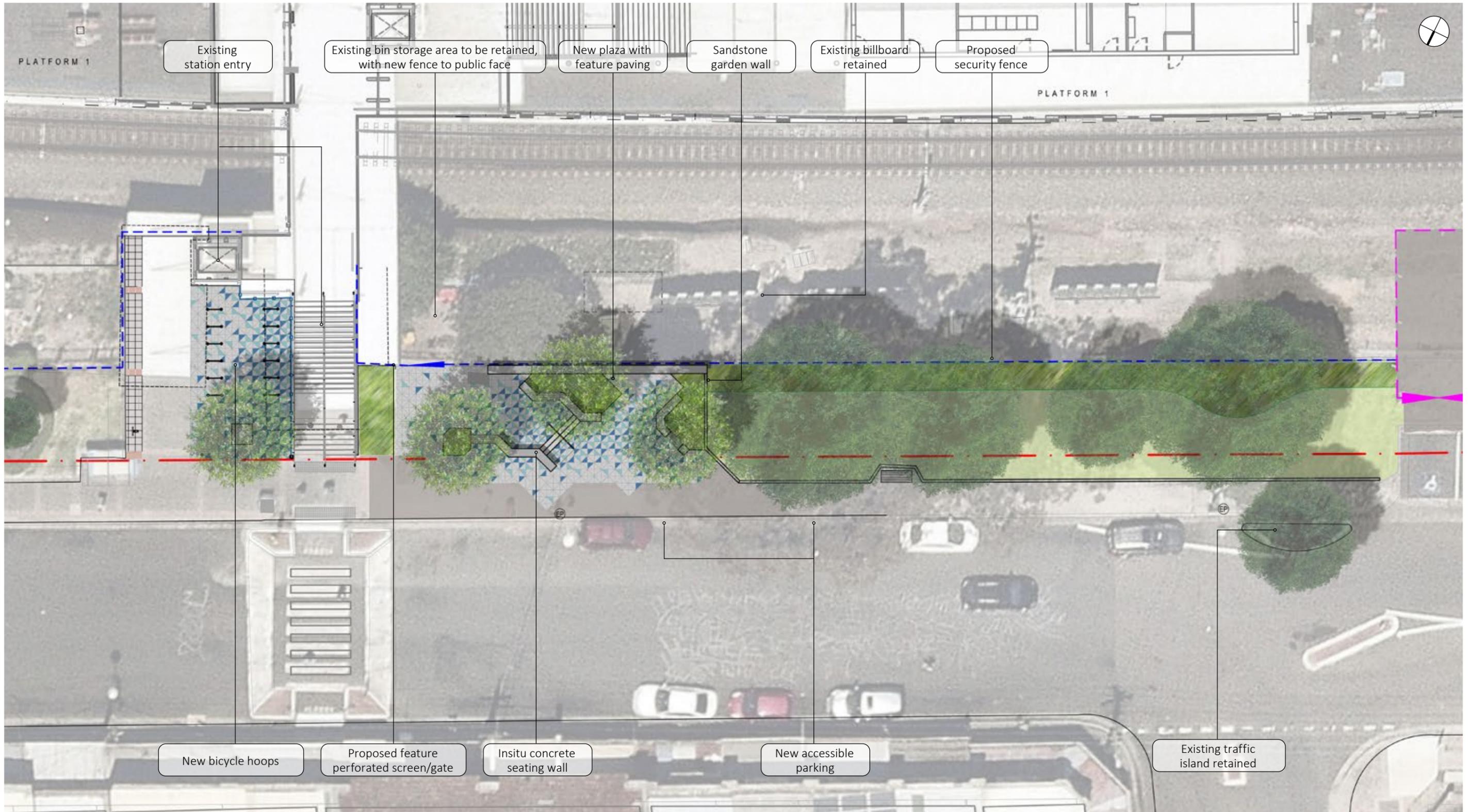


Figure 4.2 Landscape plan of plaza at Railway Parade

4.4 Station precinct scope

The design requirements listed within the both the Scope of Works and Technical Criteria Overview (SWTC) and the Services brief provide the general and technical requirements for the project. These requirements are understood in coordination with the Sydney Southwest Metro and Project objectives. The scope of the design requirements is divided into two separate components, these are defined as: Metro Station Works and Metro Corridor Works.

An overview of the metro station works for Lakemba station and surrounding station precinct includes:

Station rooms and buildings – Refresh:

- Upgrade station for Disability Discrimination Act 1992 (DDA) compliant access including accessible toilets
- Various works to repurpose existing rooms for their intended future use
- Installation of air conditioning, power, water and other services to suit the repurposed rooms
- General refresh, repairs, alterations and additions to station buildings
- Refurbish existing precast station stair treads.

Station buildings - New works:

- New glazed vertical protection (anti-throw) screens added to the existing station concourse bridge.
- Security gates to the station concourse entry.

Platforms – including:

- To raise platform edges and provide platform drainage and emergency egress ramps from platforms to rail corridor (as required)
- Provision for installation of platform edge screens, platform screen doors and mechanical gap fillers.

Station services and systems – including:

- CSR through the station precinct and to the chainage extents in the Rail Corridor
- Provisioning of conduits, space and services for Platform Screen Doors, mechanical gap fillers, BMCS, CCS, CCTV, PIDS, Help Points, PA, AFIL, ticketing equipment and as required for the Interface Contractors.

Demolition:

- Removal of a small component of the original brick coping on the brick platform wall to accommodate new surfaces and platform screen doors

Signage and wayfinding:

- Design for current wayfinding requirements.
- Design for heritage interpretation media

Public Art:

- Design for public art installation at concourse building

Ticketing:

- Provision of conduit, power, cabling, mounting, and other supporting infrastructure for the installation of ticketing equipment.

Station precincts / public domain:

- New paving to bicycle parking area and plaza
- Upgrades to primary plaza on northern side including; feature paving, driveway resurfacing, garden edge walls and street furniture
- 12 new bike hoops to northern entry at Railway Parade
- New tree planting to the plaza space
- New planting and seating to Railway Parade garden beds
- New signage to the taxi bay at The Boulevarde.

Earthworks and landscaping – including:

- Earthworks to create suitable working level sites for the Metro Service Buildings
- Reinstatement and upgrade of landscaping and planting of alongside the station.

Fencing and screens – including:

- New compliant security fencing and boundary gates to the rail corridor
- Addition or upgrade of vertical protection (anti-throw) screens to bridges.

Bridge works:

- Various works to repair, refresh and update bridges including the addition or upgrade of throw screens.

Metro Services Building works

- Site preparation, local and main services routes and pad mounts for new services buildings for power and signalling equipment in the rail corridor
- New services buildings including associated loading/parking and ancillary functions.



Figure 4.3 Station precinct scope

4.5.2 Heritage Interpretation Plan

In accordance with Condition of Approval E14, a Heritage Interpretation Plan for Lakemba Station has been developed by a suitably qualified heritage professional. The Heritage Interpretation Plan is informed by an over-arching project wide Heritage Interpretation Strategy, heritage impact assessments and management strategies.

Consistent with the development stage of the Heritage Interpretation Plan, a number of interpretive devices have been selected as being appropriate to transmit messages about the cultural heritage of the site. A common suite of devices that utilise similar materials are proposed at each station. Content and devices are adjusted to best address the different needs and interests of the relevant audiences while locally salvaged material will be considered where it is practical. The final design for interpretive elements, including words and image selection will be detailed upon completion of subsequent stages of the Heritage Interpretation Plans

At Lakemba Station, space within the existing platform buildings and concourse is limited. The upgrade of public plaza spaces promotes the inclusion of heritage interpretation that will be accessible throughout the day and is a place to rest, wait or relax and a transit space for users moving from the gateline to the suburb. A feature graphic element of text and an adjacent seating plaque are proposed along the low wall that leads to the lift and bicycle storage area.

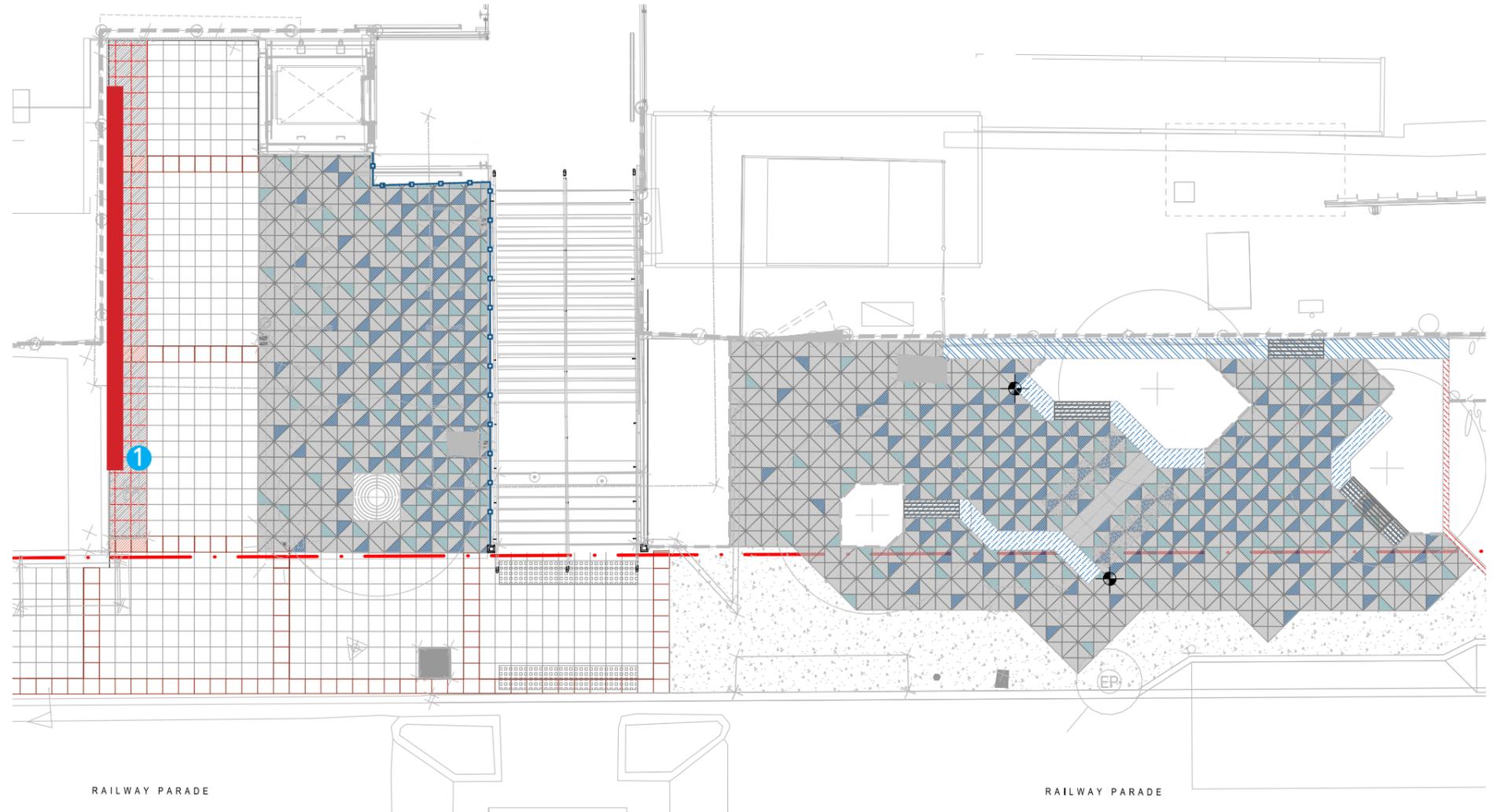


Figure 4.6 Lakemba Plaza - Heritage interpretation key plan

① LARGE FORMAL TEXT ELEMENT WITH 1 X SEATING PLAQUE TO EXISTING LOW WALL

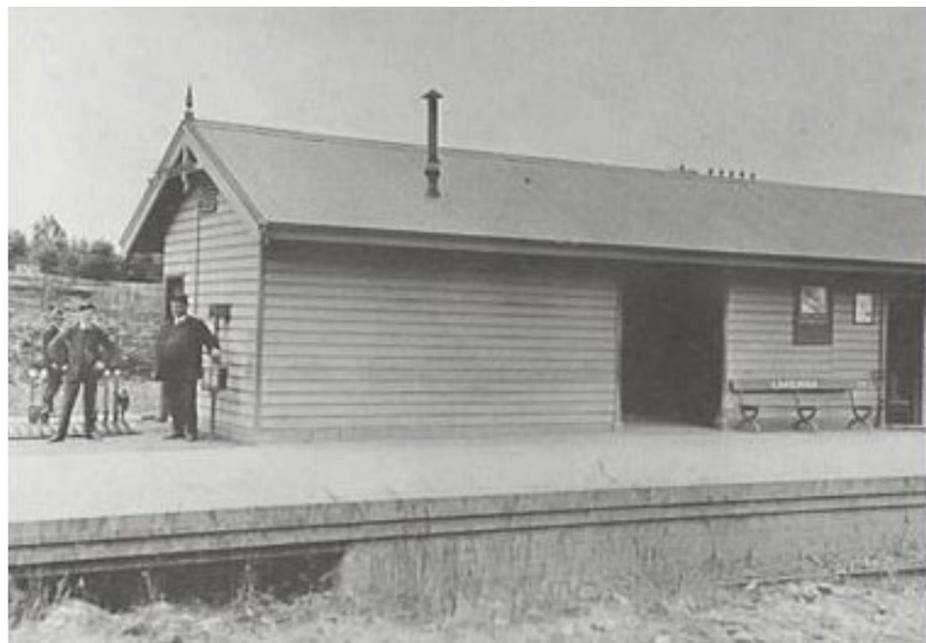


Figure 4.7 Lakemba Station with platforms, c.1910 Source: Bankstown Library Collection item: 020215

4.6 Concourse

4.6.1 Station entry

Built in 2001, the existing Lakemba Station concourse building incorporates contemporary finishes and modern standards for access and amenity. As such, proposed works to the station entry and concourse are minor in nature.

4.6.2 Concourse refurbishment

The extent of refurbishment within the existing concourse building is limited. The existing building presents a modern facility within the public domain and has a modern architectural aesthetic due to its expressed structural system. Within the concourse bridge, new lighting fixtures are to be installed, existing balustrades are to be removed and replaced with glazed vertical protection screens. A roller shutter is added to the ceiling of the concourse to secure access to the platforms during track closure. These items are intended to be discreet amendments that maintain the amenity within the existing building.

At the entry and within the concourse, signage and ticketing facilities are to be upgraded to current standards while existing retail tenancies are to be retained.



Figure 4.8 Existing station entry from Railway Parade

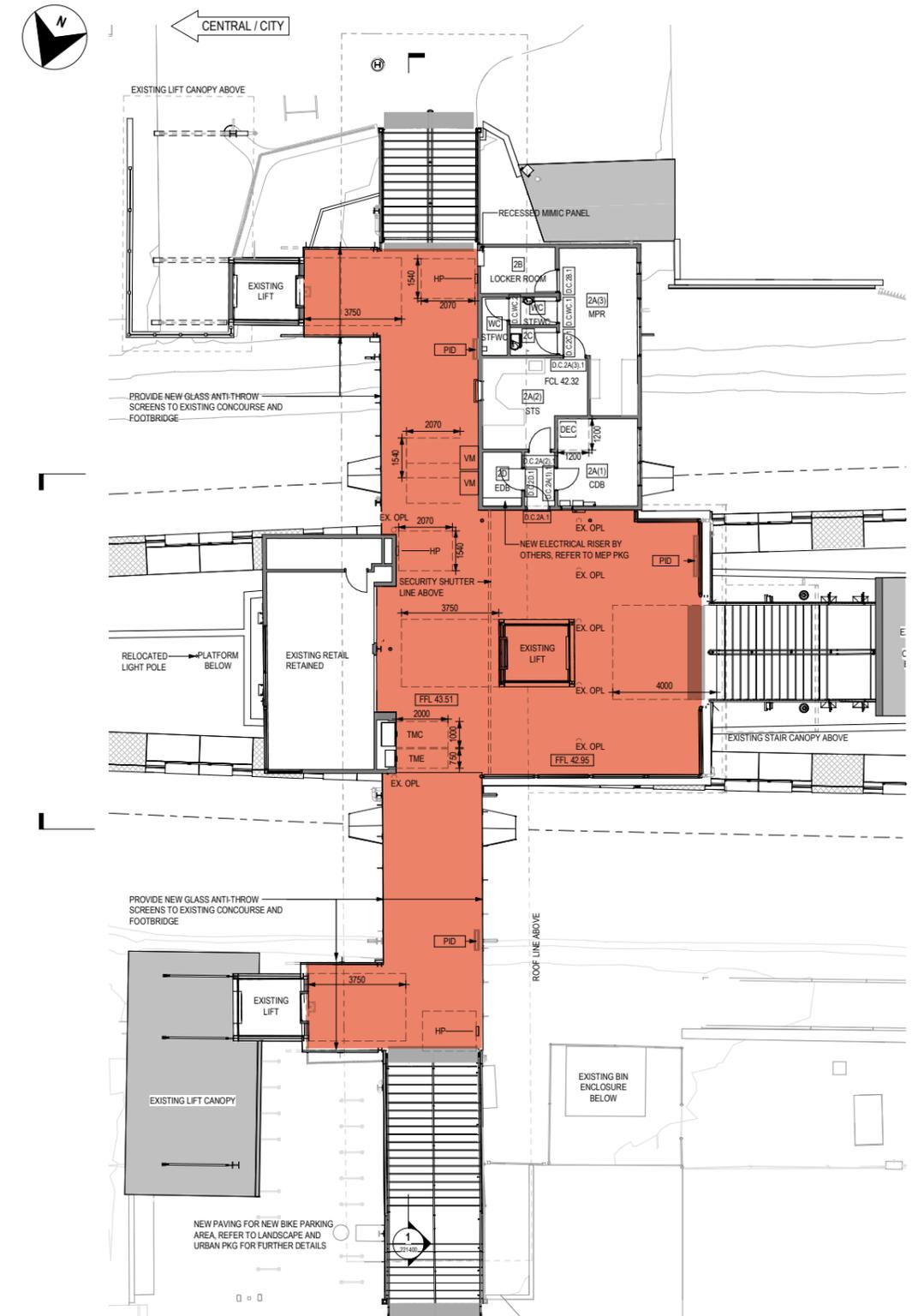


Figure 4.9 Concourse area to be refurbished highlighted

4.7 Platform

The island platform at Lakemba is earth filled with a brickwork mass gravity retaining wall supporting the backfill and an asphalt surface finish throughout the platform. It will be modified along its full length to allow for the future installation of Platform Screen Doors (PSDs) and Mechanical Gap Fillers (MGFs). The platform will be raised to provide level access to the trains, to comply with the DDA and the Disability Standards for Accessible Public Transport (DSAPT) requirements, and the platform edge will be re-aligned to suit the design swept path of the trains. The reinstatement of the platform will also allow for falls away from the rail lines in accordance with current TfNSW standards.

To retain as much of the heritage brick platform walls as possible, a precast concrete 'T' section will sit above them. The new concrete coping element provides a cable recess for the future provision of platform screen doors (PSDs), along with cast-in rebates for mechanical gap fillers.

A series of ground beams and mass concrete counterweights, constructed behind the existing wall during weekend rail possessions (shutdowns) prior to the main station closure, enables the partial demolition of the existing brickwork riser wall to allow for the MGF and PSD service route beneath the coping edge.

Installation of all required services and finishes, including the 1500mm tiled zone, can be carried out during possessions.

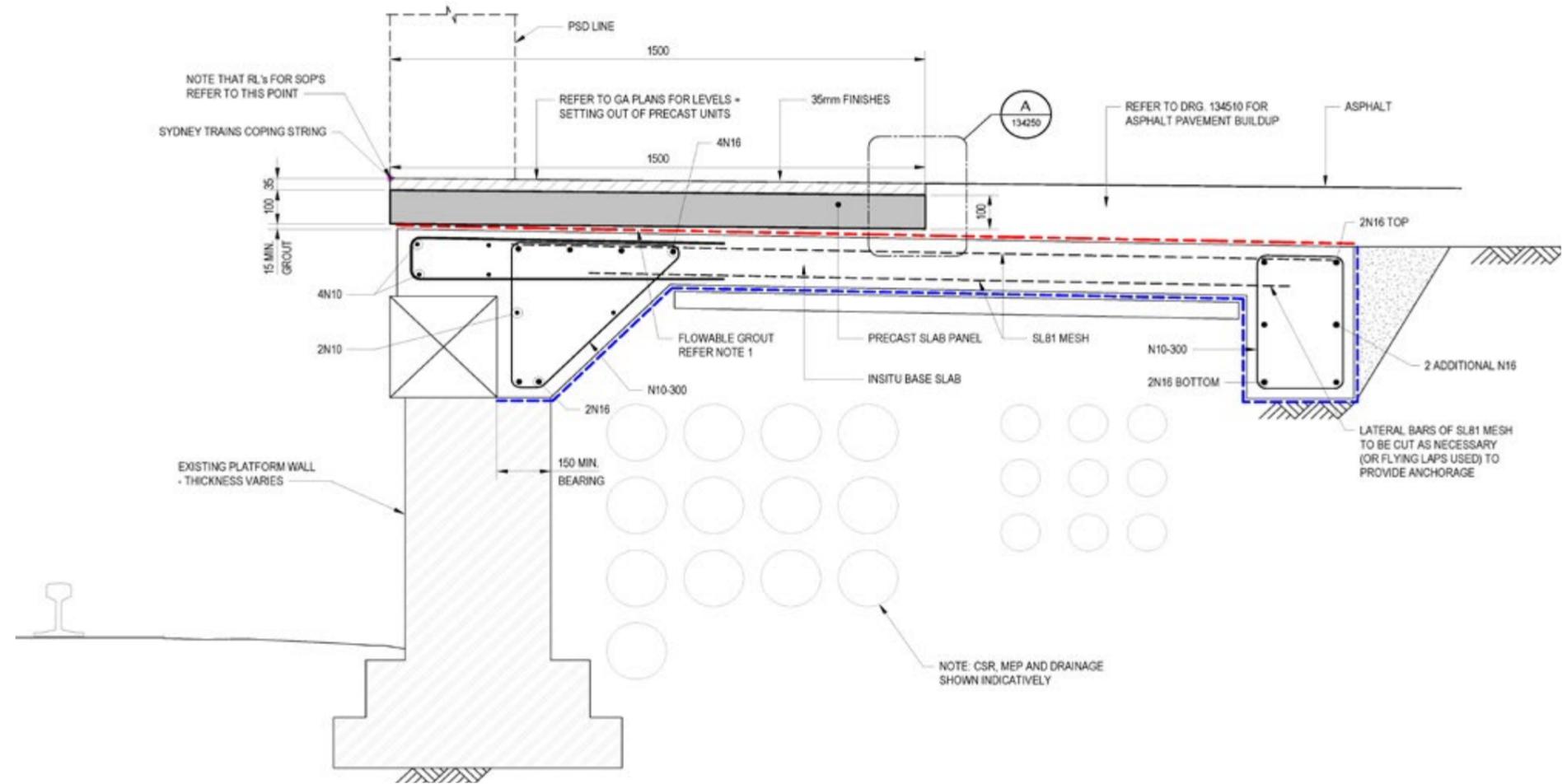


Figure 4.11 Platform edge detail



Figure 4.10 Station platform: indicative view

4.8 Lifts and stairs

4.8.1 Lifts

Recent upgrades to the station provided lift access to both station entries and to the platforms. Access to the northern entry lift is improved as part of the plaza and bicycle parking area works and access to the platform lift will be restricted to operating hours; otherwise no changes are proposed to the existing lifts.

4.8.2 Stairs

Existing stairs are of robust quality and meet modern access standards. Minor refreshment to the concourse entry stairs is proposed including the sealing of gaps within the pre-cast treads with a silicone sealant. The platform stair will receive a new bottom tread in line with adjustments to the finished surface levels of the platform, an extended handrail and will retain the existing heritage side balustrades.

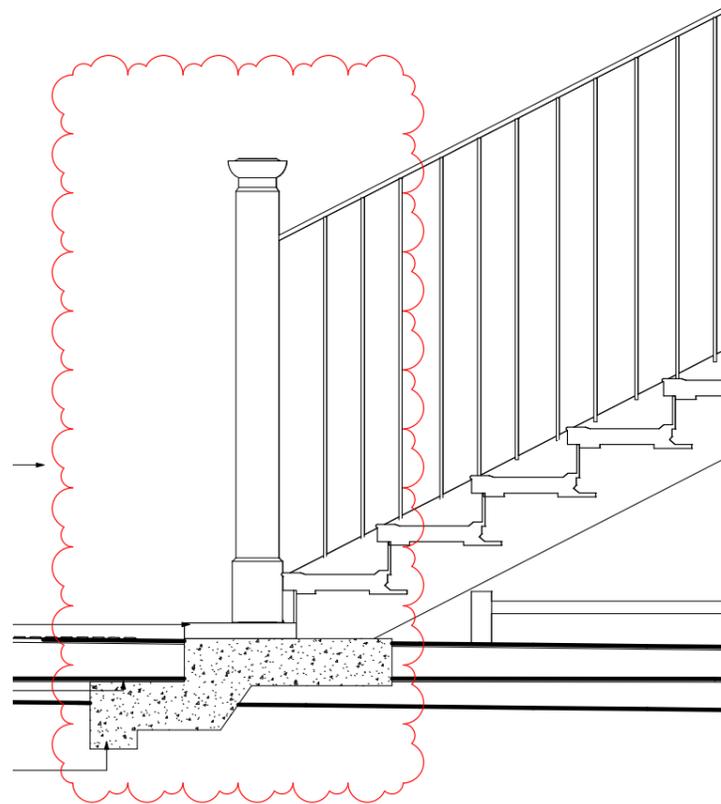


Figure 4.14 Platform stair - section

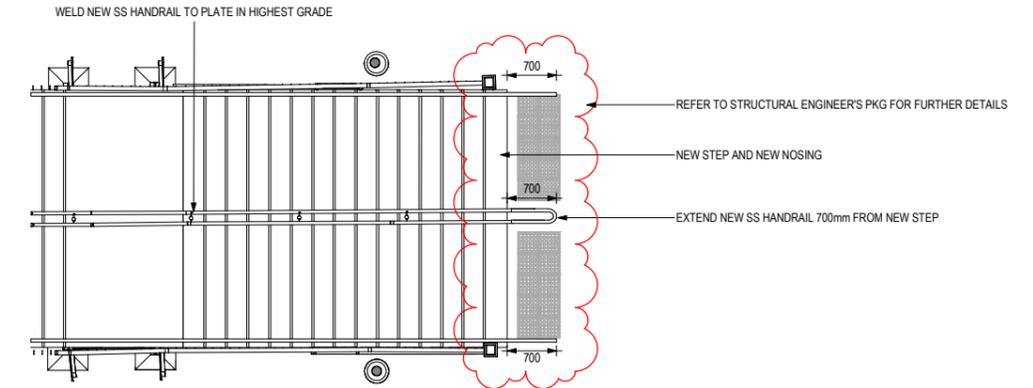


Figure 4.13 Platform stair - proposed plan

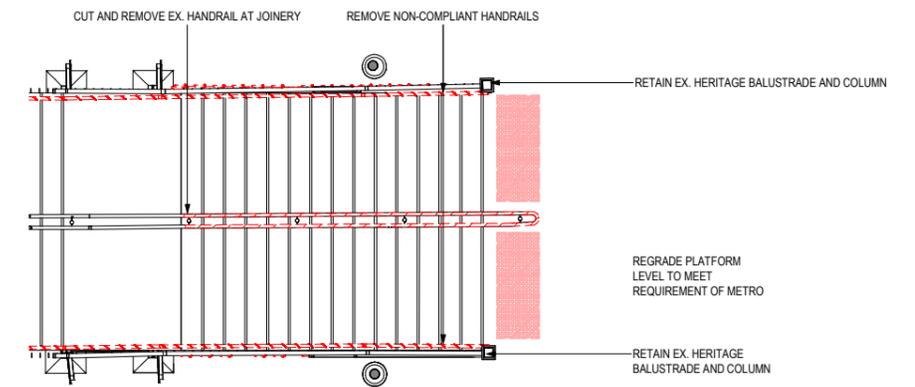


Figure 4.12 Platform stair - demolition plan

4.9 Connectivity and access

The station precinct is an important interchange for multiple transport modes: walking, cycling, buses and Sydney Metro. The design will contribute to revitalising the precinct by creating a high-quality modal interchange. The existing Lakemba station entries are unique within the Metro context in that they are set back from the primary connection route of Haldon Street and having been recently upgraded in 2001 the station and its entries are easily recognisable within the precinct.

4.9.1 Pedestrian movement

The station has a high percentage of its mode share patronage as pedestrian at 81% in 2016. The separation of the two station entries away from Haldon Street; the primary connection route within the precinct allows pedestrians to easily disperse within the precinct. Minor improvements within the station concourse facilitate it remaining publicly accessible at all times.

A new plaza and improved bicycle parking area adjacent to the northern entry create additional public space that allows enhanced access to the lift and provides space for bicycle parking and pedestrian seating off the away from the footpath.

4.9.2 Bicycle parking

One additional location for bicycle parking is provided for in the design. 12 bicycle parking hoops in total are provided to the northern station entry directly adjacent the station entry stairs, supplementing the existing four hoops located at the entry of The Boulevard.

4.9.3 Interchange facilities

The design provides for:

- Convenient transfer to existing bus stops on Railway Parade and The Boulevard
- Access to two new kiss and ride spaces on The Boulevard
- Access to an existing taxi space on The Boulevard
- Access to two new accessible parking spaces on Railway Parade
- Access to existing park and ride facilities on The Boulevard and Railway Parade.

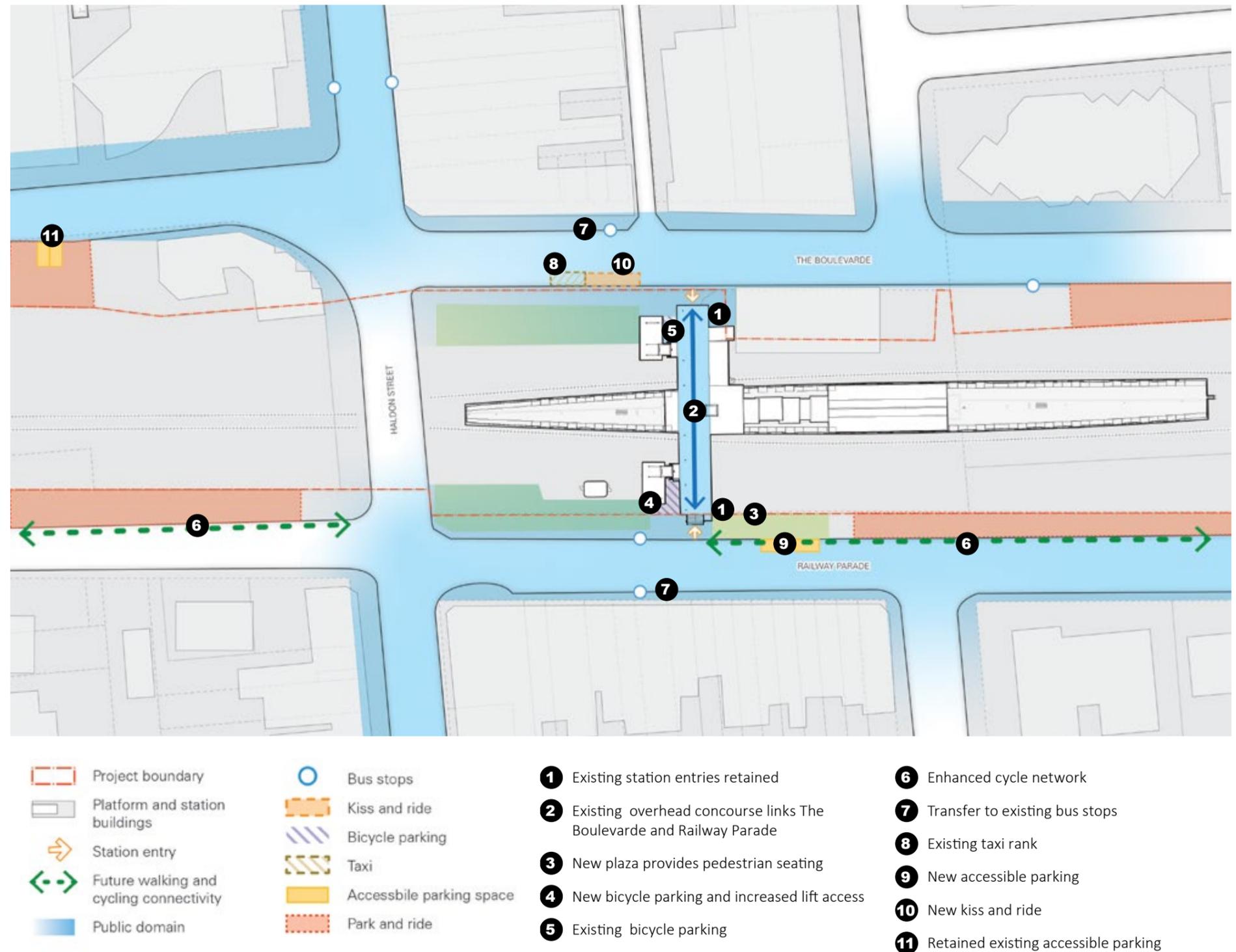


Figure 4.15 Transport interchange connectivity and access

4.10 Plaza

4.10.1 Public domain activation

The project delivers a new plaza space to the existing streetscape along Railway Parade. The plaza sits behind the existing footpath in an area that is currently a raised but unplanted garden bed providing an additional communal space for seating and gathering within the precinct.

The design proposes to repave an existing bin storage driveway and extend this paving pattern along the street adjusting the existing ground levels as required to make a usable surface. The plaza is open to the street and features a small continuous stair along its front edge to deal with the change in existing levels but has an accessible point at its end via the resurfaced driveway. The plaza will provide an inviting place for metro commuters and the general public to rest and relax or come together directly outside the station entry. New tree planting is proposed within the plaza to provide year round shade and to continue the existing street character.

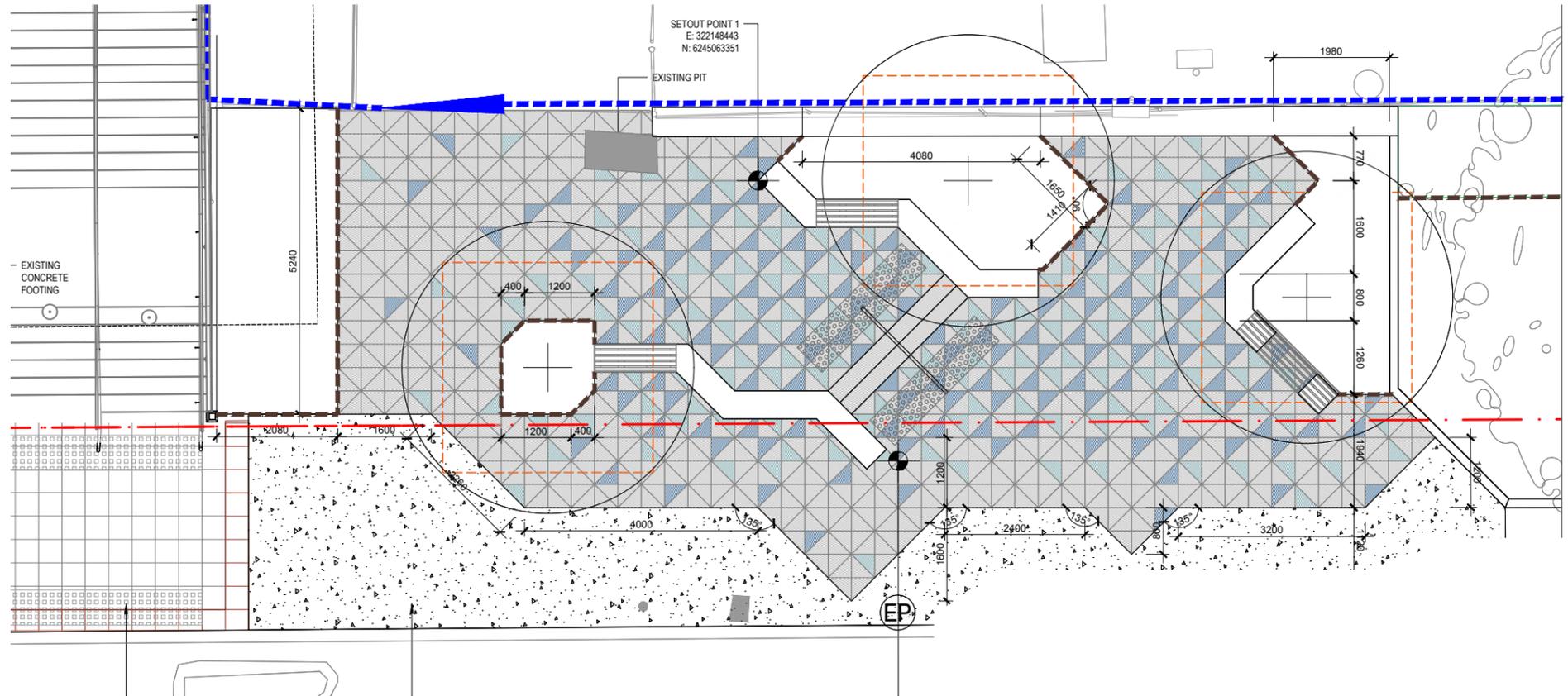


Figure 4.17 Plaza arrangement at Railway Parade



Figure 4.16 Existing condition at Railway Parade station entry

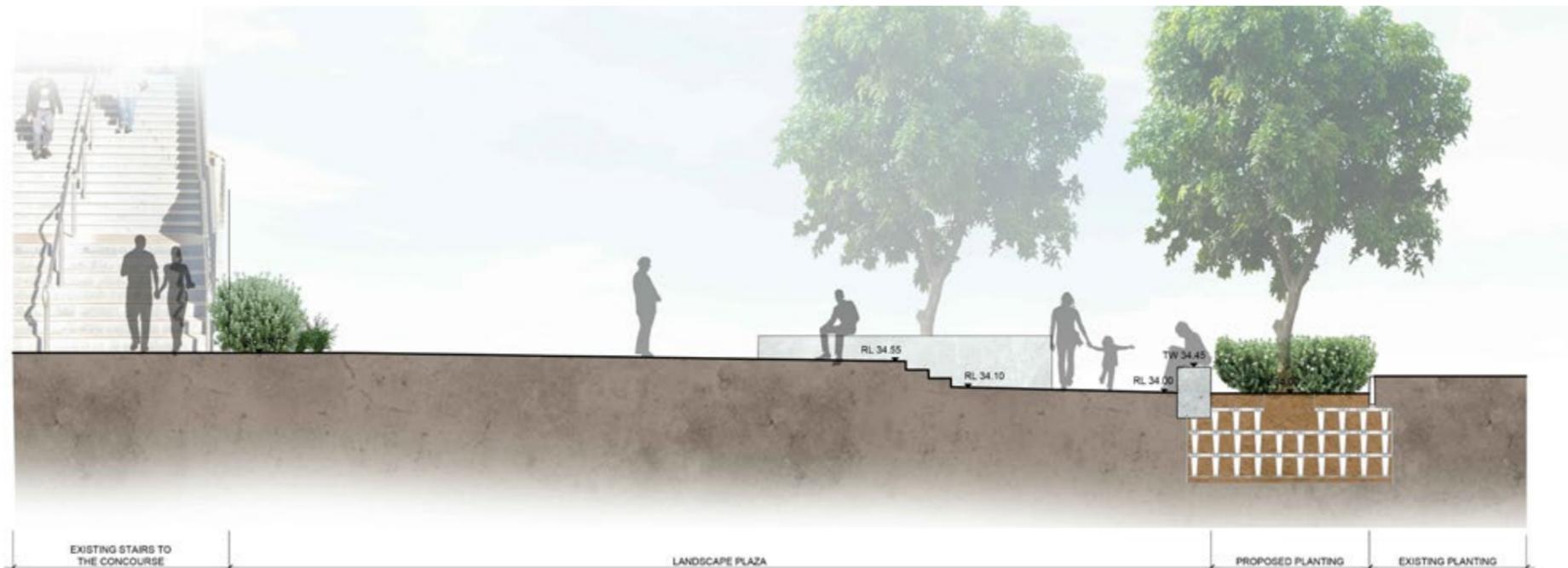


Figure 4.18 Plaza arrangement section

4.11 Landscape design

4.11.1 Landscape strategy

The landscape strategy within the plaza and throughout the adjacent bicycle storage area aims to unify and consolidate existing underutilised areas within the public domain while providing meaningful new spaces for public use. It acknowledges the diverse demographics within the local area, existing patterns of use and responds to the local indigenous vegetation.

Two existing trees will be removed to allow for the plaza to be at grade, and also enables an uninterrupted plaza to allow space for seating and new tree planting. The plaza itself has two distinct levels which are connected through a small 3 stair staircase and the existing footpath allowing both sides to be accessible to all. Concrete seating walls flanking the stairs mitigate the change in ground/garden levels and facilitate individual and small group seating. Feature paving and tile patterns that reference local artworks are proposed within the plaza and along a low height wall to add visual interest, create local identity and also integrate Water Sensitive Urban Design principles.

To the east of the stairs on Railway Parade the existing raised planter bed is removed and the area is paved with the same feature paving as the plaza to provide continuity to the space. New bike hoops are installed in this location with the addition of new tree.

A new services building that accommodates critical equipment for rail operations will be located along Railway Terrace (refer section 4.15) and there will be opportunities to include planting and vegetation as part of its construction.

4.11.2 Earthworks and landform

Changes to existing landform where new works are proposed are kept to a minimum or where they are required generally aim to reduce the increase in any fill or height. There will be minor changes required to create a level surface for the new plaza.

4.11.3 Species selection

There is minimal new planting at Lakemba station apart from that below the existing eucalyptus trees. A limited selection of shrubs and grasses were chosen keeping the design simple, clean and functional.

Four *Eleocarpus reticulatus* are proposed at Lakemba, three in the primary plaza and one near the bicycle parking adjacent the station entry. Within the primary plaza three small garden beds are planted out with formal planting that suit the existing surrounding landscape character and tie into the formal nature of the plaza.

Plants will be planted in either single species mass planting arrangements or structured groupings of plant species that are consistent in height and character. Understorey plants will be setback from planter bed edges so that plants when established do not spill out onto pedestrian paths or roads. Plants will be selected so that they do not include fruits, spikes or seeds that will cause a hazard to pedestrians or cyclists in the locations that they are planted. Understorey planting have been selected to generally have a maximum height lower than 1m in areas that require clear sightlines across the plazas to meet CPTED guidelines.

The plant species have been selected by a qualified Landscape Architect and have been guided by the history of the site and have been chosen to suit the local soil, drainage and microclimate for the specified area. The plant species have been selected to be of low maintenance and have drought tolerant capabilities following establishment.



Eleocarpus reticulatus
Blueberry Ash



Buxus microphylla
Korean Box



Callistemon viminalis
Macarthur Bottlebrush



Raphiolepis indica
Indian Hawthorn



Rosmarinus officinalis
Rosemary



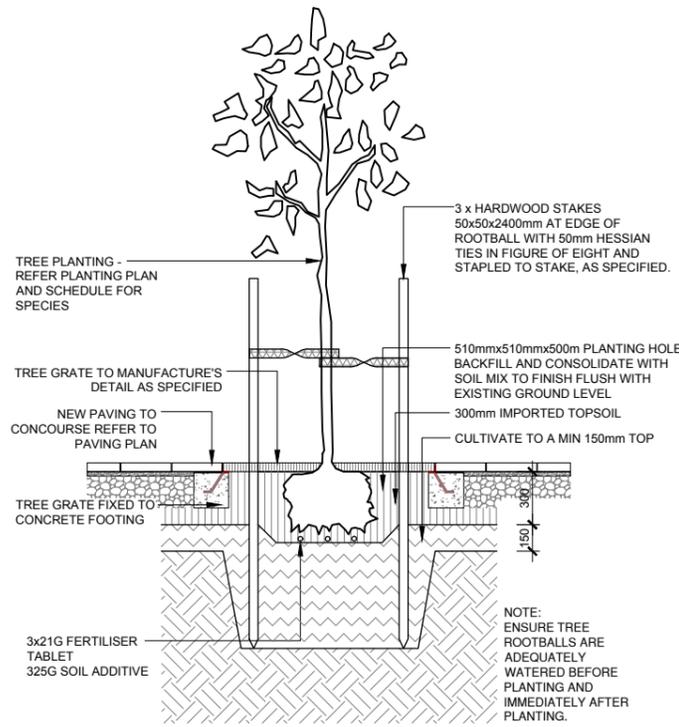
Westringia 'Blue Gem'
Coastal Rosemary



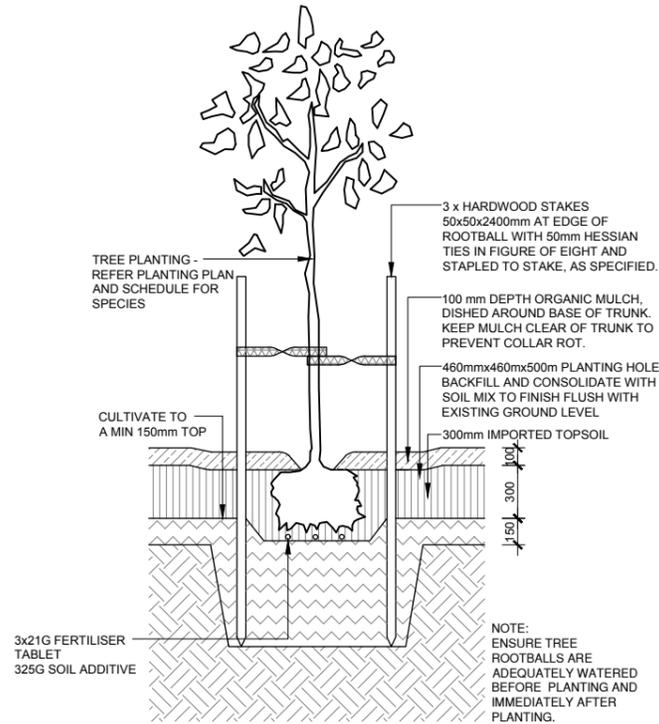
Liriope muscari
Lily Turf

	Botanical Name	Common Name	Pot Size	Spacing	Indigenous?
TREES	<i>Eleocarpus reticulatus</i>	Blueberry Ash	100L	as shown	Y
	<i>Buxus microphylla</i> var. <i>microphylla</i>	Korean Box	200mm	4/m ²	N
SHRUBS	<i>Callistemon viminalis</i> 'Macarthur'	Macarthur Bottlebrush	200mm	4/m ²	Y
	<i>Raphiolepis indica</i>	Indian Hawthorn	200mm	4/m ²	N
	<i>Rosmarinus officinalis</i> 'Blue Lagoon'	Rosemary	140mm	4/m ²	N
	<i>Westringia</i> 'Blue Gem'	Coastal Rosemary cvs	140mm	4/m ²	Y
GRASSES & GROUND COVERS	<i>Liriope muscari</i> 'Silverlawn'	Lily Turf cvs	140mm	6/m ²	N

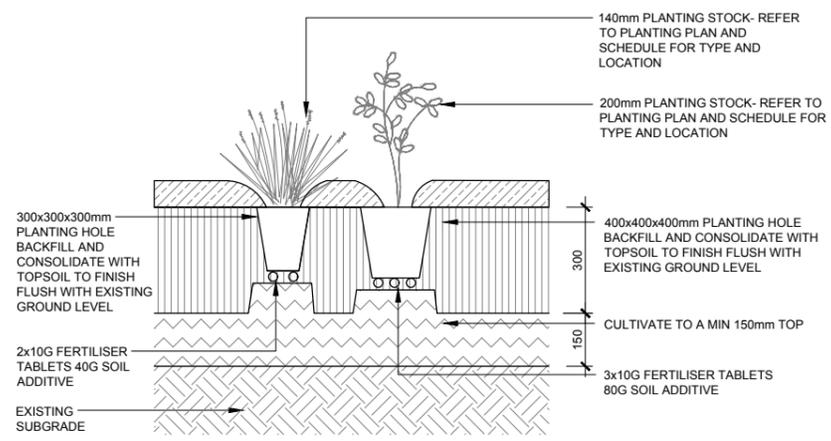
4.11.4 Typical planting details



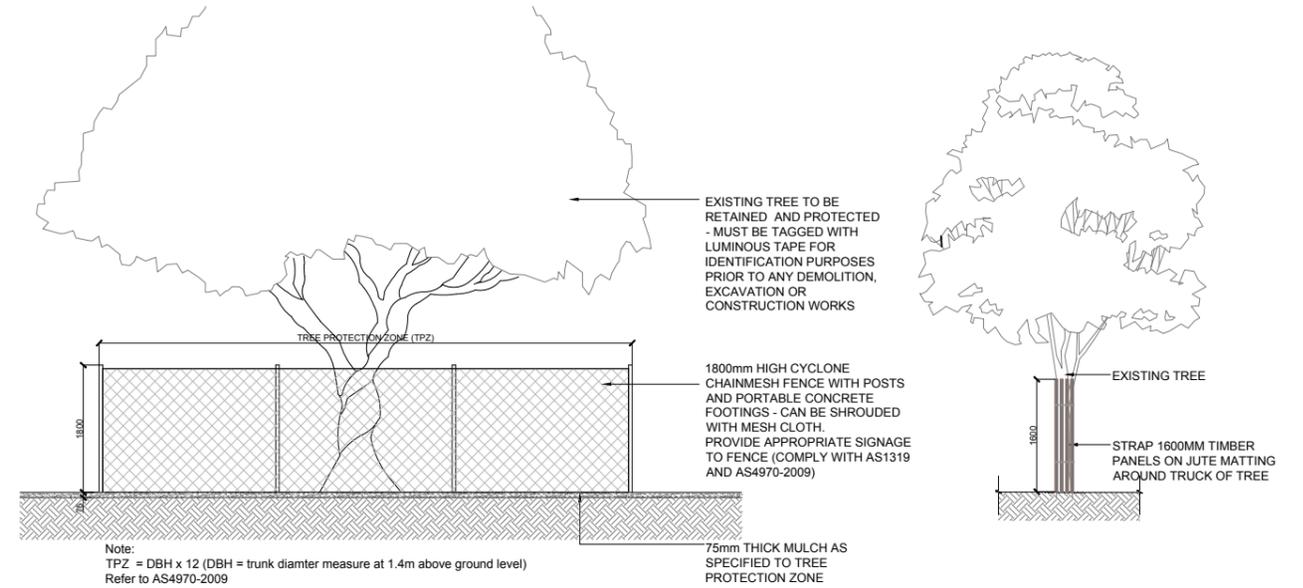
01 TYPICAL TREE PLANTING DETAIL (100L) - IN PAVING
1:20



02 TYPICAL TREE PLANTING DETAIL (100L) - IN GARDEN
1:20



04 TYPICAL SHRUB AND GROUND COVER PLANTING DETAIL
1:10



03 TYPICAL TREE PROTECTION DETAIL
1:50

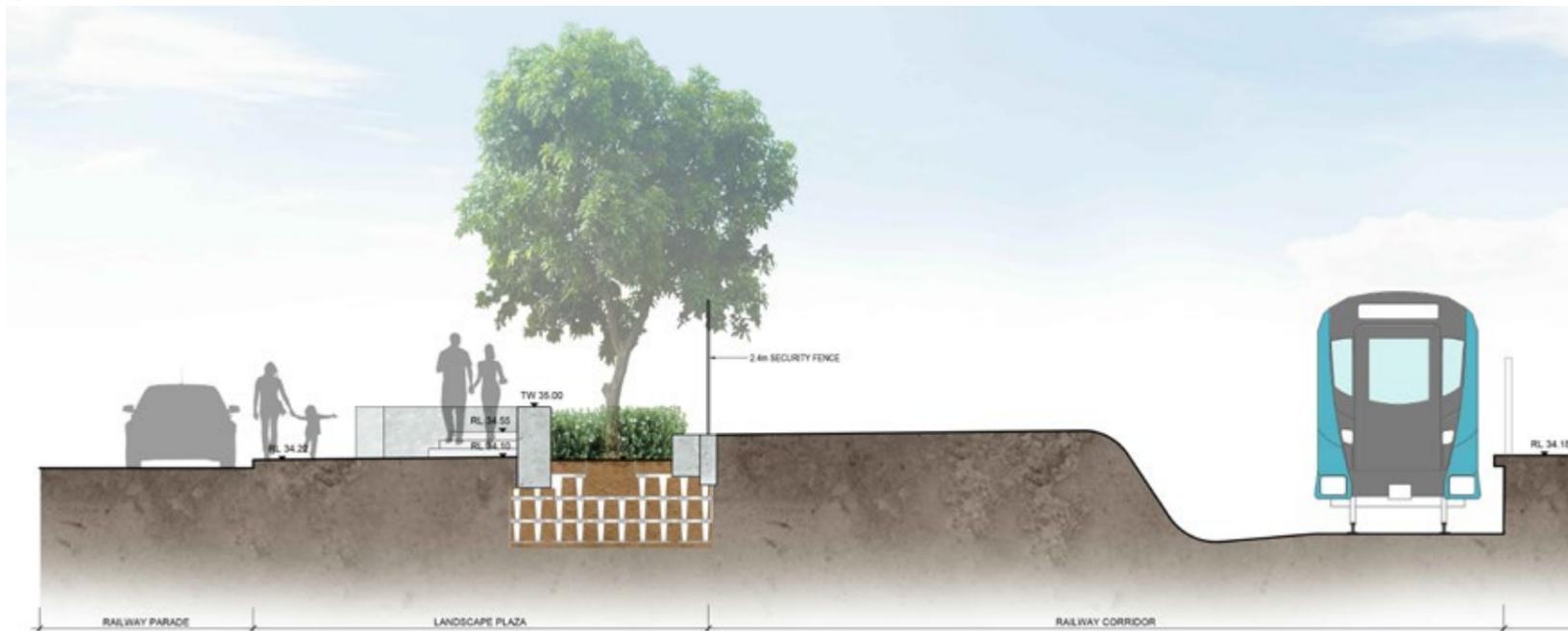


Figure 4.20 Planting section through plaza

Figure 4.19 Typical planting details

4.11.5 Water Sensitive Urban Design (WSUD)

The new plaza at Lakemba will use an innovative structural soil cell system that is modular, lightweight, and secure. Soil cells are designed to provide trees and plants in urban environments with the correct nourishment and suitable conditions for healthy growth, without disturbing the structures above. The benefits include supporting large tree growth and maximising the use of on-site stormwater collection. The system comprises an underground frame that can take loads above while still providing enough space below the surface for tree roots to grow in uncompacted soil.

The selected product also uses recycled waste plastic to minimise the use of embodied energy.

4.11.6 Landscape maintenance and monitoring

A landscape management plan has been developed for the project which details the strategy and procedures to be undertaken with regards to the successful establishment and on-going maintenance of new vegetation. It also specifies procedures for the regeneration of disturbed vegetation.

The landscape has been designed to ensure low water use species have been planted to optimise long-term maintenance. Irrigation will be provided where passive irrigation cannot be achieved. Regular monitoring and maintenance should be undertaken to ensure plants are maintained to their highest quality. Other regular practices shall be carried out to ensure optimum plant condition by the site operator – these include but are not limited to:

- Watering – generally ensure that planting is receiving sufficient water to ensure a vigorous growth,
- weed and pest control – by eradicating all weeds and pests from the planted area during the specified maintenance period,
- monitoring all plants for pest and diseases on a monthly basis,
- fertilizing as appropriate,
- replacement of plants to those damaged, diseased or dead, replace any stolen plant to ensure and maintain plant densities for the duration of the maintenance period,
- re-mulch as necessary to maintain the mulch depth specified for the duration of the maintenance period,
- remove any rubbish from the planted areas,
- pruning of vegetation as required to ensure planting is kept clear of footpaths, operations of rail line, and Crime Prevention Through Environmental Design (CPTED) surveillance.

Areas outside the limits of the works which are disturbed as part of the construction will be restored and re-vegetated. These practices include:

- Areas around compounds, material storage, access roads, fencing, services, drainage and infrastructure will be recorded upon establishment of the site,
- detailed records will be made of the existing conditions,
- identified trees and areas of significant vegetation shall be protected with temporary fencing,
- unnecessary disturbance of vegetation will be minimised,
- areas of vegetation that are disturbed during the works will be recorded and rehabilitated. This includes the retention of natural grades and drainage paths, reintroduction of grasses and planting.

All areas that are restored will be recorded with details of how areas were treated and how areas were revegetated, including soil preparation and vegetation used. These areas will then form part of the on-going requirement of maintenance and monitoring.



Figure 4.22 Strata Vault Cell Sample

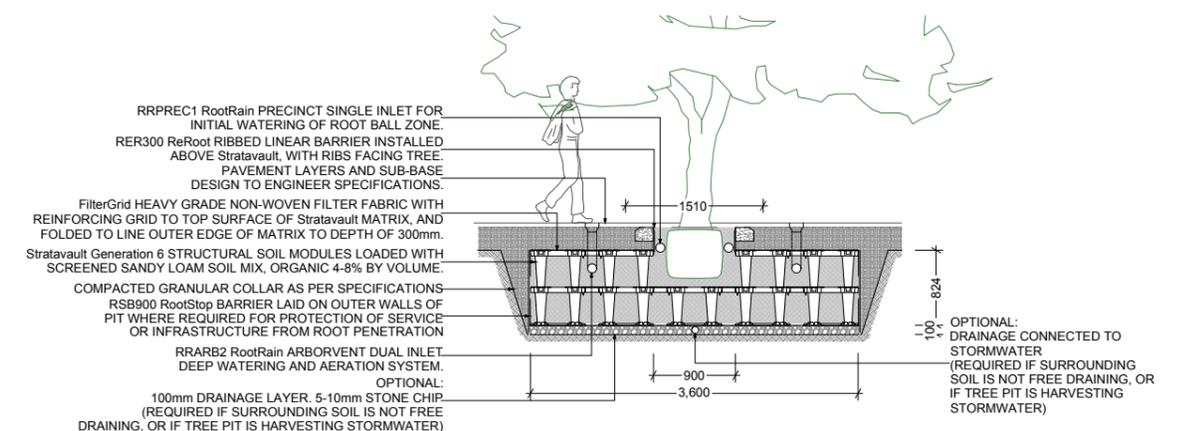
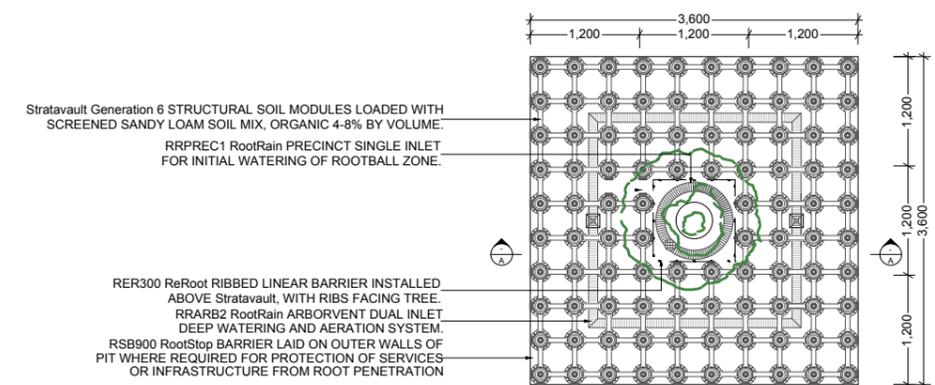
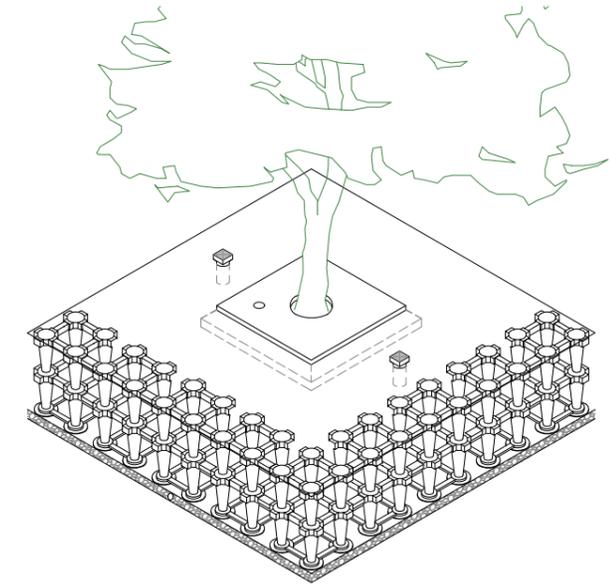


Figure 4.23 Water Sensitive Urban Design soil cell system: detail

4.12 Hardscape elements

4.12.1 Paving and street furniture selection

The public domain palette has been developed to respond to Council’s requirements and preferred urban elements, and to maintain some continuity with the look and feel of Sydney Metro where possible, using or modifying the existing palette (see principles at section 2.3.3). This includes the seat, shelter and bins that are currently used within the LGA Maintainability was a key consideration for Council (as for Sydney Metro) and has guided the selection of a suite of robust elements.

Furniture Elements: Custom concrete seating walls are proposed at the plaza to mitigate level change and provide areas for rest where it will have minimal impact to pedestrian movement. Timber surface mounted benches in two variations are permanently fixed within the plaza.

Paving: The feature paving strategy incorporates a geometric pattern in the pavement that pays homage to the existing communities that are present. Three variations of triangular half pavers in tones of blue and grey are used at the plaza to create the feature pattern.

Fencing: The station environment is decluttered with hoop top fencing around the station entry removed. New rail corridor fencing is installed to maintain security requirements

CODE	ITEM	IMAGE	DIMENSIONS (mm)	FINISH
HARDSCAPE				
P-1	Concrete pavers (grey) To match existing grey pavers		400x400x40mm	Shotblast finish
P-2	Concrete pavers (beige) To match existing beige pavers		400x400x40mm	Shotblast finish
P-3	Terrazzo Paver (Grey) Cut into half along diagonal line		400x400x40mm	Shotblast finish
P-4	Terrazzo Paver (Light Blue) Cut into half along diagonal line		400x400x40mm	Shotblast finish

CODE	ITEM	IMAGE	DIMENSIONS (mm)	FINISH
P-5	Terrazzo Paver (Dark Blue) Cut into half along diagonal line		400x400x40mm	Shotblast finish
URBAN FURNITURE				
BR-1	Bicycle Racks		845Lx120Wx850H	Stainless Steel 316 No.4 Finish (brushed)
TG-1	Tactile Indicators - warning indicators			Approval of colour to be obtained from Landscape Architect prior to installation. Colour test - Stainless steel, black, brass - Do not use Yellow or Blue
DF-1	Drinking Fountain Civic Aquafil FlexiFountain		N/A	Stainless steel. Council branding to back panel. Graphic to be provided by City of Canterbury Bankstown Council.
URBAN FURNITURE (SHELTER AND SEATS)				
ST-1	Seat Type 1 USIP Urban Seat, Post Mounted		L1750xW705xH800	Stainless steel or cast aluminium
ST-2	Seat Type 2 Flinders Timber Backed Bench		2000x530x390	Bead Blasted, Oiled Southern Spotted
ST-3	Seat Type 3 Flinders Timber Backless Bench (custom)		1605x600x390	Bead Blasted, Oiled Southern Spotted

4.12.2 Bridge Vertical Protection and OHW Safety Screens

General – corridor wide

Vertical screens will be provided at cross corridor overbridges. They are required to prevent objects being passed through or thrown onto live equipment or the corridor below.

The urban design strategy is to:

- preserve views at station overbridges where possible
- respect and highlight existing heritage structure and
- optimise the amenity of the adjacent footpath space for pedestrians
- achieve consistency with the architectural treatment at adjacent stations
- design the screens to transition from full height to match adjacent height barriers or fences.

The screens have been designed to balance the varying conditions at each station while also working together as a family of elements that contributes to the corridor-wide identity of Southwest Metro.

There are four types of screens:

Type 1:

- Located at or close by station overbridges, where there are existing brick (typically heritage listed) parapet walls
- Steel posts fixed to the outside face of the existing bridge structure. The posts do not fix to heritage elements and will feature a taper towards the top that reduces visual bulk and excessive material use
- The profile is vertical for two metres above the footpath, and then cranked inwards to an overall height of three metres
- Woven stainless steel mesh between the posts and above the existing wall to an overall height of three metres high.

Type 2:

- Located at or close by station overbridges, where there is no existing parapet
- Steel posts fixed to the outside face of the existing bridge structure. The posts do not fix to heritage elements and will feature a taper towards the top that reduces visual bulk and excessive material use
- The profile is vertical to the overall height of three metres
- A continuous handrail to the length of the overbridge screen
- Full height, laminated safety glass between posts with an anti-graffiti film layer.

Types 3A and 3B:

- Located outside station precincts. Type 3A are new screens, Type 3B are modified existing screens
- Clear perspex panels to 1.8 metres high, attached to stainless steel woven wire mesh screens to the full height of three metres
- The profile is vertical to the overall height of three metres.

Types 4A and 4B:

- These types are for pedestrian-only bridges. Type 4A occurs at or near stations while Type 4B is outside station precincts
- Type 4A has a wire mesh screen with services integrated
- Type 4B has a fully enclosed wire mesh vertical protection screen with clear perspex panels fixed to the screen to a height of 1.8 metres.

Lakemba Station

Vertical screens are required to both sides of the Haldon Street bridge and will replace existing low height steel frame and mesh balustrades. As there are no existing brick parapets to the bridge, Type 2 screens are proposed for both sides.

- City (east) side: The screen will run the full width of the bridge as required and will transition down to tie at both ends into a new security fence at 2.4 metres height.
- Country (west) side: The screen will run the full width of the bridge as required and will transition down to tie at both ends into a new security fence at 2.4 metres height.



Figure 4.25 Typical Type 2 vertical protection screens

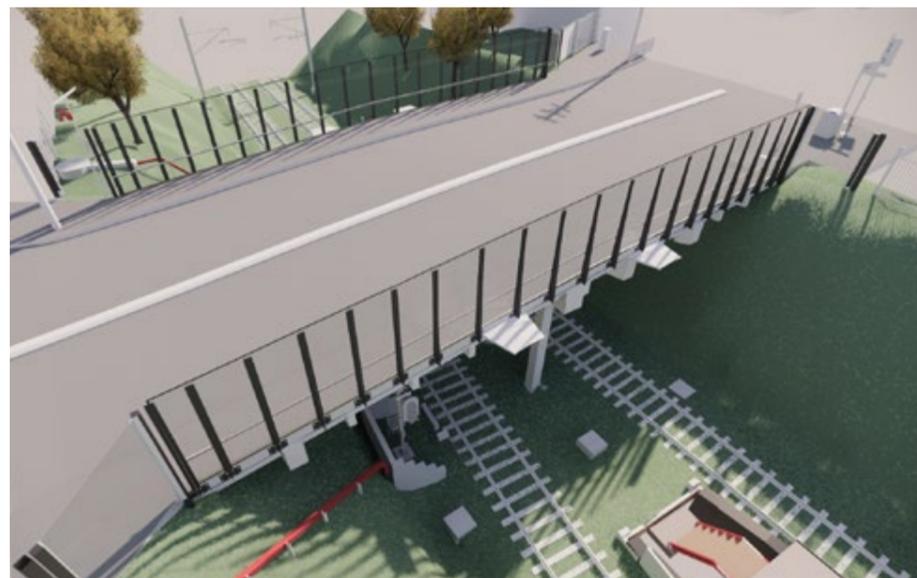


Figure 4.24 Throw screen arrangement at Haldon Street overbridge

4.12.3 CPTED (Crime Prevention Through Environmental Design)

Places that feel safe and well connected encourage walking and cycling including to public transport, while real and perceived crime risks can deter people from using certain facilities, taking particular routes or being in various locations. For Sydney Metro, CPTED is of particular importance with regard to how the project interfaces with the public realm and the movement of pedestrians and cyclists to and through the project corridor.

Targeted principles (section 2.3.5) were developed early in the design process that address three CPTED strategies (natural access control, natural surveillance and territorial reinforcement), to inform and guide the urban, landscape and architectural design. The design provides for passive surveillance, and clear and legible paths of travel, to contribute to a perception of safety and security in a well designed, well cared for public domain. As the design developed, a CPTED assessment was also undertaken to help refine any outstanding issues.

The assessment noted the following considerations:

CPTED assessment issue	CPTED principle/s	How the design addresses the issue
Station entries Maximise surveillance and maintain clear sightlines at station entry points	Natural surveillance	New public plaza on Railway Parade opens up station forecourt to increase passive surveillance to the street and station entry.
Bike parking Maximise natural surveillance from nearby buildings bike racks / landscape. Ensure bike racks do not act as a climbing aid	Natural surveillance Territorial reinforcement	New bike parking at Railway Parade located in a well-used, well-lit area adjacent existing glazed lift and close to station entry to increase passive surveillance. Bike hoops are not climbable and are visible in the public street
Vegetation Consider maintenance of existing vegetation to maximise natural surveillance of platform areas, in particular under the booking office, behind the lift and beneath the stairs	Landscaping Natural surveillance Image and maintenance	Low maintenance vegetation has been proposed for the Railway Parade plaza and species selected do not impede on sightlines
Lighting Ensure lighting is in accordance with RSS 001 lighting performance requirements for station concourse building, platforms and platform buildings	Lighting	Additional lighting in the plaza is not required
Platform buildings Target hardening of platform buildings required to protect assets including alarm, CCTV and security signage	Physical security / target hardening	Considered in and integrated with architectural design

4.13 Public art

Public art is planned to be integrated into the station design in the form of architectural glass panels at station entries and on concourses. A uniform series of locations and materials have been selected for the ten Southwest Metro stations between Marrickville and Bankstown, to provide a cohesive framework for diverse artworks for this section of Sydney Metro. The art sites are visible from the surrounding public domain.

Artists have been selected through a competitive process involving a public expression of interest and competitions with expert panels selecting the artists and artworks. Successful artists are developing artworks that will be realised as a transparent artwork, embedded in glass panels at the stations. The works respond to stories and themes from the nearby local communities and neighbourhoods.

The public art program aims to:

- Align with Transport for NSW's commitments to improving customer experience and delivering successful places
- Promote inclusivity, community involvement, public pride and ownership of Sydney Metro stations and precincts
- Provide a welcoming, destinational and impressive presence within stations and opportunities for the arts sector to contribute to the Sydney Metro network
- Commission diverse public art of high quality by a culturally diverse range of artists
- Create a best practice in permanent Australian transit art, and high-quality artworks.

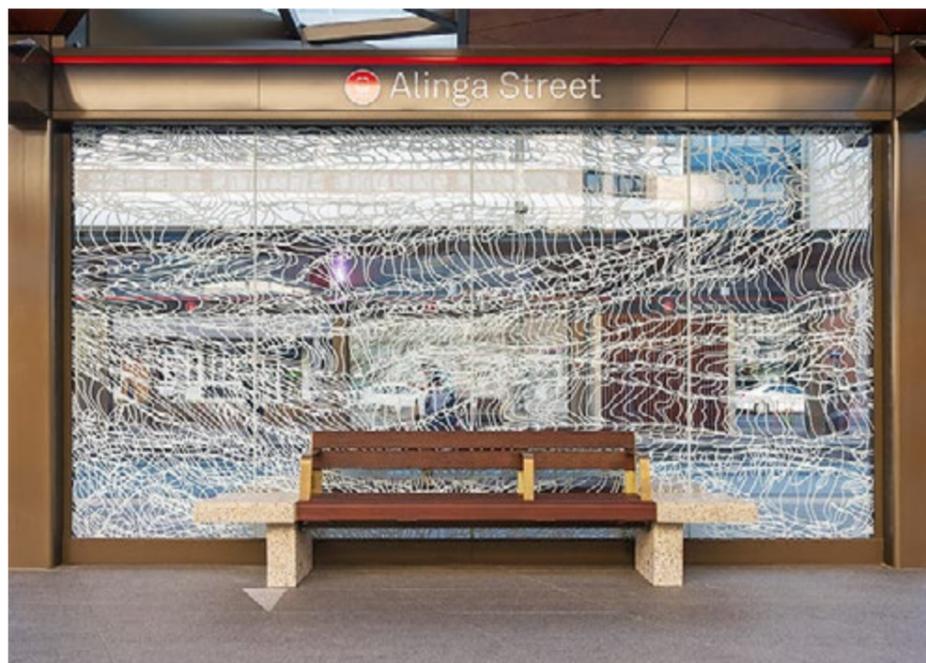


Figure 4.26 Example of glazed artwork screens at Canberra Lightrail. Art by Hannah Quinlivan

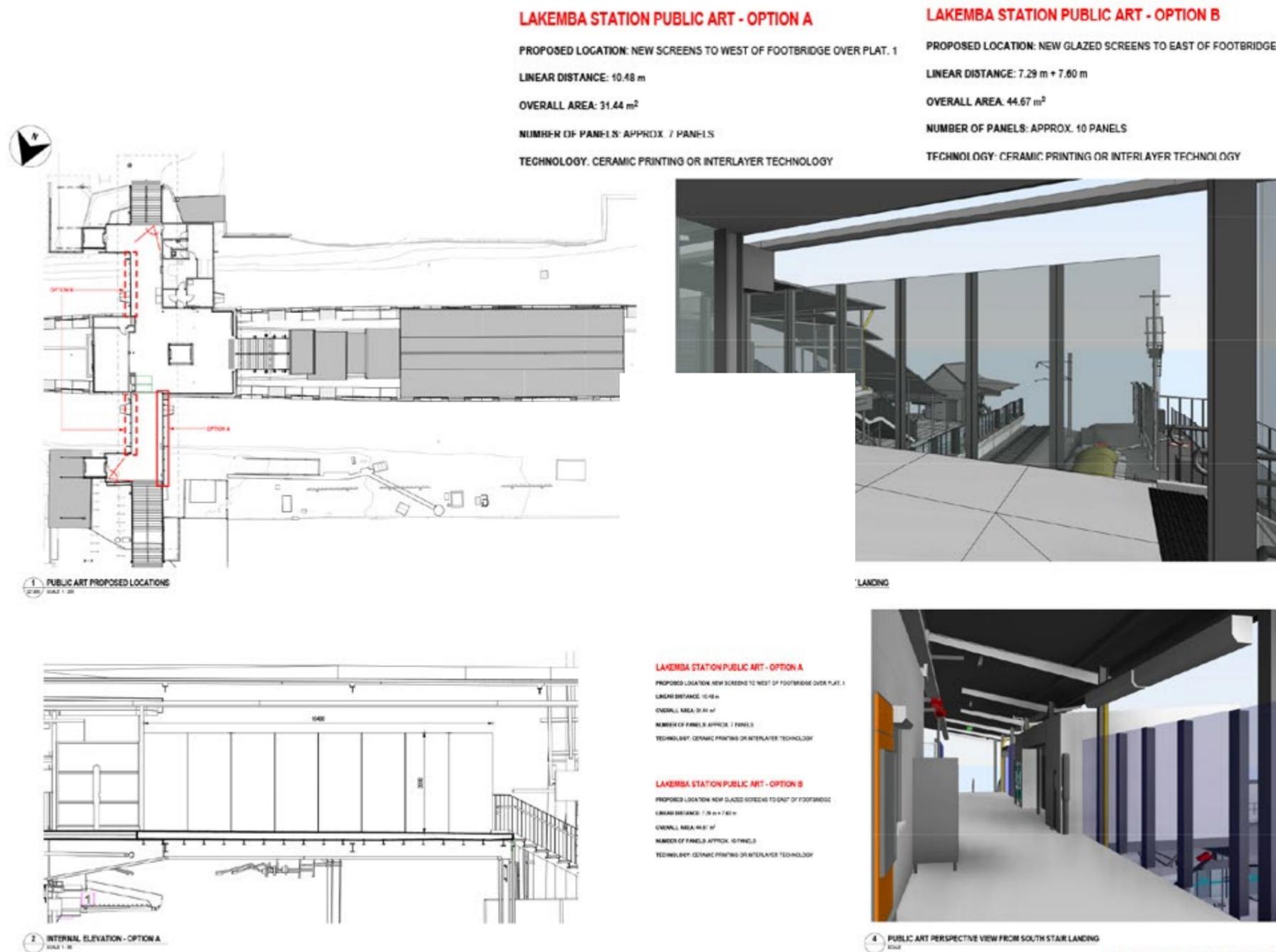


Figure 4.27 Identified public art location at Lakemba Station

4.14 Metro-wide design

4.14.1 Wayfinding and signage

The primary station entries at The Boulevard and Railway Parade will be retained. Changes to directional signage at the existing station entries and internally at the station overbridge, concourse and platforms will reinforce this arrangement.

4.14.2 Common materials and finishes

A finishes and materials schedule has been prepared for concourse buildings, establishing a consistent palette of materials, colours and textures that reinforce a line-wide Sydney Metro identity. The application of the palette varies subtly from station to station, to respond and contribute to the local character.

The rationale for common materials and finishes across the whole alignment is:

- Glazing for outlook, views towards platform heritage buildings, and an enhanced sense of safety with casual surveillance:
 - » Glass screens to balustrades within the station (on overhead bridges / elevated concourses)
 - » Glazed roof panels to stair canopies
 - » Glazed lifts
- Framing that minimises the bulk and appearance of new structures, to maintain the relative importance of existing heritage and character buildings and elements
 - » Slender steel framing to screens, balustrades, lifts and canopies
 - » Steelwork painted in a dark recessive colour
- Roofs that soften and 'warm' the concourse environment
 - » Battens underneath glass awnings for filtered light
- Cladding to new or refreshed concourse buildings that is hardy, durable, and discourages graffiti; and that is distinctively lighter in appearance than the buildings at platform level below
 - » Rimex metal cladding panels with a textured pattern
- New platform buildings (under stairs) that reflect the brick history of the station platform buildings and platform walls; that have a solid, 'grounded' character reflective of being in cut, below the surface
 - » Brick, laid in stretcher bond and / or patterned for ventilation where enclosing services.

At Lakemba, new glass screens applied to the existing concourse and footbridge exemplifies this materials approach.

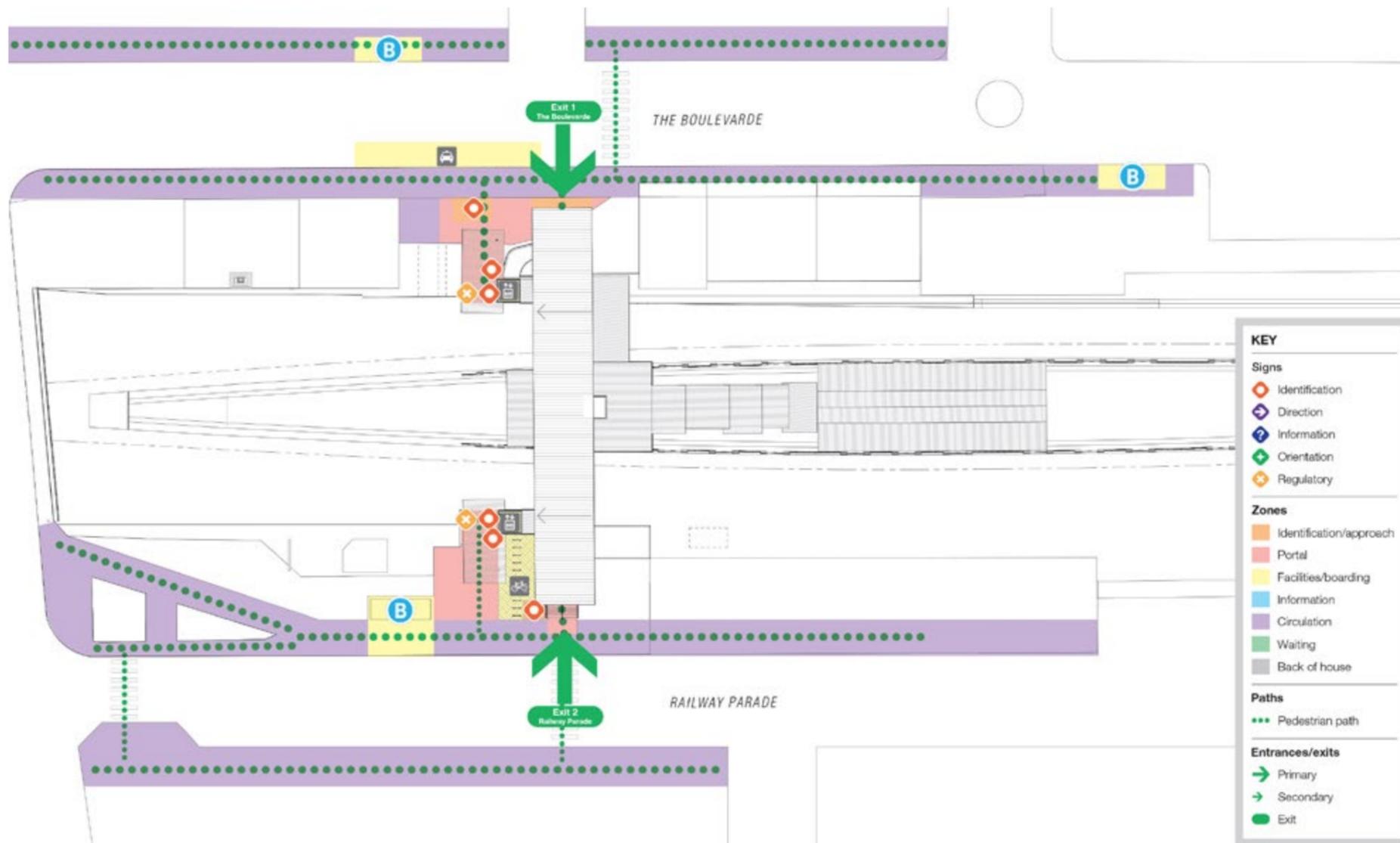


Figure 4.28 Wayfinding strategy: zone and flow diagram

4.15 Services building

New services buildings are required at each station to house critical equipment such as signaling and telecom essential for metro operations.

Services buildings perform similar functions at each location but will vary in size depending on specific requirements and the appropriate siting of the building. In addition to the functional building requirements there are requirements for vehicle access, parking and pad mount services. The strategy of development for the services buildings is to provide a consistent approach and visual experience across the line that is adjusted to suit the visual impact each building will have on the local public domain.

The line wide principles for the services buildings are;

- Functional and efficient building layouts applicable to multiple sites
- Simple, durable and timeless expression
- Tailored precinct arrangement - driven by current and future constraints
- Considerations of cost and constructability

Sydney Metro will continue to keep local stakeholders updated on the design and construction of the services building.



Figure 4.29 Services building site plan - Lakemba Station

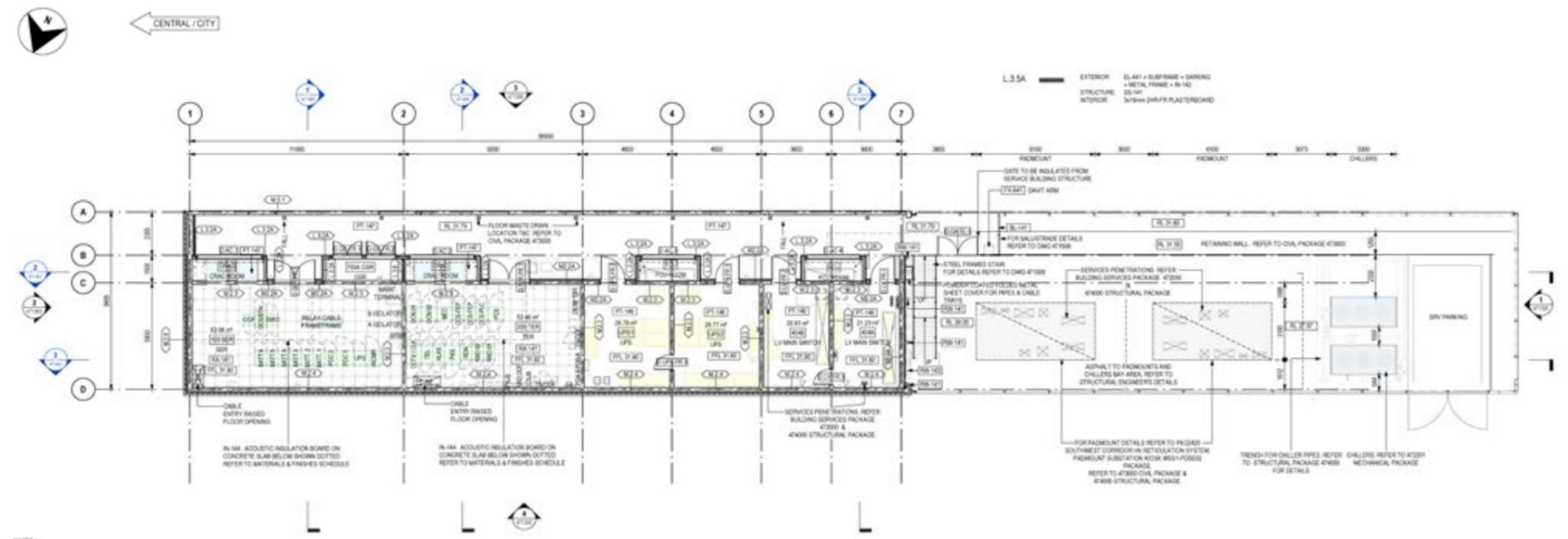


Figure 4.30 Services building plan - Lakemba Station



5. Transport and Access



5.0 Transport and Access

5.1 Transport and access design measures

5.1.1 Maximising the amenity of public spaces

There is good provision of public space immediately adjacent to both station entries on The Boulevarde (south) and Railway Parade (north). On The Boulevarde there is a generously sized public plaza with good shade, street furniture and green space. On Railway Parade a smaller green space softens the edge of Haldon Street, but provides limited opportunities to sit and is not shaded.

The design maximises the amenity of public spaces by:

- Creating a new public plaza adjacent the north station entry that
 - » enhances the existing public domain
 - » provides flexible space that is able to accommodate places to stop, meet and sit
 - » is highly visible on the street and from within the station; good passive surveillance encouraging greater activity and the perception of safety.

5.1.2 Maximising permeability around entrances to stations

The existing Lakemba dual station entries and elevated overbridge are unique within the Metro context, being set back from the primary connection route of Haldon Street and creating a unique over-corridor pedestrian link. The design maximises permeability around the station entrance by:

- Retaining the existing dual station entry configuration
- Creating a new public plaza adjacent the northern station entry which reinforces the visual connection between station entry, platform and public domain
- Retaining existing elevated concourse overbridge as a visual marker for the station, with minor improvements to facilitate it being publicly accessible at all times.

5.1.3 Maximising integration with other transport modes

Integration with other transport modes has been maximised by providing interchange facilities and access to them, through:

- Increasing the amenity of the public domain around the station to support Sydney Metro patronage
- Retention of the existing station overbridge to maintain a publicly accessible north-south pedestrian link over the rail corridor
- Increasing the amount of bicycle parking provided, with new facilities located at the north station entry on Railway Parade
- Providing easy transfer to existing bus stops on Railway Parade and The Boulevarde
- Providing access to existing taxi space on The Boulevarde (southern side)
- Providing two new Kiss and Ride spaces on The Boulevarde (southern side)
- Providing access to two existing accessible parking spaces on Railway Parade adjacent the new station plaza
- Providing access to existing park and ride zones at The Boulevarde and Railway Parade.

5.2 Integration with the Walking and Cycling Strategy

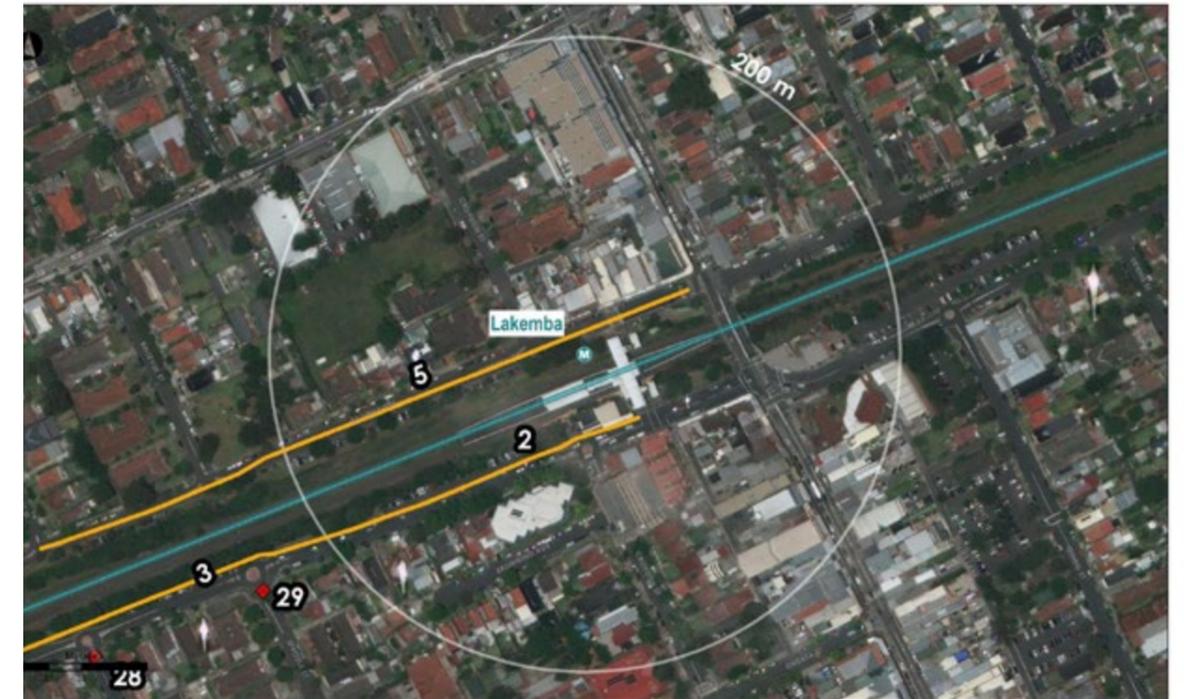
In accordance with Condition E53 of the Conditions of Approval, a Walking and Cycling Strategy has been prepared. In accordance with CoA E57(d)(iii) the relevant initiatives from the Walking and Cycling Strategy in the Lakemba Station precinct have been integrated below.

The Walking and Cycling Strategy identifies a number of corridors and locations that present opportunities for improved pedestrian and cycle accessibility in a one kilometre radius around the rail station. It covers local pedestrian routes, circulation patterns and desire lines; land use and the level of activity around the station; relationships to other transport networks and modes; and the proximity of local access roads and routes

The Walking and Cycling Strategy identifies works to be delivered by Sydney Metro associated with east-west pedestrian and cyclist facilities as required under Condition E53 of the Conditions of Approval. The Strategy also identifies a number of complementary infrastructure options that could be delivered by others as part of other projects or considered for further investigation.

The table below shows the opportunities and infrastructure upgrades that are located within the Station Precinct.

Walking and Cycling Strategy item description			SDPP description		
Identified gap / opportunity	Proposed infrastructure upgrade (refer Figures 5.1 & 5.2)	In scope: delivered by Metro	Safeguarded for the future	SDPP design response	Section of SDPP
Lack of bicycle crossing facilities at Haldon Street/The Boulevarde intersection	LAK-1	Signalised bicycle crossing facilities at intersection of Haldon Street/The Boulevarde		Safeguarded as future opportunity	N/A
Lack of cycling facilities along The Boulevarde near the station and Leagues Club	LAK-2	Shared path behind angled parking and move angled parking towards kerb. Remove 16 parallel kerbside parking spaces		Safeguarded as future opportunity	3.5
Lack of cycling facilities along Railway Parade as east-west connection	LAK-5	Shared path along Railway Parade between Croydon Street and Ernest Street North. Additional bicycle facilities		Safeguarded as future opportunity 12 new bicycle hoops at the northern station entry	3.5
Lack of crossing facility of Haldon Street at Railway Parade	LAK-6	Signalised bicycle crossing facility on south approach of Haldon Street/The Boulevarde		Safeguarded as future opportunity	N/A



Lakemba- Pedestrian Infrastructure Upgrades (Station Level)

Signalised Bicycle Crossing — Changed Pedestrian Environment

Figure 5.1 Lakemba Walking and Cycling Strategy proposed pedestrian infrastructure upgrades



Lakemba-Cycling Infrastructure Upgrades (Station Level)

Unsignalised Bicycle Crossing — Off-road Shared Path (Other)
On-road Mixed — Off-road Shared Path (Footpath)
On-road Shoulder Lane

Figure 5.2 Lakemba Walking and Cycling Strategy proposed cycling infrastructure upgrades

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6.0 Consultation

6.1 City of Canterbury Bankstown (CoCB)

Regular meetings have taken place with CoCB. Comments have been minuted and addressed in the detailed design which forms Section 4 of this SDPP. Council then provided feedback on the 40% and 70% design, for which a consultation register was prepared and the items discussed at design meetings.

Council representatives attended regular NSW State Design Review Panel meetings (refer Section 6.3).

While CoCB did not provide a formal submission on the draft SDPP, they have provided feedback on the station design as part of formal stakeholder consultation throughout the design development process.

6.2 Community consultation

Consultation during the design development process has included public exhibition of the draft Lakemba SDPP, and consultation with City of Canterbury Bankstown Council.

Lakemba Station design has also been enhanced by proposed improvements to the wayfinding strategy, urban precinct and connectivity to transport interchange that will improve navigation and customer experience.

Community consultation has been carried out by means of public exhibition to seek feedback on the first draft of the Lakemba SDPP. The Lakemba draft SDPP was on exhibition from Monday 29 June 2020 to Friday 24 July 2020 allowing several weeks for submission of feedback. The consultation included notification to residents and businesses within a 200 metres radius of the station, representatives of the Lakemba Chamber of Commerce and City of Canterbury Bankstown Council. The exhibition of the SDPP was also advertised on the Sydney Metro website;

<https://www.sydneymetro.info/station/lakemba-station>

No submissions were received from members of the public.

6.3 Design Review Panel

The Sydney Metro project design principles are guided by the NSW State Design Review Panel (DRP). The Sydney Metro DRP is chaired by the Government Architect and members include eminent architects, designers and heritage specialists. The Sydney Metro DRP has been heavily involved in reviewing the Southwest metro project since inception.

While the SDPP for Lakemba is not required to be reviewed by the Sydney Metro DRP, the design team has presented the Project design to the DRP on a number of occasions and incorporated review comments into the SDPP in accordance with Condition REMM LV3.

Councils are active participants in the DRP. The panel request views, comments, and clarification from Council representatives in regard to design elements. Comments from Council and the panel that relate to the Project design and those relevant to the Lakemba SDPP have been captured, minuted, and are summarised below

18 June 2019

- The DRP supported the ‘less is more’ approach to design and recommended an integrated design approach to the surrounding context
- Design development to demonstrate an integrated approach that achieves appropriate scale and response to local character through: Canopy design, Coordination with adjoining properties and public space, Safeguarding future connections and place opportunities.
- Identify appropriate benchmarks to guide the design of service buildings
- The landscape strategy should be presented to the Panel as an illustrative masterplan.

16 July 2019

- The Panel requested a strong vision and strategy diagram capturing strengths and weaknesses, local topography, simplification of the analysis diagrams and inclusion of sections.
- Consider strategies to build on the strengths of each place and to address weaknesses.
- Review the potential for landscaping to unify and deliver broader benefits to each place.

In response, the SDPP analysis section was updated and strengthened, covering the recommendations from the Panel.

20 August 2019

- The design team are to ensure the next presentation includes integrated presentations that demonstrate appropriate response to context.
- SDPPs should be clear on responsibility and funding for works in the precinct.
- Sydney Metro to update the Panel on the design for service buildings and the strategy to ensure a holistic design approach with the emerging station designs.

17 December 2019

- The panel requested graphic improvements in the SDPP
- The Panel requests that the heritage interpretation strategy be included in more detail in the report, as required by the conditions of consent.

- The Panel recommends the aluminium screen proposed for installation behind heritage windows is prototyped and presented to the Panel, and that other alternatives also be explored.
- The Panel recommends exploring ways of integrating the proposed works of heritage buildings into the heritage interpretation strategy.
- The Panel recommends that the materiality of external information panels be considered for longevity.

18 February 2020

- The panel requested further information on the detail quality across the stations
- The Panel requests a presentation on the SWM wide heritage interpretation strategy to contextualise solutions presented including signage within the public precinct, heritage building works and overlaps with integrated art.
- The Panel support the proposal of integrating art into glazing panels which allows a standardised approach.

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