

METRON T2M
Dulwich Hill
Station Design & Precinct Plan

Sydney Metro Southwest Metro Design Services (SMDS)

13 November 2020

Document: SMCSWSWM-MTM-WDH-UD-REP-121000

A Joint Venture of



Principal sub-consultant



Approval Record

Function	Position	Name	Date
Prepared by	Principal & Senior Urban Designer	Lynne Hancock & Ben Coulston	13/11/2020
Technical Checker	Principal Urban Designer	Lynne Hancock	13/11/2020
Reviewed by	T2M Urban Design Lead	Mary Anne McGirr	13/11/2020
Approved by	Director	Ian Armstrong	13/11/2020

Amendment Record

Date	Document Number/s	Revision	Amendment Description	By
25 June 2019	SMCSWSWM-MTM-WDH-UD-REP-121000	01	40% draft	Lynne Hancock with input from Mary Anne McGirr, Miriam Enoch, Garth Davies
04 October 2019	SMCSWSWM-MTM-WDH-UD-REP-121000	02	70% draft	Lynne Hancock with input from UD and LA team
23 October 2019	SMCSWSWM-MTM-WDH-UD-REP-121000	02.05	70% draft	Lynne Hancock with input from UD and LA team
31 October 2019	SMCSWSWM-MTM-WDH-UD-REP-121000	02.06	70% draft	Lynne Hancock
1 November 2019	SMCSWSWM-MTM-WDH-UD-REP-121000	02.07	70% draft	Lynne Hancock
16 March 2020	SMCSWSWM-MTM-WDH-UD-REP-121000 SMCSWSWM-MTM-WDH-UD-REP-000378	02.08 A	70% draft	Ben Coulston with input from UD and LA team
12 May 2020	SMCSWSWM-MTM-WDH-UD-REP-121000	03	100% draft	Ben Coulston with input from UD and LA team
27 August 2020	SMCSWSWM-MTM-WDH-UD-REP-121000 SMCSWSWM-MTM-WDH-UD-REP-000378	B B	100%	Ben Coulston with input from UD and LA team
13 November 2020	SMCSWSWM-MTM-WDH-UD-REP-121000 SMCSWSWM-MTM-WDH-UD-REP-000378	C C	100%	Ben Coulston with input from UD and LA team

Contents

1.0 Introduction	1	4.0 Design	37	5.0 Transport and Access	67
1.1 Project description	1	4.1 Project design	37	5.1 Transport and access design measures	67
1.2 Purpose and scope	3	4.2 Station precinct design	38	5.2 Integration with the Walking and Cycling Strategy	68
1.3 Strategic context	6	4.3 Station precinct plan	40	6.0 Consultation	73
1.4 Approval requirements	6	4.4 Station precinct scope	44	6.1 Inner West Council	73
2.0 Design principles	11	4.5 Heritage	46	6.2 Community consultation	74
2.1 Corridor character	11	4.6 New overhead concourse	48	6.3 Design Review Panel	74
2.2 Urban design vision	13	4.7 Platform	50	7.0 Appendices	77
2.3 Urban design objectives, principles and standards	14	4.8 Lifts and stairs	51	7.1 Appendix A: Dulwich Hill station detailed master plan	77
3.0 Context and form	19	4.9 Connectivity and access	52	7.2 Appendix B: Community feedback & project response	81
3.1 Historical context	19	4.10 New plaza	53	7.3 Appendix C: Inner West Council submission & project response	84
3.2 Strategic context	20	4.11 Plaza landscape design	54		
3.3 Built, natural and community context	22	4.12 Hardscape elements	58		
3.4 Issues and opportunities	32	4.13 CPTED (Crime Prevention Through Environmental Design)	61		
3.5 Design response	34	4.14 Public art	62		
		4.15 Sydney Metro-wide design	63		
		4.16 Services building	64		

THIS PAGE DELIBERATELY BLANK

Figures

Figure 1.1	Sydney Metro route map.....	2	Figure 4.7	Platform building: proposed building reconfiguration.....	46	Figure 4.25	Current condition: view from Wardell Road.....	53
Figure 1.2	Sydney Metro Southwest stations.....	4	Figure 4.8	Platform building: proposed plan.....	46	Figure 4.26	New plaza: view from Wardell Road, artist’s impression.....	53
Figure 1.3	Dulwich Hill station precinct.....	5	Figure 4.9	Concourse building: proposed building reconfiguration.....	46	Figure 4.28	Current condition: view from Ewart Lane.....	54
Figure 2.1	The corridor in context.....	12	Figure 4.10	Concourse building: proposed plan.....	46	Figure 4.27	New plaza: view from Ewart Lane, artist’s impression.....	54
Figure 3.1	Urban spatial qualities.....	25	Figure 4.12	Paving inlay sample.....	47	Figure 4.29	Species selection.....	55
Figure 3.2	Precinct built form and heritage.....	27	Figure 4.13	Heritage seat plaque detail.....	47	Figure 4.30	Typical planting details.....	56
Figure 3.3	The station in the topography.....	28	Figure 4.11	Dulwich Hill Plaza - Heritage interpretation key plan.....	47	Figure 4.31	Water Sensitive Urban Design soil cell system: detail.....	57
Figure 3.4	Precinct landscape, topography and views.....	29	Figure 4.14	Location plan of refurbished platform waiting room.....	47	Figure 4.32	Throw screen arrangement at Wardell Road overbridge.....	60
Figure 3.5	Precinct access and connectivity.....	31	Figure 4.16	New overhead concourse: northern entry, Bedford Crescent.....	48	Figure 4.33	Typical Type 2 vertical protection screens.....	60
Figure 3.6	Dulwich Hill Village Fair.....	32	Figure 4.15	New overhead concourse plan.....	48	Figure 4.34	Example of glazed artwork screens at Canberra Lightrail.....	62
Figure 3.7	Issues and opportunities.....	33	Figure 4.17	New overhead concourse section.....	48	Figure 4.35	Identified public art location at Dulwich Hill Station.....	62
Figure 3.8	Safeguarding the future.....	35	Figure 4.18	New overhead concourse: view from Ewart Lane.....	49	Figure 4.36	Wayfinding strategy: zone and flow diagram.....	63
Figure 4.1	A new public heart for Dulwich Hill, artist’s impression.....	39	Figure 4.19	New overhead concourse: southern elevation facing Ewart Lane.....	49	Figure 4.37	Service building site plan - Dulwich Hill Station.....	64
Figure 4.2	Station Precinct plan.....	40	Figure 4.20	Station platform: indicative view.....	50	Figure 4.38	Service building plan - Dulwich Hill Station.....	64
Figure 4.3	Station Precinct plan: the plaza.....	41	Figure 4.21	Platform edge detail.....	50	Figure 5.1	Dulwich Hill Walking and Cycling Strategy proposed pedestrian infrastructure upgrades.....	69
Figure 4.4	Section A: through new plaza and rail corridor.....	42	Figure 4.22	New stairs to new concourse: indicative view.....	51	Figure 5.2	Dulwich Hill Walking and Cycling Strategy proposed cycling infrastructure upgrades.....	70
Figure 4.5	Section B: through Wardell Road and concourse buildings along the platform.....	43	Figure 4.23	New lift and stairs to platform building: section.....	51			
Figure 4.6	Dulwich Hill station precinct scope.....	45	Figure 4.24	Transport interchange connectivity and access.....	52			



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.

The location of seven proposed metro stations have been confirmed at Westmead, Parramatta, Sydney Olympic Park, North Strathfield, Burwood North, Five Dock and the Bays.

The NSW Government is assessing an optional station at Pyrmont and further planning is underway to determine the location of a new metro station in the Sydney CBD.

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 equal partners in the delivery of this new railway.

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

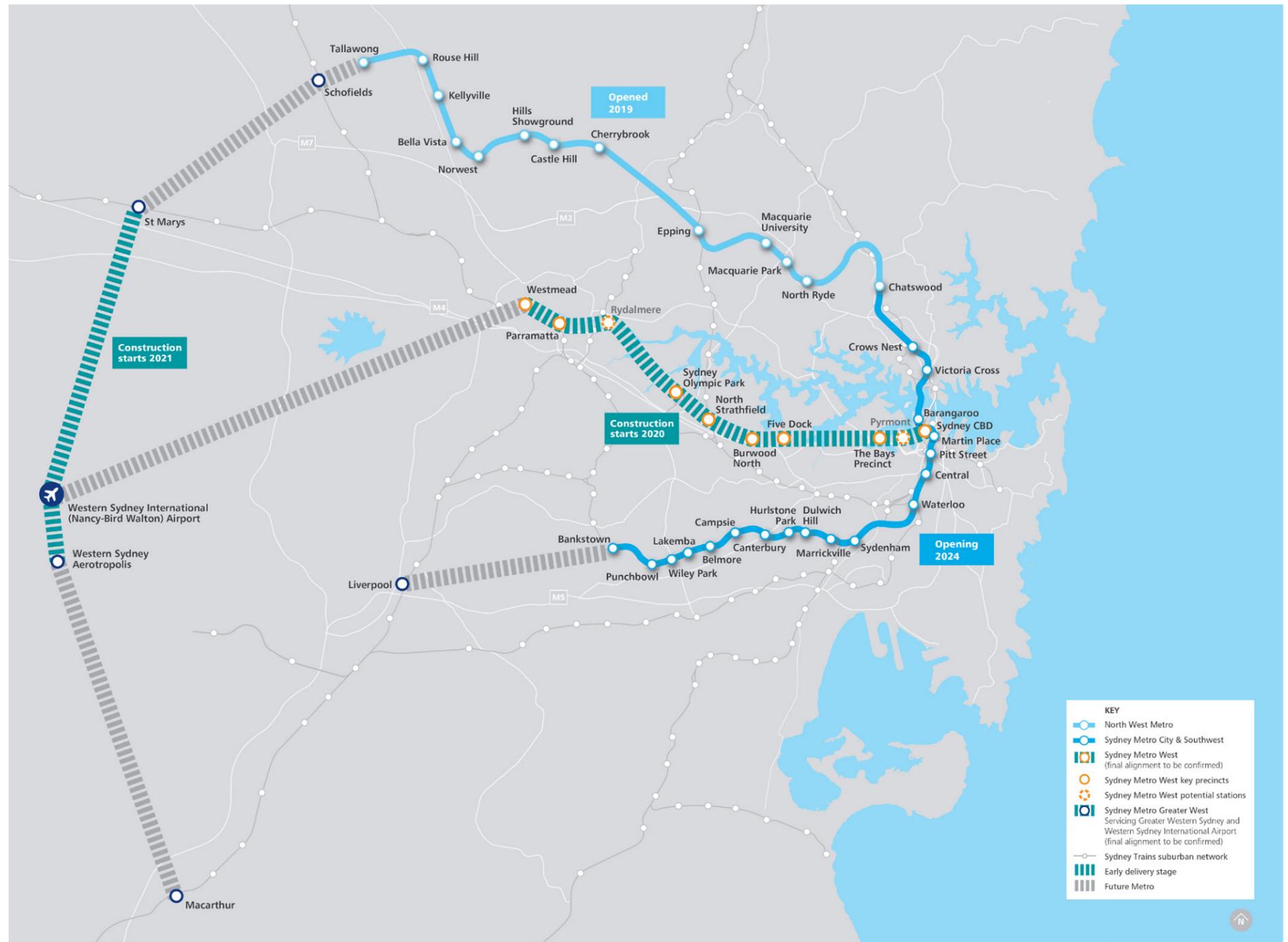


Figure 1.1 Sydney Metro route map

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 Dulwich Hill 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

The 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 Punchbowl.
- 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;
 - c) the stations, must be intuitive with simple, uncluttered spaces that ensure a safe experience for a diverse range of customers; and
 - d) customers are an integral part of the design process through Customer Centred Design
- 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 Dulwich Hill station precinct, being:

Scope of station work

- Refurbished and reused overhead booking office and platform building
- New covered station concourse bridge from Bedford Crescent and Light Rail entry to Ewart Lane, with lift and stair access to the platform and a new platform building underneath new stair
- Platform re-levelling, installation of mechanical gap fillers to remove the gap between train and platform, edge screens and platform screen doors.

Scope of precinct works

- New vertical protection anti-throw screens to the existing Wardell Road overbridge
- New public plaza including landscaping and pedestrian path, street furniture, lighting and bicycle parking
- Bedford Crescent improvements: pedestrian lighting between the Bedford Crescent station entry and Keith Lane; and shelter and seat for kiss and ride and taxi bays with new signage
- New safety rail in front of the heritage booking office
- Site levelling, draining and retaining walls for station service building zone and security fence
- New metro service building.

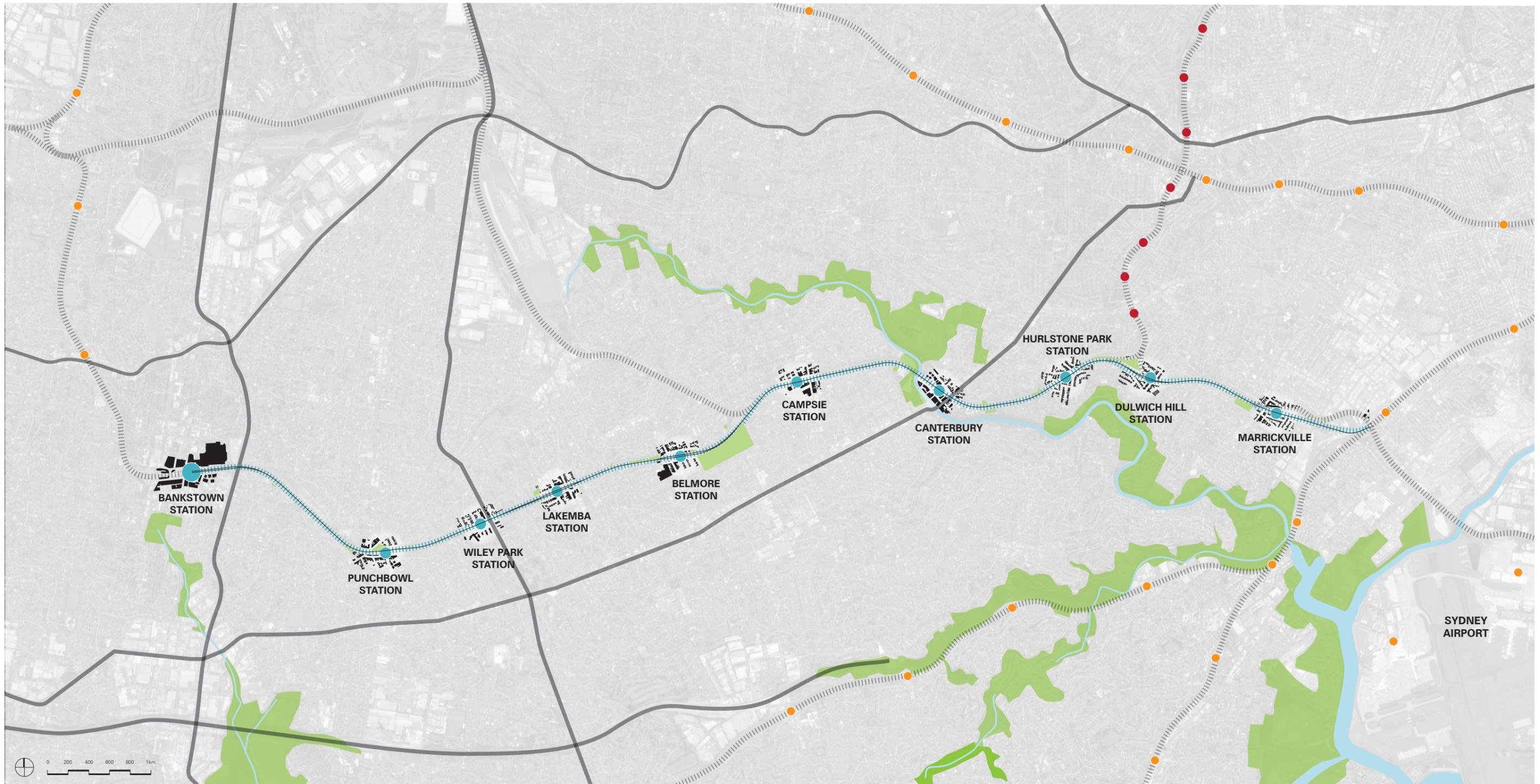


Figure 1.2 Sydney Metro Southwest stations

1.2.4 Dulwich Hill Station Precinct

Dulwich Hill is 8km southwest of the Sydney CBD within the Inner West Council Local Government Area. The suburb is bounded by Marrickville to the east, Hurlstone Park to the west, New Canterbury Road to the north and the Cooks River to the south.

The study area for this SDPP is the Dulwich Hill 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 Dulwich Hill village centre, surrounding residential streets including heritage conservation area, and the significant open space of the Jack Shanahan Reserve. Inner West Council’s GreenWay, linking Iron Cove with the Cooks River, runs through the Reserve at the edge of the study area.

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



Figure 1.3 Dulwich Hill 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 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).
- *Interchange Access Plan - Marrickville to Bankstown* (Sydney Metro), 2019
- *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

Section 3.2 below describes the following master plans and guidelines in more detail, including where and how the Project interfaces with them:

- *Our Inner West –draft Local Strategic Planning Statement*, 2019
- *Our Place – Draft Housing Strategy*, 2019, draft
- *Dulwich Hill Station Detailed Master Plan* (Inner West Council / Plummer & Smith), adopted September 2019
- *Cooks to Cove GreenWay Master Plan* (McGregor+Coxall), adopted August 2018
- *Marrickville Public Domain Design Guide*, adopted October 2016
- *Marrickville Street Tree Masterplan*, adopted September 2014.

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 and 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 Sydney 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

The SDPP has been formatted to respond to the Urban Design Conditions

- 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 Sydney 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	How condition is met: refer to relevant section of SDPP
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 Dulwich Hill Station that is consistent with the Heritage Interpretation Strategy has been developed by a suitably qualified heritage specialist. Heritage interpretation proposed at Dulwich Hill Station is identified in Section 4.5.3 of this plan
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 Dulwich Hill 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:	<p>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.</p> <p>Figure 1.3, Section 1.2.4 shows the 200m radius of the station precinct. All analysis diagrams include the 200m radius (refer Section 3.3).</p> <p>Regular fortnightly consultation with Inner West Council has informed the development of the design and this SDPP for the Dulwich Hill Station and Precinct. Refer Section 6.1.</p> <p>Public exhibition of the Dulwich Hill SDPP was conducted in November 2019. A summary of the consultation process, submissions and the Project's responses are summarised in Section 6.2</p>
E57(a)	Context and form	Section 3.0 Context and Form

Condition number	Requirement	How condition is met: refer to relevant section of SDPP
(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 issues and opportunities arising from the context analysis
(ii)	the location of existing heritage items,	Heritage items are described in Section 3.3.4 and mapped in Figure 3.2 Precinct built form, land use and heritage
(iii)	the location and type of existing vegetation	Existing street trees and important streetscapes are mapped diagrammatically in Figure 3.4 Precinct landscape, topography and views Section 4.11.1 describes the landscape design strategy in relation to the existing vegetation community
(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 – 4.16
(ii)	the design of the CSSI landform and earthworks	Section 3.3.5 discusses topography and landform context and Section 4.11.2 describes proposed earthworks
(iii)	visual screening requirements for the CSSI	Refer Section 4.3 – 4.16 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 4.13 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 - 4.11.4
(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

Condition number	Requirement	How condition is met: refer to relevant section of SDPP
(i)	design measures to maximise the amenity of public spaces, permeability around entrances to stations and integration with other transport modes	Section 4.9 describes the design measures which are also described in Section 5.1
(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 Dulwich Hill 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
(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, public space 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 Dulwich Hill 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 Dulwich Hill SDPP was conducted in November 2019. A summary of the consultation process, submissions and the Project's responses are summarised in Section 6.2
E63	In addition to the requirements of Condition E57, the Station Design and Precinct Plan for Dulwich Hill Station must include a new concourse connecting the Dulwich Hill Light Rail Stop to the island rail platform and across to a new access point at Ewart Lane	Section 4.6 describes and illustrates the new overhead concourse. The concourse building and entries are also shown in illustrations throughout Section 4.0 as part of the overall station and precinct design
E65	The Station Design and Precinct Plans for Bankstown Station, Campsie Station and Dulwich Hill Station, must be reviewed by the Design Review Panel. The Proponent must provide a response to the outcomes of the Design Review Panel's review indicating how the relevant precinct plans will be amended to accommodate the review outcomes. Where the review outcomes are not addressed, the Proponent must provide the Design Review Panel with reasons	Section 6.3 summarises Design Review Panel feedback and the project response
E66	With respect to the Bankstown Station, Campsie Station and Dulwich Hill Station precincts, the Proponent must submit the relevant Station Design and Precinct Plans to the Planning Secretary for approval no later than one (1) month before commencement of construction of permanent works that are the subject of these Station Design and Precinct Plans (in the area to which the relevant Station Design and Precinct Plan applies)	Noted

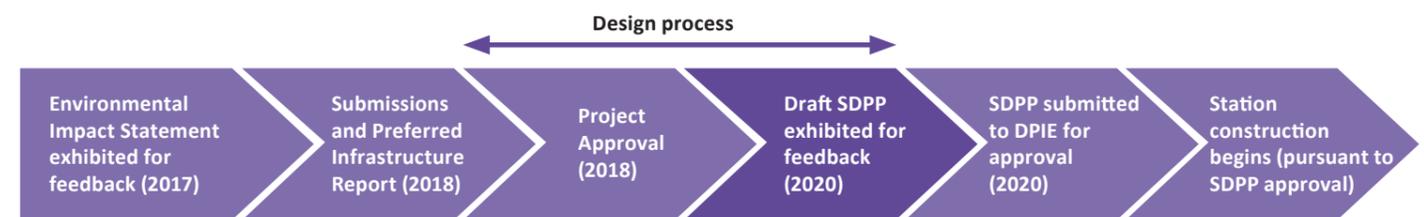
Condition number	Requirement	How condition is met: refer to relevant section of SDPP
E67	With respect to the Bankstown Station, Campsie Station and Dulwich Hill Station precincts, construction of permanent built works or landscaping that are the subject of the Station Design and Precinct Plans must not be commenced (in the area to which the relevant Station Design and Precinct Plan applies) until the relevant Station Design and Precinct Plans have been approved by the Planning Secretary, after responding to the outcomes of the Design Review Panel review. Evidence of response to the Design Review Panel's review must be provided to the Planning Secretary. The Station Design and Precinct Plans, as approved by the Planning Secretary, must be implemented as required during Construction and Operation	Noted
REMM LV3	<p>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:</p> <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. <p>Documents to be considered by the plans include, but are not limited to:</p> <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. <p>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.</p>	Noted, covered under Conditions of Approval above

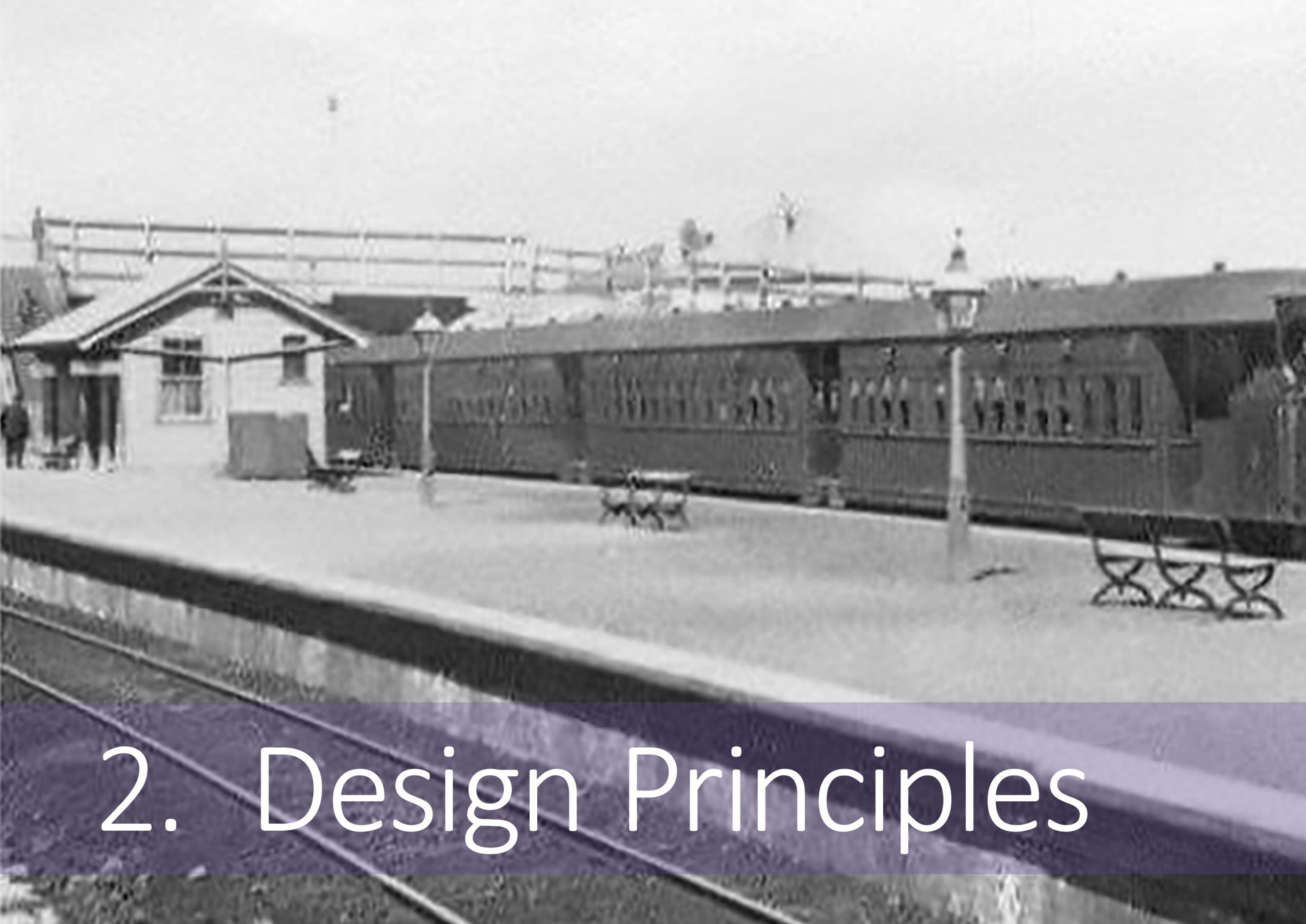
1.4.6 Design process

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 Council has been a key part of the process and informed the station design and future opportunities to be safeguarded.

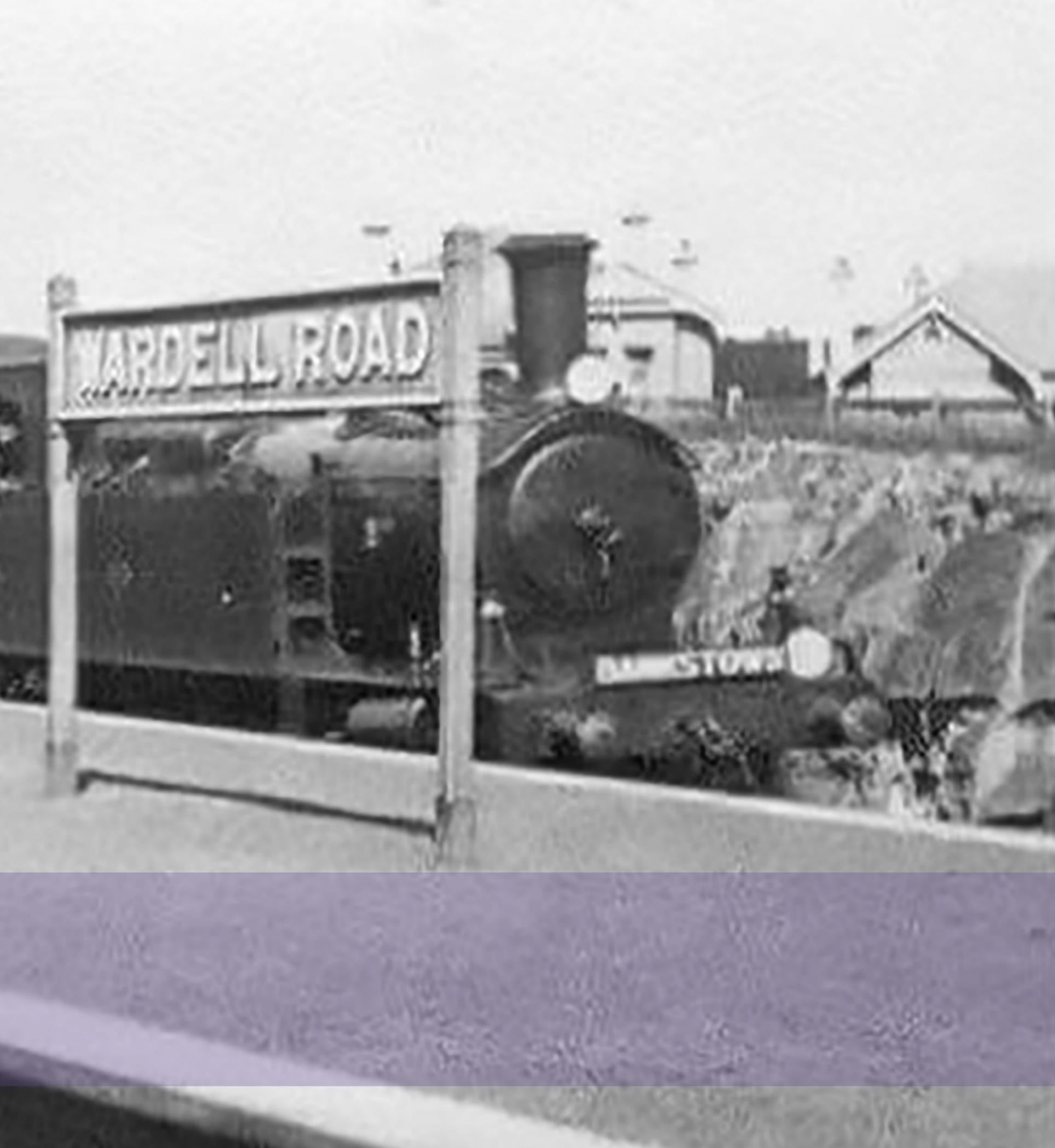
In summary, the steps involved were:

- Project understanding
 - » Build on Sydney Metro City and 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)
- 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
- Design
 - » Cross-disciplinary workshops and discussions to integrate the work of all disciplines, from engineering through to Human Factors / Client Centred Design, Heritage, Landscape, Architecture, and Urban Design
 - » Regular consultation with Council for feedback on developing design
 - » Design Review Panel’s regular review
- Public exhibition
 - » Exhibition of the SDPP for public comment
 - » Progress the design based on feedback from the exhibition
 - » Report back to Design Review Panel
 - » Finalise SDPP and submit to the Department of Planning, Industry and Environment for approval – **we are here.**





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 urbanisation 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, the metro stations will continue to serve as both destinations and departure points, connecting neighbourhoods and landscapes either side of the corridor.

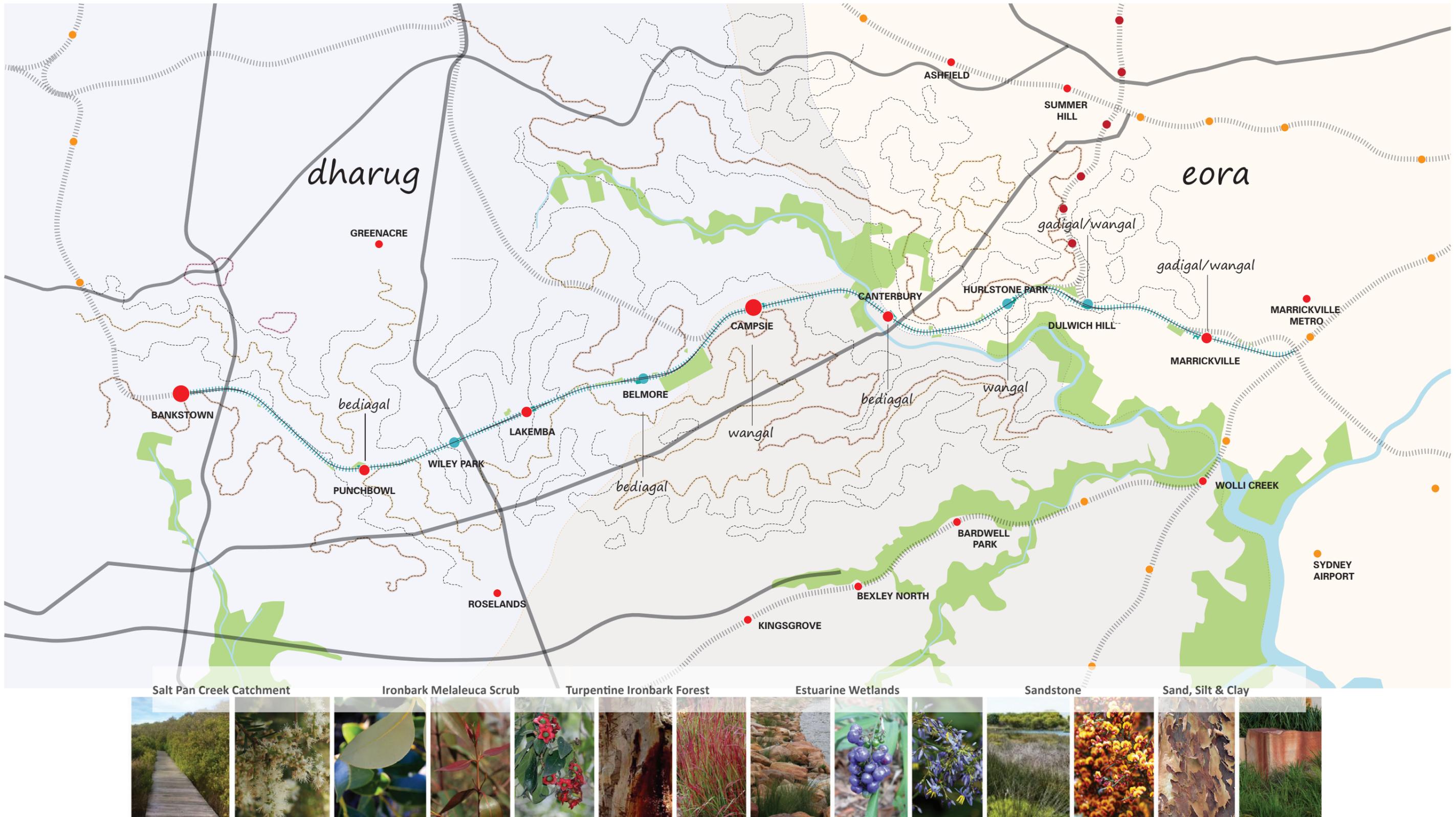


Figure 2.1 The corridor in context

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, principles and standards

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 Design Guidelines (SSI 7400) 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 intersect 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.



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 such 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.

2.3.6 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.

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 traditional owners of the land were the Gadigal people of the Eora Nation. The once heavily timbered, undulating hills around Dulwich Hill generally run down to the Cooks River Valley. The suburb lies on either side of a ridge that roughly aligns with the rail corridor. The higher terrain once supported taller forest trees such as Turpentine and Ironbark while lower slopes closer to the river were covered in tea-tree scrub. The underlying landscape is still legible in the sandstone through the rail corridor cut, and in pockets of remnant native vegetation.

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. The Hawkesbury Sandstone around the Cooks River would have provided Aboriginal people with shelter and the surrounding environment would have provided ample materials for tools and other material culture.

Part drawn from Heritage Interpretation Plan; Dulwich Hill Station, Artefact

3.1.2 European settlement and land use

Dulwich Hill was originally part of a grant of 470 acres to Thomas Moore in 1799, later sold to Robert Wardell in 1830. On Wardell's death in 1934 the land began to be subdivided. Known as Wardell's Bush or Wardell's Hill into the late C19, the area was named Dulwich Hill from the smaller subdivision of the Dulwich Grove and Dulwich Estate.

Dulwich Hill had a good water supply due to the proximity of the Cooks River and Long Cove Creek. By the 1870s market gardens, orchards, small brickmakers and potteries dominated the area. The commercial centre on New Canterbury Road developed in the vicinity of the 1889 steam tram and horse-bus that provided transport to Sydney. In the late nineteenth and early twentieth centuries, the area around New Canterbury Road / Marrickville Road became the primary commercial area of Dulwich Hill, with a secondary centre around Dulwich Hill (then Wardell Road) Railway Station which was opened on 1 February 1895. The area continued to develop as a desirable residential district, becoming increasingly industrialised following the opening of the Goods Line (now the Inner West Light Rail line) in 1913. As factories shut down and producers moved to more affordable locations on the suburban fringe, houses, apartments, schools and parks were constructed in their place.

A number of the streets in the vicinity of present-day Dulwich Hill Station (then Wardell Road) were subdivided around 1910, including Challis Avenue, Anderson Street (renamed Kays Avenue), Tamar Street, Albermarle Street and School Parade. The last extensive subdivision of land was in 1928, of the Abergeldie Estate, north of the railway line.

3.1.3 The station

Dulwich Hill Station was constructed on the first section of the Bankstown Line (originally called the Belmore Branch Line) between 1894 and 1895, to relieve congestion on the Main South Line, and to encourage the suburban development and agricultural development of the area. It was opened on 1 February 1895 as Wardell Road Station and renamed Dulwich Hill Station on 1 July 1920. The station group (platform buildings and overhead booking office) date from 1935.

The 1935 group of buildings are typical of the inter-war style of railway architecture in NSW at the time. The overhead buildings retain their original configuration and much of the original fabric.

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 then NSW Department of Planning and Environment (DPE) 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

The Sydenham to Bankstown Urban Renewal Area is identified in the Eastern City 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*”. Among the Green Grid priorities is delivering the Iron Cove Greenway.

Opportunities for the SDPP:

- Contribute to the delivery of the GreenWay by strengthening the connection to it through the station precinct.

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. A key connection is Cooks River to Iron Cove GreenWay which edges the Dulwich Hill station precinct.

Opportunities for the SDPP:

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

3.2.4 Our Place Inner West - draft Local Strategic Planning Statement

Inner West Council’s draft Local Strategic Planning Statement (LSPS) was placed on exhibition in September 2019. It sets out the vision for the area in 2036 and the actions that will be taken to achieve this vision. It provides the land-use planning framework for the Inner West, providing a link between the Greater Sydney Commission’s *Eastern City District Plan* and the priorities of *Our Inner West 2036 – A Community Strategic Plan for the Inner West Community*. The LSPS will guide land use planning and development for the Local Government Area through to 2036.

The LSPS contains themes, planning priorities, objectives and actions cascading down from the vision for the Inner West: “A place of creative, connected, sustainable and productive neighbourhoods - as vibrant, innovative and diverse as our community”. The six themes are:

- An ecologically sustainable Inner West
- Unique, liveable, networked neighbourhoods
- Sustainable transport
- Creative communities and a strong economy
- Caring, happy, healthy communities
- Progressive local leadership.

Opportunities for the SDPP that relate to the LSPS themes are:

- An ecologically sustainable Inner West
 - » Respond to the aim to increase the urban forest for habitat, to combat the urban heat island effect, and provide shady pleasant places for recreation by designing the new plaza to include trees and other vegetation, and to extend the grid of street tree planting throughout the precinct
 - » Adopt a Water Sensitive Urban Design approach to the selection and planting of species, to minimise water use
- Unique, liveable, networked neighbourhoods
 - » Draw on the local built and natural character of the precinct to reinforce a strong sense of place and identity
 - » Retain, re-use and celebrate heritage
 - » Provide a functional, safe and connected urban space (the new plaza) with adequate sunlight and shade
- Sustainable transport
 - » Prioritise pedestrian movement
 - » Create accessible connections into the station
 - » Provide convenient bicycle parking that encourages public transport use
- Creative communities and a strong economy
 - » Design the new plaza to tie into the village centre, to support easy access to neighbourhood amenities including cafés and shops
 - » Design the new plaza with spaces that can be used for community activities
- Caring, happy, healthy communities
 - » Recognise the importance of indigenous culture
 - » Provide an accessible, flexible public space that can support community health and well-being.

3.2.5 Our Inner West - draft Housing Strategy

Inner West Council has exhibited a draft Housing Strategy for the Local Government Area (May 2019), which includes revised strategic targets for Marrickville and Dulwich Hill to 2026 and will inform future land use and density controls. Constraints and opportunities mapping confirmed that Marrickville and Dulwich Hill station neighbourhoods are some of the least constrained land in the LGA and will benefit from increased rail capacities. The Strategy selected these locations as investigation areas, and includes detailed analysis of local character, opportunities and constraints, and potential uplift scenarios.

Key findings from the Strategy:

- Dulwich Hill has 3,845 estimated existing dwellings, with capacity for 571 more under the existing controls, and additional potential for 380-460 dwellings to 2036
- There are good public transport connections from residential areas to both light rail and train (future Metro)
- There is a desire among residents to revitalise the neighbourhood shops within the Dulwich Hill neighbourhood centre (the station precinct)
- Dudley Street is undergoing transformation to create a new high-amenity mixed used streetscape
- The proposed Cooks to Cove GreenWay corridor will contribute to the recreational and open space offer and provide an opportunity for redevelopment along the light rail corridor, with local funding secured
- The South Dulwich heritage conservation area constrains development to the north and south-east of the Dulwich Hill station.

Opportunities for the SDPP:

- Increased residential population, the ongoing transformation of Dudley Street and a desire to revitalise the precinct all translate to high community expectations for a public plaza with good connections into the neighbourhood centre
- Considerations for the project include protection and enhanced appreciation of heritage fabric. This translates into adaptively re-using heritage platform buildings, and carefully designing vertical protection screens atop the overbridge heritage balustrades
- The ‘missing link’ between the GreenWay and the Dudley Street cycle way runs through the proposed new plaza.

3.2.6 Dulwich Hill Station Detailed Master Plan

The Dulwich Hill Station Detailed Master Plan (Inner West Council / Plummer & Smith), adopted September 2019) sets out a ten year strategy to transform the public domain around Dulwich Hill Station into a pedestrian-oriented village. This includes Wardell Road, Dudley Street, Ewart Street and Lane, and Bedford Crescent, all of which are within the Station Precinct and which the Project interfaces.

Key design strategies proposed in the Master Plan are for:

- Improved pedestrian amenity:
 - » A signalised crossing at the intersection of Wardell Road and Dudley Street
 - » Increased footpath widths on the rail overbridge
 - » A shared zone for the eastern end of Ewart Lane
- Improved circulation and bike links:
 - » New paths along Ewart Lane linking to regional bike routes
- Social streets:
 - » Dedicated seating and gathering areas with small seating opportunities and public art
- Safety and accessibility:
 - » Signalised crossing
 - » Rationalisation of bike path, footpath and bus stop conflicts
- Improved legibility:
 - » Wayfinding signage to open space and networks (including the Cooks to Cove GreenWay)
 - » Interpretive signage for site stories, including the turpentine / ironbark grassland
- Biodiversity and Water Sensitive Urban Design:
 - » Introduce rain gardens, increase tree and vegetation planting
- Connection to place:
 - » Retain the station concourse building as a recognisable part of the local character and the history and sense of the place.

Opportunities for the SDPP:

- Design the new plaza as a ‘social street’, with seating and gathering areas and opportunities for public art
- Design the plaza levels to manage the currently challenging topography and create continuous connections and level public spaces
- Optimise accessible connections both across and along the rail corridor
- Interpret the remnant Turpentine grassland vegetation community in the landscape design
- Use new tree planting and vegetation in the plaza to reduce the heat island effect
- Supplement existing street trees (within Council’s land) using the tree offset provision.

Extracts from the Master Plan are included at Appendix A.

3.2.7 Cooks to Cove GreenWay Master Plan

The Cooks to Cove GreenWay Master Plan was jointly funded by the NSW Government in association with Inner West Council and City of Canterbury Bankstown, and adopted by Inner West Council in August 2018. It follows the route of the Light Rail, aiming to create a connected shared path and public space network that integrates ecological restoration, public art and community infrastructure. Capital works plans are organised into six precincts, of which the Dulwich Grove Precinct is relevant to this Project. It includes Dulwich Hill Station and Light Rail Station, Jack Shanahan Reserve, and Ewart Lane alongside the rail corridor. The main GreenWay route is through Jack Shanahan Reserve, linking to the northern end of Ness Avenue. A proposed link connects from Dudley Street to Ness Avenue (refer pp 120-123 of the Master Plan).

Opportunities for the SDPP:

- Implement part of the identified connections to the Cooks to Cove ‘GreenWay’ in conjunction with the new plaza, facilitating the east-west link and upgrade as part of this and the Dulwich Hill Station Centre Master Plan
- The GreenWay Master Plan shows extensive new planting through Ewart Lane and the existing commuter car park. The proposed design does not preclude this occurring in the future.

3.2.8 Marrickville Public Domain Design Guide

The Marrickville Public Domain Design Guide was adopted by Inner West Council in October 2016. It stresses the importance of “creating spaces and places that have pedestrian priority, are comfortable and safe for people of all ages to live and flourish”. The Design Guide suggests a ‘Village Palette’ for both Marrickville Centre (including Illawarra Road at the Station) and Dulwich Hill Station Precinct. This includes water bubbler, seats, bins, bollards and bike racks, and a range of concrete unit pavers and natural stone.

Opportunities for the SDPP:

- Draw on the intent of the Design Guide rather than using the Village Palette as prescriptive, for areas that will be managed by Metro. This means simple, clean lines for street furniture and monochrome pavers in running bond
- For areas that will be managed by Council, use Council’s palette as agreed in consultation.

3.2.9 Marrickville Street Tree Master Plan

The Marrickville Street Tree Master Plan was adopted in September 2014 and is current. The principal aim of the Street Tree Master Plan is to “increase the urban tree canopy through sustainable new and replacement tree plantings and maintain street trees throughout the local area”.

The Master Plan notes that there are numerous historic streets in the LGA with distinctive in-road planting from the 1930s, that add significantly to the amenity and character of Marrickville’s residential streets. Within or near the Station Precinct, this includes Warburton Street (Hills Weeping Fig), Carrington Road (Canary Island Date Palm), and High Street (Jelly Palm).

The Master Plan acknowledges the strengths of both native and exotic tree species as street trees, and seeks to strike a balance between them based on the best tree for the location and land use. Palettes are proposed from which to select the appropriate species and typical street planting details are provided.

Opportunities for the SDPP:

- As per the Master Plan objective, maintain and provide plantings that contribute to the continuation and expansion of identified wildlife corridors and native planting corridors
- Draw on the Master Plan principles for tree selection in the plaza.

3.2.10 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 is being 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

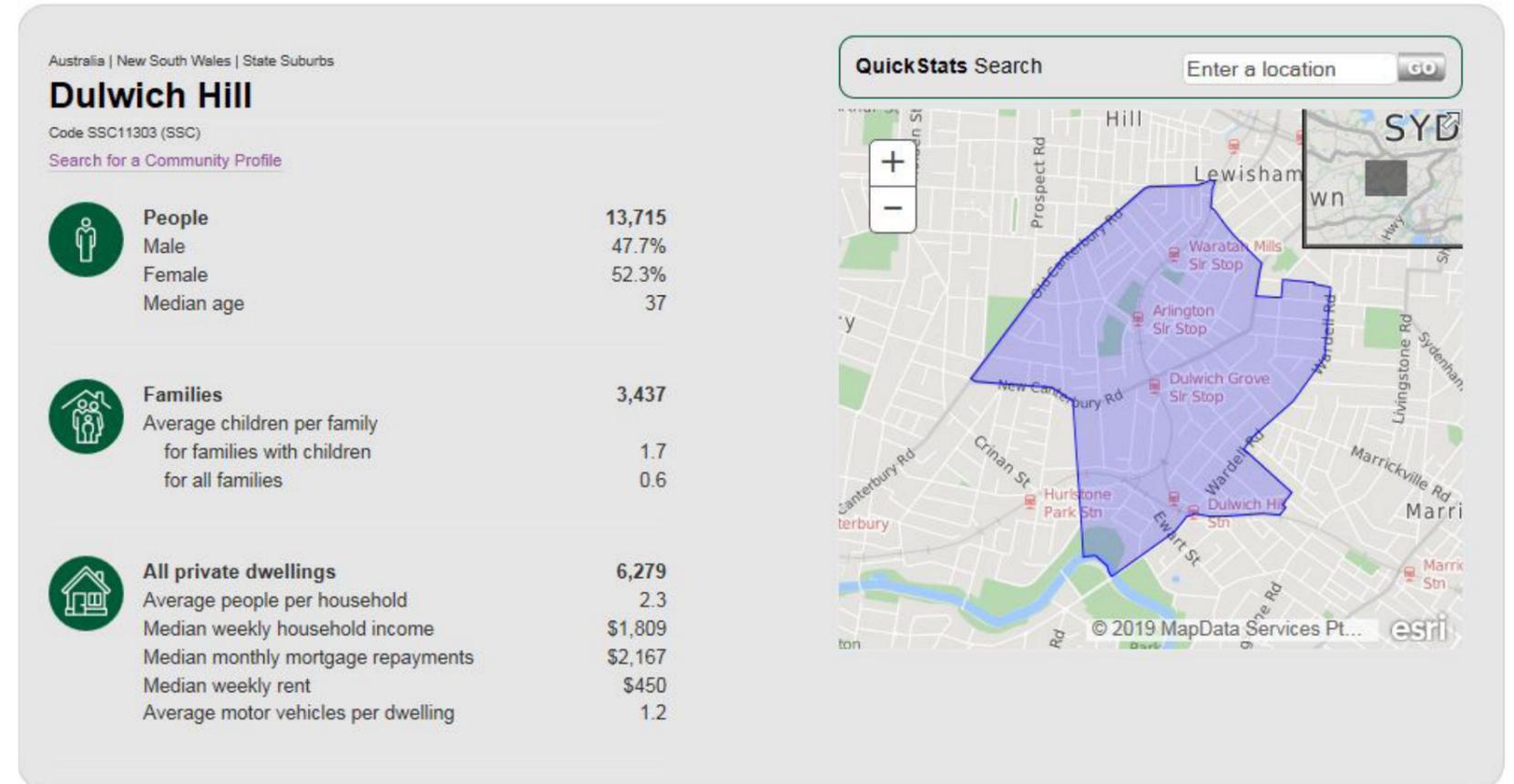
3.3.1 Community profile

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

- A median age of 37, with 15.7% of the population under 15 and 12.1% aged 65 or over
- 41.3% of people born overseas – significantly higher than the national average of 34.5%. Of people born overseas, the top countries of origin (in order) are England, Greece, New Zealand, Vietnam and the Philippines
- Almost 40% of people who speak a language other than English at home
- A median weekly household income of \$1,809, higher than the NSW average
- Flats or apartments account for 54% of the dwelling stock, much higher than the NSW average of 19.9%; and renting accounts for 44.2% of tenure
- 65.1% of people who were employed full time, 25.7% employed part-time and 4.8% unemployed
- Professional and managerial occupations dominating, at 35.5% and 14.9% respectively
- A focus on healthcare, higher education, government and banking as employment types – notably with work in cafes and restaurants also well represented.

Source: Australian Bureau of Statistics

2016 Census QuickStats



THIS PAGE DELIBERATELY BLANK

3.3.2 The station in its precinct

The T3 Bankstown line interrupted the original street and lot pattern. Dulwich Hill Station is located on a steeply sloping part of Wardell Road, as the street drops from the high point down towards the Cooks River. The concourse building is highly visible on the road bridge over the rail corridor. Because of its position on the overbridge it is also somewhat isolated from the two sides of the village centre, and is currently not accessible from Wardell Road. In contrast, the entry to the Light Rail from Bedford Crescent – also the proposed second entry to the metro – is both accessible and legible on Bedford Crescent. Nonetheless, the concourse building is highly valued (refer Dulwich Hill Station Detailed Master Plan) as a character-giving element for the precinct.

At the termination of the Inner West Light Rail Line (formerly the Goods Line), the station's relationship with the surrounding landscape changes from being enclosed on both sides by sandstone cut, to a semi-open setting with the vegetated open space of Jack Shanahan Reserve on one side.



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

- 1 Bedford Crescent has low traffic on an elevated position with views to the south and a relatively strong 'public street' feel
- 2 Low scale 1-2 storey shop fronts indicate transition into neighbourhood centre along Wardell Road
- 3 Typically 1-2 storey detached character housing c1920s with heritage conservation status. Several examples of multi-residential buildings from the same era
- 4 Access to Jack Shanahan reserve from the north side of the station is via the Light Rail platform and public access via this route is not particularly legible
- 5 Wardell Road bridge forms a crest locally and has high visibility to its surrounding public space and views to the south and west. Bridge footpaths are narrow
- 6 Recent cycleway and footpath improvements, with new street trees, has improved the public domain
- 7 Recent seven storey development at Dudley Street and Wardell Road with no setback dominates the public domain and has become the most visible feature of the station approach from the north
- 8 Narrow and steep pedestrian connection through to Ewart Lane is not well used
- 9 At-grade car parking area used by rail commuters
- 10 Active retail along Wardell Road, with some consolidation of the original fine grain subdivision. New developments between 6-7 storeys have begun to enclose this block and change the centre character
- 11 Ewart Lane is narrow and 'back of house' with driveways, servicing and storage areas
- 12 Active intersection with new shop fronts and prominent heritage building form. Receives moderate daylighting due to low building height directly north of intersection

- | | |
|--|--|
|  Project boundary |  Open green space |
|  Rail line |  Built form footprint |
|  Light rail line |  Public domain density perception |
|  Station entry |  Active frontages |
|  Light rail station entry |  Poor quality active frontages |
|  Platform and station buildings |  At-grade parking |
|  Station precinct (200m radius) | |



Figure 3.1 Urban spatial qualities

3.3.3 Urban form

Dulwich Hill Station is at the centre of Dulwich Hill, which stretches along a block and a half of Wardell Road. The centre is in transition, with a number of 4-6 storey mixed use developments and an approved seven storey development adjacent to the new plaza (corner of Wardell Road and Ewart Lane). New developments are maintaining the main street character at ground level, with street wall buildings and stepped awnings. Council has also identified that the centre is developing with a strong affordable component in the land use mix, and that this links to their aspiration for a pedestrian-oriented hub with reduced reliance on private vehicles.

The rail corridor bisects the town centre's retail and commercial uses, with a small cluster on the west side of Wardell Road north of the station (close to the Light Rail), and a larger group of strip retail mixed with residential to the southwest. The character of this southern block is somewhat utilitarian, given by simple newer buildings in a single plane, minimal street furniture or other elements, and the lack of street trees. Climbing the hill towards the station remains challenging, as the steep topography means that some footpath gradients, including immediately south of the station, are not compliant with the Disability Discrimination Act (DDA).

3.3.4 Heritage

Dulwich Hill Station was opened on 1 February 1895, as Wardell Road Station, and renamed on 1 July 1920. The station itself was located some distance to the south from the main shopping strip on New Canterbury Road. This area was originally known as West Marrickville. In 1935 the original 1895 timber station buildings were replaced by a new brick platform building, a new overhead weatherboard booking and parcels office and bookstall. The stairs to the platform were relocated to accommodate the modifications.

Dulwich Hill station group (platform building and overhead booking office, platform, overbridge) is on the Railcorp Section 170 register and the Local Heritage register. The buildings are significant as they are typical examples of the Inter-war eclectic style used by NSW Railways, and the overhead booking office retains its original configuration and much of its original fabric. The platform building is unique on the Bankstown Line for being a replacement for the earlier timber building.

The station precinct includes part of the Abergeldie Estate Heritage Conservation Area, with consistent streetscapes of large detached inter-war bungalows.



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

- 1 Heritage elevated weatherboard concourse building and ticket office
- 2 Heritage brick platform building
- 3 Low scale 1-2 storey shop fronts indicate transition into neighbourhood centre along Wardell Road
- 4 Typically 1-2 storey detached character housing c1920's with heritage conservation status. Several examples of multi-residential buildings from the same era
- 5 Open public park with numerous facilities including a skate park
- 6 Recent seven storey development at Dudley Street and Wardell Road with no setback dominates the public domain and has become the most visible feature of the station approach from the north
- 7 Increase in building heights along Wardell Road to 6-7 storeys. Active retail along Wardell Road, with some consolidation of the original fine grain subdivision. Several developments under construction and lodged DAs highlight the continuing densification of the village core

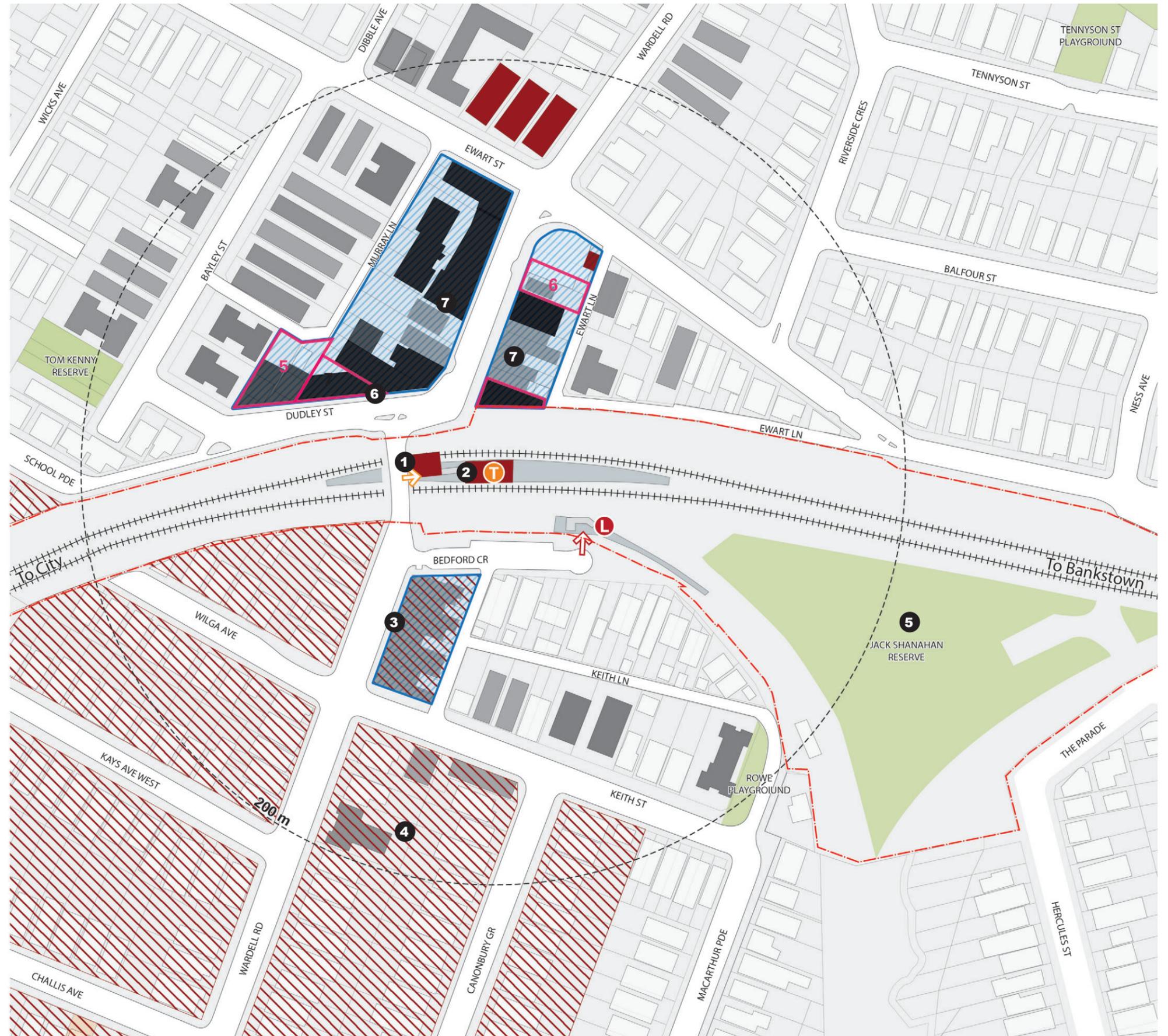


Figure 3.2 Precinct built form and heritage

3.3.5 Landscape, vegetation and topography

Dulwich Hill Station is in cut, between the upper slopes of Dulwich Hill and the lower slopes to the Cooks River (refer Figure 3.3). The sandstone-lined corridor is a strong feature of the station environment. At concourse (street) level the relationship of the station to the surrounding landscape is emphasised by views along the rail corridor, and elevated vistas across the village centre towards the Cooks River. A small area of remnant Degraded Sydney Turpentine Ironbark forest grassland near the station entry is all that remains of the original vegetation community. Recent plantings of eucalypt trees alongside the Dudley Street shared path have reinforced the natural character.

Beyond the main street, the area character is of single, detached residential early 20th century brick dwellings, with front gardens, low fences, and typically 'green' streetscapes featuring mature brushbox trees in wide verges. Private gardens including large trees contribute to the canopy. Jack Shanahan Park, next to the Light Rail, is the major public open space touching the precinct. The Cooks to Cove GreenWay alongside the Light Rail is also a significant contributor to the green network and connects the precinct to the Cooks River. The main street itself south of the station is urban and hard edged, with one street tree in front of a single remaining house among the otherwise commercial uses.



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

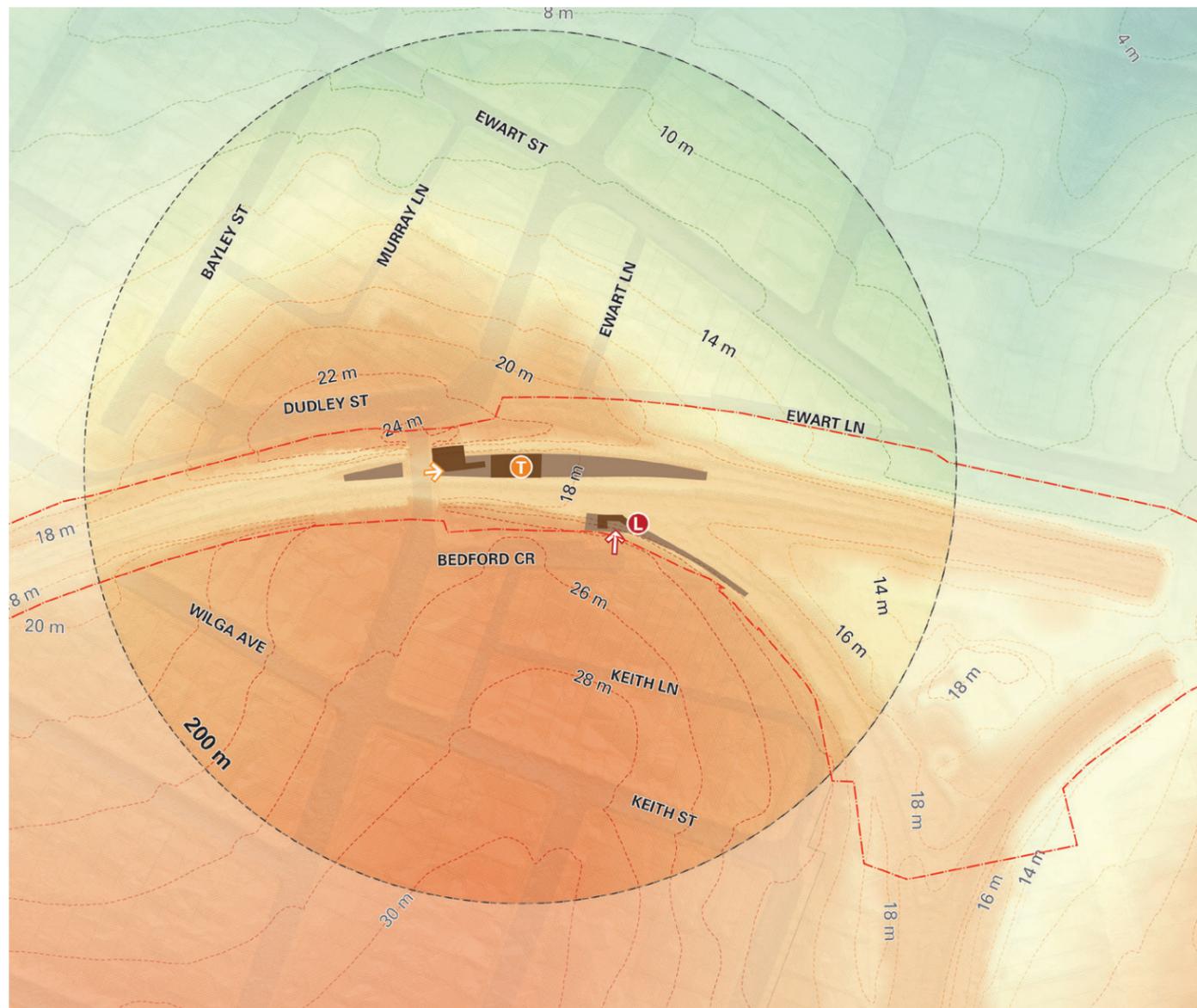
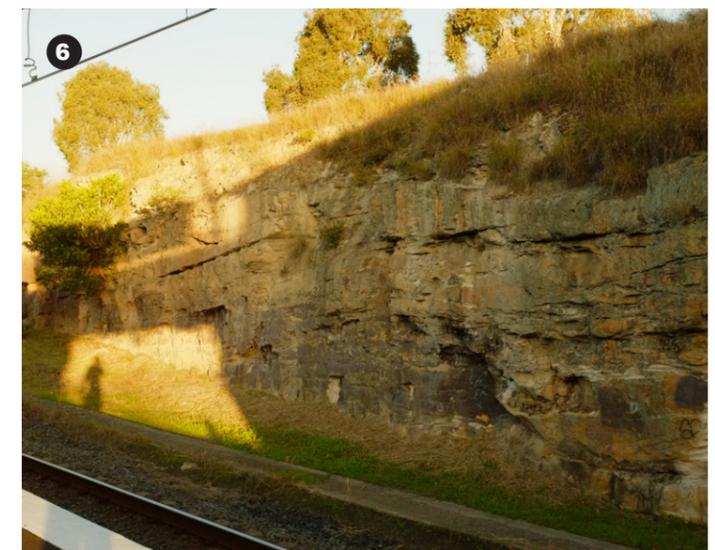


Figure 3.3 The station in the topography



- 1 Wardell Road bridge forms a crest locally and offers long locating views to the west and south-west with additional views along the rail corridor to the east
- 2 The existing light rail entry off Bedford Crescent is elevated and offers high quality views across the train line
- 3 New tree planting and small public open spaces complement the urban character of Bedford Crescent
- 4 Open public park with numerous facilities including a skate park. Additional trees have recently been planted
- 5 High quality example of in-road planted established Brushbox forming an arched canopy
- 6 Exposed sandstone cutting visible to both sides of the station platform and light rail platform
- 7 Remnant area of Degraded Sydney Turpentine Ironbark Forest grassland
- 8 Established tree planting becomes more dense along the Dudley Street cycle path and leading to Tom Kenny Reserve
- 9 Steep change in topography along Wardell Road allows views through its length
- 10 Underutilised open space and carpark along Ewart Lane with grades not suitable for disabled access
- 11 Established in-road street trees primarily to the northern side of Ewart Street

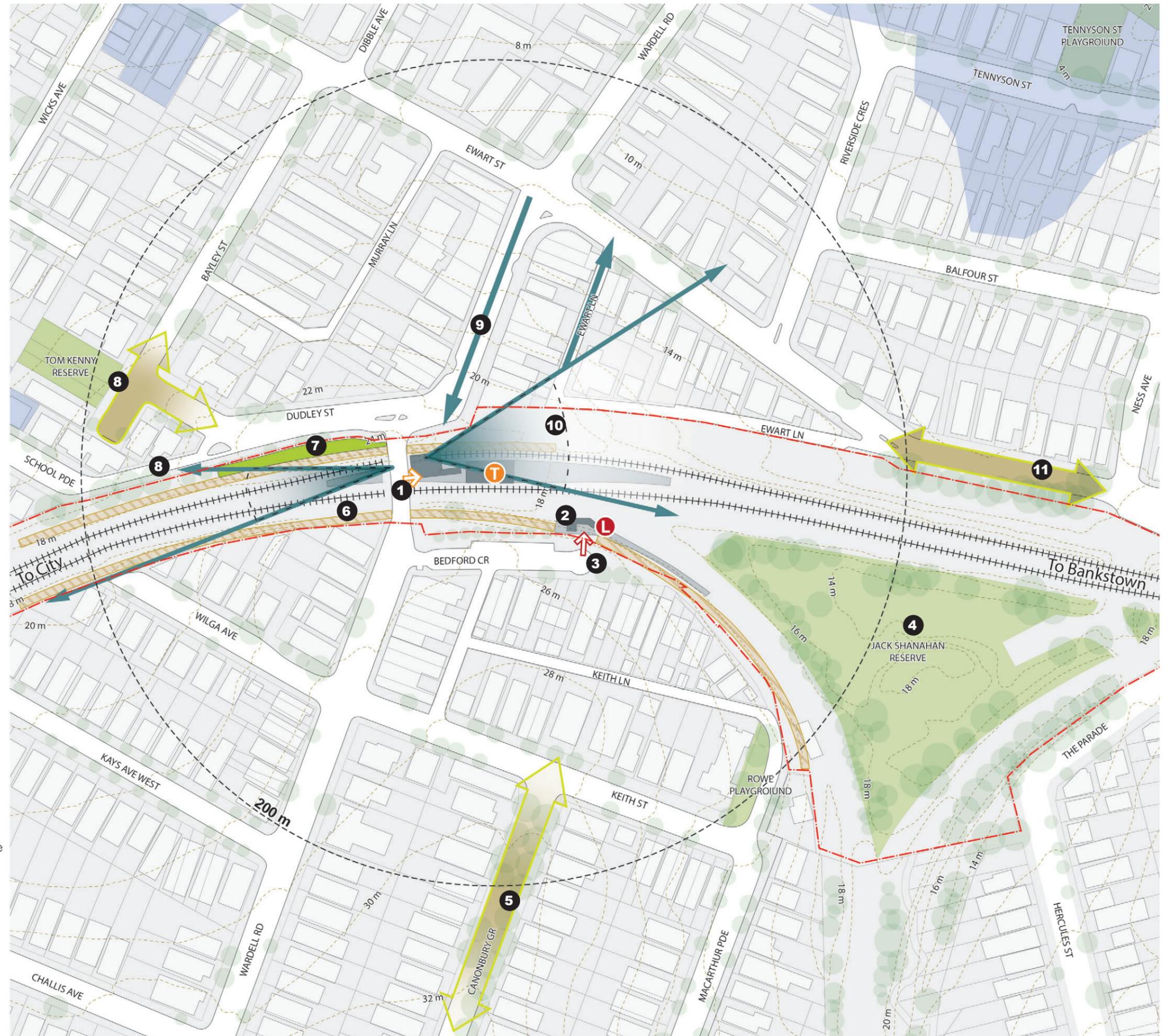


Figure 3.4 Precinct landscape, topography and views

3.3.6 Transport and access

Wardell Road kinks and drops away to the southwest as it crosses the railway line, resulting in a distinctive street layout but also in reduced sightlines and challenges to people using the footpaths and crossing the road. Footpaths on the Wardell Road overbridge are narrow. There is a northbound bus stop just south of the station, and bus stops also across the road on Dudley Street. Only one bus route services the station.

To the south of the station is an existing narrow path connecting Wardell Road to Ewart Lane, the commuter car park and beyond to the GreenWay. A new off-road shared path has recently been constructed on Dudley Street.

The local context for transport and access will change as a result of the Project:

- A new overhead concourse with lifts and stairs to the platforms will connect across the rail line between the Light Rail, with new entrances at Bedford Crescent (north) and Ewart Lane (south)
- The existing entry from the concourse building on Wardell Road will be retained and upgraded
- Bicycle parking will be retained and expanded on Bedford Crescent, and additional bicycle racks provided at the new south station entry
- Two accessible parking spaces, one kiss and ride and one taxi space will be available on Bedford Crescent from the new station entry
- Bus services will continue to run from Dudley Street.



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

- 1 Dulwich Hill station has stair access only to platforms
- 2 The station concourse entry is via the overbridge on Wardell Road. While highly visible at an elevated position with quality views, the footpaths in front of the station entry is narrow
- 3 The Light Rail station is accessed via Bedford Crescent and is in a prominent elevated position with views from its upper level. There are stairs and a lift to reach the platform level
- 4 Bedford Crescent offers bicycle parking, limited parking and accessible parking. It has high pedestrian usage at peak times
- 5 Access to Jack Shanahan reserve from the north side of the station is via the Light Rail platform and public access via this route is not particularly legible
- 6 The path from Bedford Crescent through to Macarthur Parade is unlit, narrow and has solid walls to one side and the rear yards of residential properties to the other. The solid screening limits daylighting and views out
- 7 Off road cycleway and pedestrian path
- 8 Key neighbourhood intersection with bus stops and bike parking
- 9 Key neighbourhood intersection with active frontages and heritage character
- 10 Underutilised open space and carpark with narrow access. Grades not suitable for disabled access
- 11 Cooks River to Iron Cove GreenWay

- | | | | |
|---|---|---|--------------------------------|
|  | Project boundary |  | Key intersection |
|  | Rail line |  | Station precinct (200m radius) |
|  | Light rail line |  | Open space |
|  | Platform and station buildings |  | Primary connection route |
|  | Station entry |  | Secondary connection route |
|  | Light rail station entry |  | Neighbourhood connection |
|  | Greenway shared path (work in progress) |  | Bus routes and stops |
|  | Cycle path (existing off-road) |  | Pedestrian crossing |
| | |  | Accessible parking space |



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 able to be delivered as part of the project ('opportunities delivered') and what is not ('opportunities safeguarded'). The table in Section 3.5 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 Dulwich Hill Village Fair

Source: innerwest.nsw.gov.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	There is a lack of public space on the southern side of the precinct	<ul style="list-style-type: none"> – A new public plaza will be provided on the southern side of the station and will provide a new station entry – Extend the plaza further towards Wardell Road by narrowing the road and widening the footpath, in conjunction with intersection upgrade currently being incorporated into the Dulwich Hill Station scope 	
	2	Bedford Crescent pocket park is isolated from the town centre and creates a safety issue at night	<ul style="list-style-type: none"> – A new cross corridor connection across the rail corridor will be provided and will increase pedestrian activity on Bedford Crescent and enliven the area around the pocket park. New lighting in Bedford Crescent to Keith Lane from Wardell Road will also improve safety – Further public domain and open space enhancements to Bedford Crescent pocket park currently being incorporated into the Dulwich Hill Station scope 	
	3	Ewart Lane is not pedestrian friendly and presents as an unpleasant environment. The portion alongside the rail corridor is narrow and steep. The laneway is not overlooked by adjacent streets, spaces or buildings and feels unsafe at night	<ul style="list-style-type: none"> – The new plaza will incorporate the pedestrian laneway. New lighting, landscaping and seating will be provided to create a safe, accessible and well connected public space 	<ul style="list-style-type: none"> – Convert the portion of Ewart Lane perpendicular to the new plaza to a shared street, linking into the plaza and enhancing the connection to the new overbridge
	4	There is a lack of street activation other than within the village core on Wardell Road	<ul style="list-style-type: none"> – The new plaza extends the village centre public domain and creates a new hub of activity perpendicular to Wardell Road 	<ul style="list-style-type: none"> – Revitalised precinct leveraging off Dudley Street transformation and new plaza – Adjacent development to the plaza and Ewart Lane to overlook and activate the public spaces
Connectivity and access	5	Ewart Lane is unsafe at night with lack of street activation due to the multitude of driveways and lack of public visibility over the laneway	<ul style="list-style-type: none"> – The new plaza and cross corridor connection will provide more pedestrian movement and better visibility over the southern side of the station – Public domain works to Ewart Lane to connect the new plaza to the GreenWay route, including upgrade works to the Ewart Lane carpark and new landscaping to Ewart Lane currently being incorporated into the Dulwich Hill Station scope 	
	6	Lack of cross corridor connectivity. There is a single crossing of the rail corridor, on Wardell Road on the rail overbridge, which limits connectivity between the two parts of the village, and to the station entry from surrounding streets	<ul style="list-style-type: none"> – The new pedestrian overbridge provides an additional cross-corridor connection that improves connectivity to Light Rail and the wider Dulwich Hill precinct 	
	7	The existing Wardell Road footpath on the overbridge is narrow, including in front of the station entry	<ul style="list-style-type: none"> – The existing footpath will be replaced with a new fence and kerb to the existing station entrance – New station entries from Bedford Crescent and Ewart Lane and an additional unpaid concourse connecting north and south of station will relieve pressure from Wardell Road bridge 	
	8	Visibility to the existing pedestrian crossing to Wardell Road is restricted both by the curve of road and the slope.	<ul style="list-style-type: none"> – The new plaza opens up the area of Wardell Road where visibility is limited, creating wider sightlines for pedestrians and cyclists on approach to the intersection with Dudley Street 	<ul style="list-style-type: none"> – Realignment of Wardell Road on the southern side of the overbridge with a new raised and signalised crossing at the Wardell Road / Dudley Street intersection
	9	Existing intersections are pedestrian unfriendly due to volume and speed of traffic, length of wait at signals (south of the station) and limited formal crossing points (north of the station).	<ul style="list-style-type: none"> – Location of access interchange facilities on Bedford Crescent, in association with accessible new entry to the station in that location, reduces requirement to cross additional roads 	<ul style="list-style-type: none"> – Future intersection treatment as part of holistic streetscape upgrade
	10	'Missing link' between cycle path along Dudley Street and the GreenWay	<ul style="list-style-type: none"> – The new plaza incorporates part of Ewart Lane to include generous new walking and cycling connections between the GreenWay and the Dudley Street shared path 	<ul style="list-style-type: none"> – New cycle path link along Ewart Lane to connect with the GreenWay
	11	Ewart Lane and Keith Lane through-site links are isolated and with sparse night lighting	<ul style="list-style-type: none"> – The plaza includes feature uplighting of trees, and lighting integrated with stairs and paths. Lighting at the end of Bedford Crescent and between Bedford Crescent and Keith Lane is upgraded 	
	12	Lack of DDA access to the station, including to the bus stops on Dudley Street and to the southern side of the rail corridor,	<ul style="list-style-type: none"> – The new plaza provides: a fully accessible route to the new station entry from Wardell Road at the pedestrian crossing to the bus stops; and DDA access to Metro platforms and across the corridor to Bedford Crescent and Light Rail 	
	13	Informal use of Ewart Lane and Wardell Road by vehicles dropping off rail passengers	<ul style="list-style-type: none"> – New seat and shelter provided to Kiss and Ride on Bedford Crescent 	<ul style="list-style-type: none"> – Additional Kiss and Ride zones on Wardell Road south of the station and / or on Dudley Street

#	Key issue / opportunity	Opportunities delivered by the Project	Opportunities safeguarded by the Project
Built and landscape character	14 Tree planting around the station precinct is patchy with areas that are affected by sun and heat.	– New plaza space incorporates both native and exotic street trees, and a mix of shrubs and ground cover planting, for biodiversity and to provide shade and urban tree canopy. Water Sensitive Urban Design approach for plaza trees	– Further improve urban canopy for both shade and visual character improvements
	15 Concourse and platform buildings are heritage items	– Retention, refresh and re-use of the station concourse building as a recognisable part of the local character	
	16 Only remnants of the Degraded Sydney Turpentine Ironbark Forest vegetation community remain; sandstone cuttings are an important part of the station character	– Landscape planting and materials palettes combine native plants and sandstone edging / paving to showcase the underlying geology and original ecology	– Safeguard remnant native vegetation and natural features with future streetscape and public space upgrades



Figure 3.8 Safeguarding the future



4. Design



4.0 Design

4.1 Project design

4.1.1 Design intent

Sydney Metro is committed to delivering 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 Dulwich Hill, a new overhead concourse and public plaza will also strengthen the visibility of the station, extend the public domain, and contribute to the vibrancy of the town centre. The design enables universal access from a new station entry, with a concourse environment that is clear, uncluttered, and of its place. It builds on existing and future pedestrian and cycle desire lines along and across the rail corridor including into the street network and into the Cooks to Cove GreenWay.

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

Dulwich Hill Station has an established presence on Wardell Road by virtue of the concourse building standing alone on the Wardell Road overbridge. The concourse building is small and the station entry correspondingly low-key. 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 new station entry from a new plaza. The plaza will support multiple pedestrian and cycle movements, contribute much needed 'greening' to the urban domain, and strengthen the legibility of the station within the precinct. The new overhead concourse will become a place marker in its own right, elevated above the corridor, and will help signal paths of travel along the streets, lanes and shared paths of Dulwich Hill towards the new metro station entry.

4.2.2 Urban character

The rail corridor divides the Dulwich Hill Station village centre. Wardell Road just south of the station entry both slopes and kinks, so that sightlines along Wardell Road between the two parts of the retail core are interrupted and the centre further divided. Currently the character is 'hard edged' with minimal tree planting and no public open space. Ewart Lane alongside the rail corridor is a steep, narrow connection to the main street. The project creates an opportunity to stitch together the station and the village by virtue of the new plaza. The plaza will soften the village core, create an area for increased activity alongside the main street, and mitigate the challenges of the topography while still enabling appreciation of local and precinct views. With an easy, comfortable route between the new pedestrian overbridge and Wardell Road, and a range of different spaces, the plaza's scale, outlook and finish will create a new 'heart' for local residents and workers as well as metro commuters. The plaza will also provide an attractive setting for future development adjacent to it, including along Ewart Lane, as Dulwich Hill continues to evolve into the future.

4.2.3 Built form and scale

The existing single storey concourse building is a small element in what is a changing streetscape. Recent and current mixed use and residential development of up to seven storeys is transforming the village centre. Mindful of the modest scale of the heritage concourse building and the platform buildings, the new overhead concourse is designed to be as light, uncluttered and transparent as possible. The design maintains an appropriate scale relationship with the station group: the bridge and stair roof and canopies are simple, low and planar. Additional building footprint on the platforms is minimised by using space under the new stairs and re-using the existing platform building. Consistent with the overarching design strategy of minimal intrusion and maximum 'fit' with the existing precinct character, new elements are streamlined and refined rather than bold or heroic.

The main station entry from Wardell Road will remain unchanged in mass, scale and materials.



Figure 4.1 A new public heart for Dulwich Hill, artist's impression

4.3 Station precinct plan

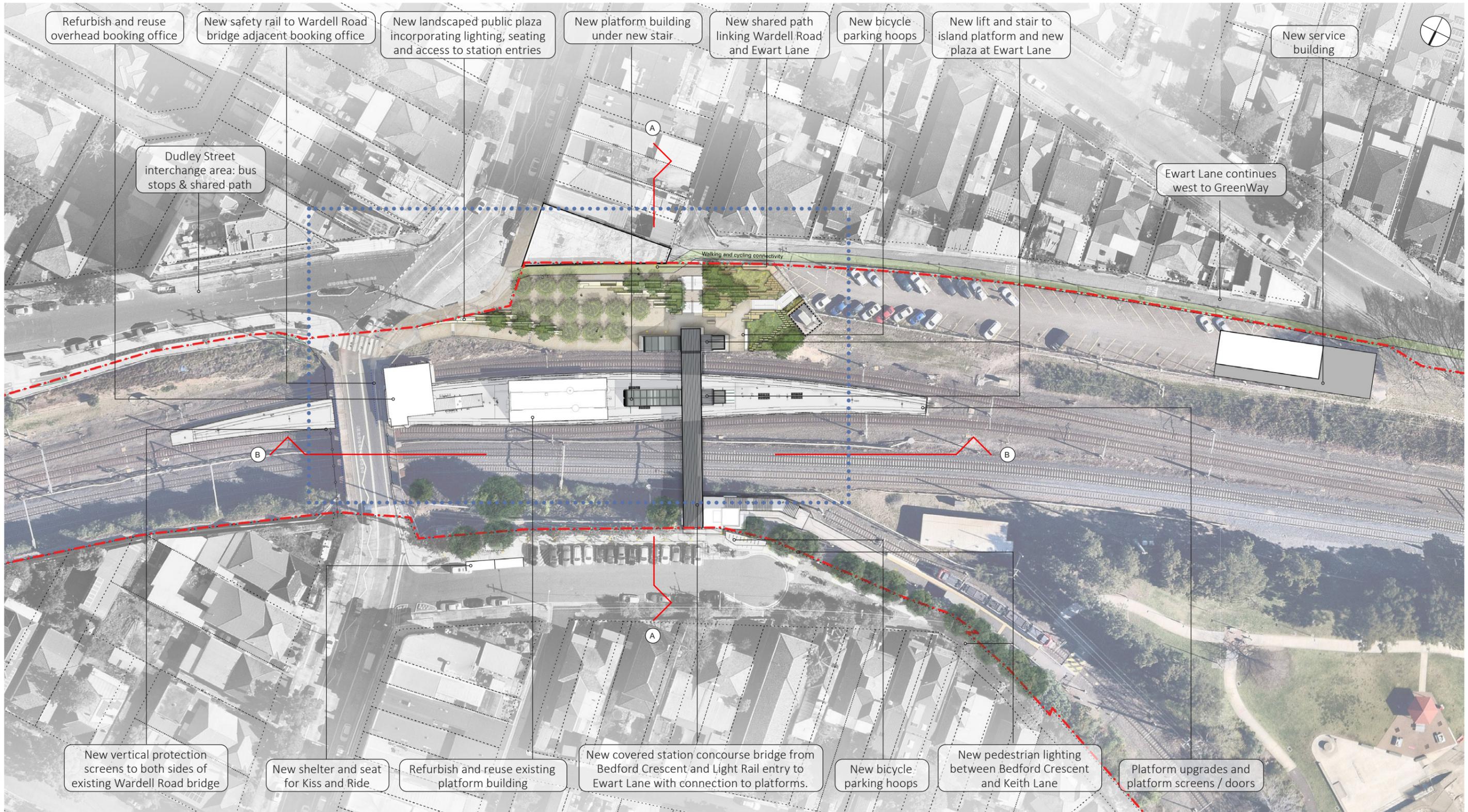


Figure 4.2 Station Precinct plan

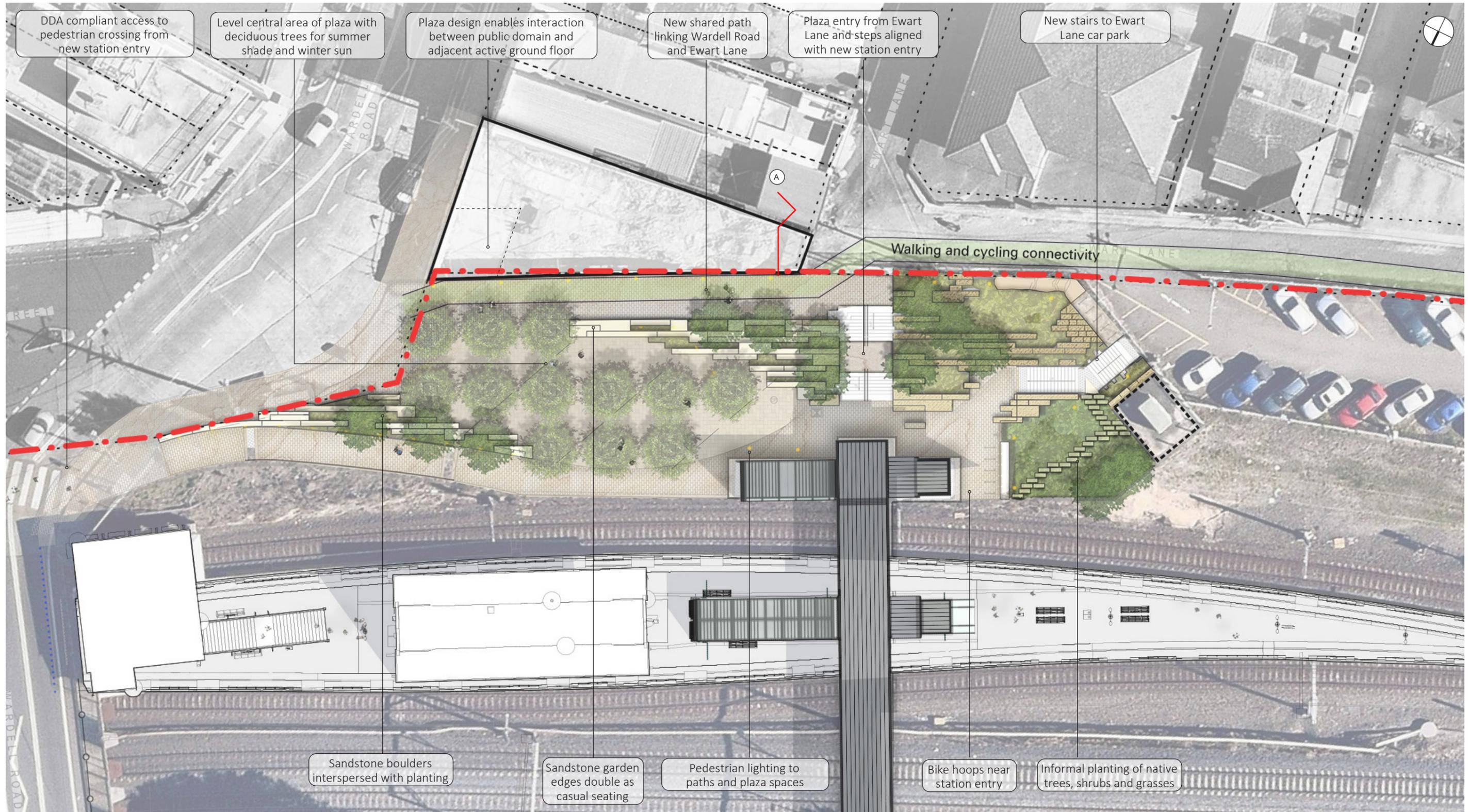


Figure 4.3 Station Precinct plan: the plaza

This plan is shown without trees to better show the spaces and connections between them

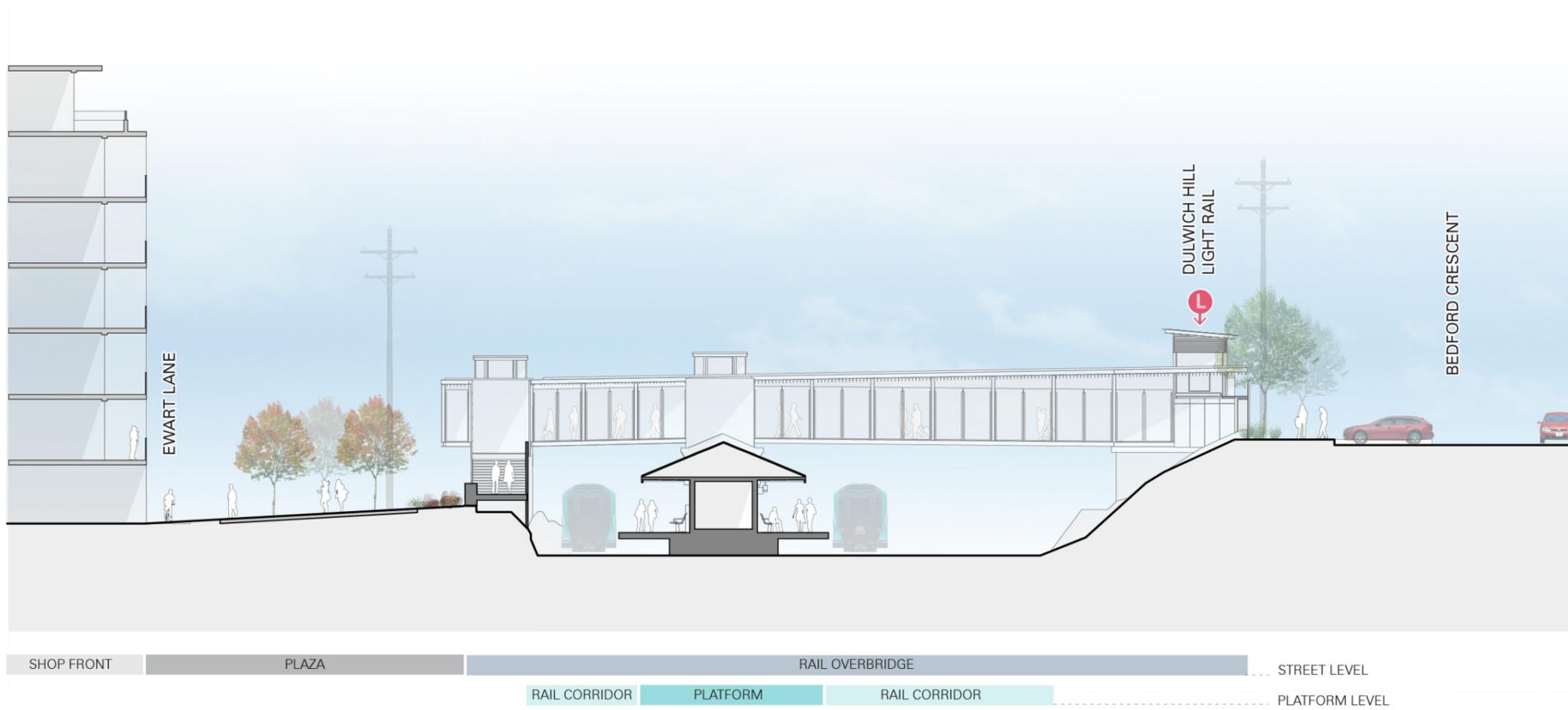


Figure 4.4 Section A: through new plaza and rail corridor



Figure 4.5 Section B: through Wardell Road and concourse buildings along the platform

4.4 Station precinct scope

4.4.1 General

The precinct scope is set by the design requirements in the Scope of Works and Technical Criteria Overview (SWTC) and the Services Brief. These requirements support the Sydney Southwest Metro and Project objectives. There are two separate components, metro station works and metro corridor works. Metro corridor works are located outside of the station precinct. The focus of this SDPP is the metro station works, which for Dulwich Hill include:

Station rooms and buildings – refresh:

- Upgrade station for DDA access, replacing stair treads and tactiles
- Various works to repurpose existing rooms for their intended future use
- Installation of air conditioning, power, water and other services to suit the room repurposing
- Lighting upgrades
- Window security screens
- General refresh, repairs, alterations and additions to station buildings.

Station buildings - New works: Provide a new covered Station Concourse Bridge from Bedford Crescent and Ewart Lane including:

- Connection to the existing light rail entry, lift and stairs
- Covered Station Concourse bridge from Bedford Crescent to Ewart Lane with connection to the island platform
- Provide new lift and stair to island platform from Station Concourse bridge, with canopies over lift landings and stair
- New lift and stair to Ewart Lane plaza
- New platform building underneath the new stair
- New security gates to Bedford Crescent and Ewart Lane entries.

Station buildings - new works:

- Security tilt-up gates to existing heritage booking office.

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.

Demolition:

- Some removal of internal fit out and other minor demolition works.

Lifts:

- Installation of new lifts in several stations.

Station services and systems – including:

- Combined Services Route through the station and to the chainage extents in the rail corridor
- Provisioning of conduits, space and services for Platform Screen Doors, Mechanical Gap Fillers, Building Management Control Systems, Configuration Control Submission, CCTV, Passenger Information Display System, Help Points, PA, ticketing equipment and as required for the Interface Contractors.

Canopies and shelters:

- New canopies as part of new covered stair and concourse.

Signage and wayfinding:

- Design for current wayfinding requirements.

Ticketing:

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

Public Domain:

- Replace existing pedestrian path from Wardell Road to Ewart Lane with a new 4m wide path (incorporated in the plaza)
- Provide a new station precinct plaza area accessed from Wardell Road and Ewart Lane as part of station entry works
- Ten new bike hoops to the station precinct plaza area
- Nine new bike hoops adjacent Bedford Crescent
- New light poles to Wardell Road at Bedford Crescent entry
- New light poles to Bedford Crescent entry at Keith Lane
- New light poles to Station precinct plaza
- New seat and shelter to Kiss and Ride on Bedford Crescent
- New safety rail adjacent heritage booking office at Wardell Road
- Planting and lighting to the new plaza.

Fencing and screens:

- New compliant security fencing and boundary gates to the rail corridor
- Addition vertical protection (anti-throw) screens to Wardell Road Bridge.

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 stations.

Bridge works:

- Various works to repair, refresh and update bridges including the addition or upgrade of throw screens, railings and the provision of errant vehicle mitigation.

Metro Services Building

- 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 building including associated loading/parking and ancillary functions.



Figure 4.6 Dulwich Hill station precinct scope

Aerial photograph dated before vegetation alongside Ewart Lane was removed

4.5 Heritage

4.5.1 Heritage platform buildings and platform walls

Dulwich Hill Station is on the Section 170 and Local Heritage registers. Its platform building is unique along the Bankstown Line, having been built in the 1930s, to replace an earlier timber building. Externally, the fabric and function of the awnings will remain, providing shelter to customers waiting to board their train. Brickwork and door / window detailing will also be protected and enhanced. Brickwork will generally be repointed, and external components and surfaces will be re-painted in line with current colour schemes. Internal rooms adapted for re-use by Sydney Metro will include new partition walls that 'box in' numerous windows, protecting the heritage detail of the window frames, and ensuring that new equipment will have minimal impact on the existing structure. Existing timber floors in station building rooms will be replaced with suspended concrete slabs. The timber floors are currently bearing on a skin of brick walls; the intention is to retain and re-use the brick walls to use as structural supports for the slab.

The design complements retained heritage platform buildings, elements, spaces and vistas by keeping interventions to a minimum, consistent with heritage principles discussed at section 2.3.2. Existing rooms within the heritage buildings will typically be reused for the housing of service equipment.

To retain as much of the heritage brick platform walls as possible when the platforms are resurfaced, a precast concrete 'T' section will sit above them.

4.5.2 Heritage concourse elements

The existing concourse building is an important place marker for the station and will still serve as the main station entry on Wardell Road. It will be upgraded and refurbished to accommodate Metro functions. The booking office walls, columns, fascia, soffit, window frames, doors and door frames will be repainted.

Upgraded elements to the Wardell Road overbridge aim to minimise any visual disturbance to the existing concourse building and preserve locating views and vistas from the bridge while maximising pedestrian amenity. These elements include glazed vertical protection screens along the outer edges of the bridge, detailed in section 4.12.2 and a new pedestrian railing in front of the concourse building entry

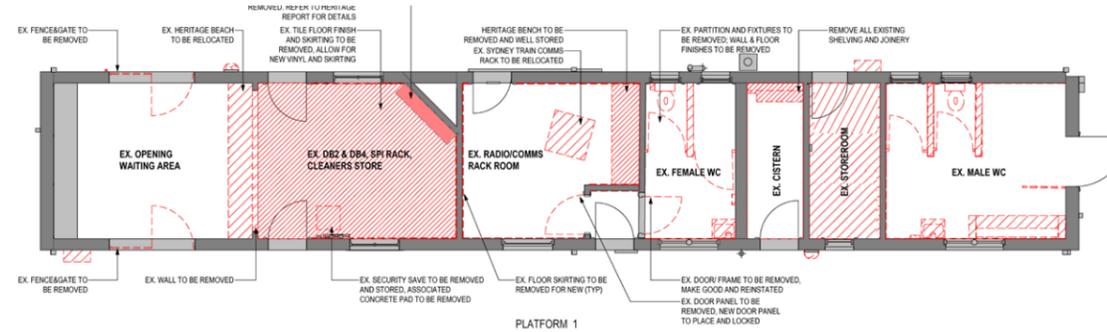


Figure 4.7 Platform building: proposed building reconfiguration

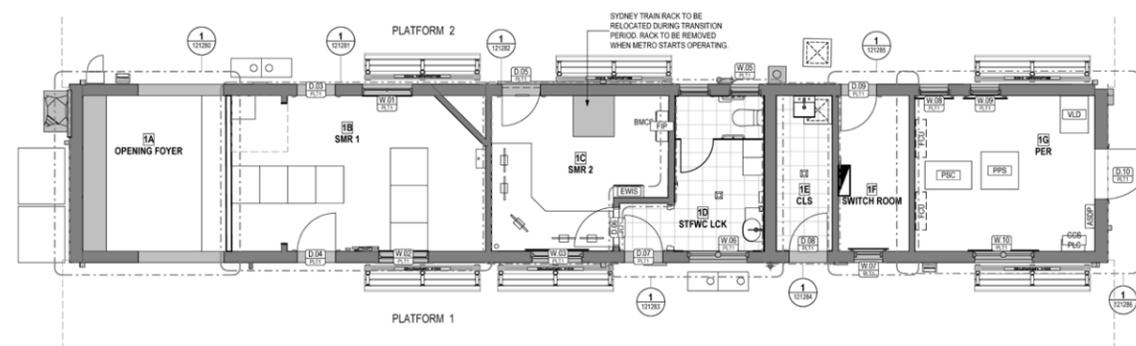


Figure 4.8 Platform building: proposed plan



Platform building, 1935



Overhead booking office, 1935

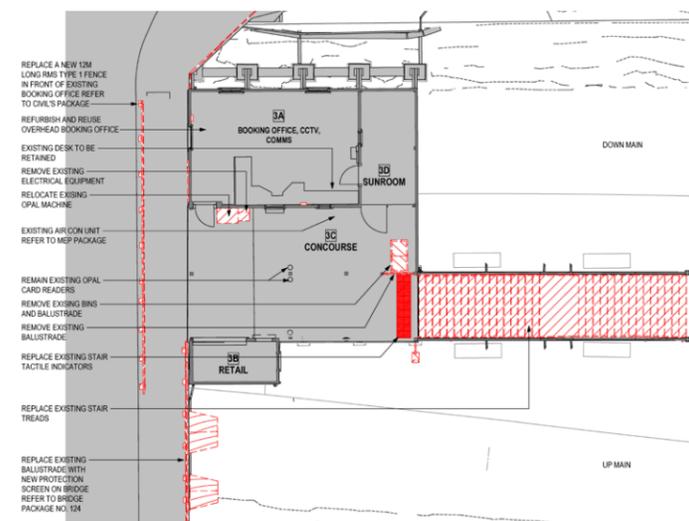


Figure 4.9 Concourse building: proposed building reconfiguration

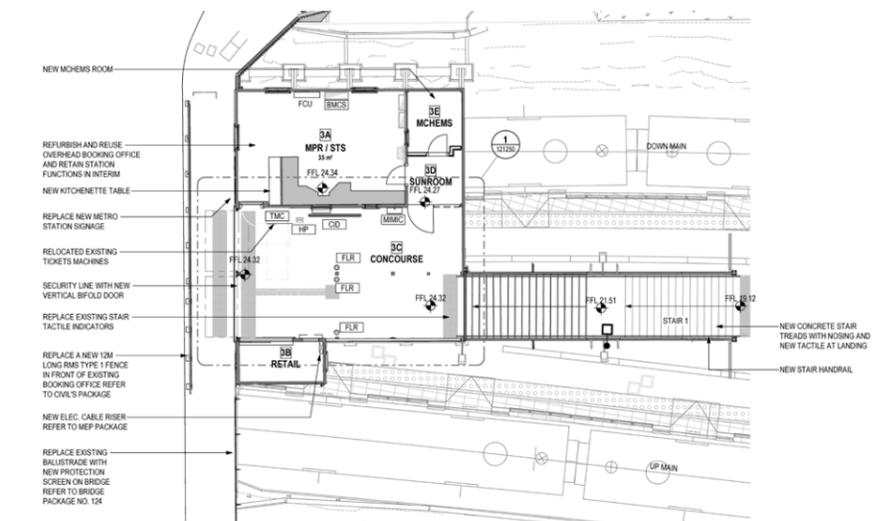


Figure 4.10 Concourse building: proposed plan

4.5.3 Heritage Interpretation Plan

In accordance with Condition of Approval E14, a Heritage Interpretation Plan for Dulwich Hill 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 Dulwich Hill, the creation of a new public plaza promotes the inclusion of heritage interpretation within the new public space. The plaza will be accessible throughout the day and night and is both a place to rest, wait or relax and a transit space with transit users moving from the gateline to the suburb. Additionally, a former waiting room within the heritage platform building (refer Fig 4.14) will be refreshed and media installed allowing arriving or departing passengers a place to access interpretive items. A number of devices are proposed at Dulwich Hill;

- The overall landscape and public space design responds to the indigenous and evolving natural environment through its interpretation of sandstone cuttings, re-imagining of the traditional market garden and extension of natural Iron Bark and turpentine forest vegetation
- A series of feature paving inlays within the public plaza provide ‘snapshot’ stories and headlines as people move through the space
- A series of custom folded metal signs are mounted horizontally adjacent seating areas that provide further information to the key stories identified
- Interpretive wall panels are installed within the existing platform building waiting room which will also be restored and refurbished



Figure 4.12 Paving inlay sample

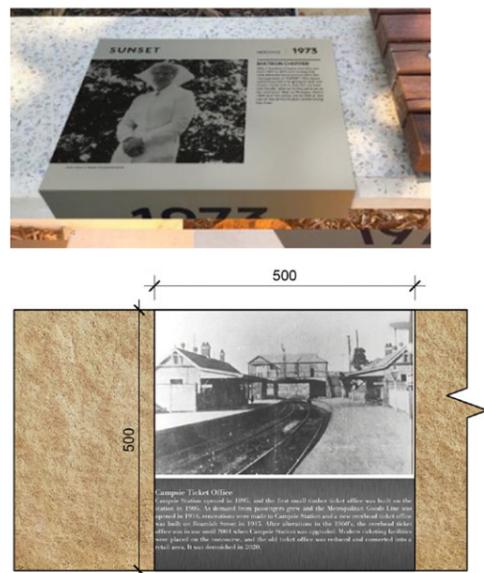


Figure 4.13 Heritage seat plaque detail

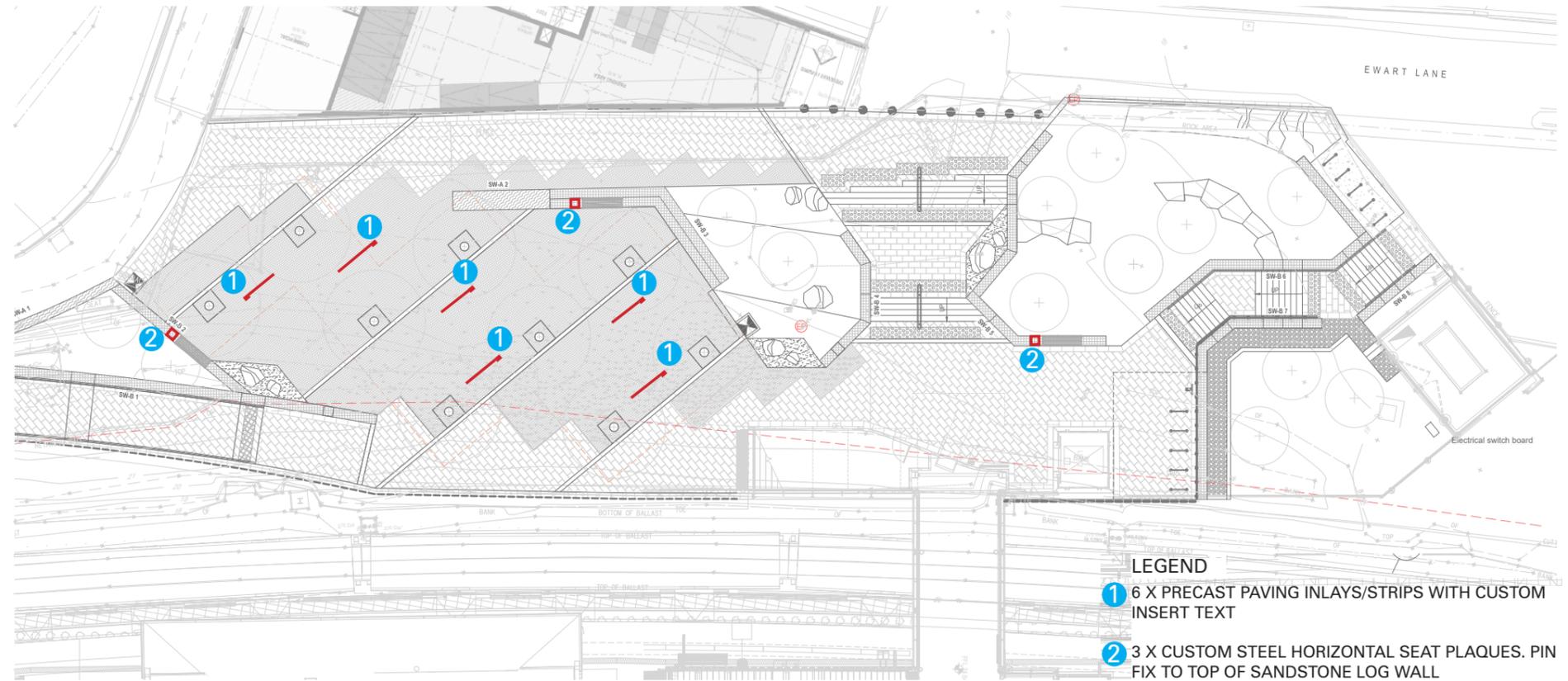


Figure 4.11 Dulwich Hill Plaza - Heritage interpretation key plan

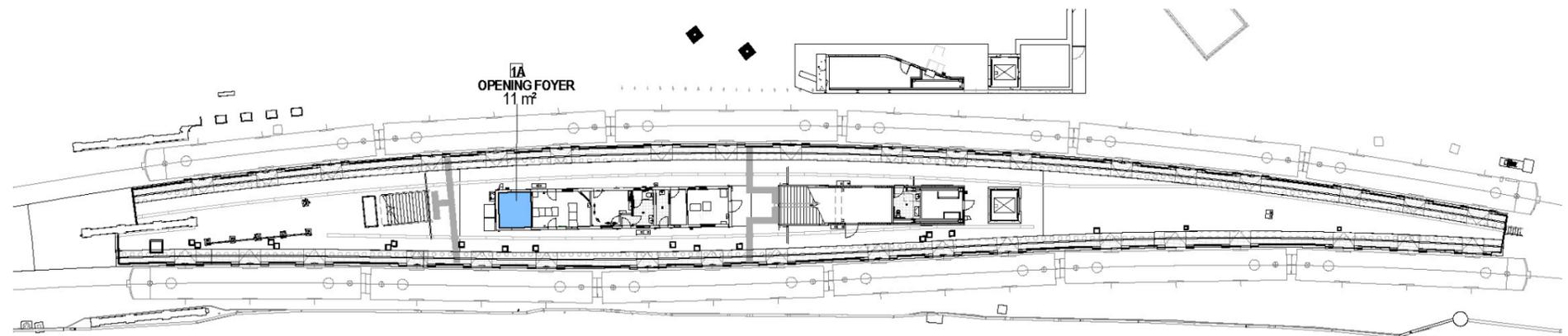


Figure 4.14 Location plan of refurbished platform waiting room

4.6 New overhead concourse

4.6.1 Station entry

The new overhead concourse provides the opportunity for fully accessible entries to the station. The concourse will also be a new element on the skyline which will also offer elevated views across the station precinct, allowing customers and the public to orient themselves within the station and the neighbourhood consistent with architectural principles established at section 2.3.6. The design connects Sydney Metro users to the station platforms from both sides of the rail line via the new plaza and Bedford Crescent. It also creates a modal interchange, linking directly to the Light Rail, and provides a public cross-corridor connection. The new station entries will disperse pedestrian flow and reduce congestion from the existing station entry along the Wardell Road overbridge. They will make a positive contribution to the open space and pedestrian movement network across the station precinct as well as serving the station itself.

The plaza (southern) entry is a convenient alternative for customers accessing Dulwich Hill Station from the commuter car park on Ewart Lane. Its location and orientation at the junction of pedestrian and cycle desire lines mean it will be visible and accessible from the public space and street network. The entry is formed by the concourse lift and stairs 'landing' in the plaza on axis with Ewart Lane. Extending the bridge over the entry provides weather protection and signals the entry more strongly.

From Bedford Lane the entry is co-located with the Light Rail entry and close to the accessible parking spaces, kiss and ride and taxi zones.

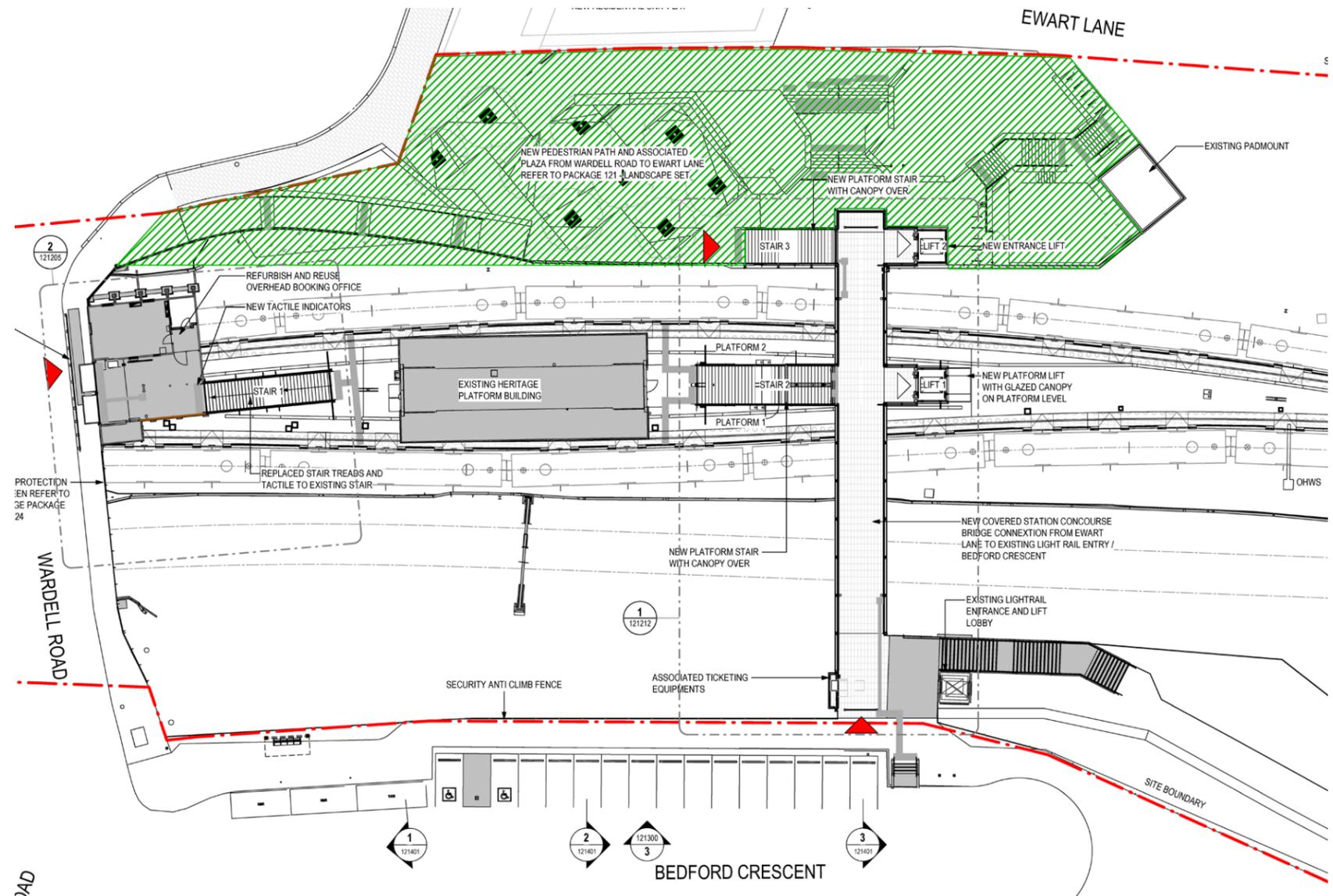


Figure 4.15 New overhead concourse plan



Figure 4.16 New overhead concourse: northern entry, Bedford Crescent

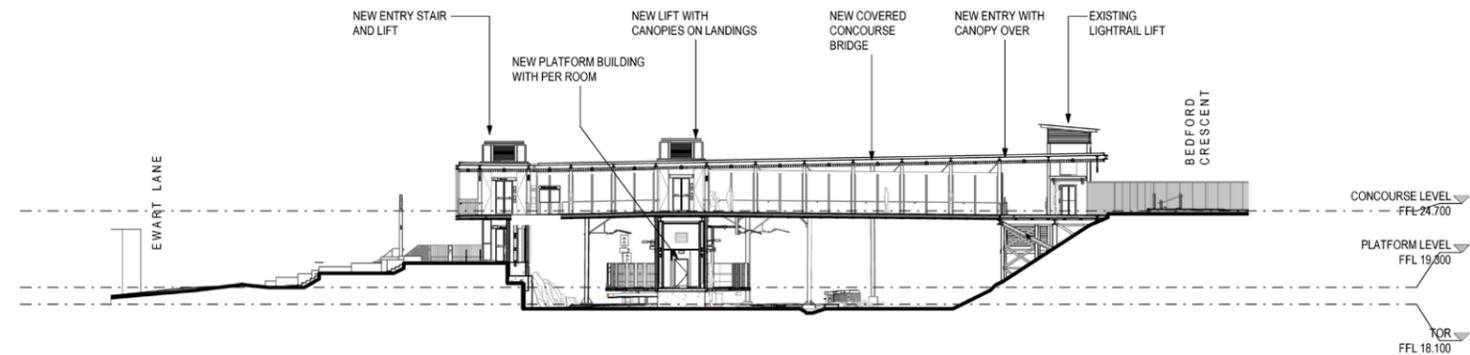


Figure 4.17 New overhead concourse section

4.6.2 Form of bridge

The new overhead concourse is a steel truss frame with a concrete deck. It uses the existing Light Rail stair, lift and landing. It is simple in form, modest in scale, and light in structure and appearance, respecting the heritage platform and concourse buildings within the station group.

The steel truss frame was selected to minimise the structural depth. It is further braced with angled flat metal plates for stability as well architectural interest. The concrete deck ramps up slightly from the level of the Light Rail lift landing to ensure compliant clearances over the OHW are achieved. The steel truss will be painted in a dark grey colour, and the canopy soffit will be lined with timber look battens with integrated LED lighting at regular intervals. Glass balustrades will afford clear views of the heritage platform building and the surrounding district, and will also increase visibility and passive surveillance for people on the bridge and the platforms, and in the plaza.

4.6.3 Roof and canopies

The roofs of the new bridge and stair canopies are designed to be simple and light, in keeping with the clean lines of the bridge itself, and with the overall design intent of minimal intrusion on the existing station character. The fascia of the roof is an expressed universal beam. The stair canopies follow the line of the stairs, in one plane and without large overhangs. They are transparent to maintain views to the sky and towards the heritage platform buildings, and contribute to a sense of openness, passive surveillance and perception of safety and security.

The simplicity of the detailing is in deliberate contrast to the decorative style of the heritage platform building, complementing it rather than mimicking its style or replicating its geometry and materials. This respectful approach establishes a harmonious relationship between the new and the existing station structures.

4.6.4 Under-stair spaces

The spaces created under the new stairs on the island platforms will be used to house metro services. They will be finished in a contemporary brick pattern, appropriately coloured and textured to complement the heritage platform buildings.



Figure 4.18 New overhead concourse: view from Ewart Lane

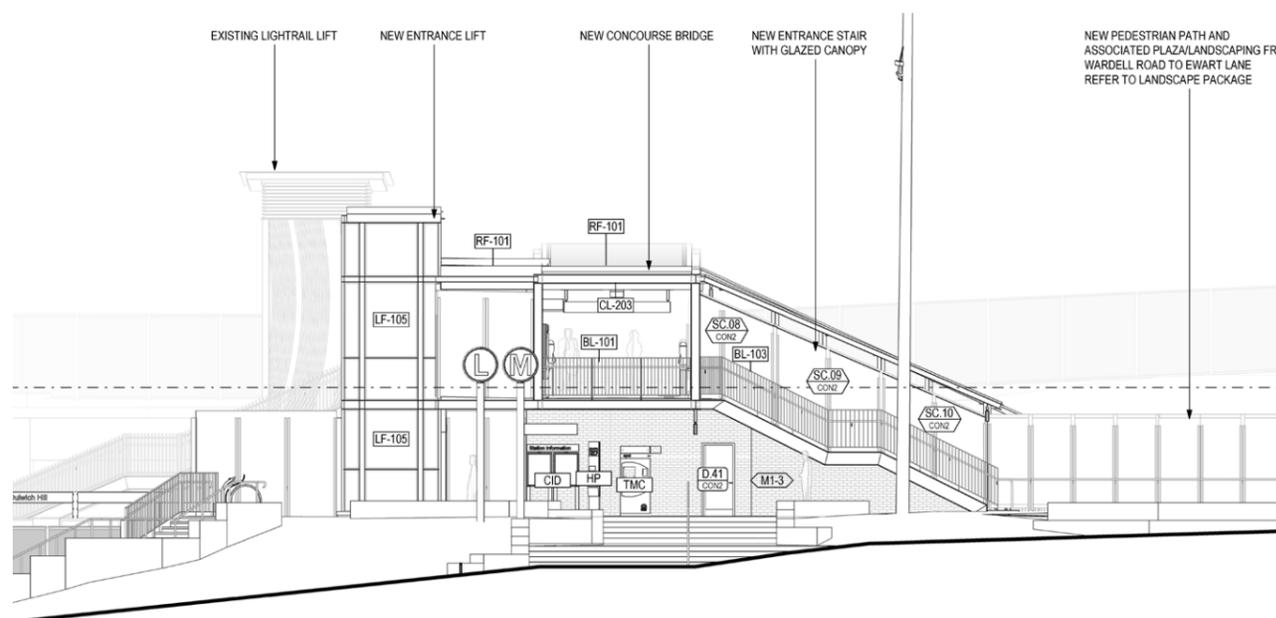


Figure 4.19 New overhead concourse: southern elevation facing Ewart Lane

4.7 Platform

The entire station platform will be resurfaced and the coping edge raised for Disability Standards for Accessible Public transport (DSAPT) compliance. 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.

The entire coping edge will be finished in concrete, to a width of 1500mm, and will facilitate the temporary provision of the yellow line and tactile ground surface indicators (TGSIs) while Sydney Trains remains in operation. Upon transfer to Sydney Metro, the yellow lines and TGSIs are removed, the PSDs and mechanical gap fillers installed, and the result will be a strong visual expression of Sydney Metro's line-wide identity.



Figure 4.20 Station platform: indicative view

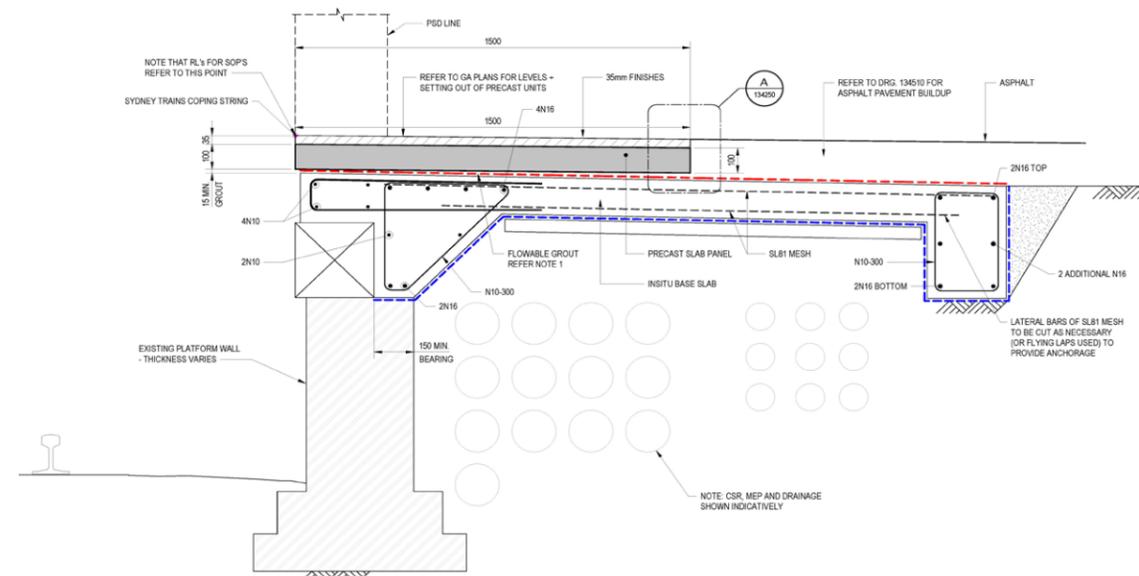


Figure 4.21 Platform edge detail

4.8 Lifts and stairs

4.8.1 Lifts

Lifts and stairs have been integrated with the new overbridge to provide logical, intuitive and accessible paths for customers.

A new steel-framed lift will provide vertical transport between the concourse bridge and the platform. The lift shaft is glazed to provide clear views through the station, consistent with the principles at 2.3.1, 2.3.5 and 2.3.6. Each lift landing has adequate 'queuing zones' and is identified with compliant signage and graphics, positioned to be clearly visible from common entry points and access pathways.

The lift cantilevers up from the lift pit and is structurally independent of the concourse bridge. The concourse bridge and the lift will be connected by a concrete lift entrance slab and a lightweight steel canopy at roof level. The steel lift core is to be a fully welded steel frame with the steelwork continuing below the platform level to the base of the lift.

4.8.2 Stairs

Two new platform access stairs will be constructed to the concourse bridge, one from the platform island and the other from the new station entry at Ewart Lane. Both stairs will be covered by clear canopies for weather protection. Beneath the platform island stairs is a new building that will house metro functions.

The platform entrance stair is approximately 15m long and 3m clear wide, including three landings. The top landing of the stair at concourse level is supported by the concourse bridge and the two intermediate landings by steel columns. The landings are supported by a minimum of two intermediate columns such that, should one of the intermediate columns be removed during a train derailment, the stair and remaining column will remain in place and able to span without failing.



Figure 4.22 New stairs to new concourse: indicative view

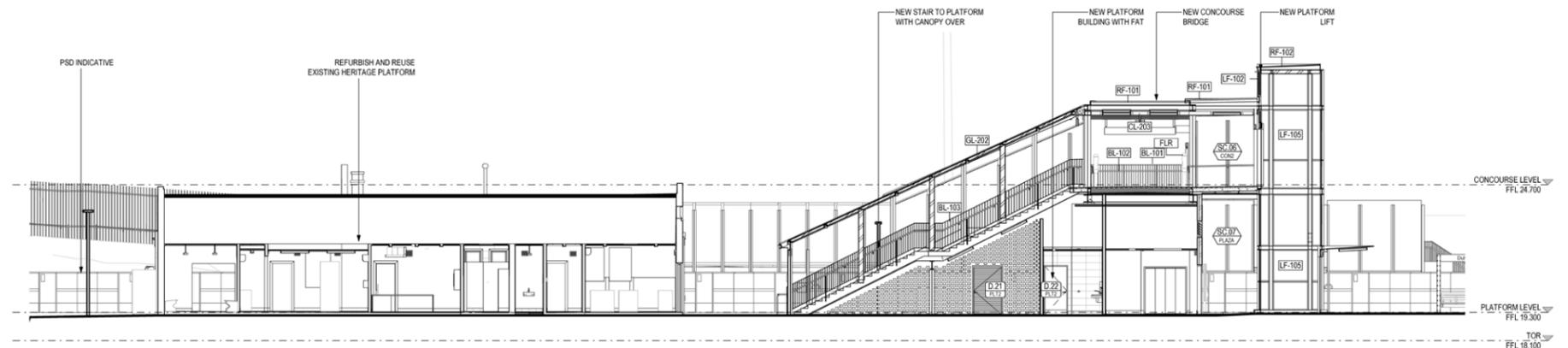


Figure 4.23 New lift and stairs to platform building: section

4.9 Connectivity and access

The station precinct is an important interchange for multiple transport modes: walking, cycling, Light Rail, buses and Sydney Metro. The design will contribute to revitalising the precinct by creating a high-quality modal interchange. A new clear, easily recognisable station entry connects directly at grade to the Light Rail (north) and Ewart Lane (south). The new plaza ties into the pedestrian crossing over Wardell Road to the bus stops on Dudley Street.

4.9.1 Pedestrian movement

The pedestrian network is both extended and enhanced by the project. The new overhead concourse connects Bedford Crescent across the railway towards Ewart Lane and creates an accessible link between the Light Rail and station platforms. The bridge will be fully public (due to the use of totems rather than gatelines) when the station is open.

The new plaza also creates a public space that supports multiple pedestrian movements along and across the rail corridor, and into the village centre, as well as accessible paths of travel to the new station entry. The plaza ties into the existing levels of Wardell Road for a seamless interface with the footpath and pedestrian crossing to Dudley Street. DDA compliant access is provided between Wardell Road and the new station entry in the plaza.

4.9.2 Cycle and shared paths

The project enhances the cycle network through the precinct. South of the rail corridor, the Walking and Cycling Strategy for Dulwich Hill identifies a gap for both pedestrians and cyclists in the route between Ness Avenue and Dudley Street, alongside the rail line via Ewart Street. This route is also identified as a connection into the Cooks to Cove GreenWay. The project provides part of this missing link, through the new plaza, where cyclists can cross Wardell Road to the newly upgraded cycle path on Dudley Street and continue east.

Cycling is also supported on the northern side of the rail corridor, with lighting to the shared path between Bedford Crescent and Keith Lane creating a higher amenity environment.

4.9.3 Bicycle parking

Two locations for bicycle parking are provided for in the design. 18 bicycle spaces in total are provided on Bedford Crescent, supplementing the existing number with new bike hoops. In addition, 20 bicycle spaces will be provided near the new station entry on the plaza, for an overall total of 38 bicycle spaces within the station precinct.

4.9.4 Interchange facilities

The design provides for:

- Access to a kiss and ride space on Bedford Crescent, with a new shelter and seating
- Convenient transfer to existing bus stops on Dudley Street
- Access to a new taxi space on Bedford Crescent
- Access to two existing accessible parking spaces on Bedford Crescent
- Access to existing park and ride facilities on Ewart Lane.

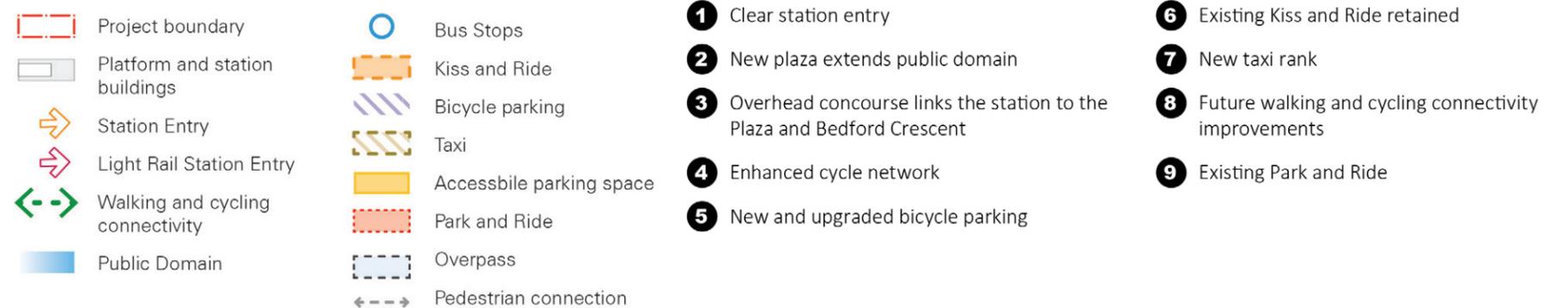
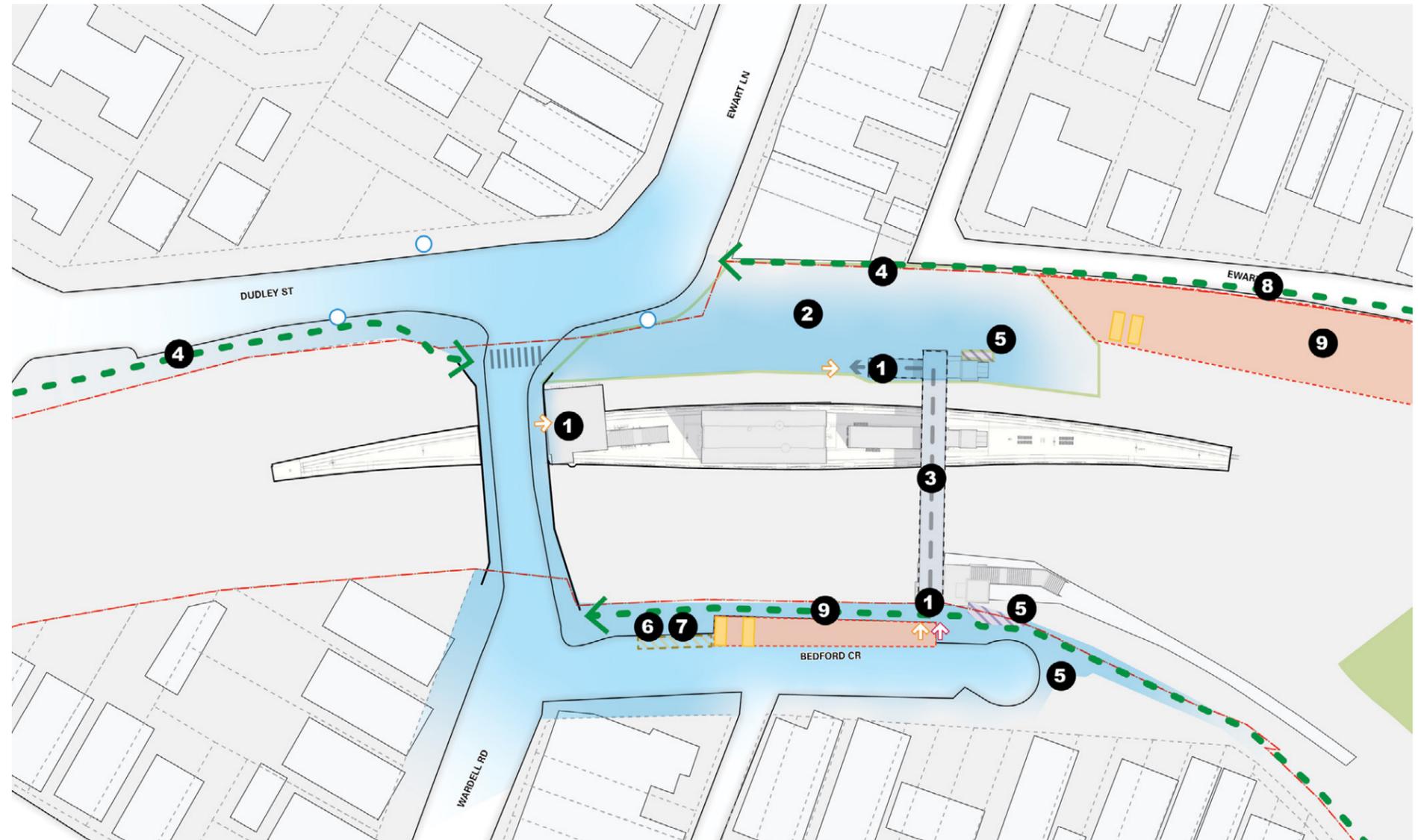


Figure 4.24 Transport interchange connectivity and access

4.10 New plaza

4.10.1 Activated public domain in the heart of the village

The project delivers a new public plaza to the Dulwich Hill village centre on the southern side of the rail corridor. The design mitigates the challenging topography that until now has limited east-west movement, by terracing and landscaping the slopes to provide a range of seating options as well as a generous level area. The main space is open and flexible, so that it can be used in different ways – markets or other community activities. The levels tie into the Wardell Road foopaths and to the pedestrian crossing at Dudley Street. To future proof for further activation of the public domain, the plaza also ties into the finished floor level of an adjacent development with the intention of encouraging spill-out uses like outdoor dining / cafe.

The plaza is open to Wardell Road across its frontage, making it visible on the street and creating an inviting new station entry consistent with public domain and sustainability principles established at 2.3.3 and 2.3.4. It will serve the general public as a place to stop, rest and relax as well as metro commuters accessing the new southern station entry. A mix of native and deciduous trees will provide for summer shade and winter sun, while also building on remnant vegetation around the station and contributing urban canopy in the precinct.

In summary, the new plaza will:

- extend and enhance the existing public domain
- be an area for both pedestrians and cyclists, with trees and seating
- link to a new pedestrian overbridge to the station platforms and light rail
- reflect both the indigenous and market garden vegetation history of the place
- provide a range of accessible spaces
- relate to and enable active indoor-outdoor cafe / dining on the adjacent site
- enliven the streetscape
- create an inviting new station address and precinct hub
- Remove billboards and visual clutter to enhance views of heritage platform and concourse buildings
- Safeguard for future public domain upgrades as identified within Inner West Council’s masterplan

4.10.2 Bedford Crescent

Bedford Crescent on the northern side of the rail corridor will have a direct connection to the new plaza alongside the existing Light Rail entry, contributing to an extended and well connected public domain.

The design includes a pavement upgrade, a new shelter and seat to the kiss and ride space, and the provision of new bike hoops. One taxi space along with two existing accessible parking spaces are provided. An existing, unlit shared path connects the end of Bedford Crescent to Keith Lane. The project provides pedestrian lighting along the length of the shared path to improve its useability and safety.



Figure 4.25 Current condition: view from Wardell Road



Figure 4.26 New plaza: view from Wardell Road, artist’s impression

4.11 Plaza landscape design

4.11.1 Landscape strategy

The landscape design within the new plaza between Wardell Road and Ewart Lane acknowledges and responds to the various layers of history of Dulwich Hill, from the underlying sandstone geology and indigenous vegetation to the subsequent use of the area for orchards and market gardens. The plaza needs to manage significant north-south and east-west changes in level. Existing soil depth is minimal.

The landscape strategy is to optimise the level, useable areas of the plaza and manage the level changes with small raised planter beds that can also double as seating areas. Sandstone is used both as an edge to the beds and low walls, and in a modern interpretation of outcrops that recall the natural setting. The strategy also enables ground levels to be raised locally to provide sufficient depth for tree planting.

Toward Wardell Road (and the new development on the corner), the plaza remains fairly open, to support active ground floor uses overlooking and interacting with the public space. The intent is to also encourage cafe / outdoor dining that can spill into the plaza. A clear open space to the entrance of the plaza from Wardell Road aims to further activate the public realm, allowing the plaza to be used for future market days, or other community activities.

A new service building that accommodates critical equipment for rail operations will be located along Ewart Lane (refer section 4.15) and there will be opportunities to include planting and vegetation as part of its construction. Screen planting is being investigated along Ewart Lane to reduce any visual impacts associated with the new building.

4.11.2 Landform and earthworks

Dulwich Hill Station Plaza lies on a moderately sloped transition between Ewart Lane in the west and Wardell Road in the east. Much of the land appears to be made up of shallow lying rock with surface vegetation, evidence of which can be viewed from the adjacent rail corridor which lies within a cutting of around three to four metres in depth. In order to create an effective and accessible plaza, levels are regraded to form a gentle gradient from Wardell Road to the new station concourse access stair, which sits central to the plaza and created an elevated plane around three metres above the commuter car park on Ewart Lane. Due to the slope of Wardell Road, access to the plaza is provided at grade to the south and via a ramp to the north which does not exceed a 1:14 gradient.

The connection between Ewart Lane and the station concourse stair is provided via the central plaza stair and a secondary stair that traverses the existing gentle slope. Several informal rock terraces break up the planted incline. An accessible route runs along the southern boundary of the plaza, following the line of the existing footpath.

Adjacent to the rail corridor, some cutting of the rock bed is required to provide service access to the underside of the lift structure which results in some significant excavation of existing rock. In addition to this excavation, it is anticipated that there will also be rock extracted from the main plaza where there are Strata Vault root systems proposed beneath new trees. The existing face of the rock outcrop alongside the rail corridor in this location will be retained, as such hiding the excavations which lead to the service access.

Excavated rock of substantial size will be stored on site and re-used for terracing within sloped planting areas where possible. Similarly smaller aggregate produced during the excavation may be re-used as granular sub-base in appropriate locations.



Figure 4.28 Current condition: view from Ewart Lane



Figure 4.27 New plaza: view from Ewart Lane, artist's impression

4.11.3 Species selection

Tree species selected are both native and exotic, with native trees grouped informally with the sandstone outcrops, typically on sloping ground or in the planted terraced beds, and the exotic trees in the central area of the plaza in a more formal arrangement that recalls the orchard history of the area. The presence of overhead wires through the plaza also required selection of species whose ultimate height is no more than 5-6 metres.

Shrubs and ground covers are consistent with Inner West Council’s palette, both the Street Tree Master Plan and the Dulwich Hill Station Detailed Master Plan. Native grasses reflect the degraded Sydney Turpentine Ironbark Forest. Shrubs and grasses have also been selected for their low maintenance and low water requirements, in support of a Water Sensitive Urban Design approach (refer Section 4.11.6). No existing trees are proposed to be removed.



Eleocarpus reticulatus
Blueberry Ash



Tristaniopsis laurina
Watergum



Zelkova serrata 'Green Vase'
Japanese Elm



Banksia 'Birthday Candle'
Banksia



Kunzea ambigua
Tick bush



Dodonea triquetra
Common Hop Bush



Grevillea sericea
Pink Spider Flower



Callistemon 'Green John'
Dwarf Callistemon

	Botanical Name	Common Name	Pot Size	Spacing	Indigenous?
TREES	<i>Elaeocarpus reticulatus</i>	Blueberry Ash	400L	as shown	Y
	<i>Tristaniopsis laurina</i>	Watergum	400L	as shown	Y
	<i>Zelkova serrata</i> 'Green Vase'	Japanese Elm	400L	as shown	N
SHRUBS	<i>Banksia</i> 'Birthday Candle'	Banksia	140mm	4/m ²	Y
	<i>Kunzea ambigua</i>	Tick Bush	140mm	4/m ²	Y
	<i>Dodonea triquetra</i>	Common Hop Bush	140mm	4/m ²	Y
	<i>Grevillea sericea</i>	Pink Spider Flower	140mm	4/m ²	Y
	<i>Callistemon</i> 'Green John'	Dwarf Callistemon	140mm	4/m ²	Y
GRASSES & GROUND COVERS	<i>Dianella</i> 'Little Jess'	Blue Flax Lily	140mm	6/m ²	Y
	<i>Lomandra</i> 'Little Con'	Dwarf Lomandra	140mm	6/m ²	Y
	<i>Pennisetum</i> 'Nafray'	Fountain Grass	140mm	6/m ²	Y
	<i>Poa poiformis</i> 'Kingsdale'	Blue Tussock Grass	140mm	6/m ²	Y
	<i>Westringia</i> 'Mundi'	Coastal Rosemary	140mm	6/m ²	Y



Dianella 'Little Jess'
Blue Flax Lily



Lomandra 'Little Con'
Dwarf Lomandra



Pennisetum 'Nafray'
Fountain Grass



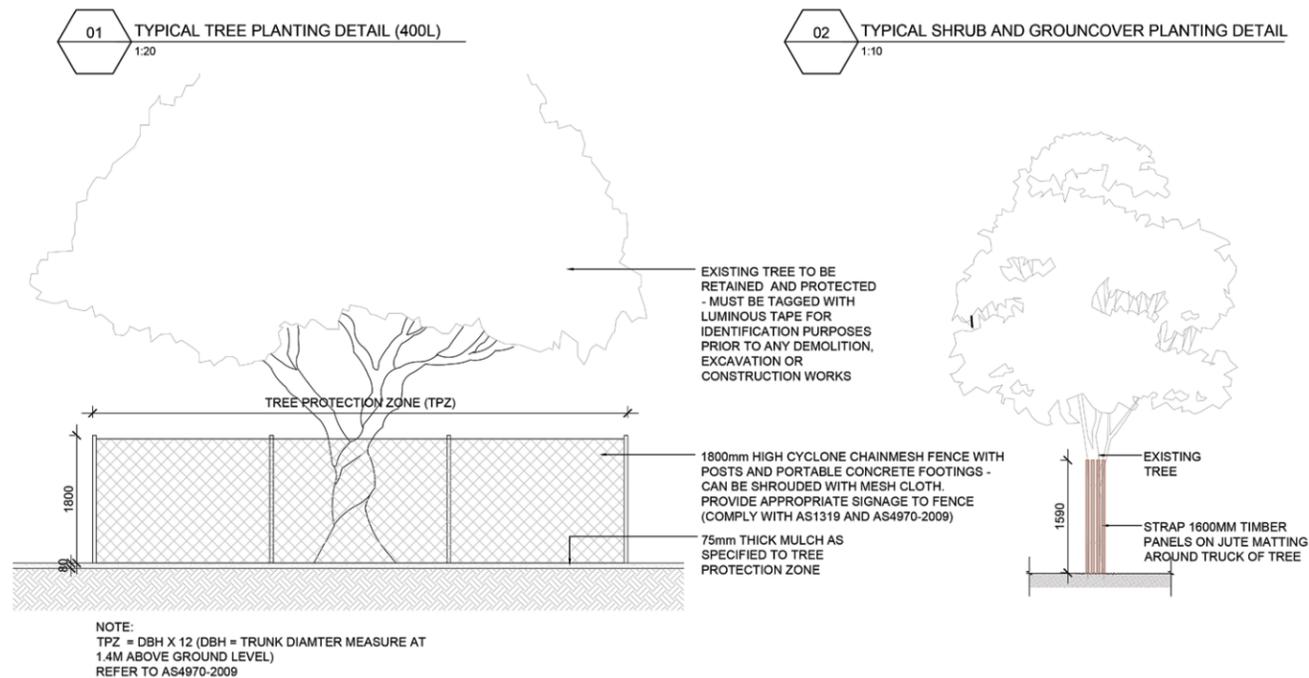
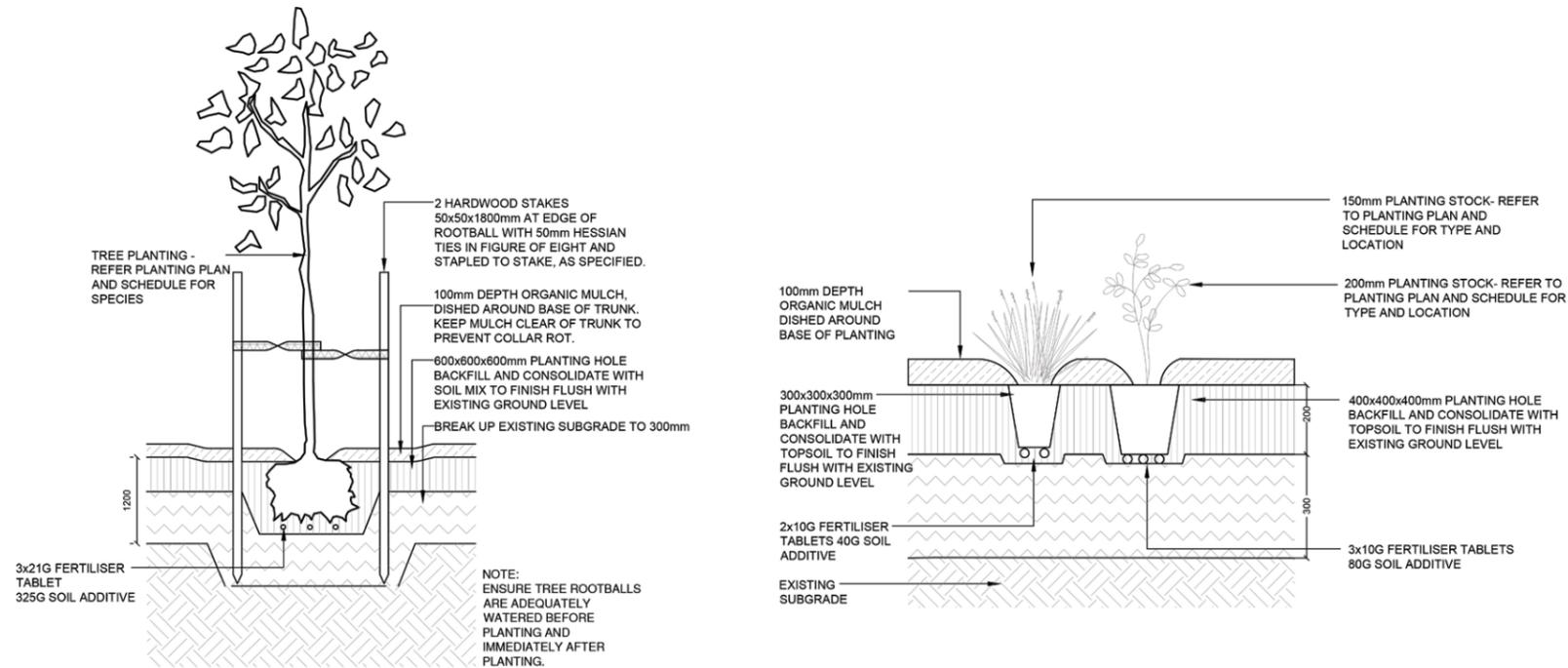
Poa poiformis 'Kingsdale'
Blue Tussock Grass



Westringia 'Mundi'
Coastal Rosemary

Figure 4.29 Species selection

4.11.4 Typical planting details



4.11.5 Landscape maintenance, monitoring and rehabilitation

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.

4.11.6 Water Sensitive Urban Design (WSUD)

The new plaza at Dulwich Hill 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. This is described in Figure 4.31.

Figure 4.30 Typical planting details

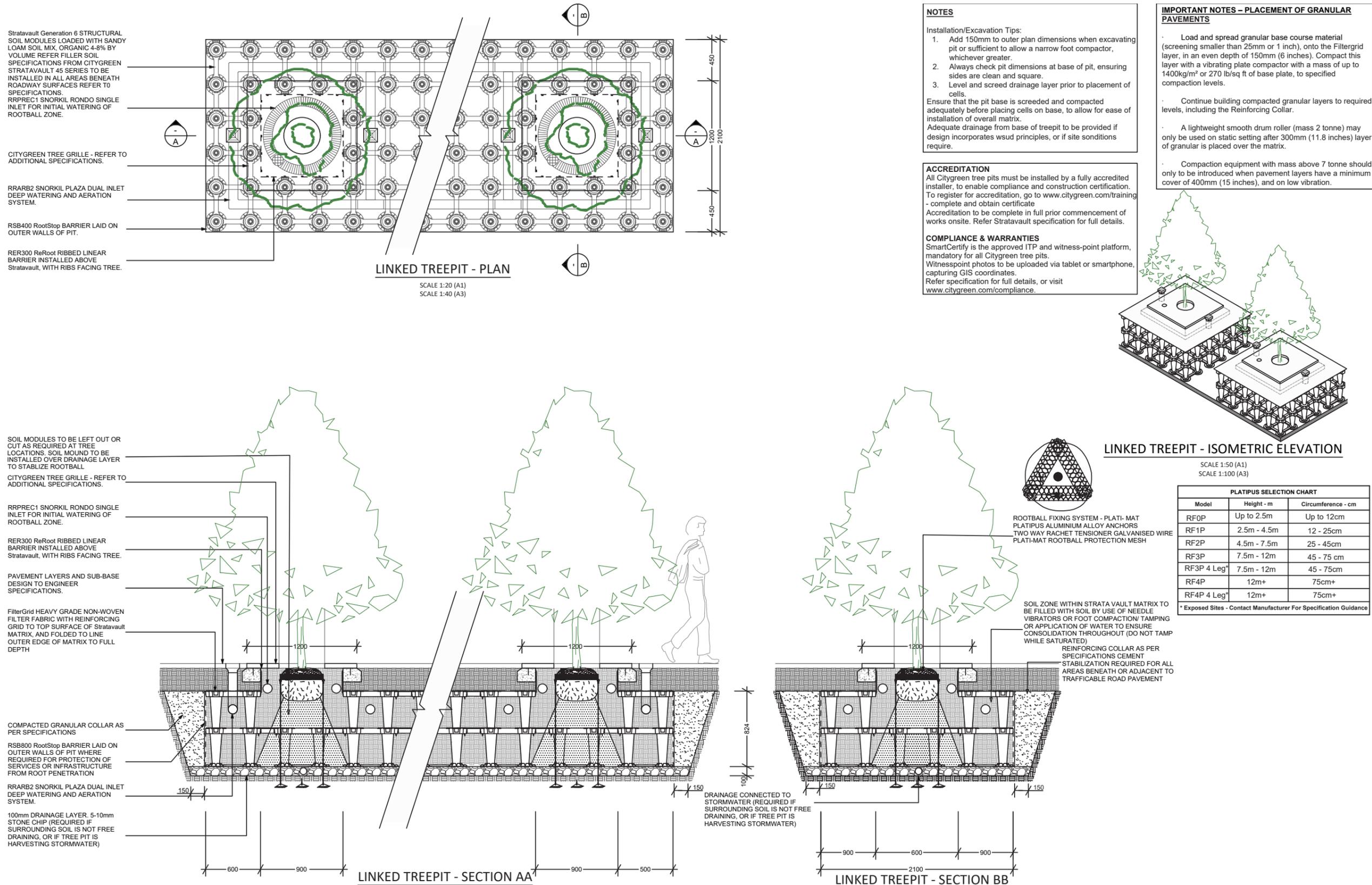


Figure 4.31 Water Sensitive Urban Design soil cell system: detail

4.12 Hardscape elements

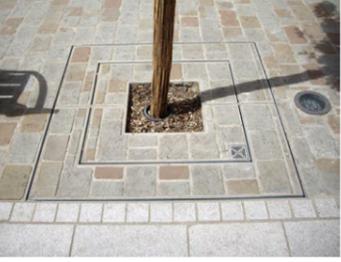
4.12.1 Paving and street furniture selection

The public domain palette has been developed to respond to Council's requirements and preferred urban elements, drawing cues from the Dulwich Hill Station Detailed Master Plan, and to maintain some continuity with the look and feel of Sydney Metro where possible, using or modifying the existing palette. 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.

The paving palette draws on the sandstone geology of Dulwich Hill, a strong feature of the immediate station environment due to the rail being in cut. Sandstone is used both formally and informally; it edges to planter beds, doubling as casual seating, and large boulders will be arranged with the grassland planting to create more natural areas within the plaza.

Lighting to the plaza will highlight the trees, emphasise the edges of stairs which will double as wayfinding, and provide well-lit paths of travel at night.

CODE	ITEM	IMAGE	DIMENSIONS (mm)	FINISH
HARDSCAPE				
PAV-1	Granite Paving		600x300x50mm	Exfoliated finish Paving areas to be made up of several mixes. Refer drawings for details.
PAV-2	Granite Setts		95x95x50mm	Exfoliated finish Paving areas to be made up of several mixes. Refer drawings for details.
PAV-3	Sandstone Pavers		600x300x50mm	Sandstone pavers to stair landings - refer paving plan. Arrange units in stretcher bond Colour: Piles Creek Cream
SW-A SW-B	Split Face Sandstone Wall Diamond Sawn Sandstone Wall		Sizes Vary Typ. 500x500x1000mm Refer drawings.	Split face surfaces to top and outward facing sides. Quarry sawn surfaces to bottom and sides which abut other units. Diamond sawn surfaces to top and outward facing sides. Quarry sawn surfaces to bottom and sides which abut other units. 20mm chamfer to all exposed edges.
SB	Sandstone boulders		Min. 1000x1000x1000 Sizes vary.	Large, irregular feature boulders chosen from quarry stockpiles.

CODE	ITEM	IMAGE	DIMENSIONS (mm)	FINISH
TRG	Tree grates		1200x1200x70mm	Castle Tree Grate Square paver infill grate with watering cap, aeration hole and 400x400mm trunk hole.
DR-1	Linear Drain (Grate)		300mm Wide	Aco Power Drain ductile iron drainage grate. Class D heelsafe, antislip.
URBAN FURNITURE				
BR-1	Bicycle Racks (Plaza)		845Lx120Wx850H	Stainless Steel 316 No.4 Finish (brushed)
BOL-1	Bollards		1000mm above ground 300mm below ground (min 400x400x500 deep)	Linished
BIN-1	Bins		640Lx640Wx1200H	Stainless Steel - Finish 2B

CODE	ITEM	IMAGE	DIMENSIONS (mm)	FINISH
BAL	Balustrade		1200H Refer drawings	Palisade style balustrade. Refer detail drawings Stainless steel handrail to be integrated where shown Galvanised & Powdercoated Colour: Graphite
DF-1	Drinking Fountain		As supplied	Aquafil Drinking Fountain and bottle refill with integrated drainage Stainless steel (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
TG-2	Tactile Indicators - Directional 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
URBAN FURNITURE (SHELTER AND SEATS)				
BEN-1	Wall Top Bench		2000L	Street & Garden Flinders Bench Backrest and armrests vary. Refer drawings Galvanised steel frame with hardwood battens

CODE	ITEM	IMAGE	DIMENSIONS (mm)	FINISH
SHE-1	Shelter & Seating		4110Lx2550Hx1700W	Kiss and Ride Shelter Stoddart Evo Shelter Integrated Seating Integrated Lighting and power Powdercoated Colour: Black
LIGHTING				
LIG-1	Plaza Lighting Column		3500Hx270Wx140L	BEGA 84221 DALI Controllable IK8 Rating
LIG-2	Pedestrian Pole Top Lighting		4m Pole	BEGA 84252 Series Graphite Finish
LIG-3	Ambient Light - Strip Lighting		29Wx75Hx1000L	KKDC MOMO Bloc 352 Length ref m1024 (1000mm long LED strip) Suitable for min. 3 tonne point loading To selected stair treads. Refer drawings for locations.

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 screen:

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.

Dulwich Hill

Vertical screens are required to both sides of the Wardell Road bridge and will replace existing painted steel 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 tie into the existing heritage concourse ticket office and continue until it transitions down to tie 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 4.33 Typical Type 2 vertical protection screens



Figure 4.32 Throw screen arrangement at Wardell Road overbridge

4.13 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 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	The new overbridge and station entry to the plaza is aligned with Ewart Lane on a clear pedestrian desire and sightline. Activity within the plaza itself will improve surveillance. Co-location of the Bedford Crescent entry with the light rail, close to parking and bike hoops, also provides good natural surveillance.
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	Bike hoops are provided both on Bedford Lane and within the new plaza close to the station entry and lift. Proximity and visibility of the bike hoops from the entries is achieved. Hoops are positioned away from any climbable structures
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	Trees in the plaza have been selected for their form which is single / clear trunked to ensure visibility through the plaza. Shrubs and ground covers are typically less than one metre high, also to allow good sightlines through the plaza and to connecting paths. Existing and new vegetation will be maintained
Lighting		
Ensure lighting is in accordance with RSS 001 lighting performance requirements for station concourse building, platforms and platform buildings	Lighting	Considered in lighting design
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

4.14 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 would be visible from the surrounding public domain.

Artists will be selected through a competitive process involving a public expression of interest and competitions. Expert panels will select the artists and artworks. Successful artists would develop an artwork that will be realised as a transparent artwork, embedded in glass panels at the stations. Artists will be encouraged to respond to stories and themes from the nearby local communities and neighbourhoods.

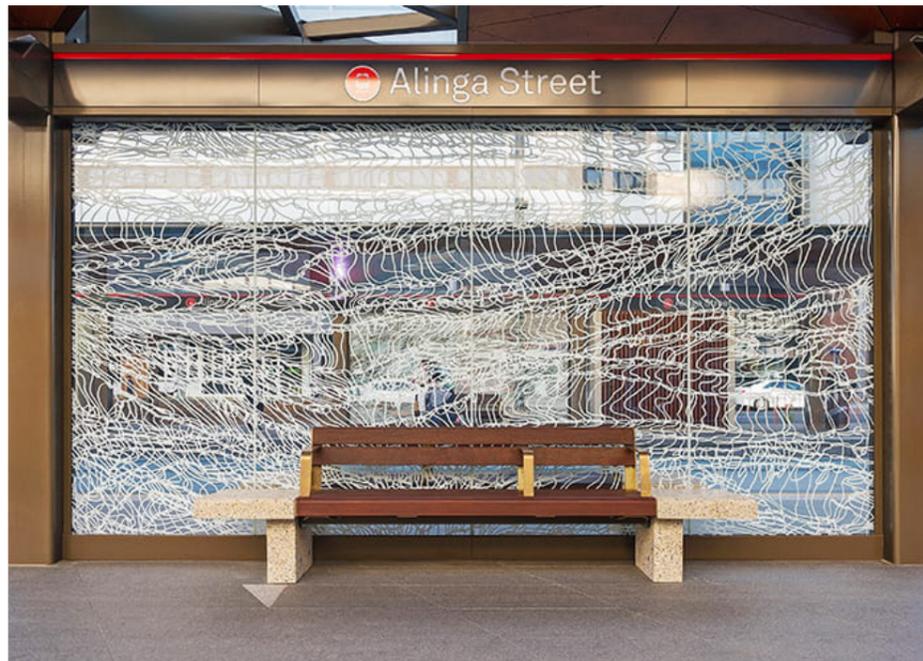


Figure 4.34 Example of glazed artwork screens at Canberra Lightrail. Art by Hannah Quinlivan

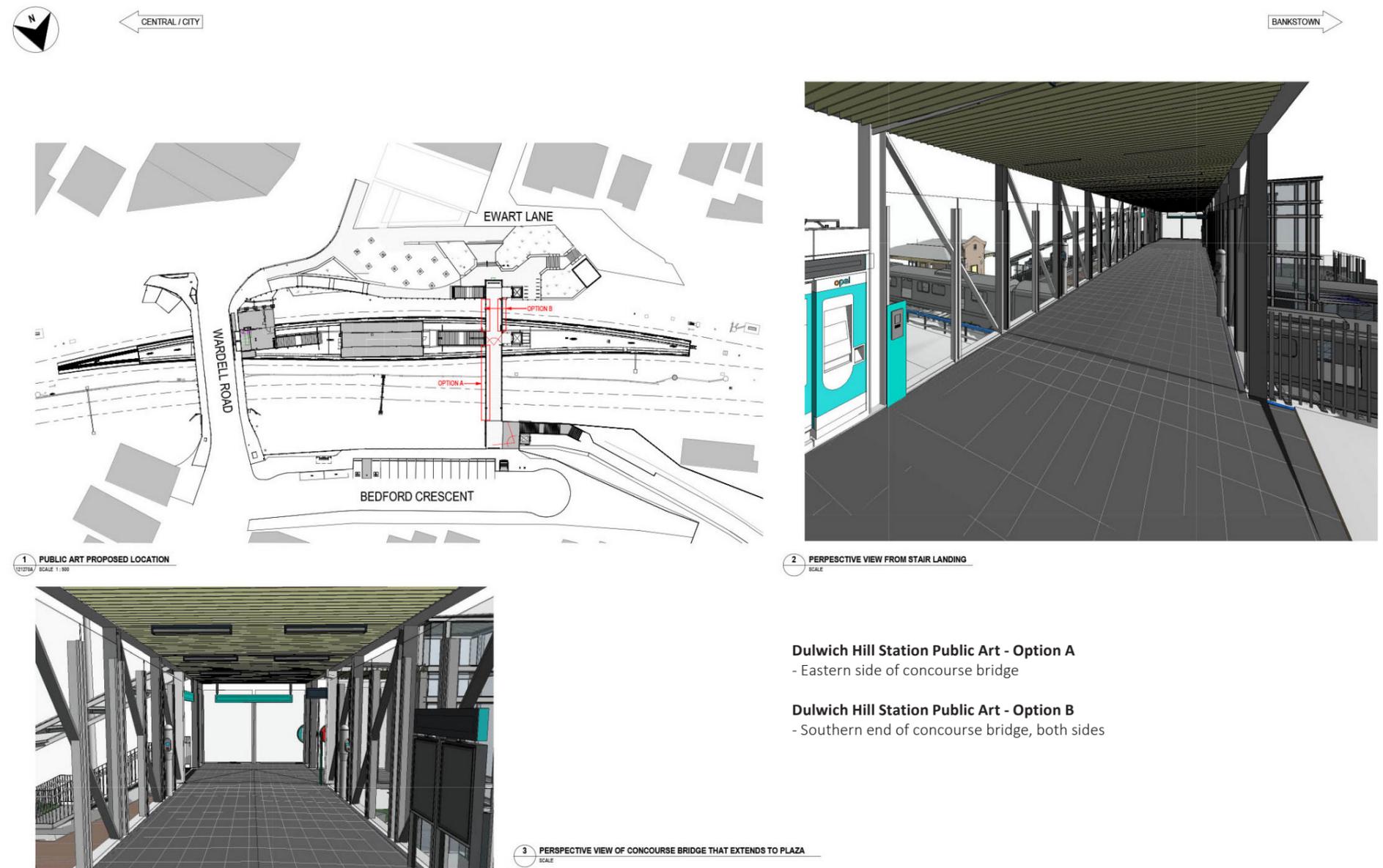


Figure 4.35 Identified public art location at Dulwich Hill Station

Dulwich Hill Station Public Art - Option A
- Eastern side of concourse bridge

Dulwich Hill Station Public Art - Option B
- Southern end of concourse bridge, both sides

4.15 Sydney Metro-wide design

4.15.1 Wayfinding and signage

The introduction of the new overhead concourse at the western end of the Dulwich Hill platform will provide an alternative point of entry to the station, within the new public plaza. Changes to directional signage, both internally and externally at the station, will support this arrangement.

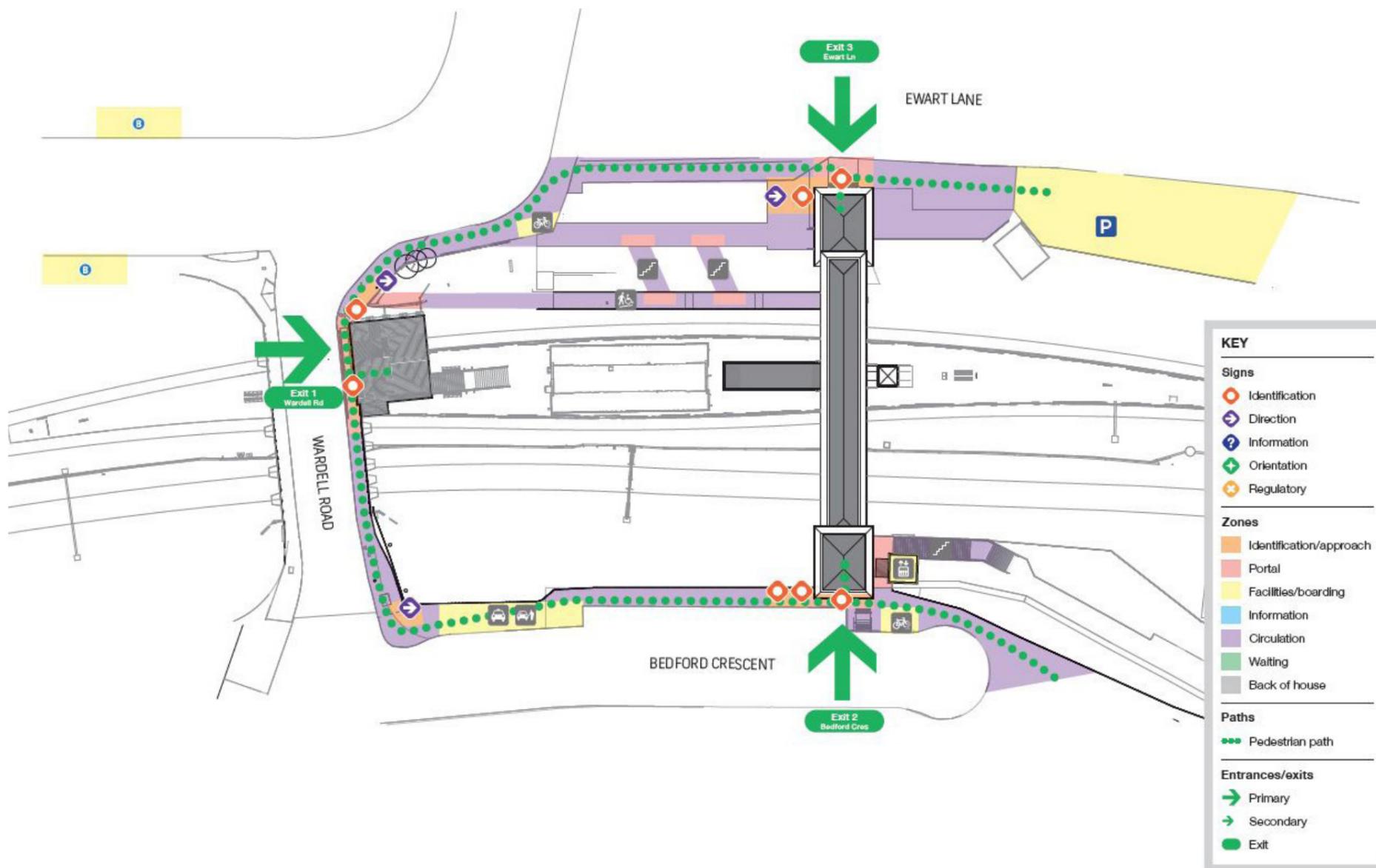


Figure 4.36 Wayfinding strategy: zone and flow diagram

4.15.2 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 Dulwich Hill, the new concourse overbridge, stairs and lifts exemplify this material approach.

4.16 Services building

New service 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 service 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

At Dulwich Hill, the services building will be positioned adjacent the existing commuter carpark along Ewart Lane. To minimise any disturbance to surrounding vegetation it will be necessary to remove a number of caparks. A revised carpark design is being investigated as part of this work that will bring the carpark up to current standards and it is estimated that 26 carparks will replace the original 56.

The constructability and form of the buildings and carpark are still under development and further details will be resolved following this report.

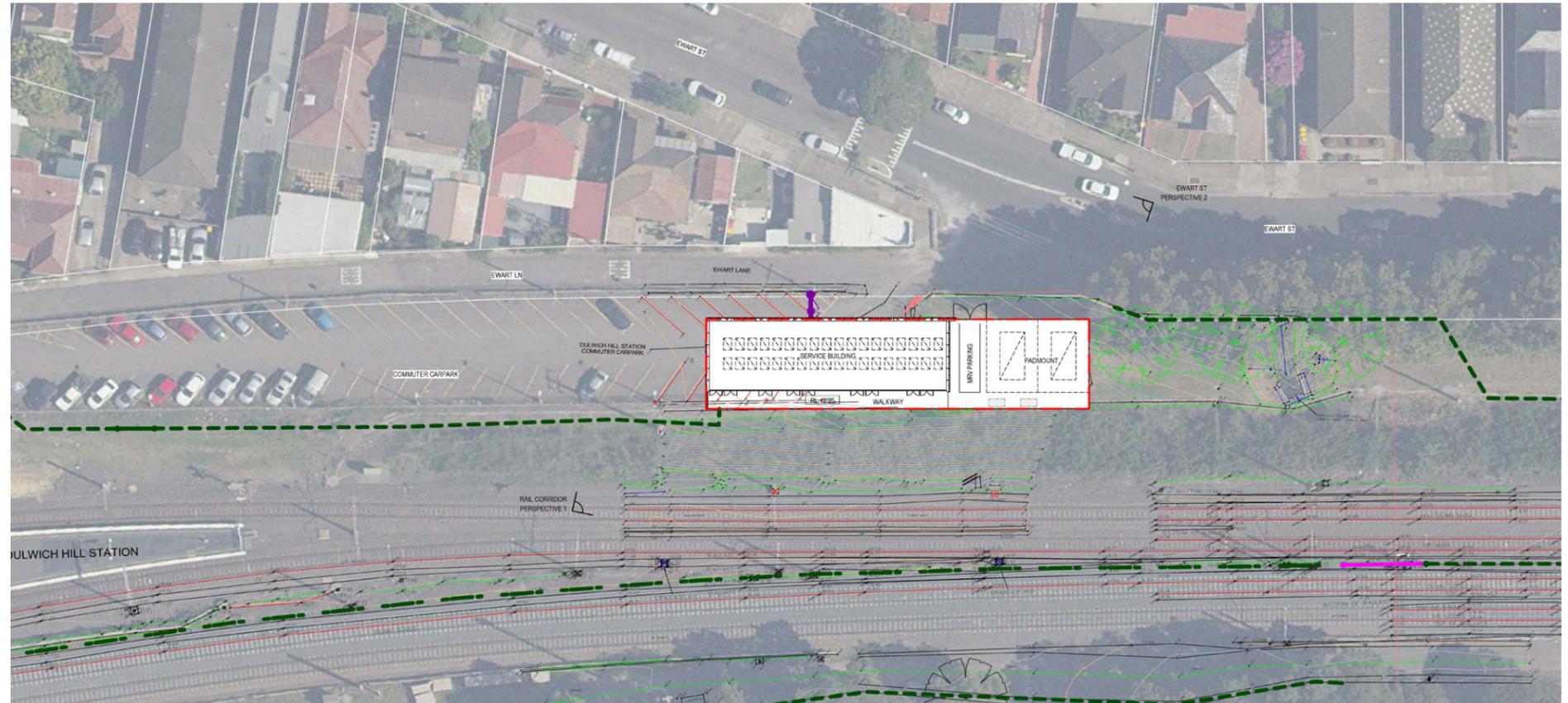


Figure 4.37 Service building site plan - Dulwich Hill Station

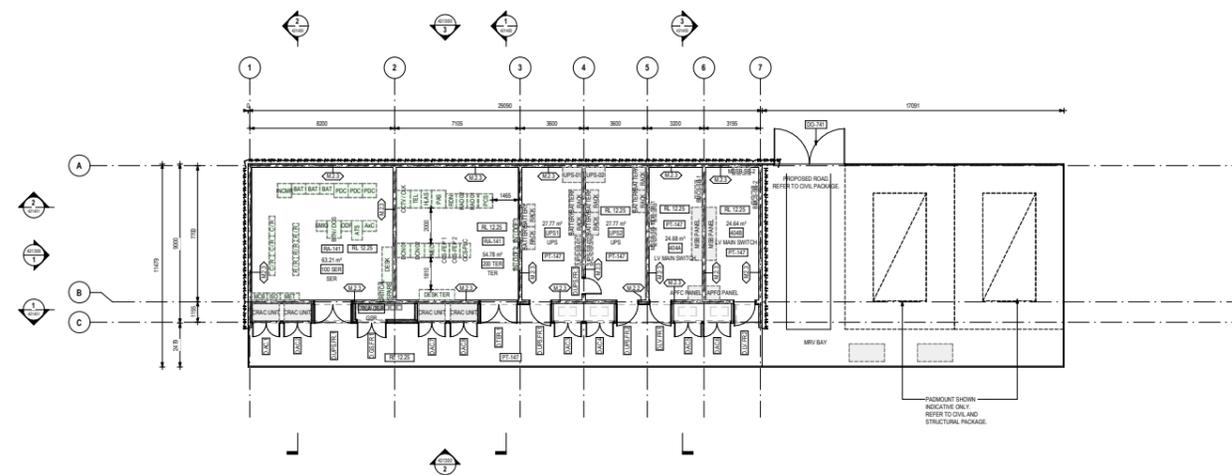


Figure 4.38 Service building plan - Dulwich Hill Station

THIS PAGE DELIBERATELY BLANK



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 little public space immediately around the station: the street closure at the end of Bedford Crescent is a small pocket park, and Jack Shanahan Park to the west is a generous green space but not legible from the station or the main street of the centre. Recent upgrade of the cycle path along Dudley Street, connecting to Illawarra Road, has improved connectivity and amenity, with planting of street trees (eucalypts) and provision of street furniture.

The design maximises the amenity of public spaces by:

- Creating a new public plaza that
 - » extends and enhances the existing public domain
 - » introduces trees where there is currently bare ground, including both native (evergreen) and deciduous species for summer shade and winter sun
 - » offers multiple, clear and direct paths of travel
 - » provides flexible space that is able to accommodate places to stop, meet and sit
 - » is highly visible on the main street and from within the station (including the new overhead concourse bridge)
 - » has good passive surveillance encouraging greater activity and the perception of safety.

5.1.2 Maximising permeability around entrances to stations

Dulwich Hill Station currently has a single entry on the Wardell Road overbridge. The design significantly changes the presence and openness of the station within the public domain. It maximises permeability around the station entrances by:

- Introducing two new entries, one co-located with the Light Rail entry on Bedford Crescent and one within the new plaza
- Aligning the southern (plaza) entry with Ewart Lane for good visibility and direct connection from station into the street network
- Designing the landscape to draw the eye through the plaza to the southern station entry
- Providing a new concourse overbridge that is elevated and therefore a visual marker for the station, and designing the southern entry to be free from visual clutter with clear access to lift and stairs.

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 area and amenity of the public domain around the station to support Sydney Metro patronage
- Providing a new, accessible path of travel from the station (southern entry) to the pedestrian crossing on Wardell Road
- Increasing the amount of bicycle parking provided, with new facilities within the station plaza supporting expanded bike parking on Bedford Crescent
- Providing easy transfer to bus stops on Dudley Street
- Providing access to new taxi area on Bedford Crescent (southern side)
- Retaining the existing Kiss and Ride zone on Bedford Crescent (southern side); and not precluding an additional Kiss and Ride zone on Wardell Road south of the station or on Dudley Street
- Providing access to existing accessible parking on Bedford Crescent
- Providing access to existing park and ride zone at Bedford Crescent.

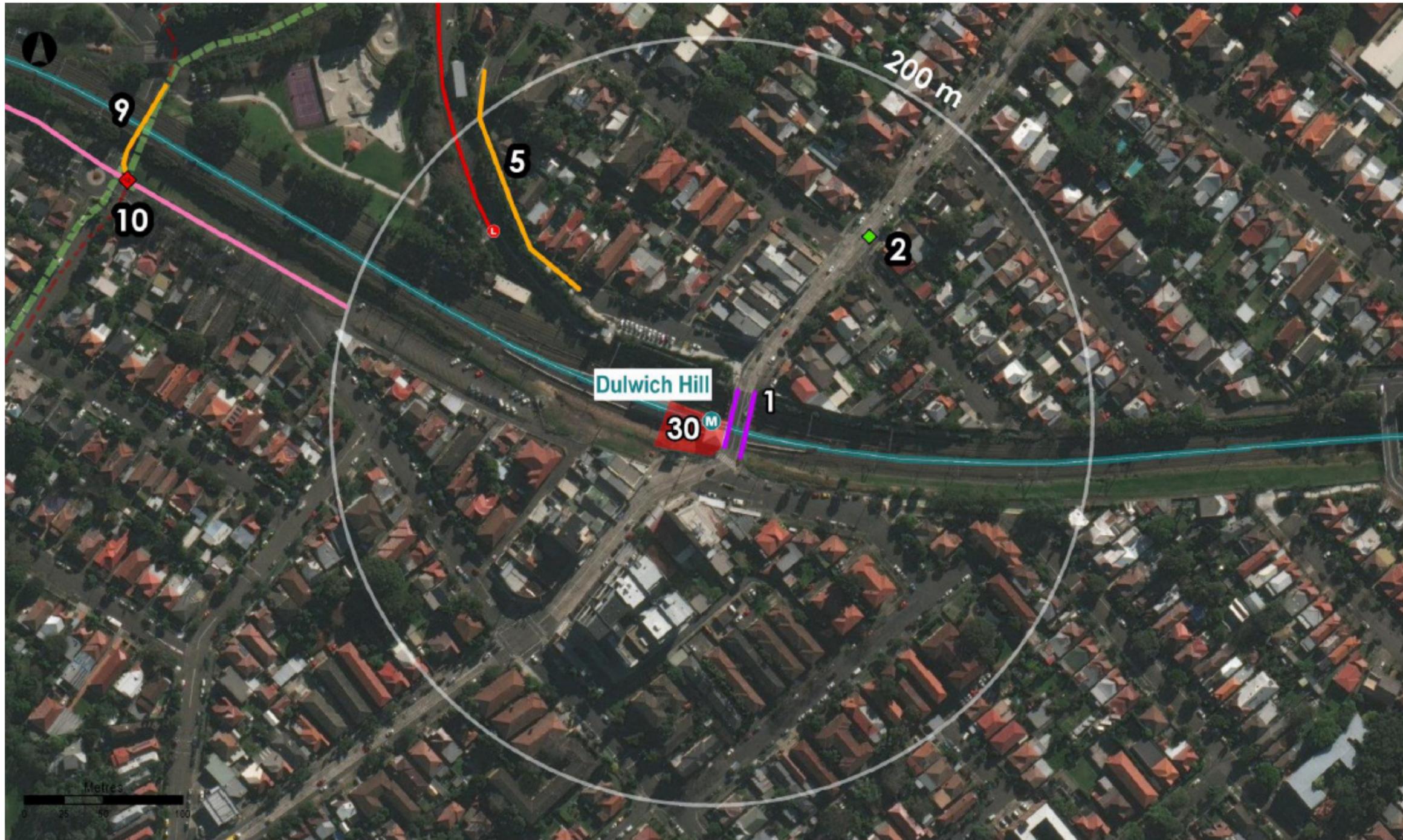
5.2 Integration with the Walking and Cycling Strategy

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 Dulwich Hill Station precinct have been integrated, as described 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 Infrastructure 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 highlights some of these opportunities located within the Punchbowl station precinct, and describes how they are integrated with the SDPP.

Walking and Cycling Strategy item description			SDPP description		
Identified gap / opportunity	Proposed infrastructure upgrade (refer Figure 5.1)	In scope: delivered by Sydney Metro	Safeguarded for the future	SDPP design response	Section of SDPP
Pedestrian crossing at inopportune location along Wardell Road	DHL-1	Co-ordination of upgraded plaza design with intersection upgrades to be undertaken by Inner West Council		Plaza and kerb line to Wardell Road upgraded to safeguard future works by Inner West Council to Wardell Road	4.10
Pedestrian refuge requires widening to facilitate cyclists and pedestrians	DHL-2	Widen crossing refuge at Wardell Road/Keith Street intersection		Safeguarded as future opportunity	3.5
Upgrades required for shared path area from Bedford Crescent to Macarthur Street	DHL-5	Upgrade of path to shared user path between Bedford Crescent & Macarthur Parade		Connection between Bedford Crescent and Keith Lane is upgraded	3.5
Potential use of Bayley Street to access station area instead of Wardell Road	DHL-11	Mixed traffic treatment along Bayley Street and Dudley Street		Safeguarded as future opportunity	3.5
Cycle facility required along Wardell Road due to high vehicle volumes and speeds	DHL-13	On-road shoulder lane along Wardell Road		Requires further investigation	N/A
Narrow path width along northern side of Ewart Street	DHL-16	Mixed traffic treatment along Ewart Street		Identified in Walking and Cycling Strategy as part of east-west connectivity	3.5



Dulwich Hill- Pedestrian Infrastructure Upgrades (Station Level)

- ◆ Unsignalised Bicycle Crossing
 — Changed Pedestrian Environment
 - - GreenWay On-road Bicycle Route
- ◆ Pedestrian Refuge
 — Shared Path In Corridor
 - - GreenWay Shared Path
- For Further Investigation
 — Footpath Widening

Figure 5.1 Dulwich Hill Walking and Cycling Strategy proposed pedestrian infrastructure upgrades



Dulwich Hill- Cycling Infrastructure Upgrades (Station Level)

- ◆ Unsignalised Bicycle Crossing
- Off-road Shared Path (Other)
- On-road Mixed
- GreenWay On-road Bicycle Route
- Shared Path In Corridor
- On-road Shoulder Lane
- GreenWay Shared Path

Figure 5.2 Dulwich Hill Walking and Cycling Strategy proposed cycling infrastructure upgrades

THIS PAGE DELIBERATELY BLANK

6. Consultation

6.0 Consultation

6.1 Inner West Council

Regular meetings have taken place with Inner West Council. 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 the regular meetings.

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

Council also made a formal submission to the exhibited draft SDPP (refer Section 6.2.2).

6.2 Community consultation

Consultation during the design development process has included Customer Centred Design (CCD) testing, public exhibition of the draft Dulwich Hill SDPP, and consultation with Inner West Council.

CCD testing was conducted in 2019 using virtual reality to explore the design for an interchange station. A range of CCD metrics were applied during the testing to assess likely customer satisfaction, usability and effort. Development of the design utilised insights from CCD testing, which informed this SDPP in Section 4. Dulwich Hill Station design has been enhanced by proposed improvements to the wayfinding strategy, urban precinct and connectivity to retail that will improve navigation and customer experience

Public exhibition of the draft Dulwich Hill SDPP was undertaken in November 2019. The consultation included notification to over 600 residents and businesses within a 200m radius of the station, the Marrickville Chamber of Commerce (which covers Dulwich Hill) and Inner West Council. The exhibition of the SDPP was also advertised on the Sydney Metro website (sydneymetro.info/station/dulwich-hill-station), Inner West Council's website (yoursay.innerwest.nsw.gov.au) and printed in the Inner West Courier on 12 November 2019.

Eight submissions were received from members of the public, and one from Inner West Council.

6.2.1 Community feedback

Of the public submissions, two specifically congratulated the project on the design, singling out the new plaza for praise. The key issues raised included:

- Potential impacts to existing flora and fauna adjacent to the station;
- Connectivity and access; and,
- Traffic on Bedford Crescent.

One submission from was received from an architecture and urban design firm which explored the development potential on the north side of the station, supported by a new plaza in that location. This proposal is predicated on a future land use scenario that is at odds with Council's Local Strategic Planning Statement, and outside the Sydenham to Bankstown Project Planning Approval.

A summary of the public submissions and the Project's response is summarised in Appendix B.

6.2.2 Council feedback

Inner West Council submitted a response on the exhibited draft SDPP in addition to consultation through regular meetings. Inner West Council's submission covered a range of issues. Supportive of the key move of the plaza, Council also sought additional work to enhance the public domain including:

- Extension of the plaza / narrowing of Wardell Road;
- Reconfiguration and landscaping of the Ewart Lane car park; and
- Further upgrade to Bedford Crescent.

Amendments to the design of the public domain at Dulwich Hill Station are currently being undertaken to reflect these suggestions.

Inner West Council's sought further information or greater detail on the retention of heritage fabric, inclusive accessible design, the soil vault system proposed for tree planting within the plaza, and promotion of additional indigenous species within the planting palette. Inner West Council also requested ongoing and detailed engagement with public art strategy and delivery.

Inner West Council's submission and the Project's response is summarised in Appendix C.

6.3 Design Review Panel

Sydney Metro has a Design Review Panel (DRP) that aims for design excellence across all Sydney Metro projects. 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.

The final SDPP needs to be reviewed by the Sydney Metro DRP before submission to DPIE.

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 No. E65. Comments relevant to the Dulwich Hill SDPP have been captured, minuted, and are summarised below. In accordance with condition E65 all DRP comments relating to Dulwich Hill SDPP were resolved and closed.

18 June 2019

- The DRP supported the 'less is more' approach to design and recommended an integrated design approach to the surrounding context
- The Panel supported the use of glass for canopies and other elements provided there is a robust maintenance strategy
- Consultation with Councils was encouraged to consider proposals on adjoining lands in the interest of precinct-wide placemaking
- The Panel requested a presentation on the proposed landscape strategy.

In response, the Project presented station and precinct analysis at the following DRP. Regular consultation with Inner West Council captured Council aspirations. A landscape strategy was developed for the Dulwich Hill plaza.

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.

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

20 August 2019

- The Panel requested base plans show adjoining developments (this is particularly relevant to the Dulwich Hill plaza levels)
- The proposed lift (rather than ramp) option was supported
- Metro was encouraged to review longer term options for the Ewart Lane commuter car park
- The Panel supported the simple and lightweight approach to the canopy over the new concourse building
- SDPPs should be clear on responsibility and funding for works in the precinct.

In response, the SDPP was updated to include a precinct plan and accompanying sections that show the adjoining existing and approved development (this was also included in 3D visualisations). The SDPP also identifies wider opportunities, those being delivered by Metro (in scope) and those that the project safeguards for the future. This included consideration of the Ewart Lane car park as part of future walking and cycling connectivity.

15 October 2019

The Panel requested more information on specific issues:

- Lift heat load issues
- Consideration of low E treatment to the stair glass roof
- More detail on the reuse of salvaged bricks from platform riser wall
- Refinement of details to ensure the clean line of the design is visually maintained
- Alternatives to the veneered aluminium batten including powder coating.

17 December 2019

- The Panel accepted that the powerlines over the plaza are remaining in place due to their scheduled redundancy and probable removal within 5 years'.
- The Panel accepted the solution to reduce heat in the lift shaft through the introduction of glass with an improved shade coefficient, in conjunction with fans which are located remotely and connected via a plenum below ground.
- The Panel supported the choice of bronze anodised battens as opposed to the timber look wrap.

The Panel requested more information on specific issues:

- Fall mitigation screens and canopy design over the stair adjacent plaza.
- Integration of the adjacent development and shopfront with the plaza
- Graphics and view analysis within the SDPP
- Heritage interpretation strategy inclusion

18 February 2020

- The Panel accepted the proposed solution for fall mitigation and integration of this into the existing canopy design.
- The Panel noted the presented options for integration with adjacent development, encouraging further pursuit of negotiations by IWC
- The Panel accepted SDPP improvements
- The panel supported the integrated art approach

The Panel requested more information on specific issues:

- Current design status across all stations in order to establish quality and integrity of the design across SWM stations
- 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.
- detail resolution between stair steel stringer and brick wall be undertaken to achieve a neater interface

31 March 2020

The design team presented a review of their overarching strategy as previously supported by the DRP. They also presented updated details for Dulwich Hill station and precinct including revised plaza design, an overview of design scope for all stations and an update on service buildings for all stations.

- The panel supported the overall development of design guidelines to service buildings and adherence to these
- The panel accepted the curved brick beneath the stairs adjacent the plaza
- The panel endorsed the updated Dulwich Hill plaza as presented
- The panel suggested ongoing attention be paid towards lighting, security and safety within the plaza as well as the interface with the neighbouring development and cafe
- The panel noted concern with the clear glass canopies, re-iterating a recommendation to frit the glass.

The Panel requested more information on specific issues:

- Further exploration of the facade and building compound of service building treatment and design approach noting the scale and impact of the built form and context

In response, the design team have progressed the endorsed updated landscape design and included it within the SDPP.

7. Appendices

7.0 Appendices

7.1 Appendix A: Dulwich Hill station detailed master plan

This section contains extracts from the master plan, which was adopted by Inner West Council on 13 August 2019.



- NOTES
1. Entry Threshold (raised) defining the entry to the village zone - prioritising pedestrians
 2. New in-road planting and trees - rain gardens
 3. Existing Melaleucas incorporated in new works as important character elements
 4. Bedford Crescent entry threshold treatment (raised)
 5. Bedford Crescent car parking treatments as per Metro requirements
 6. Pocket Park
 7. Raised signalised intersection for improved safety and pedestrian movement
 8. Existing Station building proposed to be retained (with minor relocation for footpath and track works) as a community facility. *Note: The retention, removal, or relocation of the station building will be subject to the Sydney Metro project*
 9. New Bikeway and footpath treatments (including planting and street trees)
 10. New bus stop location, new rain garden associated
 11. New in road trees and footpath treatments
 12. Extended footpath areas allows space for pedestrians, footpath dining, street gathering spaces and trees and planting
 13. New street planting areas
 14. New public plaza works associated with station upgrades - improved cycling and pedestrian linkages, shaded seating areas
 15. New in-road tree plantings and low flow rain gardens
 16. New Station works by Sydney Metro
 17. Additional bike parking infrastructure adjacent to new station access
 18. Sydney Metro to assess, propose and deliver any treatments to Ewart Lane's carpark. Provision of better pedestrian and cycle amenity along the Ewart Lane (west) area to be coordinated with Sydney Metro as part of the precinct improvements linked to the station upgrade.
 19. Ewart Lane resurfaced and denoted as Shared Zone
 20. Raised Threshold
 21. Kerb extensions to improve pedestrian amenity
 22. New rain garden and drainage
 23. Timber deck extension to bridge footpath-improved pedestrian amenity and safety. Bridge widening will require the minor relocation of the station building- original location to be shown in pavement treatments

5 Detailed Master Plan



PROPOSED TREES NOT SHOWN FOR CLARITY

1. Entry Threshold (raised) defining the entry to the village zone - prioritising pedestrians
2. New in-road planting and trees - rain gardens
3. Existing Melaleuca incorporated in new works as important character elements
4. Bedford Crescent entry threshold treatment (raised)
5. Bedford Crescent car parking treatments as per Metro requirements
6. Pocket Park
7. Raised signalled intersection for improved safety and pedestrian movement
8. Existing Station building proposed to be retained (with minor relocation for footpath and track works) as a community facility. *Note: The retention, removal, or relocation of the station building will be subject to the Sydney Metro project*
9. New Bikeway and footpath treatments (including planting and street trees)
10. New bus stop location, new rain garden associated
11. New in road trees and footpath treatments
12. Extended footpath areas allows space for pedestrians, footpath dining, street gathering spaces and trees and planting
13. New street planting areas
14. New public plaza works associated with station upgrades - improved cycling and pedestrian linkages, shaded seating areas
15. New in-road tree plantings and low flow rain gardens
16. New Station works by Sydney Metro
17. Additional bike parking infrastructure adjacent to new station access
18. Sydney Metro to assess, propose and deliver any treatments to Ewart Lane's carpark. Provision of better pedestrian and cycle amenity along the Ewart Lane (west) area to be coordinated with Sydney Metro as part of the precinct improvements linked to the station upgrade.
19. Ewart Lane resurfaced and denoted as Shared Zone
20. Raised Threshold
21. Kerb extensions to improve pedestrian amenity
22. New rain garden and drainage
23. Timber deck extension to bridge footpath-improved pedestrian amenity and safety. Bridge widening will require the minor relocation of the station building- original location to be shown in pavement treatments

6 Costing and Implementation

Implementation Plan / Staged Delivery



STAGING KEY

1. Dudley Street bicycle link
2. Dudley Street
3. Threshold treatment
4. Signalised intersection
5. Wardel Road works - WSUD and Paving
6. Sydney Metro project works
7. Streetscape works to Ewart Lane

STAGE COSTS

*(all figures exclude GST)

1. \$ 570,095
2. \$ 459,315
3. \$ 1,071,455
4. \$ 894,090
5. \$ 1,775,850
6. Station Upgrade
7. Sydney Metro to assess, propose and deliver any treatments to Ewart Lane's carpark. Provision of better pedestrian and cycle amenity along the Ewart Lane (west) area depending on Sydney Metro's carpark redevelopment. Any design works to be coordinated with Sydney Metro.

Option Extra-

Undergrounding Electrical Services: \$ 1,224,000

TOTAL: \$ 7,472,000

*Note: Cost Estimate developed February 2018

7.2 Appendix B: Community feedback & project response

Submission number	Submission date	Community submission	Issue	Design response
1	14/11/2019	Dear Metro, The biggest concern is lack of rain cover on the platform. During peak hours with heavy rain, it would be pretty nasty waiting for trains on the platform.	– Weather protection on platforms	There is a lack of space on the existing platform to provide adequate cover as the design keeps the same arrangement for the existing stair to the platform. However, the new overhead connection is covered, as are the new stairs to the platform. A lift canopy is also provided, providing weather protection. The awnings of the existing heritage platform building will also continue to provide shelter for passengers.
2	14/11/2019	I would like to provide feedback on the Station Design and Precinct Plan (SDPP) for Dulwich Hill Station. I love 99% of the plan - well done! I do have concerns about two components of the plan: 1. Throw screen arrangement at Wardell Road overbridge - the proposed screens on either side of the bridge look overbearing and will detract from the village feel and quaintness of the existing bridge. If new screens are absolutely necessary, it would be great if they were less high / more subtle than the proposed screens. 2. Proposed tree - <i>Zelkova serrata</i> 'Green Vase' (Japanese Elm). Would prefer if all species selected for the project were indigenous to the area to encourage native birds/wildlife. I also think there are a number of indigenous species that could be substituted for the Japanese Elm that would be more visually appealing and in keeping with the surrounds	– Throw screen design concerns – Tree Species selection concern - <i>Zelkova serrata</i> (exotic species)	1. The 3 metre high throw screens are a safety requirement for the project with height determined by standards set for overhead rail environments. However, to reduce the visual impact they will be as transparent as possible. 2. There are a number of constraints that require consideration for tree species selection through the centre of the plaza, particularly the overhead power lines which limit their height, having a single trunk for optimum views / openness at eye level, and the key principle of providing summer shade and winter sun (which means selecting a deciduous tree). The exotic <i>Zelkova</i> is used for the formal central part of the plaza which is considered appropriate, and was selected in consultation with Inner West Council. There may be opportunity to use a different tree here, but this would need to happen also in consultation with Council. All other trees, shrubs and groundcovers proposed at Dulwich Hill Station are indigenous.
3	20/11/2019	Please see my comments below on the plans for Dulwich Hill Station 1. Dulwich Hill Station is currently serviced by 4 trains an hour in the morning peak. – This statement is highly misleading and incorrect as trains leave every 9 minutes from Dulwich Hill Station during peak hour and every 15 minutes at all other times 2. There is no mention of a flora and fauna study having been completed or mentioned 3. The area on the Northern side of the station provides significant small bird habitat. Superb Blue Wrens, Spotted Pardalotes, Silvereyes, New Holland Honey Eaters, Yellow Faced Honey eaters are regularly seen on the railway cutting, on the station itself, in the thicket vegetation in Bedford Crescent and Bedford Crescent lane/pathway to Keith St. I stridently opposed to the removal of this vegetation for any reason and particularly to improve views. This area of vegetation is critical for a wildlife and biodiversity corridor and is an important Conduent into the Cook's river to Iron Cove GreenWay 4. The vegetation cover in Bedford Crescent laneway/pathway to Keith St provides a cool and relaxing experience during summer and a park like experience at all times 5. I am opposed to additional lighting in this laneway for its affects on native birds and other fauna 6. As a frequent user (previously daily user) Additional Lighting will not improve safety. The main safety issues are for mischief makers to be hidden in Keith lane and the curved nature of the pathway 7. The cliff faces at the station provide important source of remnant vegetation and seed banks, no provision appears to be made to protect this area during construction 8. Who will look after the street plantings once the upgrade is complete. The plantings done during the Light-rail upgrade were not maintained and quickly became denuded, trampled on and a repository for litter. The parking barriers in Bedford Cres were very quickly removed by mischief makers or thieves. 9. I am a daily user of Public transport	– Flora and fauna – Removal of vegetation on northern side of station – Impact of lighting on fauna – Potential loss of vegetation on cliff faces – Maintenance of street plantings	1. The point about the current frequency is noted and the Sydney Metro website has been updated accordingly. 2. A Biodiversity Assessment Report was prepared and published as part of the Sydney Metro City & Southwest Sydenham to Bankstown Upgrade Environmental Impact Statement (EIS). This document can be found on NSW Department of Planning, Industry and Environment's Major Projects website. 3. There is a single tree required to be removed close to Wardell Road on Bedford Crescent to locate a Kiss and Ride Shelter. This tree has been recently planted. Additionally, design investigations are looking to improve the quality of the planting within the Bedford Crescent pocket park and may replace some trees with better suited species. Potential impacts to flora and fauna will be managed throughout the construction of the Project, in accordance with the Contractor's Construction Environmental Management Plan. 4. Vegetation to the Bedford Crescent laneway will remain while the design team is continuing to investigate opportunities to improve the quality of the vegetation in the Bedford Crescent Pocket park. 5 and 6. The lighting design will ensure a balance between safety of people and avoiding light spills into adjacent properties. It will be localised and respond to CPTED (Crime Prevention Through Environmental Design) principles to improve both safety and the perception of safety. 7. Protection of cliff faces and the vegetation will be a consideration throughout the development of construction methodology and potential impacts will be managed during the construction of the Project, in accordance with the Contractor's Construction Environmental Management Plan. 8. A landscape maintenance plan will be prepared to ensure planting is maintained adequately and appropriately. Street tree planting within the rail corridor land will be maintained by the future operator.

Submission number	Submission date	Community submission	Issue	Design response
4	20/11/2019	<p>Thanks for allowing me to provide feedback.</p> <ol style="list-style-type: none"> In connecting between 412 and Dulwich Hill station, what type of crossings will be provided to cross up to 2 streets? Will stairs from concourse to platform be narrowed to fit lift? If metro rail means platform safety glass and sliding doors, will this still require platform tactile tiles? In connecting western end of platform to light rail, will the lift go above ground or below ground? If below ground will the exit at light rail involve another lift or ramp? And if below ground, will there be another exit onto street with advertising billboard for pickup and drop off by car? How will pedestrians/cyclists go from Dulwich Hill station? Will Southwest metro liaise with council to provide either a path around petrol station and adjacent to golf course and/or a shared road adjacent to the Cooks River reserve? <p>Again thanks for allowing me to provide feedback and I thank you in advance for assisting in the above enquiries.</p>	<ul style="list-style-type: none"> – Crossings at Wardell Road and Dudley Street – Connectivity around Dulwich Hill station – Platform tactiles – Location of lifts – Pedestrian/ cyclist connectivity 	<ol style="list-style-type: none"> Inner West Council are proposing a new intersection and threshold treatment at Wardell Road and Dudley Street, designed with pedestrian crossing facilities on all three legs. Existing stairs from concourse on Wardell Road are unchanged and there is no lift in this location. A new lift and stairs have been added to the western end of the platform as part of the new overhead concourse. Tactiles along the platform length will not be required for Sydney Metro operations since there will be platform screen doors for safety. The lift access to the Light Rail from Bedford Crescent is unchanged. Improved pedestrian and cycle movement from the station through the new plaza will connect Wardell Road along Ewart Lane. The design, and movement through the plaza, is consistent with Inner West Council's masterplan. <p>Sydney Metro is liaising with Council about walking and cycling improvements along the corridor. Potential connections along Ewart Lane tie in with the recent Dudley St upgrade by Council.</p>
5	20/11/2019	<p>Hello</p> <p>Thank you for inviting feedback on the draft station design for Dulwich Hill. I live in Keith St, just to the north of the station and commute to work via the train.</p> <p>Generally, I think the design is very good - in particular, the decision to extend the concourse to Ewart Lane and to establish a new plaza are welcome additions to what had previously been announced.</p> <p>My one minor point of criticism is that the heritage value of the booking office is overstated. It is not an especially attractive or character-filled building and it is dark inside. The heritage features of the station are appropriately respected by maintaining the platform building, which is of greater heritage value and utility. It might be better to use the space currently occupied by the booking office to open up the Wardell Rd entrance and widen the footpath at that entrance.</p> <p>That is only a minor point, and I am otherwise supportive of the proposed design.</p>	<ul style="list-style-type: none"> – Heritage value of booking office – Supportive of design 	<p>While it is acknowledged that the timber clad overhead booking office building is simple in form and does not reflect the same levels of detailing as other heritage items within the rail network it is none the less a significant item within the history of Dulwich Hill Station. Constructed in 1935, the booking office has marked the location of the station entry from Wardell Rd and continues to be a central marker for the precinct in the current design. The booking office provides a landmark within the centre of Dulwich Hill.</p> <p>As the booking office is included on Dulwich Hill Station's local heritage listing, opportunities to modify this building are limited. However, both the interior and exterior of the building are to be refreshed. The footpath is improved along the bridge including the replacement of the fence between the footpath and roadway. New glass safety screens with a handrail will provide more space and better amenity to the footpath.</p>
6	21/11/2019	<p>Urban design consultancy submission - key points</p> <p>I am the firm's Urban Planning Associate and a regular user of the station, as are my wife and children.</p> <p>I understand that the Metro Rail project is complex and running to a tight timeframe; however, my submission on this station up-grade is that it may prejudice projects around the station in the future and does not properly or equitably capitalise on the potential of Metro Rail.</p> <p>In particular, my view is:</p> <ol style="list-style-type: none"> That the public square should be on the north/high side of Dulwich Hill station (Bedford Crescent); Consideration should be given to a larger concourse level and building above the station to provide better connections to the existing Light Rail terminus, activity around the station and an opportunity to finance the works via development; and Some near station development opportunities and zoning changes around the station, particularly on the northern side of the station, should be implemented with the initial works program for the Metro Rail station. <p>I appreciate there may be concern that station up-grades may become too complex and controversial, whereby they delay the larger Metro Rail project. However, it is a bigger risk in the long term if the works lack ambition and ultimately prejudice better solutions for this place and fail to capitalise on the Metro Rail investment</p>	<ul style="list-style-type: none"> – Location of plaza should be on northern side of station – Above and around station development and Light Rail concourse – Zoning changes 	<ol style="list-style-type: none"> Creating a public plaza on the south/low side creates a new opportunity to provide DDA compliant access on both sides of the station. The design for the plaza on Ewart Lane is the only solution that mitigates existing topography and creates an accessible path of travel from Ewart Lane to Wardell Road, and to the station entry. The design capitalises on the opportunity to upgrade an existing underutilised open space with narrow access, and unsuitable grades for disabled access. Bedford Crescent is currently a well designed and utilised street and any potential upgrades would be in addition to the creation of a new plaza at Ewart Lane (ie: outside the scope of this project). Over Station development depends on removal of existing fabric. Dulwich Hill station platform and concourse buildings need to be retained due to the heritage significance of the station group. The design for a refurbished overhead booking office and platform building, new covered station concourse bridge between Bedford Crescent and Ewart Lane, and a new plaza at Ewart Lane is in keeping with existing scale, form and heritage character of the area. It creates better connections between both the future Metro station and Light Rail terminus, and creates better cross corridor permeability between north and south sides of the rail corridor. The current design for the station currently adheres to Inner West Councils Dulwich Hill Masterplan. The option to build over the railway in this area is currently not supported as this level of development would diminish the existing character of Dulwich Hill. This is a matter for Inner West Council. The current design improves on public domain, access to the station through the creation of two new station entries connected by a concourse bridge, and greater permeability within the precinct without the need for overstation development, or rezoning of adjacent sites. Rezoning of sites north of the station may have a greater visual impact due to changes in elevation, the north side of the station being higher. Uplift at these sites would impact on the existing heritage conservation area.

Submission number	Submission date	Community submission	Issue	Design response
7	24/11/2019	<p>Hi,</p> <p>I am a long-term resident of Keith Street, Dulwich Hill and am excited about the redevelopments in the area of Dulwich Hill station. I do however support the concern raised below.</p> <p>Last Wednesday I was sitting at the Light Rail Stop and a delightful Superb Blue Wren came bouncing along the platform coming so close I could have reached out and touched it. This colony has existed for many years in the thick weedy bush along the Bedford Crescent lane behind the platform. I frequently observe other small birds in this area including New Holland Honey-eaters. Small birds are under threat, especially at the southern end of the Greenway, so we cannot risk their further loss.</p> <p>My wife and I (both elderly) often come home late in the evening but rather than walking through the poorly lit Bedford Crescent lane we just walk slightly further via Keith Lane. This is not a big issue.</p> <p>Thanks for your consideration of this matter</p>	<ul style="list-style-type: none"> - Fauna habitat - Poor lighting on Bedford Crescent 	<p>1. A Biodiversity Assessment Report was prepared and published as part of the Sydney Metro City & Southwest Sydenham to Bankstown Upgrade Environmental Impact Statement (EIS). This document can be found on NSW Department of Planning, Industry and Environment’s Major Projects website.</p> <p>There is a single tree required to be removed close to Wardell Road on Bedford Crescent to locate a Kiss and Ride Shelter. This tree has been recently planted. Additionally, design investigations are looking to improve the quality of the planting within the Bedford Crescent pocket park and may replace some trees with better suited species. Potential impacts to flora and fauna will be managed throughout the construction of the Project, in accordance with the Contractor’s Construction Environmental Management Plan.</p> <p>Vegetation to the Bedford Crescent laneway will remain while the design team is continuing to investigate opportunities to improve the quality of the vegetation in the Bedford Crescent Pocket park</p> <p>2. While there is an alternative route along streets to Bedford Crescent, the lane is an important part of the walking and cycling network and needs to be as safe as possible for the people who use it. Lighting improvements will be provided along the laneway. The lighting design will ensure a balance between safety of people and avoiding light spills into adjacent properties. It will be localised and respond to CPTED (Crime Prevention Through Environmental Design) principles to improve both safety and the perception of safety.</p>
8	26/11/2019	<p>Sydney Metro Design team,</p> <p>My neighbours at (<i>redacted</i>) and I have met to discuss the designs for Dulwich Hill station made available through the Sydney Metro Station Design and Precinct Plan document available. Our first point to make is to address the absence of ‘pop-in sessions’ promised through that above mentioned document (refer p67 section 6.3 ‘Community Consultation’ where the document stated (and I quote) “...with members of the community having the opportunity to attend pop in sessions with the design team and provide their feedback to Sydney Metro” I notice the information indicating the promise of pop-in sessions has been removed from this document at some time since Thursday last week. I also notice that the Amendment Record on p (ii) does not reflect the fact that this key piece of information has been removed. So we would request an explanation of why this amendment does not receive a mention in the Amendment Record.</p> <p>In discussing this issue with your officer by telephone we were informed that this was a ‘text error’ however it does seem to present a flaw in the consultation process. We have been waiting for notification of when these pop in sessions were to occur and it wasn’t until midway through the final week of the consultation process that a phone call to your office provided the explanation of this error. We feel that there are likely to be other residents who may have been waiting on notification of the pop in sessions whose feedback may now not be heard due to this piece of misinformation. Your officer indicated to us that the period for submissions of feedback has now been extended to today Tuesday Nov 26) so we are providing the following additional feedback in accordance with that revised deadline.</p> <p>Our main concern is the lack of consideration of vehicular traffic issues in Bedford Cres, Wardell Lane that will arise as a result of the increased pedestrian traffic on approach to the new bridge entry near the Light Rail entrance. As you are aware Bedford Cres is a dead end street with a small turning circle at the end of the street. The entrance to the light rail is at the end of Bedford Crescent. Currently cars drive up to the light rail steps to drop people off or park illegally in the turning circle to wait to pick people up from the light rail. This causes a lot of congestion at peak hours. This will get a lot worse with extra metro drop offs and pickups unless there is a means of restricting drop offs and pick ups in the street. There is a kiss and ride further up the street but the temptation to quickly stop and drop people off at the end of the street (in the no standing zone) is too great for many drivers and this leads to congestion at the end of the street.</p> <p>This congestion is made worse by the fact that the turning circle is quite small and many cars have to do a three point turn to turn around. And of course this is made even worse when there are cars waiting to pick people up. This is already a significant problem but will increase with the added traffic planned around Sydney Metro use. There is also a related problem with the number of cars stopping with engines running and with the fumes coming in open windows.</p> <p>Similar issues as described above may also occur in Ewart Lane south of the line although this will not affect us directly in Bedford Cres.</p> <p>As residents of the street we are also concerned about our street parking opportunities which are bit by bit over time being whittled away. After the Bedford Cres streetscape was completely redesigned to accommodate the Light Rail a significant number of parking spots were lost. We did achieve an hourly parking limit on parts of the street (residents excepted) which helped the situation. More spaces have been lost recently to share car spaces and while we value this forward-thinking approach by council we continue to see our parking opportunities further diminishing over time. Our suggestion is to make all parking on Bedford Cres 2 hour only (residents excepted), to conduct more frequent ranger patrols as many vehicles ignore these restrictions, and also to extend the parking restrictions to 7 days a week.</p>	<ul style="list-style-type: none"> - Consultation process - Traffic - Parking 	<p>1. While pop-in sessions were not held, targeted notifications announcing the public exhibition of the Dulwich Hill draft SDPP and publication of the draft SDPP on the Sydney Metro website were delivered to properties within a 200m radius of the station. The notifications contained a project e-mail and 1800 infoline that community members could call in to speak with a member of the project team should they have any questions.</p> <p>2. As a result of feedback we are now proposing to add an additional drop-off/pick-up opportunity close to the station. This will result in two Kiss & Ride areas close to the station, the existing space on Bedford Crescent (which is placed to enable vehicles to exit via Keith Lane without using the turning circle) and an additional space on Wardell Road south of the station, which would remove the need for vehicles to use Bedford Crescent to drop-off/pick-up.</p> <p>3. The car parking on Bedford Cr is the responsibility of Inner West Council and not part of Sydney Metro’s scope. Sydney Metro is responsible for commuter parking only.</p>

7.3 Appendix C: Inner West Council submission & project response

Submission number	Submission date	Council submission	Issue	Design response
1	21/11/2019	<p>Consideration of Council’s Dulwich Hill Public Domain Masterplan in designing Metro’s Dulwich Hill SDPP is supported. It is, however, requested that the following elements be included in the SDPP scope to ensure that the proposed works do not inhibit Council’s vision of achieving ‘a pedestrian orientated village centre’:</p> <ol style="list-style-type: none"> 1. Bedford Crescent public domain upgrades including a playground/pocket park as indicated in the detailed master plan; 2. Upgrade to Ewart Lane (east-west section between new station plaza and Ewart St / the Greenway); 3. Council stresses the importance of this axis in establishing active corridor cohesion and connectivity with The Greenway; 4. To ensure true integration, and efficient operation of the active transport link, it is essential that the project include redesign of the Ewart Lane Carpark. Council considers that the Station connectivity will not be complete unless Ewart Lane and its carpark are included in the scope of this project; 5. Station Plaza extension towards Wardell Road to meet the new signalised intersection in accordance with Council’s Dulwich Hill Public Domain Master Plan; 6. Coordinating the extent of these works is particularly urgent as Council has committed to detail design for the Wardell Road and Dudley Street intersection in the current financial year (2019/20). Such measures should include extension of the plaza through relocation of the school bus stop on Wardell Road, south of the station. 	<ul style="list-style-type: none"> – Public domain enhancement and alignment with Council’s Dulwich Hill Public Domain Masterplan 	<p>The project has included i) new soft landscaping to the Bedford Crescent termination / existing open space ii) reconfiguration and associated landscape treatment of the Ewart Lane commuter car park west of the new plaza iii) extension of the plaza to interface with Inner West Council’s threshold treatment / intersection upgrade to Wardell Road / Dudley Street</p>
2	21/11/2019	<p>The SDPP heritage principles are generally supported however concern is raised that:</p> <ul style="list-style-type: none"> – The plans (see figure below) show the demolition of existing walls, doors, windows and a former fireplace of the existing platform building. The plans also describe a proposal to “box-in numerous windows” (4.5.1) and remove existing timber floors (replacing them with suspended concrete). It is considered that this is contrary to good conservation practice, which is to retain significant elements and spaces including early room layouts, and install new elements in a ‘reversible’ manner; <p>The plans do not indicate the proposed works for the overhead booking office. To adequately consider the heritage impacts of the proposal it is essential to understand treatment of this structure;</p> <ul style="list-style-type: none"> – Reference is made to “security tilt up gates to the existing heritage booking office” (4.4.1). This should be clarified to permit assessment of its heritage implications; – The proposed new screens to the Wardell Road bridge appear to be overly high (3m high) with the potential to inhibit views to the heritage buildings. Details of these screens, and the new safety rail in front of the booking office, should be provided and their design should be such that it minimises visual impact on the heritage elements of the station, as well as views to and from station buildings. 	<ul style="list-style-type: none"> – Heritage 	<p>The design retains existing heritage fabric as far as possible. However, certain critical equipment needed for Sydney Metro operations require concrete flooring to take their weight. Sydney Metro is investigating further to minimise this impact by housing these equipment in rooms that already have concrete flooring or moving them to the new platform building under the new stairs.</p> <p>Sydney Metro acknowledge that the existing overhead booking office holds heritage significance as it was constructed in 1935 and has acted as the central marker for the station and precinct for many years. Therefore as the building is listed within the local heritage register only minor works will be undertaken to the building. The proposed works to the existing overhead booking office include the restoration of the existing structure and refresh of all the existing surfaces.</p> <p>The tilt-up security gates proposed adjacent to the overhead booking office were assessed by heritage consultants as “generating a minor direct physical impact to the concourse” in the Heritage Assessment. It is noted that Belmore Station provides a positive precedent for the use of these gates.</p> <p>The throw screen heights are a maximum of 3 metres and is an RMS requirement that Sydney Metro must comply with. They will be as transparent as possible to minimise visual impact and enables views.</p>
3	21/11/2019	<p>Undergrounding of the adjacent high voltage network should be a priority as it is considered that existing overhead wiring significantly detracts from the amenity of the site. The longer term visual and environmental implications of overhead wiring will be exemplified as adjacent trees mature resulting in the need for canopy reduction (pruning).</p>	<ul style="list-style-type: none"> – Undergrounding of the electrical high voltage network 	<p>Undergrounding high voltage is outside of current scope. It is noted however that this infrastructure will likely become redundant in the future in which case it will be removed.</p> <p>Tree species have been appropriately selected and placed to ensure non-interference with the overhead wiring. Further consultation was undertaken with IWC’s landscape and urban design team to refine the species.</p>

Submission number	Submission date	Council submission	Issue	Design response
4	21/11/2019	<p>The proposed platform accessibility upgrades are welcomed, however, it is considered that the objectives of the SDPP lack focus on creating 'equitable and universal accessibility'.</p> <p>Consequently, it is considered that SDPP lacks detailed planning for equity and whole of journey access, when compared to its other planning considerations which appear thoroughly explored and well detailed. The reliance on DSAPT compliance as sufficient is considered inadequate due to the age of those standards and technological progress since their formulation. Council requests that DSAPT compliance be considered an absolute minimum, rather than a desired level of design, particularly when designing for a transport system which will operate well into the next five decades.</p> <p>To facilitate our community's needs into the future, the SDPP should be more expansive in its interpretation of everyone's needs within an urban design context.</p> <p>Additionally, the absence of an integrated walking and cycling plan, showing area-wide connectivity means that it is not possible to accurately assess how accessible the completed precinct will be. The absence of such a plan means that the station is being considered in isolation, without the practical realities of topography, traffic and legibility. Further, without reference to projected patronage data it is not possible to assess the adequacy of the proposed treatments for all patrons (including those with mobility impairment).</p> <p>Older people, people with disabilities, and respective families may find access is limited not only by the existing topography but also by minimal consideration of their needs where these extend beyond a regulatory/DSAPT assessment. Analysis would be significantly assisted if the SDPP were to provide a section that details the extent to which accessibility is integrated within each of the design parameters and an additional section providing patronage projections including a demographic breakdown.</p> <p>It is requested that Council's Inclusion Action Plan be part of the SDPP, perhaps included in section 1.3.4 as a further relevant Council plan/initiative. This would complement the State Government's intentions to formalise integration of inclusion processes under the Disability Inclusion Act to create inclusive communities.</p> <p>Specific comments pertaining to accessibility include reference to the booking office and existing buildings:</p> <ul style="list-style-type: none"> – Consideration should be given to a second lift to the platforms; as this would significantly benefit numerous users. Primarily, it is necessary to achieve equity; however it also has the practical benefit of providing a buffer for inevitable lift outages and repairs, by offering a second point for platform access. Should this not be provided the station will be rendered unusable for mobility impaired users during such incidents. This enhanced provision is also important because of the connectivity with the Inner West Light rail Service at this station; – Further information is requested to clarify whether the bridge entry to the booking office will be accessible and to what extent the existing buildings and functions within (including staff access) will be accessible. 	– Accessibility	<p>Accessible entry to the station platform will be provided from both the southern plaza and Bedford Crescent via new lifts. Sydney Metro had investigated an option for a lift from Wardell Road entry which would have required reconfiguration of the whole entry and demolition of the existing booking office. If people with accessible needs are dropped off by vehicle, there is provision for kiss and ride on Bedford Crescent which provides accessible entry to the station and across the overbridge to the plaza (via new lift). In addition, the southern plaza will provide an accessible path from the lift entry to Wardell Road. Additional kiss and rides are also being considered on Wardell Road close to southern plaza.</p> <p>The plaza design integrates accessible paths of travel with the public space, minimising gradient changes to accommodate all potential users. The project will include levelling the footpath on Wardell Road overbridge and entry to the overhead booking office which will allow people to enter the building, appreciate the heritage fabric and view any heritage interpretation material contained there.</p> <p>Installation of a second lift to platform is not in Metro's scope. Additionally, the existing platform space is quite constrained to put a second lift for redundancy. The project is generally reusing and repurposing existing assets for Metro conversion.</p>
5	21/11/2019	<p>Concern is expressed that the preservation of heritage aspects can involve exclusion of people who are mobility impaired and can re-traumatise people who have experienced exclusion; particularly people institutionalised due to a lack of accessibility which has prevented their public participation. There are ways to approach achieving a balance between preservation and inclusion sympathetically, enabling the reaching of a complimentary outcome that respects rights and protects building character/heritage. It is essential that an on-going dialogue be continued to ensure a pragmatic balance is achieved between building preservation and inclusion of all people.</p>	– Heritage & Rights	<p>A new accessible concourse with lifts to both platforms provides a new primary entry point for all users that avoids destructive work to the existing heritage station entry building. This work is complemented by a new public plaza that provides an accessible path of travel from the Dudley Street bus stops through to the platform via the station entry and from Bedford Crescent to the platform via the station entry. Therefore the new station will provide accessibility from both sides of the station which is not currently available. Feedback from the local community has been integrated by the design team and has been used to inform the development of heritage interpretation.</p>
6	21/11/2019	<p>Further clarification is sought on the accessible path from Ewart Lane car park and how the disabled parking spaces in Bedford Crescent and Ewart Lane Carpark will connect to the plaza.</p>	– Mobility parking	<p>The parking spaces on Bedford Crescent provide accessible entry to the station and across the overbridge to the plaza (via new lift). In addition, the southern plaza will provide an accessible path from the lift entry to Wardell Road.</p> <p>T2M has also investigated an accessible path from the station entry to Ewart Lane car park. Due to the existing topography and rock formation an accessible connection between the car park and the station entry is not feasible.</p>

Submission number	Submission date	Council submission	Issue	Design response
7	21/11/2019	<p>Concern is expressed regarding station staffing levels, given that people with a disability are required to rely on staff contact and boarding points especially after hours/when unstaffed. While Sydney Metro proposes the use of Mechanical Gap Fillers (MGFs) to address boarding difficulties on older curved platforms, clarification is sought on how mechanical issues/breakdowns with the MGFs will be dealt with, particularly if platform staff are unavailable. Similar issues are raised in relation to toilet access when no staff are present;</p> <p>Further information is requested regarding the wayfinding strategy and whether the design will consider and incorporate elements of Wayfinding Standard, AS1428.4.2 which focuses on enabling a continuous pathway of travel that is legible for people with a disability;</p> <p>It is considered that the level of detail provided in relation to the accessible link to the Ewart Street car park (which includes parking for disabled spaces) is inadequate;</p> <p>Consideration should be given to incorporating hearing loops (with schedules and announcements) in different languages, providing access to people with vision impairment to provide truly inclusive design for all; The proposed seating on raised planter beds is not considered to be accessible for all users;</p> <p>It is not clear how the exfoliated finish of the proposed pavers would work in practice for those with mobility impairment using wheelchairs;</p> <p>The addition of seats with backs and arm rests is very welcome.</p>	<ul style="list-style-type: none"> – Staffing, boarding and operations 	<ol style="list-style-type: none"> 1. It is intended that there will always be one staff per station who will be the point of contact for customer related issues. 2. Wayfinding strategy closely follows AS1428 standards within the station. Please note for Wardell Road entry which is not accessible the sign provided at the entry will direct people towards north of Wardell road and at the intersection of Bedford Crescent another sign provided to direct people to the accessible entry at Bedford Crescent. Signage design and proposed locations meet AS1428 standards as all signs are specified from standard TfNSW's Kit of Parts which are AS1428 compliant. 3. T2M has investigated an accessible path to Ewart Lane car park. Due to the existing topography an accessible connection between the car park and the station entry is not feasible. Accessible parking is provided near Bedford Cr entry which provides an accessible path. 4. Translating the hearing loop in other languages is currently out of scope. Customers have the option to call 131 500 and press 5 for all information for people with disabilities and also request translators to assist. Metro's scope includes the following for hearing augmentation: <ul style="list-style-type: none"> Provision of a hearing augmentation system in public areas at each station to assist hearing impaired people using hearing aids fitted with a standard magnetic induction coil. a) The hearing augmentation system must be designed to meet the hearing augmentation requirements of the BCA for all public areas within the Station. b) The hearing augmentation system must align with PA zones, to ensure hearing impaired passengers receive the same message as other passengers. c) Hearing augmentation systems must be provided at help point locations to enable passengers with a hearing impairment to interact with staff.
8	21/11/2019	<p>The proposed refurbishment and reuse of the overhead booking office and platform building are supported. Consideration should be given to these buildings being available for creative uses including potential artists' making spaces or creative studios which would significantly add to the overall activation of the precinct as a social and cultural asset;</p> <ul style="list-style-type: none"> – Council would welcome additional engagement on opportunities to develop public art elements and place-making in the precinct; – It is requested that Council's Aboriginal Policy Team be actively involved in refinement of the project's cultural design principles; – Council requests more detailed engagement on the creation of shared cultural experiences, noting that there are opportunities for more sophistication to be brought to the vision articulated for the new plaza. (For example, social and cultural enlivenment is centred on linking people to one another and to place, and this often happens strongly through opportunities for shared cultural experiences). This is a significantly different contemporary focus; than remembering a history as a market garden location as marked through interpretive signage. Council would welcome more detailed engagement on this issue; – Consideration should be given to incorporating power sockets and providing Wi-Fi connectivity in the plaza to build capacity for cultural events. 	<ul style="list-style-type: none"> – Social and Cultural 	<p>The overhead booking office will be refurbished and repurposed for Metro operations. Due to spatial constraints within Dulwich Hill station buildings, this room is required for Metro's critical operating functions.</p> <p>Metro will engage with the Council when Metro's Public Art Plan is finalised for Southwest Metro.</p> <p>T2M have engaged Aboriginal Cultural consultants to prepare aboriginal cultural principles for public art and heritage interpretation. Metro will engage with Council's Aboriginal Policy Team when a plan for Public Art and Heritage Interpretation is developed.</p> <p>Power sockets provision are being considered for inclusion in the plaza to support community events.</p>

Submission number	Submission date	Council submission	Issue	Design response
9	21/11/2019	<p>1. Bandicoot Protection Area and Wildlife Corridor (Marrickville LEP and DCP)</p> <p>The site is in both the Bandicoot Protection Area and Wildlife Corridor, and the design must comply with Council’s appropriate DCP requirements. These bandicoots are listed in the Biodiversity Conservation Act 2016 as the endangered Inner West population of Long-nosed Bandicoots. Consideration should be given to both the operational and construction impacts of the project, particularly relating to the station, plaza, paths, car park and corridor works.</p> <p>2. Fauna-sensitive Lighting</p> <p>Where lighting is proposed it should be ‘fauna friendly’. This includes:</p> <ul style="list-style-type: none"> o Avoiding installation of lighting unless absolutely necessary; o If lighting cannot be avoided, use lower impact globes is encouraged: o Use of globes with longer wavelengths - low pressure, narrow spectrum lights (rather than broad-spectrum) that use longer wavelengths (eg orange and red would be the least disruptive). In requesting this Council recognises that a balance must be achieved between fauna disruption and personal safety/security; o Installation of shields on pole mounted lights, to direct illumination downwards, thus reducing the spill-over; o Use of timers to automatically switch lights off when they are not needed for human use. Consideration should be given to opportunities to use active/autonomous user-responsive lighting (Installation of lights with sensors or motion detectors to switch lights on and off and reduce the length of time the site is exposed to unnatural light levels); o Installation of lights as low to the ground as possible. 	– Urban Ecology	The lighting design will ensure a balance between safety of people and avoiding light spills into adjacent properties. It will be localised and respond to CPTED (Crime Prevention Through Environmental Design) principles to improve both safety and the perception of safety. Detailed design has considered factors associated with fauna sensitive lighting.
10	21/11/2019	<p>Species selection</p> <p>Local native plant species (not cultivars) should be used to provide habitat and enhance local biodiversity. Section 2.18.13, of Council’s Landscaping and Open Space DCP provides a list of preferred native plant species in the chapter for recommended species. Consideration should be given to the use of the following tree species:</p> <ul style="list-style-type: none"> o Banksia serrata; o Tristaniopsis laurina; o Buckinghamia celsissima; o Leptospermum petersonii; o Melaleuca linariifolia. 	– Species Selection	The suggested species could be considered for the informal planting beds but may not be suitable for the plaza as their growing habit is not suitable. Detailed consultations have occurred with Council’s landscape team in May-June 20 to finalise selection of the species list.
11	21/11/2019	<p>Permeable pavers should be used for hardstand areas and consideration should be given to increasing the size of garden beds to reduce impervious surfaces.</p>	– Permeable pavement	Permeable pavers are not preferred as they tend to clog, and also can be difficult to navigate for people with mobility impairment.
12	21/11/2019	<p>Passive irrigation</p> <p>Surface water should be directed into garden beds and tree pits to incorporate passive irrigation.</p>	– Passive Irrigation	Passive irrigation is provided by means of aco-drains between tree pits, which drain surface water directly into the soil vault system. Soil volumes were provided by the manufacturer.
13	21/11/2019	<p>1. The proposed vertical protection screens at the Wardell Road bridge should act to provide appropriate road protection as a crash barrier in accordance to AS3845:1999. Their scope should include provision for ‘errant vehicle mitigation’;</p> <p>2. The pedestrian safety rail at Wardell Road Bridge adjacent to the booking office should be in accordance to the RMS guidelines for pedestrian fencing. The scope of the project does not appear to include the widening of the bridge, without this, the proposed pedestrian rail fencing will reduce the available footpath width at a location where increased prominent north-south pedestrian and bicycle movements are expected;</p> <p>3. The proposed bicycle parking hoops/racks should have all weather protection and the proposed design should better support cycling access and connections to and from the interchange. The Austroads and RTA Bicycle guidelines specify that for a public transport interchange - a ‘high volume’ bicycle parking facility should be thoroughly designed, covered from the elements, be useful and attractive to use for all bicycle users. Furthermore it is recommended that additional space be allocated for future provision of floating bike share and e-scooter providers.</p> <p>4. The staircase to the concourse should include bicycle rails/push ramps/channels.</p>	– Traffic Engineering	Dulwich Hill is not a “high volume bicycle parking facility” and this guideline does not apply. The new bike parks are located to be close to and highly visible from the new entry and lift and are considered to offer good amenity, and be in keeping with the plaza design. The staircase to the concourse is for pedestrian use, not acting as part of a bicycle network (the main cycling connection being east-west through the plaza) and ‘bicycle rails, push ramps and channels’ are inappropriate. The lift may be used for bicycles.

Submission number	Submission date	Council submission	Issue	Design response
14	21/11/2019	<p>Noting that Council’s drainage network begins at Ewart Street, any subsoil drainage/plaza drainage would require the existing network to be extended to the plaza – further discussion is requested to ensure this is addressed;</p> <p>Additional information is requested regarding the ownership/maintenance of the plaza, when delivered, and whether it would remain a Metro asset or be handed over to Council. In particular detail is requested on responsibilities for maintaining drainage and landscaping in the proposed plaza.</p>	– Stormwater Drainage	<p>The latest drainage designs can be reviewed in Stage 3 package which has been provided to Council for review and comment.</p> <p>Discussions re: ownership and management of plaza will be held as part of next steps of engagement and as agreed with the future operator.</p>

THIS PAGE DELIBERATELY BLANK