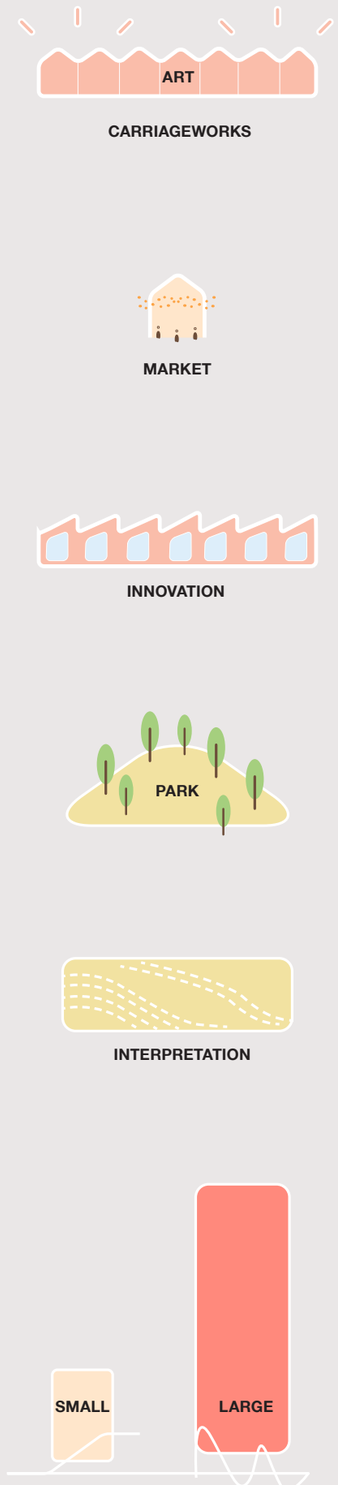

1. Public Domain, Place and Urban Design

RNE Masterplan

TfNSW - Redfern North Eveleigh Precinct

Study Requirements for SSP RNE Masterplan

July, 2022

BATESSMART™

Acknowledgment of Country

We acknowledge the Traditional Owners of Country throughout Australia and recognise their continuing connection to land, waters and culture. We pay our respects to their Elders past, present and emerging.

Common Ground First Nations

www.commonground.org.au

Client

Transport for NSW

Design Team

Urban Design Bates Smart

Landscape Design Turf

Project Number S12470

Rev.	Date	Purpose
A	15.10.2021	Draft For Review
B	29.10.2021	Final Draft
C	12.11.2021	Final Draft
D	16.11.2021	Final Draft
E	01.04.2022	Amended Draft for Review
F	08.04.2022	Final Draft for Submission
G	14.04.2022	Final for Submission
H	10.06.2022	**Final Update for Submission**

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Contents

1.0

Project Introduction

1.1 Executive Summary

Introduction

The NSW Government is investing in the renewal of the Redfern North Eveleigh Precinct to create a unique mixed-use development, located within the important heritage fabric of North Eveleigh. The strategic underpinning of this proposal arises from the Greater Sydney Region Plan and District Plan. These Plans focus on the integration of transport and land use planning, supporting the creation of jobs, housing and services to grow a strong and competitive Sydney.

The Redfern North Eveleigh Precinct is one of the most connected areas in Sydney, and will be a key location for Tech Central, planned to be Australia's biggest technology and innovation hub. Following the upgrading of Redfern station currently underway, the Precinct's renewal is aimed at creating a connected destination for living and working, and an inclusive, active and sustainable place around the clock.

The Redfern North Eveleigh Precinct comprises three Sub-Precincts, each with its own distinct character:

- The Paint Shop Sub-Precinct which is the subject of this rezoning proposal;
- The Carriageworks Sub-Precinct, reflecting the cultural heart of the Precinct where current uses will be retained; and
- The Clothing Store Sub-Precinct which is not subject to this rezoning proposal.

This State Significant Precinct (SSP) Study proposes amendments to the planning controls applicable to the Paint Shop Sub-Precinct to reflect changes in the strategic direction for the Sub-Precinct. The amendment is being undertaken as a State-led rezoning process, reflecting its status as part of a State Significant Precinct located within the State Environmental Planning Policy (Precincts - Eastern Harbour City) 2021.

The amended development controls will be located within the City of Sydney Local Environmental Plan. Study Requirements were issued by NSW Department of Planning and Environment (DPE) in December 2020 to guide the investigations to support the proposed new planning controls.

Purpose of this report

The purpose of this report is to provide a detailed Urban Design and Public Domain assessment of the proposed changes, and consider any potential impacts that may result within and surrounding the Paint Shop Sub-precinct. This report addresses study requirement 1. Public Domain, Place and Urban Design. The relevant study requirements, considerations and consultation requirements, and location of where these have been responded to is outlined in the Study Requirements Checklist on pages 15 and 16, and are summarised at the beginning of each chapter of this report, and where relevant to specific items.

Redfern North Eveleigh Precinct

The Redfern North Eveleigh Precinct is located approximately 3km south-west of the Sydney CBD in the suburb of Eveleigh (refer to Figure 1.1.0.1). It is located entirely within the City of Sydney local government area (LGA) on government-owned land. The Precinct has an approximate gross site area of 10.95 hectares and comprises land bounded by Wilson Street and residential uses to the north, an active railway corridor to the south, residential uses and Macdonaldtown Station to the west, and Redfern station located immediately to the east of the Precinct. The Precinct is also

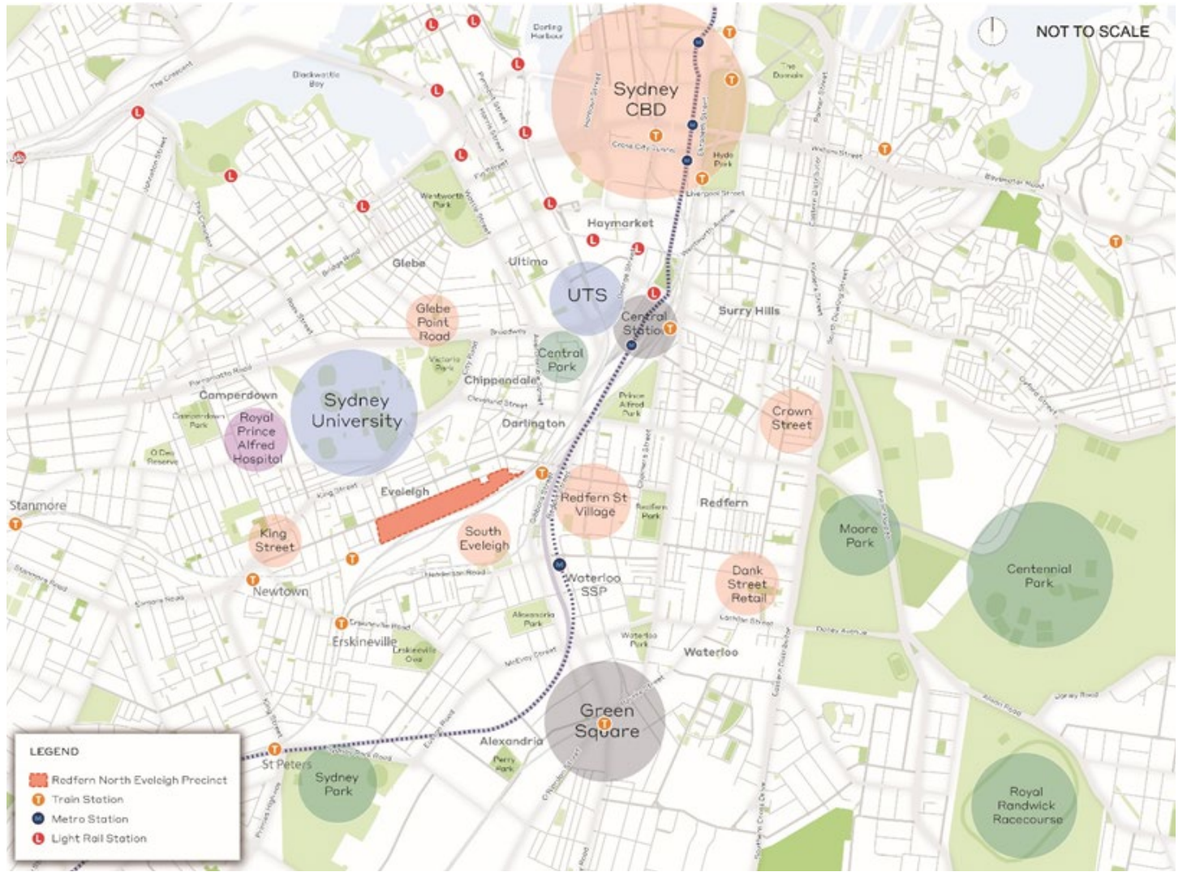


Figure 1.1.0.1 - Location plan of Redfern North Eveleigh precinct, Source: Ethos Urban

1.1 Executive Summary

centrally located close to well-known destinations including Sydney University, Victoria Park, Royal Prince Alfred Hospital, the University of Technology, Sydney and South Eveleigh,forming part of the broader Tech Central District.

The Precinct is located within the State Heritage-listed curtilage of Eveleigh Railway Workshops and currently comprises the Platform Apartments with 88 private dwellings, Sydney Trains infrastructure and key state heritage buildings including the Paint Shop, Chief Mechanical Engineer's Building, and the Carriageworks and Blacksmith Shop which provide shared community spaces for events including the Carriageworks Farmers Markets.

A map of the precinct and relevant boundaries is illustrated in Figure 1.1.0.2.

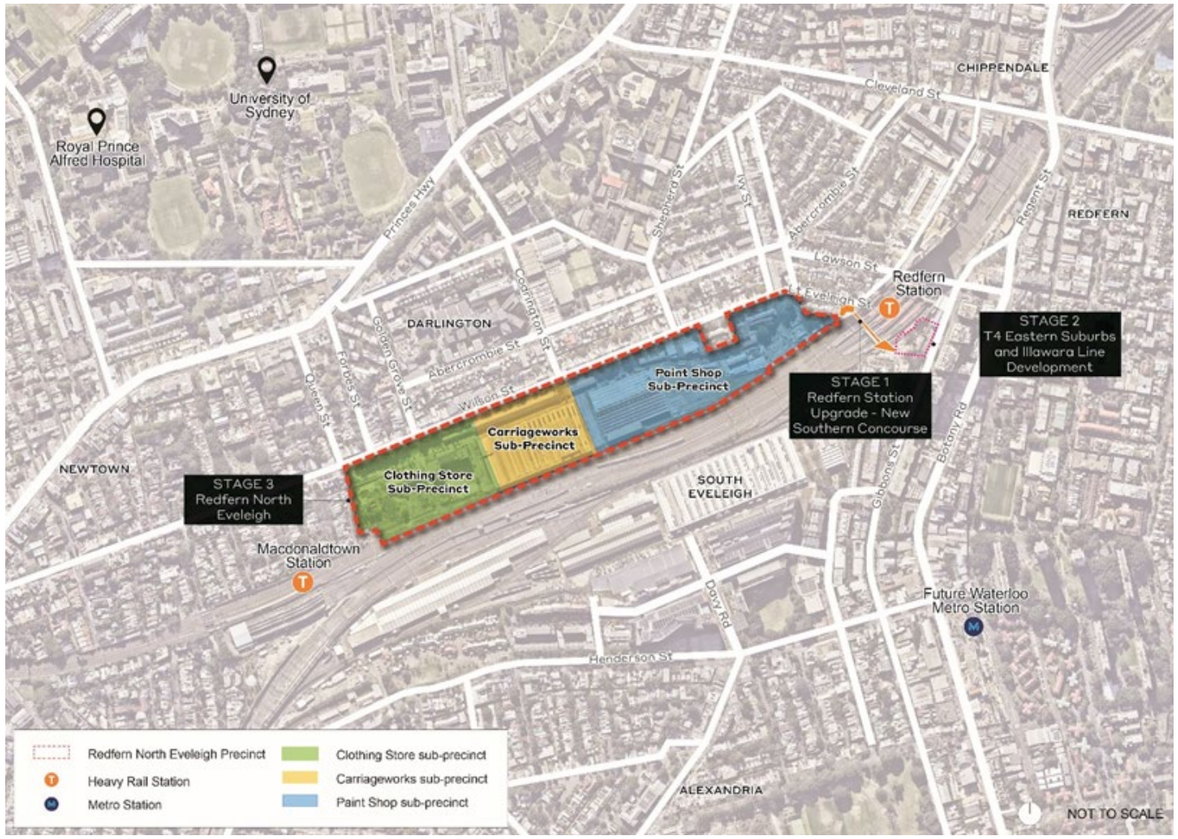


Figure 1.1.0.2 - Redfern North Eveleigh and sub-precincts , Source: Ethos Urban

Redfern North Eveleigh Paint Shop Sub-Precinct

The Redfern North Eveleigh Paint Shop Sub-Precinct is approximately 5.15 hectares and is bounded by Wilson Street to the north, residential terraces and Redfern station to the east, the Western Line rail corridor to the south and the Carriageworks Sub-Precinct to the west. The Sub-Precinct has a significant level change from a Reduced Level (RL) height of RL25 metres to RL29 metres on Wilson Street.

The Paint Shop Sub-Precinct currently hosts a number of items of heritage significance, including the Paint Shop Building, Fan of Tracks, Science Lab Building, Telecommunications Building, and Chief Mechanical Engineer's Building. The Sub-Precinct has a number of disused spaces adjacent to the rail corridor as well as functioning Sydney Trains' infrastructure, offices and operational space. Vehicle and pedestrian access to this area is used by Sydney Trains. The site has a clear visual relationship to South Eveleigh and the Eveleigh Locomotive Workshops across the active rail corridor

A map of the Paint Shop sub-precinct and relevant boundaries is illustrated in Figure 1.1.0.2.

Renewal Vision

The Redfern North Eveleigh Paint Shop Sub-Precinct will be a connected centre for living, creativity and employment opportunities that support the jobs of the future, as well as providing an inclusive, active and sustainable place for everyone, where communities gather.

Next to one of the busiest train stations in NSW, the Sub-Precinct will comprise a dynamic mix of uses including housing, creative and office spaces, retail, local business, social enterprise and open space. Renewal will draw on the past, adaptively re-using heritage buildings in the Sub-Precinct and will acknowledge Redfern's existing character and particular significance to Aboriginal peoples, culture and communities across Australia. The Sub-Precinct will evolve as a local place contributing to a global context.

1.1 Executive Summary

Project description

An Urban Design and Public Domain Study has been prepared to establish the urban design framework for the Redfern North Eveleigh Paint Shop Sub-Precinct. The Urban Design and Public Domain Study provides a comprehensive urban design vision and strategy to guide future development of the Sub-Precinct and has informed the proposed planning framework of the SSP Study.

The Urban Design Framework for the Paint Shop Sub-Precinct comprises:

- Approximately 1.4 hectares of publicly accessible open space, comprising:
  - A public square – a 7,910 square metre public square fronting Wilson Street;
  - An eastern park – a 3,871 square metre park located adjacent to the Chief Mechanical Engineer's Building and the new eastern entry from Platform 1 of the Redfern station; and
  - Traverser No1 - a 2,525 square metre public square edged by Carriageworks and the Paint Shop.
- Retention of over 90% of existing high value trees.
- An overall greening coverage of 40% of the Sub-Precinct.
- A maximum of 142,650 square metre gross floor area (GFA), comprising:
  - between 103,700 - 109,550 square metres of gross floor area (GFA) for employment and community facility floor space (minimum 2,500 square metres). This will support approximately 6,200 direct jobs on the site across numerous industries including the innovation, commercial and creative sectors.
  - between 33,100 - 38,950 square metres of GFA for residential accommodation, providing for between 381 and 449 new homes (including 15% for the purposes of affordable housing).
- New active transport infrastructure and routes to better connect the Paint Shop Sub-Precinct with other parts of Tech Central and the surrounding localities.
- Direct pedestrian connections to the new Southern Concourse at Redfern station.
- Residential parking rates comprising:
  - Studio at 0.1 per dwelling
  - 1 Bed at 0.3 per dwelling
  - 2 Bed at 0.7 per dwelling
  - 3 Bed at 1.0 per dwelling
- Non-residential car parking spaces (including disabled and car share) are to be provided at a rate of 1 space per 700m^2 of GFA.
- 66 car spaces are designated for Sydney Trains maintenance and operational use.

The key features of the urban design frameworking include:

- The creation of a new public square with direct pedestrian access from Wilson Street to provide a new social and urban hub to promote outdoor gatherings that will accommodate break out spaces and a pavilion structure.
- An eastern park with direct access from Redfern station and Little Eveleigh Street, which will provide a high amenity public space with good sunlight access, comfortable wind conditions and community character.
- Upgraded spatial quality of the Traverser No1 yard, retaining the heritage setting, and incorporating complementary uses and good access along Wilson Street to serve as a cultural linkage between Carriageworks and the Paint Shop Building.
- The establishment of an east-west pedestrian thoroughfare with new public domain and pedestrian links.
- A range of Water Sensitive Urban Design (WSUD) features.
- Activated ground level frontages with commercial, retail, food and beverage and community and cultural uses.
- Adaptive reuse of heritage buildings for employment, cultural and community uses.

The Indicative Concept Proposal for the Paint Shop sub-precinct is illustrated in Figure 1.1.0.3 below.

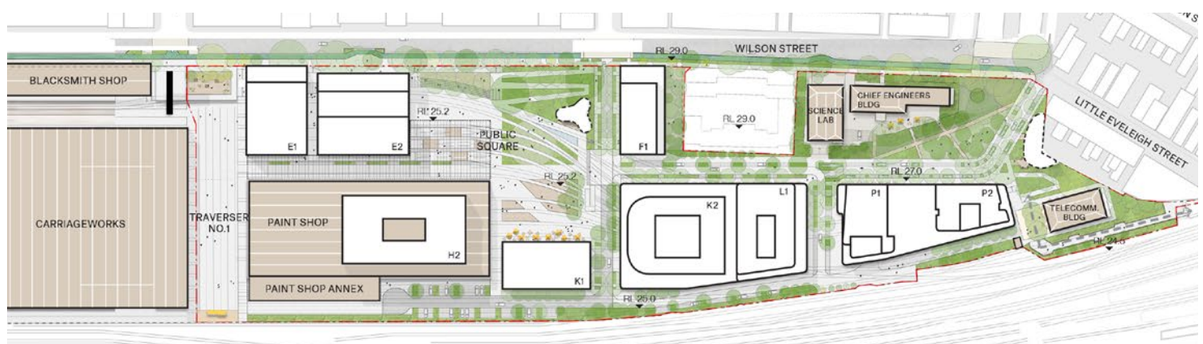


Figure 1.1.0.3 - Indicative Concept Proposal, Source: Bates Smart and Turf

1.1 Executive Summary

— New buildings for the Sub-Precinct, including:

- Commercial buildings along the rail corridor that range between 3 and 26 occupied storeys;
- Mixed use buildings along the rail corridor, comprising a three-storey non-residential podium with residential towers ranging between 18 to 28 occupied storeys;
- Mixed use buildings (commercial and residential uses) along Wilson Street with a four-storey street wall fronting Wilson Street and upper levels at a maximum of 9 occupied storeys that are set back from the street wall alignment;
- A commercial building on the corner of Wilson Street and Traverser No.1 with a four-storey street wall fronting Wilson Street and upper levels at a maximum of 8 occupied storeys that are set back from the street wall alignment. There is flexibility to allow this building to transition to a mixed-use building with active uses at ground level and residential uses above; and
- Potential options for an addition to the Paint Shop Building comprising of commercial uses. These options (all providing for the same GFA) include:

1. A 5-storey commercial addition to the Paint Shop Building with a 3m vertical clearance, with the adjacent development site to the east comprising a standalone 3-storey commercial building (represented in Figure 1.1.0.3 - Indicative Concept Proposal, Source: Bates Smart and Turf);

2. A 3-storey commercial addition to the Paint Shop Building with a 3m vertical clearance which extends and connects to the commercial building on the adjacent development site to the east; and

3. No addition to the Paint Shop Building, with the adjacent development site to the east comprising a standalone 12-storey commercial building.

- Commitment to a 5 Star Green Star Communities rating, with minimum 5 Star Green Star Buildings rating.
- All proposed buildings are below the Procedures for Air Navigation Services – Aircraft Operations (PANS-OPS) to ensure Sydney Airport operations remain unaffected.

The proposed land allocation for the Paint Shop sub-precinct is described in Table 1.1.0.1 below.

Land Allocation	**Existing**	**Proposed**
Developed area	15, 723 m^2 30% of total site area	20, 824 m^2 40% of toal site area
Public open space (proposed to be dedicated to the City of Sydney)	Area not publicly accessible	14, 306 m^2 28% of total site area
Other publicly domain areas (Including streets, shared zones, pedestrian paths and vehicular zones)	Area not publicly accessible	15, 149 m^2 29% of total site area (Excludes privately accessible public links and private spaces ~ 3% of total site area)
TOTAL	**5.15 ha**	**5.15 ha**

1.2 Masterplan Introduction
Diagram Sequence

This section provides a high-level summary of the rationale and logic of the proposed masterplan.

It explains its setting and context, approach to industrial heritage and Country, key place-making and site organising moves, and the distribution of development in form and use.

This high-level overview is explained in further detail throughout this report. The first 8 sections summarise the analytical work, culminating in Urban Design principles and Options evaluation, that lead to the proposition as presented in these following pages.

The finite detail of the proposed masterplan is explained in Chapter 9 - Urban Design Framework, and Chapter 10 - Public Domain Strategy.

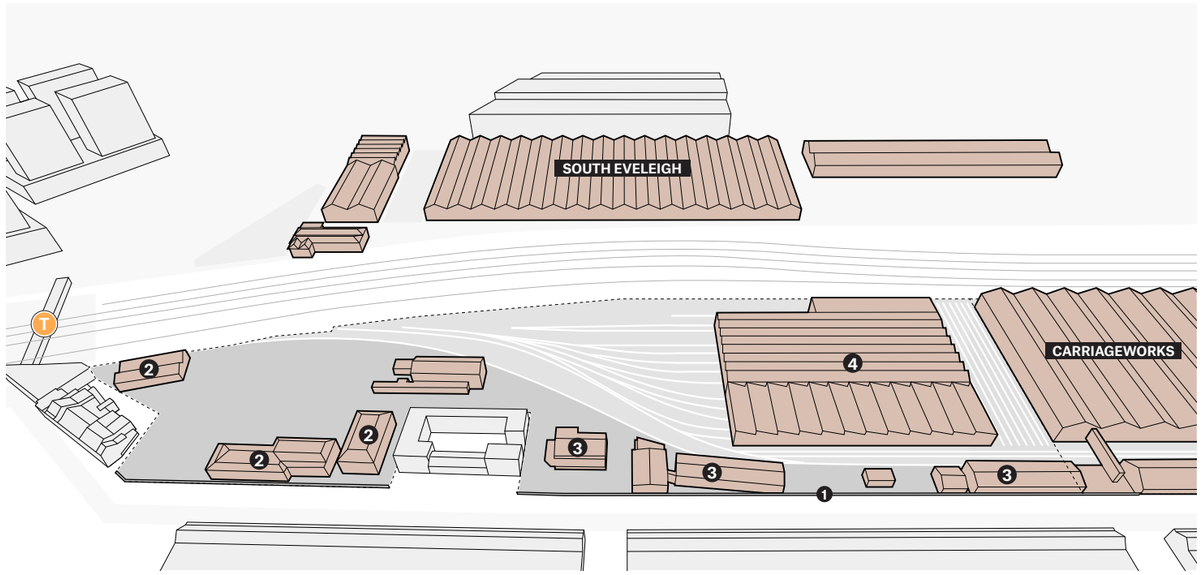


Figure 1.2.0.1 - Existing condition

1. Existing condition

❶ The development site is currently not accessible to the public with limited visibility from Wilson Street (street fence)

❷ Heritage buildings of significant value in the east (Telecommunications, CME and Science Lab) are currently not in use and in need of repair

❸ Along Wilson Street is a collection of buildings with limited heritage value, blocking access into the site

❹ The Paint Shop currently houses a number of trains, while the suburban car workshop is empty. Both buildings are otherwise not in use

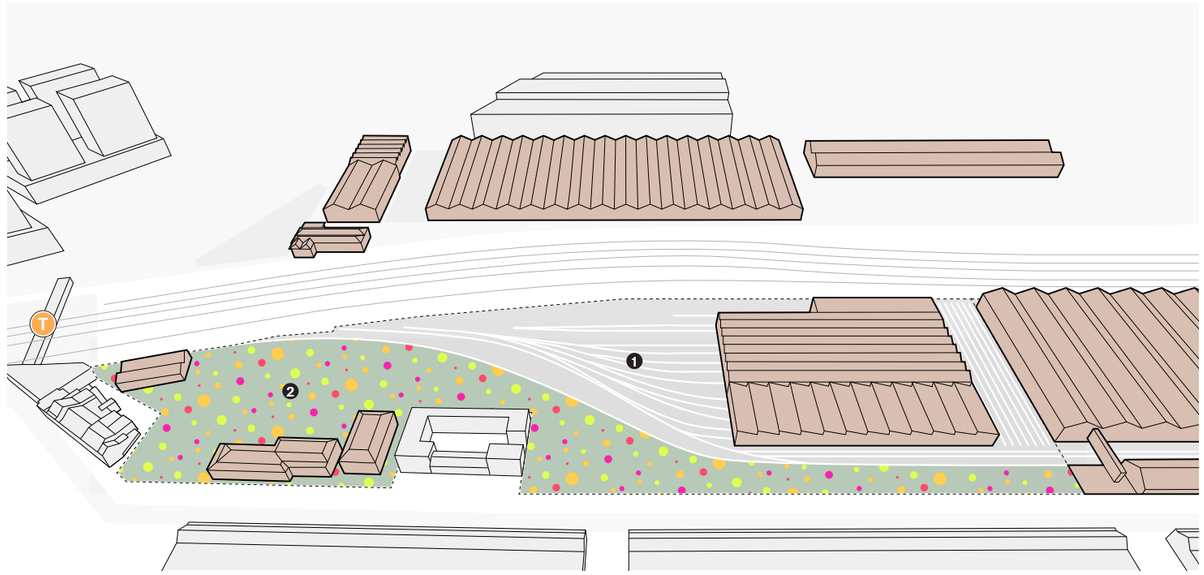


Figure 1.2.0.2 - Restore country

2. Restore Country

— Allow the ‘Country under the concrete’ to re-emerge and begin the restoration of the spirit of the site

— Recognise the layers of history with greater emphasis on industrial heritage at the lower level in the ‘legacy of Sydney trains’ ❶ and pre-industrial landscape / Country at the upper level ❷ with an emphasis on ‘restoring country’

— Establish a framework of open space and buildings to generate a variety of meeting places, acknowledging Mura (trackways) and Ngurang (places)

— Promote a strong Custodianship together with the Aboriginal community

1.2 Masterplan Introduction
Diagram Sequence

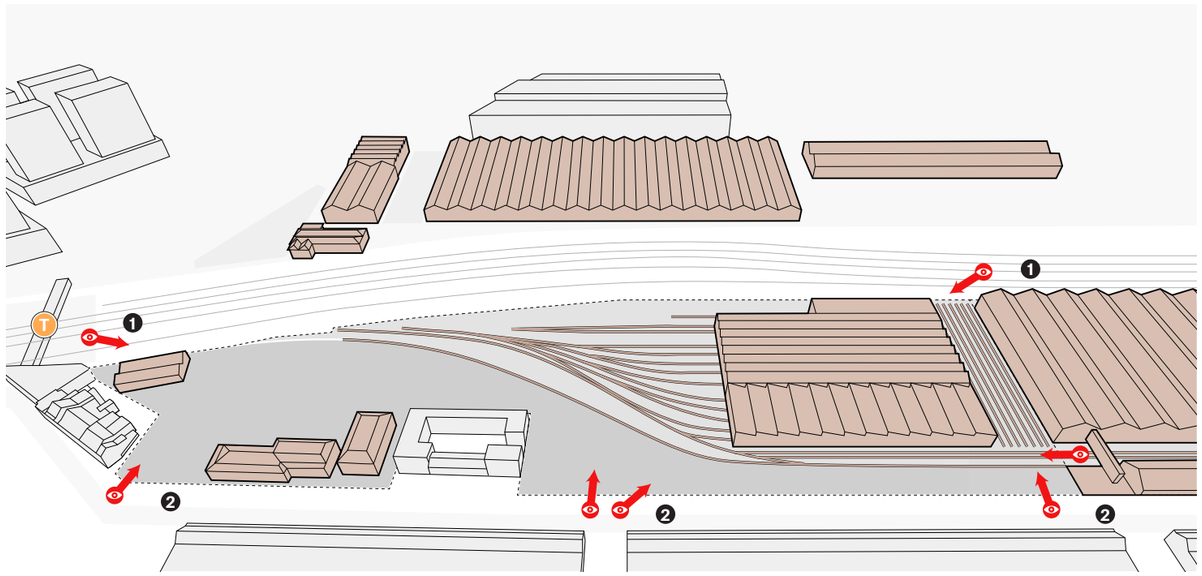


Figure 1.2.0.3 - Heritage

3. Respect heritage

— Integrate the existing context in place and fabric to inform the character of the development

— Embrace heritage as the catalyst for rich placemaking and public realm design

❶ Maintain good visibility from the rail corridor to enable the experience of the site in full - both North and South Eveleigh

❷ Open up the site from Wilson Street to create good visibility onto the existing heritage buildings, and bring the new development and public open spaces into the community

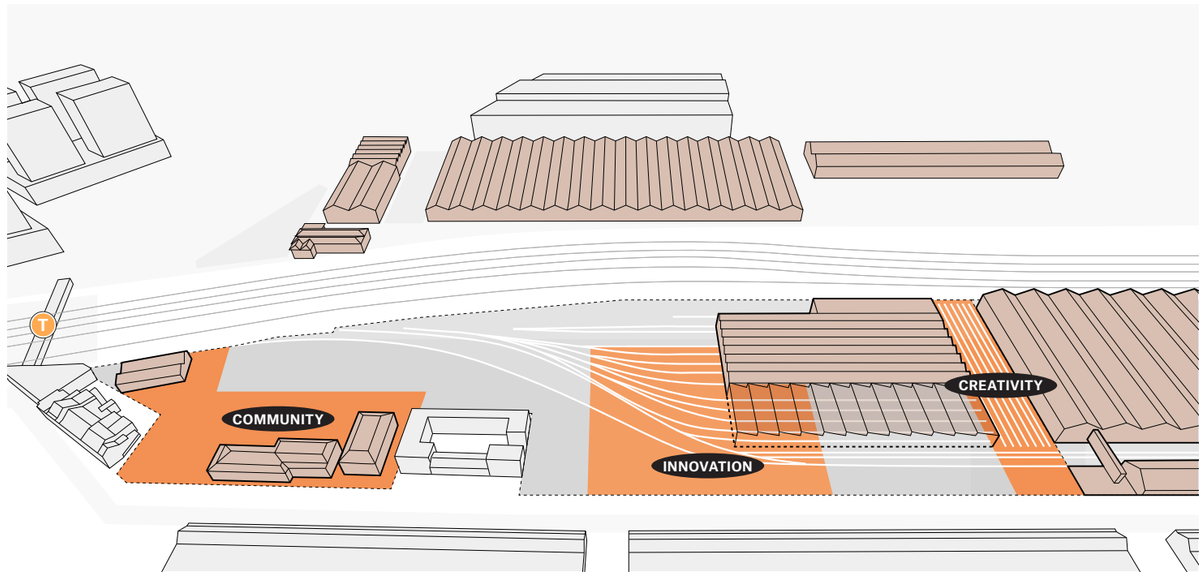


Figure 1.2.0.4 - Public spaces

4. Generous public spaces for the community

— Three main public open spaces with distinct character and purpose – Community / Innovation / Creativity

— Open spaces are protected from the rail noise, enjoy great solar access, and are positioned to open up to and benefit the whole precinct and wider community

1.2 Masterplan Introduction
Diagram Sequence

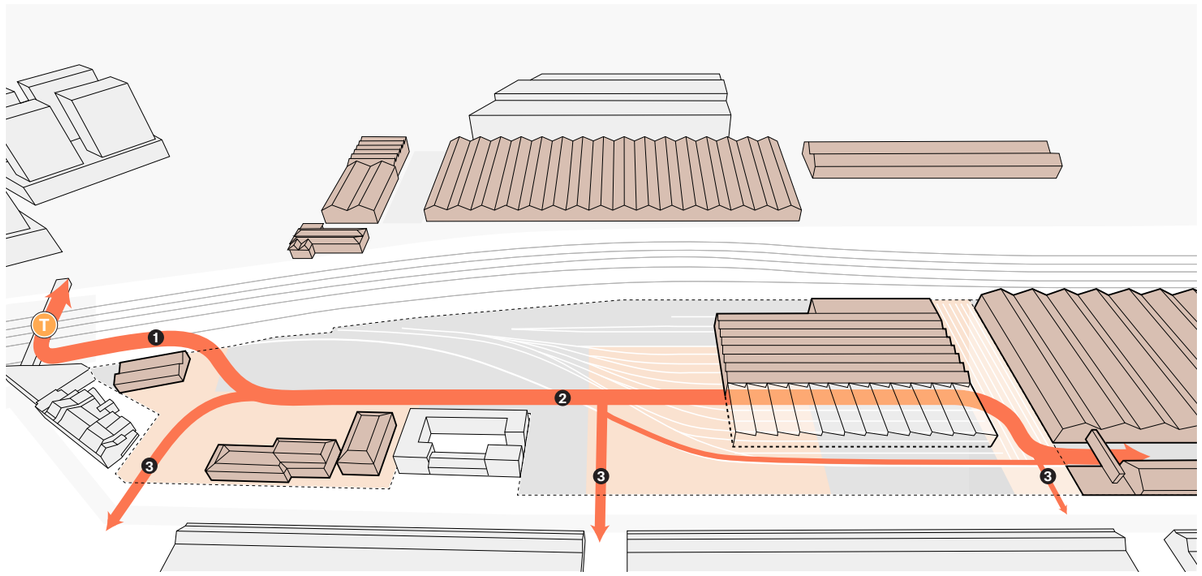


Figure 1.2.0.5 - New connections

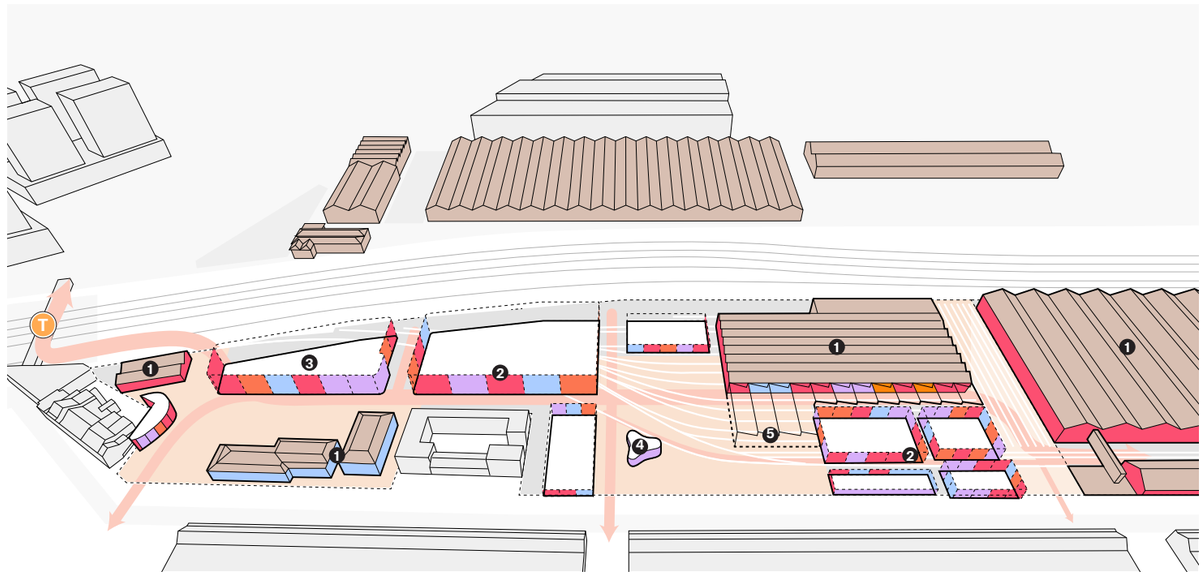


Figure 1.2.0.6 - Public domain

5. New connections to the neighbourhood

❶ A new pedestrian connection from Redfern Station new southern concourse providing direct entry to the site

❷ A shared and fully accessible path providing a continuous east-west connection through the precinct to Carriageworks and Clothing Store sub-precinct

❸ Multiple accessible entry points along the length of Wilson Street, with stairs and paths providing easy access to the lower level

— An innovative approach to shared streets, prioritising pedestrians and cyclists

— Creative streets – full of interesting moments and activity

6. Public domain enlivened with retail, commercial, community + cultural uses

❶ Adaptive reuse of existing heritage buildings for commercial and community uses

❷ A wide range of active uses accommodated in the lower-levels of buildings

— Neighbourhood retail, cafes, restaurants, bars, around key public spaces and new laneways

❸ Potential for health and well-being offer in base of residential buildings at eastern end for the wider community

❹ Flexible pavilion to support community life and activation of the Square.

❺ Suburban Car-Workshop repurposed to provide a sheltered outdoor public space, providing an informal community meeting place and focus for events

1.2 Masterplan Introduction
Diagram Sequence

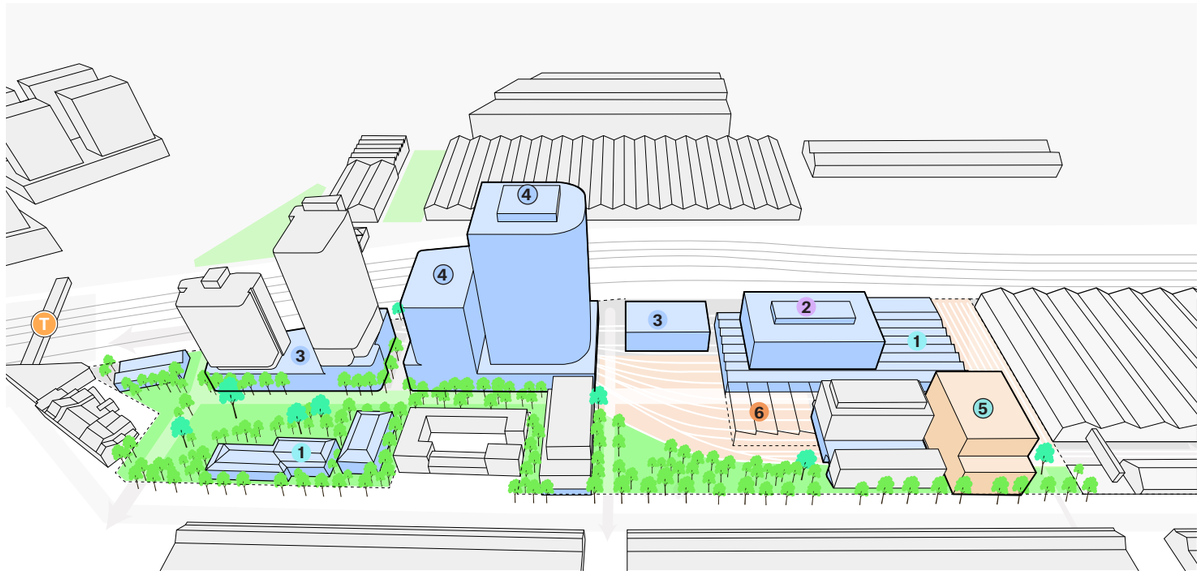


Figure 1.2.0.7 - Commercial buildings

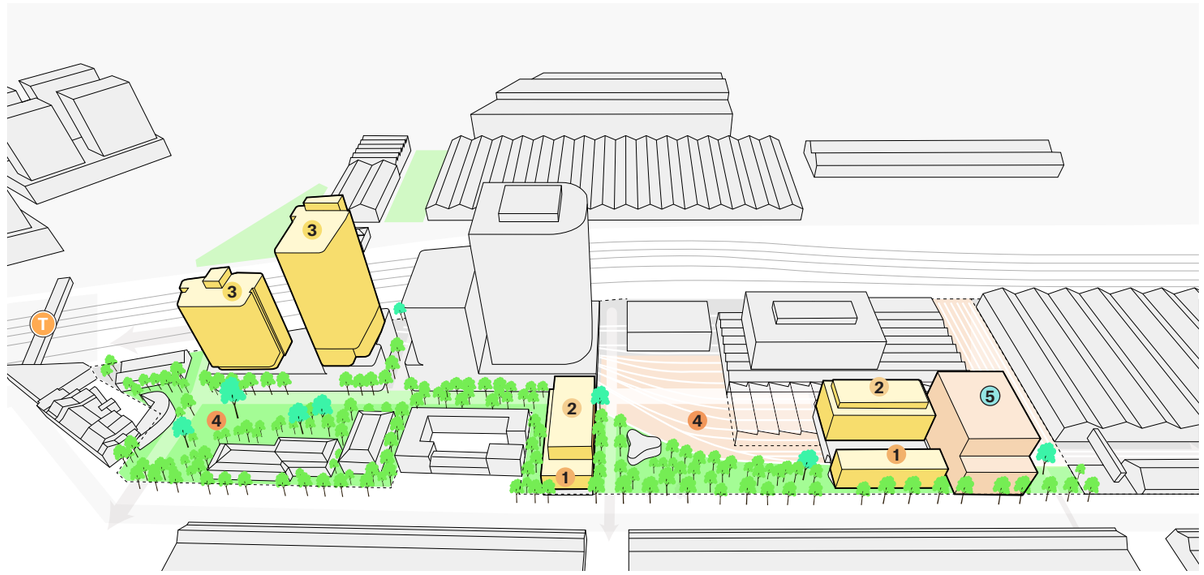


Figure 1.2.0.8 - Residential buildings

7. Support innovation and employment with flexible and diverse commercial buildings

— A variety of buildings provide for different business types – from start-up to established successful business

1 Heritage buildings provide unique & attractive workspaces, with a focus on start up space

2 Potential to expand above the Paint Shop to create an extraordinary new workplace and adaptive reuse of the building.

3 Potential for creative studios, maker-space, and small-scale commercial spaces within new building, podiums and existing buildings

4 Business unicorn, innovation anchor and premium tower for established companies

5 Flexible commercial or residential development adjacent Carriageworks

6 Flexible event space / public workspace / centre for sharing and collaborating

8. New housing to bring life to the precinct.

— Integration of new housing distributed throughout the development ensures a true mixed-use urban neighbourhood, extending activity across the day, evenings, and weekends

1 Small scale 'shop-top' apartments along Wilson Street relate to the existing residential uses

2 Mid-scale residential buildings

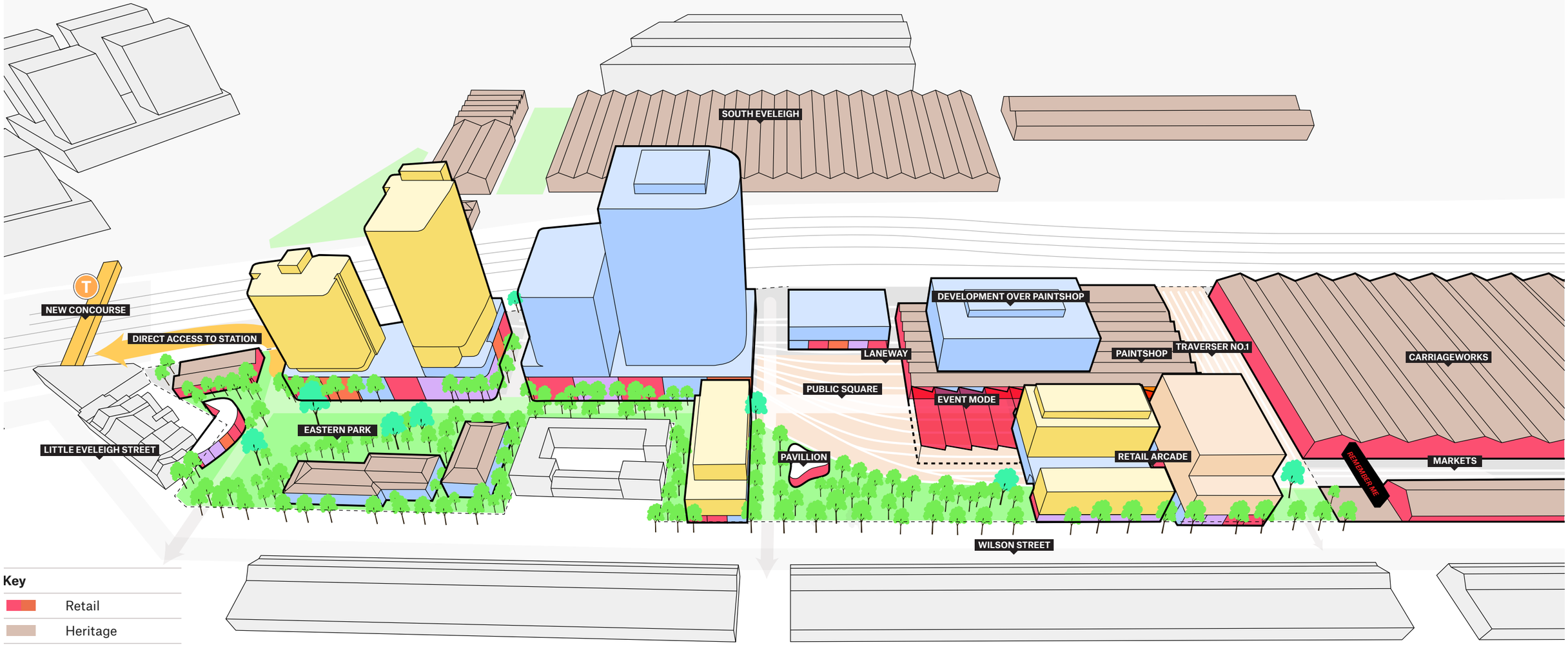
3 Two taller residential buildings benefit from close proximity to Redfern Station and to public open spaces, park setting, great solar access, and district views.

4 All new housing is located adjacent new open spaces – benefiting from great amenity and outlook, and contributing to the activation of these spaces after working hours

5 Flexible commercial or residential development adjacent Carriageworks

— The proposed housing types contribute to greater diversity in the neighbourhood where housing stock is predominantly terraces

1.2 Masterplan Introduction
Diagram Sequence



Key

- Retail
- Heritage
- Residential
- Commercial
- Resi. / Commercial
- Park
- Public Open Space

Figure 1.2.0.9 - Overview of Masterplan proposal

1.3 Purpose of the report

Bates Smart have been commissioned by Transport for NSW to engage in the Study Requirements for the Redfern North Eveleigh Precinct Renewal, with a focus on the Paint Shop sub-precinct.

This report summarises the work undertaken to inform the strategic vision of TfNSW for the site, identify challenges and opportunities in its urban, historic and planning context, and test a variety of place-making approaches. It establishes a basic framework, which has been developed on the basis of design principles, established through research of local policy, relevant case studies and a comprehensive context analysis and evaluation of the 2008 masterplan.

The proposed masterplan framework is informed through close collaboration with a broad and specialist design team and a great variety of stakeholder workshops and independent panels including 4 Design Review Panel (DRP) presentations, meetings with DPIE and the City, and feedback from industry expert panels.

The report is composed of the following chapters:

1.0 - Project Introduction

This report section.

2.0 - Vision & Strategic Context

This chapter summarises present and future influences and indicators of the immediate and wider context, including government initiatives, Council vision and changes to the local context since the 2008 masterplan approval.

It also includes a policy review of the most relevant documents influencing the development site.

3.0 - 2008 Masterplan

An overview of the 2008 masterplan, vision for the different sub-precincts, and evaluation of the 2008 ambitions and targets.

4.0 - Benchmark Assessment

Summary of the following six global innovation districts, with evaluation of key characteristics and a summary with best practice insights:

- 22@Barcelona, Barcelona, Spain
- Station F Start-Up, Paris, France
- Kings Cross, London, UK
- Chattanooga, Tennessee, USA
- Boston Waterfront, Boston, USA
- Melbourne Connect, Melbourne, Australia

5.0 - Site and Context Analysis

A comprehensive review of the site in its context, ranging from a Sydney wide perspective down to the detail of the local neighbourhood and its streets.

6.0 - Connecting with Country

Summary of initial engagement with Cox Innal Ridgeway, leading to a number of design opportunities informing the masterplan studies and assisting the evaluation for the masterplan options. Subsequent aboriginal heritage study by Artefact and community engagement through Balarinji with six key themes informing and confirming the direction of the framework and guiding the governance and detail design beyond this engagement.

7.0 - Urban Design Principles

Insights from analytical work in preceding chapters are summarised in this chapter, leading to three Design Pillars and a finer grain of 9 Urban Design Principles. These are complementary to the priorities and precinct renewal principles, as outlined in the Strategic Vision for the masterplan.

8.0 - Development Options and Evaluation

Summary of options established through the design process and evaluation based on the Urban Design Principles, linked with the overarching project Vision outlined by Transport for NSW, selecting a nominated preliminary framework.

9.0 - Urban Design Framework

Comprehensive explanation of the masterplan layers, organisation of the site, quantum and distribution of development, and compliance and amenity summary.

10.0 - Public Domain Strategy

Summary of the public domain and landscape proposal, including a vision statement and goals, site/context/policy analysis, design principles and a detailed explanation of the overall plan and its individual character areas and street network.

Appendix

A series of appendices, providing additional supporting information to the individual chapters of this report.

1.4 Study Requirements

1.4.1 Checklist

STUDY REQUIREMENTS	REPORT CHAPTERS											
	1.0 Introduction	**2.0** Vision & Strategic Context	**3.0** 2008 Masterplan	**4.0** Benchmark Assessment	**5.0** Site and Context Analysis	**6.0** Connecting with Country	**7.0** Urban Design Principles	**8.0** Development options and Evaluation	**9.0** Urban Design Framework	**10.0** Public Domain Strategy	**A** Appendix	Reports outside this document
1.1 Prepare an Urban Design Framework for the precinct that:												
Includes a detailed site and context analysis that identifies strategic context, opportunities and constraints and key issues to be considered;			24-28		33-71							
Includes a set of urban design principles that underpin the proposed development;							77-84					
Includes a detailed master plan that integrates all other urban design related study requirements and demonstrates that the proposed Gross Floor Area (GFA) to be included in the planning framework can achieve high quality place outcomes; and									98-152			
Includes a benchmarking assessment of the proposed development against international best practice precedent studies.				29-32							271-293	
1.2 Prepare a Public Domain Strategy that guides future planning and approval processes and seeks to achieve high quality public domain outcomes that;												
Includes a vision statement and a series of goals to achieve the vision;		18-20								173-175		
Includes a separate chapter focusing specifically on public space, specifically what currently exists, what will be upgraded and what new public space will be delivered;										176-184		
Includes a detailed site and context analysis that identifies strategic context, opportunities and constraints and key issues to be considered;					33-71					188-210		
Includes a Movement and Access Plan setting out the proposed movement corridors, access and connectivity network throughout the precinct (and beyond), the types of movements to be captured through the precinct (i.e. walking, cycling, vehicles, machinery, employees etc. during a 24-hour period). How squares or plazas could play a role in movement and include emphasis on creating strong pedestrian corridors linking outside areas to Redfern North Eveleigh Precinct's entrances and exit points;									112-114	252-263		Transport Strategy and Transport Impact Assessment
Includes a Landscape Master Plan for the precinct locating public space (open space, plazas, squares) that have been derived from site analysis, benchmarking assessment and urban design principles. The master plan is to include (but not limited to) public space connections, deep soils zones, urban canopy outcomes and targets, Water Sensitive Urban Design principles;										211-251		
Includes a Benchmarking Assessment of the proposed development against international best practice precedent studies for innovation and technology precincts, within heritage settings (including within industrial heritage contexts). The assessment should also identify the specific initiatives used by case study and identify both the positive and negatives effects that occurred during the budget, design and construction stages to ensure that it can be translated to an Australian setting;				29-32						185-187	271-293	
Identifies wind comfort criteria for the entire precinct and all adjacent areas affected by the proposed development;									139.140			Pedestrian Wind Environment Study
Identifies noise and vibration constraints and identifies appropriate mitigation strategies through placement of built form and open spaces;												Noise and Vibration Assessment

Table 1.5.1.1 - Study Requirements Checklist

1.4 Study Requirements

1.4.1 Checklist

	REPORT CHAPTERS											
STUDY REQUIREMENTS	**1.0** Introduction	**2.0** Vision & Strategic Context	**3.0** 2008 Masterplan	**4.0** Benchmark Assessment	**5.0** Site and Context Analysis	**6.0** Connecting with Country	**7.0** Urban Design Principles	**8.0** Development options and Evaluation	**9.0** Urban Design Framework	**10.0** Public Domain Strategy	**A** Appendix	Reports outside this document
Includes a sun access study to ensure comfort and usability of both existing and proposed public space; and									141-143			
Includes a high-level Safety and Security Statement that outlines how potential future crime and safety risks in relation to the development will be addressed. Emphasis should be placed on developing actions in the statement that address the most vulnerable people who use Redfern North Eveleigh Precinct and enabling safe, 24/7 use of the precinct. The statement should have regard to Crime Prevention Through Environmental Design (CPTED) guidelines and integrate closely with other studies;												CPTED Report
1.3 Prepare a high-level Public Art Strategy that identifies opportunities and an overarching conceptual approach for the public art within the Precinct in future stages.										231-239		Public Art Strategy
1.4 Prepare an Indicative Staging Strategy that identifies how staging may occur; includes detail of how the delivery of public domain will be considered and coordinated across individual development sites and considers construction staging.												
1.5 Provide physical and 3D CAD models to fit into the City of Sydney's physical and 3D CAD model. Include animations and photomontages of key parts of the proposal from eye level positions in the public domain.											269-270	
1.6 Prepare a Design Excellence Strategy for the precinct.												Design Guidelines
1.7 Redfern North Eveleigh Precinct Design Review Panel Undertake an independent design review process led by the GANSW to advise on design work in progress. Design review sessions are to commence no later than 1 February 2021 and held 2-4 times during preparation of the rezoning proposal to:											325-343	
Review key stages of the process; and												
Update the panel on discussions with NSW Heritage Council and the Place, Design and Public Spaces (PDPS) Group within DPIE.												
The requirement for further DRP sessions during the Response to Submissions stage will be considered by DPIE/GANSW at close of exhibition and communicated to TfNSW.												
1.8 Prepare a Design Review Report to include all design advice letters and a record outlining how the issues raised by the panel have been addressed.											325-343	
1.9 Prepare a response in relation to the Connecting with Country framework, in consultation with the GANSW to embed an understanding of Country into the renewal of Redfern North Eveleigh Precinct. The Connecting with Country narratives and themes that emerge from the Framework must be interwoven throughout the Redfern North Eveleigh Precinct planning package.									154-163	207-210		Connecting with Country Framework

Table 1.5.1.1 - Study Requirements Checklist

2.0

Vision and Strategic Context

2.1 Vision
2.1.1 Introduction

Study Requirement

Includes a vision statement and a series of goals to achieve the vision;

The Redfern North Eveleigh Precinct will be a connected centre for living, creativity and employment opportunities that support the jobs of the future. An inclusive, active and sustainable place for everyone, where communities gather.

Next to one of the busiest train stations in NSW, the Precinct will comprise a dynamic mix of uses including housing, creative and office spaces, retail, local business, social enterprise and open space. Renewal will draw on the past, adaptively re-using heritage buildings in the Precinct and will acknowledge Redfern's existing character and particular significance to Aboriginal peoples, culture and communities across Australia. The Precinct will evolve as a local place contributing to a global context.

The following pages summarise NSW Government Objectives, Principles and Priorities for the new precinct, which have been embedded in the Urban Design Principles (chapter 7) and throughout the design of the masterplan.

This chapter also summarises policy and public guidance documents relevant to the development of the site. Key insights from this review can be found at the end of this chapter, informing the design principles for the project.

The Redfern North Eveleigh Precinct is situated on the south-western end of Sydney's Innovation and Technology Precinct as outlined by NSW Government. It is opposite the railway line from the Australian Technology Park (ATP) also known as South Eveleigh, bordering The University of Sydney and Royal Prince Alfred Hospital to the North, and linked with Redfern Station directly to the vibrant and multicultural Redfern Village to the East.

For further information please refer to below Redfern North Eveleigh Precinct Renewal webpage

https://www.transport.nsw.gov.au/projects/current-projects/redfern-north-eveleigh-precinct-renewal

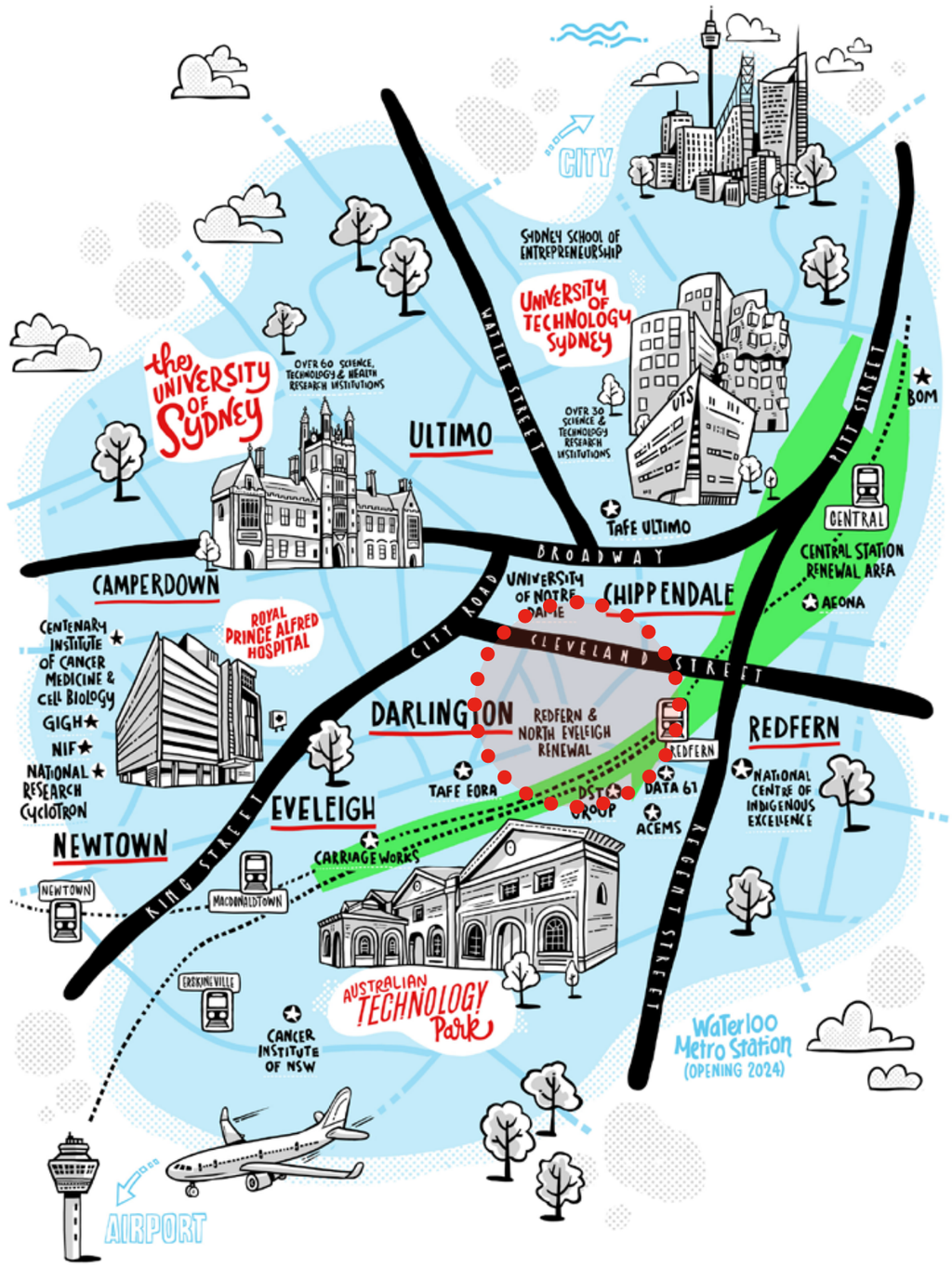


Figure 2.1.1.1 - Innovation and Technology Precinct , Source: The Sydney Innovation and Technology Precinct - Panel Report 2018, p12

2.1 Vision

2.1.2 Precinct Areas, Stages and Context

Figure 2.1.2.1 - Context & Site Bird's Eye View

2.1 Vision

2.1.3 Government Objectives

NSW Government Objectives
set out for the Redevelopment of Redfern North Eveleigh

Innovation and jobs

Uniquely placed to leveraging edgy surroundings and transport links

Create innovation jobs in the District that aid local and Australian economies

Great Public Space and Community

Unique ties to indigenous and industrial past

Beautiful heritage, close to transport, strong local community

Open site up for public use and access with new parks and community uses

Making North Eveleigh a Better Place

Positive interaction with a quality built environment

Creating local resilience for positive economic outcomes through strengthening design quality, green spaces, social offerings and activation across a mix of uses

Stimulate the NSW Economy and Unlock Value for Re-investment

Create value for local community and users

Create construction jobs (over 10 years) and future innovation jobs

Unlock financial value for the people of NSW

Current and Future Social Outcomes

Current and new initiatives

Affordable housing

Education and skills

Social and community

Empowerment

Vision Principles

Informed by NSW Government Objectives and Priorities

Jobs for the future

Great place for community

Connected people and places

Creative

Culture and History

Aboriginal past, present and future

Priorities

defined for the development area

Connectivity across the Precinct

Jobs

Creative streets and public domain

A place for Aboriginal people

The heritage jewels of North Eveleigh

Opening the gates of North Eveleigh

Listening and engaging

A place for inclusion

Social enterprise and affordable housing

2.2 Strategic Context

2.2.1 Policy Review

An overview of guidance documents to inform the Public Domain, Place + Urban Design SSP Study.

The Redfern North Eveleigh Precinct State Significant Precinct Study Requirements (Dec 2020) identify a range of Guidance Documents to inform the Public Domain, Place and Urban Design studies.

This section provides an overview of the key documents and an initial assessment of considerations or items of specific relevance to Redfern North Eveleigh.

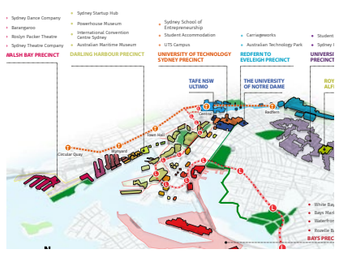
Refer to Appendix A.4 for further detail against each document.

Figure 2.2.1.1 - 'Skippy Girls' Wilson Street, Rosemary Strachen.

2.2 Strategic Context

2.2.1 Policy Review

Greater Sydney Regional Plan
Greater Sydney Commission (2018)



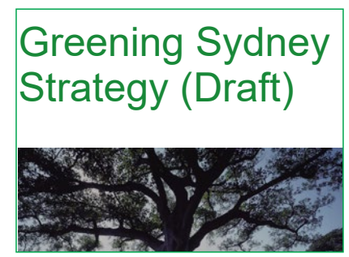
Eastern City District Plan
Draft (2021)

NSW Innovation Precincts
NSW Innovation & Productivity Council (2018)

Sydney Innovation & Technology Precinct
Panel Report (2018)

Design + Place SEPP
Draft (2021)

NSW Public Spaces Charter
NSW DPIE (Draft, 2020)



Greening Sydney Strategy (Draft)
City of Sydney (2021)

Public Spaces Guide
NSW Government DPIE (2021)

Local Character + Place
NSW Government (2019)

Greater Sydney Outdoors Study
Department of Planning DPIE (2020)

Sydney 2030 - Strategic Plan
City of Sydney (2020)

Sydney 2036 Draft Local Strategic Planning Statement
City of Sydney (2020)

A City for All - Community Safety Action Plan 2019-2023
City of Sydney

Sydney Green Grid
GANSW / Tyrrell Studio

Connecting with Country (Draft)
GANSW (2021)

Better Placed
GANSW (2017)

Evaluating Good Design
GANSW (2018)

Greener Places
GANSW (v3 2020)

Development Capacity Study
City of Sydney (2019)

Open Space, Sports & Recreational Needs Study
City of Sydney (2016)

2.3 Policy Insights

2.3.1 Summary of key insights drawn from the review of relevant policy and guidance documents.

- The policy aspirations for Innovation at Redfern North Eveleigh appear substantially aligned between State & Local Government, as well as vertically through the hierarchy of instruments.
- There is very strong emphasis on creating high quality places, providing excellent amenity, and responsiveness to the existing qualities of a neighbourhood.
- The recurrent emphasis on the importance of landscape and ambitious greening targets are important considerations.
- The City's capacity study identifies few sites that could contribute floor-plates of a size to underpin an innovation district, reinforcing the importance of Redfern North Eveleigh.
- Whilst the innovation papers identify a broad range of success factors for innovation districts, the emphasis on creating distinctive and engaging places aligns very strongly with the place-based design policies.
- The Connecting with Country policy challenges the prevailing 'people-centric' paradigm and invites a different way of considering landscape, connection to place, memory, and culture. This suggests both different ways of approaching design and different outcomes.

Figure 2.3.1.1 - 'Country-centred' design diagram. Source: Connecting with Country, p17

3.0

2008 Masterplan

3.1 2008 Masterplan

3.1.1 Introduction

Study Requirements

All studies are to demonstrate the consideration of:

The existing Concept Plan and any reasons why it is no longer suitable to guide future development of part or all of the site;

This section analyses the approved 2008 masterplan with its objectives, context at approval and current setting, and draws insights from this review to inform the rezoning work.

With a planning approval in place for the site, this section reviews the 2008 masterplan, informing the framework design process with valuable insights. The review includes the objectives, features and character of the sub-precincts, and compares these in the context of 2008 with the current setting and summarises the areas of the approval that have been realised at the time of this study.

The 2008 work was initiated through the **Redfern Waterloo Authority**, which was initially set up as the Redfern-Eveleigh-Darlington Program, established in 2004 by the NSW government and dissolved in 2010.

The authority had a specific remit of "Urban Renewal of the Built Environment, Human Services and Employment and Enterprise in Redfern-Waterloo", which included in more detail:

- 10-year plan for community renewal and infrastructure;
- coordinated approach to the renewal of the area;
- ATP as biotechnology hub
- Station improvements;
- cultural strategy to support urban regeneration
- optimise the use of Government Land.

"This is a radical plan for an area that has entrenched, complex social problems.

It is designed to shake-up the area and provide a plan to renew the last part of the city fringe."

Former Premier Bob Carr, on the establishment of the Redfern Waterloo Authority, 2004

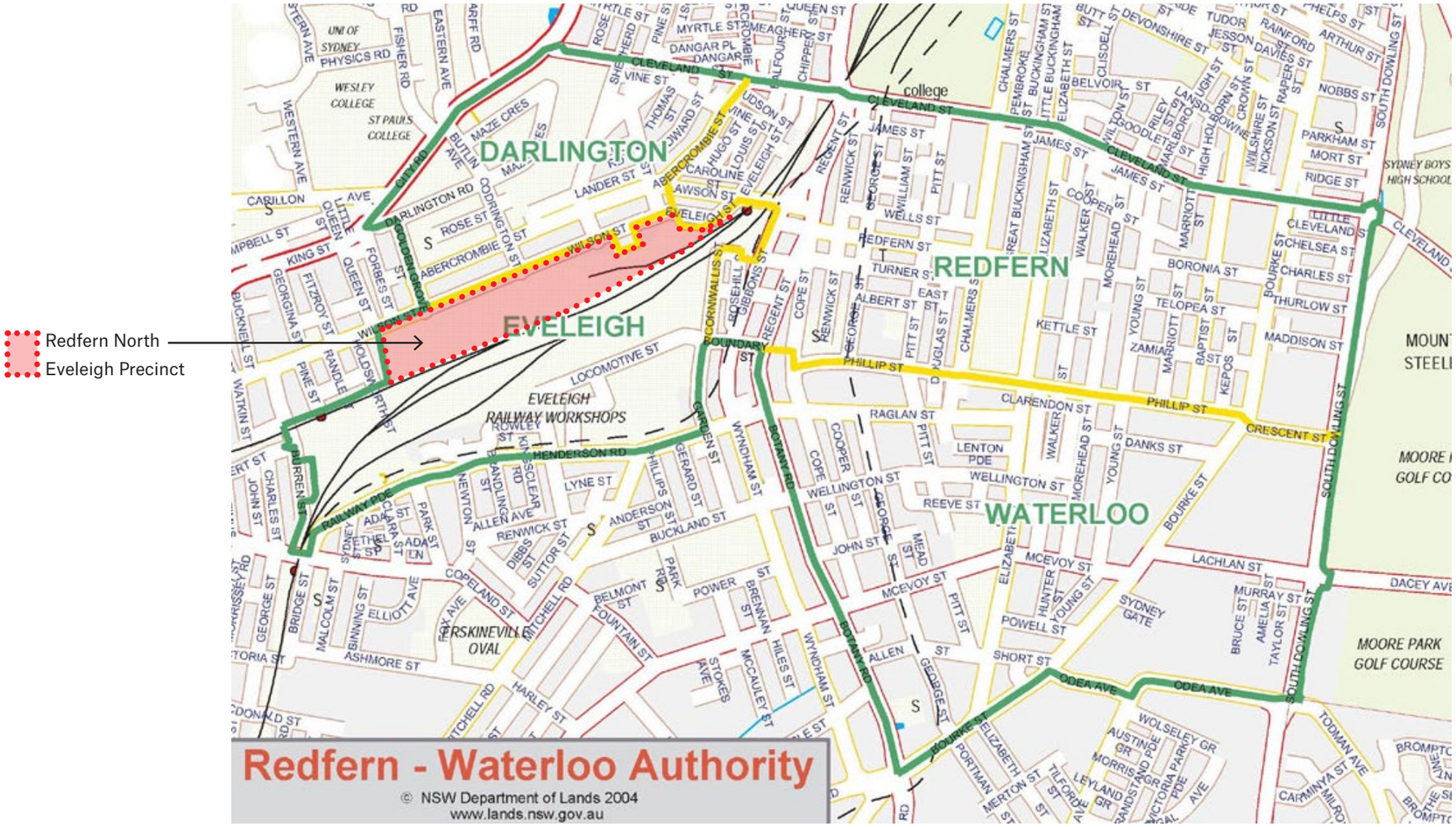


Figure 3.1.1.1 - Redfern-Waterloo Authority, Source: Somersoft

3.1 2008 Masterplan

3.1.2 Objectives & Features

"Redfern-Waterloo's urban renewal .... will witness the Eveleigh precinct evolve over the next 10 years into a vibrant place to live, work and engage in cultural and recreational activities."

RWA newsletter, May 2008

Objectives

The precinct of Redfern North Eveleigh (RNE) received planning approval for a developed masterplan in 2008. RNE was highlighted in the panel report for the Sydney Innovation and Technology Precinct as one of the key areas for redevelopment.

'Further development of this attractive and vibrant area begins with the transformation of underutilised heritage assets, creating new public spaces, better transport infrastructure, and improved walking and cycling connections.'

Key features of the 2008 masterplan cited from the RWA newsletter in May 2008 as follows:

- 3,328 people working at North Eveleigh within 5-7years.

- 2,400 residents in 1,260 dwellings.

- Environmental sustainability, new open space, community and cultural facilities and retention and adaptive reuse of important heritage buildings.

- A major upgrade of Redfern Railway Station including a bridge (new concourse) to improve access and create connectivity between North Eveleigh and the ATP.

- Encourage employment generating uses within proximity to Redfern Railway Station.

- Residential development on the western portion of the site in proximity to existing residential development, cultural and community uses in the middle of the site and a mix of residential and non-residential development at the eastern end.

Features

The approved masterplan depicted below can be summarised with the following metrics:

- Commercial, residential and community uses
- 15% open space.

- circa 50,698m^2 of floorspace in Clothing Store sub-precinct, focused on residential use.

- 34,588m^2 of floorspace in Carriageworks sub-precinct.

- 92,241m^2 of floorspace in Paint Shop sub-precinct as a mixed use.

- Buildings typically 4-8 storey with a maximum height of 16 storeys.

- Seven heritage buildings with a portion of tracks retained.

- Pedestrian / cycle bridge adjacent Redfern Station.

There is limited recognition of the legibility of the wider Eveleigh Railyards complex, with limited sightlines across to South Eveleigh.

The Paint Shop has been approved with a residential development impacting the historic fabric of the building and impacting the views as seen from the railway and Redfern station.

While the urban grain of the neighbourhood has been adopted in the site organisation, public open spaces are inward facing with limited interaction with the neighbourhood.

Carriageworks Way as an organising East-West route terminates at the Eastern end in a roundabout without connecting to the local road network on Wilson Street.

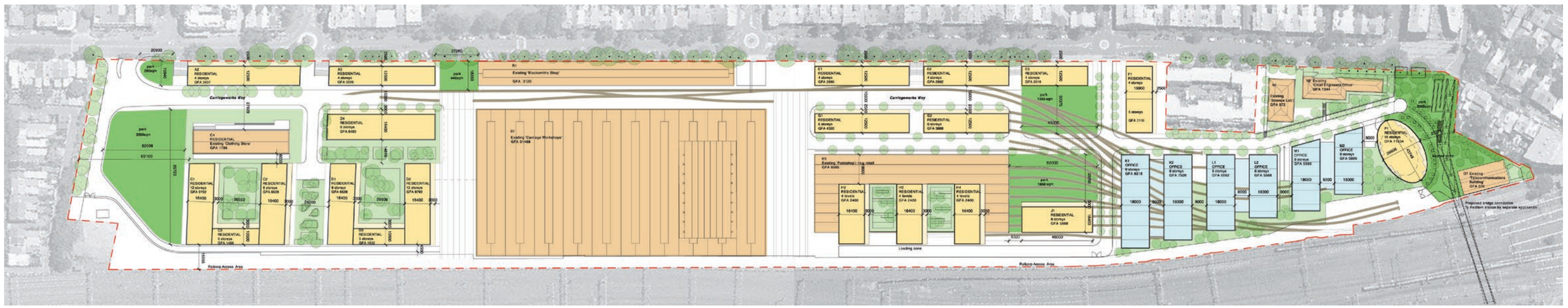


Figure 3.1.2.1 - Redfern North Eveleigh 2008 Masterplan

3.1 2008 Masterplan
3.1.3 Context

Context at approval (2008)

At the time of the 2008 Masterplan approval, 4 years into the work of the Redfern Waterloo Authority, a lot of the surrounding area earmarked for development had only started or was still in planning stages.

ATP across the railway line presented a low rise, low density counterpart, Redfern Station upgrades had not started, the Urban Growth SSP study for the Waterloo Metro Quarter was still 10 years away, and development plots around Redfern station were empty plots.
The urban context at the time of the approval was very much a low rise neighbourhood, with only a few larger buildings in the wider context such as the Waterloo Estate towers.

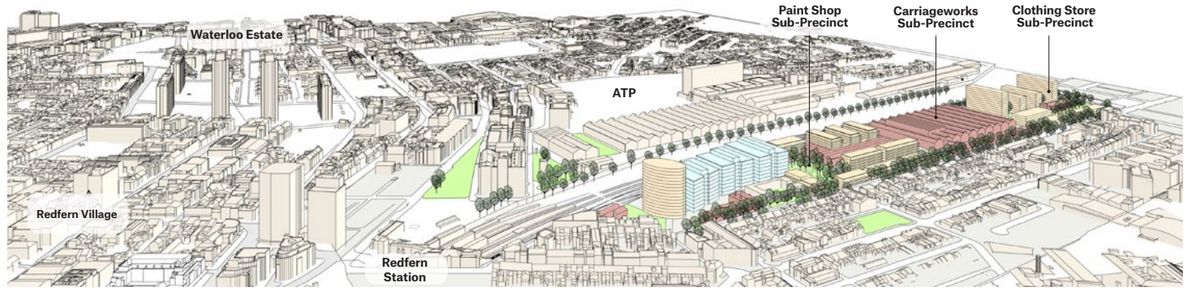


Figure 3.1.3.1 - Context at approval (2008)

Contemporary Context

By 2020, the area had experienced major redevelopment, with further development encouraged by state and local government.

South Eveleigh developed into a tech hub extension of the overarching Central to Redfern corridor with the re-purposed Locomotive Workshops, and large floor-plate / mid height new commercial development to the south.

Green Square development has made significant progress as a new precinct, with further development yet to come.

The **Waterloo Metro Quarter**, approved in 2008, is expected to be fully operational by 2024.

The **Pemulwuy** Project, a mixed use housing project in proximity to Redfern Station, was completed in 2020 with 24 storeys in height.

Redfern Station is currently undergoing major upgrade works, including a new concourse at the southern end of the site, linking North and South Eveleigh across the railway tracks.

A new tall building cluster at the western end of Redfern High Street opposite Redfern Station with up to 18 storeys in height.

A revision to the local LEPs along the **Botany Road Corridor**, with increased density and land use supporting employment.

Generally a drive for more density in the tech corridor driven by government with a focus on tech companies and innovative workplaces.

All these changes demonstrate a misalignment of the approved 2008 masterplan with the contemporary setting, and the need for redefining goals and ambition for the site.

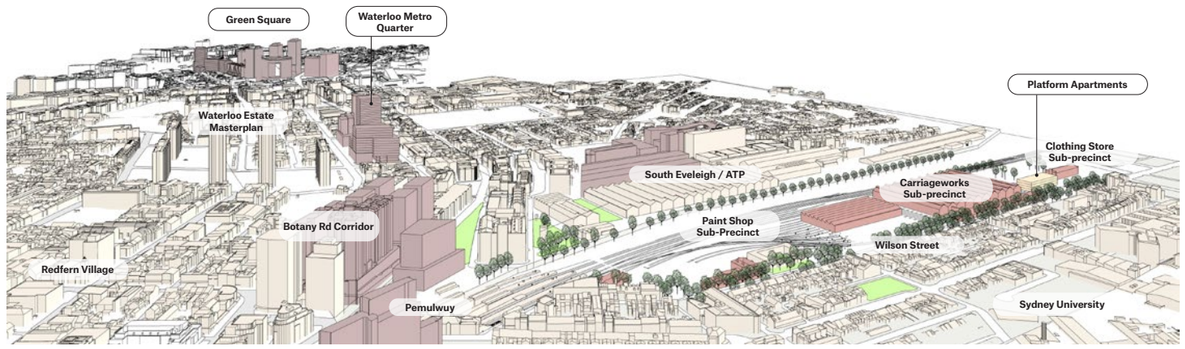


Figure 3.1.3.2 - Contemporary context

3.1 2008 Masterplan
3.1.4 Progress On Site

Progress on site

Of the 2008 approved masterplan, the greatest progress has been made with re-purposing **(1)** Carriageworks as a national centre of arts, and the transformation of the **(2)** Blacksmith's building into a weekly market on the weekends, which is much loved by the local community and recognised as a desired destination across Sydney.

Little progress has been made in the Clothing Store sub-precinct, where the **(4)** Clothing Store has been repurposed to house an Artist Studio program, the **(3)** Platform Apartments built in 2014 as an affordable housing project, and a pocket park completed along Wilson Street.

The proposed park in the Clothing Store sub-precinct received planning approval in November 2013.

No development of the 2008 Masterplan has commenced yet in the Paint Shop sub-precinct, however Redfern Station upgrades are currently on site, including a new **(5)** concourse on the southern end of the station.

Insights

Significant changes in the surrounding context have led to the definition of a better vision and goals beyond the 2008 masterplan with the following opportunities for improvement:

- Approach to density and mix of land uses to maximise vibrancy.

- Integration of neighbourhood into the site.

- Distribution of height around key spaces, and mix of land uses facing open spaces for a successful public realm.

- A continuous road network, integrating with the neighbourhood and activated by different modes of transport to achieve creative streets.

- Response to heritage assets and understanding important view lines within the precinct and beyond.

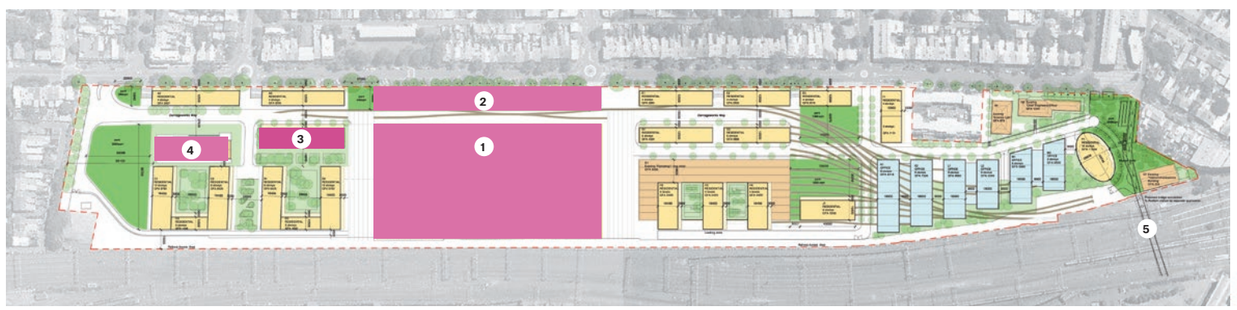


Figure 3.1.4.1 - Redfern North Eveleigh 2008 Masterplan

Figure 3.1.4.2 - View from Blacksmiths building toward Paint Shop sub-precinct

4.0

Benchmarking Study

4.1 .1 Methodology

4.1.2 Project Summary

4.1.3 Best Practice Insights

* refer to Appendix A.3 - Benchmarking Study for more detailed study.

4.1 Benchmarking Study

4.1.1 Methodology

Study Requirements
Includes a Benchmarking Assessment of the proposed development against international best practice precedent studies for innovation and technology precincts, within heritage settings (including within industrial heritage contexts). The assessment should also identify the specific initiatives used by case study and identify both the positive and negatives effects that occurred during the budget, design and construction stages to ensure that it can be translated to an Australian setting;

We have identified six global innovation and technology precincts as case studies in urban context with heritage setting. This benchmarking assessment highlights best practice design approaches, typologies and use mixes relevant to this masterplan.

To organise this work, we have analysed each place based on the innovation district typology framework developed by Polis Partners, in the 'Redfern North Eveleigh Innovation Assessment V 3.1' report, which identifies key characteristics of the RNE site. This builds on a similar Brookings Institute Innovation District Framework, which broadly captures precinct type, maturity, competitive advantages and site characteristics. We have applied this lens to each of the six case studies in order to align their characteristics with those already identified for RNE to help set a level assessment base for discussion.

In addition, we have identified further points of difference based around collaboration, infrastructure and amenity. These are 3 of the 7 key factors that underpin innovation precinct success, as outlined in 'NSW Innovation Precincts: Lessons from International Experience' and 'The Sydney Innovation and Technology Precinct Panel Report,' both published in 2018 by the NSW Government. Other relevant studies include PWCs '*Innovation precincts*, revision October 2021.

Design can most directly impact and interact with these drivers, and we feel that their calibration will help place-making at Redfern North Eveleigh thrive.

Related studies
This benchmarking study is focussed on urban design related considerations pertinent to this masterplan. As previously noted, the selection of the case studies and the methodology for analysis relates to the Brookings Institute Innovation District Framework and analysis prepared by Polis Partners.

Related studies - including *Innovation Precincts Case Studies (October 2021)* prepared by PwC for TfNSW - provide detailed analysis relating to the quantum of development required for a successful innovation precinct as well as identify contributing factors relating to built form, mix of uses, urban context and location.

The PwC reinforces many of the insights drawn from this urban design benchmarking study, noting a range of factors considered crucial to innovation. Those with spatial / design implications include:

- Connectivity - high levels of amenity with connective infrastructure, community and proximity to the CBD
- Collaborative environment - supportive social and institutional settings that create interdependencies, collaboration and knowledge sharing
- Activation - promoting 24 hour activation
- Scale - based on the need to create significant employment opportunities.

The analysis indicates that a minimum of 100,000m2 of commercial space is required to support Redfern North Eveleigh as an innovation precinct.

4.1 Benchmarking Study
4.1.2 Projects

The Benchmarking Study reviewed the following six precincts, summarised below.

— Kings Cross, London, UK
— Chattanooga, Tennessee, USA
— Boston Waterfront, Boston, USA
— Melbourne Connect, Melbourne, Australia
— 22@Barcelona, Barcelona, Spain
— Station F Start-Up, Paris, France

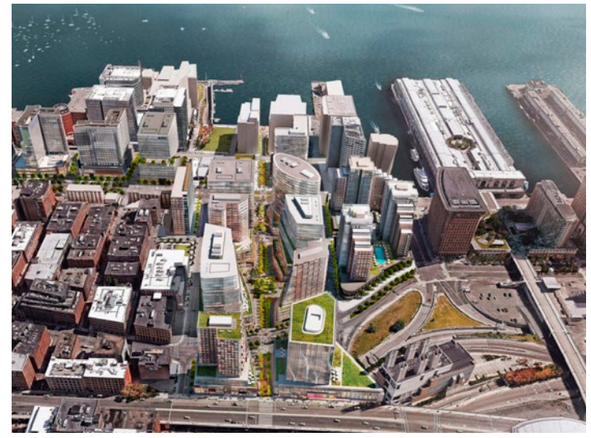
The benchmarking research identifed four recurring design related themes that will be essential to developing Redfern North Eveleigh into a successful innovation precinct. These are summarised at the end of this chapter and include:

— Distinctive and Engaging
— Integrated with Place
— Celebrating Heritage
— Connectivity

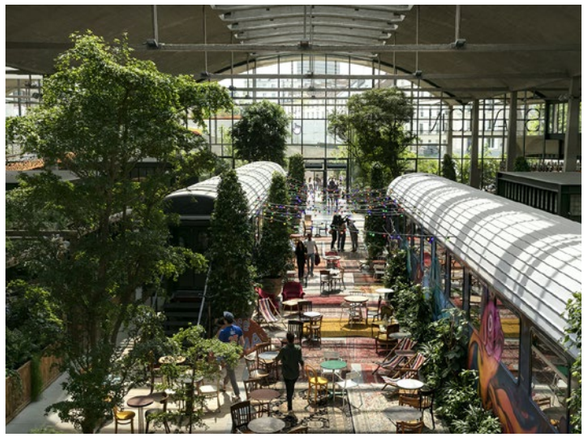
This summary should be read in conjunction with the full benchmarking study contained in the Appendix A.3 as well as Chapter 10.3 of this report which provides further public domain case studies involving industrial and railway heritage contexts.

Kings Cross, London, UK
The major urban renewal project around Kings Cross Station has seen the transformation of historic rail yards, warehouses and industrial facilities into one of the London's most successful innovation districts, with diverse public places, retail and commercial uses, and purposeful adaptive reuse of historic buildings.

Chattanooga, Tennessee, USA
Chattanooga's Innovation District, located in the heart of the city, has made the small city in Tennessee one of the best-known start-up cultures in the USA. Blending a range of new buildings and re-purposed warehouses, the innovation uses are integrated within a compact walkable neighbourhood.

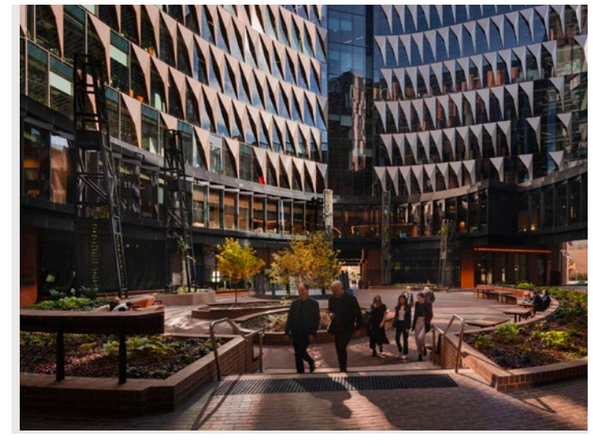


Boston Waterfront, Boston, USA
Boston Seaport Innovation District is one of the USA's leading life sciences, pharmaceutical and tech districts, but also as one of the country's fastest growing neighbourhoods, underpinned by significant amounts of live-work units and extensive, high-quality, public domain.



Station F Start-Up, Paris, France
Station F, in the former Halle Freyssinet, an adapted rail depot located in Paris' 13th arrondissement. Known as the 'world's largest start-up campus', Station F illustrates how high quality architecture and interior design can transform former rail sheds into hard-working and attractive workplaces for innovation companies, from start-up to established international corporate scales.

22@Barcelona, Barcelona, Spain
One of the oldest and most well known innovation districts in the world, 22@ Barcelona has been instrumental in transforming not only the city's innovation economy, but also its residential and public space network. Key heritage public spaces, including Glorias Square and the Rambla del Poblenou, are integrated to provide places where people come together to socialise.



Melbourne Connect, Melbourne, Australia
Anchored by the University of Melbourne, Melbourne Connect is Australia's first purpose built innovation centre, concentrated in five connecting buildings organised around a shared central public garden. Shared amenities and concentration of allied uses encourage interaction and collaboration.

4.1 Benchmarking Study
4.1.3 Best Practice Insights

1 Source: River City Company

2 Source: Archdaily

3 Source: Plowman Craven

4 Source: WS Development

Distinctive and Engaging

Innovation precincts succeed or fail for a broad range of reasons. Good design — or in particular creating great places with excellent amenity — is cited in policy as an essential element of a successful innovation district. Our research confirms the importance of creating distinctive and engaging places.

Relevance to RNE

- Clear definition and function of public open spaces
- Sufficient density with good distribution of mixed land uses to enable a vibrant and successful new district

Integrated with Place

The success of an innovation district (or hub, or project) is inextricably linked to the integration with the 'host' neighbourhood. Places that are well loved and well used by a wide range of people are likely to have the amenity and vibrancy that specific 'tech' tenants require.

Relevance to RNE

- Good visual and functional connection to Wilson Street, complementing the existing neighbourhood
- Good connection to Redfern Station to invite city wide groups into the development such as university students etc.

Celebrating Heritage

Our case study research reinforces the value of clever adaptive reuse of industrial heritage for two principal reasons —the capacity to provide unique and characterful workplaces for either anchor tenants or start-ups, and for the ready-made character they offer public spaces and the wider precinct.

Relevance to RNE

- Respect and integrate valuable heritage buildings into the development and link with the established Carriageworks building and its functions an innovative way to be compatible with contemporary uses
- Maximise retention of the fan of tracks, where reasonably practicable, including interpretative integration into buildings, as an iconic and unique feature of the site

Connectivity

Access, integration, and connection are critical. Great pedestrian connectivity needs to allow easy movement between major participants in the district as well as promote serendipitous interactions among individuals. Digitally enabled central gathering space to enable informal encounters.

Relevance to RNE

- Use the level change between Wilson Street and the lower level as an opportunity to generate exciting public domain and settings for the buildings
- Ensure accessibility throughout the site to promote active and creative streets

5.0

Site and Context Analysis

5.0 Site and Context Analysis

5.0.1 Introduction

Study Requirements
Includes a detailed site and context analysis that identifies strategic context, opportunities and constraints and key issues to be considered;

This chapter contains a comprehensive context and site baseline analysis, ranging from a Sydney wide perspective down to the detail of the local neighbourhood and its streets.

Mapping & Urban Analysis
Maps explaining the wider and immediate context of North Eveleigh, including surrounding innovation precincts, height, land use, heritage, building typologies, open space, socio economics, movement, environmental, topography and more.

Site Character
Key character areas surrounding the site.

Key Views
Views from the neighbourhood into the site and from with in the site, with a focus on the existing heritage buildings.

Opportunities, constraints and key issues are summarised as insights at the end of this chapter to inform the Urban Design Principles of the masterplan.

Further **Context Interfaces** can be found in Appendix A.5, including a series of site sections through the precinct and adjacent neighbourhoods, including an analysis of low/mid rise density precedents in the immediate context.

While this section of the report touches on the Redfern North Eveleigh site holistically, it is to note that the scope of the Study Requirements is limited to the Paint Shop sub-precinct, with the other two sub-precincts (Clothing Store and Carriageworks) unaltered from the 2008 masterplan approval.

This chapter should be read in conjunction with Chapter 10.4 of this report.

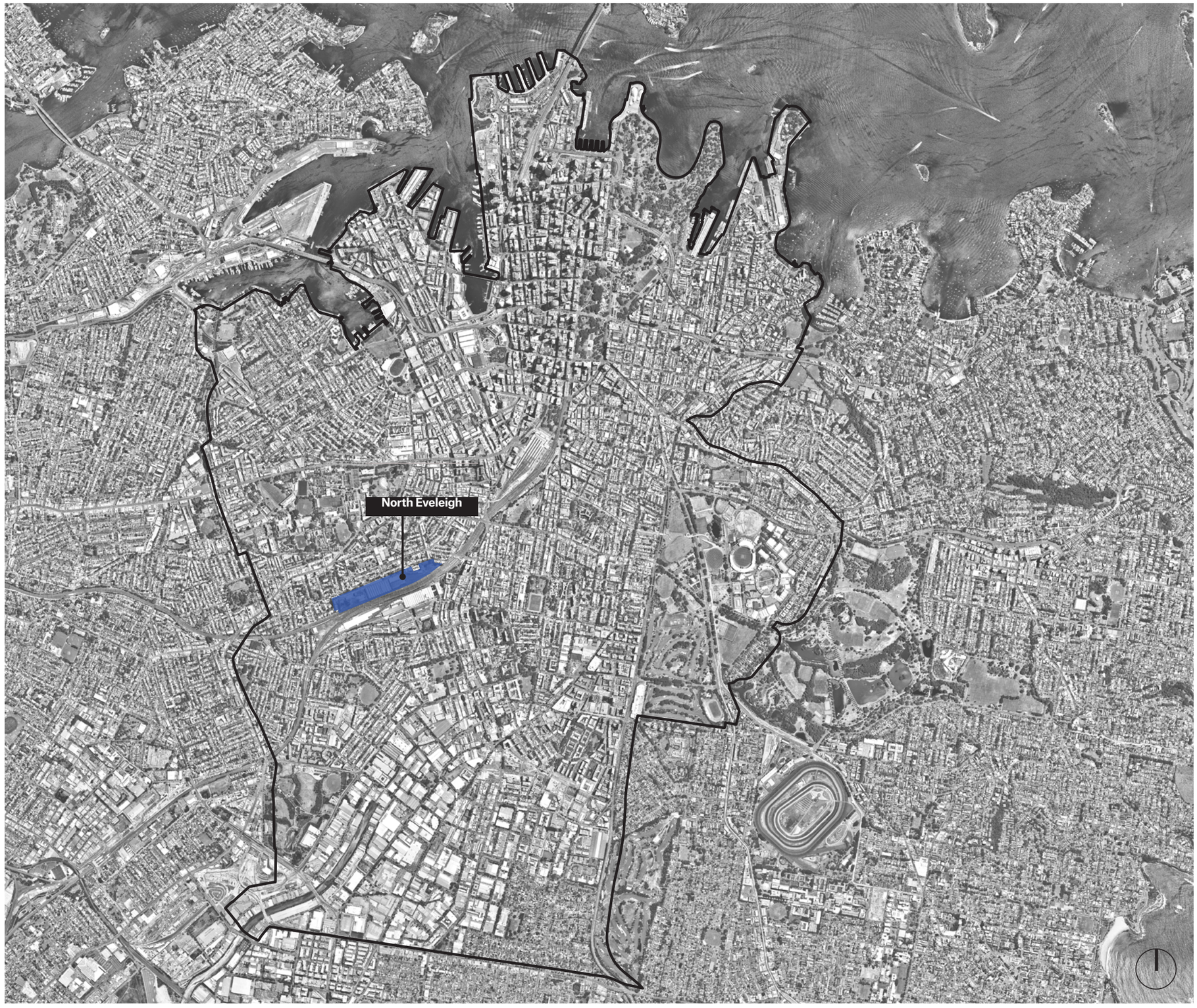
5.1

Mapping & Urban Analysis

5.1.1 Sydney LGA
Site Location

Redfern North Eveleigh (RNE) is located in the Sydney LGA, and in proximity to the Inner West LGA to the West. Its northern neighbours are the suburbs of Newtown and Camperdown to the west, Darlington to the East and the University of Sydney Campus to the north. Its southern boundary is defined by a major heavy rail corridor linking Sydney Central Station to the West and South. Along this corridor the site stretches between Redfern Station to the East and Macdonaldtown Station to the West. South Eveleigh is located to the south of this rail corridor.

The 11 ha site of RNE is ca 920m long and varies in width between 90 and 120m. It consists of three sub-precincts, namely Clothing Store, Carriageworks and Paint Shop. Its immediate boundary to the north is defined with Wilson Street. RNE is located in walking distance from two major vibrant high streets with King Street to the north-west, and Redfern Street to the East.



Key

Site

Figure 5.1.1.1 - Aerial map of Sydney, Source: Nearmap (Base Image)

5.1.2 Innovation Corridor
Precincts

RNE is located within the Tech Central Innovation Corridor, part of a wider precinct which includes:

- Sydney University and RPA Hospital, located as a direct neighbour to the north, already provides activity from transient pedestrian traffic between Redfern Station and the University campus.
- Tech Central and TAFE/UTS, with the new Atlassian tall building as its centre piece and located around central station is linked with RNE along the heavy rail corridor, therefore offering a high level of connectivity.
- South Eveleigh located to the south is physically separated from RNE by the rail corridor, but in direct visual connection and linked through the rich heritage of both sites.
- Botany Road and Waterloo Metro Quarter located to the south-east form a further hub of direct influence for North Eveleigh.

All four districts experience a change with a focus on innovation and applied science, funded by local and state governmental initiatives to form a new global centre of technology. RNE is located at the heart of this innovation hub.

Constraints

- Separation from South Eveleigh innovation hub

Opportunities

- Potential for strong identity with clear border along rail corridor
- Close proximity to government driven major innovation urban renewal projects in all directions will act as catalyst for new development in support of jobs of the future.

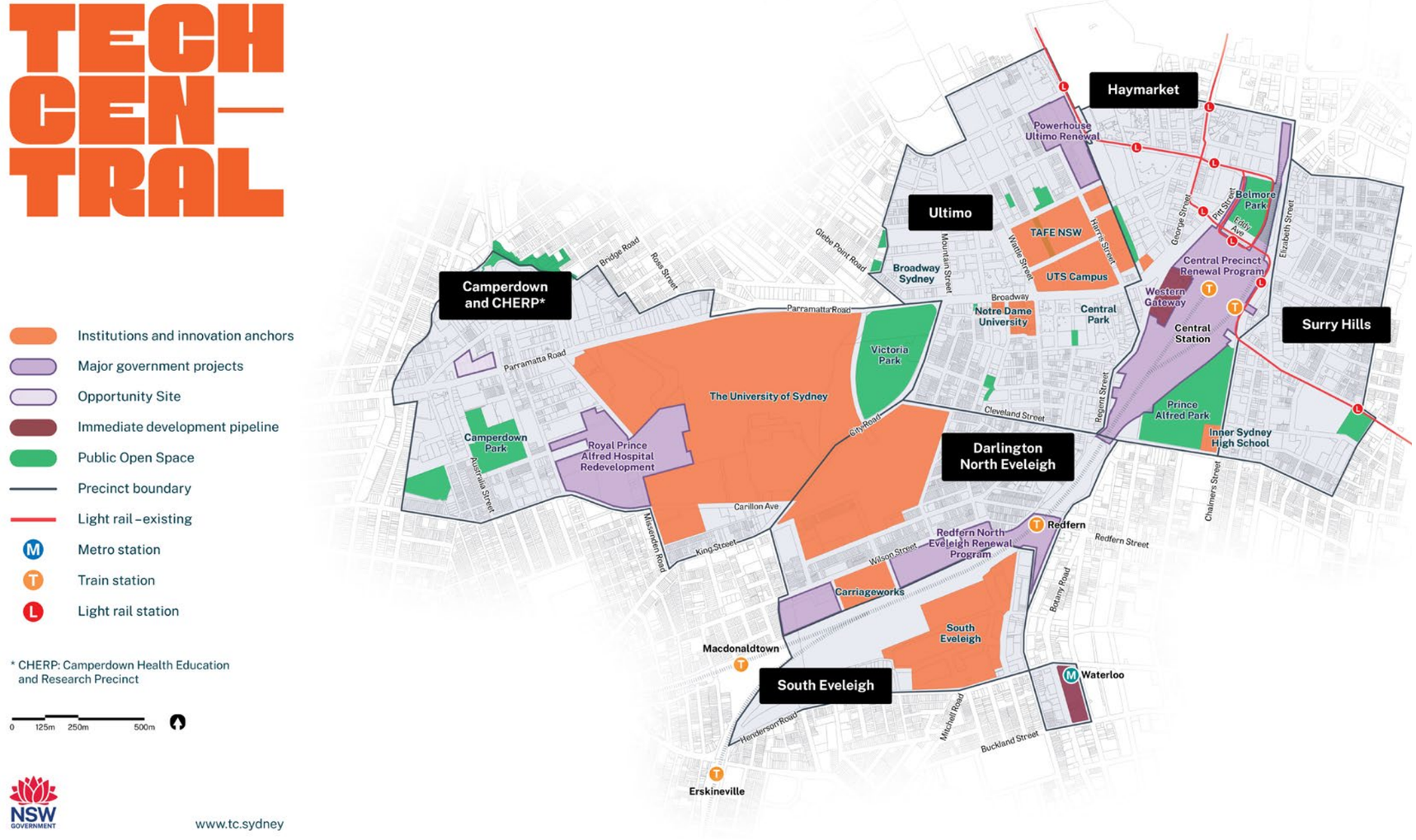


Figure 5.1.2.1 - Map of Tech Central Innovation Precinct (source: TfNSW)

5.1.2 Innovation Precincts
Building Typologies

The Innovation Corridor offers a rich and diverse range of building typologies, creating distinct places of character and recognition. This ranges from the highly innovative and sustainable driven Atlassian tall building at Tech Central to mid-range re-use of historic fabric such as the South Eveleigh workshops and local small scale labs and co-working environments.

Further information on economic data can be found in the Economic productivity and job creation report by Hill PDA separate to this report.

Precinct building typology examples:

1. Tech Central - Atlassian Tall Building
2. South Eveleigh - Locomotive Workshop
3. South Eveleigh - The Foundry
4. Waterloo Metro Quarter - Commercial Tall Building
5. University of Sydney - School of Business
6. University of Sydney - Knowledge Hub

Opportunities

- Large range of building typologies supporting a desired precedent for innovation style zoning. Range of typologies provided on following pages.
- Tall buildings in successful districts setting precedent for height
- Wide range of employment offer in proximity to development site supporting innovation approach and offering strong existing synergies for new workplaces at RNE.

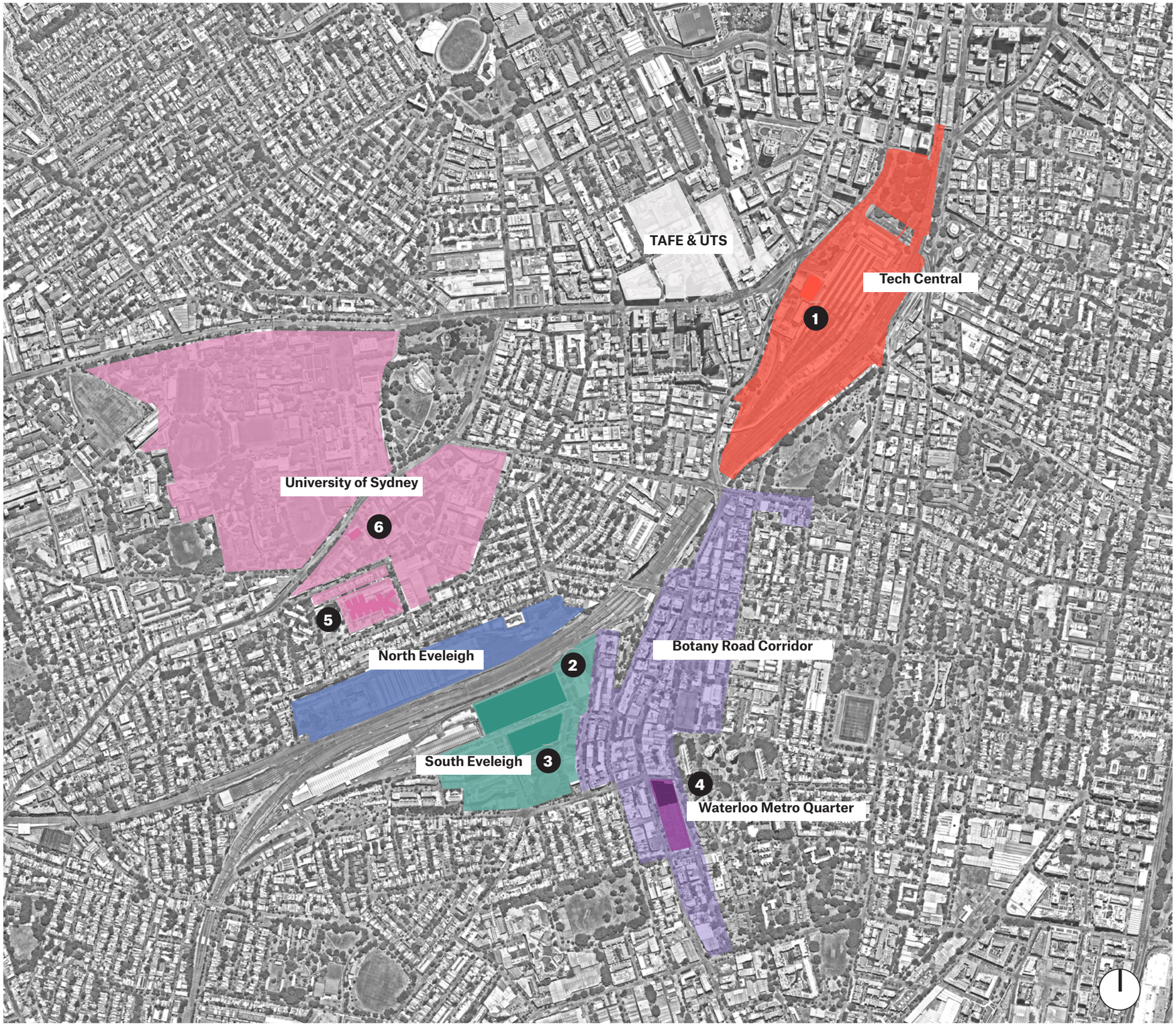


Figure 5.1.2.2 - Aerial map of innovation corridor, Source: Nearmap (Base Image)

5.1.2 Innovation Precincts
Building Typologies

1

Figure 5.1.2.3 - Source: Broadsheet

TECH CENTRAL - ATLASSIAN

Typology: Commercial tall building

The timber hybrid tall building aims to set a benchmark for sustainability in the precinct. The anchor tenant, Atlassian has committed to operating on 100 percent renewable energy with zero emissions. In addition to Atlassian and other primary tenants, the building will include 50,000m² dedicated to affordable start-up space.

Size: 250,000 m²
Storeys: 40
Anchor Tenant: Atlassian
Completion: 2025

2

Figure 5.1.2.4 - Source: Mirvac

SOUTH EVELEIGH - LOCOMOTIVE WORKSHOP

Typology: Adaptive Re-use

The Locomotive Workshop building is one of the states most significant heritage buildings. The property is being completely refurbished internally and will provide high quality office, education & retail space.

Size: 25,000 m²
Storeys: 2
Anchor Tenant: Top Education & Post Op Group
Completion: 2021

3

Figure 5.1.2.5 - Source: Mirvac

SOUTH EVELEIGH - THE FOUNDRY

Typology: Commercial large floorplate

The Foundry is the largest building in the South Eveleigh precinct. The Foundry accommodates over 5,500 Commonwealth Bank of Australia staff including the organisation's innovation labs.

Size: 55,000 m²
Floorplate size: 9,000 m²
Storeys: 6
Anchor Tenant: Commonwealth Bank
Completion: 2020

5.1.2 Innovation Precincts
Building Typologies

4

Figure 5.1.2.6 - Source: ArchitectureAU

WATERLOO METRO QUARTER - COMMERCIAL TALL BUILDING

Typology: Commercial Tall Building

The proposed tall building to be built above the new Waterloo Metro will comprise retail at the base and office premises above. The 17 storey tall building is expected to accommodate 4000 commercial workers.

Size: 35,000 m²
Storeys: 17
Completion: 2024

5

Figure 5.1.2.7 - Source: Woods Bagot

UNIVERSITY OF SYDNEY - SCHOOL OF BUSINESS

Typology: Education

Catering to over 6,000 students, the project includes three 550-seat lecture theaters, eight 100-seat study rooms, 40 seminar rooms, a learning hub and 1,500 sqm of informal learning space. The aim for the Business School Building was to create a 21st century learning environment that fosters productive interactions with the business community while responding to the needs of students.

Size: 40,000 m²
Storeys: 5 - 7
Completion: 2016

6

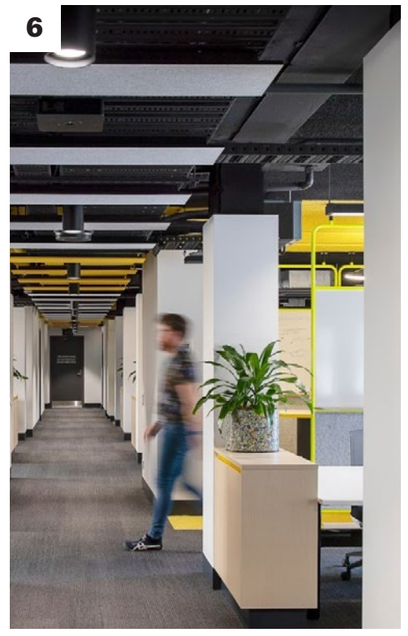


Figure 5.1.2.8 - Source: University of Sydney

UNIVERSITY OF SYDNEY - KNOWLEDGE HUB

Typology: Co-working Space / Incubator

The Sydney Knowledge Hub is a co-working space for innovative startups, non-profits, and corporates seeking to collaborate with the researchers, students, and facilities at the University of Sydney.

5.1.3 Context Analysis
Open Space

The direct neighbourhood of RNE is characterised by small scale terraced housing with a few small parks dotted around in the area. The site is essentially located at the centre of an area void of open space, with larger parks (from 4ha) generally located 500m away.

City of Sydney Open Space Strategy Notes:

- The approved Concept Plan for North Eveleigh includes **5325m²** of open space in the Paint Shop Precinct.

  An increase in density on site would require a proportional increase in the amount of open space.

- Majority of open spaces in the Redfern Village policy area are small Pocket Parks <1500m2.

- General deficit of sport and recreation facilities

- Deficit of communal open space in 500m radius of site

Constraints

- Large heritage buildings occupying large areas of the site

- Rail corridor limiting use of adjacent land (noise)

Opportunities

- Little solar impact to public open space outside development site from new buildings

- Adequate setting for heritage buildings will unlock good open space potential for the site

Key

Open Space

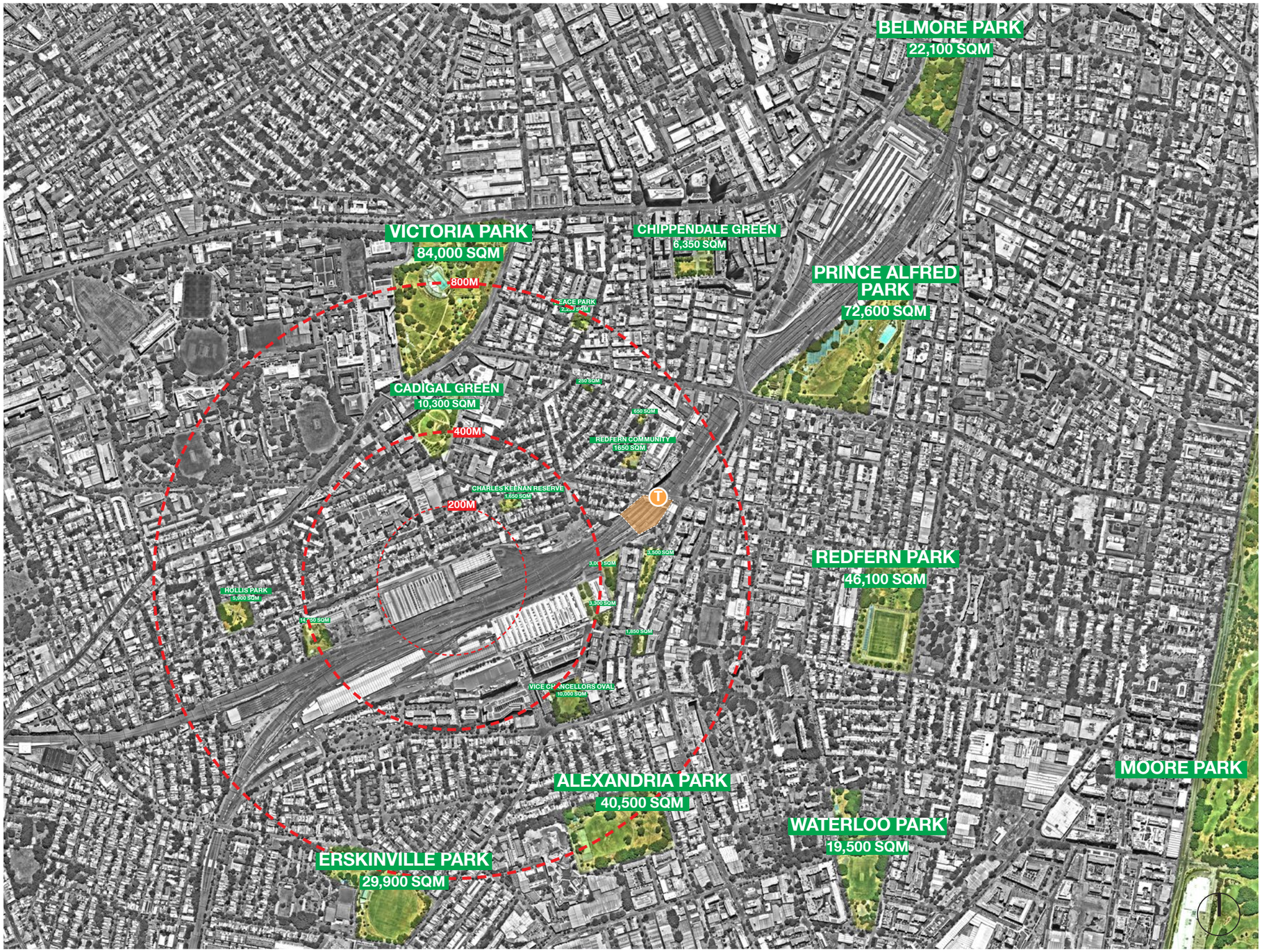


Figure 5.1.3.1 - Aerial map indicating open spaces, Source: Nearmap

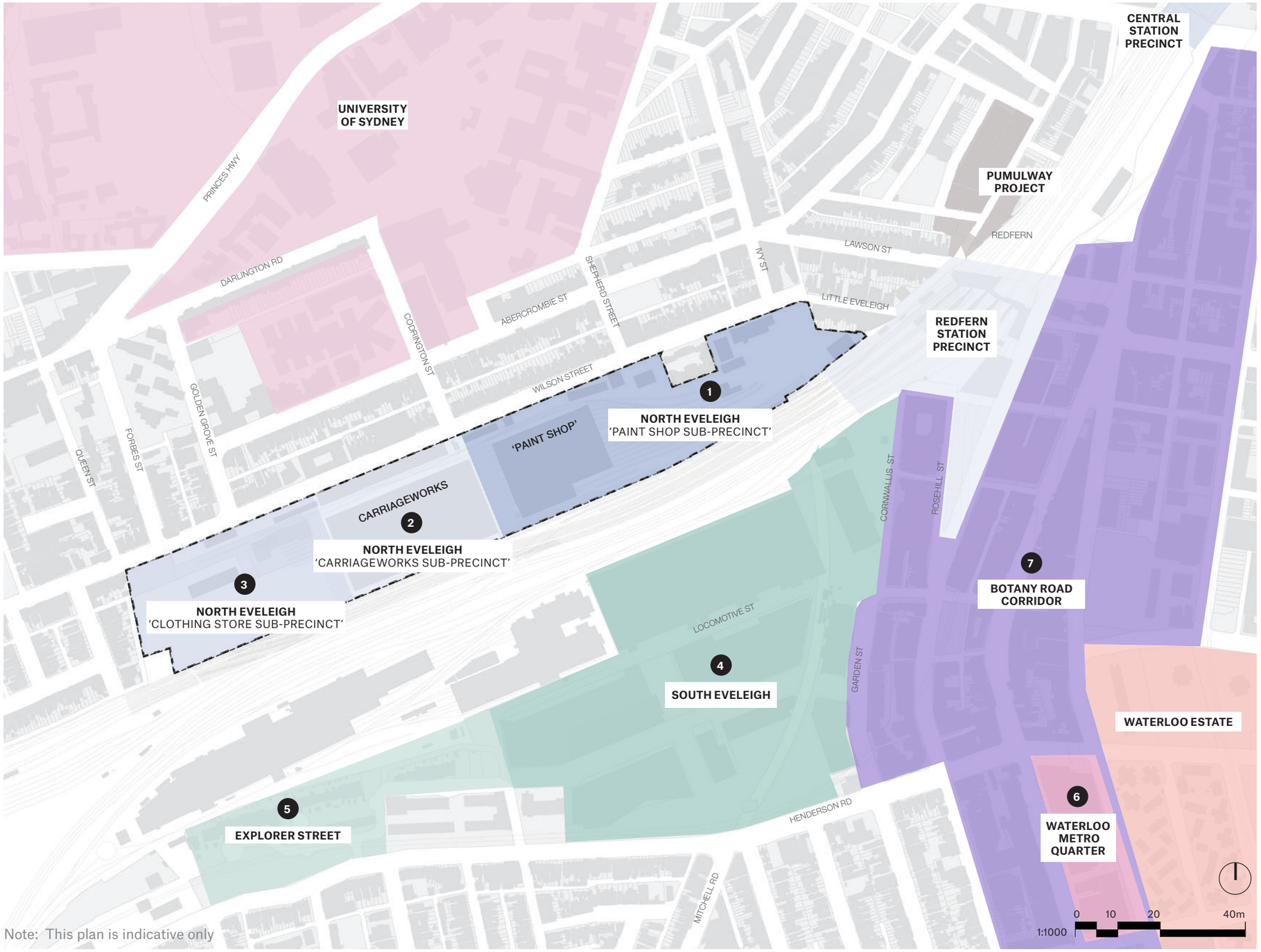
5.1.3 Context Analysis
Location Plan

Sub-Precinct Boundaries & Key Development Areas

1. Subject Site - North Eveleigh 'Paint Shop Sub-Precinct'
2. North Eveleigh - 'Carriageworks Sub-Precinct'
3. North Eveleigh - 'Clothing Store Sub-Precinct'
4. South Eveleigh Innovation
5. South Eveleigh - Explorer Street

   A redevelopment proposal for four 14 storey residential tall buildings.
6. Waterloo Metro Quarter Development
7. Gibbons / Regents/ Botany Development

Source: Redfern Station Upgrade New Southern Concourse, Appendix C - Urban Design and Public Domain Plan, 2020



Note: This plan is indicative only

Figure 5.1.3.2 - Location plan

5.1.3 Context Analysis
Land Use

A thin strip of terraced houses sits in between the site and the education facilities of Sydney University campus to the north. Commercial and retail uses are prevalent along King Street, South Eveleigh, The Botany Road Corridor and Redfern street.

Constraints
- Single zone land uses dominating adjacent land
- Divide of uses through the rail line

Opportunities
- Replacing an industrial and enclosed site, RNE as a balanced mixed-use precinct will offer activity and vibrancy to the area, attracting further growth.
- Innovation workplaces of RNE will be able to benefit from already established research and innovation of surrounding facilities, including the University and South Eveleigh
- New Redfern station concourse bringing different land uses closer together

Key	
Land Use	
	Single & Low Density Resi.
	Med. & High Density Resi.
	Commercial
	Cultural / Arts
	Education
	Community / Church
	Transport / Civic

Note: This plan is indicative only

Figure 5.1.3.3 - Land use map

5.1.3 Context Analysis
Activity

Figure 5.1.3.4

ACTIVE FRONTAGES
Active frontages in the neighbourhood are important drivers of day to night activity.

Making building edges “active” to the street adds interest, life, and vitality to the Public Realm. An active frontage, where there are continuous businesses / retail uses opening directly to the footpath, stimulates and provides activity on the streets. They enhance public security, and passive surveillance and improve the amenity of the public domain by encouraging pedestrian activity.

Some existing active frontages in the neighbourhood include: King Street, Abercrombie St at Codrington St and Lawson St corners, and the Botany Road Corridor.

Figure 5.1.3.5

CHANGING ACTIVITY THROUGH THE DAY
Morning to mid-day - working day

It is important to consider both the day and night time for a balanced ratio and distribution of uses to create a good mix that will improve balanced activity across the site and at different times.

Existing daytime activity is consistent through the active frontages, public open spaces, The University of Sydney Campus, South Eveleigh commercial businesses and the Redfern Street / Botany Road Corridor area.

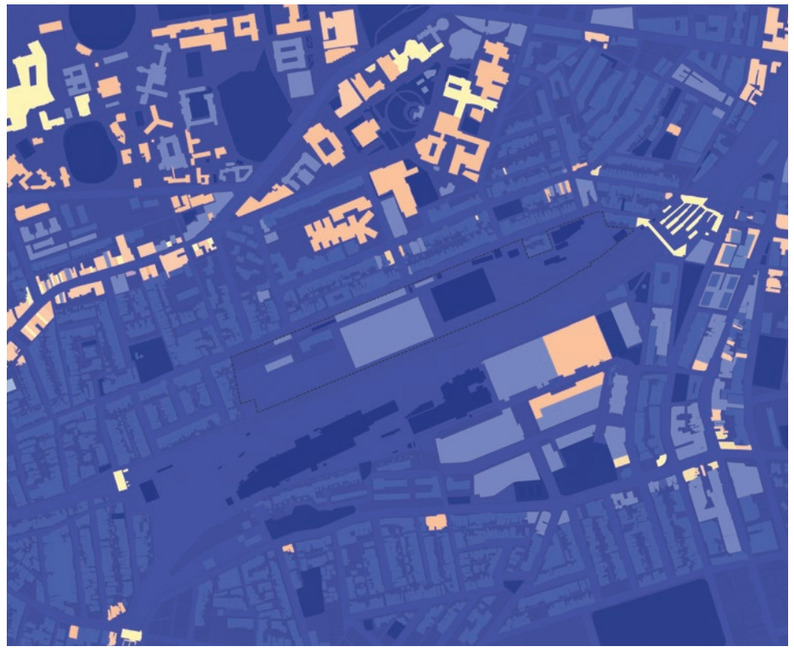


Figure 5.1.3.6

CHANGING ACTIVITY THROUGH THE DAY
Evening to late night

From evening to night time, activity continues along the primary active frontages and through parts of the university campus, while the commercial businesses, public open spaces and retail shops slow.

Constraints
- Wilson Street currently a ‘dark’ zone at night with empty buildings and defensive fence line

Opportunities
- New development to offer activation through a range of uses, supporting activity throughout the day and on weekends offering synergy with residential neighbourhood
- Existing offer at Carriageworks to support cultural events throughout the year.

5.1.4 Building Heights
LEP

Generally, LEP heights are defined at a low scale around both North and South Eveleigh, with the exception of Redfern station / Gibbons Street and the new Waterloo Metro Quarter.

Heights within the Botany Road Corridor are subject to a strategic review being led by the City of Sydney. The Planning Proposal exhibited by the City in 2021 indicated increased buildings heights to support employment growth in the Redfern Waterloo area.

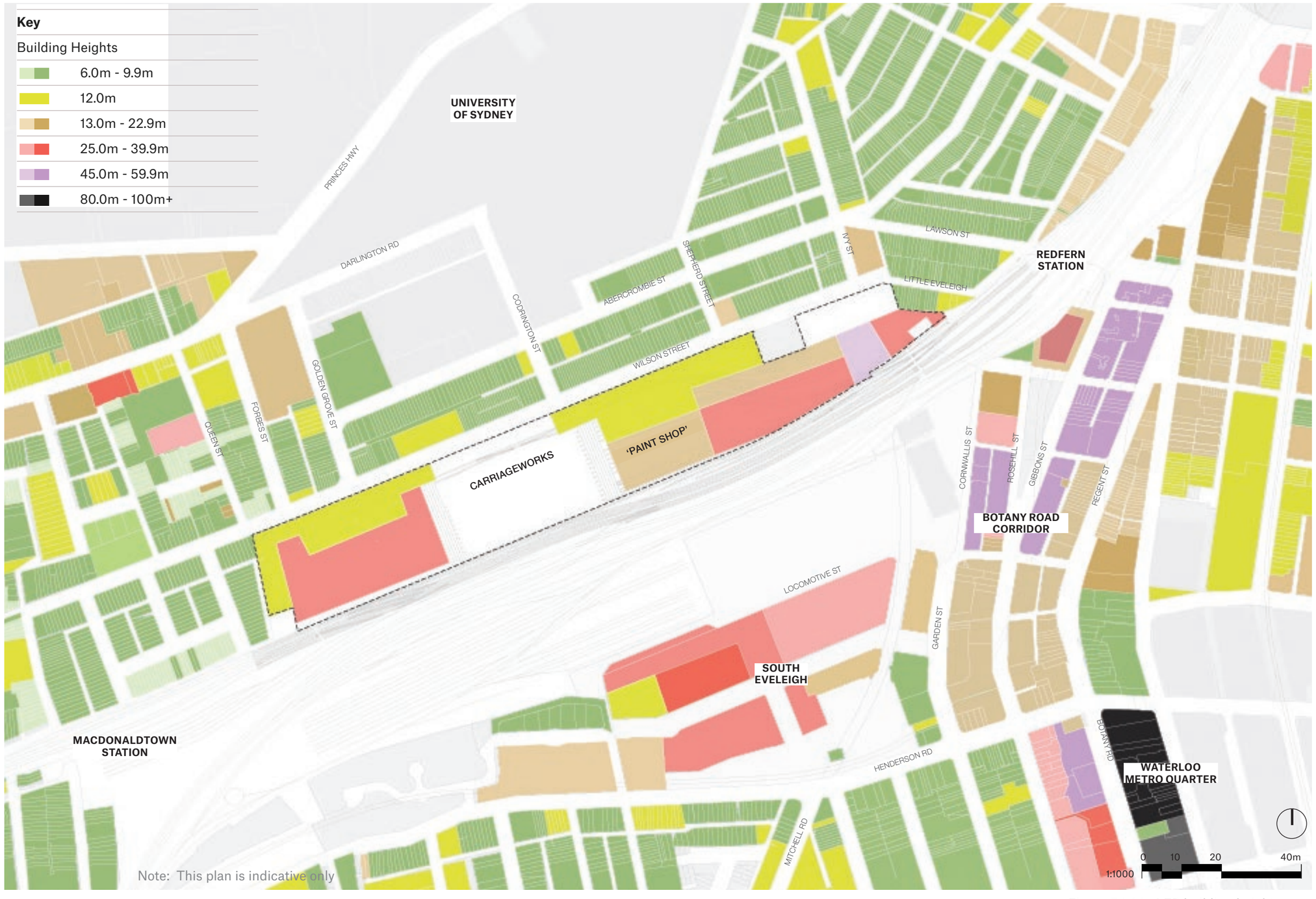


Figure 5.1.4.1 - LEP building heights map

Opportunities

- Within the boundaries of Eveleigh, taller development opportunities are in proximity to the rail corridor, with additional height in proximity to Redfern Station.
- CoS Botany Road corridor updates creating additional density and drive for increase of commercial uses in direct proximity of RNE.

5.1.4 Building Heights
Existing, Approved & Proposed

A redevelopment proposal for Explorer Street in South Eveleigh aims to redevelop the social housing estate with both social and private housing. The proposal includes four 14 storey residential buildings.

This is consistent with the pattern of increased density along the rail corridor, including the recently completed 24 storey residential development Pemulwuy.

Opportunities

- Mid and large scale residential buildings in proximity to the rail corridor have been approved or recently completed, including approved residential uses in the clothing store sub-precinct and the Pemulwuy development.
- Mid scale development adjacent terrace houses, such as the Business School on Abercrombie Street, set precedents for this relationship of scale.

Note: This plan is indicative only

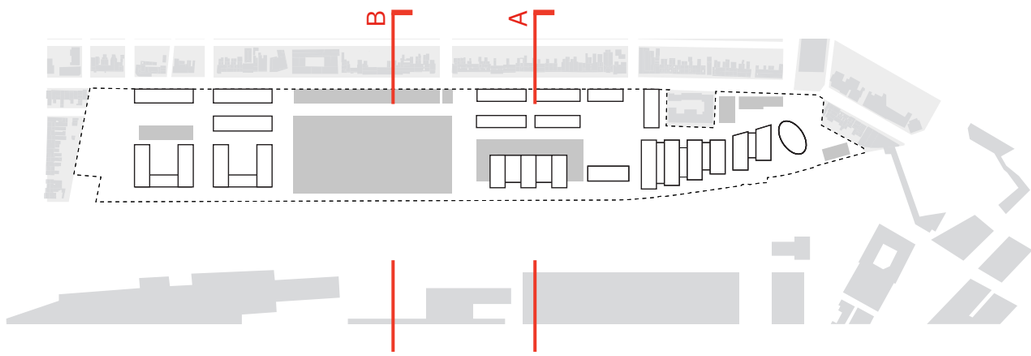
Key

(#)	Number of Storeys

Storeys	
	1 - 3
	4 - 6
	7 - 10
	11 - 15
	16 - 20
	21 - 30

Figure 5.1.4.2 - Existing, approved & proposed building heights map

5.1.4 Building Heights
Section Study



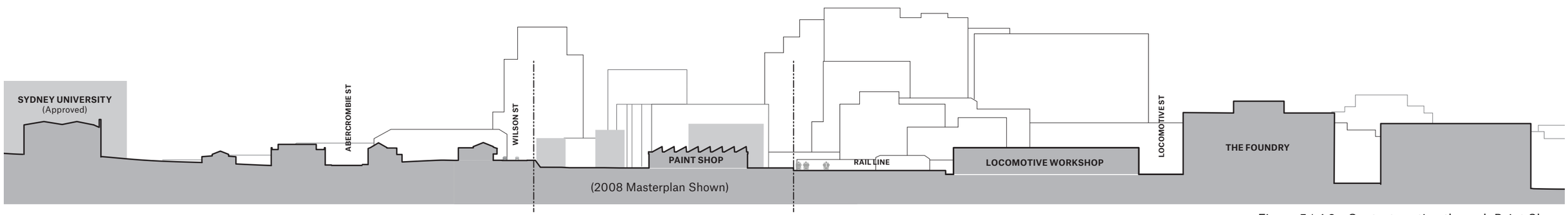


Figure 5.1.4.3 - Context section through Paint Shop

Context Section A

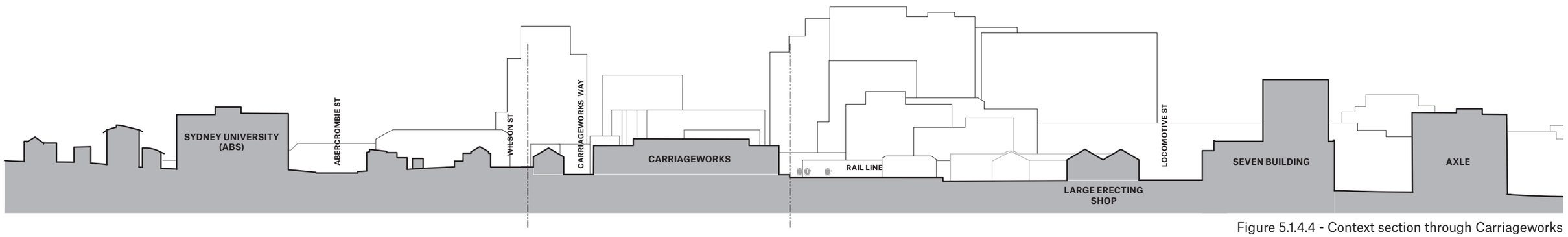


Figure 5.1.4.4 - Context section through Carriageworks

Context Section B

0 10 20 40m
1:1000

5.1.5 Site Connectivity
Transit

The North Eveleigh site is located centrally between Redfern Station and Macdonaldtown Station, and in proximity to Erskineville Station further south.

The designated cycleway down Wilson Street and Lawson Streets is a key connectivity point to the site and offers links into the site.

Key bus routes along City Road, Regent Street and Gibbons Street connect to the CBD.

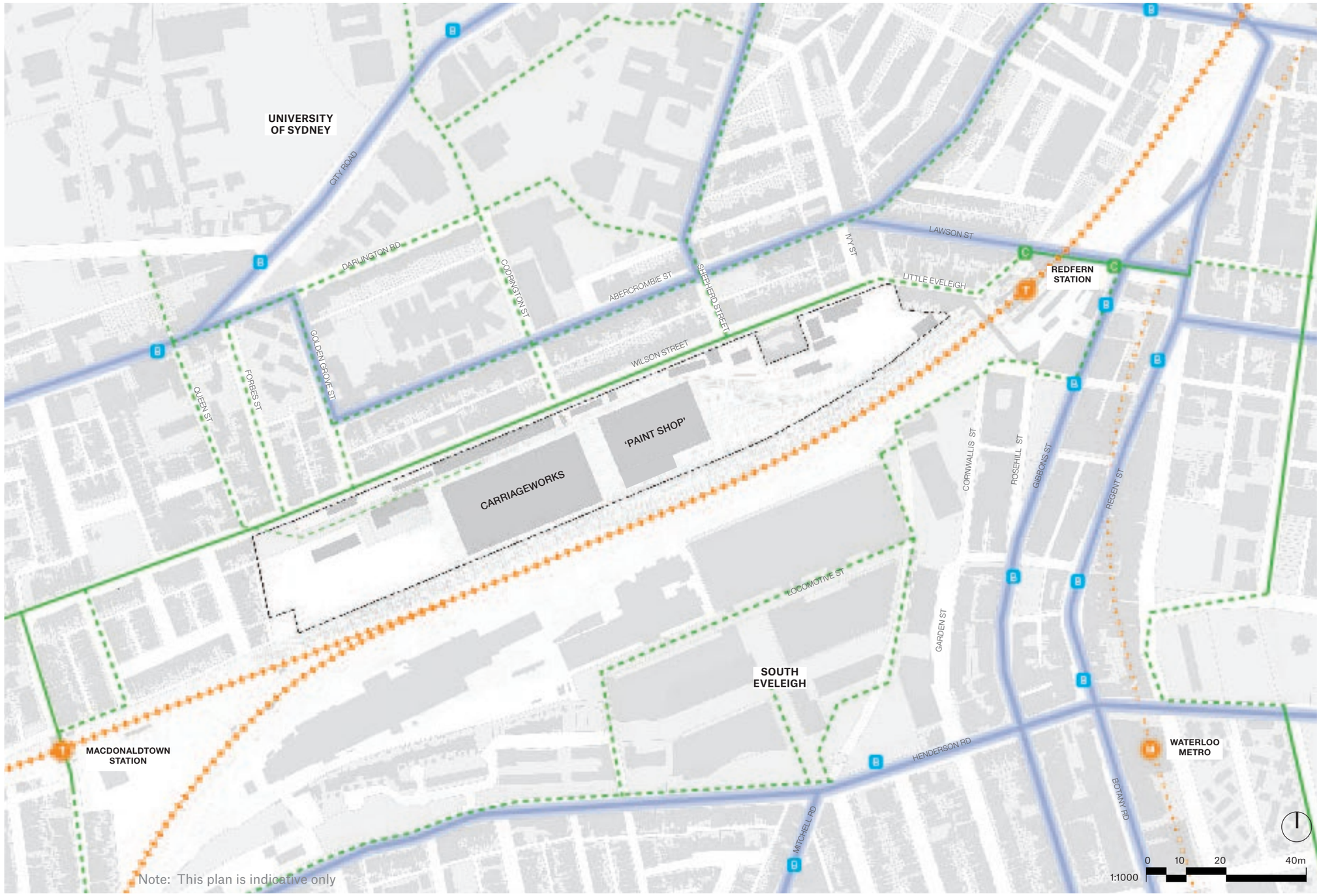
Constraints

- Level change into a shallow site will need to be carefully integrated
- Site with limited connectivity to existing road network

Opportunities

- Improve connectivity to public transport nodes, in particular Redfern station and the new concourse for ease of access and attract commuters to cross site
- Development in proximity to public transport will reduce car dependency
- Existing cycle network on Wilson Street provides great infrastructure along edge of site

Further information can be found in the Transport Strategy and Transport Impact Assessment



Key	
T	Train station
B	Bus stop
C	Cycle Parking
	Designated bike path
	Bike friendly route
	Major road

Figure 5.1.5.1 - Transit through & around site diagram

5.1.5 Site Connectivity
Pedestrian Movement

The rail line clearly divides the two Eveleigh neighbourhoods and adjacent suburbs. Crossing points currently only exist at Redfern Station and Mcdonaldtown Station. A new pedestrian concourse at the western end of Redfern Station is currently under construction.

Highly relevant to RNE is the pedestrian connection between Sydney University and Redfern station along Abercrombie Street and into Shepherd Street, generating a significant flow of pedestrians along this route. It is estimated that 10,000 pedestrians travel Codrington and Shepherd Streets daily.

The future Waterloo Metro station will, in the near future, offer an additional attractive transport connection for North Eveleigh.

Previous studies, including the City of Sydney Open Space, Sports and Recreation Needs Study (2016) identify a desire for an additional footbridge connection across the rail to link North and South Eveleigh.

Constraints

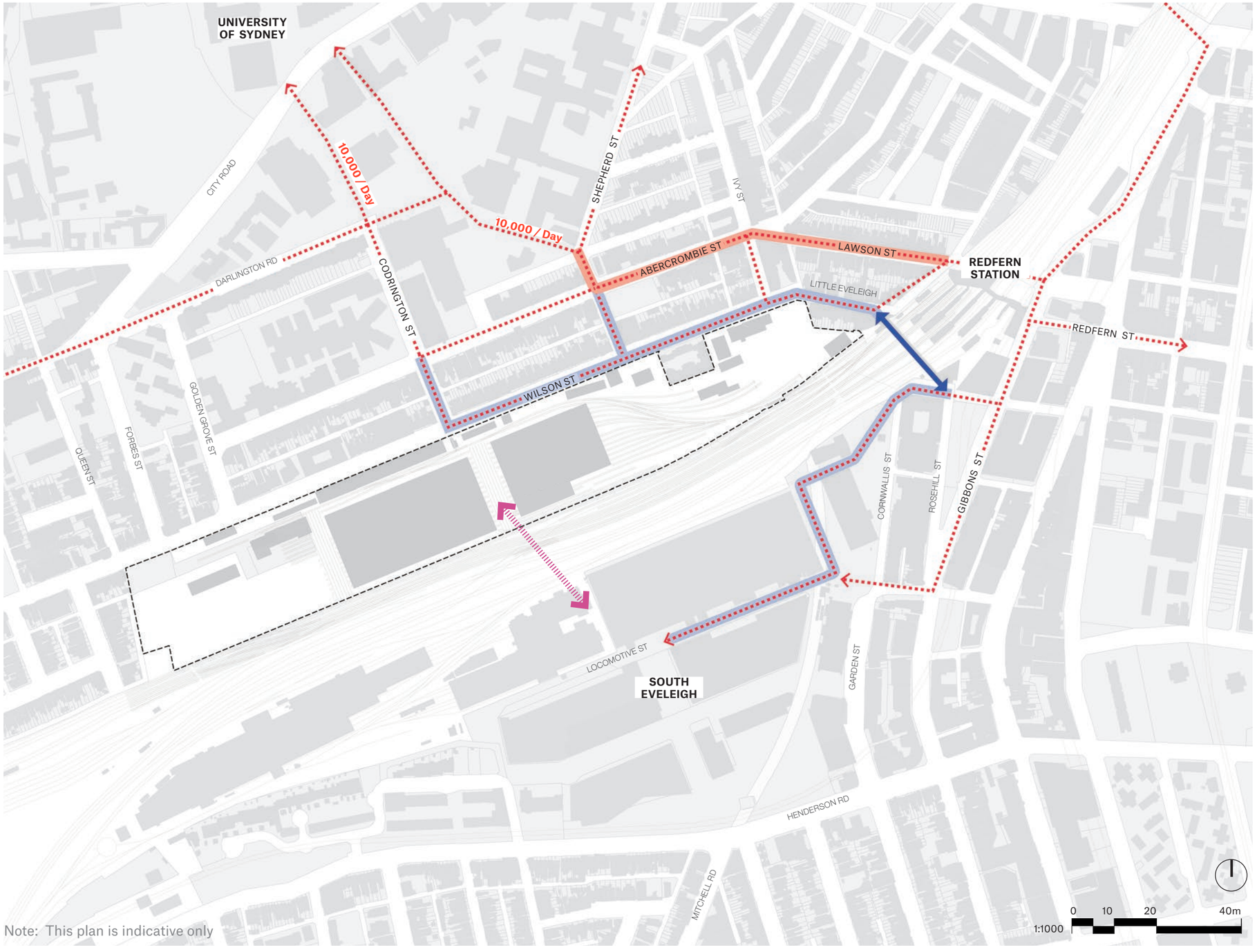
- Rail corridor separating North & South Eveleigh

Opportunities

- New concourse of Redfern Station providing excellent link into the site
- Active pedestrian connection between Redfern Station and University with potential for additional footfall for RNE
- Allow to integrate any future pedestrian footbridge between North & South Eveleigh (unfunded)

Key

- Pedestrian routes
- Heavy foot traffic
- New southern concourse
- Future increased foot traffic
- Potential future footbridge over rail (unfunded)



Note: This plan is indicative only

Figure 5.1.5.2 - Pedestrian movement through & around site diagram

5.1.6 Catchment Radius
400m Radius

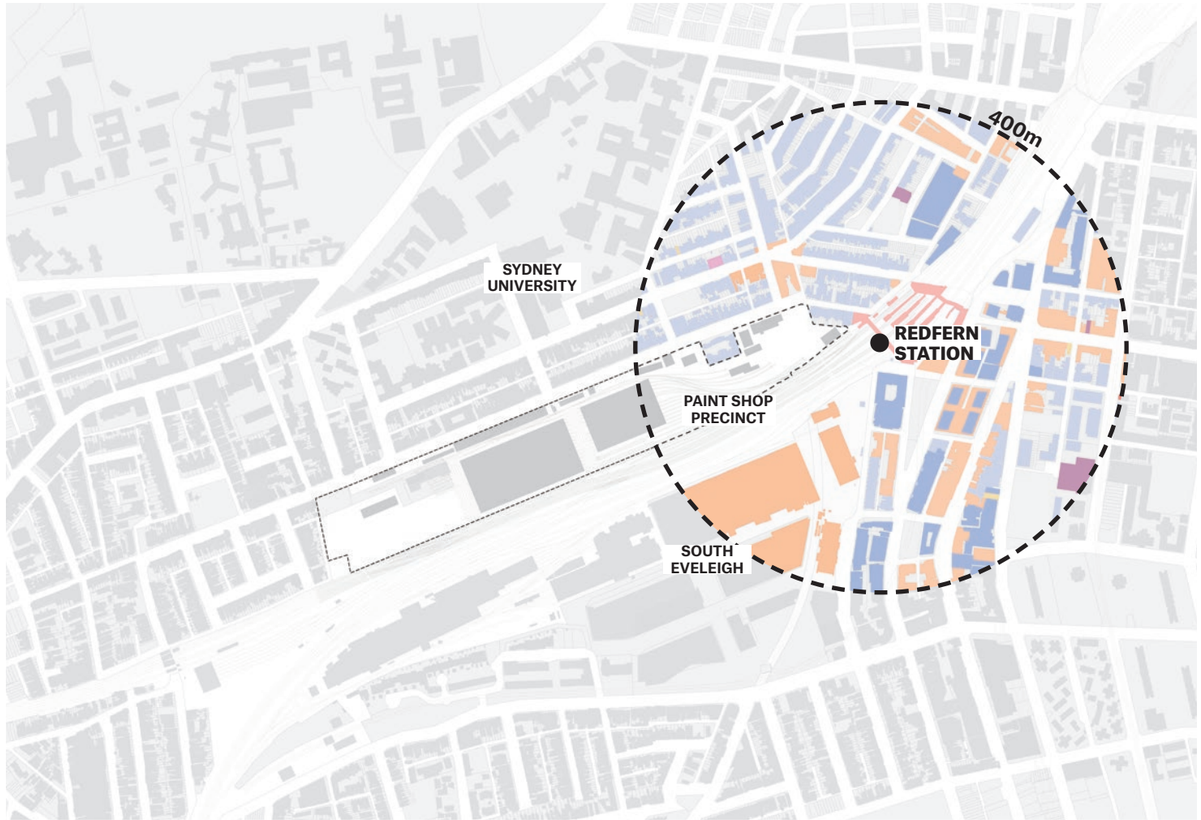


Figure 5.1.6.1

REDFERN STATION - NEW SOUTHERN CONCOURSE
400m Catchment Radius

A catchment radius of 400m is approximately the equivalent of a 5 minute walk. It is a distance that people are willing to walk to get to destinations such as public transport or other destinations within a neighbourhood.

The majority of RNE is within 400m of Redfern Station, offering an excellent means of transport other than the car for reach regional and state wide travel.

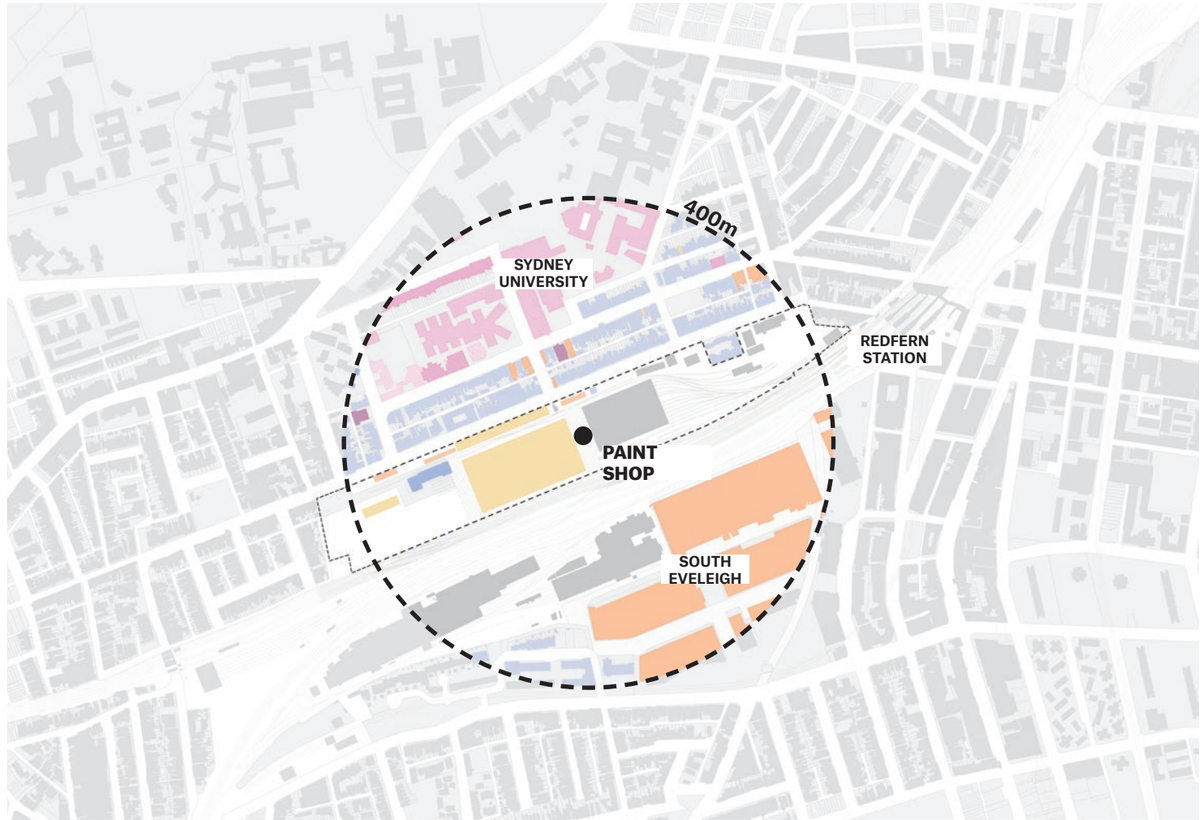


Figure 5.1.6.2

PAINT SHOP PRECINCT
400m Catchment Radius

Placing the 400m at the centre of RNE identifies the wide range of offer within this neighbourhood catchment area, including the full RNE site, Sydney University and Abercrombie Street to the north and Redfern Station to the East

0 20 40 80m
1:2000

5.1.6 Catchment Radius

5 & 10 minute Walking Catchment

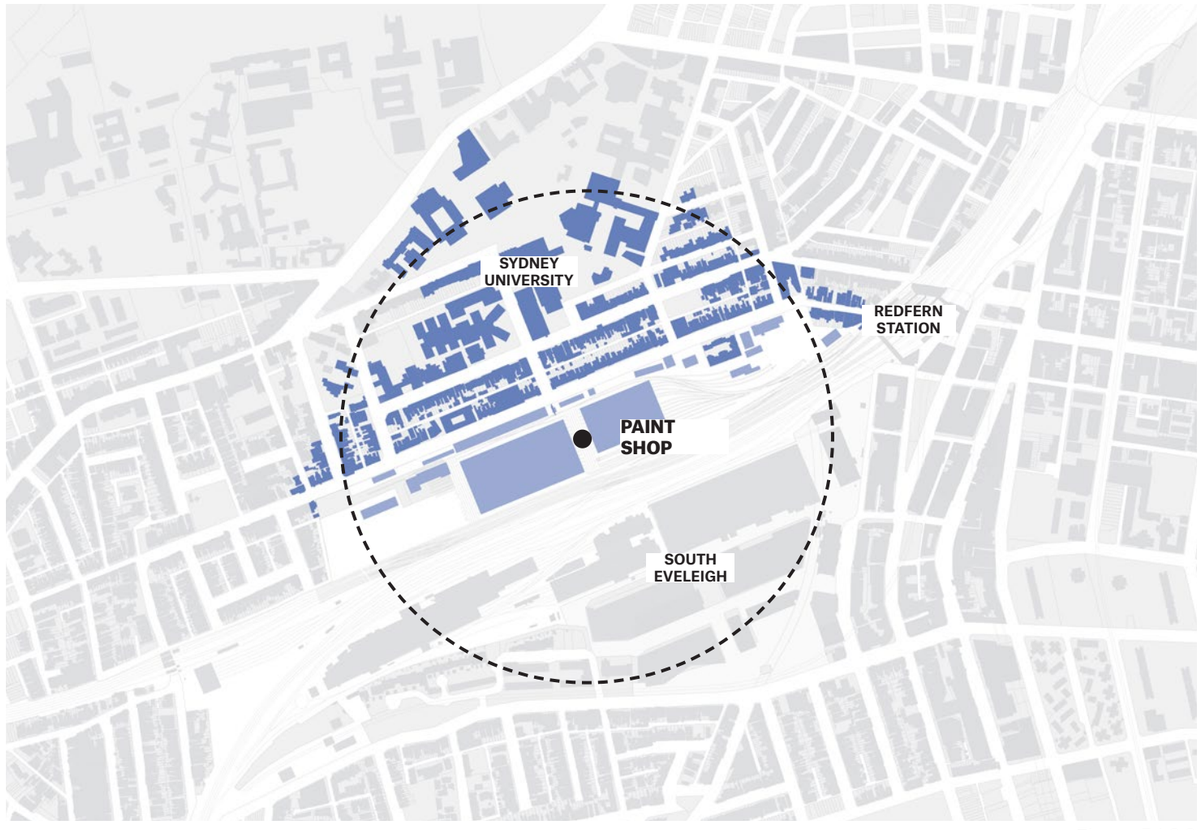


Figure 5.1.6.3

PAINT SHOP PRECINCT
5min Walking Catchment

Assumes approximate 400m walking distance

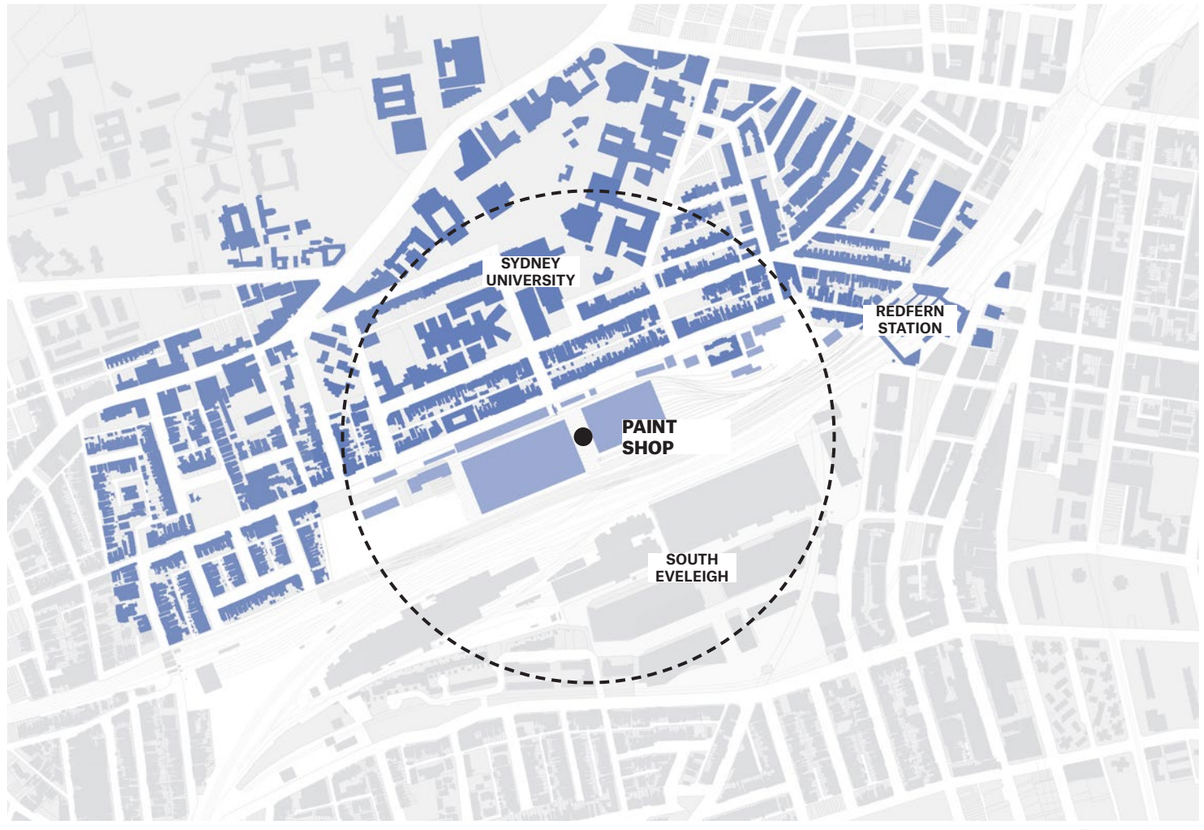


Figure 5.1.6.4

PAINT SHOP PRECINCT
10min Walking Catchment

Assumes approximate 800m walking distance

Key

Existing walking catchment

1:2000 0 20 40 80m

5.1.7 Site Analysis, Opportunities & Constraints
Environmental

Existing Noise Source:

The southern portion of the site is adjacent to an active rail corridor, a source of noise and vibration.

For Further information refer to Noise and Vibration Assessment.

Prevailing Winds:

This Sydney region is governed by three predominant wind directions that can potentially affect development on this site. These wind directions are North-east, South, and West.

For Further information refer to Windtech Assessment report.

Public Open Space Solar Impact:

There are 2 parks south of the site that will require shadow studies to determine whether the development meets the City of Sydney DCP requirement for Public Open Space "to provide at least 50% of 'one consolidated area' of the public open space receive a minimum of 4 hours direct sunlight between 9am to 3pm at mid winter."

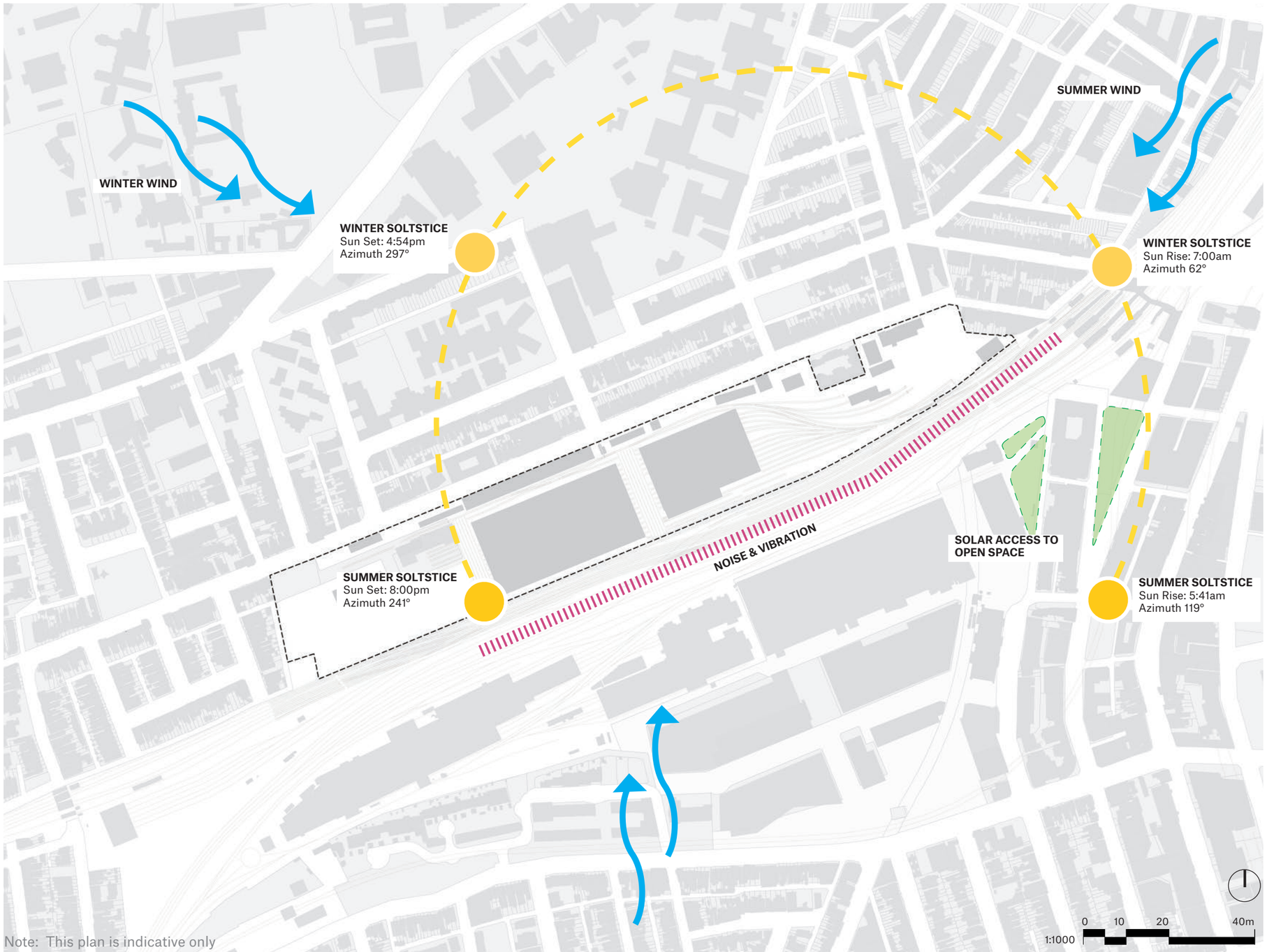
The solar analysis can be found in Chapter 9.6 of this report.

Constraints

- Consider how noise from rail corridor may need to be addressed in the design of public domain and sensitive uses, including residential development.
- Rail corridor offering little protection from southerly winds.

Opportunities

- Rail land does not impose solar constraints and therefore offers potential for tall development in proximity.
- Massing along rail corridor creates less impact to adjacent neighbourhoods, and can help to block out noise, wind and visual impact from train line to public open spaces.



Note: This plan is indicative only

Figure 5.1.7.1 - Environmental factors diagram

5.1.7 Site Analysis, Opportunities & Constraints
Heat Map

Urban Heat Island Effect is caused by factors such as buildings, roads and other hard and dark surfaces that absorb and store heat.

The site in its current condition is sparse in vegetation and dominated by hard surfaces, causing the site to be on average about 3-6 degrees above the baseline ambient air temperatures. The adjacent railway tracks are in excess of 9 degrees above baseline temperature.

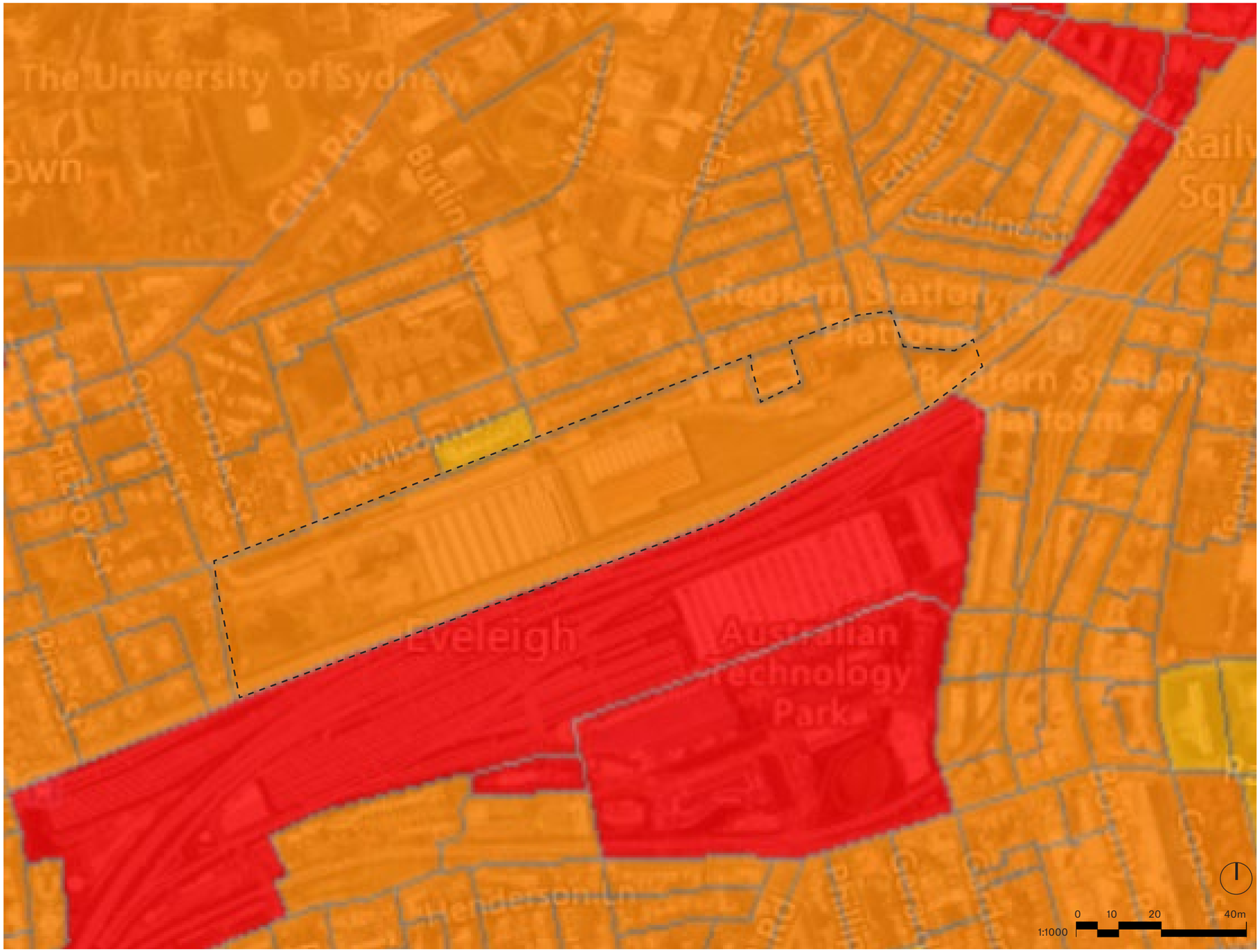
Constraints

- Heat island effect causing negative impacts to comfort and increases reliance on air-conditioning.

Opportunities

- Maximise tree canopy cover and soft ground to improve comfort criteria for the site and create a walkable environment.
- Use of water and extensive planting in the public domain to promote evapotranspiration and passive cooling should be considered to further reduce discomfort in the warmer seasons.

Refer to Chapter 10.4 of this report for detail.



Key	
	Cooler than baseline
	0 - 3 degrees warmer
	3 - 6 degrees warmer
	6 - 9 degrees warmer
	Warmer than 9 degrees

Figure 5.1.7.2 - Heat map diagram from Australia's National Map

5.1.7 Site Analysis, Opportunities & Constraints
Existing Tree Canopy Cover

The site is currently characterised by limited vegetation and open land, with trees generally restricted to the Wilson Street edge and the Redfern Station end.

Constraints

- Large heritage buildings and heritage settings may limit canopy cover in certain areas of the site

Opportunities

- Mature trees of good value should be retained as much as possible to contribute to maximising tree canopy cover early on.
- Heritage settings of the smaller rail buildings such as the CME with heritage gardens will provide opportunities to intensify canopy cover in these areas without undermining heritage assets.

Further detailed information on Existing Trees can be found in the Urban Forest and Greening Study.

Figure 5.1.7.3 - Existing tree retention value diagram, Source: Arterra

Tree Retention Value Legend

- High Retention value
- Moderate Retention value
- Low Retention value
- Very Low Retention value (should remove)

Diagram and data prepared by Arterra,
(Green Infrastructure consultants)

5.1.7 Site Analysis, Opportunities & Constraints
Heritage

North and South Eveleigh offer a reminder of early rail use and train making in Australia. Some of these buildings have been successfully re-purposed for cultural (Carriageworks) and commercial use. Buildings and site features have been listed in different categories of significance.

Please also refer to the Baseline Heritage Assessment.

North Eveleigh Heritage:

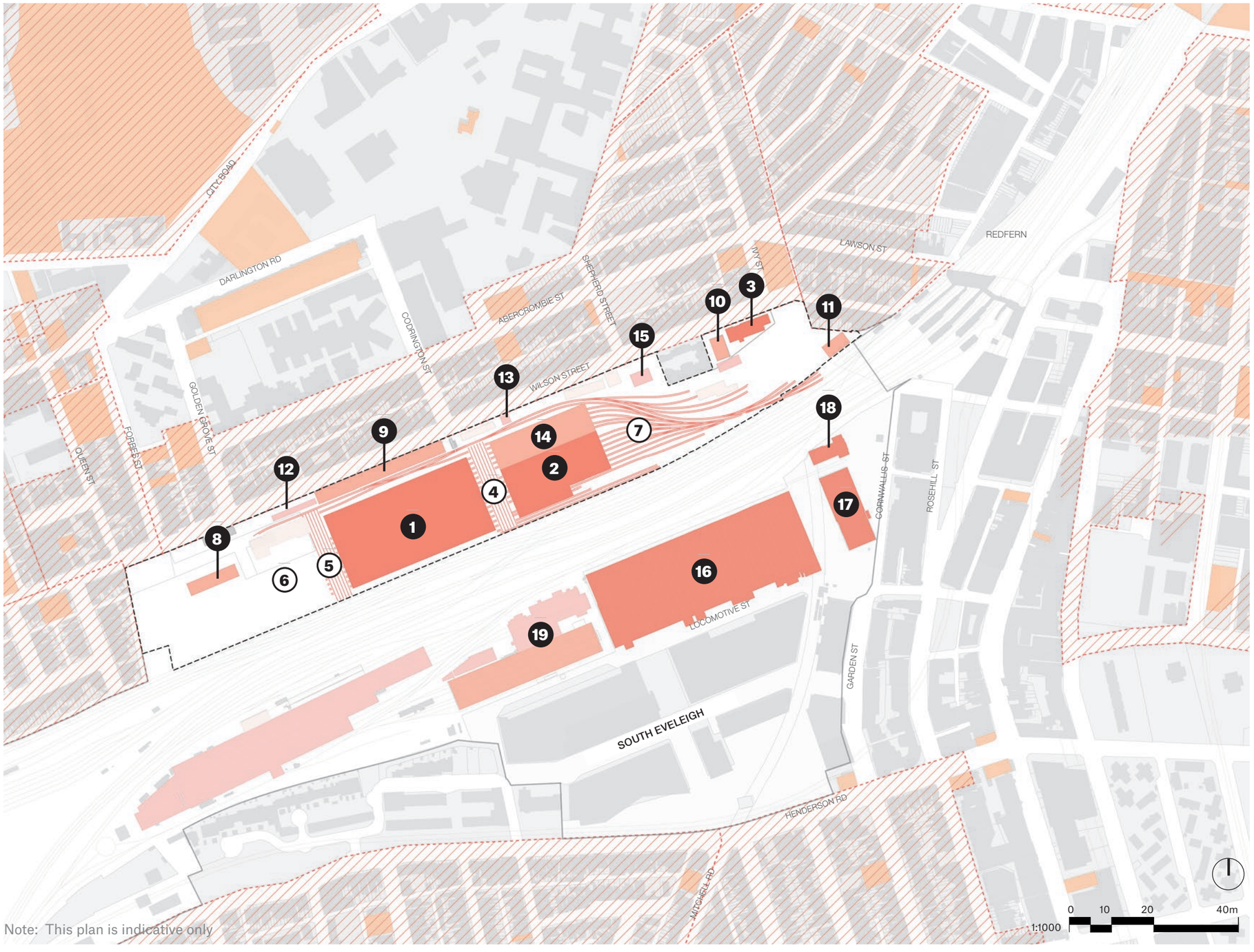
1. Carriage Workshops
2. Paint Shop & Annex
3. Chief Mechanical Engineers Office Building
4. Traverser No. 1 (1900/1969)
5. Traverser No.2 (1901/1969)
6. Railway Tracks
7. Fan of tracks
8. Clothing store
9. Blacksmith's shop
10. Scientific Service Building No.1
11. Telecommunication Equipment Centre
12. Air Raid Shelter
13. Compressor House
14. Paint Shop Extension
15. Outward Parcels Depot

South Eveleigh Heritage:

16. Locomotive Workshop
17. New Locomotive Workshop
18. Works Manager's Office
19. Large Erecting Shop

Sources:

Eveleigh Railway Workshops - Overarching Conservation Management Plan REV. F - 2017



Note: This plan is indicative only

Key

Site Heritage Significance:	
	Exceptional
	High
	Moderate
	Little
	Eveleigh Railway - State Heritage Register
Heritage Surrounding Context:	
	Item - General
	Conservation Area

Figure 5.1.7.4 - Heritage items & conservation areas map

5.1.7 Site Analysis, Opportunities & Constraints
Heritage - Key Views

There are a series of important heritage view lines within and around the North Eveleigh site. These views help understand the former workings of the rail yards.

Please also refer to the Baseline Heritage Assessment and Visual Impact Assessment.

Key Views:

1. View down Carriageworks Way
2. View from Codrington Street of the Carriage Workshop gable.
3. From site entry to Traverser No. 1 and workshops, and distant view over the traverser towards South Eveleigh.
4. Views from Chief Mechanical Engineers Building of site, rail line and locomotive workshops.
5. View between Innovation Plaza and Chief Mechanical Engineers Building.
6. Views from rail line of facades of the workshops.

Sources:

Eveleigh Carriageworks Conservation Management Plan Volume 1, 2002 OCP Architects

Eveleigh Railway Workshops - Overarching Conservation Management Plan REV. F - 2017

Insights

- Existing fabric has great potential to become catalyst for a rich place-making concept.
- Avoid starting the development from a blank slate.
- Much of the site heritage experience is viewed from within the site.

Key	
Site Heritage Significance:	
	Exceptional
	High
	Moderate
	Little

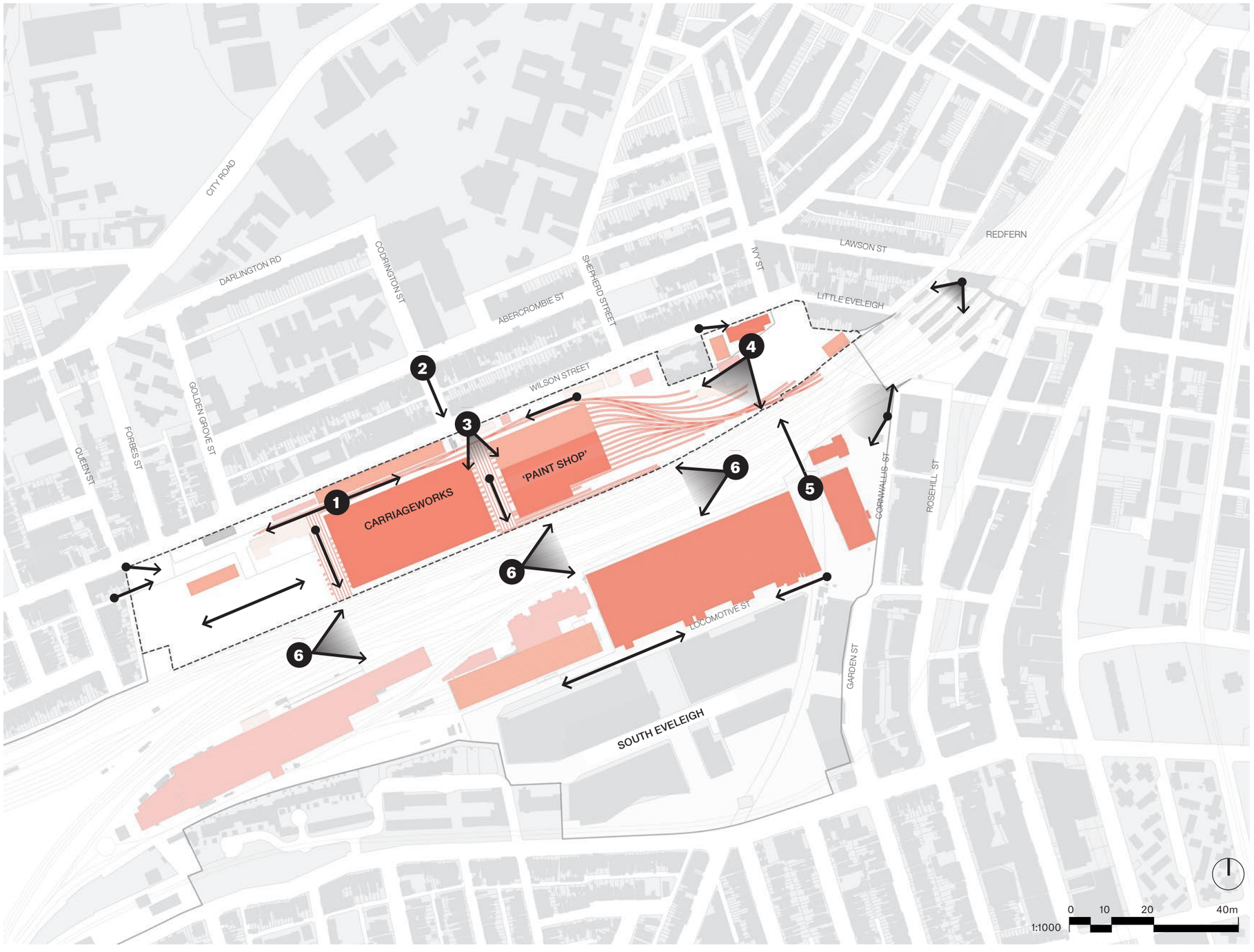


Figure 5.1.7.5 - Heritage key views diagram

5.1.7 Site Analysis, Opportunities & Constraints
Topography & Barriers

Edge Conditions

The North Eveleigh site is bounded by two significant edge boundary conditions.

1. Wilson Street Topographic Change
To the north of the site the topography along Wilson Street results in a sharp level change between the street and the site below. The level change ranges between 3-4m along the length of the site.

2. Rail Corridor
To the south of the site there is an active rail corridor, separating North and South Eveleigh and bisecting neighbouring suburbs. The rail corridor barrier results in approximately a 1200m distance with no connection.

Opportunities

- Reassess existing ground plane levels to create a fully accessible development within and into the neighbourhood
- Create permeable edges to buildings and spaces by creating frontages, connections and entrances that are legible
- Introduce an active rail edge with uses that are complimentary and less affected by the rail impacts, creating a safe and positive interface with the development.

Key

- RL 29.0 Wilson Street (Average)
- RL 25.0 Site (Average)
- Rail Corridor
- Rail Corridor Crossing
- Future Rail Crossing

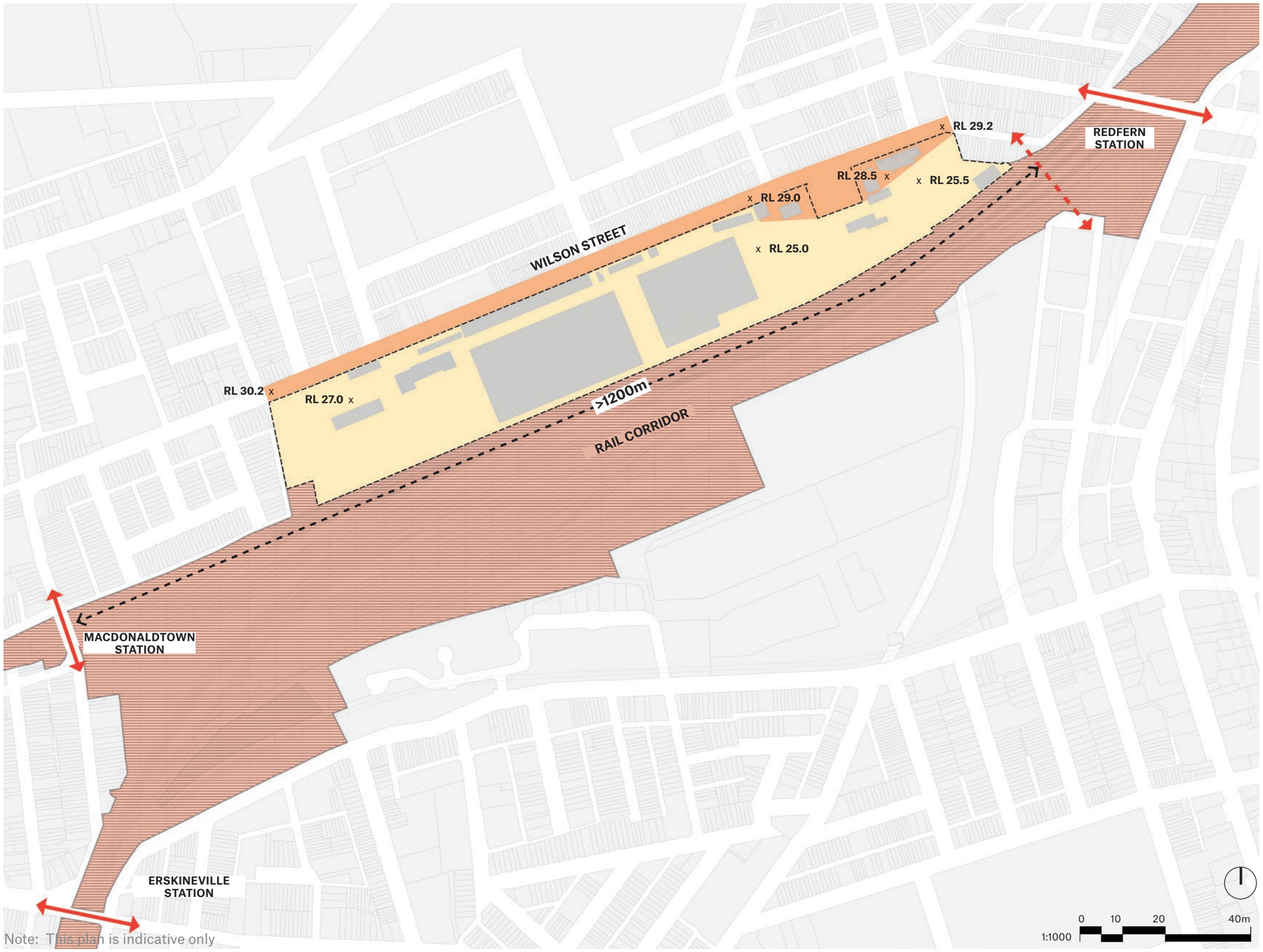


Figure 5.1.7.6 - Topography & barriers diagram

5.1.7 Site Analysis, Opportunities & Constraints
Immediate Interface

The North Eveleigh site is surrounded by two very distinct building typologies.

1. To the North, East and West boundaries of the site the immediate interface is primarily two storey residential dwellings.
2. To the South of the site, South Eveleigh, the buildings are large low rise industrial / commercial buildings. Some of these buildings have a high heritage significance and form part of a State Heritage Register listing known as Eveleigh Railway Workshops.
3. A three storey multi-residential building sits within the otherwise continuous site boundary along Wilson street. Further details on this site constraint are on the following page.
4. Carriageworks forms an interface to the west, providing a cultural focus for the site including the Saturday markets in the Blacksmith Shop.

Low rise terraced housing along Wilson Street should be respected, however ther are precedents in the neighbourhood that indicate that taller buildings may be appropriately integrated along the Wilson Street edge. (refer Appendix A.5)

Eveleigh South should be considered from a visual connectivity perspective.

Opportunities

- Challenge height parameters along Wilson Street with similar precedents in the area
- Integrate context into site, and new development into neighbourhood to overcome current division
- Acknowledge visual links between North & South Eveleigh heritage buildings with intermittent sightlines to recognise the historic connection between the two parts

Key	
	Fine Grain Residential
	Large Scale Industrial / Commercial
	Residential Block
	Cultural use

Figure 5.1.7.7 - Interface between site & immediate context map

5.1.7 Site Analysis, Opportunities & Constraints
Private Residential Block

Located along the Wilson Street boundary, a privately held residential block interrupts the precinct's potential continuous street frontage. The residential building at 501 Wilson Street also presents constraints to the site's internal planning, concerning Apartment Design Guide (ADG) provisions related to privacy and building separation.

No. 501 Wilson Street

- 3 storey residential apartment building
- Interrupts the street frontage and potential internal flow of the site.
- Wilson Street frontage = 57m
- Site Area Approx. = 2,400m²

ADG Setback Requirements

The Apartment Design Guidelines require adequate building separation distances between apartment buildings. Part 3F-1 seeks the following separations between habitable rooms of buildings, relative to building heights:

Max. 4 storey development = 12m setback
Max. 8 storey development = 18m setback
9+ storey development = 24m setback

Figure 5.1.7.8 highlights the desirable separation distances however ADG Objective 3F-1 requires that the required distances are shared equitably between different properties. Consequently, future residential development on the Paint Shop precinct is required to provide half of the total distances nominated in the diagram.

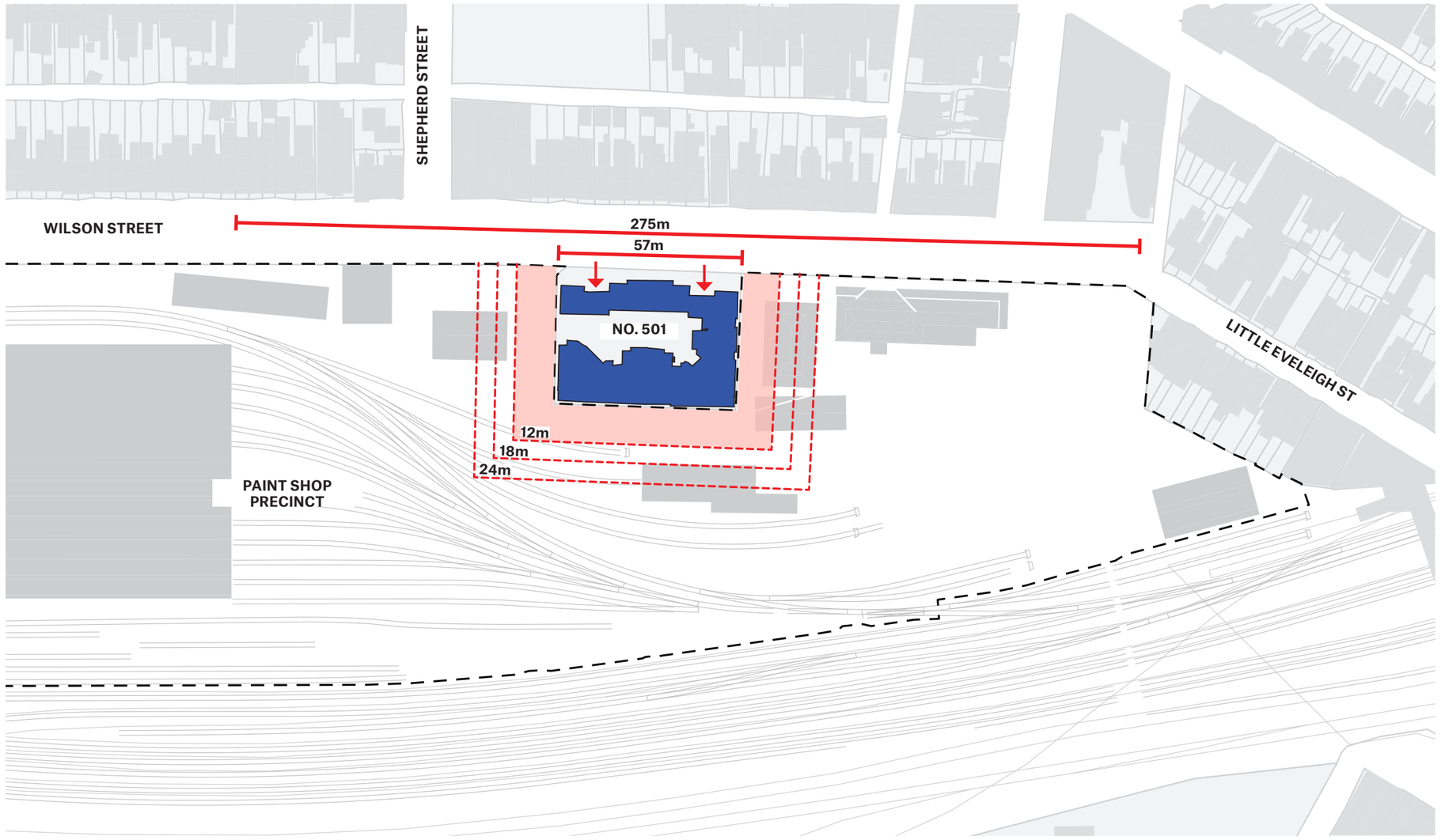


Figure 5.1.7.8 - Plan of private residential block next to Paint Shop sub-precinct

5.2

Site & Neighbourhood Character

5.2 Site & Neighbourhood Character

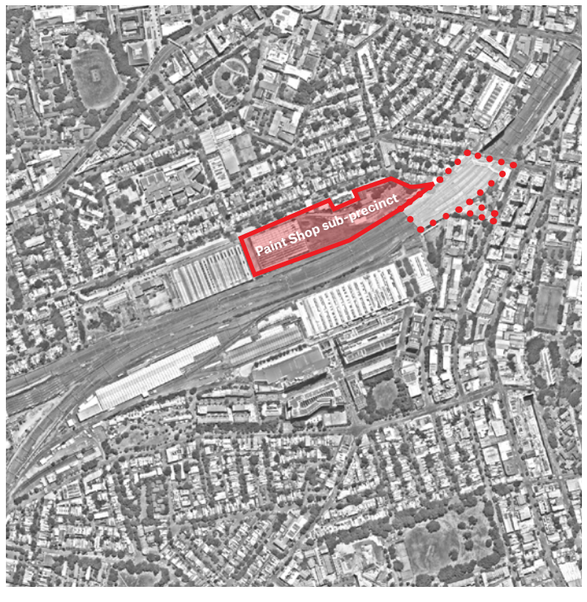
5.2.1 Redfern Station

Redfern Station is one of the busiest stations on the network and plays an important role in connecting this precinct regionally.

The Redfern Station Upgrade Southern Concourse is a new station concourse that provides a second exit and entry point from Platforms 1-10 at Redfern Station, and connects Marian Street with Little Eveleigh Street. Little Eveleigh Street is being upgraded as a shareway to accommodate arriving and departing customers including students connecting to and from Sydney University.

Source: TfNSW


Source: Central to Eveleigh



Source: ABC

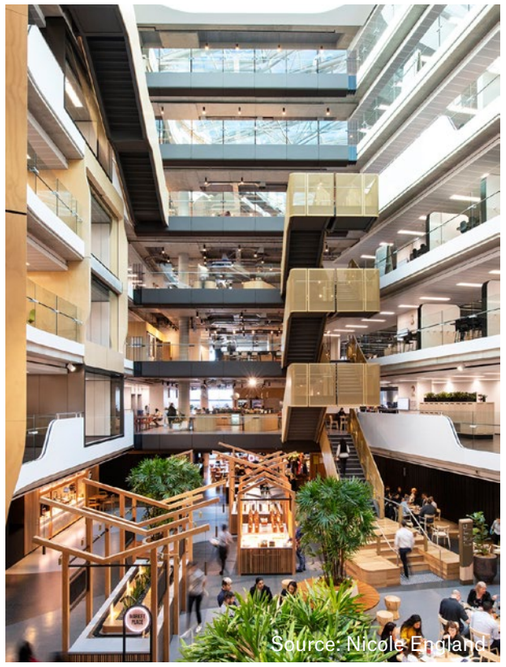

Source: Simon Freeman Photography

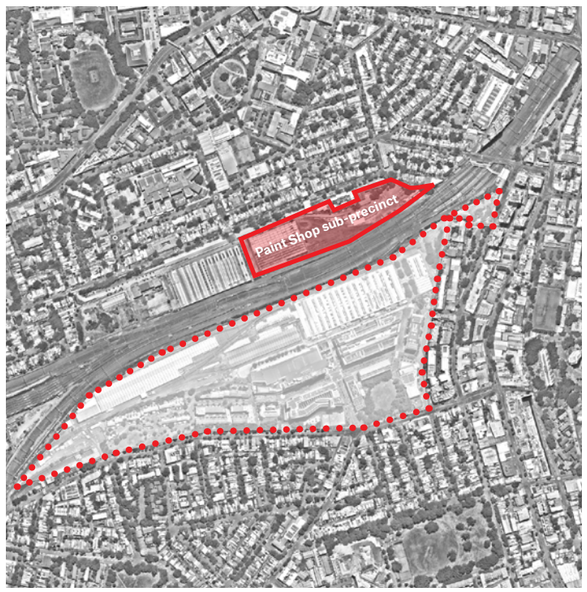
Figures 5.2.1.1-4 (Clockwise from top left) - Artist's impression & photographs of Redfern Station

5.2 Site & Neighbourhood Character

5.2.2 South Eveleigh

South Eveleigh is a vibrant new precinct that combines commercial work, retail and community spaces with a focus on innovation, collaboration and technology. South Eveleigh forms part of a State Heritage Register listing known as the Eveleigh Railway Workshops.





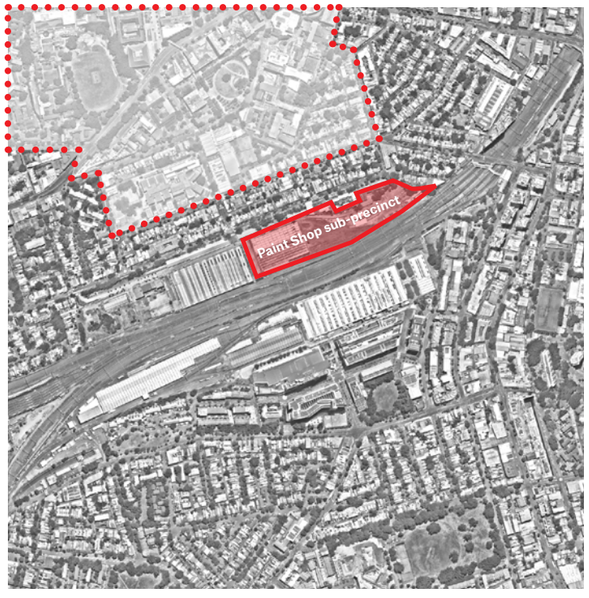
Figures 5.2.2.1-6 (Clockwise from top left) - Photographs of South Eveleigh

5.2 Site & Neighbourhood Character

5.2.3 Abercrombie Street to University

Abercrombie Street is a high foot traffic street, with many students taking this route from Redfern Station and Lawson Street to bisect Shepherd and Codrington Streets into the campus.

The student presence in this area brings the street to life with several shops, cafes, restaurants and bars.



Figures 5.2.3.1-5 (Clockwise from top left) - Photographs of Abercrombie Street

5.2 Site & Neighbourhood Character

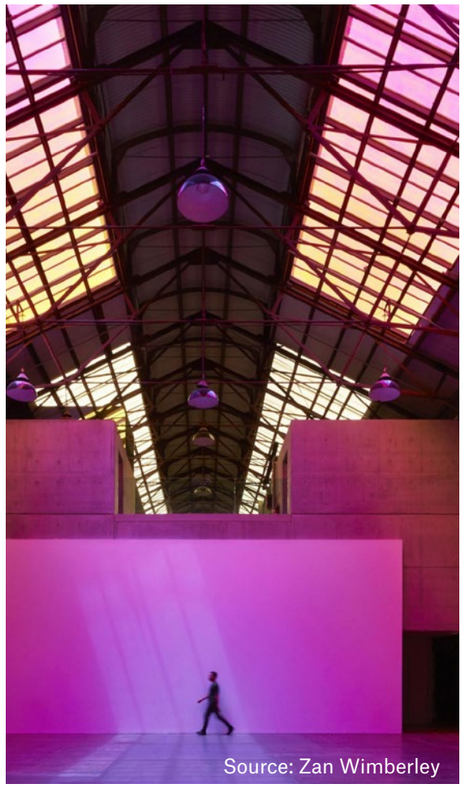
5.2.4 Carriageworks & Blacksmith's Shop

"Founded in 2007, Carriageworks is a nationally and internationally recognised centre for the arts. It is a major destination for the Precinct and provides an example of adaptive reuse of heritage fabric for built form and public domain.

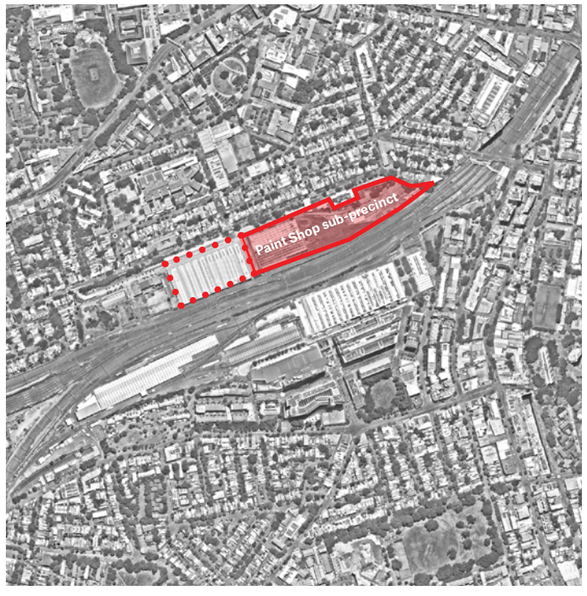
The Carriageworks Sub-Precinct is defined by the two key heritage buildings of the Carriageworks itself and the Blacksmith Shop where events and farmers markets are held. The shared use space between the two buildings is heavily utilised both as an event space and a service road. Flanking the Carriageworks are the two Traverser alleys that currently operate as ad-hoc parking and maintenance access"

Source: Redfern North Eveleigh Strategic Vision 2021

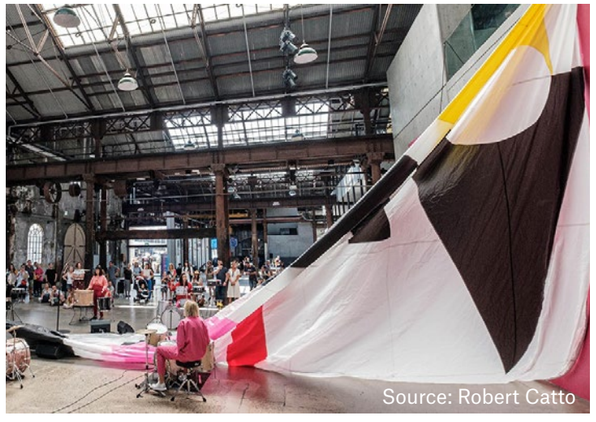
Source: The South Sydney Herald


Source: Zan Wimberley


Source: Jacquie Manning



Source: Sydney - City and Suburbs Blogspot


Source: Robert Catto


Source: Daniel Boud

Figures 5.2.4.1-6 (Clockwise from top left) - Photographs of Carriageworks & Blacksmith's Shop

5.2 Site & Neighbourhood Character

5.2.5 Indigenous Art & Gardens

The Precinct is located within Gadigal lands and has a strong connection for Aboriginal people. It was a place of many firsts, and significantly, the Eveleigh Workshops employed many Aboriginal people on equal rights terms.

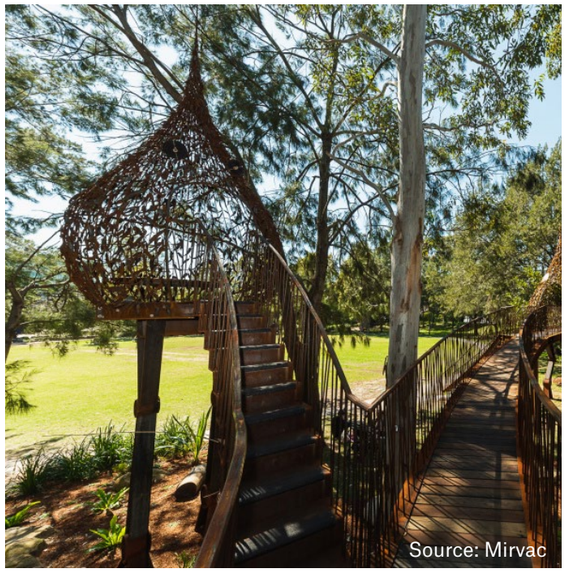
The area of Redfern has been significant to the Aboriginal community for many years with key social movements and protests occurring in this location.

Source: Redfern North Eveleigh Strategic Vision 2021

Source: Indigenous.gov.au


Source: Redfern Stories Wordpress


Source: Redfern Stories Wordpress


Source: Mirvac


Source: Yerrabingin

Figures 5.2.5.1-5 (Clockwise from top left) - Photographs of Indigenous art & gardens around Redfern

5.2 Site & Neighbourhood Character

5.2.6 Wilson Street

Wilson Street currently has two distinct street elevations. The north is dominated by low rise terrace houses, mixed in with the occasional more recent development with up to 4 storeys. The south has a predominant defensive character with fencing (skipping girls artwork) blocking views into the Eveleigh site. This is interrupted by a number of empty buildings relating to the rail heritage of Eveleigh, and the residential development on 501 Wilson Street. The street has a rich and mature green canopy cover.

"Sharing and caring is our custom. Our custom is about looking after mother earth.

The earth is our mother and the sky our father, who loves mother earth. The sun is our grandfather and the moon our grandmother. The stars are our sisters and the clouds our brothers.

Our main role as human beings is to look after mother earth. Mother is the core of all family unity, the life of our culture. Our plants and animals are also our brothers and sisters. They each have a spirit.

We have respect laws for ourselves and for animals and plants. Me and Aunty Beryl are at a stage of our lives where we are helping young people. It all goes back to sharing and caring.

We give these young people hope."

Dallas Dodd cooking teacher and elder, Yaama Dhiyaan

Redwatch.org.au/media/110630sf accessed 01/04/2021

Figures 5.2.6.1-4 (Clockwise from top left) - Photographs of Wilson Street

5.3

Precinct Views

5.3 Precinct Views

5.3.1 Paint Shop Sub-Precinct

This section provides a selection of views informing the urban context analysis. It describes the character of the immediate context around and within the site.

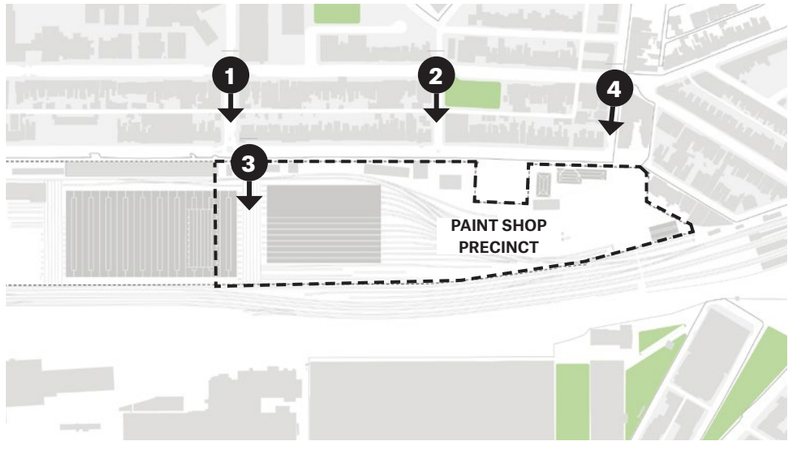
CODRINGTON STREET
View to Paint Shop Precinct & North Eveleigh

Figure 5.3.1.1

SHEPHERD STREET
View to Paint Shop Precinct & North Eveleigh beyond

Figure 5.3.1.2

Key



CODRINGTON & WILSON STREET ENTRY
View of Carriageworks and beyond to South Eveleigh

Figure 5.3.1.3

IVY STREET
View to Paint Shop Precinct & North Eveleigh beyond

Figure 5.3.1.4

5.3 Precinct Views

5.3.1 Paint Shop Sub-Precinct

1

REDFERN STATION
View down rail corridor

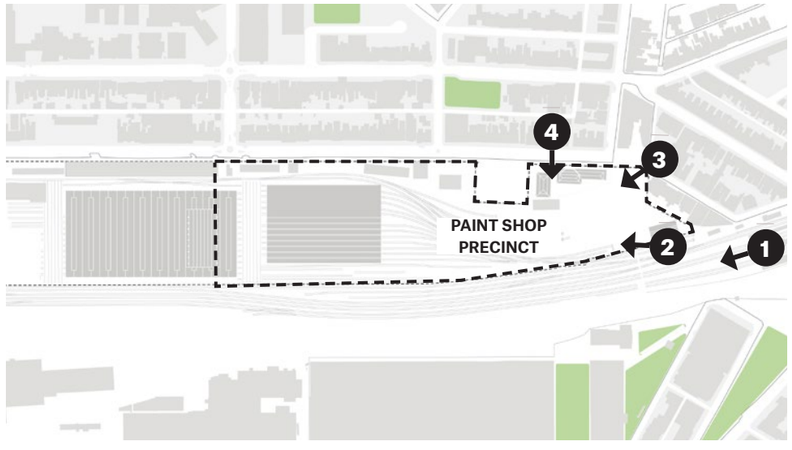
Figure 5.3.1.5

2

REDFERN STATION
View along rail corridor towards site from Redfern Station platform

Figure 5.3.1.6

Key



3

LITTLE EVELEIGH STREET ENTRY
View into site from Little Eveleigh St, showing existing dense vegetation

Figure 5.3.1.7

4

CHIEF ENGINEERS OFFICE
View into site between Chief Engineers Office and Science Lab buildings

Figure 5.3.1.8

5.3 Precinct Views

5.3.1 Paint Shop Sub-Precinct

1

SUBURBAN CAR WORKSHOP Figure 5.3.1.9
View of Suburban Car Workshop and Paint Shop

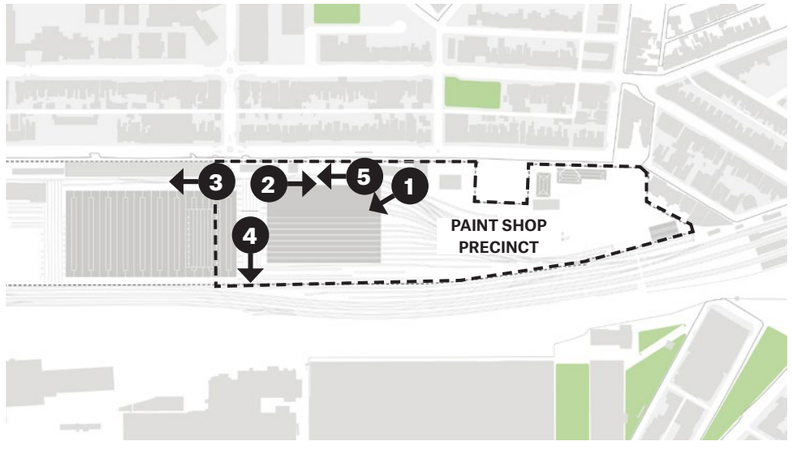
2

PAINT SHOP EXTENSION Figure 5.3.1.10
View from Codrington St entry at Wilson Street Level

3

CARRIAGEWORKS WAY Figure 5.3.1.11
View down Carriageworks Way between the Carriageworks & Blacksmith's Shop

Key



4

PAINT SHOP & TRAVERSER NO.1 Figure 5.3.1.12
Paint Shop western facade, view along traverser No.1

5

CARRIAGEWORKS WAY Figure 5.3.1.13
View along Paint Shop towards Carriageworks

5.4 Place Insights

5.4.1 Summary of key insights drawn from the mapping and urban analysis

- The industrial heritage is diverse - large & small, buildings & artefacts. The value is collective but generally experienced episodically rather than holistically.
- Most of the site is setdown from Wilson Street, disconnecting the site from the neighbourhood.
- Active operational railway lines form the southern boundary of the site. Relief from the railway line operations is found in sheltered spaces where buildings form a buffer to the railway line.
- The site has very few trees and is susceptible to urban heat island effect.
- Wilson Street has two characters. Terraces one side, industrial on the other. There have long been dichotomies - small vs large, quiet vs noisy, residential vs industrial.
- The wider neighbourhood is mixed, comprised of low-scale terraces sitting adjacent larger (institutional) buildings.
- Some tall buildings are emerging in the locality - generally in close proximity to stations.
- The breadth of the rail-lines means tall buildings can be accommodated without excessive overshadowing of existing public open spaces or neighbouring residential properties.
- The rail is a significant barrier preventing connection with South Eveleigh. A new connection would improve access and amenity, however there are a range of other considerations and potential impacts arising from additional connections.
- There is little visual connection from Wilson St, with the site isolated from the community.

Figure 5.4.1.1 - Photograph of Traverser No. 1 between Carriageworks (R) and Paint Shop (L)

6.0

Connecting with Country

6.1 Connecting with Country

6.1.1 Insights through work with Cox Inall Ridgeway

"Redfern was the real Central ! Everybody came here.
It was the connection hub between the city and the country."

Central to Eveleigh Corridor: Aboriginal and Historical Heritage Review, Final Report, Sept 2015. p78

Study Requirements

Prepare a response in relation to the Connecting with Country framework, in consultation with the GANSW to embed an understanding of Country into the renewal of Redfern North Eveleigh Precinct. The Connecting with Country narratives and themes that emerge from the Framework must be interwoven throughout the Redfern North Eveleigh Precinct planning package.

Design Integration process

A number of workshops were held with Cox Innal Ridgeway at the early stages of the masterplan design work, to inform the design on aboriginal heritage, current issues and future opportunities. Balarinji and Artefact were subsequently engaged for consultation and further advice/ direction on Country. Refer to following reports, including summary of consultation with GANSW:

- Aboriginal Heritage Interpretation Strategy Consultation Summary Report
- Aboriginal interpretation strategy
- Aboriginal Cultural Heritage Study
- Connecting with Country Framework

CIR draft Framework

↓

Design Development

↓

Bates Smart Themes

↓

Design Development

↓

Balarinji Consultation

↓

Design Development

↓

CwC Framework

↓

Detailed Design Development in future stages

↓

The initial work with CIR included the following considerations:

Railway story

Paired with the importance of industrial rail heritage of the site, the influence on aboriginal life has emerged as a very important story, including

- Movement along the ridge in east west direction, reflecting a historic pathway related to food sourcing for the local community. The railway line follows the same alignment.

- Employment for the aboriginal community during construction and operation of the various rail related buddings.

- Departure and arrival with significance in more recent history (stolen generation) - Redfern being the real central - and in relation to this Redfern as the epicentre of the more recent aboriginal movements.

Water story

- Geological importance of the site as a ridge, shedding water in two directions.

- Water informing public open spaces as a place to gather and communicate.

Geology & Topography story

- The site with a distinct edge (4m drop).

- Edge and shelter informing potential for articulating this constraint into an opportunity as an activated edge.

- Sydney sandstone a typical and local material for the site.

Landscape story

- Understanding original landscape setting, the topographical impact resulting in two types of key landscapes (forest and swamps) to informing the overall landscape design.

- Selection of appropriate native vegetation in relation to the site.

- Reference to the rich variety of local vegetation to inform the planting palette and distribution on site.

These studies informed six key themes in the early development of the masterplan framework.

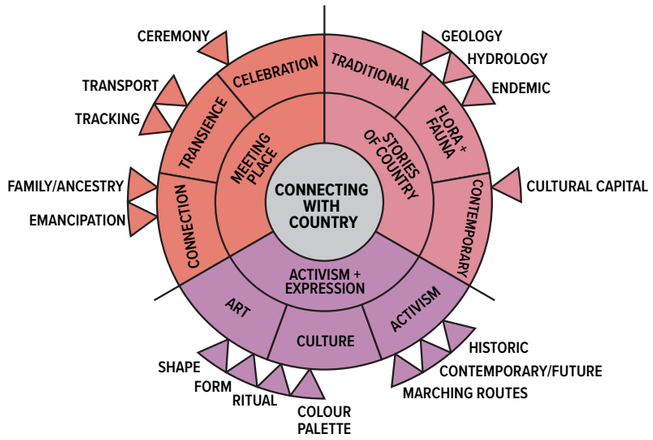
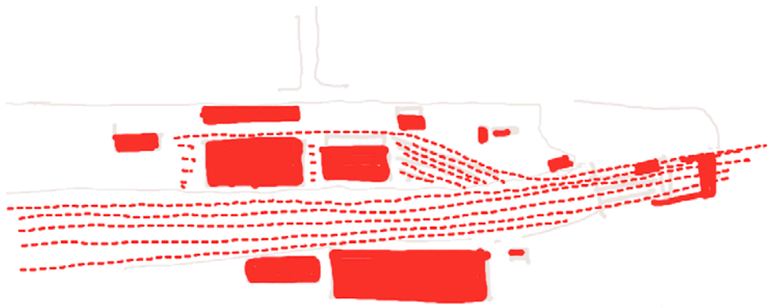


Figure 6.1.1.1 - Connecting with Country themes by Cox Innal Ridgeway

6.1 Connecting with Country

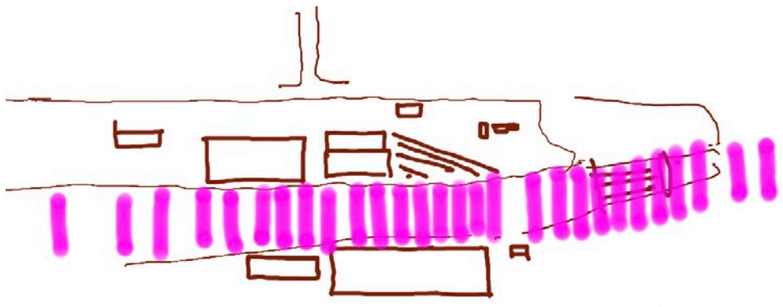
6.1.2 Bates Smart initial themes

These initial themes were established to guide the framework options on matters reating to Country, socially as well as from a placemaking perspective.



Work

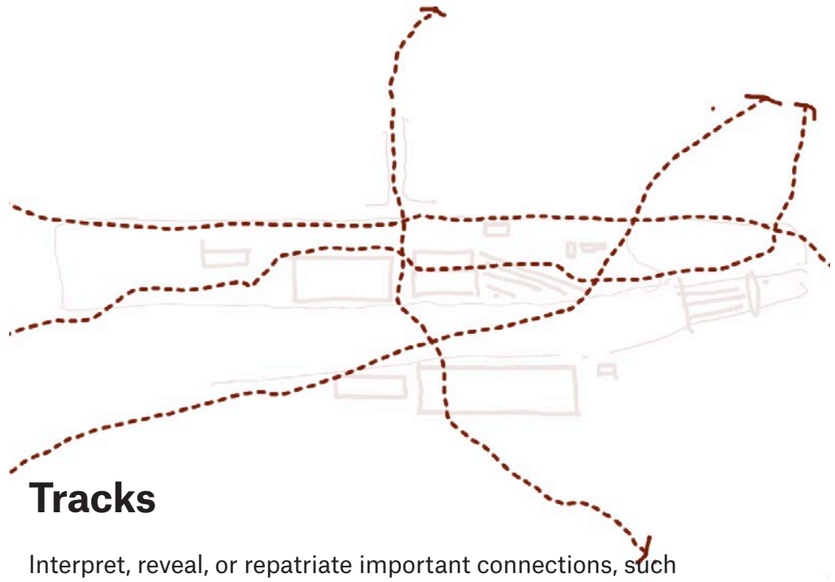
Were Aboriginal workers involved in all aspects or were some jobs (and therefore places) of particular importance?



Travel

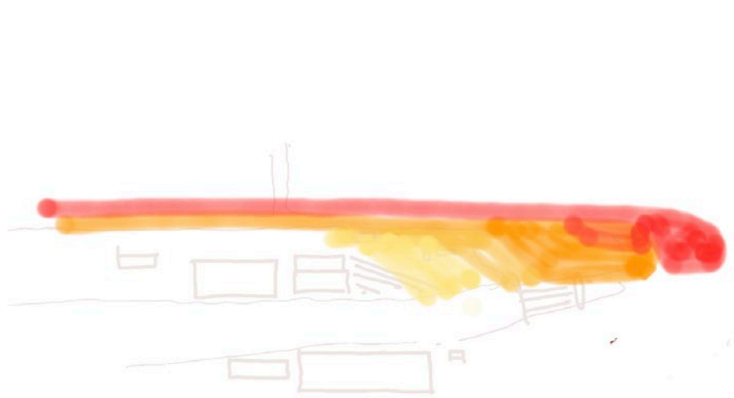
How might we acknowledge and amplify the importance of Redfern, its connection to wider Sydney?

Could we celebrate the theatre of arrival and departure?



Tracks

Interpret, reveal, or repatriate important connections, such as to the south - an important source of food and water for Aboriginal people

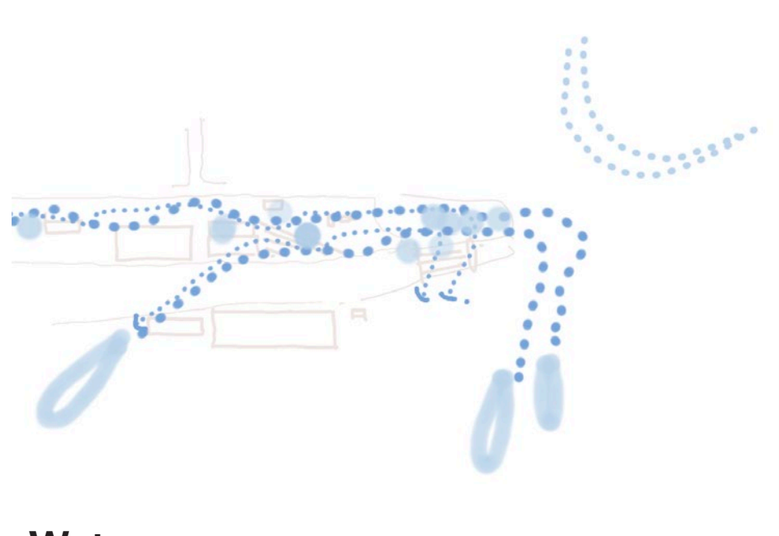


Geology

We are at the edge of sandstone-Sydney. The site is cut. How might be work with topography to both improve access and tell stories?

Flora

We are at the threshold between two former landscapes - woodland and swamp, Can pockets of purposeful landscapes provide a potent antidote to the industrial hard-scape?



Water

Water sustains life. We are at the threshold of two hydrological systems - Blackwattle Bay and Botany Bay.

How can we reveal and celebrate water on site?

Figure 6.1.2.1 - Connecting with Country themes by Bates Smart

6.1 Connecting with Country

6.1.3 Insights through work with Balarinji

Balarinji's engagement on the project and their community consultation process further informed and refined CwC themes in line with the early work established with Cox Inall Ridgeway for this site.

Adjacent six key themes have been identified by Balarinji for Connecting with Country design integration for the Redfern North Eveleigh Precinct. These key themes have strong links to the preliminary work carried out by both Cox Inall Ridgeway and Artefact, and have been further informed by community engagement work.

Figure 6.1.3.1 - Connecting with Country themes by Balarinji

6.1 Connecting with Country

6.1.4 Conceptual alignment + the influence of Country in the design process

The following table demonstrates the alignment between the six Connecting with Country Narratives and Themes identified by Balarinji and the preceding work undertaken by Cox Inall Ridgeway, Bates Smart / Turf, and Artefact.

Please also refer to chapter 9.7.1 for Urban Design Initiatives, a summary of opportunities identified in the masterplan for the integration of CwC themes and initiatives.

Balarinji Connecting with Country Themes	1. Regenerating Country	2. Replacing Landmarks	3. A Meeting Place	4. Legacy of Sydney Trains	5. Iconography of County	6. Custodianship
	a. Due to the industrial history of the site the Country of the RNE Precinct is in need of regeneration. b. This would include cleaning Country of chemicals from the industrial processes carried out on site. c. Through regenerating Country it will allow the 'County under the concrete' to remerge and begin the restoration of the spirit of the site.	a. The traditional landmarks of Country have been obscured by the City, however Country and many of its landmarks are still under the concrete. b. Landmarks of Country can come in many forms including but not limited to; ecological, spatial and functionality of Country. c. By replacing landmarks, or acknowledging the traditional functionally of Country this can contribute to the restoration of Country.	a. Acknowledging RNE as a contemporary meeting place through its function as a major place of employment for the Aboriginal community from the late 1800s – 1980s. b. This function as a community gathering space is an example of a landmark that can be replaced by the design of the new precinct. By providing unstructured space for the community to gather, this replicates the function of Country as a gathering space.	a. The railways were one of the first employers of Aboriginal people in Sydney. Community moved into Sydney from regional areas for employment opportunities. b. Sydney Trains is still one of the largest government employers of the Aboriginal community today.	a. Acknowledge the unique nature of Gadigal Country through the integration of the icons/symbols of Country b. These include but are not limited to Sydney Rock Art Engravings, Integration of The Sydney Language, Native Planting that acknowledges the Six Seasons of Sydney	a. Commit to a community led approach to Indigenous Design and Art Integration b. Provide space for the locally connected Aboriginal community to practice culture and care for Country c. Regenerate Country in collaboration with Community Run Organisations d. Acknowledge that this site is culturally significant for the locally connected Aboriginal community.
Links to Cox Inall Ridgeway preliminary themes *Three primary themes supported by a series of sub-themes and elements (May 2020)*	Stories of Country	Stories of Country	Meeting Place	Meeting Place	Activism + Expression	Activism + Expression
Links to Bates Smart preliminary design themes *These six design themes were prepared by Bates Smart in response to the preliminary themes identified by Cox Inall Ridgeway. These design themes influenced the early masterplan concept development.*	Geology, Flora & Water	Geology, Flora & Water	Travel & Tracks, Work	Travel & Tracks, Work		Work
Links to Artefact preliminary Heritage Interpretation Theme *These three themes were prepared by Artefact during the Masterplan process and have informed the design development.*		Mura (trackways) and Ngurang (places)	Mura (trackways) and Ngurang (places) Yirran (very, great, large, many)	Gabara (head), Damara (hand) and Butbut (heart) Yirran (very, great, large, many)	Mura (trackways) and Ngurang (places)	Heart of Aboriginal Sydney, Large and Many - Gadigal & Diverse Aboriginal Community Gabara (head), Damara (hand) and Butbut (heart)

Table 6.1.4.1 - Alignment between Connecting with Country themes

7.0

Urban Design Principles

7.1 Strategic Alignment

7.1.1 Vision, Principles and Plans

Study Requirements

Includes a set of urban design principles that underpin the proposed development;

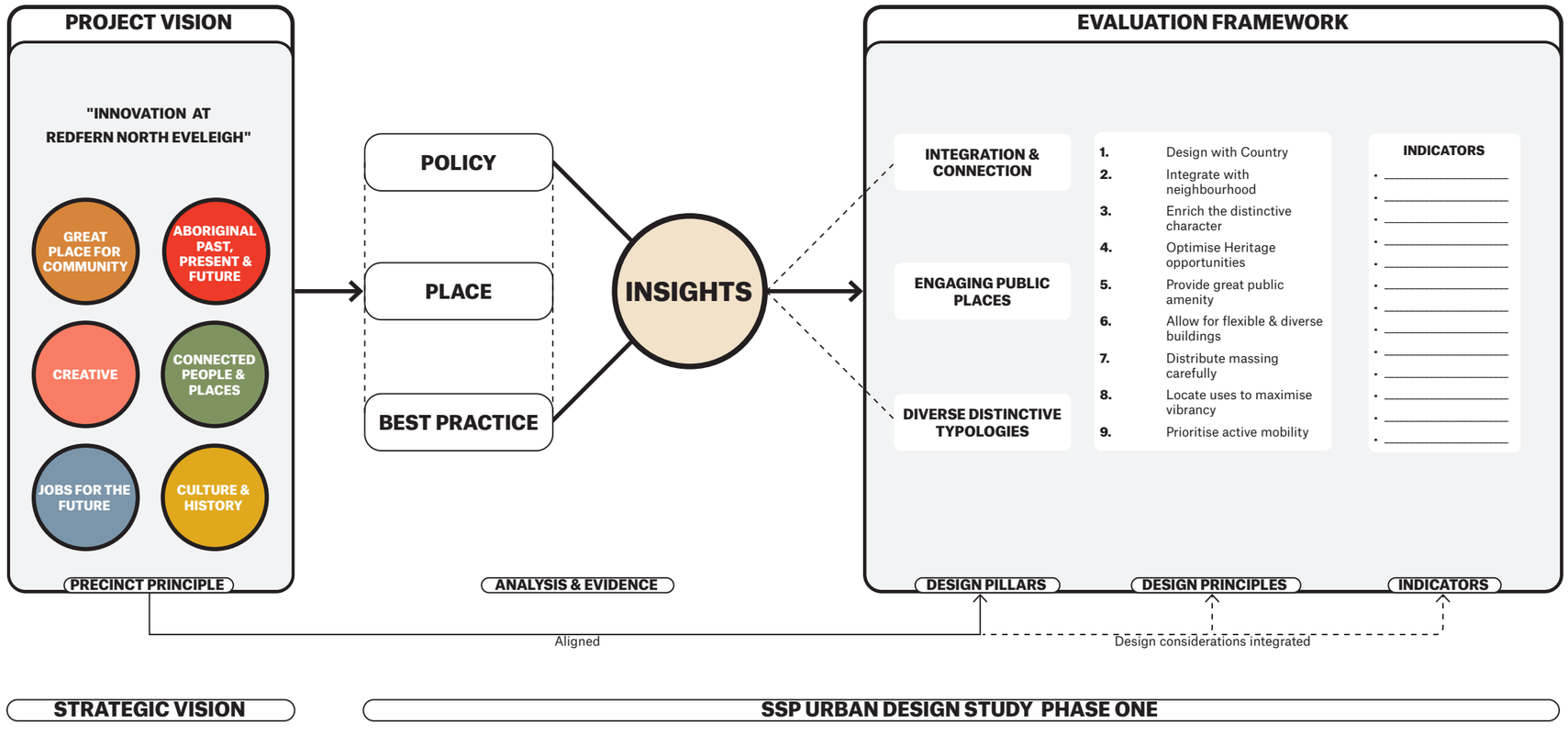
As outlined in chapter 1 of this report, the Strategic Vision for Redfern North Eveleigh (March 2021) sets out the overarching project vision, priorities, and precinct renewal principles.

These principles will guide many aspects of the future development and delivery of the site, including, but not only, design.

As such, we have developed complementary design pillars and design principles tailored to expressly support the urban design and master-planning components of this SSP study.

There is clear alignment between the overarching vision and the more granular design principles. This will assist to ensure that the development and evaluation of design options is always aligned with the broader project aspirations.

The chart adjacent describes the process for developing the evaluation framework for RNE, consisting of the Design Pillars, Urban Design principles and Indicators for the evaluation of the proposal.



7.2 Design Insights

7.2.1 A summary of key insights drawn from our analysis of Policy, Place, and Best Practice.

Policy Insights

A summary of key policy items relevant to RNE.

— The policy aspirations for Innovation at Redfern North Eveleigh appear substantially aligned between State & Local Government, as well as vertically through the hierarchy of instruments.

— There is very strong emphasis on creating high quality places, providing excellent amenity, and responding to the existing qualities of a neighbourhood.

— The recurrent emphasis on the importance of landscape and ambitious greening targets will be important considerations.

— The City's capacity study identifies few sites that could contribute floorplates of a size to underpin an innovation district, reinforcing the importance of Redfern North Eveleigh.

— Whilst the innovation papers identify a broad range of success factors for innovation districts, the emphasis on creating distinctive and engaging places aligns very strongly with the other place-based design policy.

— The Connecting with Country Framework challenges the prevailing 'people-centric' paradigm and invites a different way of considering landscape, connection to place, memory, and culture. This suggests both different ways of approaching design and different outcomes.

Best Practice Insights

A summary of opportunities relevant to RNE taken from the benchmarking study carried out as part of the study requiremnts.

— Innovation precincts succeed or fail for a broad range of reasons. Good design - or in particular creating great places with excellent amenity - is cited in policy as an essential element of a successful innovation district. Our research confirms the importance of creating distinctive and engaging places.

— The success of an innovation district (or hub, or project) is inextricably linked to the integration with the 'host' neighbourhood. Places that are well loved and well used by a wide range of people are likely to have the amenity and vibrancy that specific 'tech' tenants require.

— Our case-study research reinforces the value of clever adaptive reuse of industrial heritage for two principal reasons - the capacity to provide unique and characterful workplaces for either anchor tenants or start-ups, and for the ready-made character they offer public spaces and the wider precinct.

— Access, integration, and connection are critical. Great pedestrian connectivity needs to allow easy movement between major participants in the district as well as promote serendipitous interactions among individuals.

— Mixed use neighbourhoods enable activities at different times of day and night, and avoid a business park atmosphere.

— Digitally enabled central gathering space to enable informal encounters and cluster activity to promite innovation.

Place Insights

Insights taken from the detailed site and context analysis with issues and opportunities relevant to RNE.

— The industrial heritage is diverse - large & small, buildings & artefacts. The value is collective but generally experienced episodically rather than holistically.

— Most of the site is setdown from Wilson Street, disconnecting the site from the neighbourhood, and the fence provides a visual barrier.

— Active operational railway lines form the southern boundary of the site. Relief from the railway line operations is found in sheltered spaces where buildings form a buffer to the railway line.

— The site has very few trees and is susceptible to urban heat island effect.

— Wilson Street has two characters. Terraces one side, industrial on the other. There have long been dichotomies - small vs large, quiet vs noisy, residential vs industrial.

— The wider neighbourhood is mixed, comprised of low-scale terraces sitting adjacent larger (institutional) buildings.

— Some tall buildings are emerging in the locality - generally in close proximity to stations

— The breadth of the rail-lines means tall buildings can be accommodated without excessive overshadowing of existing public open spaces or neighbouring residential properties.

— The rail is a significant barrier preventing connection with South Eveleigh. A new connection would improve access and amenity, however there are a range of other considerations and potential impacts arising from additional connections.

7.3 Design Pillars

7.3.1 Three high-level themes have emerged from our analysis as being critical to the urban design and master-planning for a world-class innovation precinct at Redfern North Eveleigh. It sets up a set of more specific Urban Design Principles summarised on the following pages.

Create distinctive and engaging places

Redfern North Eveleigh is already rich and interesting and distinctive. The most obvious character resides in the industrial heritage. But we are also interested in learning from Country to develop a precinct defined by places with many layers - ancient, ephemeral, industrial, contemporary, and enduring.

To achieve this, we need to work with the idiosyncrasies of the place and resist generic approaches.

This kind of place will be extraordinary and resonate with both the innovation sector and the wider community, enriched with the opportunity to create a new destination in Sydney.

Provide connections to promote exchange

Providing opportunities for social, intellectual and economic exchange is common to creating resilient communities, productive economies, and successful innovation districts.

At Redfern North Eveleigh, it is essential that we establish the most efficient connections across the wider district as well as the most effective opportunities for serendipity and chance encounter.

Establish intensity and diversity of users

The Innovation Sector is an ecology made up of many different types and scales of business, institutions, and participants. They thrive in environments offering critical mass and the right range of accommodation and facilities, including a different building types and sizes.

Establishing the right blend of uses, concentrated in key places, will help create a safe, vibrant, welcoming, and interesting place, essential to its success as an innovation precinct and neighbourhood, and complement what's provided elsewhere in Tech Central.

7.4 Urban Design Principles

1. Connecting with Country

Collaborate with Aboriginal design specialists and with local Aboriginal community as part of the design process. Understand and interpret their understanding of the site and the wider context, community to inform the structure, character, and resolution of the masterplan.

Rationale

To ensure the values and knowledge of the Traditional Custodians of the site influence the future of the site.

Eveleigh is Gadigal Country.

We acknowledge their ownership of this land and pay our respects to past, present and emerging elders.

Source: Redfern Stories Wordpress

2. Integrate with the neighbourhood

Develop a network of spaces and pedestrian linkages that allow seamless connections with the adjoining neighbourhoods, services and infrastructure, including a direct link to the new Southern Concourse of Redfern Station.

Respect the scale and residential nature of Wilson Street but provide lots of opportunities and reasons to connect into the site by creating frontages, connections and entrances that are legible, engaging and welcoming and streets that are creative, active and easy to navigate.

Provide visual connections between the existing streets and new public places of elements with strong character, including the heritage within the wider precinct.

Rationale

To ensure the site becomes an intrinsic part of the daily life of the wider neighbourhood and to link together the other participants in the wider innovation district.

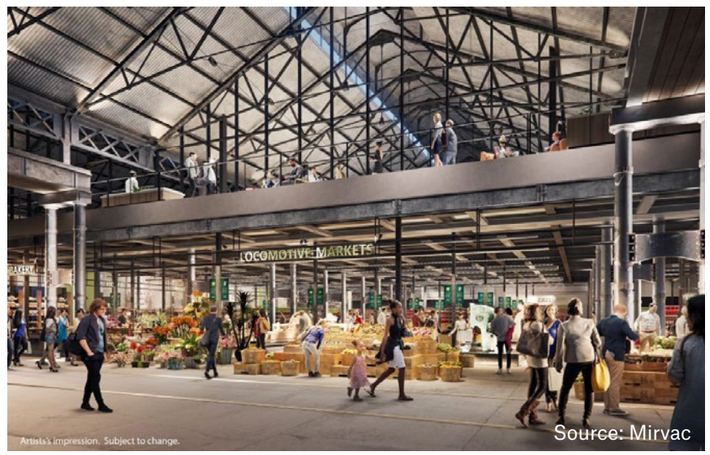
Source: Christie Moore Photography

3. Enrich the distinctive character

Make use of the rich histories of the site to create a memorable place with a distinctive, defined urban character. Reinforce authentic local characteristics, qualities and attributes, drawing on both tangible and intangible heritage and cultural value. Allow this attitude toward character to influence the project at a variety of scales – from site organisation, building elements, activities and atmospheres. Incorporate public, community and cultural art for a unique identity and a sense of belonging, building up on the Carriageworks sub-precinct.

Rationale

To establish attractive places with a clear identity that invites visitors, prospective residents and commercial tenants, bringing investment and fostering a sense of local pride.



Source: Mirvac

7.4 Urban Design Principles

4. Optimise Heritage opportunities

Utilise tailored approaches to each of the heritage elements to ensure their retention and innovative integration respects their individual and collective heritage value, and contributes productively to the identity and operation of the innovation precinct.

Integrate the existing context in place and fabric to inform the character of the development. Use heritage as a catalyst for a rich place-making concept and public realm design, that places RNE in a unique setting and distinct identity.

Prioritise public settings for the heritage buildings, allowing legible expression of important visual or functional relationships between items.

Rationale

Establishing balanced and practical approaches to heritage can assist with their ongoing management and underpin the innovation district vision by providing unique buildings and places.

5. Provide great public amenity

Create a unique sense of place and well-designed, safe and accessible public spaces – including great streets, great open spaces, and great public facilities, contributing to the wider network and neighbourhood needs of Redfern and Darlington. Bring creativity residing in the broader Redfern North Eveleigh area and within the precinct into the streets of North Eveleigh.

Create a range of types of open space, varying in sizes and configuration and connecting to wider networks, that can accommodate a wide range of events, activities and informal social interactions.

Consider day and night to successfully create vibrant public and private spaces that are used and loved from early in the morning to late in the evening and over weekends. Make sure that all areas are walkable, accessible and easy to reach for people to move through and within it.

Consider an appropriate range of climatic experiences to serve the different seasons in the year and create comfortable micro-climates in streets and public open spaces. Thoughtfully integrate public art in context with the neighbourhood offer.

Rationale

To formulate a public realm network with identity, character and activities that will attract tenants, local residents and commuters to create a buzzing environment.

6. Support innovation with flexible & diverse buildings

Provide a variety of development opportunities that cater for the needs of potential innovation tenants through specific tailored development typologies as well as an inherent flexibility to respond to change.

Provide opportunities for large sophisticated anchor tenants as well as smaller scale and less mature businesses. This may involve smaller discrete buildings or integration within larger development. Some large contiguous floor-plates are likely to be required. Reuse of the heritage buildings provide unique opportunities to spaces of different sizes, character, and / or price points. Building footprints should generally be configured to allow for flexible design with adaptable spaces, open floor plans and accessible ground floor spaces. Attract innovation tenants by revitalising the heritage jewels of North Eveleigh.

The public domain framework should also provide a level of flexibility, supporting ongoing temporary reprogramming and activation, or periodic re-purposing as the precinct evolves.

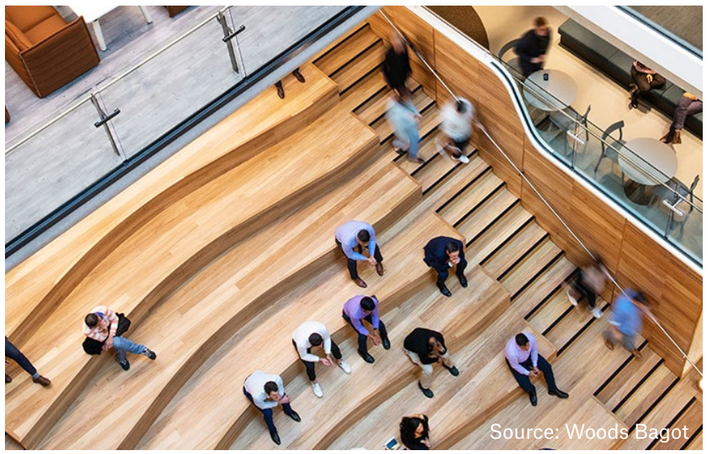
Provide an innovative approach to a diverse residential offer, to generate a healthy social mix and a strong connection with the surrounding neighbourhood.

Rationale

To ensure the initial development proposition and ongoing delivery framework meets the needs of the desired investors, operators, and users.


Source: Robert Catto


Source: Allies and Morrison


Source: Woods Bagot

7.4 Urban Design Principles

7. Distribute massing carefully

Building massing and height be configured carefully to ensure comfortable relationships with sensitive interfaces within or around the site, including the heritage buildings and low-scale residential neighbours.

Taller buildings should be located to relate to the contextual pattern of tower clusters near stations or along corridors, and to minimise detrimental impacts such as overshadowing. The breadth of the rail lines means significant height can be accommodated without overshadowing existing public open spaces in South Eveleigh.

Development in proximity to the low-scale existing buildings should have regard to the existing fabric but need not match their heights. Some contrast is acceptable but new development should not overwhelm the existing buildings. Podiums and upper floor setbacks can help to mitigate a sudden change in scale.

Consider the visual impact – and resulting micro-climatic effects – of groupings of tall buildings. Consider strategies such as varying heights or offsetting towers to create visual interest and good amenity within the private development and public domain.

Rationale

To provide the right level of intensity to underpin the economic activity and public life of the precinct in a way that responds to the context, and maintains good public and private amenity.

8. Locate uses to maximise vibrancy

Provide a genuinely mixed-use neighbourhood. Organise land-uses and aggregate uses that benefit from concentration but also provide a blend and distribution that creates appropriate levels of activity at different times of day or night.

Encourage the organic inclusion of a lots of different land-uses including commercial, residential, research, education, childcare, community, civic, cultural, retail and entertainment uses. Provide attractive and prominent locations for secondary uses such that they have a significant presence in the site regardless of their quantum of floorspace.

Focus any retail offer should be driven by connectivity, definition of primary open spaces, in consideration of pedestrian movement in and around the site, and in response to people's daily needs.

Organise the most intensely accessed, and most public of uses, around the key public open spaces.

Rationale

To create a good mix distribution that will improve balanced activity across the site and at different times.

9. Priorities active mobility

Prioritise active mobility and first and foremost make the site walkable for people of all ages and abilities. Establish clear, safe, accessible and engaging pedestrian environments that make movement easy but also promote chance encounters – places for people to bump into people.

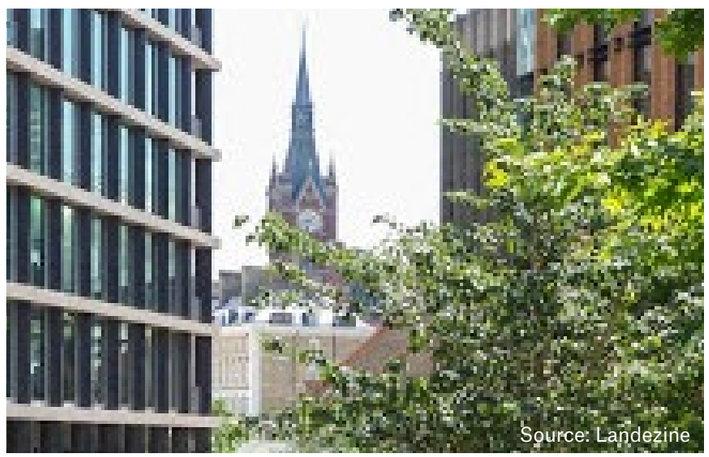
Make the connections to all available public transport links in walking distance as easy and attractive as possible, including a link to the new southern concourse of Redfern station. Consider shelter, shade, level changes, lighting and public art to promote the idea of active and creative streets.

Create a safe cycling environment, including minimising the impact of vehicles on the Wilson Street cycleway, and consider providing complementary bike path(s) through the site.

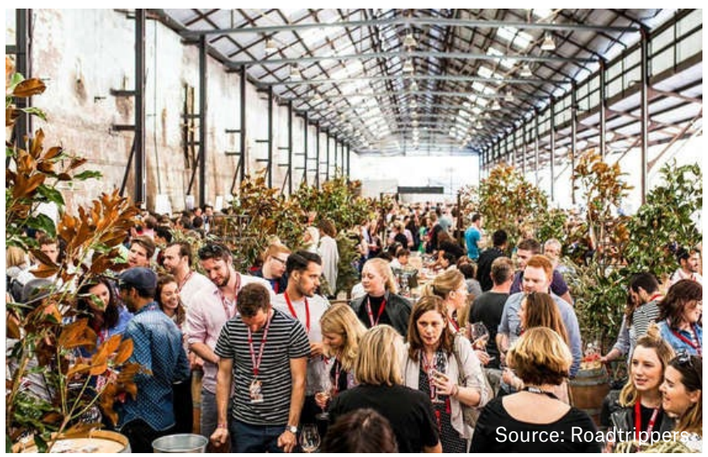
Promote a pedestrian priority environment, with vehicular movement intuitive and easy to navigate, and logistics movement minimised and integrated discretely.

Rationale

To increase people flow and connectivity by considering accessibility to and from the site.



Source: Landezine

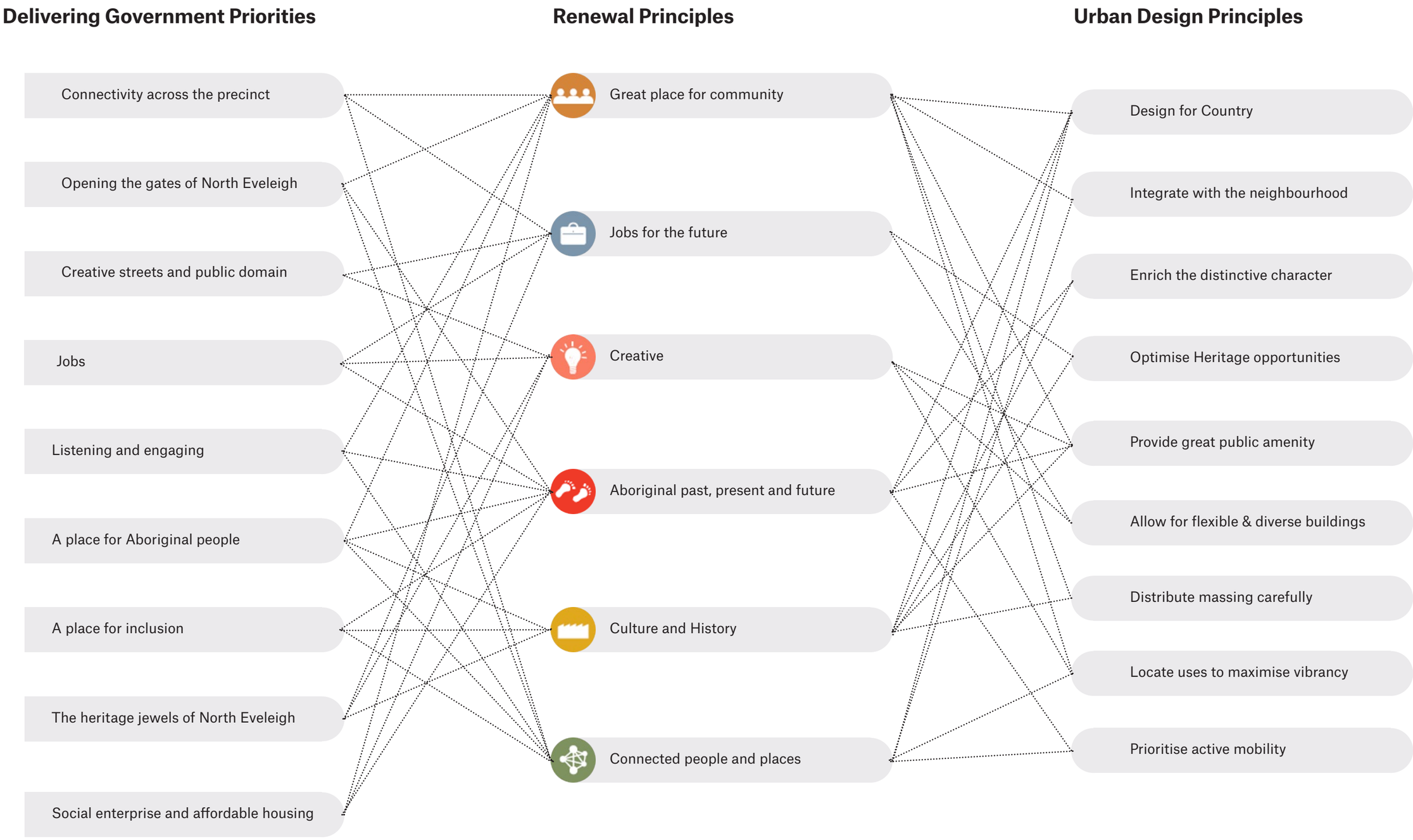


Source: Roadtrippers

Source: Christie Moore Photography

7.5 Project Vision

7.5.1 Alignment of Urban Design Principles with SSP Government Vision



8.0

Development Options and Evaluation

8.1 Development Options
8.1.1 Overview of process

Study Requirements

Development options for the precinct and sub-precincts, including testing various land use scenarios, building envelope forms and distributions of the proposed GFA, in relation to the public domain provision in the precinct;

Assessment of the likely impacts resulting from the proposal including the benefits and constraints of each option in relation to the urban design principles;

Options development process

Initial design studies and preliminary options were developed in response to the comprehensive analysis of relevant policies, benchmarking, site and context analysis, and the urban design principles described in the previous chapters. This concept design process was highly iterative and included engagement with relevant stakeholders, including the Design Review Panel.

The preliminary design options were formalised as three distinct options for evaluation and refinement.

Three masterplan development options

Three detailed concept plan options were developed on the basis of the initial studies. These options test various land use scenarios, building envelope forms and distributions of the proposed GFA, as well as different approaches to the distribution and character of public domain provision in the precinct. These Options are summarised in section 8.1.2-5 of this report.

Evaluation + refinement

The three masterplan options were evaluated to assess the likely impacts, benefits, and constraints of each option in relation to the urban design principles. This evaluation identified a preferred approach (Nominated Option 8.3.1). Further refinement of the nominated option addressed feedback provided by the Design Review Panel and emerging specialist inputs. This resulted in the Preliminary Masterplan summarised in 8.4.1 of this report.

Preliminary Masterplan - stakeholder feedback

The preliminary masterplan was subject to detailed review by stakeholder groups including the Project Working Group facilitated by the Department of Planning and Environment (DPE) and which includes representation from DPE, Government Architect (GANSW), Greater Sydney Commission (GSC) and Heritage NSW. Additional direct engagement occurred with parties including City of Sydney and NSW Heritage Council.

The stakeholder engagement identified a number of key items warranting further refinement, and / or further supporting evidence to justify the proposal.

Masterplan Refinement - response to stakeholder feedback

The final masterplan presented in Chapter 9 and 10 of this report addresses the key stakeholder feedback identified in their review of the Preliminary Masterplan. Refinements include a significant reduction of GFA, substantial increase in public open space, and more sensitive response to the important heritage qualities of the precinct. Specific refinements are identified in section 8.5.1.

Evaluation Methodology

An important part of the masterplan development and refinement process has been the ongoing evaluation against assessment criteria.

All assessment criteria reflect the urban design principles (as outlined in the previous chapter) established through review of relevant policies, site and context analysis work, a benchmarking assessment of international best practice precedents and a series of design studies, testing individual settings such as the Paint Shop building as well as sub-precinct wide development and yield studies. This work culminated in key insights that inform the urban design principles, which are also reflected in and cross referenced against the renewal principles of the project vision. Insights from this work generate a number of indicators in each urban design principle, some with measurable criteria, others with detailed cues to provide a finer grain in evaluating the overarching urban design principles.

2008 Masterplan

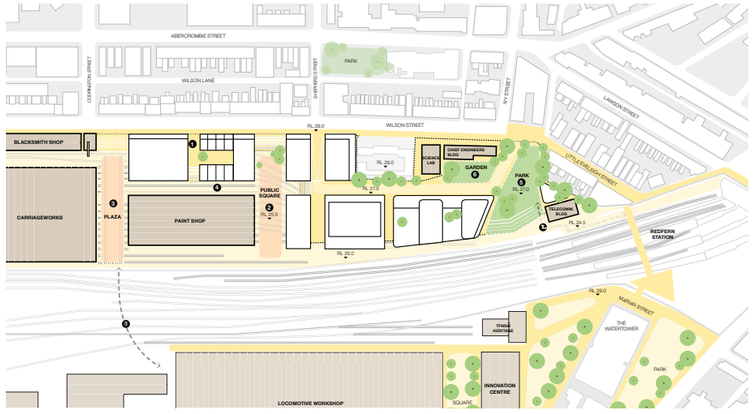
The approved masterplan has been added to this evaluation as a valuable comparison against an endorsed scheme. Key insights have been gathered from the work carried out in 2008, including the shortfall of that plan in relation to the changes around RNE since the approval in 2008, informing the design direction taken for the work as described in this report.

8.1 Development Options
8.1.2 Overview

The below three options were established through design studies of the sub-precinct, testing various development scenarios. In addition, particular interfaces and settings were investigated to inform the developed options, including the placement of open spaces, distribution of land uses, height, settings for the Paint Shop building and fan of tracks, the setting of the CME building and the interface with Wilson Street. Options A, B and C summarise these studies, with different benefits from the studies reflected in these different options.

Option A

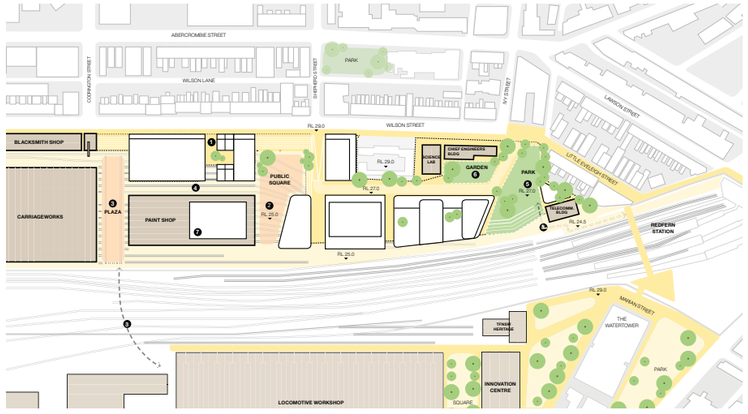
A dense development option with limited public open space. Park at eastern end opens up to rail, offering visual connections across to South Eveleigh. Linear open spaces to either side of the Paint Shop building. Paint Shop building repurposed with no additional development on the plot.



	OPT A		
	Paint Shop Sub-Precinct	Combined Precinct	
	Area (m2)	Area (m2)	% Whole Site
Site Area	50,760		
			uplift
Total GFA	**161,887**	247,173	39.2%
Residential GFA	48,171	98,869	40.0%
Commercial GFA	113,716	148,304	60.0%
# Of Residential Units* (based on 76.4m2/ unit)	555	1,265	

Option B

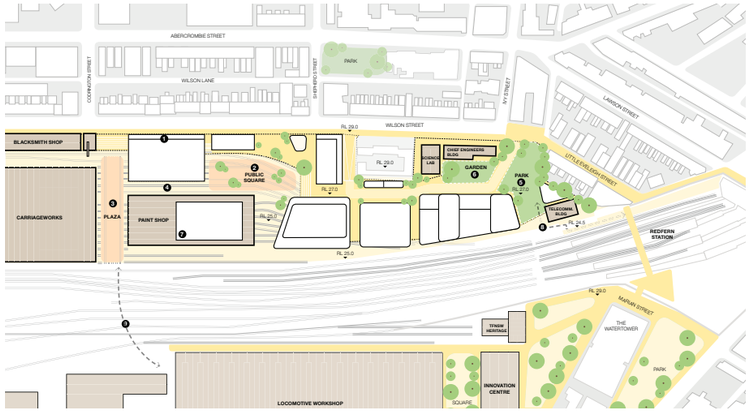
Public open space in north-south direction offered along Wilson Street, connecting to Paint Shop building. Connection to rail corridor tightened up. Development on top of Paint Shop building introduced.



	OPT B		
	Paint Shop Sub-Precinct	Combined Precinct	
	Area (m2)	Area (m2)	% Whole Site
Site Area	50,760		
			uplift
Total GFA	**161,387**	246,673	39.0%
Residential GFA	48,178	98,876	40.1%
Commercial GFA	113,208	147,796	59.9%
# Of Residential Units* (based on 76.4m2/ unit)	555	1,265	

Option C

Public open space adjacent Paint Shop building rotated into east-west orientation. Larger commercial development plots clustered around this open space. Eastern Park with greater enclosure towards the rail corridor.



	OPT C		
	Paint Shop Sub-Precinct	Combined Precinct	
	Area (m2)	Area (m2)	% Whole Site
Site Area	50,760		
			uplift
Total GFA	**160,537**	245,823	38.5%
Residential GFA	47,765	98,463	40.1%
Commercial GFA	112,772	147,360	59.9%
# Of Residential Units* (based on 76.4m2/ unit)	550	1,260	

8.1 Development Options

8.1.3 Option A

Option A explores the maximum distribution of buildings on the ground to enable reduced height to some of the development plots, including no over-development over the Paint Shop building.

This results in limited public open space, reduced to the eastern end of the site.

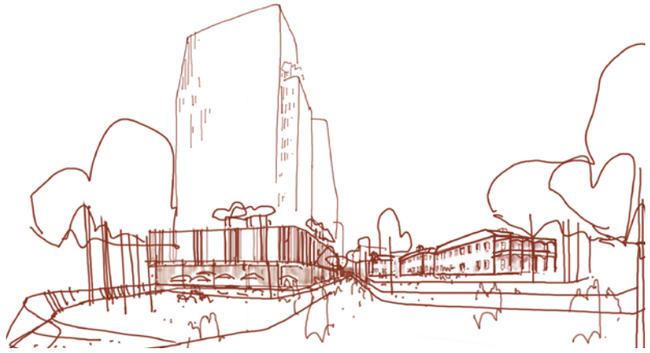


Figure 8.1.3.1

Figure 8.1.3.2

Key Observations

- Building edge on Wilson Street with limited visibility into the site.
- Long and narrow open spaces predominantly in north south direction with poor solar access and subject to noise from the train line
- Eastern Park opening to train allowing good line of sight to South Eveleigh, but exposing park to noise.
- Benefit of spreading out footprints only reduces a small number of floors and comes at the cost of limited public open space.

Key Features

1. Mixed-use / residential development integrated with Wilson St
2. Public Square - sunken court
3. Plaza - edged by Carriageworks and Paint Shop
4. Centralised E-W spine with large format commercial use along railway, close to Station and providing acoustic buffer
5. Small park at station end, providing inviting entry
6. CME building garden space
7. Link to Platform 01
8. Potential future bridge connection (Detailed consideration is outside the project scope and does not have NSW Government funding)

Note: Refer to Appendix for Detailed Option Layers

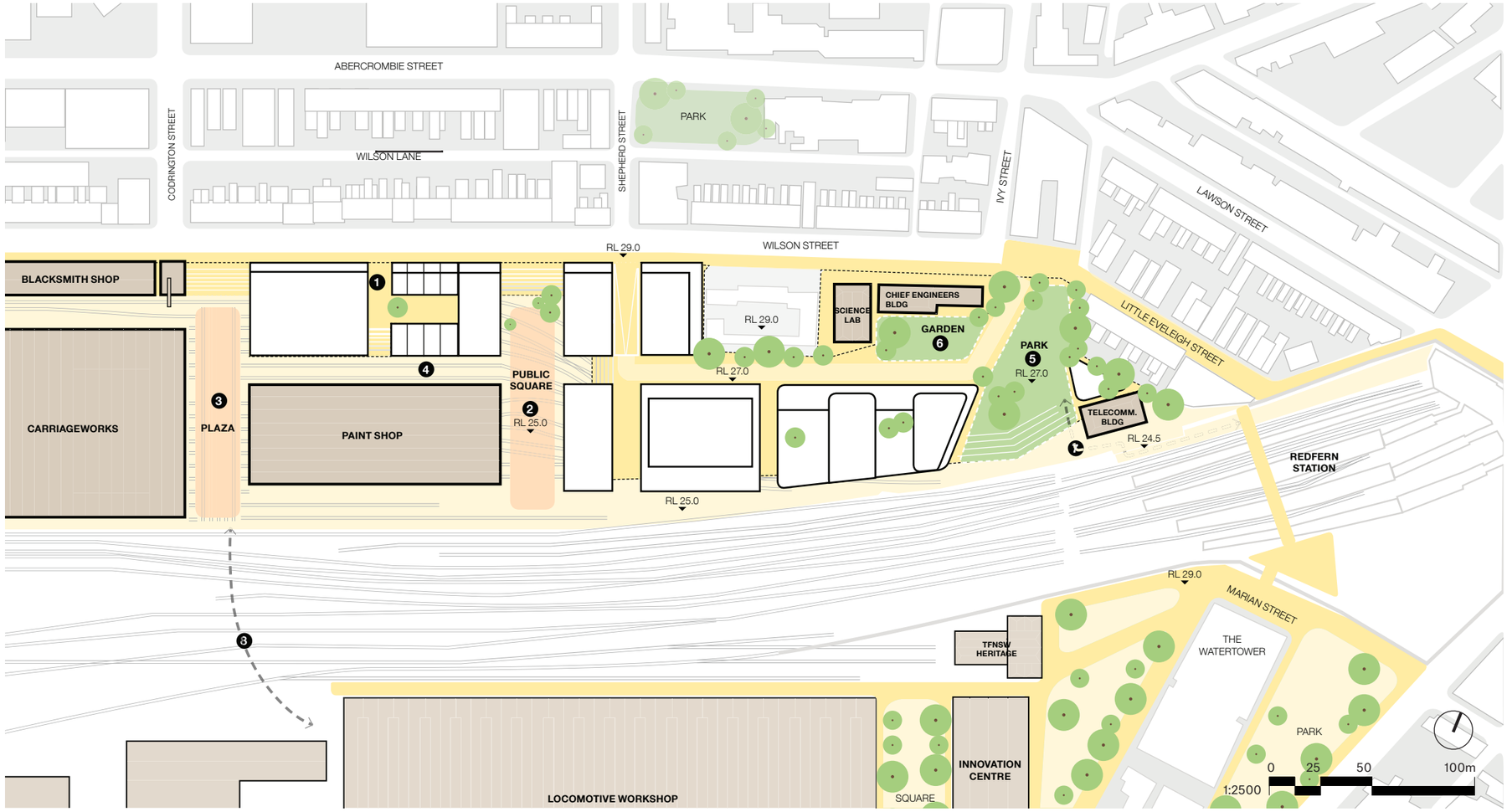


Figure 8.1.3.3

8.1 Development Options
8.1.4 Option B

A new public open space is created along Wilson Street at the junction to Shepherd Street. The built up area removed is redistributed onto development along the railway, and as an over-development plot onto the Paint Shop building.

Key Observations

- New public open space opening up to Wilson Street and offering views onto the Paint Shop building.
- Building opposite Paint Shop with tapered facade to allow for some noise mitigation from the rail.
- Public open space with improved solar access.

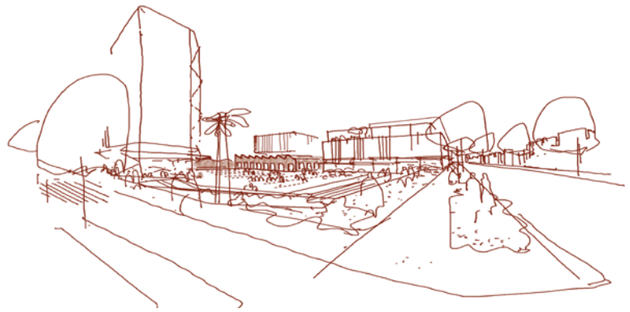


Figure 8.1.4.1

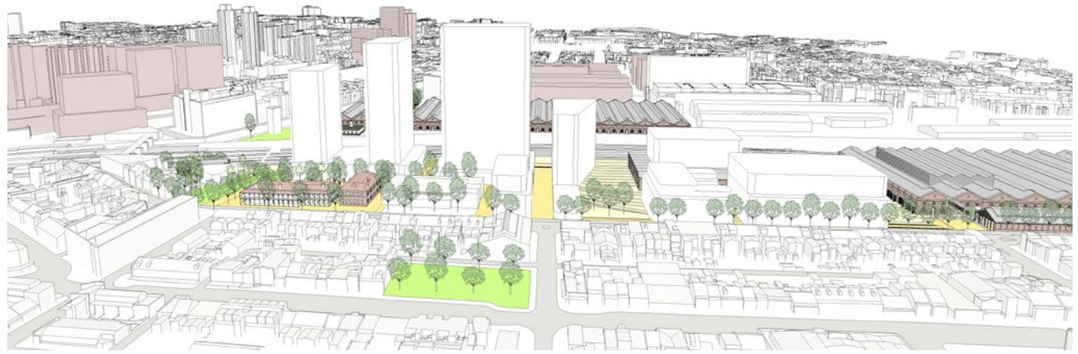


Figure 8.1.4.2

Key Features

1. Mixed-use / residential development integrated with Wilson St
2. Public Square - sunken court
3. Plaza - edged by Carriageworks and Paint Shop
4. Centralised E-W spine with large format commercial use along railway, close to Station and providing acoustic buffer
5. Small park at station end, providing inviting entry
6. CME building garden space
7. Development above Paint Shop
8. Link to Platform 01
9. Potential future bridge connection (Detailed consideration is outside the project scope and does not have NSW Government funding)

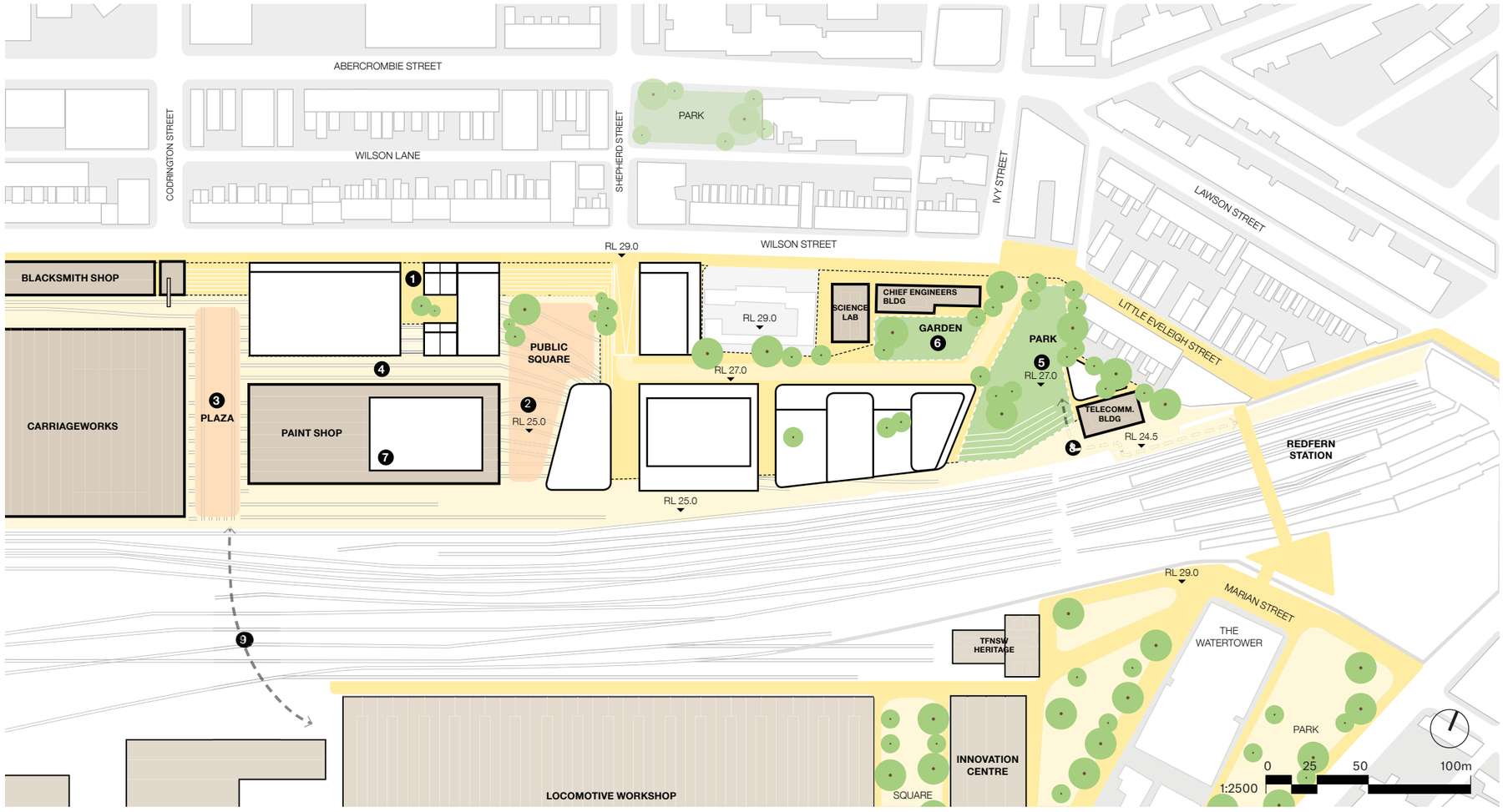


Figure 8.1.4.3

Note: Refer to Appendix for Detailed Option Layers

8.1 Development Options

8.1.5 Option C

Reorientation of the central public open space allows for greater connection to the community and improved visibility of the Paint Shop building. The residential plot on the eastern end encloses the open space more for improved definition of this space.

Key Observations

- Public square with east-west orientation for better connection to Wilson Street and improved solar access.
- Less intensity on Wilson Street for improved relationship to existing urban grain.
- Largest commercial building located closer to central square for improved intensity.
- Eastern end with better definition of public open space and clear integration of heritage buildings as part of this area.

Figure 8.1.5.1

Figure 8.1.5.2

Key Features

1. Commercial development integrated with Wilson St
2. Public Square - a large central square
3. Plaza - edged by Carriageworks and Paint Shop
4. Centralised E-W spine with large format commercial use along railway, close to Station and providing acoustic buffer
5. Small park at station end, providing inviting entry
6. CME building garden space
7. Proposed development above Paint Shop
8. Link to Platform 01
9. Potential future bridge connection (Detailed consideration is outside the project scope and does not have NSW Government funding)

Note: Refer to Appendix for Detailed Option Layers

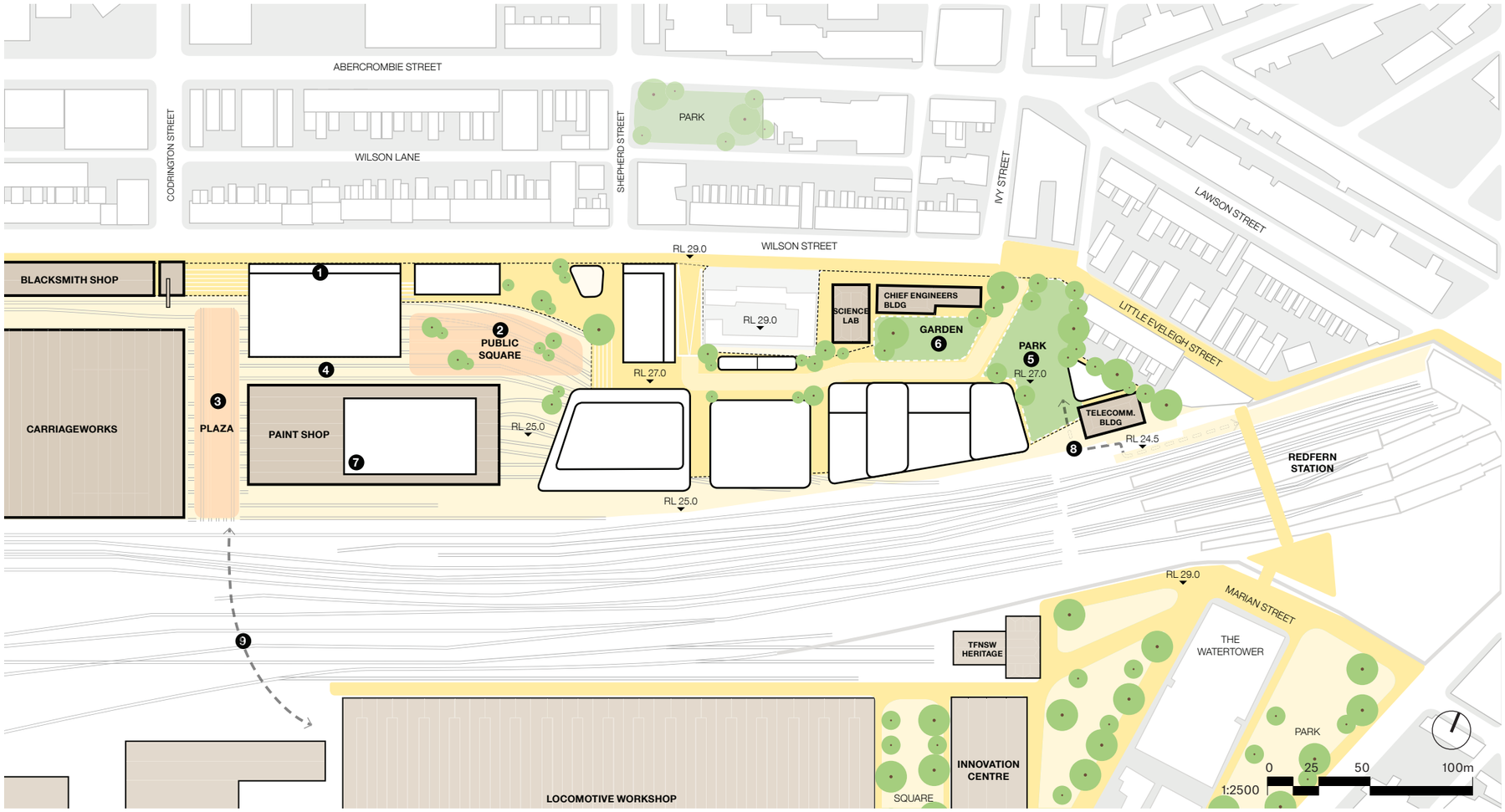


Figure 8.1.5.3

8.2 Options Evaluation

8.2.1 Alignment with Project Vision

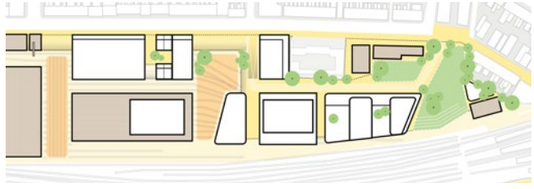
As described at the start of this chapter, a number of indicators developed as part of the Urban Design Principles were developed to enable a detailed evaluation. This assessment takes into account feedback received from the DRP and other stakeholders.

The evaluation was carried out by relevant design team members and TfNSW, considering the likely impacts resulting from the proposal including the benefits and constraints of each option in relation to the urban design principles.

Greater detail in evaluation can be found on the next page, and the full assessment in Appendix A.6

2008 Masterplan

Option A



Option B

Option C

Renewal Principles

- Great place for community
- Jobs for the future
- Creative
- Aboriginal past, present and future
- Culture and History
- Connected people and places

Urban Design Principles

	2008 Plan	Option A	Option B	Option C
Design for Country	-	o	o	+
Integrate with the neighbourhood	+	o	+	+ +
Enrich the distinctive character	- -	- -	o	+
Optimise Heritage opportunities	- -	+	o	+
Great public amenity and vibrancy	o	-	+	+
Flexible and diverse buildings for innovation tenants	-	+ +	+ +	+ +
Distribute massing carefully	-	o	+	+
Locate uses to maximise vibrancy and innovation focus	- -	o	+	+ +
Prioritise active mobility	o	+	+ +	+ +
Total Score	**- 8**	**2**	**8**	**13**

- - very poor outcome
- - limited response to vision
- o neither good nor bad
- + acceptable outcome
- + + very successful response

8.2 Options Evaluation

8.2.2 Evaluation Matrix Summary

Urban Design Principles	Indicators	2008 Plan	Option A	Option B	Option C
Design for Country	Places that are welcoming for Aboriginal people (not too corporate, connected to ground, informal, outdoors, etc...)	o	o	o	+
	Landscape opportunities – celebrating topography / geology / water / indigenous flora and fauna.	-	o	+	+
Integrate with the neighbourhood	Multiple clear pedestrian entry points and visual connections along Wilson Street, aligning with urban grain.	+ +	+ +	+ +	+ +
	Open space configuration that contributes to needs of wider neighbourhood. (Equivalent to 2008 mp – pro rata adjustment to match added density)	o	- -	+	+ +
Enrich the distinctive character	A memorable place with distinctive identity characterised by industrial and aboriginal heritage, contemporary architecture and great landscape.	- -	- -	o	+
Optimise Heritage opportunities	Retention and adaptive reuse of significant buildings within prominent public setting and clear sightlines to heritage assets on site.	- -	o	o	+
	Approach to Paint Shop – minimise impact of adaptive reuse on extant fabric.	- -	+ +	+	+
Great public amenity and vibrancy	Variety of open spaces for events, activities, and informal social interactions **(see note 1)**	-	-	+ +	+ +
	Good solar access **(see note 2)**	+	+	+	+
	Potential to integrate green infrastructure to meet or exceed tree canopy targets.	o	-	+	+
	Ameliorate adverse wind conditions in streets and public spaces	n/a	-	o	+
Flexible and diverse buildings for innovation tenants	Flexible framework supporting easy early start, sequencing of construction, growth spaces, evolution (planning and delivery), early public benefits	-	+ +	+ +	+
	Variety of commercial buildings of different sizes and configurations **(see note 3)**	- -	+ +	+ +	+ +
Distribute massing carefully	Built form relationship to low-scale heritage buildings and adjacent context	-	o	+	+
	Placement, shape, and / or separation of tall buildings to minimise visual bulk, considering relationships between buildings and to public spaces	-	o	+	+
Locate uses to maximise vibrancy and innovation focus	Mixed uses across the site for appropriate level of activity during day and night.	- -	+	+	+ +
	Do-ability - Creation of innovation jobs supported by Destination potential and Fast track potential	- -	o	+ +	+ +
	Co-location of most intensive activities – relating to the innovation focus as well as retail, F+B, community, culture etc – around key public spaces.	- -	o	+	+ +
Prioritise active mobility	Clear, legible and engaging primary pedestrian link through the site, connecting key spaces, buildings and destinations.	o	+	+ +	+ +
	Address the level changes to provide equitable access from Wilson Street to the lower level.	- -	+ +	+ +	+ +
	Integrated vehicles discretely, minimising impact to public domain (including new open spaces and Wilson Street cycleway.)	o	+ +	+ +	+ +
Total Score		- 18	8	25	31

Table 8.2.2.1 - Evaluation Matrix Summary

Note 1

- including street experience,
- community links / 24 hour activity opportunity
- extent of public space into ground floor and ensuring public safety

Note 2

- to existing public domain off-site (4hrs to 50% mid winter)
- to new public domain on-site (4hrs to 50% mid winter)
- to on-site residential units (2hrs to 70% mid-winter)

Note 3

- small format (floorplates ~1000m2),
- mid-scale / campus (floorplates ~2500m2, buildings <25,000m2),
- commercial tower (floorplates >1500m2, building <50,000m2),
- Paint-shop as a large floorplate innovation anchor / warehouse spaces

8.3 Nominated Option

8.3.1 Key Refinements

Through the evaluation, Option C was identified as the preferred preliminary development option. This was supported in various stakeholder engagement meetings, including DRP meeting 3 (refer to Design Review Report in Chapter 9 for further detail).

Following this direction, the design was further interrogated, to refine the masterplan framework through technical coordination meetings and ongoing input from technical advisory groups. The following key areas were further interrogated:

1. Public Square

Setting and function of this main square, role and prominence of heritage buildings and fan of tracks, adjacency to Wilson Street and local community.

2. Wilson Street

Urban grain and mix of development along Wilson Street, openness to public square, view line in continuation of Carriageworks Way.

3. Road Network

Definition of roads to achieve active and creative streets, support pedestrian movement, link to platform 1 of Redfern Station, integrate service vehicles and basement parking without disrupting the pedestrian and cyclist experience.

4. Public Domain and trees

A clear definition of the three main public open spaces, street sections and tree distribution.

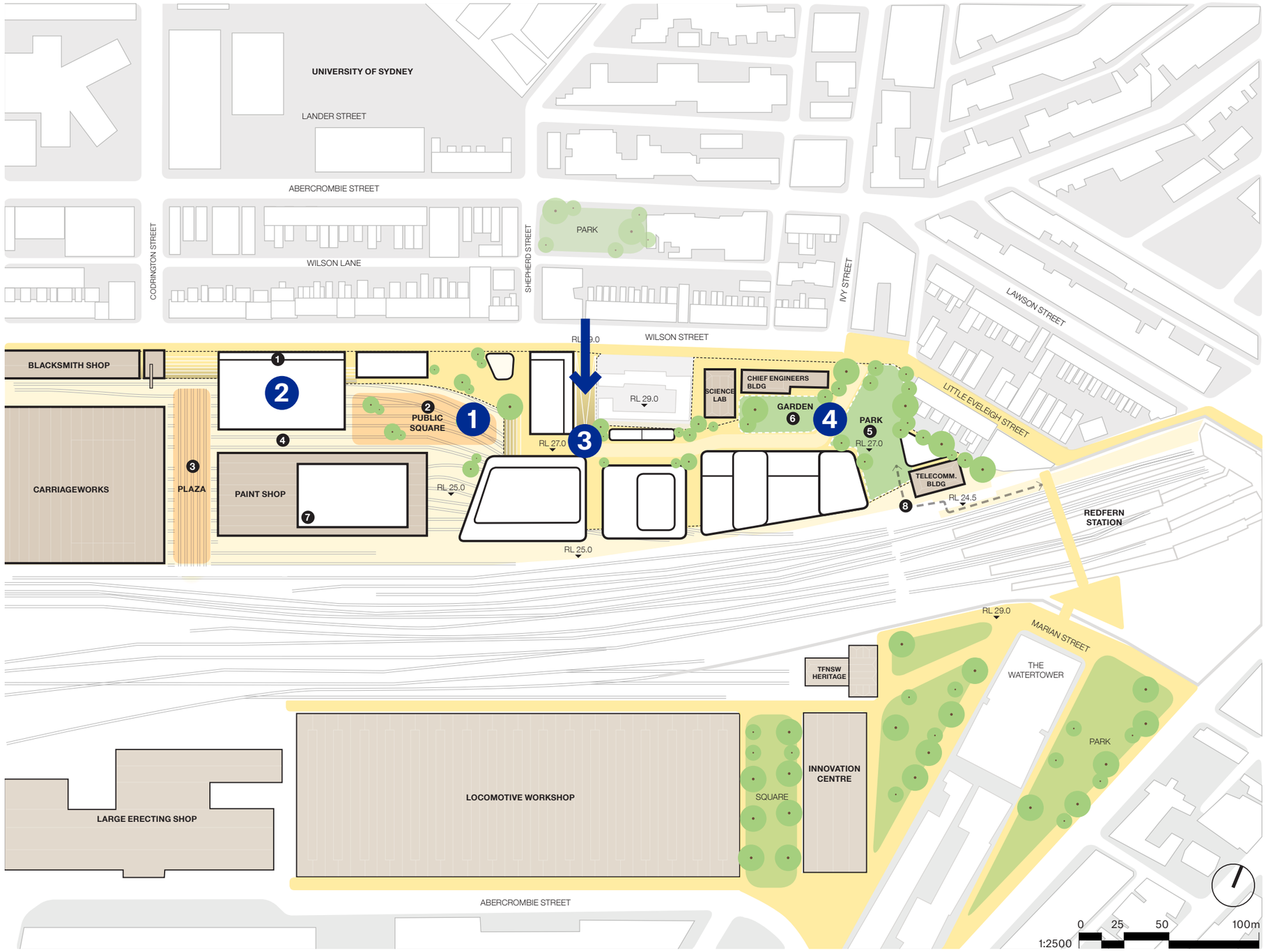


Figure 8.3.1.1 - Nominated option key refinements diagram

8.4 Preliminary Masterplan

8.4.1 Summary

The nominated option was further refined to address those areas identified as requiring further refinement.

The improvements evident in the preliminary masterplan result from collaborative cross-disciplinary coordination with the client and design team as well as reviews from a number of stakeholder workshops including the DRP, DPIE and a series of specialist technical advisory groups internal and external to TfNSW.

The preliminary masterplan includes the following refinements and improvements relative to the nominated Option:

1. Road network refined with main access moved to Shepherd Street.
2. Street network clarified to restrict majority of expected traffic onto the Shepherd Street extension to enable a shared and pedestrian priority environment elsewhere.
3. Public Square definition improved by reconfiguring the rail edge developments.
4. Increased public domain by removing development along Wilson Street, also improving views to heritage buildings.
5. Overall reduction in GFA with redistribution of uses (increase in residential uses) along Wilson Street.
6. Refined Wilson Street development parcels to align better with existing building scale.
7. Greater retention of Fan of Tracks by widening public square and introducing a public arcade through the development to connect to Carriageworks Way.
8. Part retention of Suburban Car Workshop, contributing to a stronger identity and improved heritage outcome.
9. Paint Shop over-development defined as an iconic gesture, CwC co-design opportunity and building which complements the Paint Shop.
10. Clear landscape strategy to reinforce Connection with Country themes - distinct planting strategy for upper part of the site (Regenerate Country) & emphasis on industrial heritage to lower levels (Legacy of Sydney Trains)
11. Eastern Park refined to provide improved curtilage and setting to heritage buildings, and provide consolidated open space with good solar access and shelter from rail noise

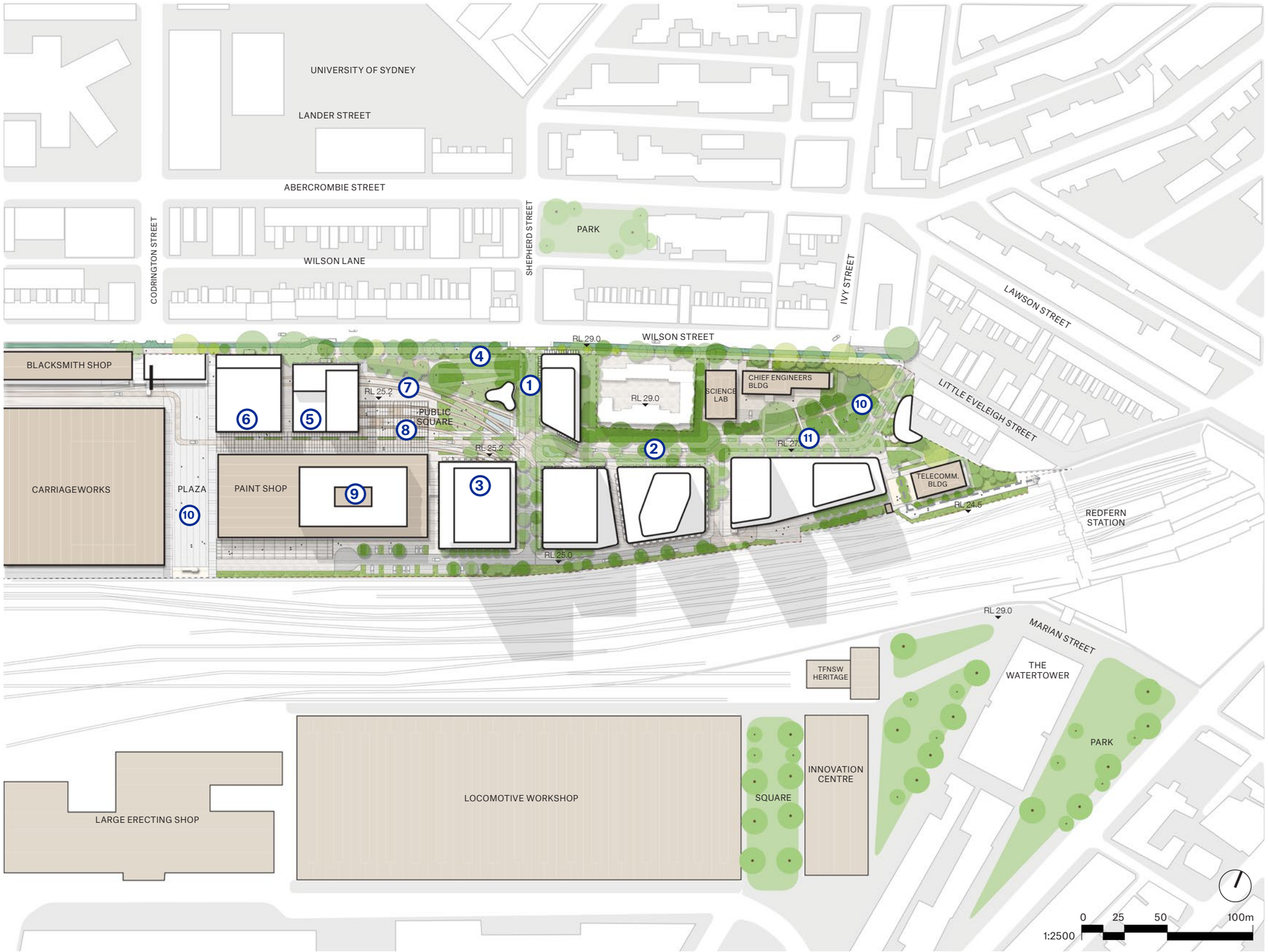


Figure 8.4.1.1 - Preliminary masterplan

8.4 Preliminary Masterplan
8.4.2 Stakeholder feedback

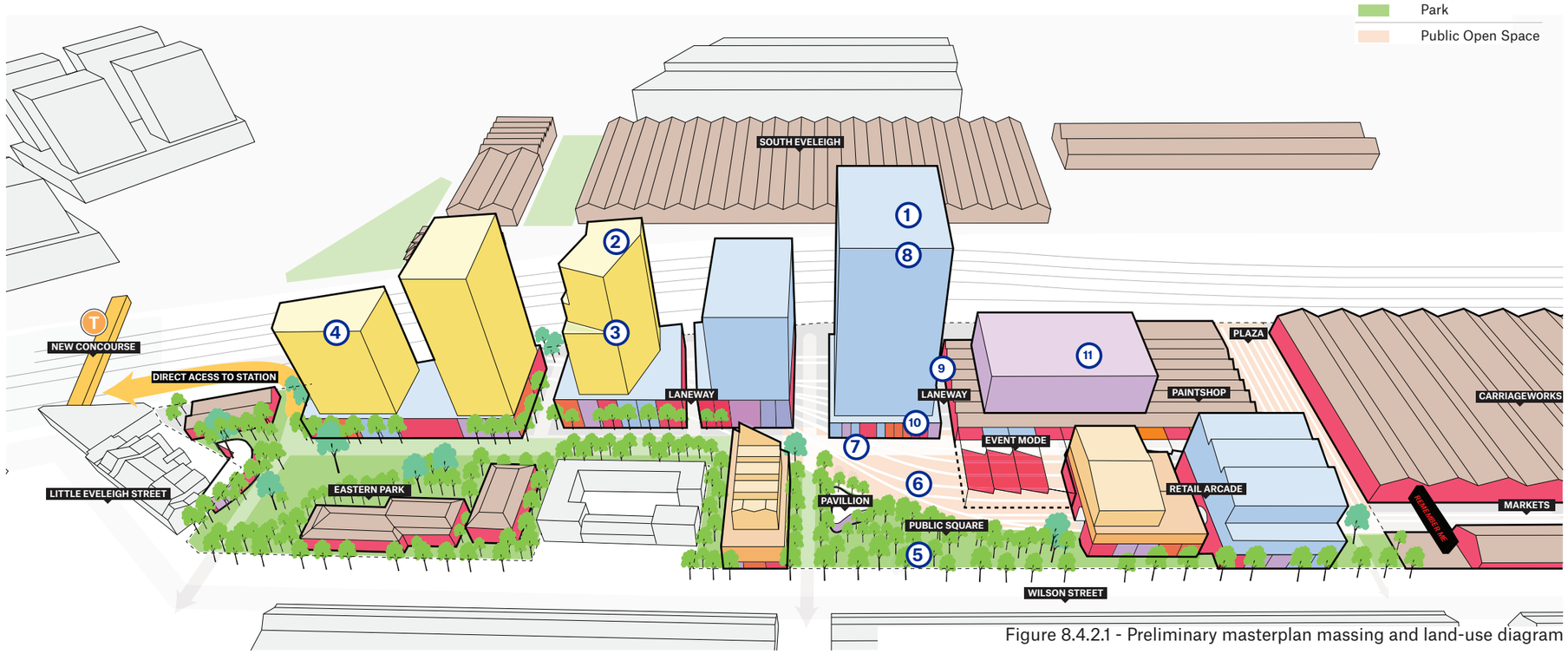


Figure 8.4.2.1 - Preliminary masterplan massing and land-use diagram

The preliminary masterplan was subject to detailed review by stakeholder groups including the Project Working Group facilitated by the Department of Planning and Environment (DPE) and which includes representation from DPE, Government Architect (GANSW), Greater Sydney Commission (GSC) and Heritage NSW. Additional direct engagement occurred with parties including City of Sydney and NSW Heritage Council.

Stakeholder feedback

The stakeholder engagement identified a number of key items warranting further refinement, and / or further supporting evidence to justify the proposal. Technical matters are addressed in the relevant specialist study reports.

The key urban design issues relating to the preliminary masterplan have been addressed and informed the refined masterplan presented in Chapter 9 of this report. The key issues are summarised below:

Quantum of development

1. Concern regarding the impacts of proposed quantum of development. Recommendation for significant reduction of residential GFA (~30% reduction)

Land-use strategy

2. Preference for residential to be located along Wilson Street with reduction in number of residential towers adjacent railway corridor.
3. Preference for commercial uses to be located in close proximity to Redfern Station

Noise

4. Mitigate noise impacts from railway through site configuration and built form refinements

Public Domain

5. Increase public open space to provide two large consolidated open spaces (~4-5000m2 each) with good solar access / wind conditions
6. Clarify functionality and amenity of open space to provide a range of passive + active uses in high amenity spaces

Street Network

7. Reassess street network to reduce vehicle movement impact in public domain and to maximise opportunities for consolidated areas of public domain

Wind

8. Address adverse wind conditions through massing to ensure appropriate comfort levels aligned with proposed uses in the public domain.

Heritage

9. Increase setbacks and curtilage to Paint Shop
10. Increase retention of Fan of Tracks in public domain and prioritise the relationship of tracks to eastern face of Paint Shop
11. Consider how to minimise the visual impact of the addition over Paint Shop.

8.5 Masterplan Refinement

8.5.1 Response to Stakeholder Feedback

The proposed masterplan presented in Chapter 9 of this report has responded to directly to the feedback elicited from the stakeholder engagement process.

The proposed masterplan retains many of the foundational principles that were developed in the early options phase and iterative engagement with the Design Review Panel.

A number of significant refinements have been made to strengthen the response to the heritage context and improve the amenity in the public domain and proposed developments. The following description provides a high level summary of how each issue has been addressed.

Detailed evidence is found in subsequent sections of this report - Urban Design Framework (Chapter 9) and the Public Domain Strategy (Chapter 10).

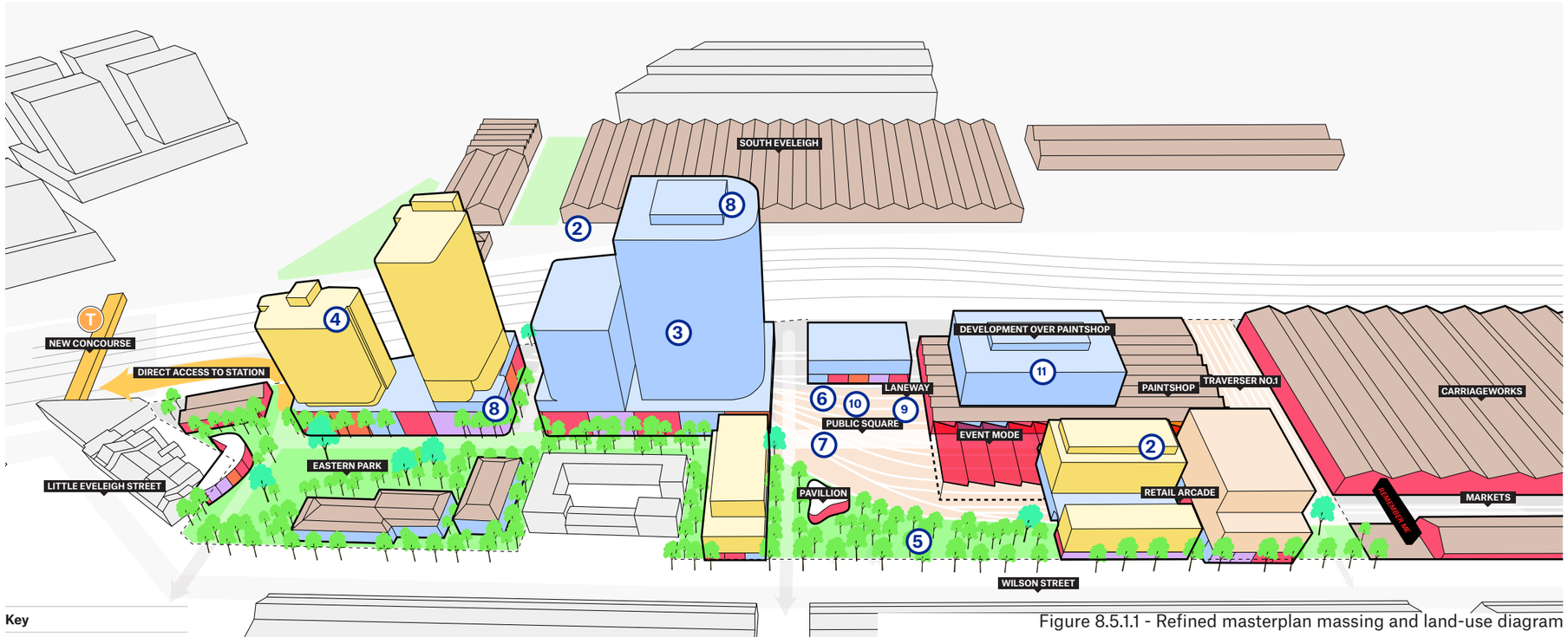


Figure 8.5.1.1 - Refined masterplan massing and land-use diagram

Quantum of development

1. Concern regarding the impacts of proposed quantum of development. Recommendation for significant reduction of residential GFA (~30% reduction)

— Residential GFA has been reduced by 30%

Land-use strategy

2. Preference for residential to be located along Wilson Street with reduction in number of residential towers adjacent railway corridor.

— Removal of one residential tower and redistribution of some residential GFA to Wilson Street.

3. Preference for commercial uses to be located in close proximity to Redfern Station

— Redistribution of majority of commercial floorspace to central block located within 200-300m walking distance from Redfern Station

Noise

4. Mitigate noise impacts from railway through site configuration and built form refinements

— Built form and building layouts have been refined to demonstrate acceptable acoustic conditions..

Public Domain

5. Increase public open space to provide two large consolidated open spaces (~4-5000m2 each) with good solar access / wind conditions

— Public Square increased to over 7900m2

6. Clarify functionality and amenity of open space to provide a range of passive + active uses in high amenity spaces

— Refinement of proposed uses within public domain. Additional outdoor sitting areas within Public Square with good solar, wind, and acoustic amenity.

Street Network

7. Reassess street network to reduce vehicle movement impact in public domain and to maximise opportunities for consolidated areas of public domain

— Central street through Public Square amended to a shared street for emergency / occasional managed access only, allowing expansive consolidated public open space

Wind

8. Address adverse wind conditions through massing to ensure appropriate comfort levels aligned with proposed uses in the public domain.

— Reduction in built form improves wind comfort in Public Square. Curved form and refinement to podiums and tower forms mitigate adverse wind conditions.

Heritage

9. Increase setbacks and curtilage to Paint Shop

— Removal of significant building bulk to create generous curtilage and improved sightlines to Paint Shop

10. Increase retention of Fan of Tracks in public domain and prioritise the relationship of tracks to eastern face of Paint Shop

— Enlarged Paint Shop with tracks retained to clearly demonstrate rail operations and relationship to Paint Shop

11. Consider how to minimise the visual impact of the addition over Paint Shop.

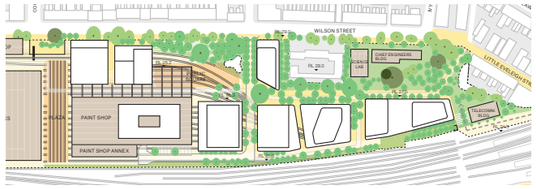
— Alternatives tested but approach retained to provide a compact development form setback from all sides

8.5 Masterplan Refinement
8.5.2 Strategic Alignment with Project Vision

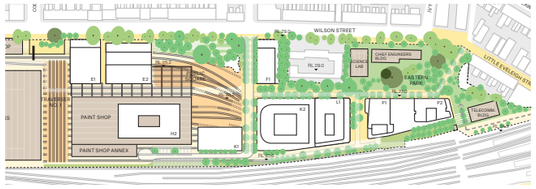
The matrix below evaluates the Proposed Masterplan - described in this Urban Design Framework - against the Urban Design Principles established for the project, in line with the Government Renewal Principles for Redfern North Eveleigh.

In addition, it enables comparison of the final proposed masterplan against the approved 2008 Concept Plan and the initial Preliminary Masterplan, demonstrating improvements arising from the further analysis work and consultation with stakeholders, the DRP and the wider specialist design team.

2008 Masterplan



Preliminary Masterplan



Proposed Masterplan

Renewal Principles

- Great place for community
- Jobs for the future
- Creative
- Aboriginal past, present and future
- Culture and History
- Connected people and places

Urban Design Principles

	2008 Masterplan	Preliminary Framework	Proposed Framework
Connecting with Country	-	+	++
Integrate with the neighbourhood	+	++	++
Enrich the distinctive character	--	+	++
Optimise Heritage opportunities	--	+	++
Great public amenity and vibrancy	o	+	++
Flexible and diverse buildings for innovation tenants	-	++	++
Distribute massing carefully	-	+	++
Locate uses to maximise vibrancy and innovation focus	--	++	++
Prioritise active mobility	o	++	++
Total Score	**- 8**	**13**	**18**

-- poor outcome
- limited resolution
o neither good nor bad
+ acceptable outcome
++ succesful outcome

Table 8.5.2.1 - Evaluation matrix

9.0

Urban Design Framework

9.1 Detailed Master Plan
9.1.1 Introduction

Study Requirements
Includes a detailed master plan that integrates all other urban design related study requirements and demonstrates that the proposed Gross Floor Area (GFA) to be included in the planning framework can achieve high quality place outcomes;

Introduction

Chapter 9 explains the detailed masterplan proposal with the following sub-chapters:

Framework Layers
Sequence of diagrams explaining the structure of the ground plan.

Movement and Access
Proposed movement corridors, access and connectivity network throughout the precinct.

Built Form and Land Use
Massing, development mix distribution and building envelopes including development areas.

Compliance & Amenity
Compliance check of residential uses and amenity provision for residential and commercial uses.

Supporting Information
Supporting information about the development.

Figure 9.1.1.1 - Visualisation of Public Square

9.2 Framework Layers

9.2.1 Existing Site

The Paint Shop sub-precinct is located east of Redfern Station with railtracks to the south and Wilson Street with predominately terrace houses to the north. Its western edge links with the Carriageworks building and remaining North Eveleigh masterplan including the Clothing Store sub-precinct.

The site in its current condition is characterised by its industrial rail heritage with large and small scale remnants of the train production line. Vegetation of value is limited to Wilson Street and the edge condition to Little Eveleigh Street, leaving most of the site a barren landscape, resulting in a heat island effect for a good period of the year.

In consultation with the Aboriginal community, Regenerating Country has been established as a key theme, which has been adopted in the approach to the site, generating a community focused and sustainable development.

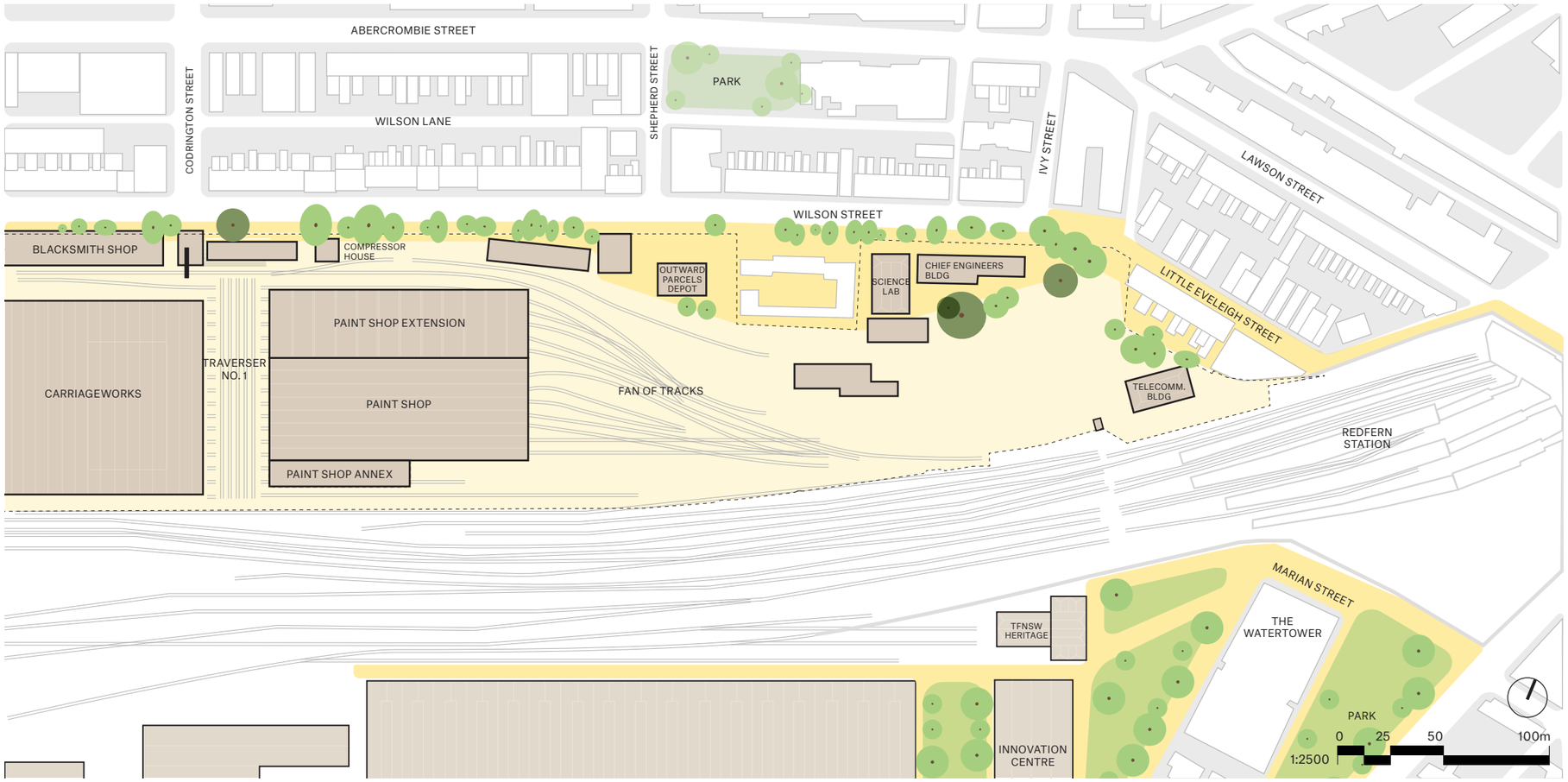


Figure 9.2.1.1 - Existing site plan

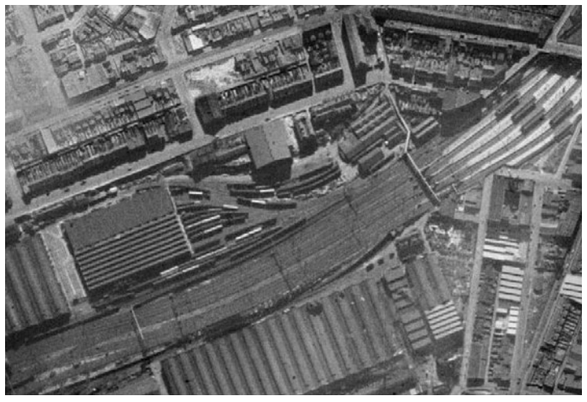


Figure 9.2.1.2 - Aerial 1984, Source: Esri

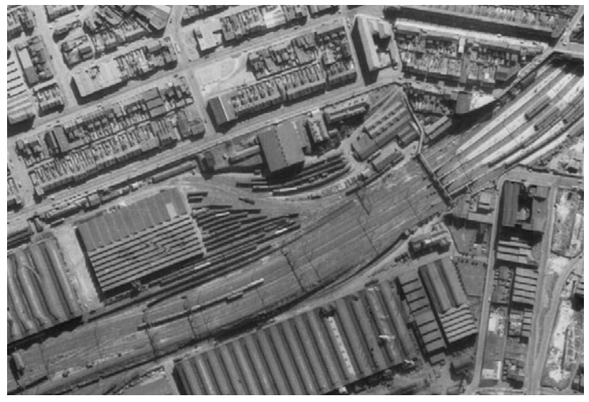


Figure 9.2.1.3 - Aerial 1955, Source: Esri

Figure 9.2.1.4 - Aerial 1984, Source: Esri

9.2 Framework Layers

9.2.2 Existing Topography

The site, carved in the 1900s to suit the industrial production line, consists of two predominant levels with Wilson Street elevated at ca 29m Above Ordnance Datum (AOD) and the majority of the site level with the train tracks at 25m AOD.

In its existing condition, the level change of 4m is relatively sudden close to Wilson Street, supported with retaining structure along the majority of the site. The eastern end slopes up towards Little Eveleigh street, with the Chief Mechanical Engineer building and historic garden slightly elevated above Wilson Street.

Geologically, the site is situated on a ridge with water on the upper levels flowing towards the harbour, and the lower parts connecting with Botany Bay. As such the pre-colonial landscape was characterised by forests to the north-east, and swamps in the south-west. This is further elaborated in Chapter 10.4 of this report.

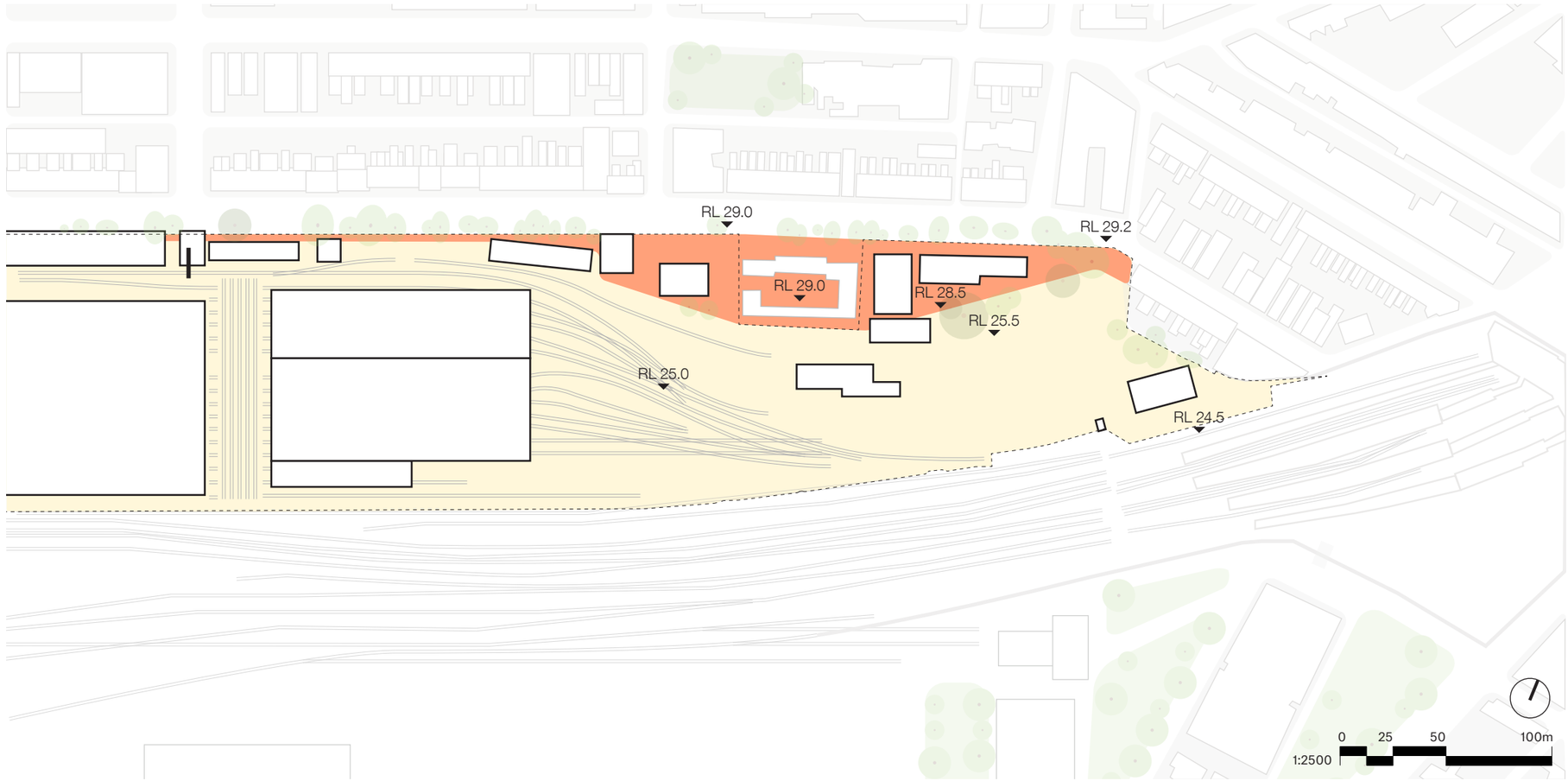


Figure 9.2.2.1 - Existing topography diagram

Key

- RL 29.0 Wilson St (Average)
- RL 25.0 Site (Average)

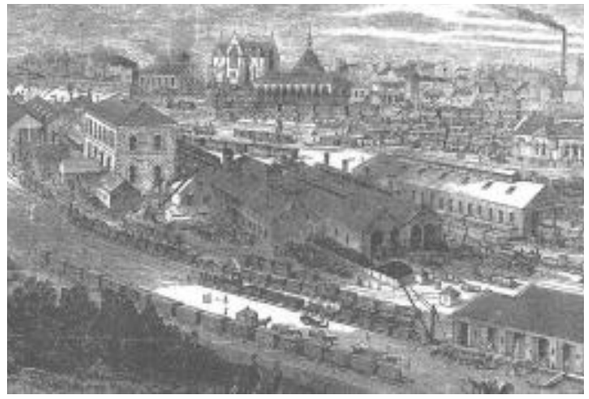


Figure 9.2.2.2 - North & South Eveleigh 1875, Source: Eveleigh Stories

Figure 9.2.2.3 - Current CME setting

Figure 9.2.2.4 - CME building arrival street, Source: Central to Eveleigh

9.2 Framework Layers

9.2.3 Retained Trees and Heritage Structures

The site presents a collection of industrial buildings of varying scales and importance. which is further described in the Baseline Heritage Assessment.

A design process evaluated (in support with the heritage consultant and in response to meetings with NSW Heritage Council) the function, relationship and value of each individual existing building, to balance the aim of maintaining the historic setting with the development target, and to create a vibrant and rich innovation district with a good uses mix.

Also refer to 9.7.2 Heritage Integration for a more detailed analysis of the heritage approach, and the Baseline Heritage Assessment separate to this report.

For tree retention, refer to the Urban Forest and Greening Study separate to this report.

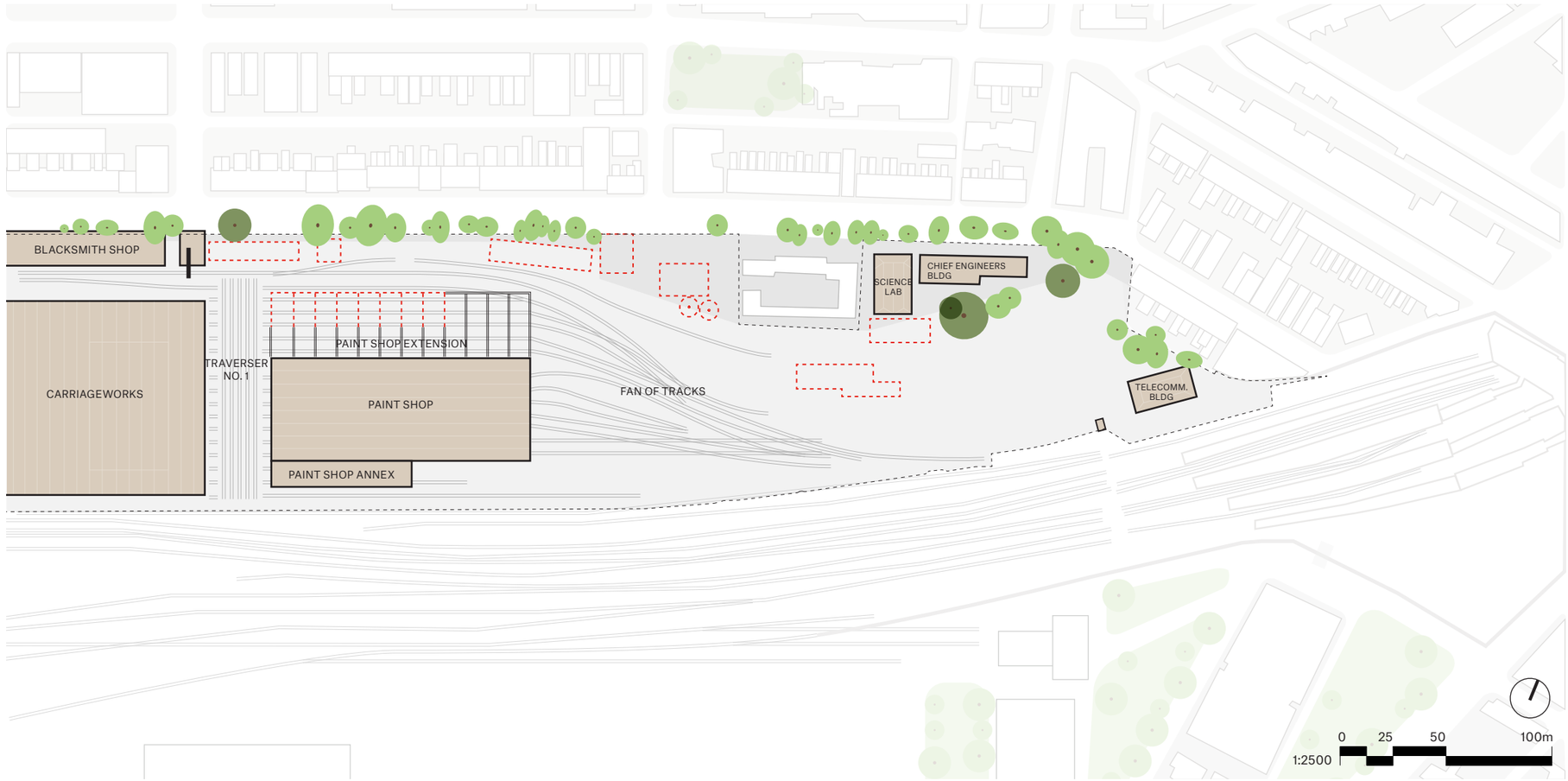


Figure 9.2.3.1 - Retention of trees and structures diagram

Key

	High value tree to be retained
	Moderate value tree to be retained
	Tree to be removed
	Heritage to be retained
	Heritage to be demolished

Figure 9.2.3.2 - Paint Shop Building from Traverser No. 1

Figure 9.2.3.3 - Current fan of tracks area

Figure 9.2.3.4 - Traverser No.1

9.2 Framework Layers
9.2.4 View Lines

A good visibility into the new development from its neighbourhood on Wilson Street as well as from the rail corridor have driven key view lines. These have been established, to ensure and improve visibility of the rich heritage buildings from most external viewpoints, promoting the integration of the new development into its context, and retaining good visibility from the rail corridor.

1. Carriageworks Way

Long view from the west along Carriageworks as a strong view axis of the whole precinct.

2. Codrington Street

Arrival experience at Carriageworks with views onto the Traverser open space and the Paint Shop building, allowing good visibility across the rail onto South Eveleigh.

3. Rail corridor

Maintaining a clear presence of the heritage buildings on both sides of the track for travelers.

4. Wilson Street

Emphasis is on ensuring good visual connection into the site from the existing neighbourhood and literally open the gates to the public. Present the heritage buildings to the neighbourhood.

5. East-West Axis

Long view within the new development along the Paint Shop and onto Carriageworks.

6. Shepherd Street

Similar to Codrington Street, a long view across the rail corridor towards South Eveleigh. Continuation of Shepherd Street into the new development as main vehicular entry allowing easy wayfinding and navigation.

7. Little Eveleigh Street

Maintain clear visibility of the Chief Mechanical Engineer building, and allow views onto the Telecommunications building by opening up the site in this location.

8. Redfern Station

Experience of the whole length of North Eveleigh and the Paint Shop sub-precinct in particular from the platforms and the new southern concourse.

* Refer to View Analysis by Urbis for further detail.

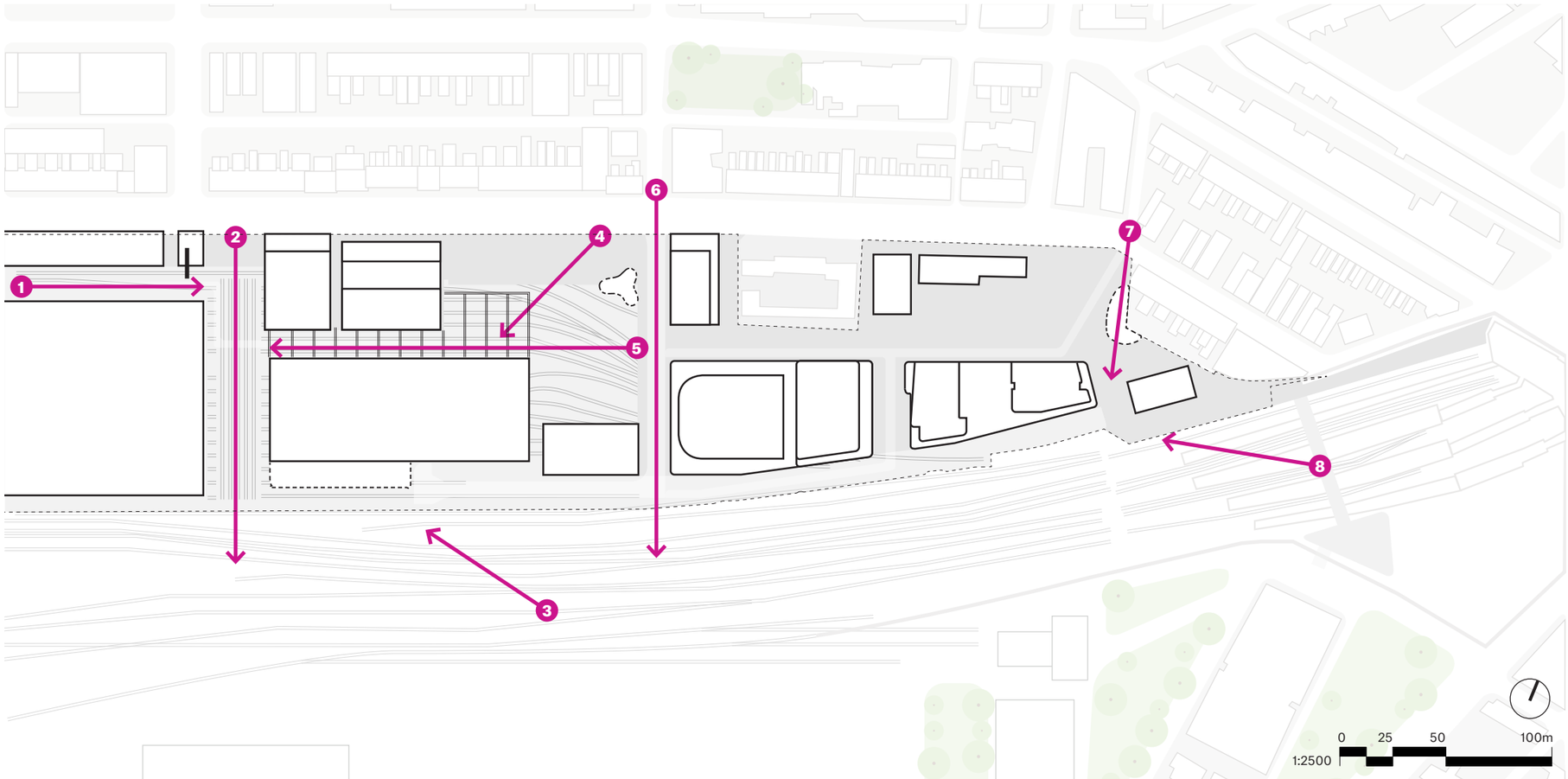


Figure 9.2.4.1 - View lines diagram

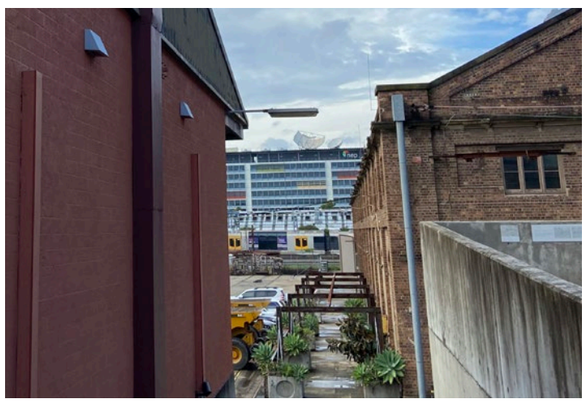


Figure 9.2.4.2 - Traverser square South

Figure 9.2.4.3 - View across South Eveleigh

Figure 9.2.4.4 - View along skipping girl fence

9.2 Framework Layers

9.2.5 Key Frontages and key spaces

Frontage hierarchy of podiums and lower floors of buildings has been clssified into three catgories. Active facades in key areas will further enhance the vibrancy of the primary public domain and promote creative streets.

Primary Frontage

A key frontage facing primary public open spaces and important heritage assets. High level of activation in form of main building entrances and retail spaces with a focus on food and beverage (F&B) allowing further activation of the external areas in front of the building. Awnings will add to the vibrancy of these frontages and provide additional shading in summer. Blind facade elements will be discouraged in these areas.

Secondary Frontage

A typical frontage facing primary access routes (vehicular and pedestrian) in the sub-precinct with general access to buildings and a mix of fragmented retail and community facilities. Focus on active frontages, but less active uses such as community services can be located here.

Tertiary Frontage

Concentration of back of house areas such as car park entrances, loading bays and building services related elements. Blind facades should be avoided but may be used if integrated in the overall design of the building.

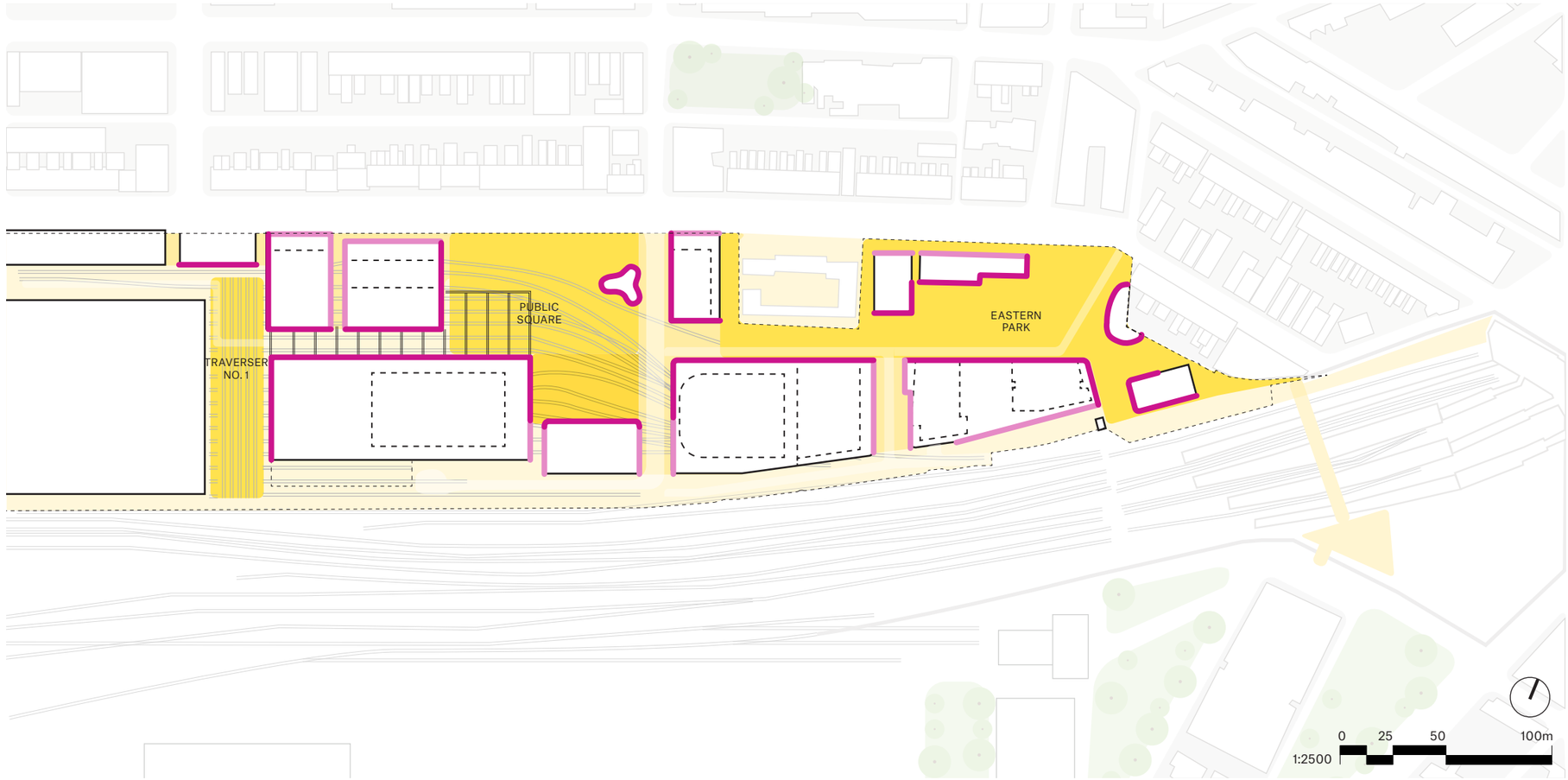


Figure 9.2.5.1 - Key frontages and key spaces diagram

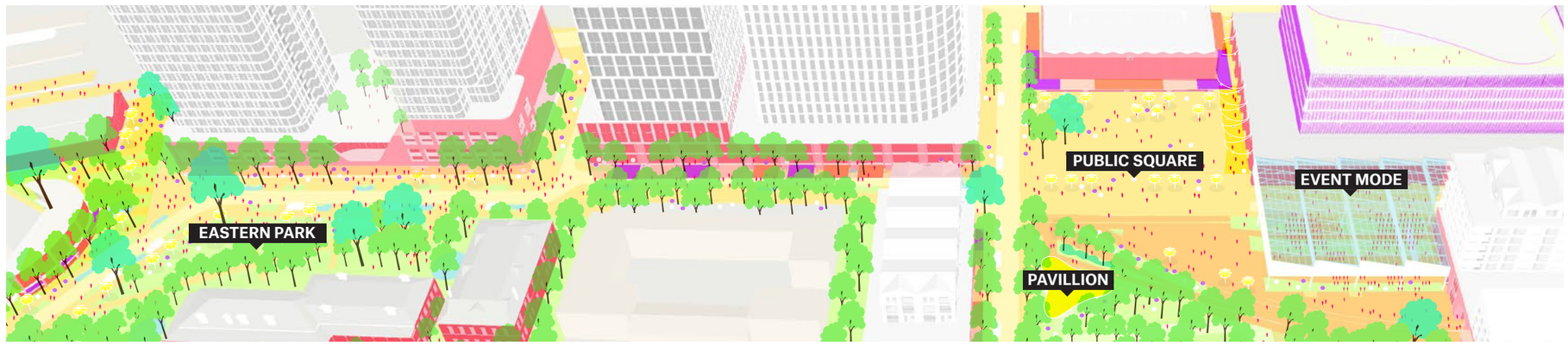


Figure 9.2.5.2 - Visualisation of key frontages and key spaces

9.2 Framework Layers
9.2.6 Primary Circulation

The sub-precinct circulation is based around the following principles:

❶ A new pedestrian connection from Redfern Station providing direct entry to the site and linking to the main east-west distributor.

❷ A shared and fully accessible street network providing an east-west connection through the sub-precinct between Shepherd Street and Ivy Lane.

— A flexible road network, locating vehicular plot entry points away from the main pedestrian east-west route.

❸ A connection through Wilson Street development plots to link the public open space with Carriageworks and the markets.

❹ Multiple accessible entry points along the length of Wilson Street, with stairs and paths providing easy access to the lower level.

— An innovative approach to shared streets, prioritising pedestrians and cyclists.

— Creative streets – full of interesting moments and activity.

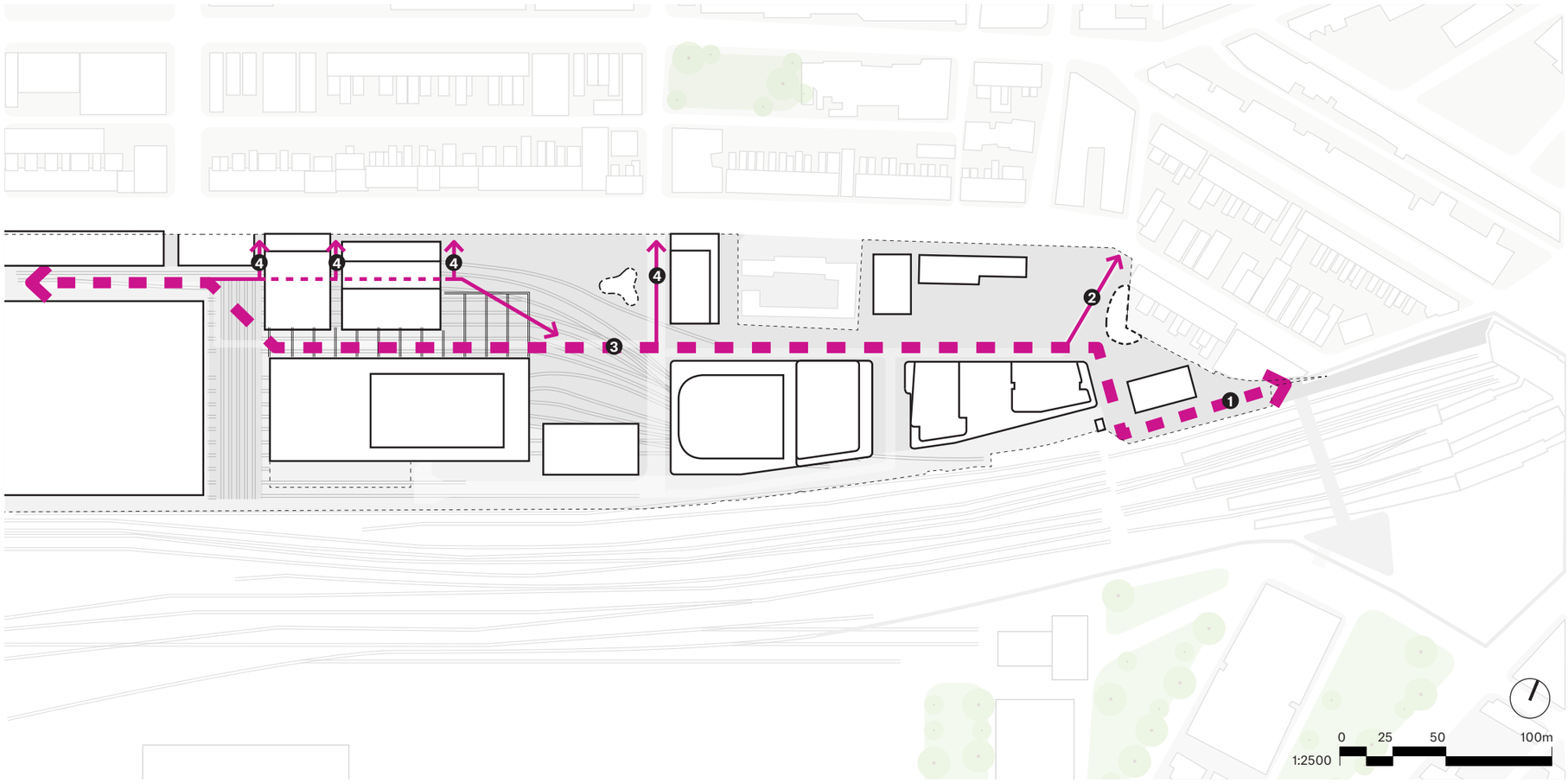


Figure 9.2.6.1 - Primary circulation diagram

Key

■■■■	Primary Circulation
- - - -	Secondary Circulation

9.2 Framework Layers
9.2.7 Topography and Access

A key move of the masterplan has been the mitigation of the existing abrupt level change along Wilson Street of 4m to enable a smooth and accessible transition of the neighbourhood into the site. All gradients are designed to meet accessible requirements, with the exception of the main vehicular access point at the junction with Shepherd Street.

The vehicular and pedestrian network is further explained in the Movement and Access section of this chapter.

A strong connection to Country was established by implementing a mid level, with the following outcomes and opportunities:

— Allow the 'Country under the concrete' to re-emerge and begin the restoration of the spirit of the site

— Recognised the layers of history with greater emphasis on industrial heritage at the lower level in the 'legacy of Sydney Trains' and pre-industrial landscape / Country at the upper level with an emphasis on 'restoring country'

— Establish a framework of open space and buildings to generate a variety of meeting places, acknowledging Mura (trackways) and Ngurang (places)

Key

	Topography
→	Access point

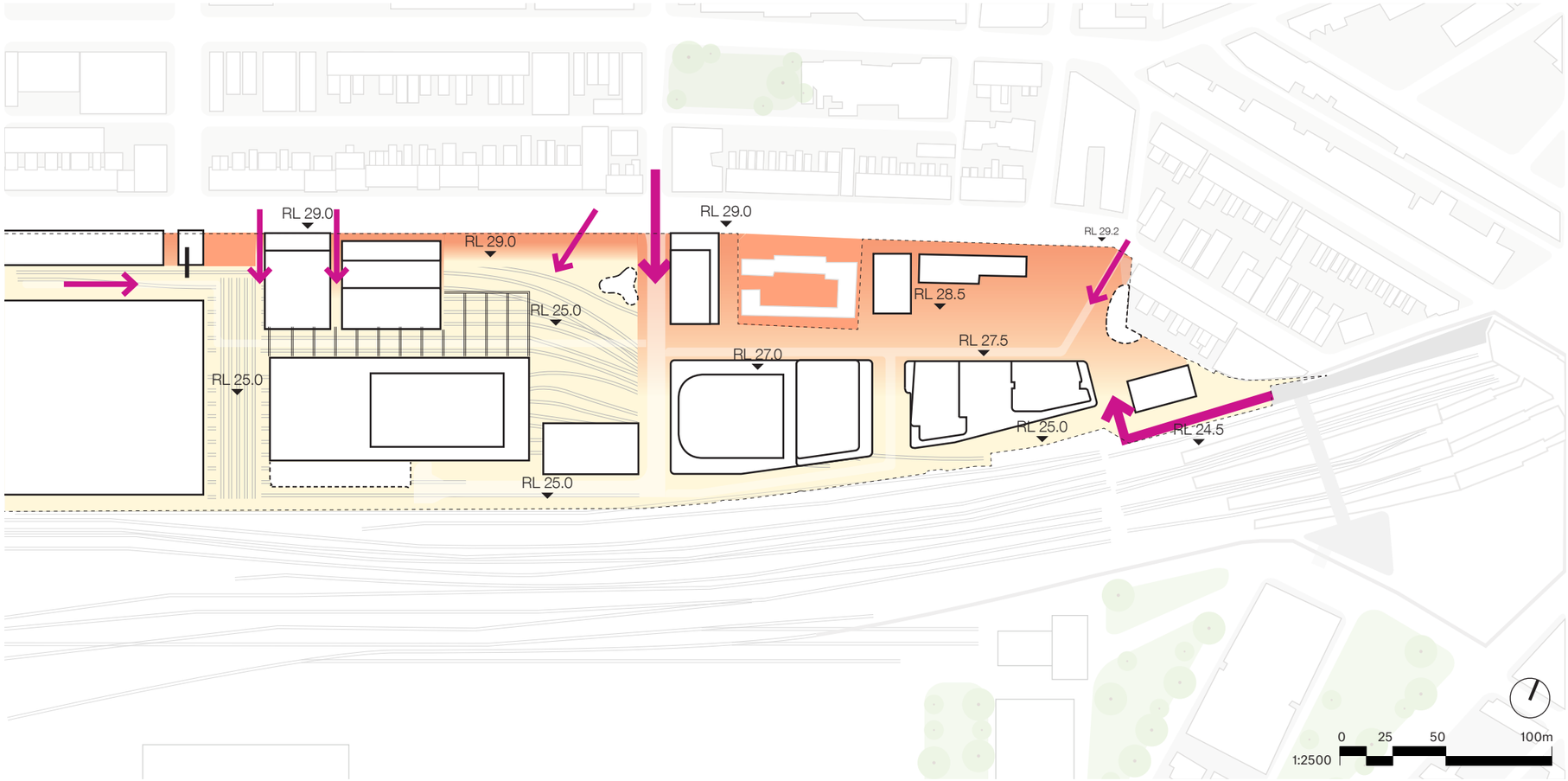


Figure 9.2.7.1 - Topography and access diagram

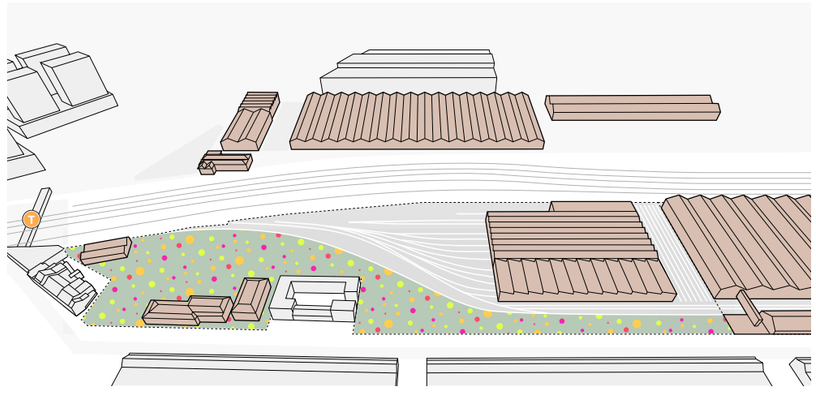


Figure 9.2.7.2 - Expression of upper and lower levels

9.2 Framework Layers
9.2.8 Development Plots

Development plots shown include building footprints. Landscape allocation will need to be established in subsequent development phases and will be subject to the governance form of the project.

Delivery staging can be found in Appendix A.1 of this report.

Two through site links have been defined for the following plots:

— E1 / E2

— H1 / K1

Through site links should be building breaks to the full height of the adjacent building edge and 6m in width.

An arcade is to be included in the following plots:

— E1

— E2

The arcade is to be 3 storeys in height from ground floor up and should ensure a clear visual connection between Public Square and Carriageworks Way.

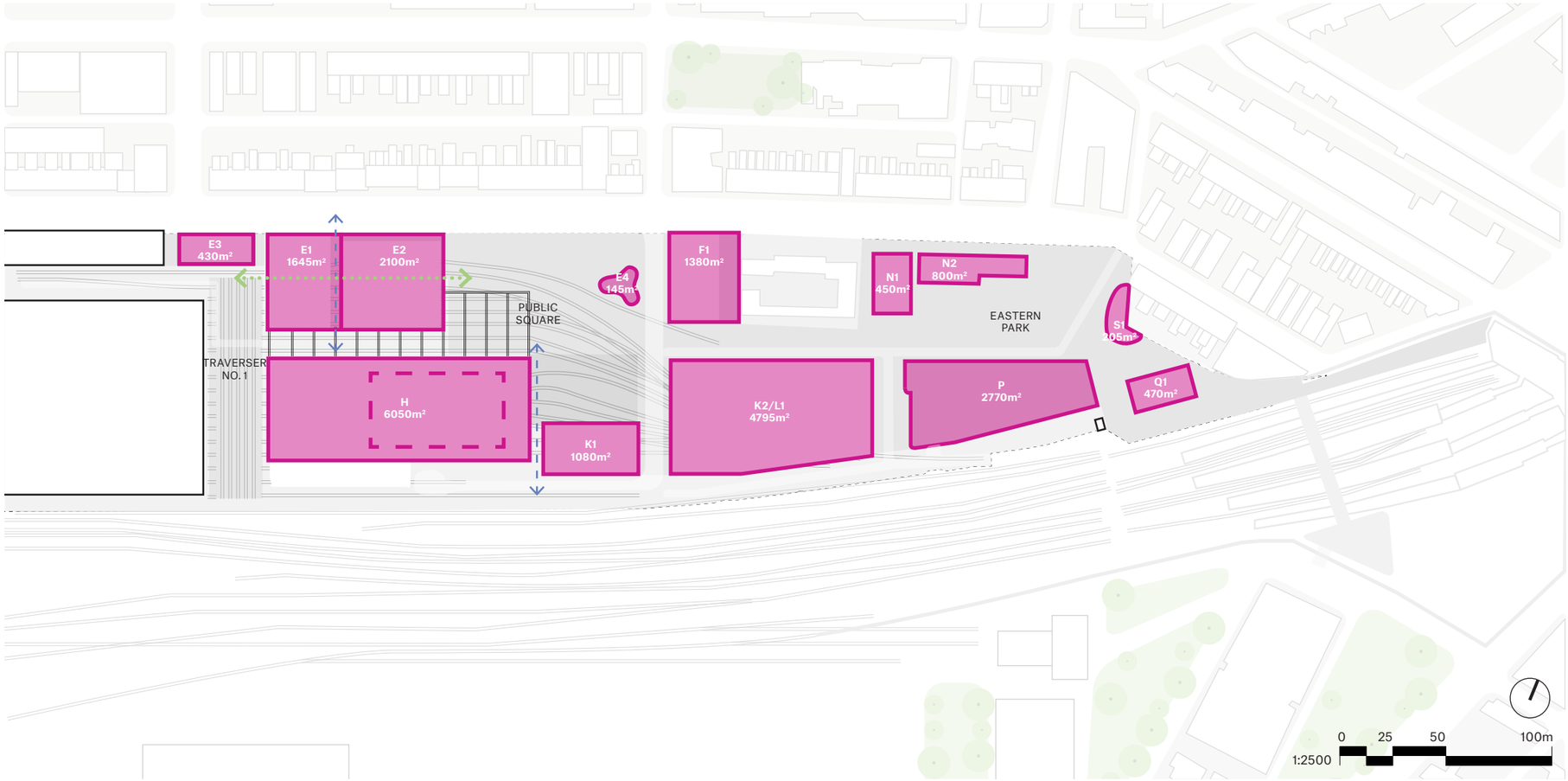


Figure 9.2.8.1 - Development plots diagram

9.3 Illustrative Masterplan

9.3.1 Upper Plan

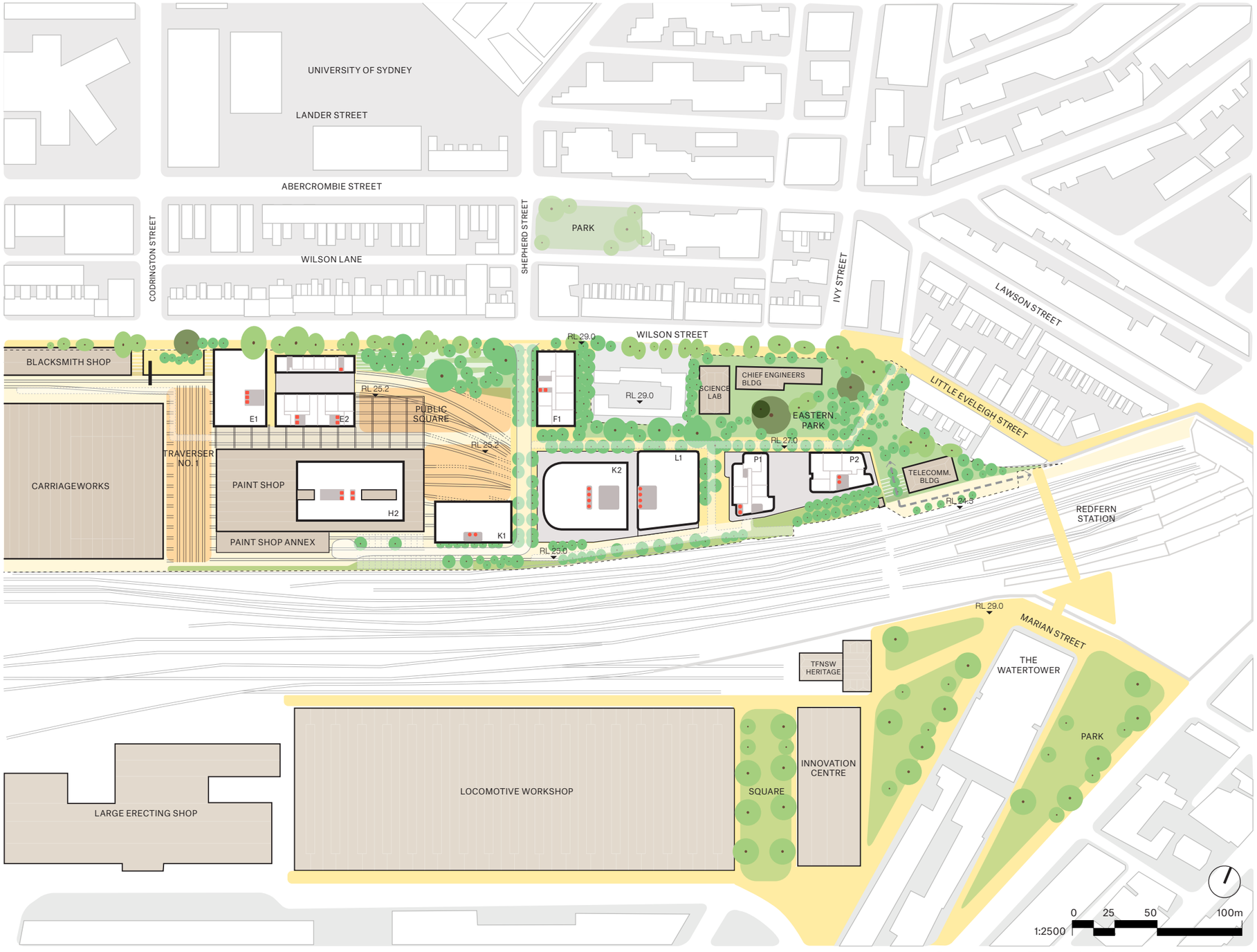


Figure 9.3.1.1 - Tower plan of proposed masterplan

9.3 Illustrative Masterplan

9.3.2 Upper Ground Plan

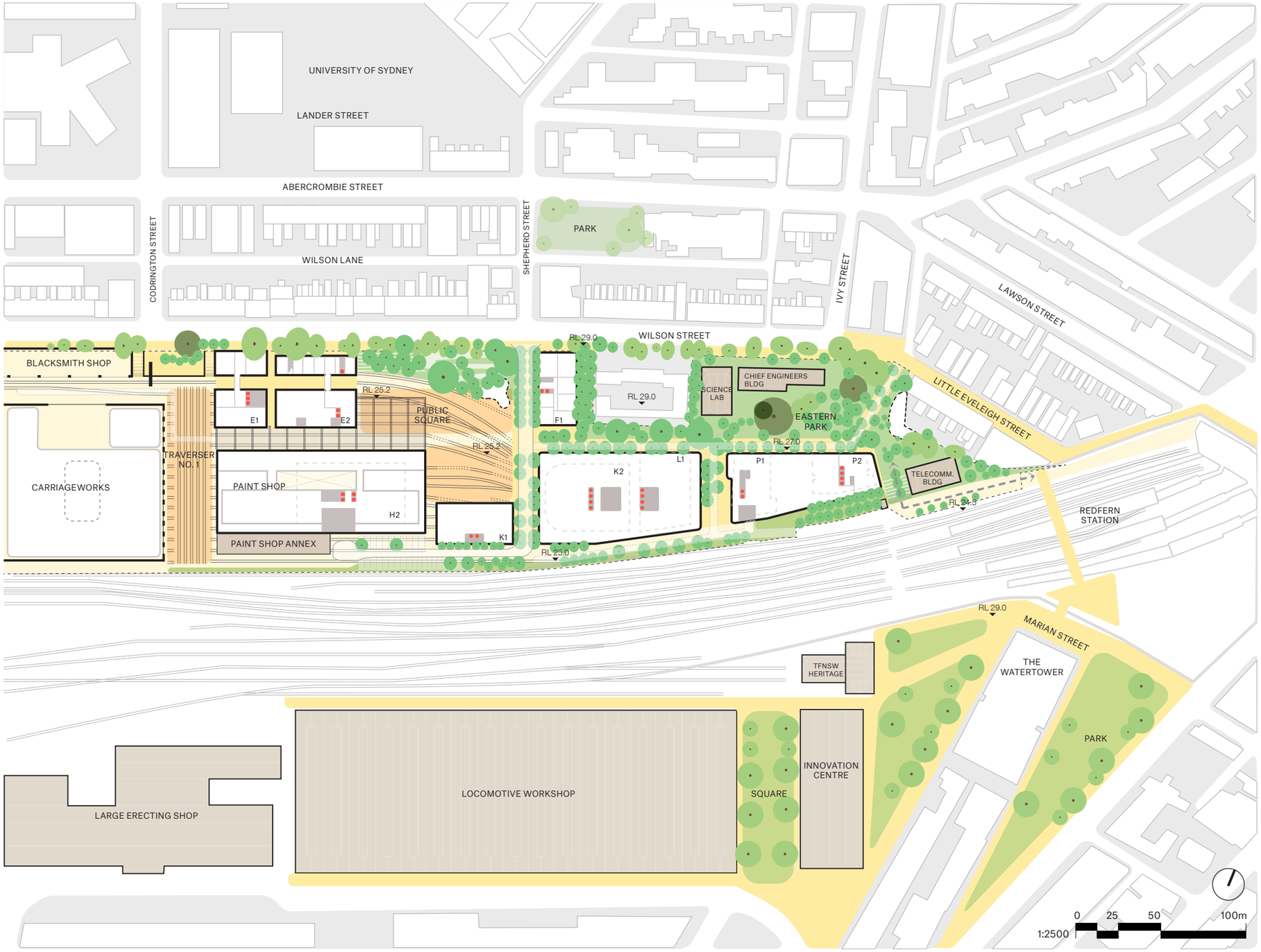


Figure 9.3.2.1 - Upper ground plan of proposed masterplan

9.3 Illustrative Masterplan

9.3.3 Lower Ground Plan

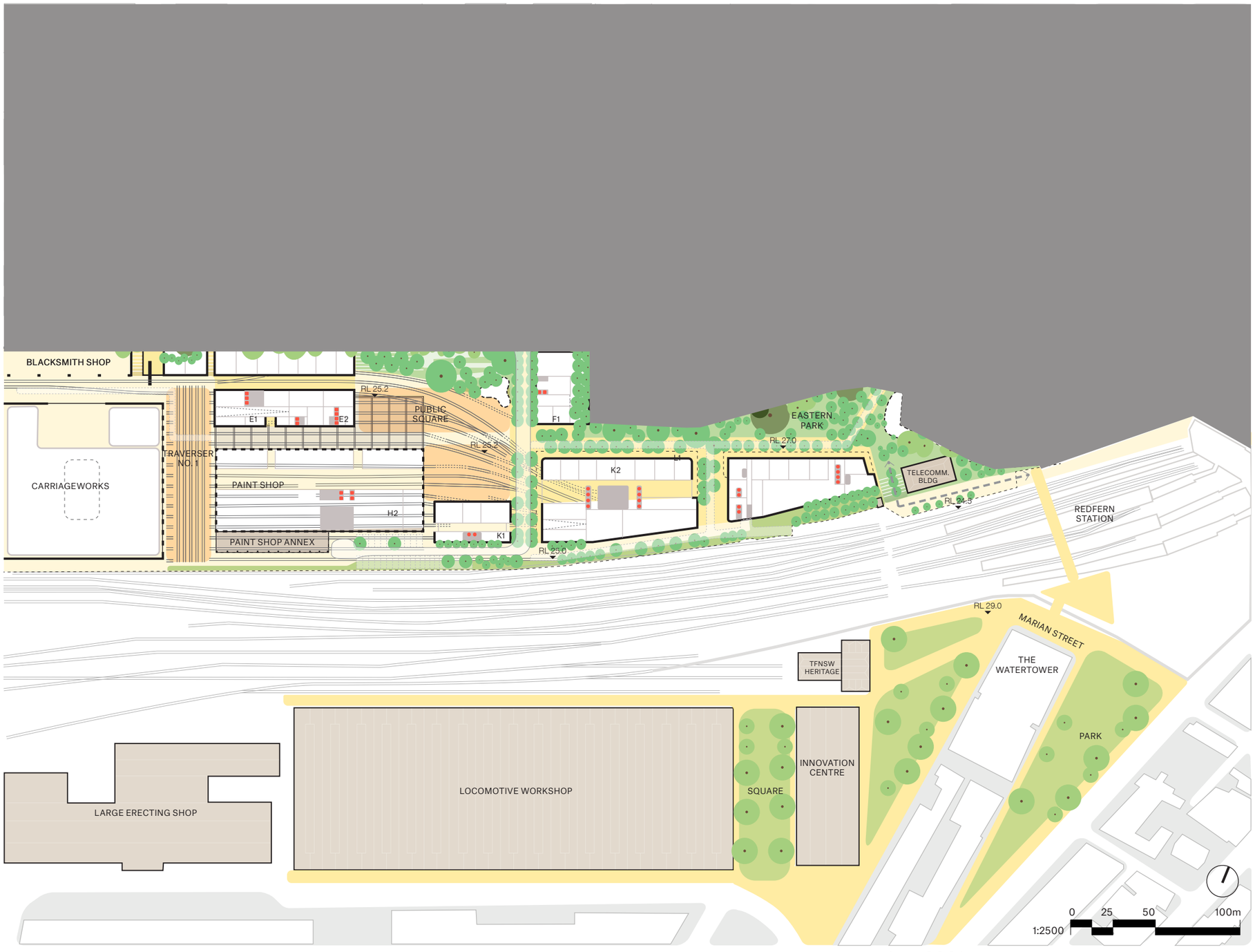


Figure 9.3.3.1 - Lower ground plan of proposed masterplan

9.3 Illustrative Masterplan

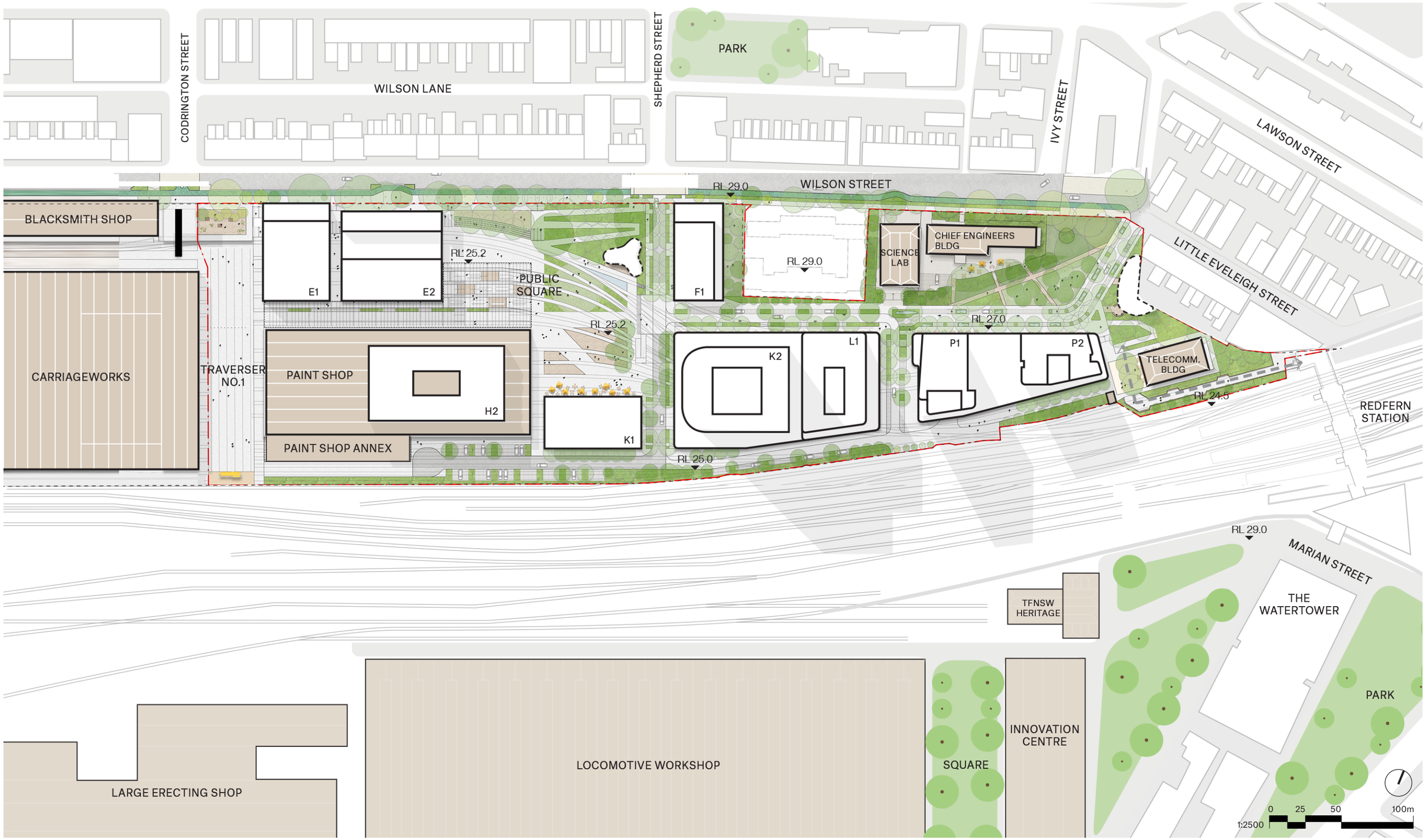


Figure 9.3.4.1 - Illustrative plan of proposed masterplan

9.4 Movement and Access

9.4.1 Introduction

Study Requirements

Includes a Movement and Access Plan setting out the proposed movement corridors, access and connectivity network throughout the precinct (and beyond), the types of movements to be captured through the precinct (i.e. walking, cycling, vehicles, machinery, employees etc. during a 24-hour period). How squares or plazas could play a role in movement and include emphasis on creating strong pedestrian corridors linking outside areas to Redfern North Eveleigh Precinct's entrances and exit points;

Introduction

This section of the report provides a high level introduction of the different layers of the Movement and Access Plan. It should be read in conjunction with the following reports for further detail, and to fully respond to this particular study requirement:

- Chapter 10.7 of this report for further details on road typologies, street sections and interfaces with and the role of public open spaces.
- Transport Strategy and Transport Impact Assessment explaining the wider context, travel demand management, parking requirement and provision and further detail on mode-share and the different user profiles of the Movement Network.

Depicted adjacent are peak flow and mid morning / mid afternoon flow diagrams (trips per hour), explaining the focused vehicular use of the southern extension of Shepherd Street including logistics and deliveries use, thereby allowing the majority of the development to be designed as a pedestrian priority shared street environment. The pedestrian flow diagrams depict the connection to Redfern Station as part of the proposed development, and the high use of the east-west main spine during the day, emphasizing the important role of this pedestrian priority movement path, activating and enriching the development area without impacting the surrounding street network including Little Eveleigh Street.

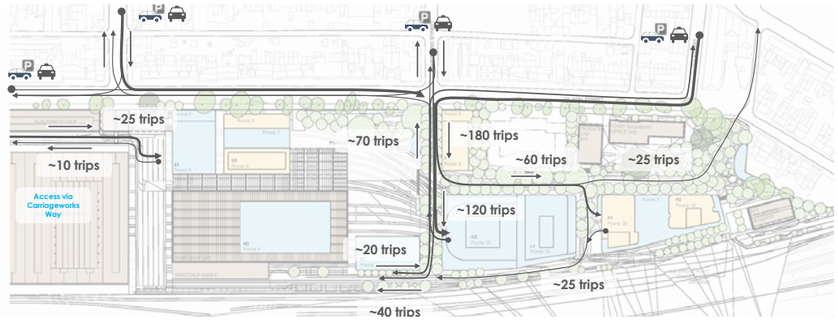


Figure 9.4.1.1 - Hourly vehicular peak flow diagram

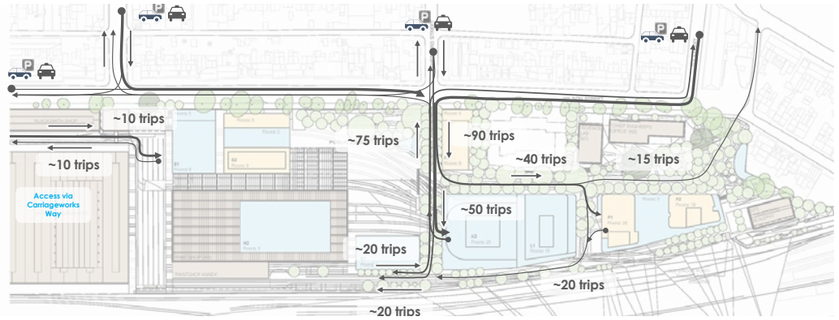


Figure 9.4.1.2 - Hourly vehicular non-peak flow diagram

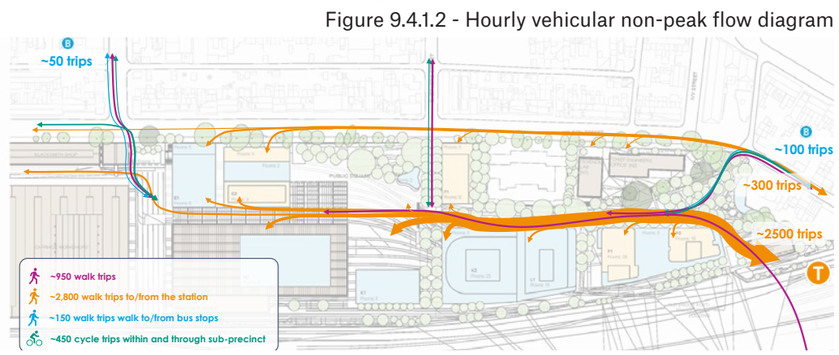


Figure 9.4.1.3 - Hourly pedestrian peak flow diagram

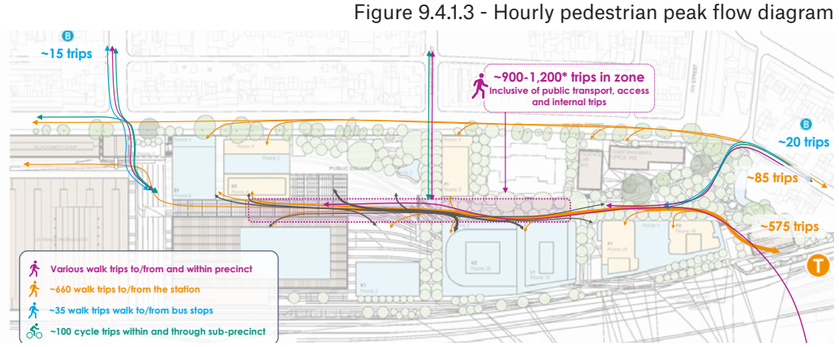


Figure 9.4.1.4 - Hourly pedestrian non-peak flow diagram

9.4 Movement and Access

9.4.2 Vehicular Access

The vehicular movement network has been established around the following parameters:

- Reduce vehicular traffic through the site as much as possible to promote active movement networks with pedestrian priority.
- Concentrate vehicular access to the smallest and most legible network possible.
- Extend Shepherd Street into the site with direct access to most car parking facilities and loading bays along this street.
- Consolidate basements as much as possible to limit vehicular access points interrupting pedestrian flow and maximise active facades.
- Primary road network as a two way system and expressed as traditional paved road with kerbs.
- Secondary Road network as a one way system and expressed as a shared environment with integrated paving and without kerb, with pedestrian priority, enhancing the expression of creative streets.
- Primary access point (two way) off Shepherd Street, Secondary exit into Ivy Lane.

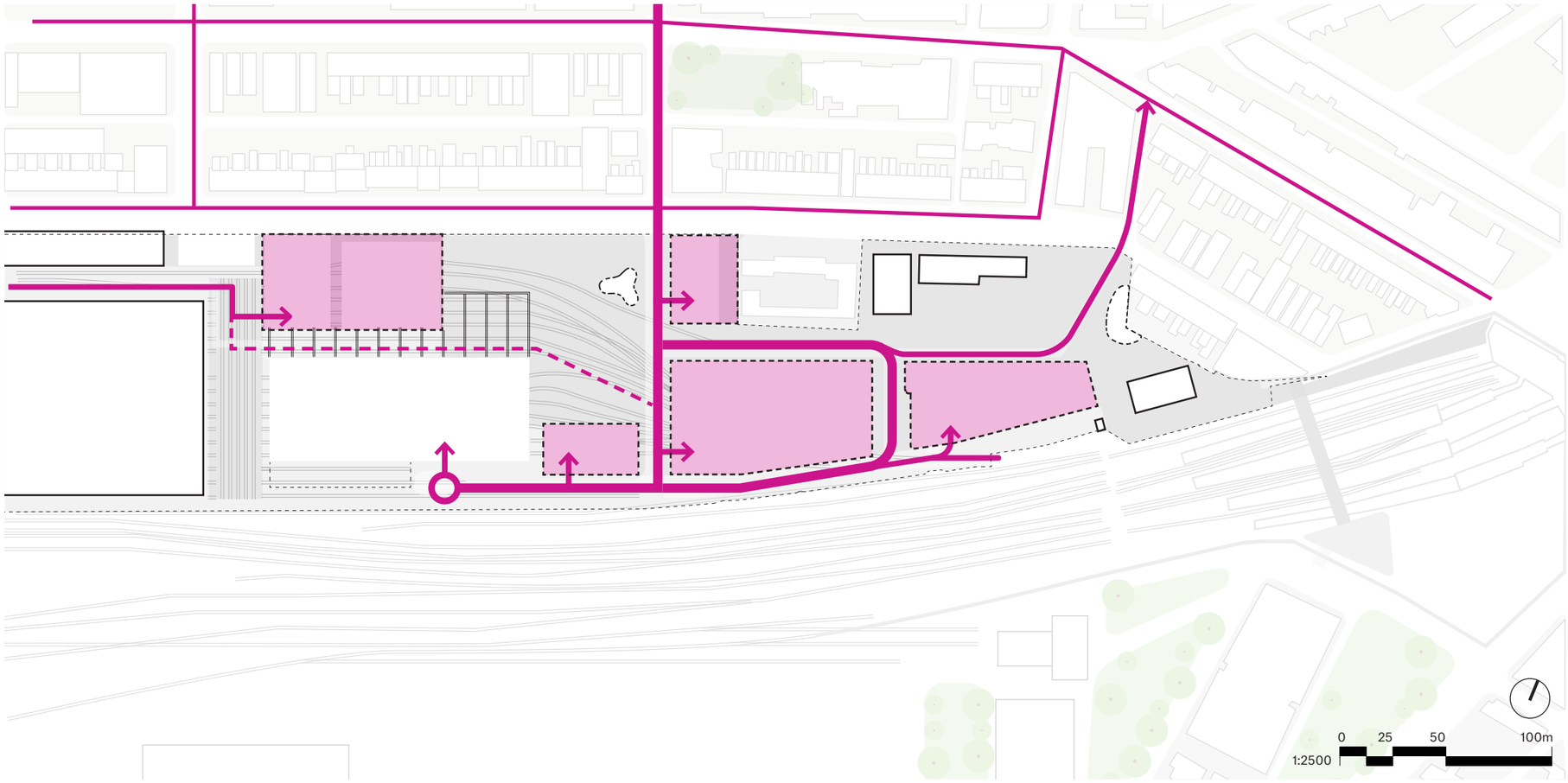


Figure 9.4.2.1 - Vehicular movement network

Key

	Primary Road Network
	Secondary Road Network
	Existing Road Network
	Basement Footprint
	Vehicle / Service Access

Figure 9.4.2.2 - Active and creative streets

9.4 Movement and Access

9.4.3 Pedestrians and Cyclists

Public Transport Access

The pedestrian/cyclist movement network has been established around the following parameters:

- Primary circulation in east-west direction, with direct link to Platform One of Redfern Station, taking off pressure from little Eveleigh Street, and connecting to Carriageworks and the full precinct.
- Pedestrian priority environment with majority of traffic consolidated onto the extension of Shepherd Street.
- Cyclists fully integrated into the shared road environment instead of dedicated cycle paths, with several access points to the Wilson Street cycle path.
- Multiple pedestrian entry points into the site from Wilson Street.
- Majority of pedestrian movement network fully accessible with walkways provided where necessary to mitigate level changes.
- Permeable development plots allowing flexible movement between buildings, including a number of cross plot pedestrian routes.
- Active frontages along pedestrian movement network, adding to the character of creative streets.

Key

- Primary Shared Route
- Secondary Shared Route
- Existing Route
- Existing Cycle Route
- Potential future footbridge over rail (unfunded)

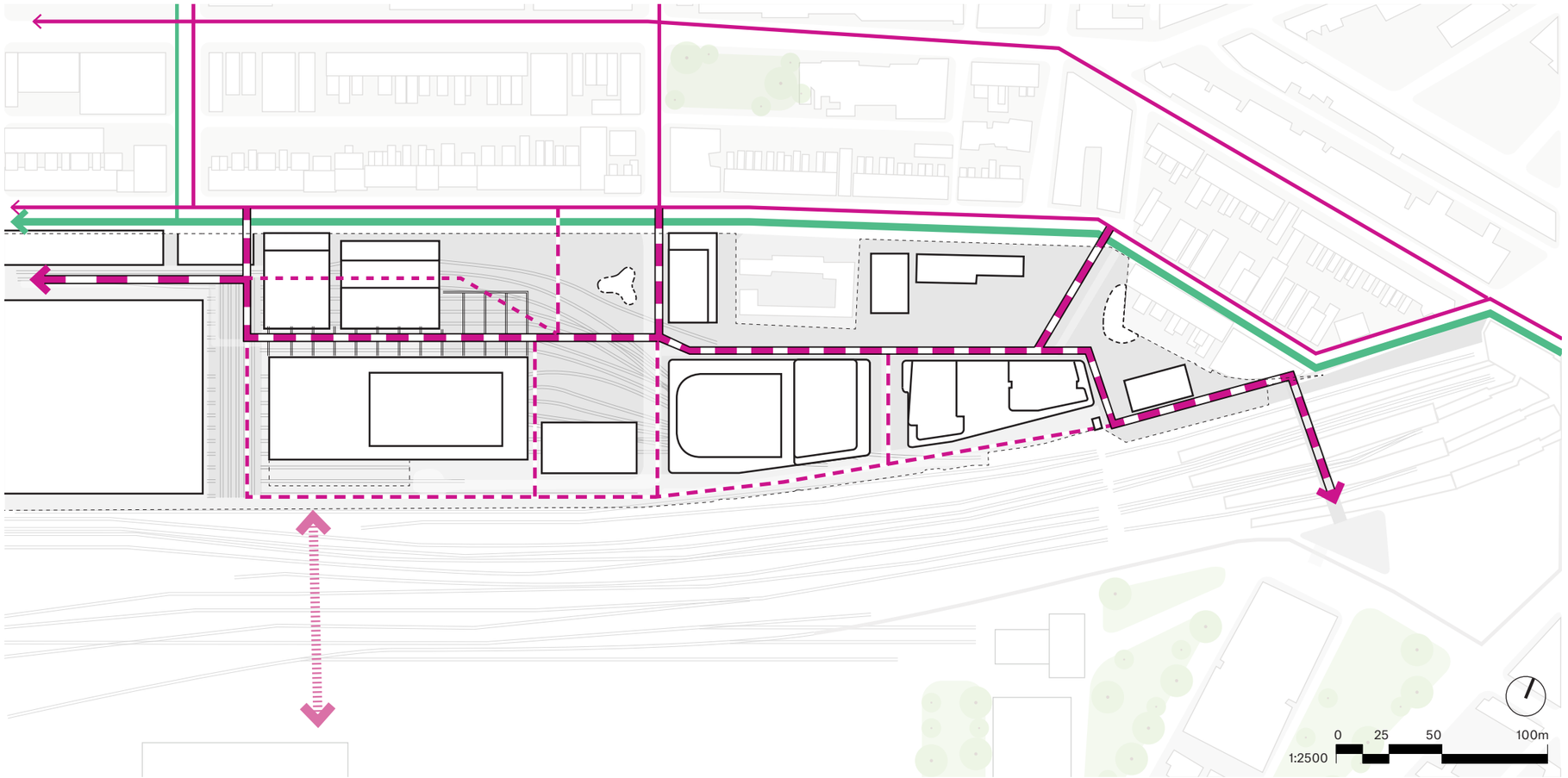


Figure 9.4.3.1 - Pedestrian movement network

Figure 9.4.3.2 - View along Little Eveleigh street

Figure 9.4.3.3 - View along Little Eveleigh street

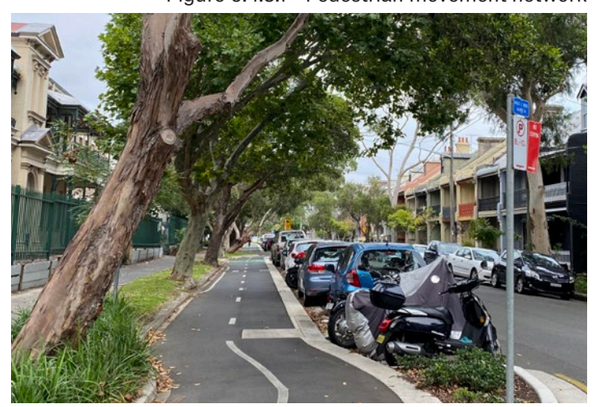


Figure 9.4.3.4 - View along Wilson street cyclist route

9.5 Built Form and Land Use

9.5.1 Introduction

Study Requirements

Includes a detailed master plan that integrates all other urban design related study requirements and demonstrates that the proposed Gross Floor Area (GFA) to be included in the planning framework can achieve high quality place outcomes;

Introduction

A number of factors contribute to the success of an innovation district, including great places with excellent amenity, distinctiveness, integration with the neighbourhood, clever adaptive reuse of industrial heritage to provide a unique and memorable setting early in the delivery of the development and a vibrant and safe environment. A successful innovation district also depends on the provision of a good housing mix and diverse commercial typologies to cater for the many demands of tenants varying from early start-up businesses to large anchor tenants, and providing flexible spaces to support the growth of emerging companies.

Density is crucial in order to achieve a successful innovation district and a successful urban environment with high quality spaces. Clustering development and a good mix of land uses around public open spaces will enable an adequate quantum of supporting retail and communal spaces, to enrich the development with life throughout the day and into the evening, and into the weekend.

Detail on the distribution of GFA will be explained in more detail in this section of the report.

Figure 9.5.1.1 - Visualisation of Arcade looking towards Carriageworks

9.5 Built Form and Land Use

9.5.2 Existing, Approved & Proposed Building Heights

❶ Redfern Station is emerging as a new density hub with the Redfern Station cluster growing up to 18 storeys and the recently completed Pemulwuy residential building at 24 storeys.

❷ Planning amendments to the Botany Road corridor published earlier this year extend the 18 storey datum along Gibbons Street further south towards the Waterloo metro quarter, which includes development height up to 25 storeys.

❸ The development site is not only located within walking distance from Redfern Station, but also in the unique situation of a vast area of tracks to the south, greatly reducing the risk of creating overshadowing adjacent residential buildings or public open spaces.

❹ A mid level height datum is established in relationship to existing buildings in the neighbourhood, including South Eveleigh (9 stories) and Sydney University Business School on Abercrombie Street (7 stories).

❺ Wilson Street immediately to the north of the site is dominated by a block elevation varying between 2 and 4 storeys.

Key

	1 - 3
	4 - 6
	7 - 10
	11 - 15
	16 - 20
	21+
7	Number of floors

Figure 9.5.2.1 - Height context plan

BATES SMART turf NSW GOVERNMENT Transport for NSW

9.5 Built Form and Land Use

9.5.3 Massing

These three height scales are reflected in the proposed development as follows:

❶ Immediate context on Wilson Street expressed with 4 storeys plus upper setback floors, responding to existing development on the other side of the street

❷ Mid height scale in relationship to mid-scale buildings of South Eveleigh and university buildings along Abercrombie street

❸ Taller buildings responding to Redfern cluster, Pemulwuy and Waterloo Metro developments, located against the rail corridor with no solar impact to public open spaces or neighbouring residential uses

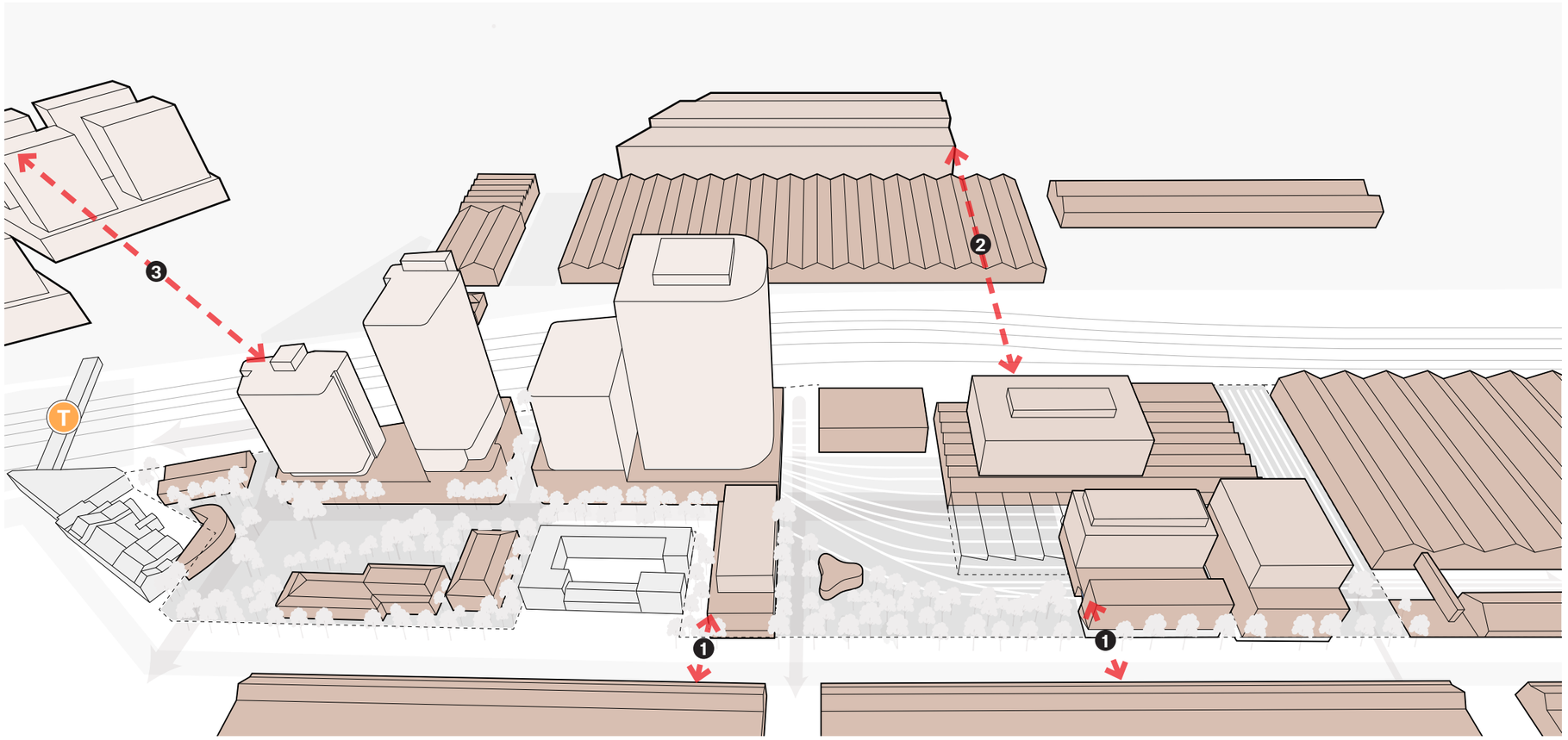


Figure 9.5.3.1 - Height context diagram

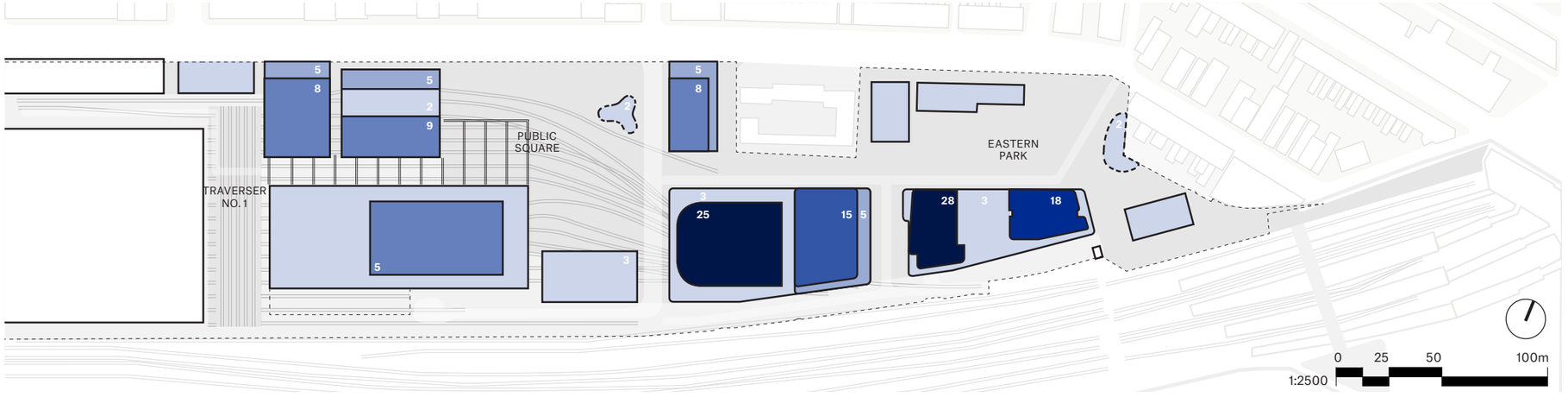


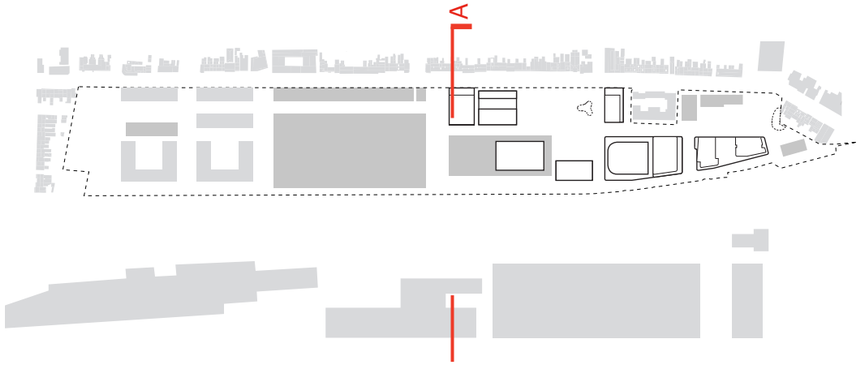
Figure 9.5.3.2 - Building heights plan

Key

	1 - 3
	4 - 6
	7 - 10
	11 - 15
	16 - 20
	21+

9.5 Built Form and Land Use

9.5.4 Cross Section



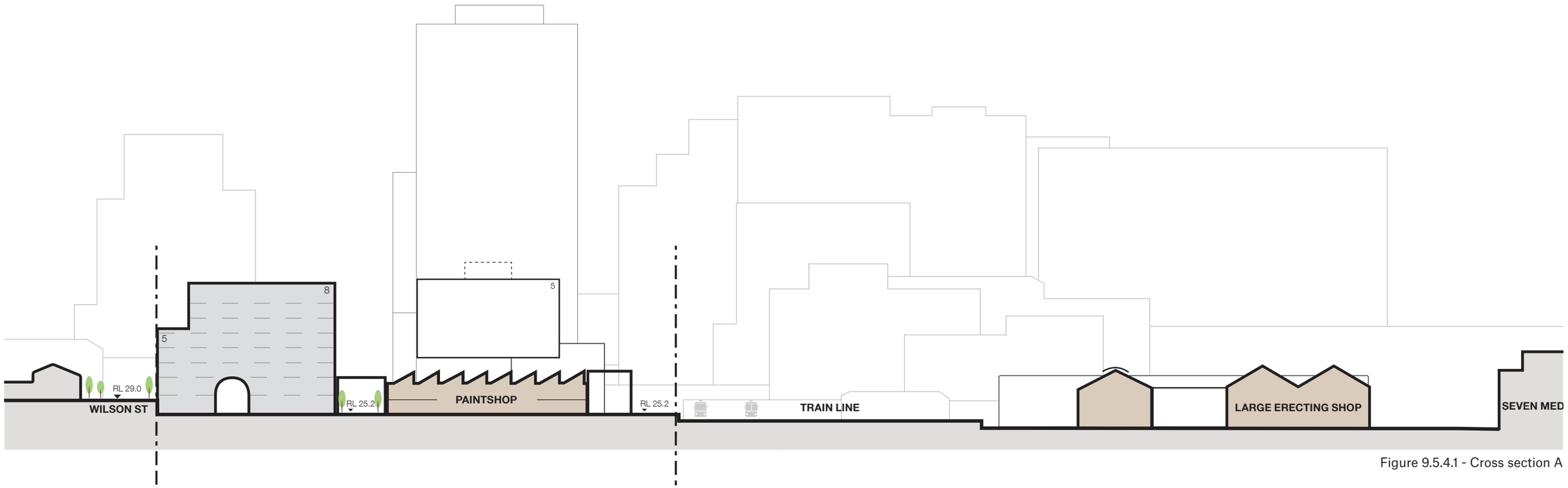


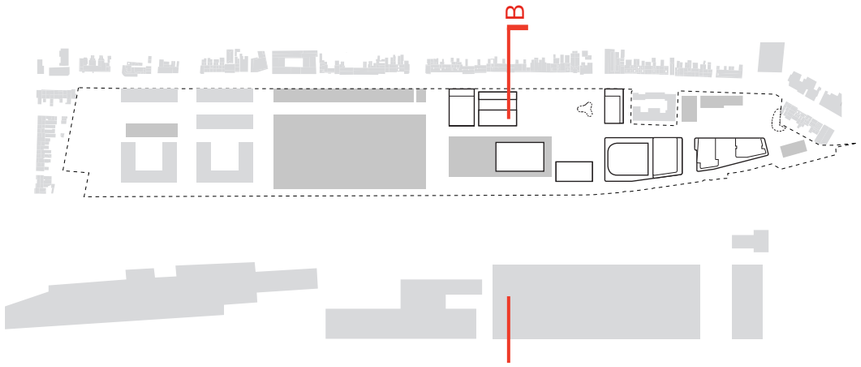
Figure 9.5.4.1 - Cross section A

CROSS SECTION A

1:1000 0 10 20 40m

9.5 Built Form and Land Use

9.5.4 Cross Section



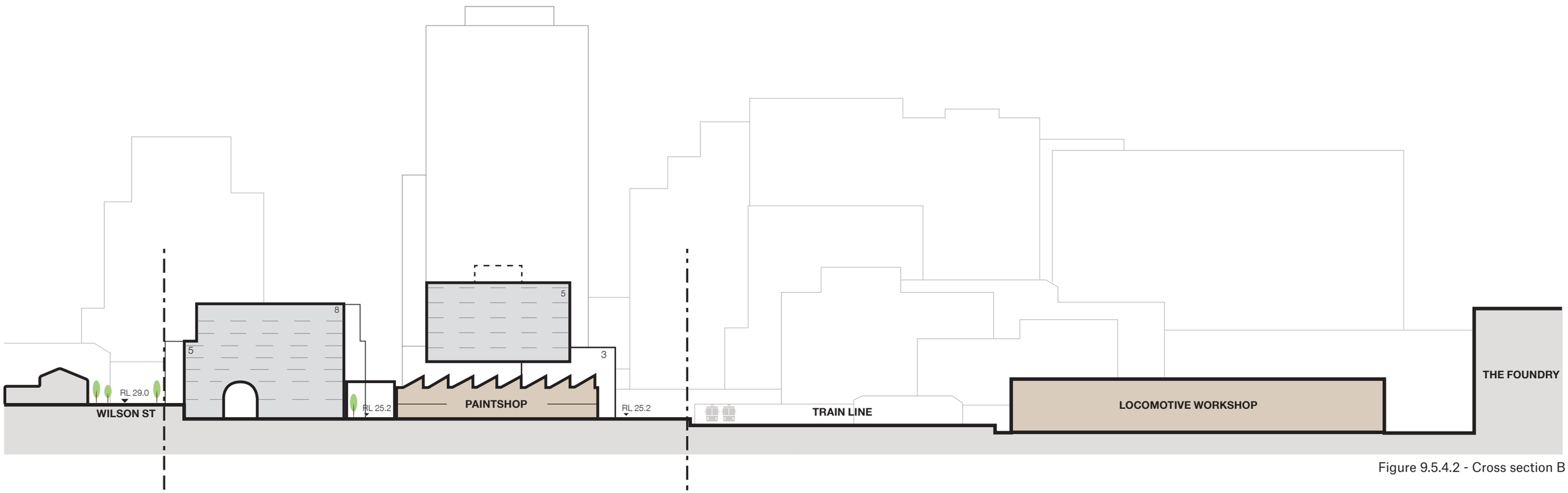


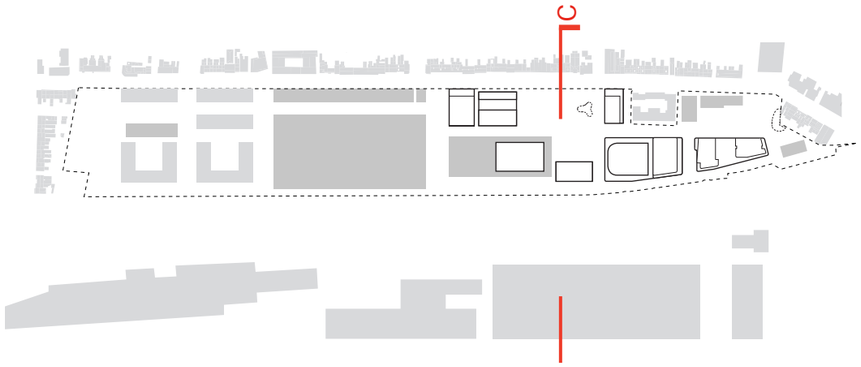
Figure 9.5.4.2 - Cross section B

CROSS SECTION B

1:1000 0 10 20 40m

9.5 Built Form and Land Use

9.5.4 Cross Section



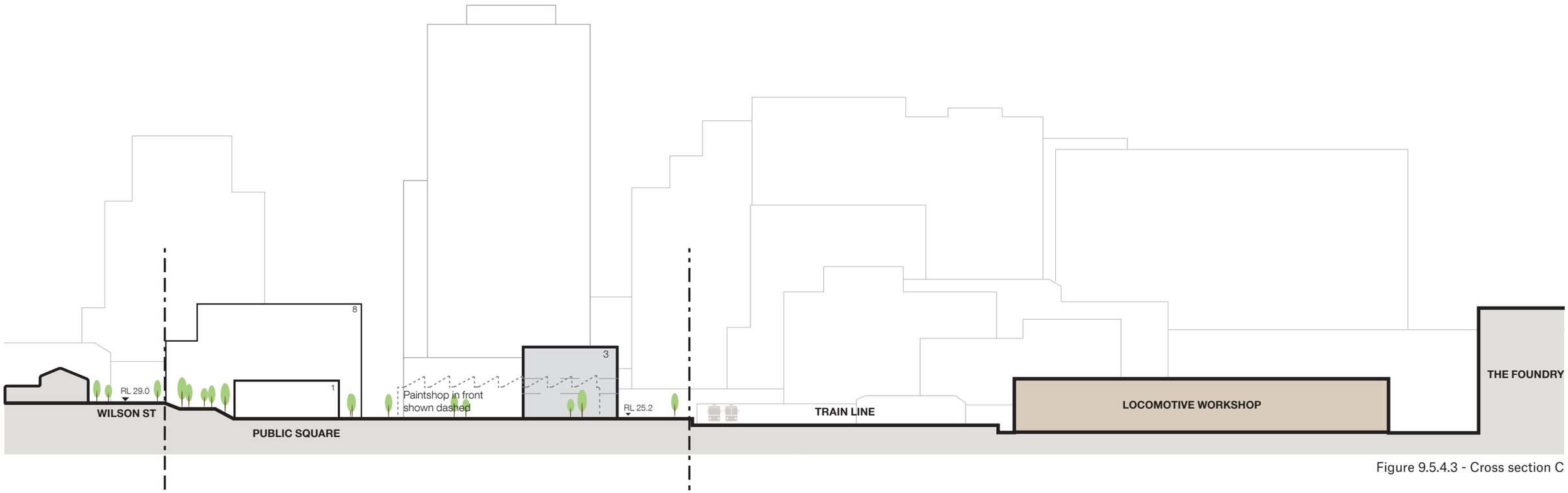


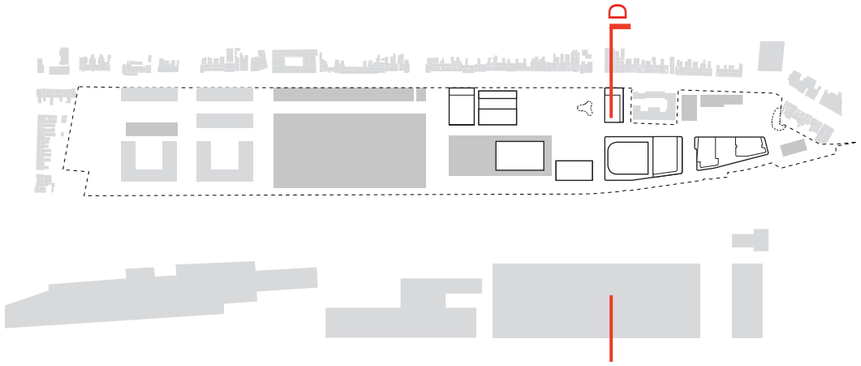
Figure 9.5.4.3 - Cross section C

CROSS SECTION C

0 10 20 40m
1:1000

9.5 Built Form and Land Use

9.5.4 Cross Section



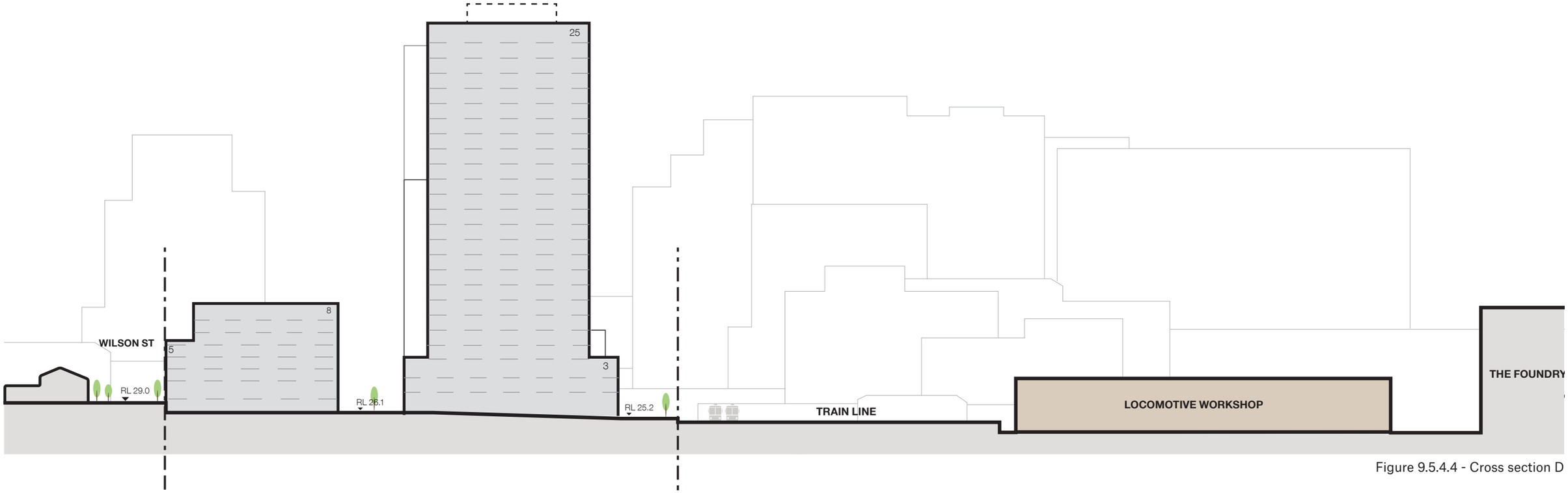


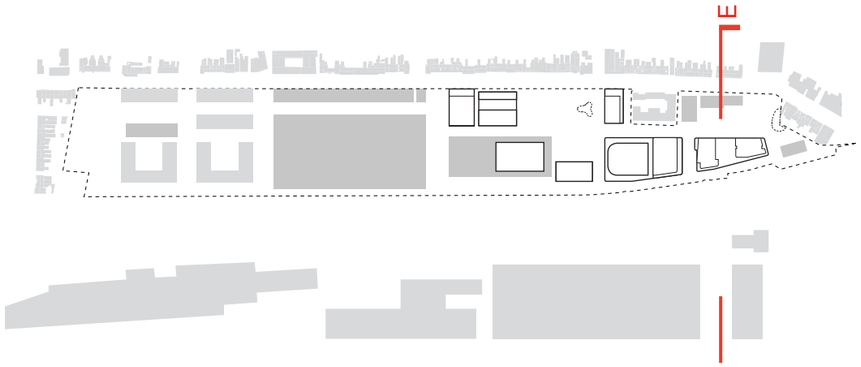
Figure 9.5.4.4 - Cross section D

CROSS SECTION D

0 10 20 40m
1:1000

9.5 Built Form and Land Use

9.5.4 Cross Section



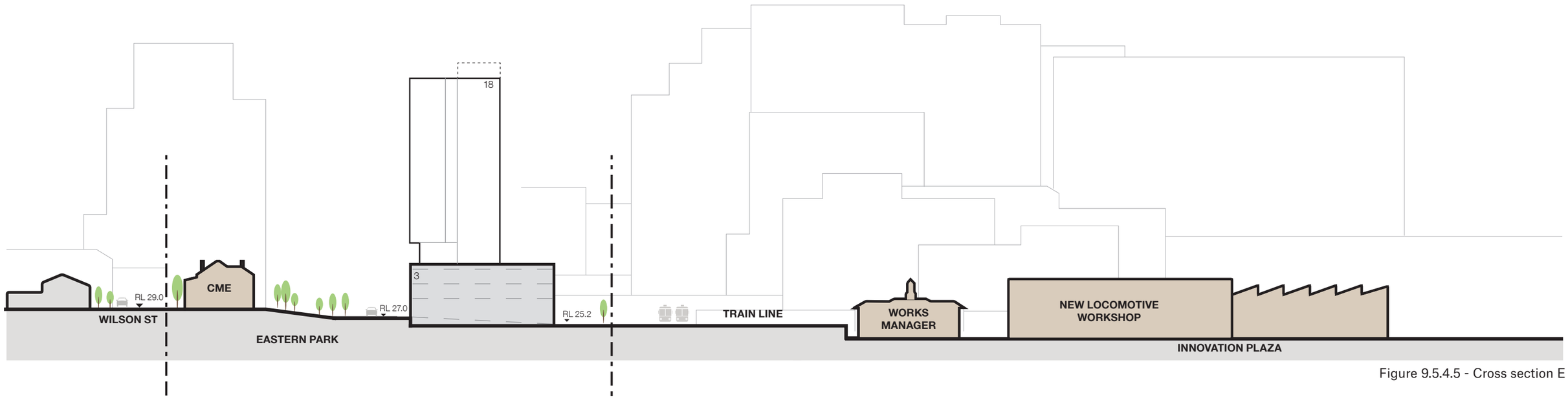


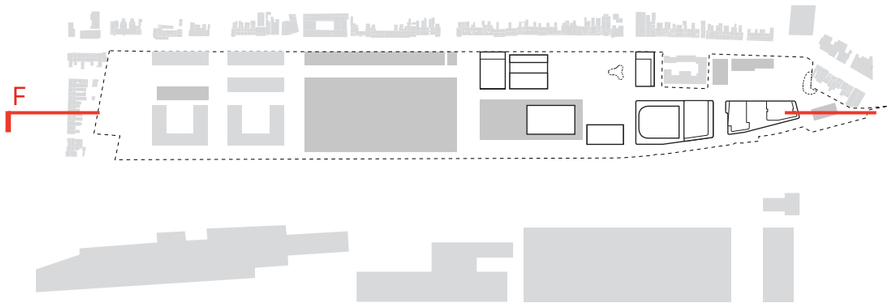
Figure 9.5.4.5 - Cross section E

CROSS SECTION E

0 10 20 40m
1:1000

9.5 Built Form and Land Use

9.5.5 Precinct Cross Section



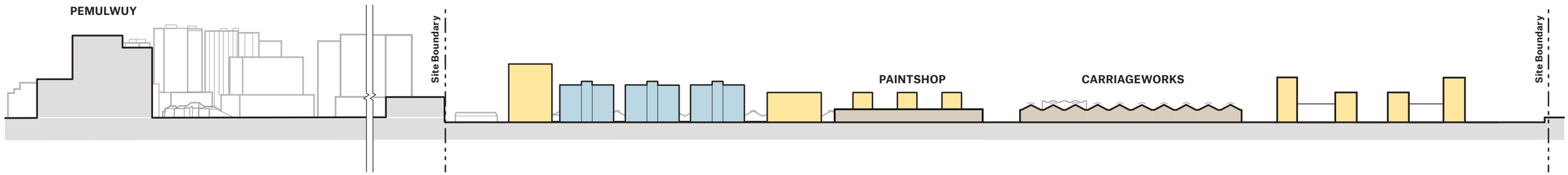


Figure 9.5.5.1 - Precinct cross section F / 2008 Masterplan

PRECINCT CROSS SECTION F - 2008 MASTERPLAN

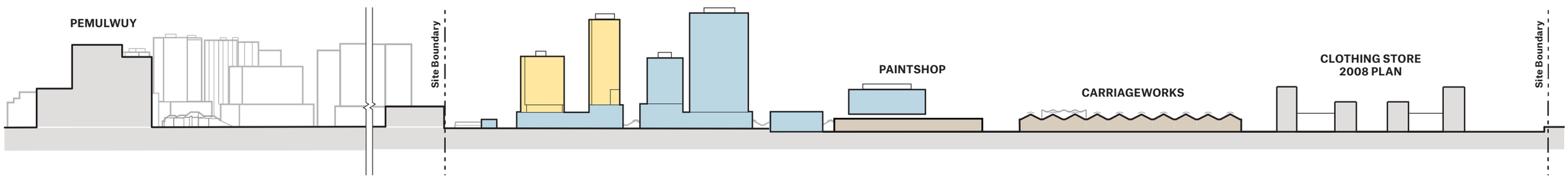


Figure 9.5.5.2 - Precinct cross section F / Proposed Masterplan

PRECINCT CROSS SECTION F - PROPOSED MASTERPLAN

0 50 100m
1:3000

9.5 Built Form and Land Use

9.5.6 Building Envelopes (H1, H2 ,K1 ,K2 ,L1 ,P1 ,P2 & S1)

Building envelopes have been defined through a number of factors, including urban design principles, overshadowing constraints, wind mitigation, Apartment Design Guide (ADG) setback requirements (also refer to section 9.6 compliance), heritage settings, rail corridor constraints, street sections, diverse building typology offer and roof top plant requirements.

Podiums have been defined to apply a low rise human scale context to street sections and adjacent heritage buildings, in particular the CME and Paint Shop buildings.

The varying height of the taller buildings has been established to avoid a monotonous datum line and create a playful interaction between the different buildings. Plot P2 with 18 storeys refers to the Redfern station cluster. Plots K1 and K2 offer a differing scale to support the innovation mix of commercial floorspace.

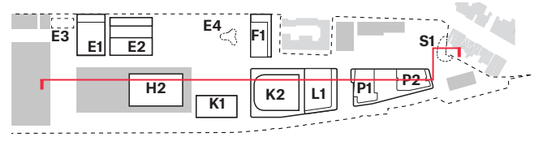
Particular envelope requirements apply to the additional floors above the Paint Shop building with key setbacks in plan and height to reduce the impact to the existing building.

All roofs shall maximise the use of solar panels in balance with a green roof offer.

The distribution of GFA achieves the following outcome:

- Height along the rail with limited solar impact to public open spaces and reducing impact to existing neighbourhood.
- Concentration of development around public square to generate vibrancy.
- Setbacks to respect heritage buildings.
- Podiums for human scale and wind mitigation to support best public domain outcome.
- Varying height to avoid monotonous elevation.

Site Key Plan



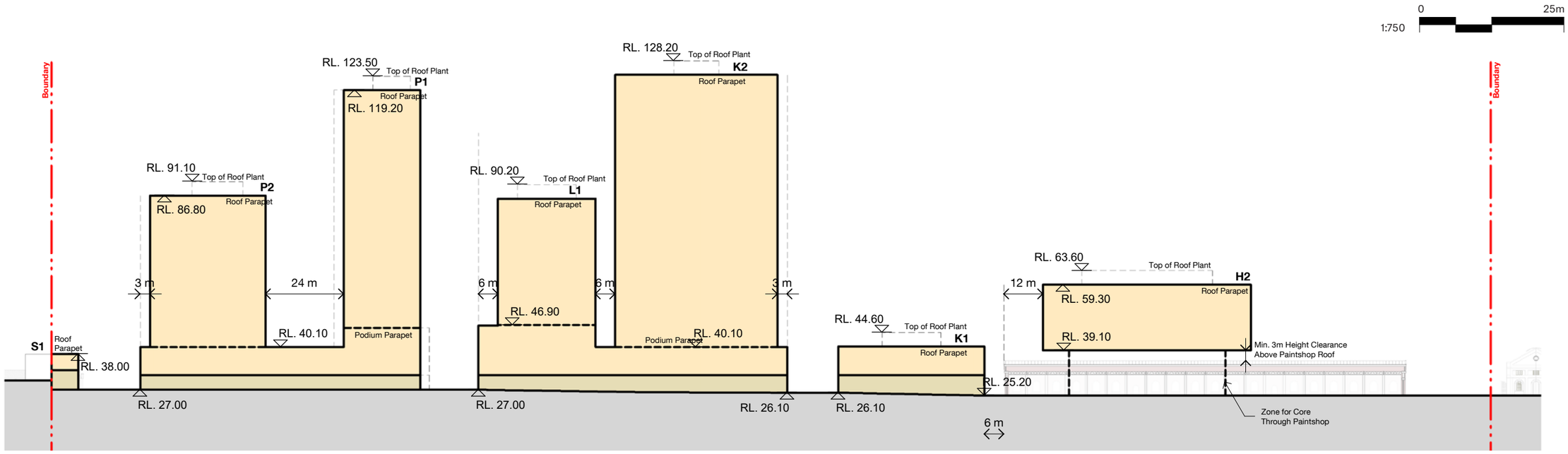


Figure 9.5.6.1 - Building envelopes section diagram through H1 ,K1 ,K2 ,L1 ,P1 ,P2 & S1

9.5 Built Form and Land Use

9.5.6 Building Envelopes (E1 ,E2 & F1)

Buildings along Wilson Street can be built to the boundary line on the lower floors, as long as all existing trees are fully retained. Setbacks may be required. Floors above 4 storeys are to be set back from the boundary by 8m to achieve a consistent setback line along Wilson Street. A level change of ca. 4m between Wilson Street and the lower site level may offer the potential for generous double height spaces.

A minimum setback from the rail is to be respected to allow for a landscape buffer and in some instances space for on-street parking. Refer to landscape and street plans in Chapter 10.6 and the Transport Strategy and Transport Impact Assessment for on street parking requirements.

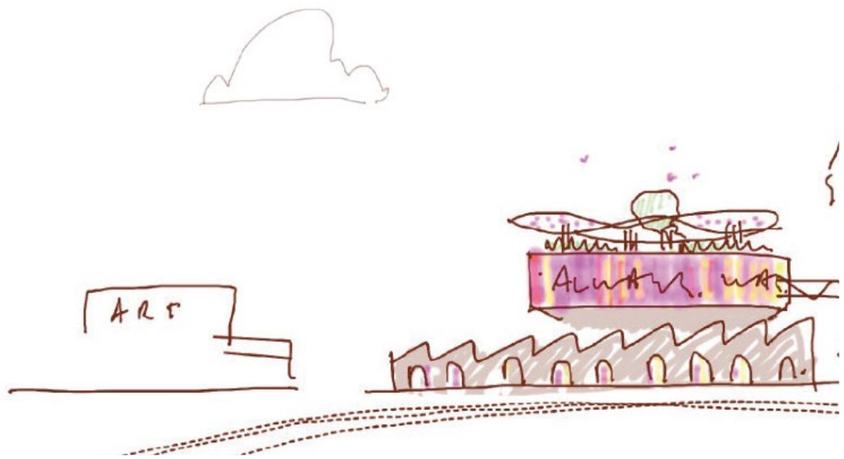
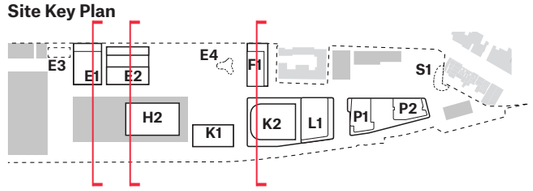


Figure 9.5.6.2 - Sketch of Over-development above Paint Shop

The Paint Shop over-development provides a good opportunity for a memorable building of the masterplan that interconnects its rail heritage legacy with the themes developed through the Connecting with Country engagement work.

Further detail on this proposition can be found in section 9.7.2 of this chapter.

Site Key Plan



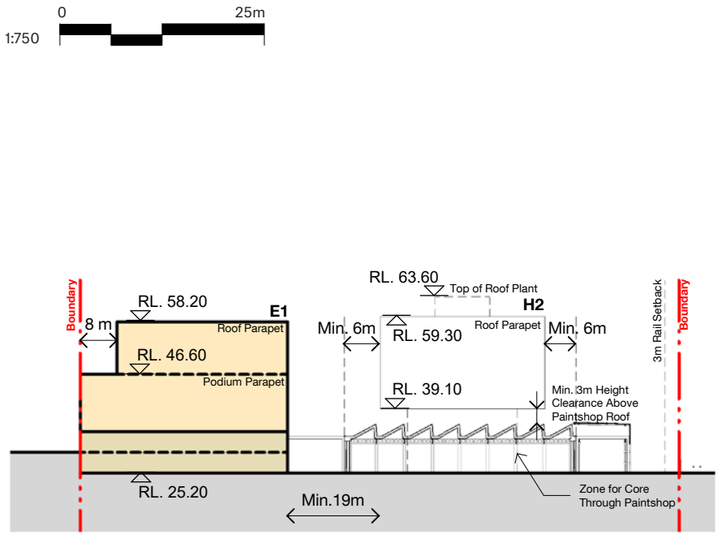


Figure 9.5.6.3 - Building envelopes section diagram through E1 & Paint Shop

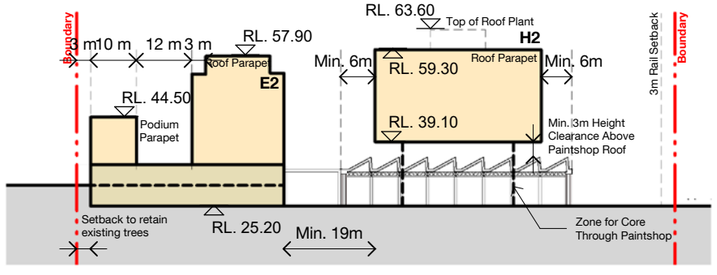


Figure 9.5.6.4 - Building envelopes section diagram through E2 & H2

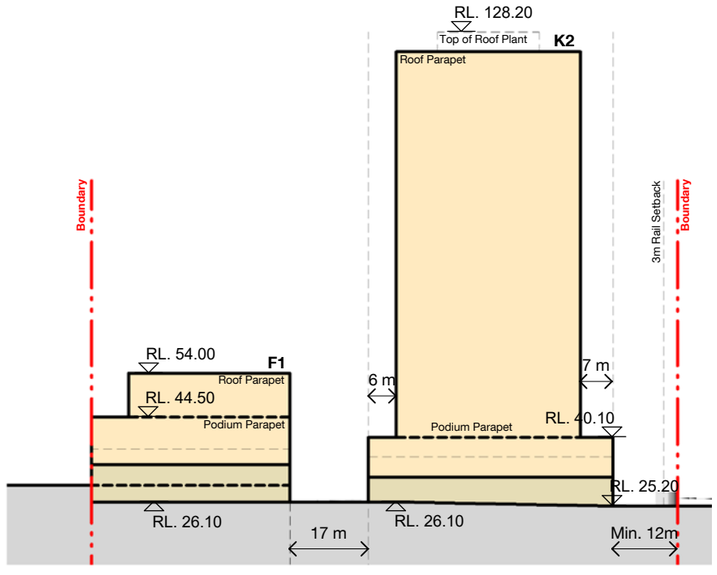


Figure 9.5.6.5 - Building envelopes section diagram through F1 & K2

9.5 Built Form and Land Use

9.5.6 Building Envelope Flexibility - Paint Shop (K1 / H2)

1:750 0 25m

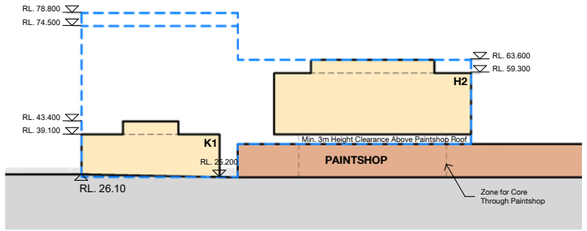
The heritage assessment prepared by Curio, 2022, identifies the Paint Shop building as exhibiting 'exceptional heritage significance'. Any adaptive reuse of the building, or development in close proximity, has the potential to impact that significance – either effecting the physical fabric of the building, the visual setting, or both.

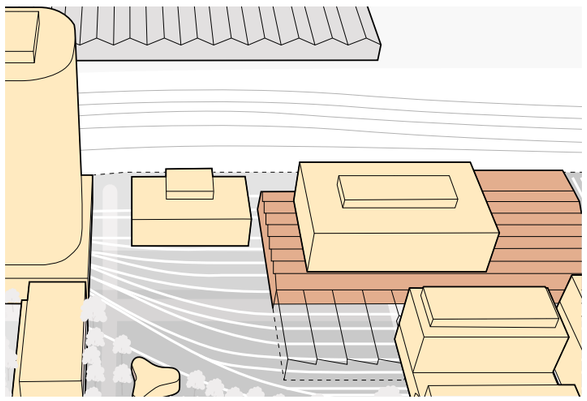
The illustrative masterplan described in this urban design report includes a 5-level building above the Paint Shop (H2) and a 3-level building immediately adjacent (K1), reflected as 'Approach 1' in the adjacent figures. This approach seeks to facilitate development outcomes aligned with the vision for an innovation precinct whilst minimising any impacts to the Paint Shop.

The sensitivity of any development is reliant on detailed design considerations beyond the scope of this phase. Accordingly, to preserve opportunities for alternate approaches that achieve equivalent or better heritage outcomes, it is recommended that the rezoning instruments provide some flexibility in the building envelope and associated design guidelines.

The adjacent figures describe three possible outcomes that could be accommodated within a flexible planning envelope. Each approach accommodates the same quantum of floorspace and the flexibility of the envelope should not be exploited to increase the development yield.

The three approaches balance physical impact, visual impact, and development outcomes in distinct ways, summarised below.





Approach 1 - Over Paint Shop Development

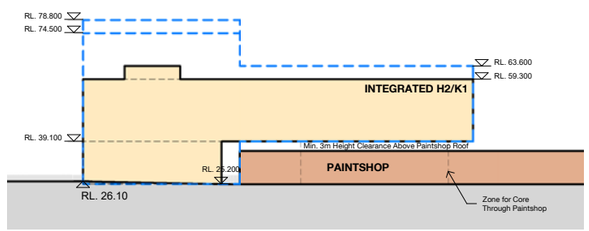
5 level building (H2) above Paint Shop with 3-level building adjacent (K1)

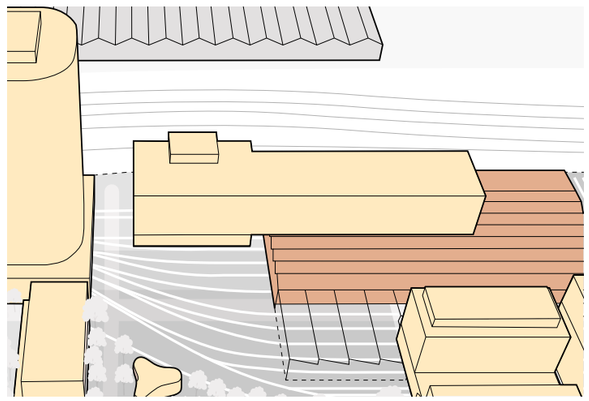
Positives

- K1 adjacent Paint Shop - provides appropriate low-scale relationship and contributes to diversity of buildings;
- Compact footprint and generous setbacks to H2 minimises visual impact;
- Unique development that integrates Paint Shop and new contemporary workplace;

Considerations

- Structure and services supporting new floor-plates (H2) will impact the existing building fabric. Detailed design must rationalise new elements to minimise the impact and preserve the integrity of the existing building.





Approach 2 - Integrated Development

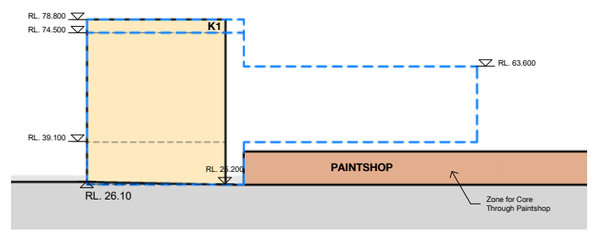
Integrated development (K1+H2) of up-to 4 levels above Paint Shop

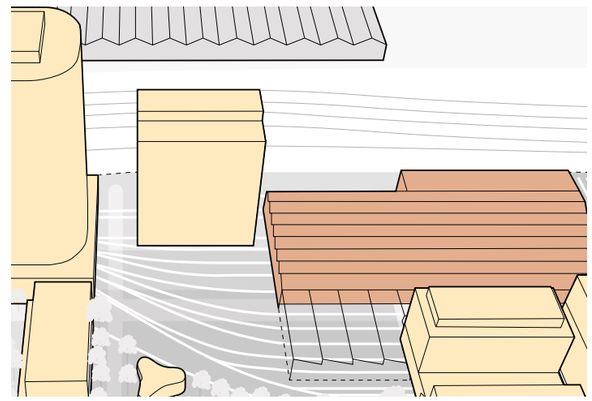
Positives

- Reduced quantum and height of development over the Paint Shop building;
- Opportunity to consolidate elements such as lift core in K1 footprint to minimise impact on existing building fabric;

Considerations

- Increased height and bulk of K1 element results in greater visual prominence viewed from new Public Square and rail line.





Approach 3 - Associated Development

Standalone development (K1) of 12 levels

Positives

- No development over the Paint Shop, preserves the external building fabric and eliminates impact of structure / services from new building inherent in Approaches 1 + 2.

Considerations

- Taller K1 building is more visually prominent in the Public Square and presents a less sensitive relationship to Paint Shop than lower scale forms;
- Smaller commercial floor-plate of K1 may be less favorable than Approach 1 or 2.

9.5 Built Form and Land Use

9.5.7 Primary Uses

A key to a successful innovation district is a good mix of land uses for the development, and the right distribution within the framework. Single use areas within the plan will isolate user groups and run the risk of creating a business park, rather than an integrated vibrant and thriving neighbourhood.

The proposed masterplan is grouped around three main public open spaces, each with a distinct character.

The Eastern Garden has a community character, with the majority of the residential uses located here on commercial podiums sitting opposite and adjacent re-purposed heritage buildings.

Public Square at the entry of the sub-precinct is balanced towards commercial uses, with mixed use residential buildings extending the activity around this space beyond working hours, and creating a transition into the predominantly residential neighbourhood.

Traverser Plaza as an innovation space offers flexible commercial space in large floor-plates opposite Carriageworks as the creative heart of the site.

Community buildings are evenly distributed through the development. Retail activation follows the primary and secondary frontages as described on earlier diagrams in this report.

Key

- Residential
- Commercial
- Residential / Commercial
- Community

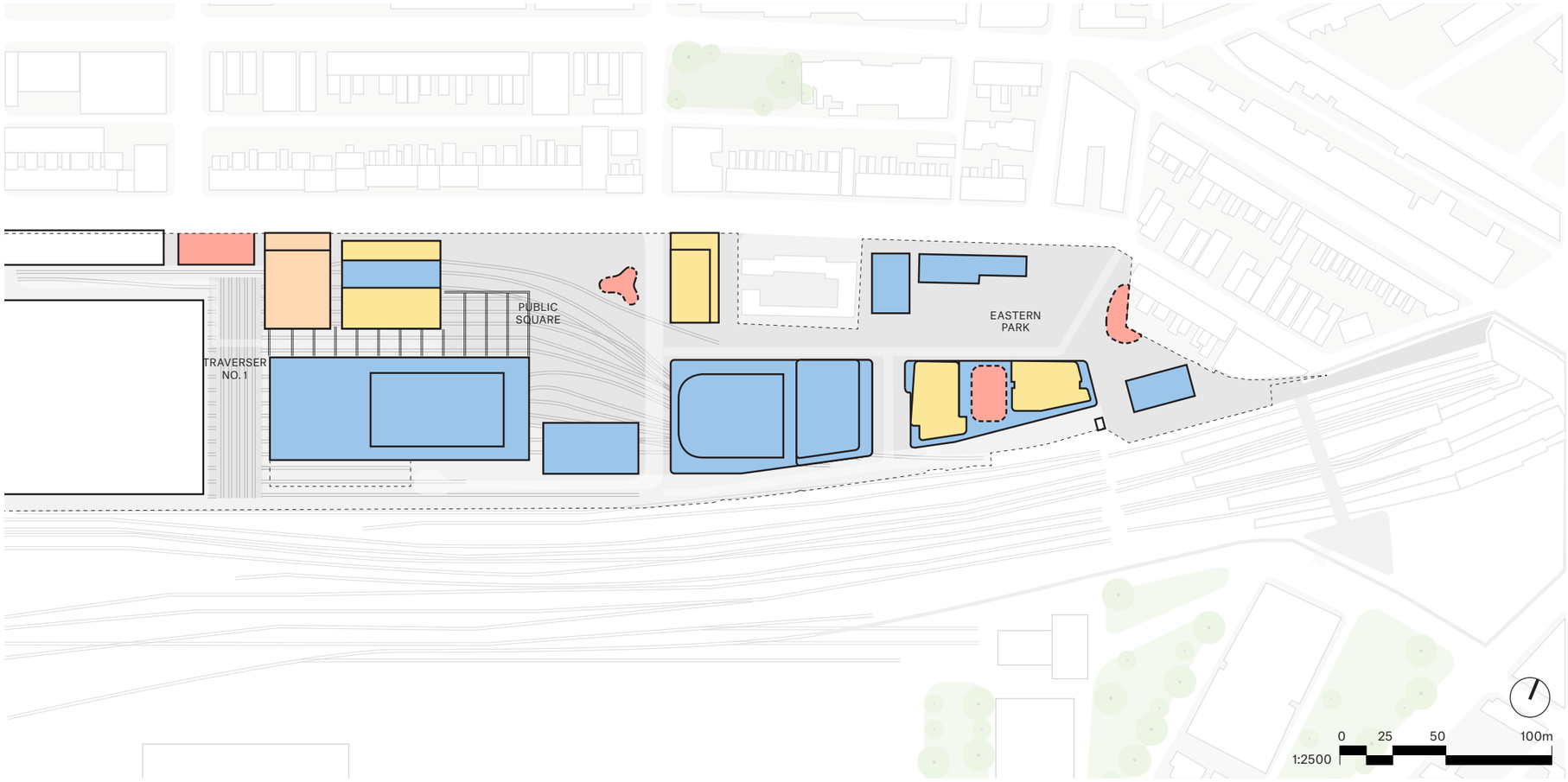


Figure 9.5.7.1 - Primary uses plan

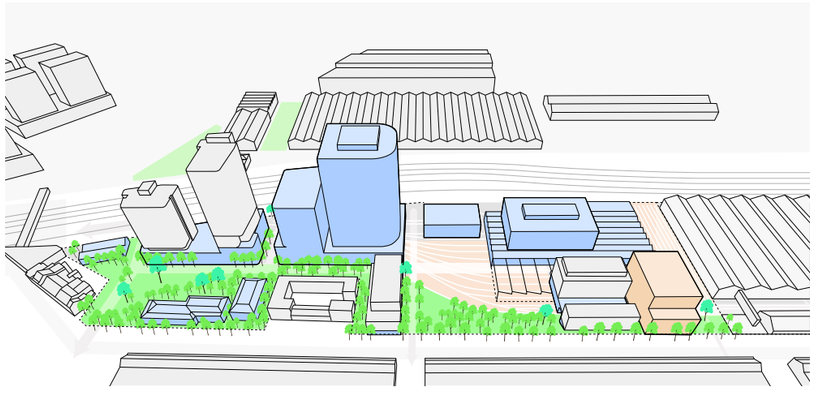


Figure 9.5.7.2 - Commercial uses

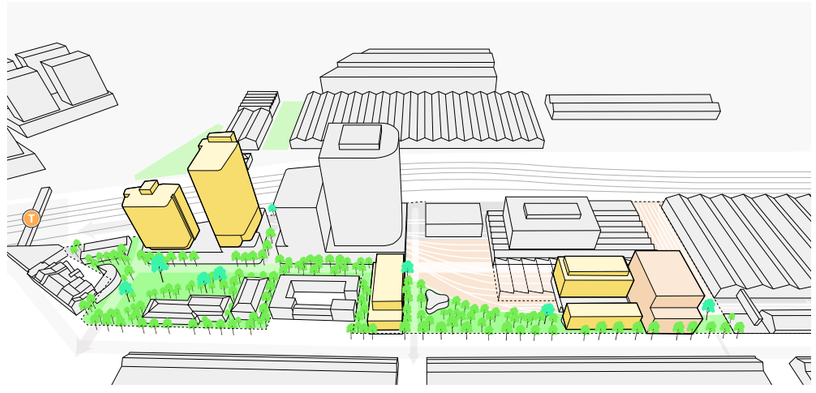


Figure 9.5.7.3 - Residential uses

9.5 Built Form and Land Use

9.5.8 Retail and Communal area distribution

The illustrative distribution of Retail use shown on this page represents the lower range (between 9 000 and 15 000 m²) identified in the Economic productivity and job creation report. A target area for Community use has been established through consultation. Refer to the Social sustainability and infrastructure Report.
The masterplan does not preclude a larger retail allocation and can be adapted to meet different targets. This can be achieved for instance by use of commercial areas at upper floors, or areas at B1 level for use of supermarkets, for example.
Refinements will be required at building design development stages.

Areas taken from the illustrative plans as follows:

Retail
Plot E1 + E2
1,170m² GBA / 1,050m² GFA (Wilson Street level)
2,100m² GBA / 1,875m² GFA (Public Square level)

Plot F1
400m² GBA / 360m² GFA (Wilson Street level)
810m² GBA / 730m² GFA (Public Square level)

Plot H1
1150m² GBA / 1,600m² GFA (Public Square level)

Plot K1
610 m² GBA / 550m² GFA

Plot K2
970 m² GBA / 870m² GFA

Plot L1
770 m² GBA / 695m² GFA

Plot P
1,050 m² GBA / 945m² GFA

Plot Q
350 m² GBA / 315m² GFA

Total Retail GFA sub-precinct =9 005 m²

Community
Plot E3
280m² GBA / 250m² GFA

Plot E4
420m² GBA / 375m² GFA

Plot H1
330m² GBA / 300m² GFA

Plot P
890 m² GBA / 800m² GFA (Level 1)
445 m² GBA / 400m² GFA (Ground)

Plot S (Level 1)
410 m² GBA / 370m² GFA

Total Community GFA sub-precinct =2 520m²

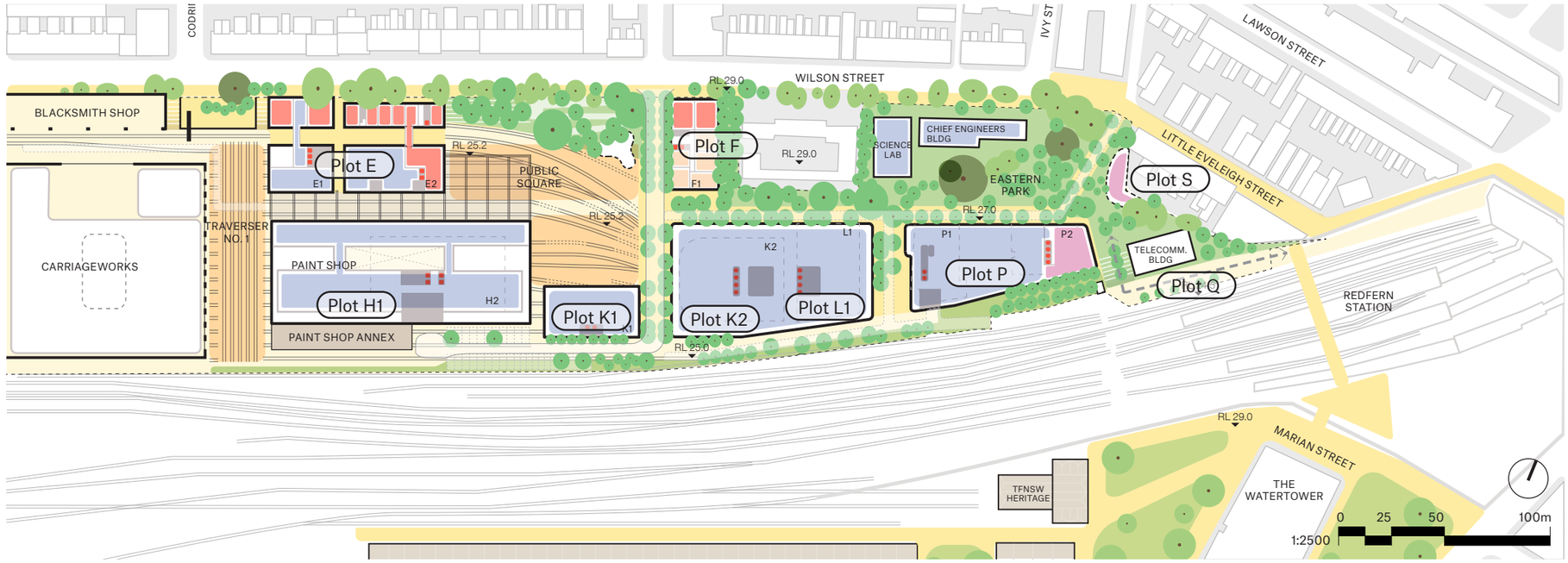


Figure 9.5.8.1 - Upper ground floor uses plan

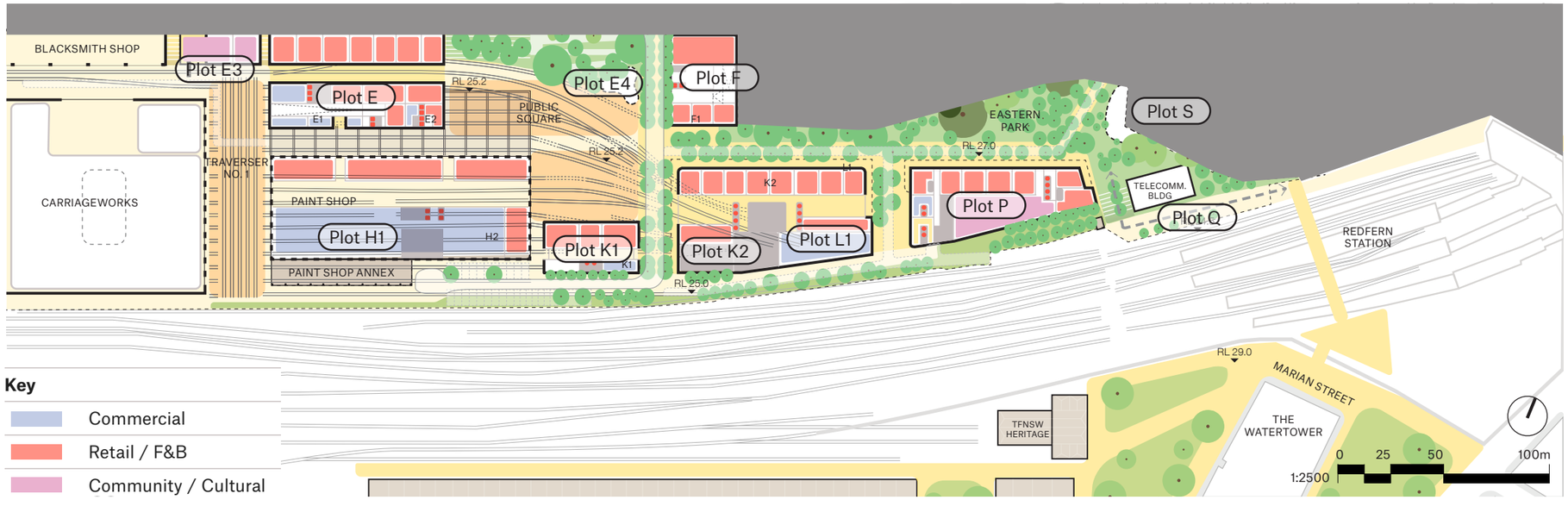


Figure 9.5.8.2 - Lower ground floor uses plan

9.5 Built Form and Land Use

9.5.9 Uses distribution diagram

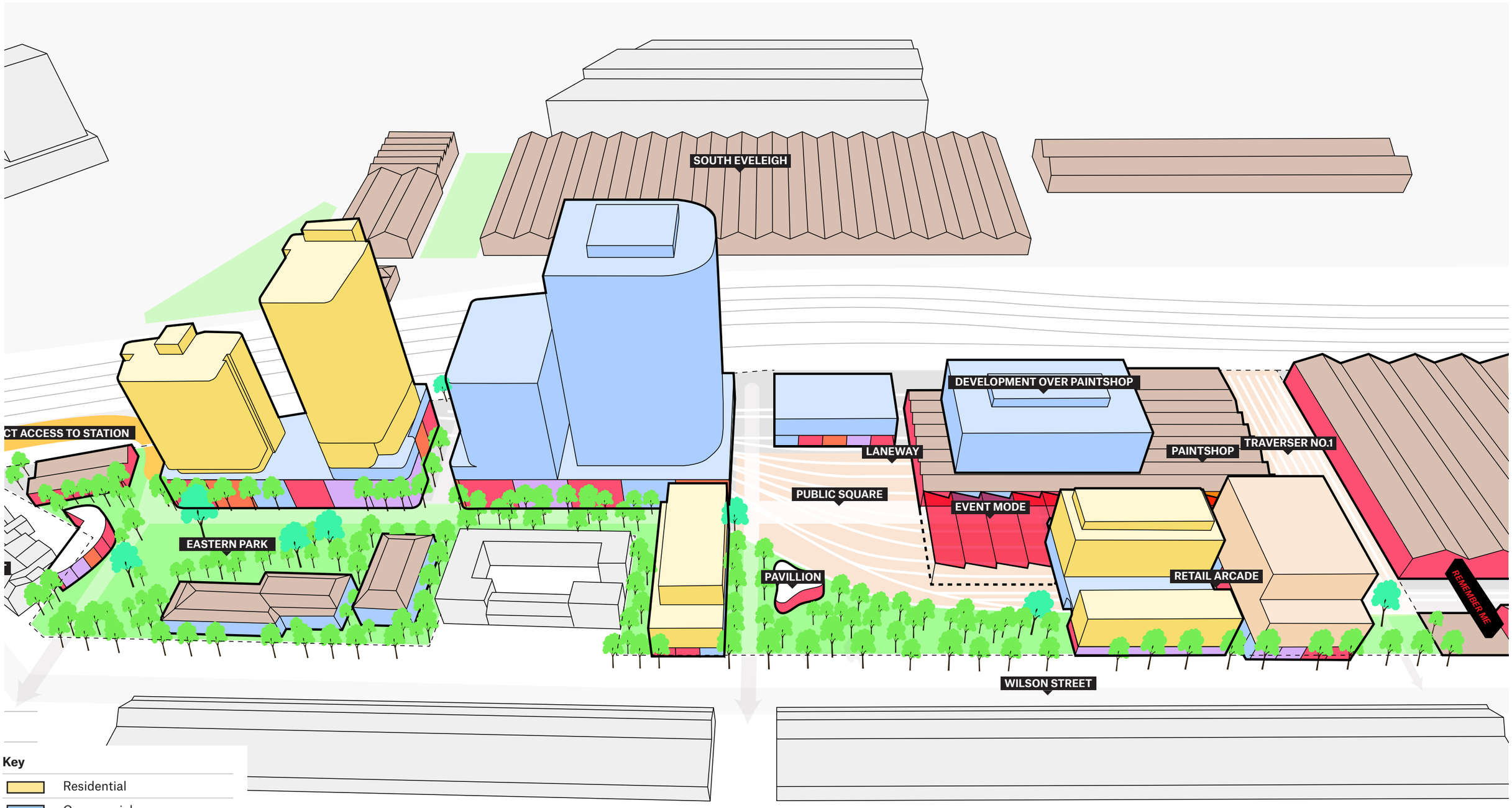


Figure 9.5.9.1 - Masterplan overall uses diagram

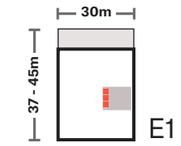
9.5 Built Form and Land Use

9.5.10 Innovation metrics and typologies

Selected commercial buildings from proposition

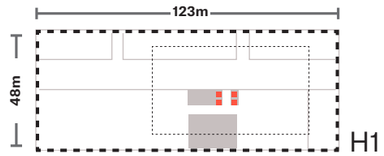
Mixed-use commercial – contemporary warehouse

Storeys: 8
Floorplate GBA: 1,100 - 1,400m²
Building GBA: 9,980m²
Building GFA: 8,415m²



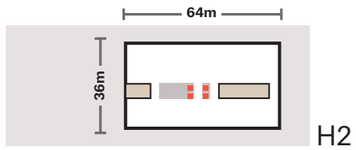
Innovation Warehouse

Storeys: 1.5
Floorplate GBA: 6,870
Building GBA: 10,300m²
Building GFA: 9,275m²



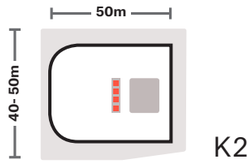
Warehouse plus

Storeys: 5
Floorplate GBA: 1,965m²
Building GBA: 9,825m²
Building GFA: 8,845m²



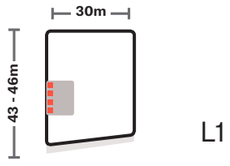
Innovation anchor premium tower

Storeys: 25
Floorplate GBA: 1,910 - 2,170m²
Building GBA: 48,565m²
Building GFA: 43,275m²



Tech vertical village

Storeys: 15
Floorplate GBA: 1,310 - 2,580m²
Building GBA: 24,145m²
Building GFA: 21,215m²



Boutique and unique commercial

Storeys: 2
Floorplate GBA: 450 - 700m²
Building GBA: 900 - 1400m²
Building GBA: 800 - 1250m²

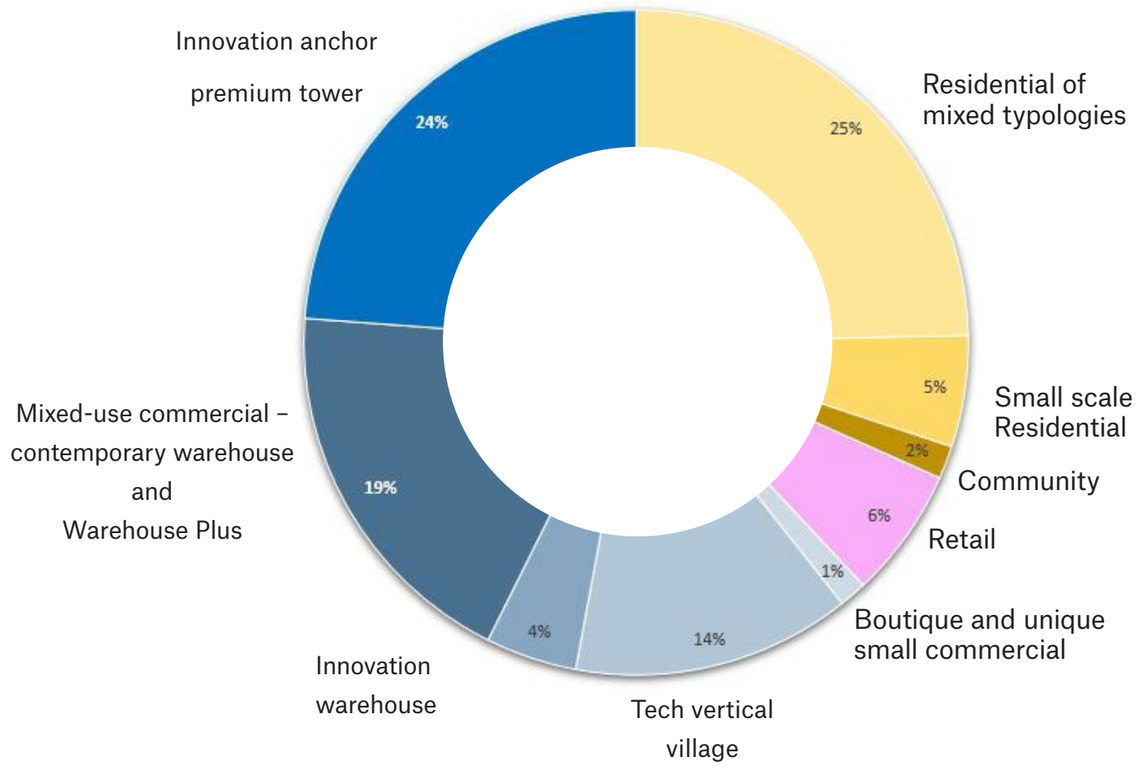


Figure 9.5.10.1 - Innovation metrics - different uses / building types as percentage of total GFA within Paint Shop sub-precinct

9.5 Built Form and Land Use

9.5.11 Area Distribution

This pages summarises GFA areas per building, divided between residential uses (yellow) and non-residential uses (blue). The non- residential uses also include Retail and Communal uses, which are detailed in Section 9.5.8.

Note :

*E1 is notes as commercial in the adjacent GFA summary but could be developed either as residential uses, non-residential uses, or mixed uses.

Residential

Building	GFA (sqm)
P2	8,276
P1	14,485
F1	4,154
E2	6,146

Commercial (includes retail and community)

Building	GFA (sqm)
Q1 (Telecomms.)	315
S1	367
P2	4,275
P1	4,552
N2(CME bldg)	1,260
N1 (Science Lab bldg)	817
L1	21,213
K2	43,275
K1	2,700

Building	GFA (sqm)
F1	1,654
E4	376
E3	252
E2	1,996
E1 *	8,416
H2	8,843
H1 (Paint Shop)	9,275

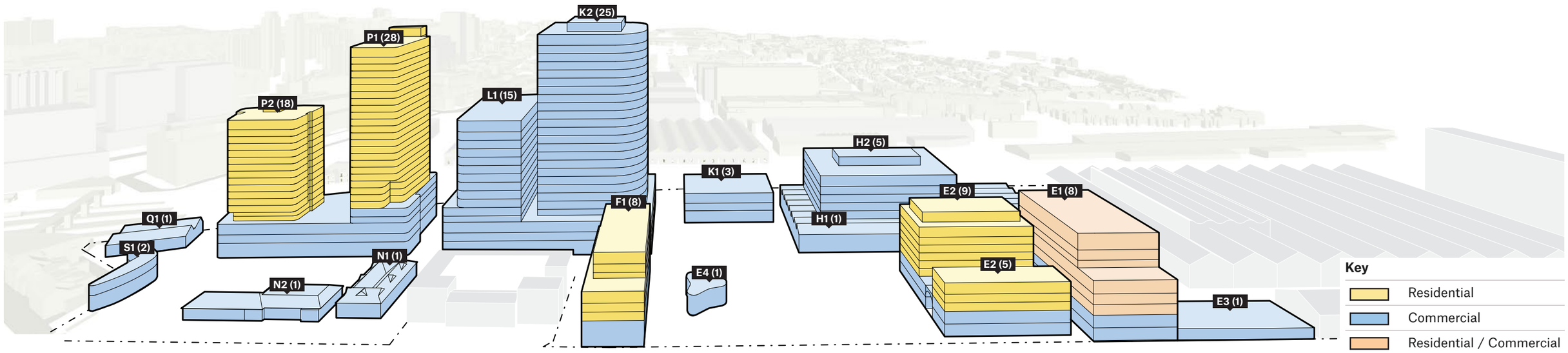


Figure 9.5.11.1 - Area distribution diagram

9.5 Built Form and Land Use

9.5.12 Area Schedule

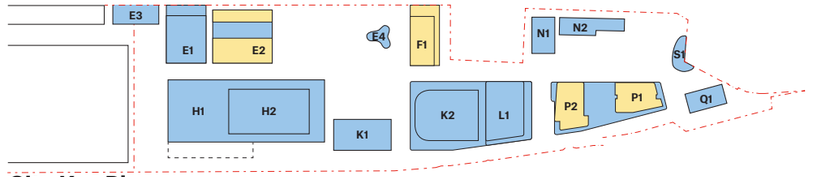
The following schedules describe the total GFA achievable under the proposed masterplan described in this report. All massing depicted in this study reflects Gross Building Area. GFA figures are calculated from the assumed building efficiencies (as noted in Schedule 9.5.12.1) as a percentage of the depicted Gross Building Areas.

Areas described in the Executive Summary and related technical studies and proposed amendments to planning instruments have been rounded to whole numbers as follows:

— A maximum of 109,500 square metre gross floor area (GFA) of employment floor space.

— A minimum of 33,000 square metre gross floor area (GFA) of residential accommodation

— Approximately 2,500 square metre gross floor area (GFA) of community/cultural space.



Site Key Plan

2008 MASTERPLAN SUMMARY								
Area Summary	**Clothing Store Sub-Precinct**		**Carriageworks Sub-Precinct**		**Paint Shop Sub-Precinct**		**Combined Precinct**	
	Area (m2)	**%**	**Area** (m2)	**%**	**Area** (m2)	**%**	**Area (m2)**	% of site
Site Area	32,082		24,815		50,636		107,533	
Total GFA	50,698	28.6%	34,588	19.5%	92,240	52.0%	177,526	
Residential GFA	50,698	100.0%	0	0.0%	40,051	43.4%	90,749	51.1%
Commercial GFA	0	0.0%	34,588	100.0%	52,189	56.6%	86,777	48.9%
# of Residential Units Approved	710				550		1,260	
# Of Residential Units* (based on 76.4m2/ unit)								

PROPOSED MASTERPLAN		
Paint Shop Sub-Precinct	**Combined Precinct**	
Area (m2)	Area (m2)	% Whole Site
51,561		
		uplift
142,647	227,933	28.4%
		mix
33,060	83,758	36.7%
109,587	144,175	63.3%
	Residential Units	
381	1,091	

Notes & Assumptions *	Source
Commercial = 1 person/15 m²	Hill PDA
Residential Unit / 76.4m2 NSA (Proposed masterplan only)	TfNSW
Residential NSA = 88% GFA	BS
Residential GFA Efficiency = 78% GBA	BS
Commercial GFA Efficiency = 90% GBA	BS
Residential provision in Clothing Store sub-precinct remains unchanged from approved 2008 plan	

Note - Minor variation in site area relative to 2008 due to boundary realignment.

Table 9.5.12.1 - Area distribution schedule

Area Schedule

Building	Use	Floorplate	Storeys	Building	Efficiency	Residential	Non-Resi	Notes
		GBA (sqm)		GBA (sqm)		GFA (sqm)	GFA (sqm)	
E1	Non-Resi	1,190	2	2,380	0.70		1,666	Building E1 - flexibility for either commercial or residential uses (above ground level)
	Non-Resi	1,372	3	4,116	0.90		3,704	
	Non-Resi	1,128	3	3,384	0.90		3,046	
E1 Total			**8**	**9,880**			**8,416**	
E2	Non-Resi	1,656	1	1,656	0.70		1,159	
	Non-Resi	1,196	1	1,196	0.70		837	
	Residential	460	4	1,840	0.78	1,435		
	Residential	920	6	5,520	0.78	4,306		
	Residential	520	1	520	0.78	406		
E2 Total			**9**	**10,732**		**6,146**	**1,996**	
E3	Non-Resi	280	1	280	0.90		252	
E3 Total			**1**	**280**			**252**	
E4	Non-Resi	209	2	418	0.90		376	
E4 Total			**2**	**418**			**376**	
F1	Non-Resi	1,034	1	1,034	0.70		724	
	Non-Resi	1,034	1	1,034	0.90		931	
	Residential	1,034	3	3,102	0.78	2,420		
	Residential	741	3	2,223	0.78	1,734		
F1 Total			**8**	**7,393**		**4,154**	**1,654**	
H1	Non-Resi	6,870	1.5	10,305	0.90		9,275	Paint Shop - assumes half mezzanine floor
H1 Total			**1.5**	**10,305**			**9,275**	
H2	Non-Resi	1,965	5	9,825	0.90		8,843	Development above Paint Shop (Atrium 350 SQM)
H2 Total			**5**	**9,825**			**8,843**	
K1	Non-Resi	1,080	1	1,080	0.70		756	
	Non-Resi	1,080	2	2,160	0.90		1,944	
K1 Total			**3**	**3,240**			**2,700**	
K2	Non-Resi	2,167	1	2,167	0.70		1,517	
	Non-Resi	2,167	2	4,334	0.90		3,901	
	Non-Resi	1,912	22	42,064	0.90		37,858	
K2 Total			**25**	**48,565**			**43,275**	
L1	Non-Resi	2,577	1	2,577	0.70		1,804	
	Non-Resi	2,577	2	5,154	0.90		4,639	
	Non-Resi	1,666	2	3,332	0.90		2,999	
	Non-Resi	1,308	10	13,080	0.90		11,772	
L1 Total			**15**	**24,143**			**21,213**	
N1	Non - Resi	454	2	908	0.90		817	Existing Science Lab Building
N1 Total	Total		**2**	**908**			**817**	
N2	Non - Resi	700	2	1,400	0.90		1,260	Existing CME Building
N2 Total			**2**	**1,400**			**1,260**	
P1	Non - Resi	1,059	1	1,059	0.70		741	
	Non - Resi	1,059	2	2,118	0.90		1,906	
	Non - Resi	1,058	2	2,116	0.90		1,904	
	Residential	757	4	3,028	0.78	2,362		
	Residential	818	19	15,542	0.78	12,123		
P1 Total			**28**	**23,863**		**14,485**	**4,552**	
P2	Non - Resi	1,710	1	1,710	0.70		1,197	
	Non - Resi	1,710	2	3,420	0.90		3,078	
	Residential	612	2	1,224	0.78	955		
	Residential	722	13	9,386	0.78	7,321		
P2 Total			**18**	**15,740**		**8,276**	**4,275**	
Q1	Non-Resi	350	1	350	0.90		315	Existing Telecomm. Building
Q1 Total			**1**	**350**			**315**	
S1	Non-Resi	204	2	408	0.90		367	
S1 Total			**2**	**408**			**367**	

GFA by use	**33,060**	**109,587**
GFA %	**23%**	**77%**

Railway	**22,760**
Wilson St	**10,300**

TOTAL	164,210	**142,647**

Table 9.5.12.2 - Area schedule

9.5 Built Form and Land Use

9.5.13 Apartment Mix

Table 9.5.13.1 provides an indication of the number of apartments that could be achieved in each residential building based upon the measured floorplate GBA's and efficiency assumptions (as noted).

Table 9.5.13.2 provides three apartment mix scenarios for the proposed development, demonstrating the flexibility of the scheme's residential unit distribution and its ability to cater for future changes in target mix.

AREA & APARTMENT DISTRIBUTION

Building	Resi GBA	Resi GFA	Resi NSA	# Apts
		78% of GBA	88% of GFA	76.4 Avg. sqm
E2	7420	5788	5093	67
F1	5832	4549	4003	52
P1	18570	14485	12746	167
P2	10610	8276	7283	95
Total	**42432**	**33097**	**29125**	**381**

Notes & Assumptions *		Source
Residential Unit / 76.4m2 NSA		TfNSW
Residential NSA = 88% GFA		BS
Residential GFA Efficiency = 78% GBA		BS
Apartment Mix		Sydney DCP 2012
Studio	5-10%	
1 Bed	10-30%	
2 Bed	40-75%	
3+ Bed	10-100%	
Minimum Apartment Sizes		Apartment Design Guide
Studio	35sqm	
1 Bed	50sqm	
2 Bed	70sqm	
3+ Bed	90sqm	

Table 9.5.13.1 - Area and apartment distribution schedule

INDICATIVE APARTMENT MIX - SCENARIO A

Studio	1 Bed	2 Bed	3+ Bed	Total
10% 35-49sqm	20% 50-69sqm	40% 70-89sqm	30% 90-105sqm	
7	13	27	20	67
4	10	21	16	51
17	33	67	50	167
10	19	38	29	95
37	**76**	**152**	**114**	**380**

Avg Apartment Size 77.2

INDICATIVE APARTMENT MIX - SCENARIO B

Studio	1 Bed	2 Bed	3+ Bed	Total
5% 35-49sqm	25% 50-69sqm	50% 70-89sqm	20% 90-105sqm	
3	17	33	13	67
3	13	26	10	52
0	0	0	0	0
8	42	83	33	167
5	24	48	19	95
19	**95**	**191**	**76**	**381**

Avg Apartment Size 76.2

INDICATIVE APARTMENT MIX - SCENARIO C

Studio	1 Bed	2 Bed	3+ Bed	Total
5% 35-49sqm	15% 50-69sqm	70% 70-89sqm	10% 90-105sqm	
3	10	47	7	67
3	8	37	5	52
0	0	0	0	0
8	25	117	17	167
5	14	67	10	95
19	**57**	**267**	**38**	**381**

Avg Apartment Size 76.4

Table 9.5.13.2 - Apartment mix schedule

9.6 Amenity & Compliance

9.6.1 Introduction

Study Requirements

Includes a detailed master plan that integrates all other urban design related study requirements and demonstrates that the proposed Gross Floor Area (GFA) to be included in the planning framework can achieve high quality place outcomes;

Includes a sun access study to ensure comfort and usability of both existing and proposed public space;

Identifies noise and vibration constraints and identifies appropriate mitigation strategies through placement of built form and open spaces;

Identifies wind comfort criteria for the entire precinct and all adjacent areas affected by the proposed development;

Introduction

The following section demonstrates the proposed masterplan framework can achieve high quality place outcomes within the public domain and private developments.

Key amenity considerations addressed include:

— Solar access to both existing and proposed public spaces to ensure comfort and useability;

— Mitigation of adverse noise – principally related to the railway – through the organisation and placement of built form and open spaces; and

— The propensity for buildings to achieve appropriate levels of amenity for occupants with specific regard to key amenity requirements of the Apartment Design Guide (ADG) for residential buildings.

Further detailed analysis relating to noise and wind is presented in the corresponding specialist studies.

Figure 9.6.1.1 - Visualisation of Eastern Garden looking towards CME building

9.6 Amenity & Compliance

9.6.2 Public Domain Amenity Considerations

The proposed masterplan framework and massing responds to the site conditions and constraints to address key amenity factors in the following ways:

1. Noise

The site is subject to noise associated with the ongoing railway operations. The masterplan structure and built form is configured to shield the public open space, providing quiet conditions well below the 65dBA criteria nominated in the NSW EPA Rail Infrastructure Noise Guideline.

Detailed analysis is presented in sections 9.6.3

2. Wind

The site is subject to prevailing winds from the south, west and north-east. The masterplan is configured to ameliorate wind effects to provide appropriate safe and comfortable conditions within the public domain. Key areas for outdoor sitting – including areas for outdoor dining – are proposed in areas of the site that enjoy the most favourable wind conditions. These areas adjacent the Paint Shop also enjoy excellent solar access.

Detailed analysis is presented in sections 9.6.4

3. Solar access

The masterplan is configured to ensure good solar access to all new public open spaces, streets, and new residential development. This is achieved by positioning the two new large open spaces with wide frontages to the north. Taller buildings are located along the southern railway edge to preserve good solar access to public open space and residential developments south of the rail.

Detailed analysis is presented in sections 9.6.5 and 9.6.6

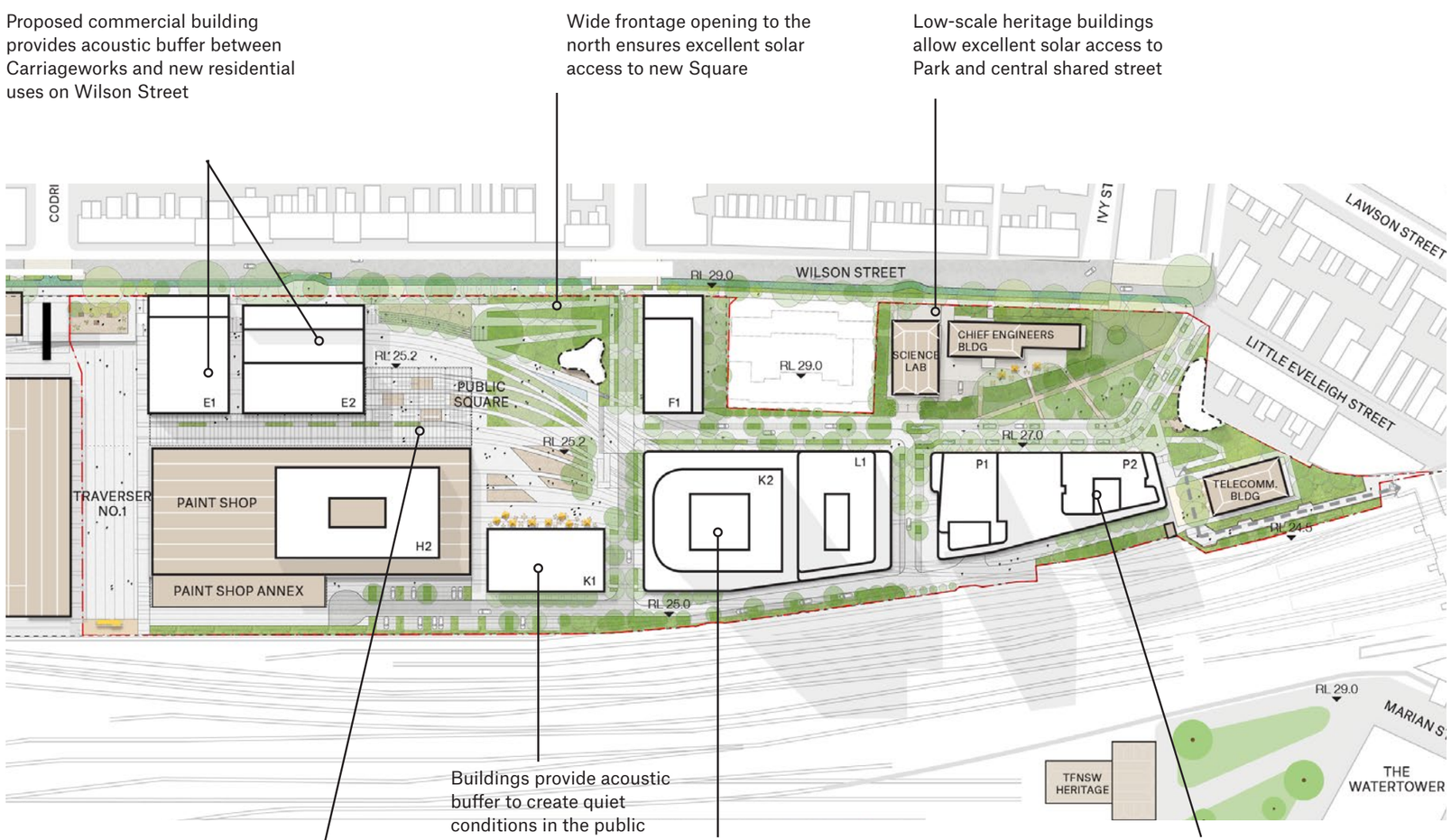


Figure 9.6.2.1 - Summary of public domain amenity considerations

9.6 Amenity & Compliance

9.6.3 Noise impact mitigation - public domain

The site is subject to noise associated with the ongoing railway operations, presenting potential constraints or impacts on the public domain amenity. The masterplan has addressed these impacts through built form and open space configurations as follows:

Public Domain noise mitigation

Detailed analysis undertaken by AECOM (refer Specialist Study) identifies that the noise levels across the site will meet the criteria of 65dBA identified for passive and active recreation in public open spaces in the NSW EPA Rail Infrastructure Noise Guidelines (refer figure 9.6.3.1).

Whilst technically the whole site provides acceptable noise levels in the public domain, the masterplan structure and built form have been configured to mitigate the noise and create excellent acoustic conditions in the public open space and streets.

This is achieved by locating built form along the southern portion of the site, with relatively few breaks, to provide a physical barrier and spatial separation between the noise source and the public domain.

Predicted noise levels in the two primary public open spaces and primary pedestrian areas range from 30-45dBA, well below the 65dBA limit for public open space.

Figure 9.6.3.1 - Predicted daytime rail noise levels in the public domain (Source: AECOM, March 2022, Annotated by Bates Smart)

9.6 Amenity & Compliance

9.6.3 Noise impact mitigation - residential uses

Detailed analysis undertaken by AECOM (refer Specialist Study 3.2) identifies some areas adjacent the rail may be subject to noise levels that - without mitigation - could detrimentally impact the amenity of future residential dwellings.

Residential uses noise impact mitigation

The location and configuration of proposed residential uses in the masterplan has had regard to the principles set out in the *Development Near Rail Corridors and Busy Roads Interim Guideline* and the noise standards for habitable rooms set out in the Transport and Infrastructure SEPP (ie, maximum 35dBA for bedrooms at night and 40dBA at all times).

The Guideline promotes a hierarchical approach to noise mitigation through the following considerations or techniques and seeks to eliminate reliance on technical measures where possible:

1. Site selection and strategic planning
2. Site Layout and configuration
3. Building form and layouts
4. Building elements - such as balconies, wintergardens, and screens.
5. Building treatments (walls, windows etc).

The proposed masterplan has been refined to ensure acceptable residential amenity is achieved principally through the higher order strategies of site layout and building configuration, and without reliance on any onerous technical mitigation measures. as demonstrated in the following explanation.

Site selection and strategic planning

There are clear strategic benefits in increasing residential densities and business activities near rail corridors. The *Development Near Rail Corridors and Busy Roads Interim Guideline* identifies the following benefits of siting new housing near existing rail stations:

- Increased ability to access shops, schools and other services;
- improved environmental, health and social benefits from lower car use;
- improved local planning outcomes with additional housing choice and diversity;

The majority of the RNE Paint Shop sub-precinct is within 400m of the Redfern Station, supporting higher density residential uses across the site.

Residential uses also make an important contribution to the vitality and activity within a mixed-use precinct, supporting local retail and providing activity within a precinct outside of commercial business hours.

The proximity to Redfern Station, and the benefits that residential uses bring to a mixed-use precinct, underpin the strategic argument for the inclusion of residential in the masterplan.

The potential impacts of rail noise are therefore addressed through the masterplan site layout and configuration.

Site layout and configuration

The proposed locations for residential uses balances noise impact with other considerations including:

- integration of residential uses across the site and avoid areas dedicated purely to commercial
- site constraints, including the low-scale of Wilson Street precluding taller residential buildings in that area
- the potential for both new open spaces to provide high amenity for future residential uses.

Alternate approaches to siting of residential uses were tested - including locating all residential uses along Wilson Street to eliminate exposure to rail noise. Whilst that approach provided acoustic benefit, it introduced other detrimental impacts and therefore has not been adopted.

However, during the design process the masterplan layout and configuration has evolved in the following ways to minimise the potential impact:

- significant reduction in proposed residential floorspace (~30%) to reduce quantum of affected dwellings along the rail.
- redistribution of some residential floorspace to Wilson Street buildings

Consistent with the intent of the *Development Near Rail Corridors and Busy Roads Interim Guideline,* the proposed masterplan minimises the impact, with the remaining localised areas impacted by noise addressed through the building form and layouts as discussed on the following page.

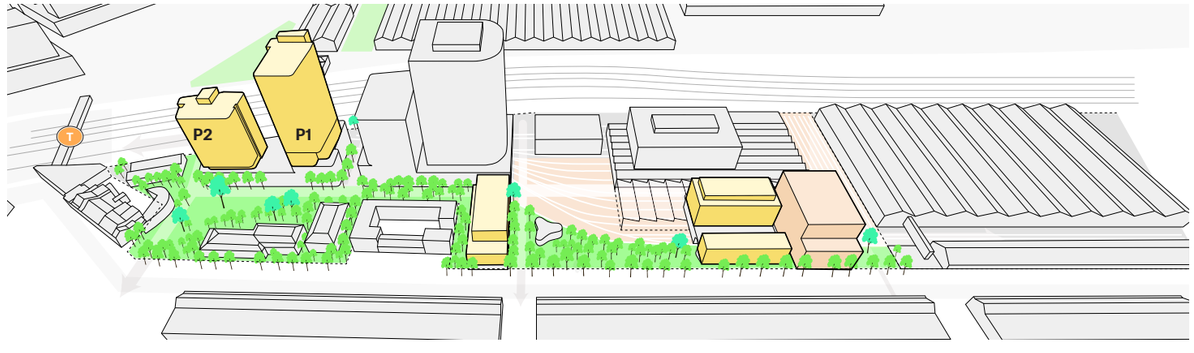


Figure 9.6.3.2 - Residential land uses distributed to benefit from proximity to Redfern Station, provide a mixed-use neighbourhood and offer passive surveillance of new open spaces. Site layout results localised noise impact to southern facades of two residential buildings only ('P1+P2')

9.6 Amenity & Compliance

9.6.3 Noise impact mitigation - residential uses

Building form and layouts

The masterplan includes two residential buildings subject to rail noise requiring attenuation to achieve natural ventilation and / or acceptable ambient noise levels within dwellings.

Preliminary analysis undertaken by AECOM identified noise level exceedences were primarily limited to the southern facade facing rail, and portions of the facades perpendicular to the rail.

The building form and typology was subsequently modified to further reduce the exposure and impact.

Mitigation principles adopted include:

- shaping buildings P1+P2 to shield the perpendicular facades and isolate the impact
- utilising a non-residential podium to provide additional separation and some shielding
- providing a 20m separation from the noise source to habitable rooms
- locating non-sensitive elements such as the lift core and stairs on the affected frontage.
- arranging apartments and their balconies to ensure all dwellings have operable windows in areas with acceptable noise levels.

Further mitigation will be required through the building envelope. Specifically, given that the internal noise criteria is 40 dB(A) for living spaces and 35 dB(A) bedrooms, a 22 dB(A) reduction will be required from the living space facades and 23 dB(A) reduction will be required from the bedroom facades. This level of noise reduction may be achieved with appropriate selection of common building materials and construction methods such as double-glazed facades to achieve the internal noise levels”

The detailed analysis undertaken by AECOM confirms that the site configuration, proposed building form and layouts, have mitigated the noise impacts and all future dwellings can achieve acceptable and compliant acoustic conditions to enable natural ventilation without reliance on other elemental or technical measures such as wintergardens, screening, or plenums.

This analysis is illustrated in the adjacent figures and reported in the Noise & Vibration Assessment (SSP Study No 3.2). The ability to provide natural ventilation to all dwellings is demonstrated further in section 9.6.8 of this report.

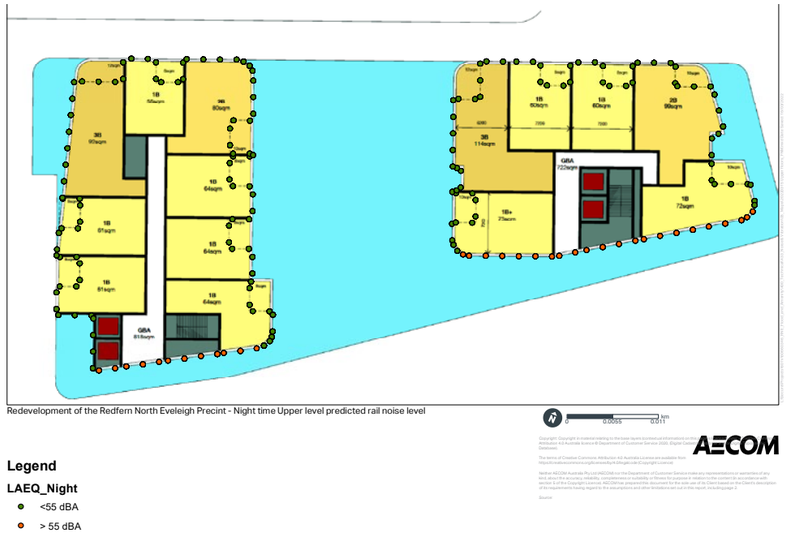


Figure 9.6.3.3 Extracts from AECOM Noise analysis demonstrating predicted nighttime noise levels for buildings P1+P2. Data points in red are those effected by rail noise. Data points in green indicate areas of facade suited to operable windows. All dwellings are capable of achieving required natural ventilation without additional attenuation measures.

Figure 9.6.3.4 Extract from AECOM Noise analysis demonstrating predicted nighttime noise levels for buildings P1+P2. All dwellings face away from the noise source to enable natural ventilation without additional attenuation measures.

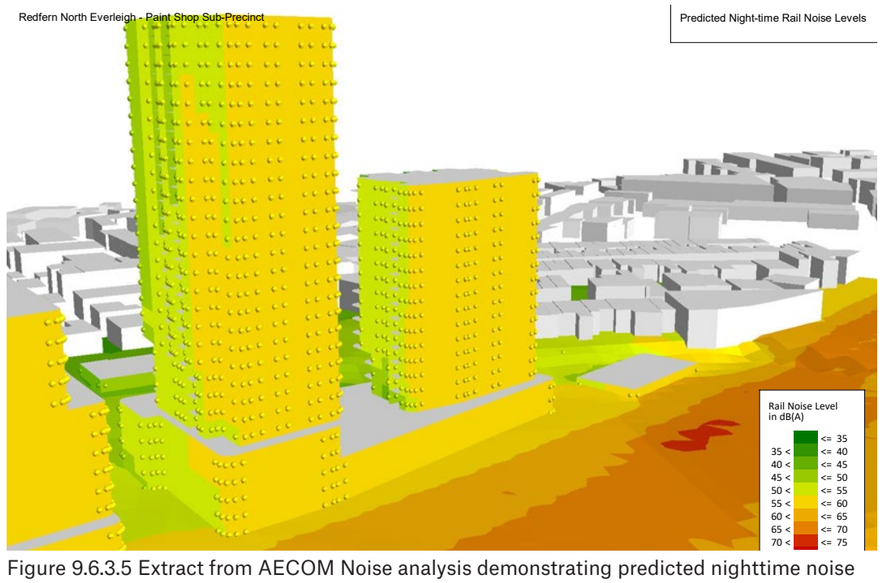


Figure 9.6.3.5 Extract from AECOM Noise analysis demonstrating predicted nighttime noise levels for the southern facades (trackside) of buildings P1+P2. Buildings are configured to locate areas such as cores and non-habitable rooms to minimise noise impact on the dwellings.

9.6 Amenity + Compliance
9.6.4 Wind Comfort

Study Requirement

Identifies wind comfort criteria for the entire precinct and all adjacent areas affected by the proposed development;

Summary of existing wind conditions

The masterplan responds to detailed analysis and testing undertaken by Windtech and documented in the *Pedestrian Environment Wind Study* (SSP Study 3.1)

Windtech's analysis indicates that the site is effected principally by winds from three directions:

Southerly winds are by far the most frequent winds for the Sydney region, and are also the strongest.

The westerly winds occur most frequently during the winter season for the Sydney region, and although they are typically not as strong as the southerly winds, they are usually a cold wind and hence can be a cause for discomfort for outdoor areas.

North-easterly winds occur most frequently occur during the warmer months of the year for the Sydney region, and hence are usually welcomed within outdoor areas since they are typically not as strong as the southerly or westerly winds.

Masterplan response to wind conditions

The masterplan structure, position of open spaces, and built form, responds to the predicted wind conditions to ameliorate any detrimental impacts and create safe and comfortable conditions aligned with intended uses.

Strategies adopted include:

- placement of low to mid scale buildings around the central open space, providing areas of open space shielded from the cold southerly and westerly winds.

- locating the largest commercial buildings along the railway, between the two main public open spaces

- curving the western end of the large commercial building (K2) to allow westerly winds to flow past, preventing downwash onto the street or open space.

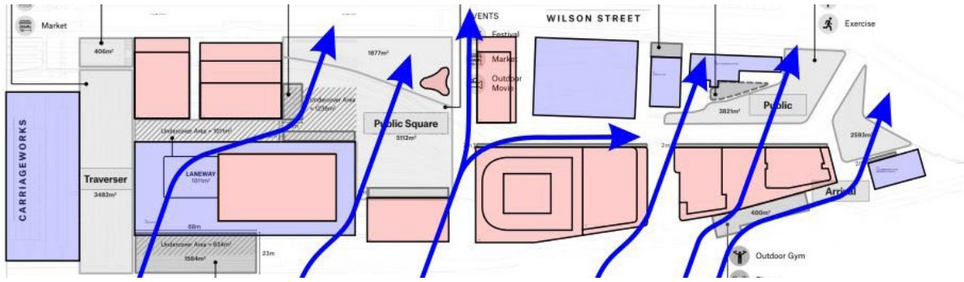
- utilising a podia to prevent downwash at street level.

- providing generous separation between tall building forms - in excess of 24m - to reduce acceleration of winds through north-south streets

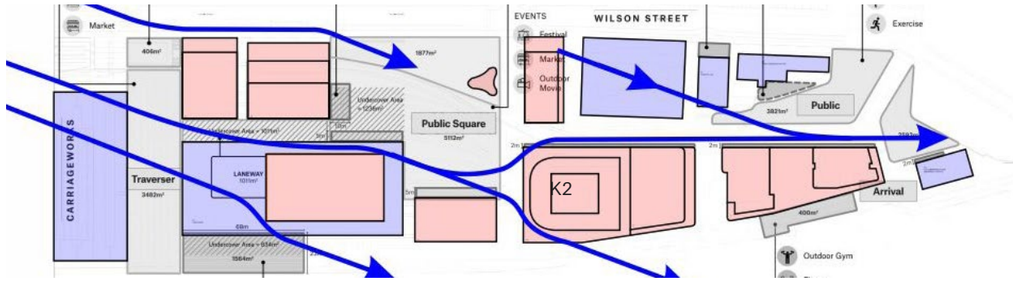
- articulation to the podium of building P1 and rebates to lower tower levels of P1+P2 to reduce impacts of downwash at street level.

- retention of existing mature trees and extensive new tree planting to provide shelter, in particular from north-easterly winds

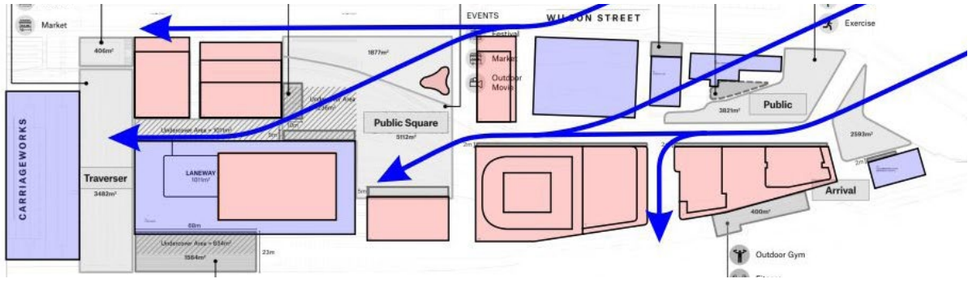
- retention of Suburban Car Workshop roof and use of awnings to further improve wind comfort in public spaces and along central shared street



Southerly winds - two main open spaces are partially sheltered from prevailing wind



Westerly winds - K2 commercial building shaped to allow wind to pass without downwash



North-easterly sumer winds will pass through landscape &contribute to comfort within new open spaces

Figure 9.6.4.1 - Overlay of prevailing winds on proposed masterplan. Source: Windtech

9.6 Amenity + Compliance
9.6.4 Wind Comfort

Public domain wind conditions

Wind-tunnel analysis undertaken by Windtech and included in the *Pedestrian Environment Wind Study* (SSP Study 3.1) demonstrates predicted wind conditions in the public domain taking account of the proposed building massing but without regard to the beneficial impacts of existing or future trees or architectural elements such as awnings.

The analysis demonstrates that wind safety criteria are met for all areas of the public domain.

Predicted comfort conditions across the site vary and include:

- areas that achieve the highest comfort level - sitting criteria - within the proposed Public Square, including the southern and western edges. These areas also benefit from excellent solar access, good acoustic amenity, and are identified as areas suited to food and beverage retail (outdoor dining).

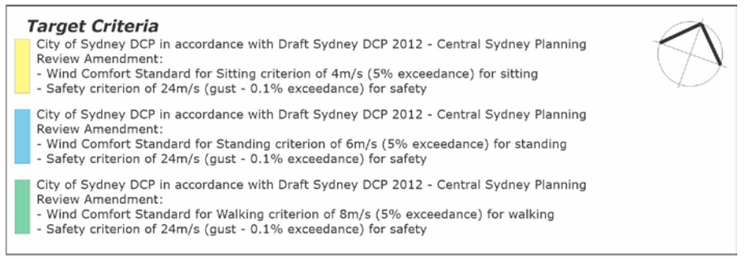
- extensive areas of proposed open spaces and pedestrian environments that meet or exceed the standing comfort criteria. The standing criteria is suited short duration activities such as waiting areas, cafe seating, recreation spaces, markets etc.

- all other areas achieving walking comfort criteria, the criteria suited to pedestrian thoroughfares and other communal spaces.

The wind target conditions (Figure 9.6.4.2) describe the required comfort criteria associated with the intended uses of the public domain as described in the Public Domain Strategy Activity diagram (Section 10.6.5 of this report).

Wind comfort standards for walking are identified for the adjoining areas external to the site along Wilson Street highlighted as points 78-84 in Figure 9.6.4.2.

The landscape strategy includes extensive tree planting which will further improve comfort conditions beyond the target criteria.



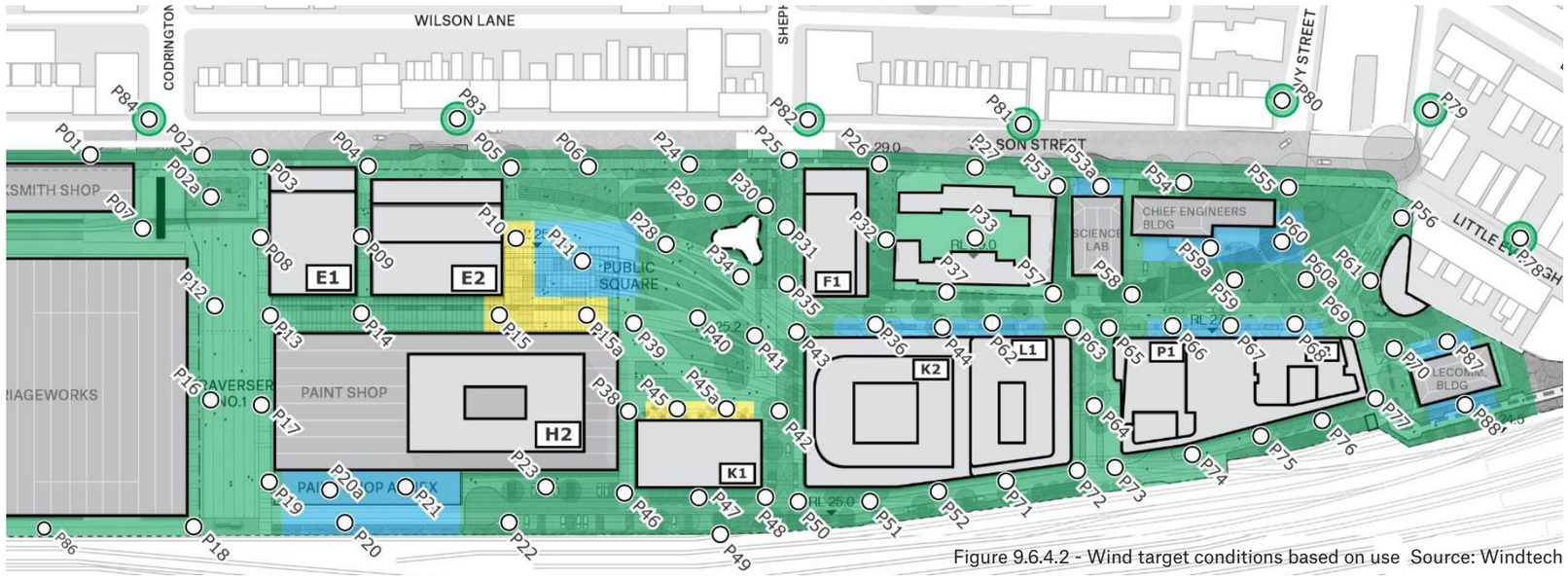


Figure 9.6.4.2 - Wind target conditions based on use Source: Windtech

Figure 9.6.4.3 - Public Square achieves wind comfort to support outdoor dining to the edges and a variety of uses within the open space

Figure 9.6.4.4 - Wind comfort in the eastern park is further improved with extensive trees (existing and proposed) and continuous awning

9.6 Amenity + Compliance

9.6.5 Sun Access to Public Open Space

Study Requirements

Includes a sun access study to ensure comfort and usability of both existing and proposed public space;

The masterplan is configured to ensure good solar access to all new public open spaces, streets, and new residential development. This is achieved by positioning the two new large open spaces with wide frontages toward the north of the site.

Taller buildings are located along the southern railway edge with height and form configured to preserve good solar access to public open space and residential developments south of the rail.

Analysis of existing and proposed open spaces

The adjacent solar access heat map analysis (Figure 9.6.5.1) was produced with the following parameters as agreed with the City of Sydney in a meeting on 2 November 2021:

- 1 sqm assessment grid, 6 minute interval for the hours 9am -3pm, June 21st.

The solar access heat-map clearly demonstrates the majority of the public domain - open-space and pedestrian priority streets - receive in excess of 4 hours of sun in mid winter, representing very high amenity and exceeding typical City of Sydney solar access requirements (*DCP 2012 3.1.6.3(a) solar access to new parks).*

Excellent solar access is preserved to Locomotive Square, South Eveleigh - the only existing public open space potentially overshadowed.

The existing lower plaza - narrow and bound by existing heritage buildings - receives adequate solar access given the hardscape character, intended uses, and linear nature.

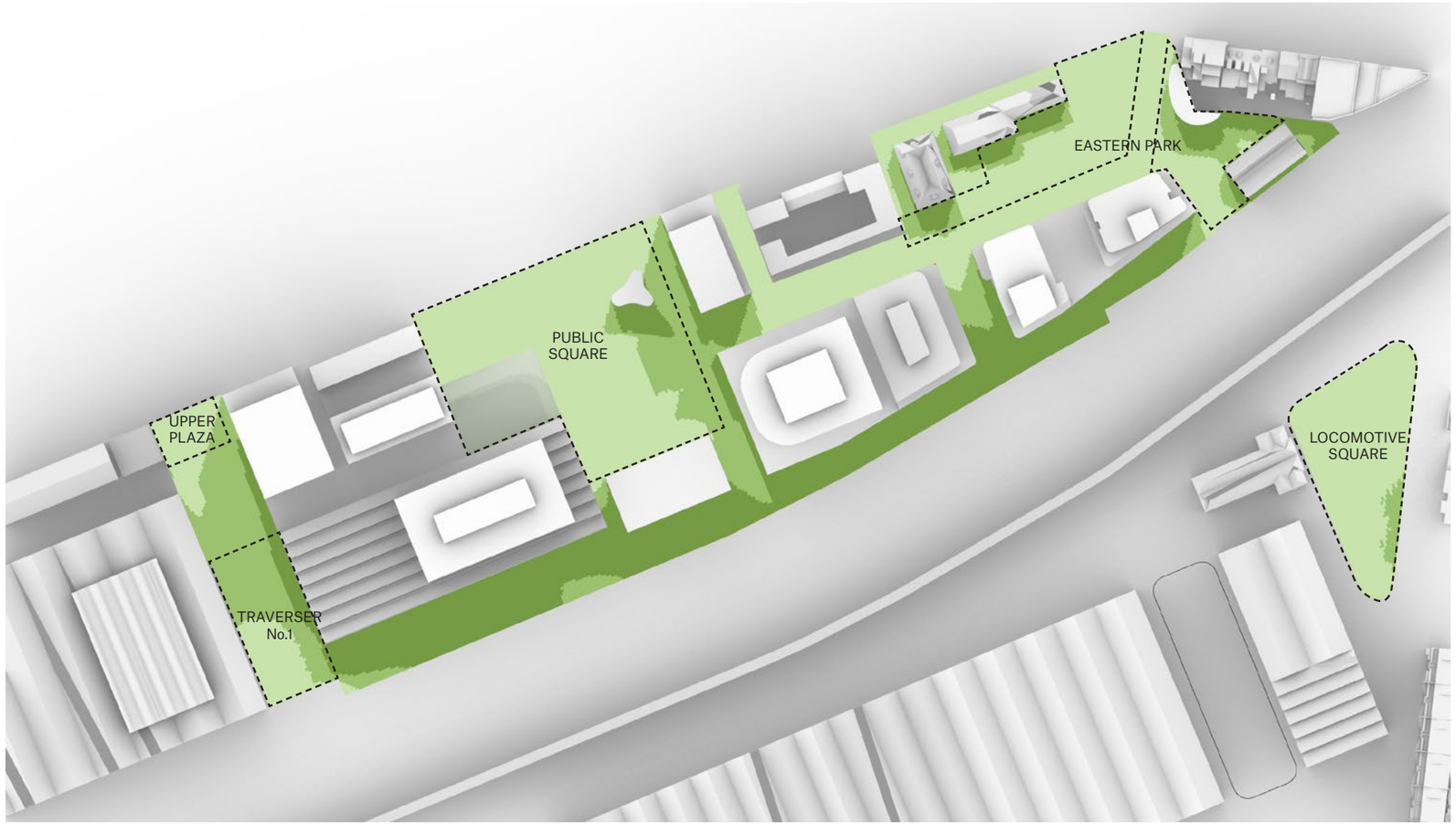


Figure 9.6.5.1 - Solar 'heat map'

Solar access 9am-3pm June 21st		> 4 hours sun	2-4 hours sun	< 2 hours sun
Eastern Park	3,150m2	64%	16%	19%
Public Square	7,450m2	73%	14%	13%
Upper Plaza	595m2	77%	20%	3%
Traverser No.1	1890m2	36%	51%	14%
Locomotive Square (South Eveleigh)	4030m2	94%	6%	0%

more than 4 hour solar access

2-4 hours solar access

0-2 hours solar access

9.6 Amenity + Compliance

9.6.5 Sun Access to Public Open Space

The City of Sydney DCP 2012 Part 3 Public Open Space' Provision 3.1.4.3(a) defines that;

In relation to Parks (i.e. non-linear public open space) 50% of the total area is to receive sunlight for 4 hours from 9am to 3pm on 21 June.

In practice, the City further defines this to be a single consolidated area of at least 50% of the total open space, not fragmented spaces aggregated to achieve that quantum.

This criteria does not apply to a linear space such as the lower plaza, however the analysis demonstrates the ability for more than 50% of the area to achieve 3 hours sun.

The other new public open spaces and the existing Locomotive Square readily achieve this established performance criteria, as follows:

EASTERN PARK 3,150m2

55% consolidated area achieve 4 hours direct sunlight (9am-1pm)

PUBLIC SQUARE 7,450m2

62% consolidated area achieve 4 hours direct sunlight (11am-3pm)

UPPER PLAZA 595m2

78% consolidated area achieves 4 hours direct sunlight (11am-3pm)

TRAVERSER NO.1 (LOWER PLAZA) 1890m2

62% consolidated area achieves 3 hours direct sunlight (11am-2pm)

LOCOMOTIVE SQUARE 4,030m2

70% consolidated area achieve 4 hours direct sunlight (9:35-1:35pm)

It is proposed that the City of Sydney solar access standards (as per DCP 2012 Part 3 Public Open Space' Provision 3.1.4.3(a)) be adopted for the proposed public spaces within the Paint Shop Precinct.

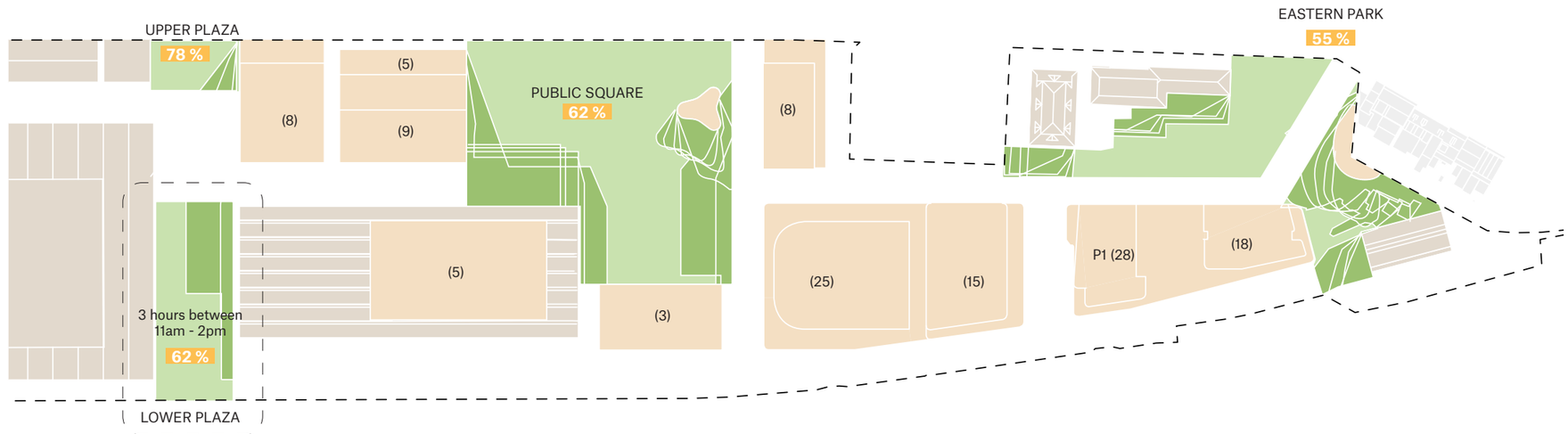


Figure 9.6.5.2 - Sun access to public open space diagram

9.6 Amenity + Compliance

9.6.5 Sun Access to Public Open Space

Solar access to the wider public domain

High quality and high amenity streets are integral to the vision for Redfern North Eveleigh.

The masterplan has been carefully configured to ensure excellent solar access to the broader public domain beyond the dedicated parks and public open space.

The site layout and massing strategy consolidates much of the new massing along the southern boundary such that overshadowing is generally limited to the rail corridor. The proposed open spaces have east-west orientations with broad northerly frontages, ensuring excellent sun access.

The new pedestrian focussed shared street connecting Redfern Station through the site to Carriageworks enjoys excellent solar access for much of the day. Active frontages to the southern edge of the new street and public space enjoy mid-winter sun during important times of the day, including lunchtime.

The excellent solar amenity in the wider public domain is consistent with the City of Sydney's objective of enhancing the public domain by 'ensuring adequate sun access to publicly accessible spaces' - including streets. (DCP 2012 Part 3.2.1(a))

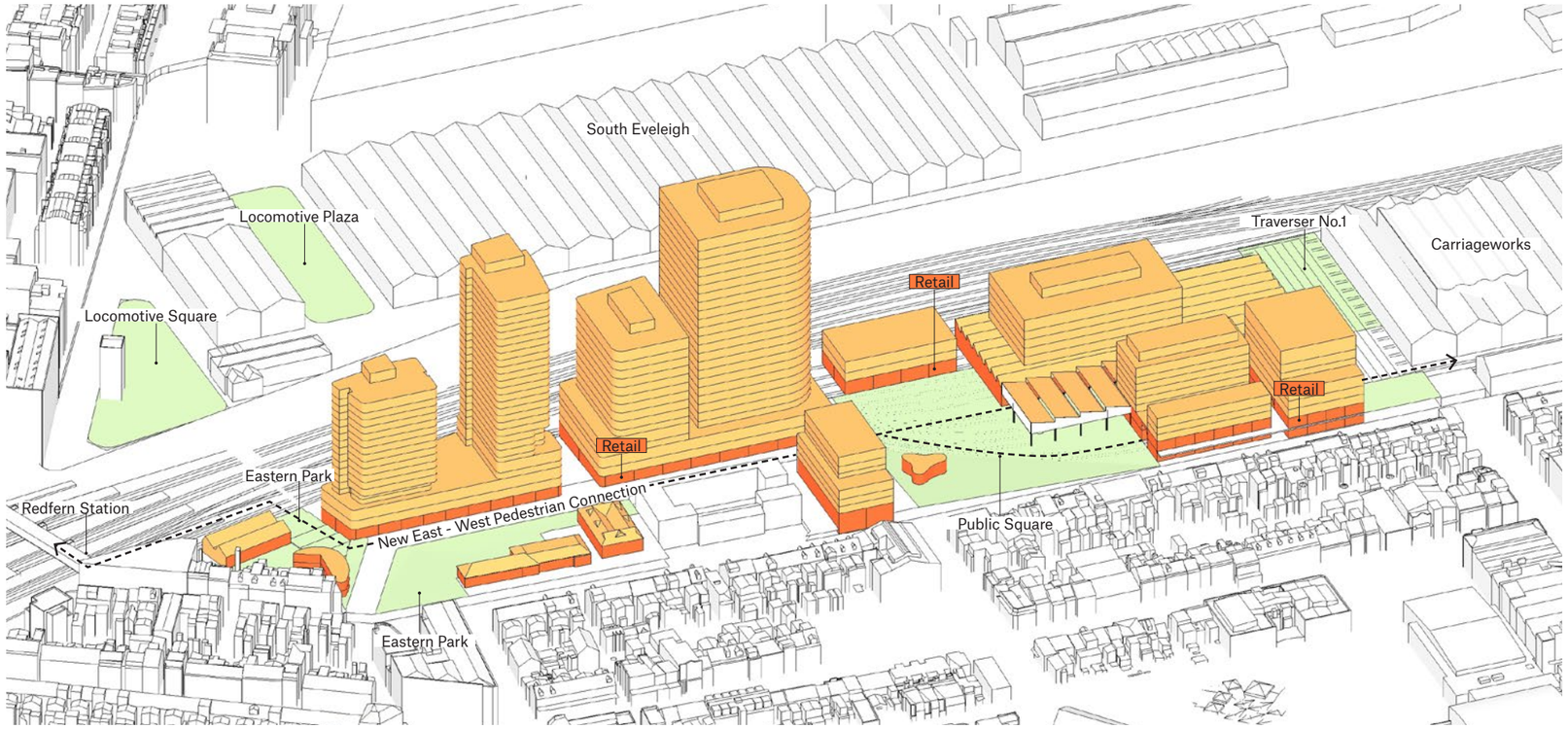


Figure 9.6.5.3 - View from the sun diagram demonstrates solar access to the public domain at midday on June 21st, mid-winter. Existing and proposed open spaces enjoy full sun. The new east-west pedestrian connection between Redfern Station and Carriageworks enjoys almost uninterrupted sunlight.

9.6 Amenity + Compliance

9.6.6 Sun Access to Neighbouring Residential Uses

The Apartment Design Guide (ADG) requires that overshadowing of existing neighbouring properties is minimised during mid-winter. Some reduction in solar access is permissible, however compliance with the following solar criteria should be maintained:

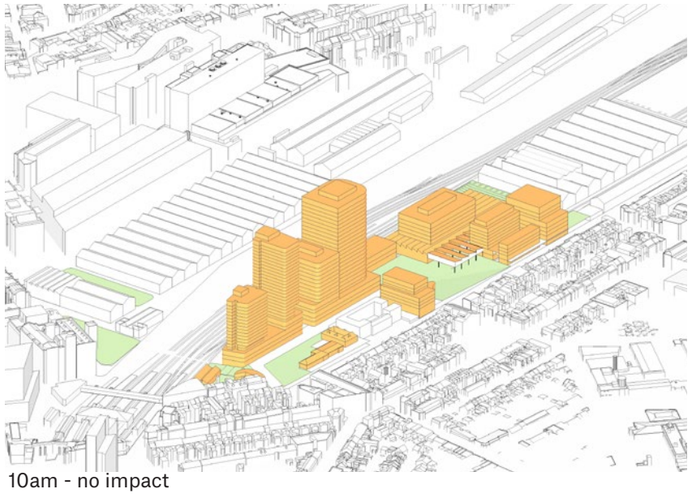
- Living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 2 hours direct sunlight between 9 am and 3 pm at mid winter.
- A maximum of 15% of apartments in a building receive no direct sunlight between 9 am and 3 pm at mid winter.

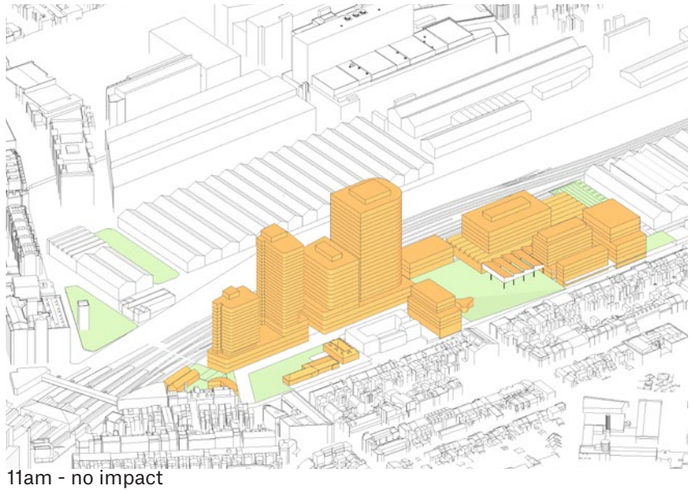
Adjacent images depict views from the sun, a commonly used tool to demonstrate solar access to proposed and adjacent residential units.

The analysis highlights that shadows from the proposed development typically fall on railway or commercial buildings in South Eveleigh.

Two residential properties are affected by the proposal - 32 and 31-41 Cornwallis Street - which will be subject to minor overshadowing from 2:30pm in mid-winter. These properties will continue to receive sun between 12 and 2:30pm, exceeding the ADG requirement.

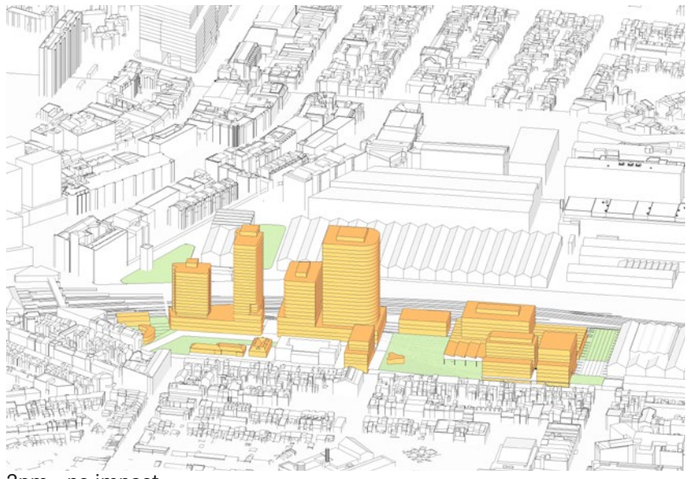
The view from the sun diagrams also highlight the facades of the proposed residential buildings receiving direct sun. Section 9.6.7 provides further analysis to highlight the propensity of the proposed residential buildings to meet the ADG solar access requirements.

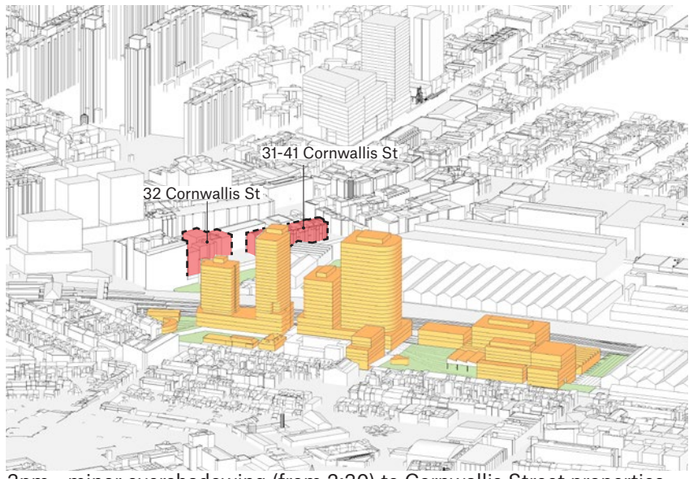

10am - no impact


11am - no impact


12pm - no impact


1pm - no impact


2pm - no impact



3pm - minor overshadowing (from 2:30) to Cornwallis Street properties

Figure 9.6.6.1 - Views from the sun illustrating solar access to existing residential properties, midwinter 10am to 3pm.

9.6 Amenity + Compliance

9.6.7 Sun Access to Proposed Residential Uses

The Apartment Design Guide (ADG) Objective 4A-1 seeks 'To optimise the number of apartments receiving sunlight to habitable rooms, primary windows and private open space', with relevant Design Criteria including:

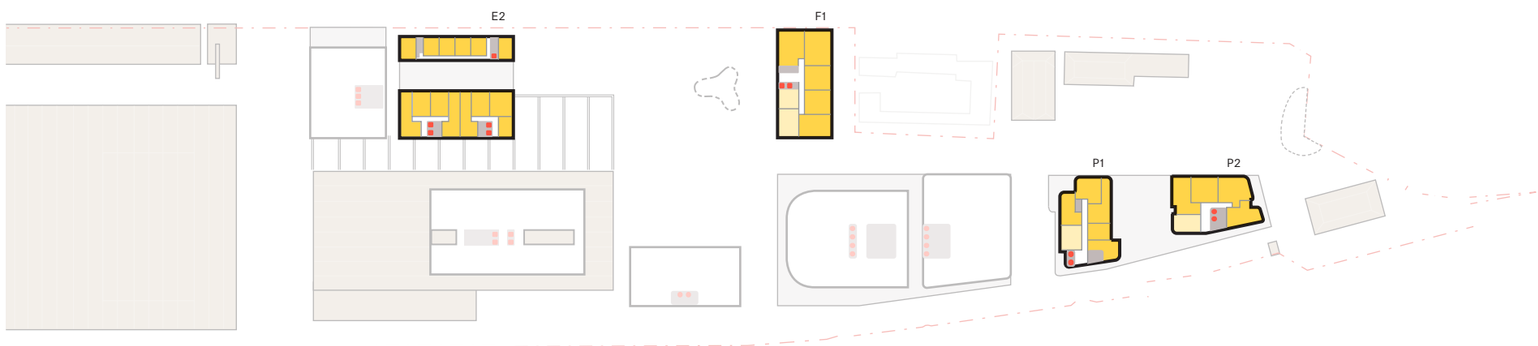
— Living rooms and private open spaces of at least 70% of apartments receive minimum 2 hours direct sunlight, 9am and 3pm mid winter. and;

— A maximum of 15% of apartments receive no direct sunlight between 9am and 3pm mid winter.

The proposed masterplan configures proposed residential building envelopes to benefit from favourable solar orientation. The adjacent diagrams (Figure 9.6.7.1) demonstrate the propensity for future detailed building designs to meet and exceed the minimum solar access requirements of the ADG.

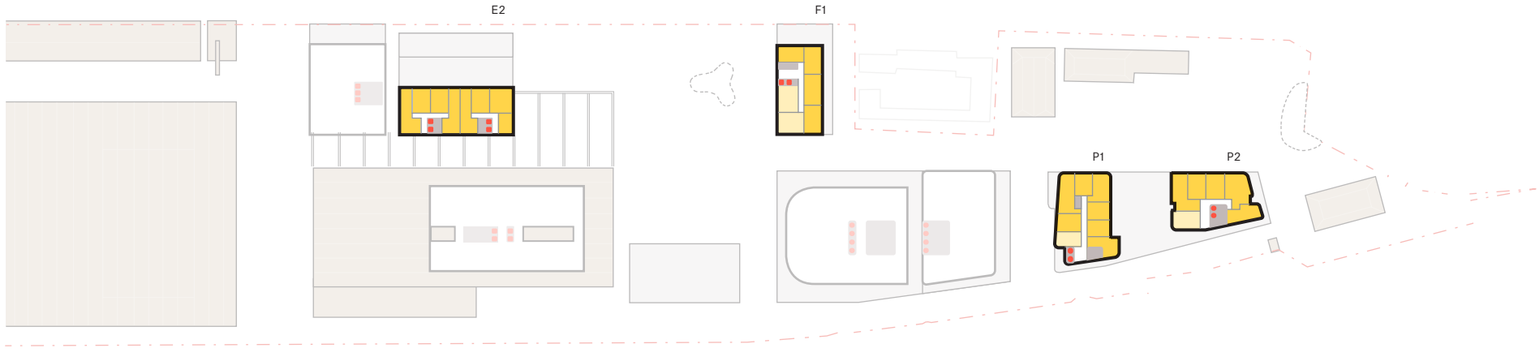
The concept plans demonstrate that most proposed buildings can significantly exceed the 70% requirement, with no dwellings receiving no direct sunlight between 9am and 3pm in mid winter.

Summary		
Building	**Solar Access**	**%**
E2	54/66	81%
F1	30/43	70%
P1	153/176	87%
P2	69/84	82%
Total	**306/369**	**83%**



Typical Lower Level Plan

Figure 9.6.7.1 - Solar acces to typical lower level plan



Typical Upper Level Plan

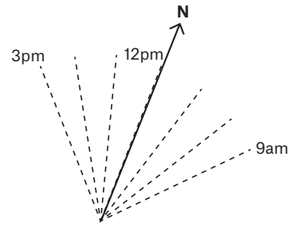
Figure 9.6.7.2 - Solar acces to typical upper level plan

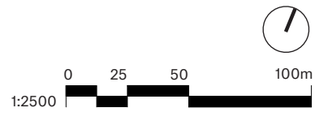
Key

Solar Access > 2 hours (21 Jun)

Solar Access < 2 hours (21 Jun)

No Solar Access





9.6 Amenity + Compliance

9.6.8 Natural Ventilation to Proposed Residential Uses

In support of sustainable design practice and occupant amenity, The Apartment Design Guide (ADG) requires that all apartments achieve adequate natural ventilation. The ADG notes that 'to achieve adequate natural ventilation, apartment design must address the orientation of the building, the configuration of apartments, and the external building envelope.

In addition to general natural ventilation requirements applicable to all dwellings, the ADG includes a specific objective (4B-3) which seeks to maximise the number of apartments with natural cross ventilation, including an associated performance criteria targeting 60% of apartments in the first nine storeys be cross ventilated.

The ADG acknowledges that in some situations, noisy or hostile environments may preclude some design criteria from being met and notes that alternatives may need to be considered for related amenity provisions, including natural cross ventilation. (Objective 4J-1)

Many elements influence the ultimate performance of a building and its ability to balance inter-related issues such as noise and ventilation. This masterplan focuses on establishing a framework that will support the delivery of high quality apartments that meet applicable regulations and standards, including the ADG. It addresses the foundational principles relating to siting and building configuration to demonstrate the propensity for future detailed designs to meet the ADG requirements without undue reliance on novel approaches to building elements or fabric.

Natural ventilation - siting considerations

Effective natural ventilation of an apartment begins with consideration of the local climate and prevailing wind conditions.

The masterplan locates and orients the proposed residential buildings to benefit from the prevailing north-easterly cooling sea breezes that occur in this part of Sydney.

All new residential buildings are positioned immediately adjacent new public open space incorporating extensive trees, understorey planting, and integrated WSUD treatments. The evapotranspiration effects of beneficial breezes passing through vegetation will contribute to the thermal comfort of residents and further reduce reliance on mechanical ventilation or air-conditioning.

Natural ventilation - configuration of apartments

The masterplan envelopes for future residential buildings accommodate a range of building typologies, approaches to unit types, and spatial features, to meet the ADG natural ventilation provisions, including the following:

- dwellings oriented to capture beneficial north-easterly breezes for natural ventilation of habitable rooms
- single-aspect units with recessed balconies to ensure maximum 8m depth to open living, dining, kitchen spaces (as per ADG 4D-2 Criteria 2).
- no reliance on light-wells to habitable rooms
- inset balconies allowing large effective openable areas to living rooms and bedrooms (ie. sliding doors)
- dual aspect apartments (building E2), maximum 18m glass to glass, to allow cross ventilation (ADG 4B-3)
- articulated tower forms, including stepped form in base of P2 tower, to provide additional corner units (ADG 4B-3)
- two-storey units with gallery access to low-rise dwellings along Wilson Street (building E2), providing cross ventilation and stack effect
- inset balconies positioned to orient openable windows away from railway noise and toward the prevailing NE breeze
- opportunity for wintergardens to be provided to noise affected dwellings, providing additional ventilation (beyond minimum required)

9.6 Amenity + Compliance

9.6.8 Natural Ventilation to Proposed Residential Uses

Noise and ventilation
As discussed in section 9.6.3 of this report, the residential buildings have been distributed across the site to reduce the impact of noise from the railway. For a range of reasons previously discussed, the masterplan retains two buildings (P1 + P2) in the portion of site subject to railway noise.

Analysis undertaken by AECOM demonstrates that localised portions of facade (primarily southern facade) for two apartments per floor in both Building P1 and P2 are subject to noise levels exceeding that which enables openable windows to allow natural cross ventilation.

The ADG acknowledges that noisy or hostile environments may preclude some design criteria from being met and notes that alternatives may need to be considered for related amenity provisions, including natural cross ventilation (Objective 4J-1).

Consistent with the associated ADG Design Guidance, those units effected by external noise levels exceeding the threshold for operability (55dBA daytime, 60dBA night-time) have been excluded from the cross ventilation requirements of Objective 4B-3 (requirement for 60% of units in lower 9 levels to be cross ventilated).

Natural ventilation in noise effected apartments
Whilst not subject to the cross-ventilation requirements, the noise effected units are required to achieve adequate natural ventilation, which is readily achieved through careful placement of inset balconies as shown in Figure 9.6.8.2 and 9.6.8.3.

All operable windows are then located around the recessed balcony, enabling extensive openable areas well in excess of the requirement for 5% of the floor area (ADG 4B-1). Sliding doors to both the bedroom and living room will allow approximately 10sqm of openable area (approximately 13-15% of the floor area for the 1 bedroom units).

The concept plans demonstrate the ability to achieve natural ventilation without reliance on other established mitigation measures such as acoustically attenuated plenums or wintergardens. These additional measures could be introduced to southern facade to further improve the natural ventilation and facilitate some cross ventilation.

Related ADG compliance issues
The illustrated concept enables other key ADG compliance issues to be addressed and preserves flexibility for future detailed design, including:

— alternate unit types or sizes. 1bed units could extend or amalgamate to provide larger units or balance dwelling mix within the development;

— centrally locating non-habitable rooms (i.e. bathrooms) provides acoustic buffer to common areas (ADG4H-2) and ensures habitable rooms are maximum 8m depth from windows (ADG4D-3);

— noise effected facades (south-eastern) provide opportunities for extensive fixed glazing providing natural daylight, including to kitchens and bathrooms.

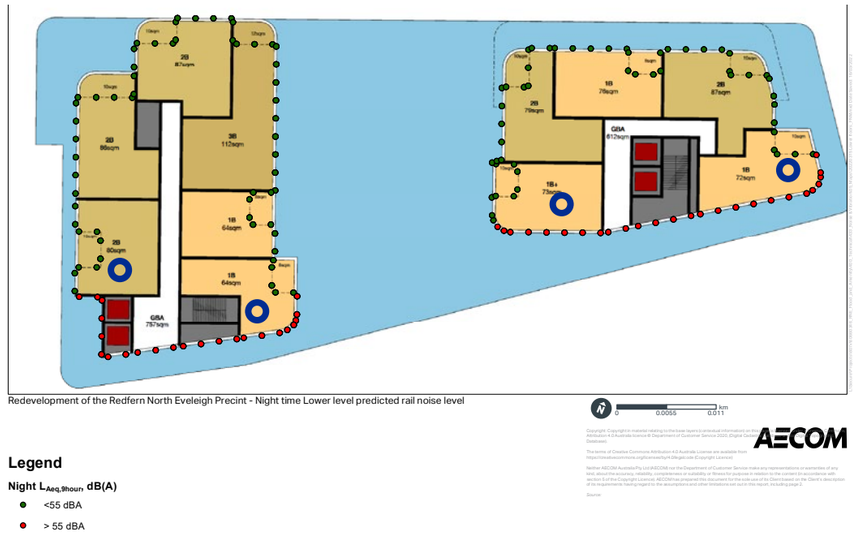


Figure 9.6.8.2 AECOM Noise analysis demonstrating predicted night-time noise levels for buildings P1+P2. Data points in red are those effected by rail noise.

Indicates units excluded from cross ventilation calculations (ADG 4B-3)

Figure 9.6.8.3 - Concept Plan for Building P2 demonstrating indicative unit layouts aligned with key ADG design criteria and guidance (Not to scale)

9.6 Amenity + Compliance

9.6.9 Natural Ventilation to Proposed Residential Uses

The proposed residential buildings are compliant with the Apartment Design Guide's criteria for cross ventilation, with at least 60% of apartments in the first nine storeys of each building deemed to have the capacity for cross ventilation. Apartments affected by adverse railway noise would be excluded from this calculation. A detailed analysis of which apartments would be affected should be undertaken by an acoustic consultant at a detailed design stage.

Any dwellings subject to adverse noise impacts will require alternate approaches such as acoustic plenums to achieve natural ventilation. These dwellings would not be required to achieve cross ventilation under the ADG. This would be assessed in future development applications stages.

Apartment Design Guide

Objective 4B-3

Design Criteria

1. At least 60% of apartments are naturally cross ventilated in the first nine storeys of the building. Apartments at ten storeys or greater are deemed to be cross ventilated only if any enclosure of the balconies at these levels allows adequate natural ventilation and cannot be fully enclosed

2. Overall depth of a cross-over or cross-through apartment does not exceed 18m, measured glass line to glass line

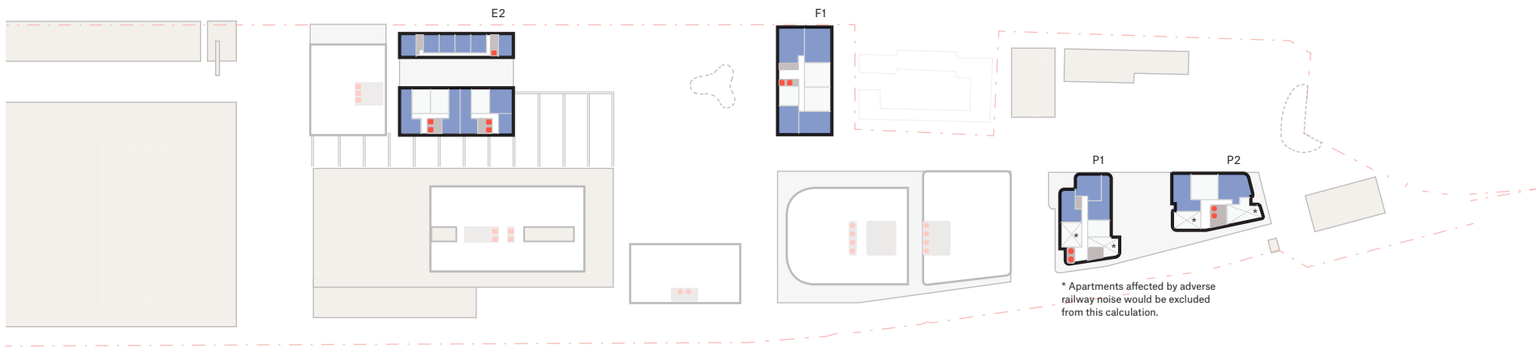
Summary		
Building	**Cross Ventilation**	**%**
E2	47/66	71%
F1	26/43	61%
P1	12/16	75%
P2	12/18	67%
Total	**97/143**	**67%**

Key

Cross Ventilation

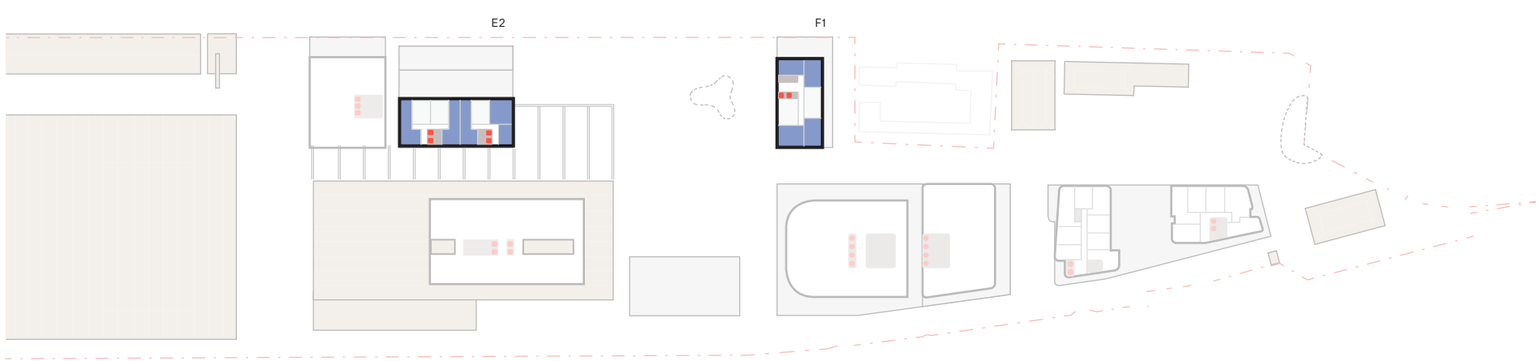
No Cross Ventilation

Note: This diagram highlights the apartments which have the capacity for cross ventilation. * Apartments affected by adverse railway noise would be excluded from this calculation.



Typical Lower Level Plan

Figure 9.6.9.1 - Cross ventilation of typical lower level plan



Typical Upper Level Plan

Figure 9.6.9.2 - Cross ventilation of typical upper level plan

0 25 50 100m
1:2500

9.6 Amenity + Compliance

9.6.10 Residential Amenity

The proposed residential buildings have the potential to be compliant with the Apartment Design Guide's criteria for communal open space. The buildings can achieve the communal open space area equal to a minimum of 25% of the site (development parcel) area through a combination of ground level, podium rooftop, mid-level rooftop and tower roof top communal open spaces.

Apartment Design Guide

Objective 3D-1

Design Criteria

1. Communal open space has a minimum area equal to 25% of the site

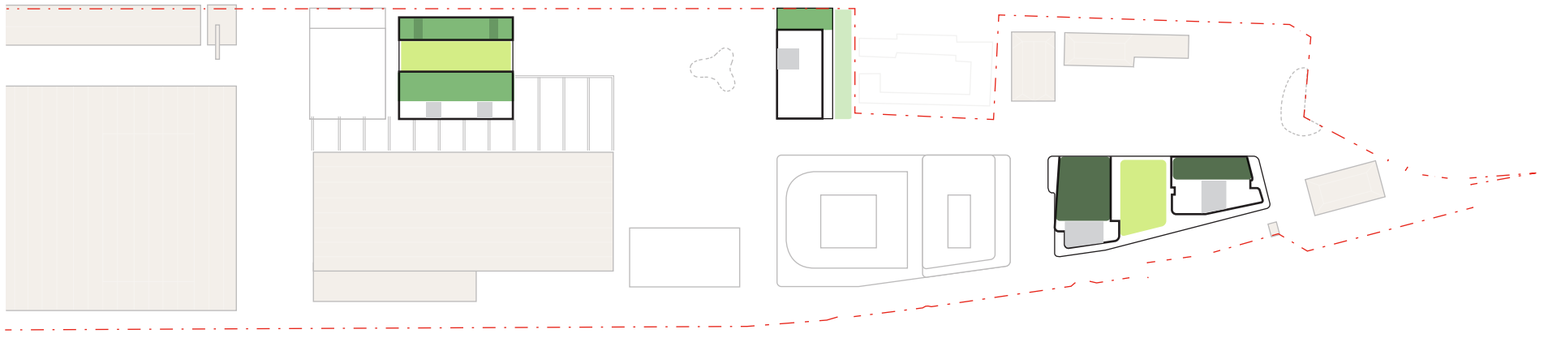
2. Developments achieve a minimum of 50% direct sunlight to the principal usable part of the communal open space for a minimum of 2 hours between 9 am and 3 pm on 21 June (mid winter)

Summary			
Building	**Parcel Area**	**Target COS**	**%**
E2	2,100sqm	525sqm	25%
F1	1,380sqm	345sqm	25%
P	2,770sqm	690sqm	25%

Summary			
Building	**Parcel Area**	**Potential COS**	**%**
E2	2,100sqm	1,590sqm	76%
F1	1,380sqm	630sqm	46%
P	2,770sqm	1,440sqm	52%

Key

- Ground Level Communal Open Space (COS)
- Podium Rooftop COS
- Mid Level Rooftop COS
- Tower Rooftop COS



Roof Plan

Figure 9.6.10.1 - Communal open space diagram

1:2500 0 25 50 100m

9.6 Amenity + Compliance

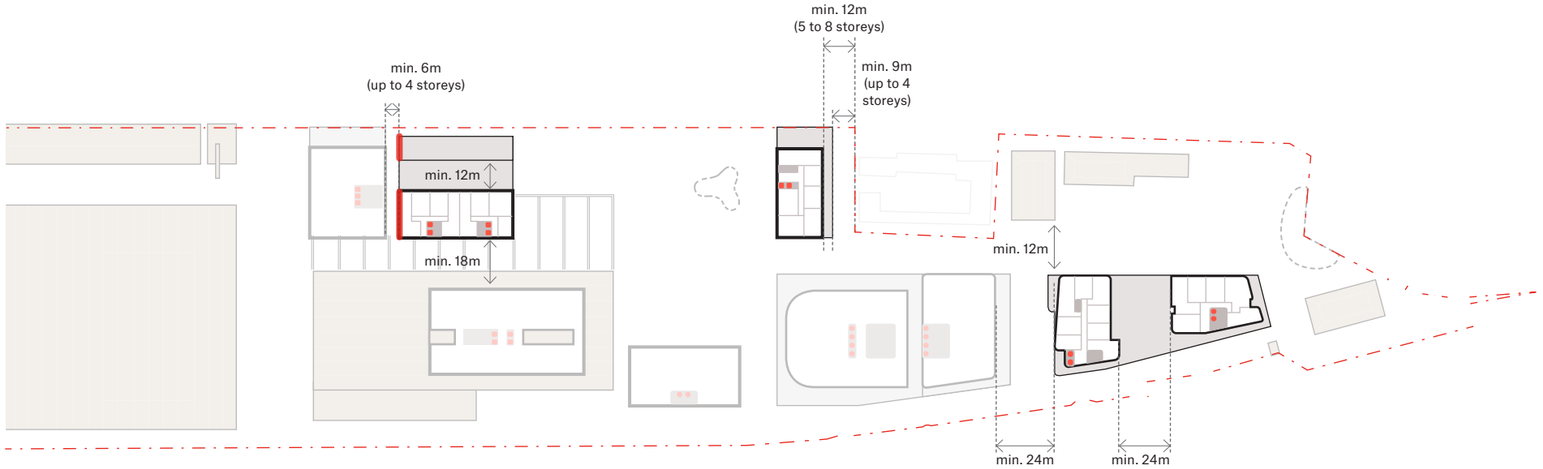
9.6.11 Building Separation

The placement and separation of proposed residential buildings within the masterplan is consistent the Apartment Design Guide Objective 3F-1 requiring 'Adequate building separation distances are shared equitably between neighbouring sites, to achieve reasonable levels of external and internal visual privacy'.

A minimum building separation of 24m is provided between the two residential towers (Buildings P1 & P2), as well as their adjacent commercial and heritage buildings. This provides the required separation between habitable rooms nine storeys and above. This building separation balances both public and residential amenity, allowing for solar access and views from the residential levels of the tower as well as allowing for views between the towers from public open spaces and heritage buildings.

The existing apartment building adjacent to Building F1 has no habitable rooms facing out along its western façade, Building F1 provides a minimum building separation (to Boundary) of 9m up to four storeys and 12m for five to eight storeys in accordance with the ADG principle of sharing equitably the building separation requirements.

Building E2 comprises two parallel buildings of 4 storeys + 7 storeys (above podium) with a minimum 12m separation. The southern facade is separated from the 8-storey Paint Shop development by 18m. The western facade is separated from the adjacent E1 commercial building by 6m. Windows in this side elevation are not required in order to meet ADG provisions (such as natural ventilation or solar access). Screening would be required should windows be provided to this facade of the residential buildings.



Typical Upper Level Plan

Figure 9.6.11.1 - Building separation diagram

Key

Screening required if habitable rooms located along facade

0 25 50 100m
1:2500

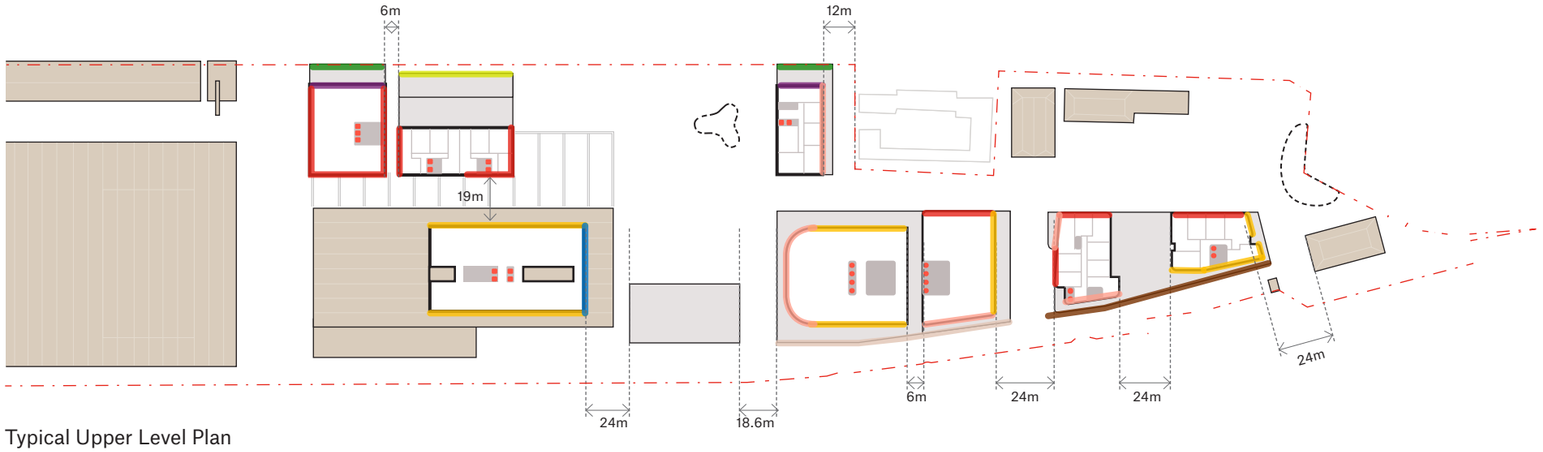
9.6 Amenity + Compliance

9.6.12 Building Setbacks

Building setbacks have been allocated in order to achieve a desirable built form outcome, reduce the impact on existing trees, and mitigate the impacts of wind between buildings and along the rail corridor.

The proposed setbacks create a four-storey street wall along Wilson Street - setback at Building E2 to minimise the impact on existing trees - with the upper levels set back further to reduce the bulk and scale of the buildings when viewed from Wilson Street. The over-Paint Shop development is set back on all sides to acknowledge and retain the significance of the heritage building whilst still creating a useable and sympathetic addition.

All buildings adjacent to the rail corridor have setback podiums to reduce wind and acoustic impacts and provide vehicular and pedestrian access. The towers above are setback from the podiums to further mitigate the wind and acoustic impacts, particularly to the residential towers. Tower setbacks along the new east-west street vary to create visual interest with a combination of expressed podiums and tower-to-ground forms, whilst all other tower setbacks vary based on building separation requirements.



Typical Upper Level Plan

Figure 9.6.12.1 - Building setbacks diagram

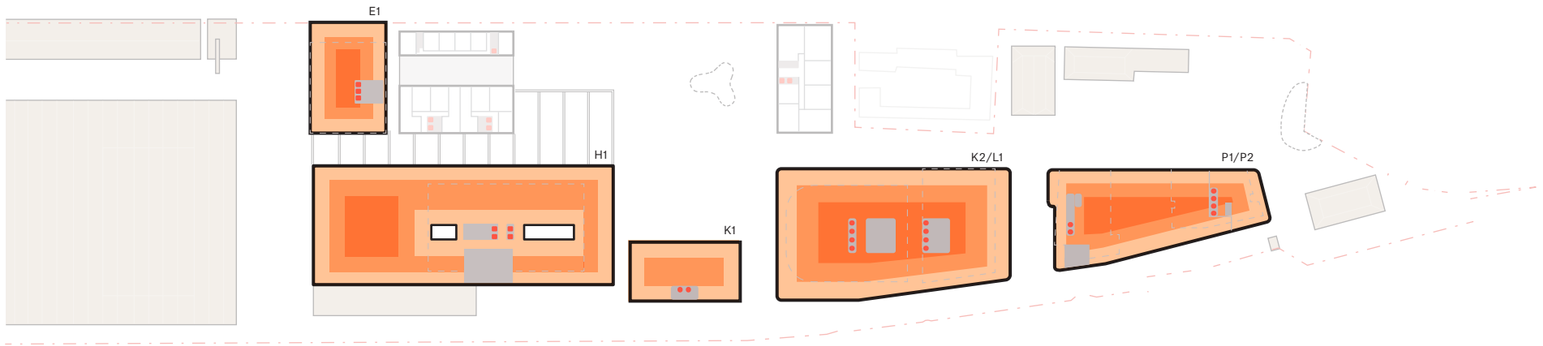
Key	
	0m Podium Setback
	3m Podium Setback
	min. 9m Podium Setback to Rail Boundary
	min. 12m Podium Setback to Rail Boundary
	0m Tower Setback from Podium Structure at Lower Level
	3m Tower Setback from Podium Structure at Lower Level
	6m Tower Setback from Podium Structure at Lower Level
	8m Tower Setback from Podium Structure at Lower Level
	12m Tower Setback from Podium Structure at Lower Level

1:2500 0 25 50 100m

9.6 Amenity + Compliance

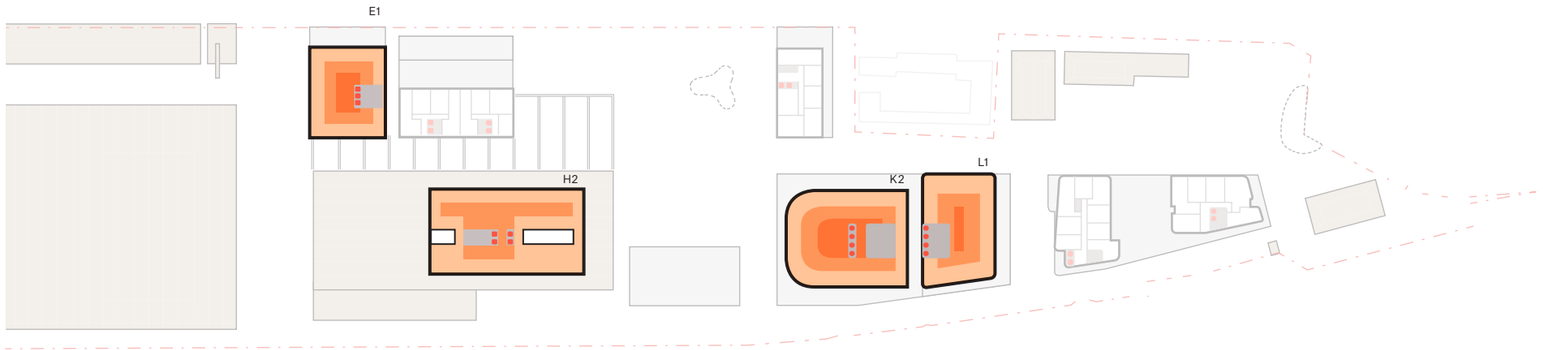
9.6.13 Commercial Floorplate

The masterplan provides a variety of commercial buildings with building footprints ranging from 1000sqm-2850sqm across both podium and tower floor-plates. The variety of floor-plates have the potential to be divided or configured in a number of ways with atriums and internal stairs providing varying degrees of interconnectivity between floors, making the development attractive to a wide range of tenants. Floorplate depths and core locations are optimised to ensure the majority of workspace is within 12m of a natural light source.



Typical Lower Level Plan

Figure 9.6.13.1 - Podium level workspace depth diagram



Typical Upper Plan

Figure 9.6.13.2 - Typical upper level workspace depth diagram

Key

- 0-6m Workspace
- 6-12m Workspace
- >12m Workspace

0 25 50 100m
1:2500

9.7 Supporting Information

Figure 9.7.0.1 - Visualisation of Public Square, Source: Turf

9.7.1 Connecting with Country
Urban Design Integration

The masterplan has been informed by Connecting with Country engagement and advice provided by First Nations specialists Balarinji, as well as the preliminary CwC framework prepared by Cox Inall Ridgeway.

The Connecting with Country Framework prepared by Balarinji defined six key themes for design integration for the Paint Shop sub-precinct masterplan. Those themes - summarised below - have informed the masterplan process and outcomes.

Specific design opportunities applicable to this phase of planning and design were explored and integrated within this urban design framework and associated specialist studies. Evidence of this integration is found throughout this study and specifically demonstrated in the following pages . Additional evidence is presented in Chapter 10.5 and Chapter 6 of this report, highlighting alignment with the Public Domain Study, Cox Inall Ridgeway, Balarinji and Artefact.

The themes have informed, and will continue to inform, the design development across many parts of the project. The adjacent figure highlights some of the primary urban design opportunities associated with each of the six themes. These opportunities are highlighted in more detail in the following pages.

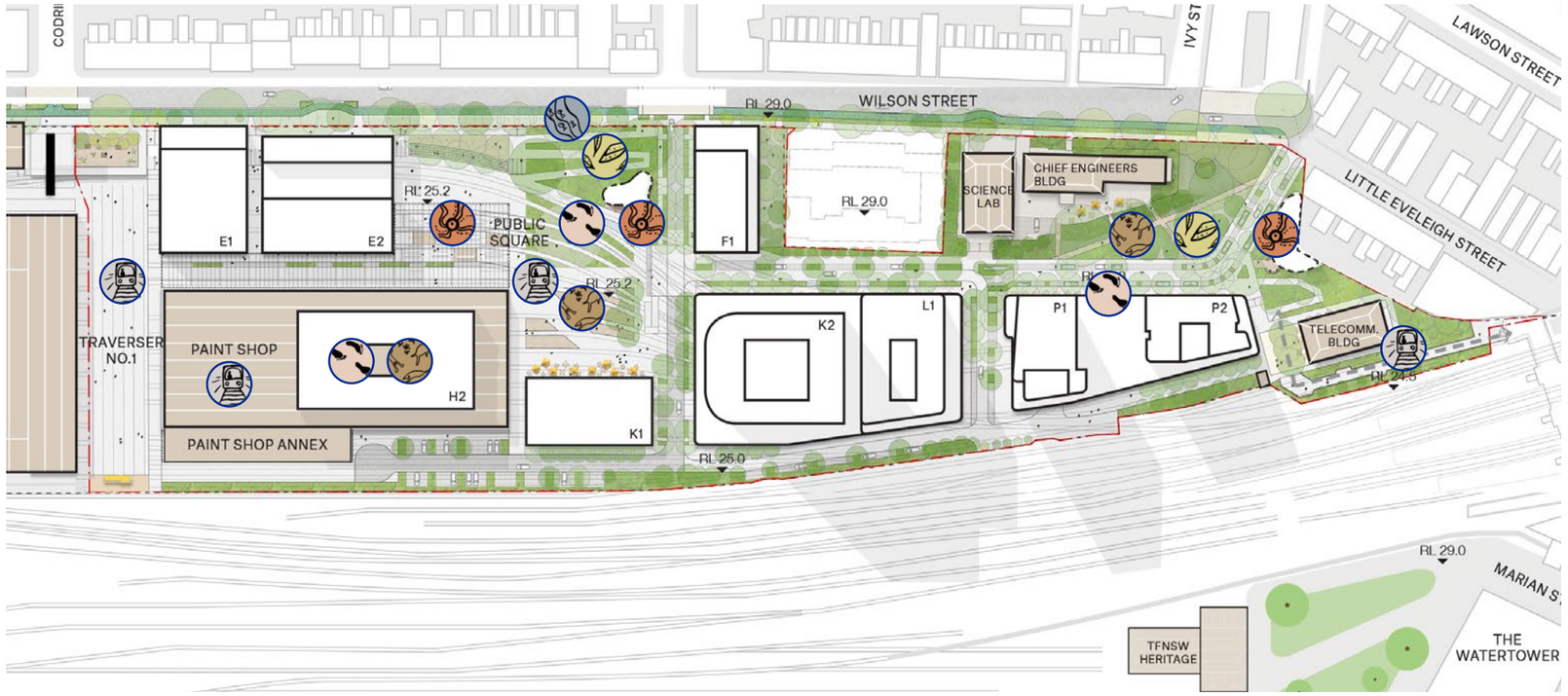


Figure 9.7.1.1 - Masterplan highlighting CwC Urban Design integration

Figure 9.7.1.2 - Connecting with Country key design themes (Balarinji)

9.7.1 Connecting with Country
Urban Design Integration

This table maps specific urban design and public domain initiatives incorporated within this SSP Masterplan against the Connecting with Country Themes.

Connecting with Country Themes	Regenerating Country	Replacing Landmarks	A Meeting Place	Legacy of Sydney Trains	Iconography of County	Custodianship
Masterplan initiatives and alignment with themes (Urban Design + Public Domain, SSP rezoning phase)						
Retention, integration, and adaptive reuse of heritage buildings and elements, including fan-of-tracks)			+	+		
Adaptation of Paint shop as innovation anchor and additional layer of employment story at RNE. Specific opportunities include architectural expression and integrated public art, roof terrace with garden and meeting place / yarning circle.				+		+
Landform – modification of topography to partially reinstate a natural landmark, recalling the pre-industrial landscapes.	+	+				
Landscape strategy – distinct planting strategies to upper level and lower level, evoking the underlying geology, hydrology, flora and fauna.	+	+			+	
Water – integration of water in the landscape to contribute to identity, support regenerative design approach, and recall Country. Bioswales, wetland, 'hanging swamp', water features.	+	+			+	
Planting strategy – integration of endemic plant species (trees and understorey planting) along with exotic trees characteristic during the period of industry.	+			+	+	+
Green infrastructure – extensive tree canopy and on-structure planting contributing to biodiversity	+					
New 'eastern park' around the CME building - located close to the Station, characterised by extensive indigenous planting with space for informal gathering and community facilities.	+	+	+	+		+
New Public Square (Paint shop Square) – a new open space defined by the industrial heritage (including tracks), repatriated landforms, extensive endemic planting, water, and new development. Connected to, and welcoming of, the wider community.	+		+	+		+
Movement networks – establishing informal paths of movement along contours, recalling tracks and paths. Potential for interpretive expression in the ground plane and landscape treatment.		+		+	+	
Meeting places and facilities – potential dedication or sharing spaces within the development, such as: new pavilions in the Square or Park, Telecommunications building, or spaces with new development			+			+
Suburban Car Workshop pavilion – partial retention of structure and roof to provide an informal shelter with supporting infrastructure for events, gathering, education and / or cultural activities.			+	+		+
Identification of specific future co-design opportunities such as: - Integrated public art / façade of Paint Shop development - Paint-shop Square pavilion - Public domain / landscape design	+	+	+	+	+	+
Design excellence strategy - Inclusion of specific considerations relating to Design with Country and co-design opportunities	+	+	+	+	+	+
Design Guidelines - Opportunity to embed Connecting with Country framework and design initiatives into the planning instruments to guide future detailed design processes and outcomes.	+	+	+	+	+	+

Table 9.7.1.3 - CwC Urban Design Initiatives

9.7.1 Connecting with Country
Urban Design Integration

Replacing Landmarks

Regenerating Country

A Meeting Place

Iconography of Country

The Legacy of Sydney Trains

Custodianship

New 'eastern park'

informal gathering and community facilities

Green infrastructure

Extensive tree canopy

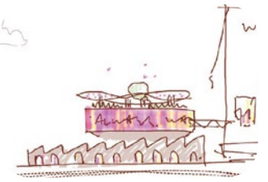
Design Guidelines

Water

integration into landscape

Planting strategy

integration of endemic plant species



Adaptation

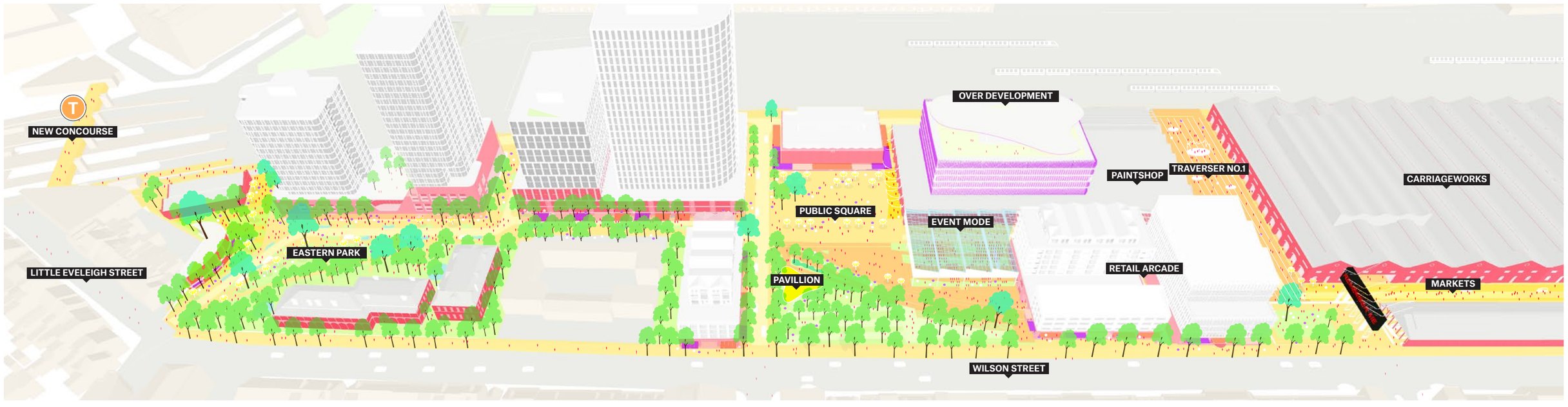
of Paint Shop

Suburban Car Workshop

Events, gathering, education, culture

Meeting places

and facilities



Landform

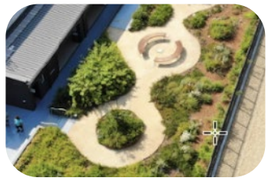
Recalling the pre-industrial landscapes

Adaptive reuse

of heritage buildings and elements

Identification

of specific future co-design opportunities

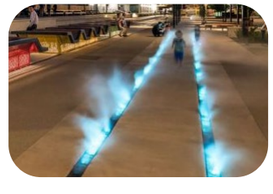


Landscape strategy

Distinction between upper and lower levels

Movement networks

Recalling tracks and paths



Public Square

Defined by Legacy of Sydney Trains

Design excellence

strategy

Figure 9.7.1.4 - CwC Urban Design Initiatives

9.7.1 Connecting with Country
Urban Design Integration

Replacing Landmarks | Regenerating Country | A Meeting Place | Iconography of Country | The Legacy of Sydney Trains | Custodianship

New 'eastern park'

informal gathering and community facilities

Green infrastructure

Extensive tree canopy

Design Guidelines

Water

integration into landscape

Planting strategy

integration of endemic plant species

Adaptation

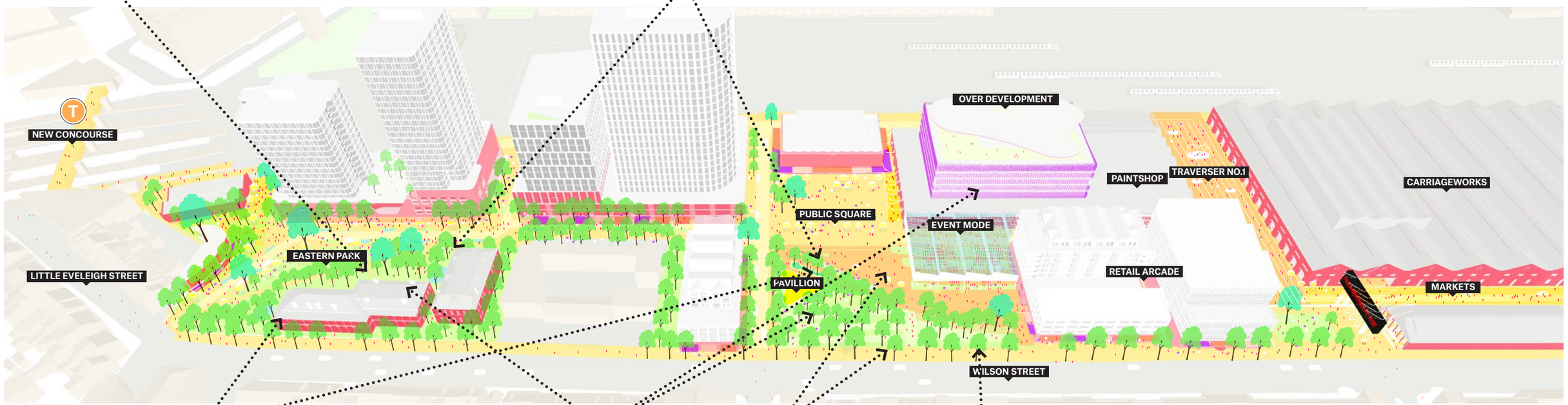
of Paint Shop

Suburban Car Workshop

Events, gathering, education, culture

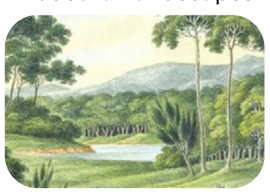
Meeting places

and facilities



Landform

Recalling the pre-industrial landscapes

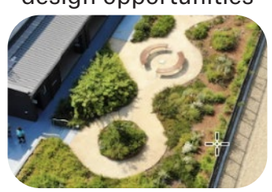


Adaptive reuse

of heritage buildings and elements

Identification

of specific future co-design opportunities



Landscape strategy

Distinction between upper and lower levels

Movement networks

Recalling tracks and paths

Public Square

Defined by Legacy of Sydney Trains

Design excellence

strategy

Figure 9.7.1.5 - CwC Urban Design Initiatives (Replacing Landmarks)

9.7.1 Connecting with Country
Urban Design Integration

Replacing Landmarks | **Regenerating Country** | A Meeting Place | Iconography of Country | The Legacy of Sydney Trains | Custodianship

New 'eastern park'

informal gathering and community facilities

Green infrastructure

Extensive tree canopy

Design Guidelines

Water

integration into landscape

Planting strategy

integration of endemic plant species

Adaptation

of Paint Shop

Suburban Car Workshop

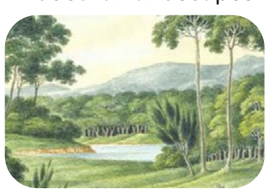
Events, gathering, education, culture

Meeting places

and facilities

Landform

Recalling the pre-industrial landscapes

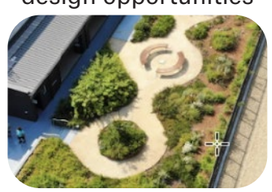


Adaptive reuse

of heritage buildings and elements

Identification

of specific future co-design opportunities



Landscape strategy

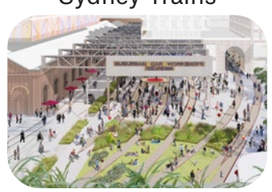
Distinction between upper and lower levels

Movement networks

Recalling tracks and paths

Public Square

Defined by Legacy of Sydney Trains



Design excellence

strategy

Figure 9.7.1.6 - CwC Urban Design Initiatives (Regenerating Country)

9.7.1 Connecting with Country
Urban Design Integration

Replacing Landmarks | Regenerating Country | **A Meeting Place** | Iconography of Country | The Legacy of Sydney Trains | Custodianship

New 'eastern park'

informal gathering and community facilities

Green infrastructure

Extensive tree canopy

Design Guidelines

Water

integration into landscape

Planting strategy

integration of endemic plant species

Adaptation

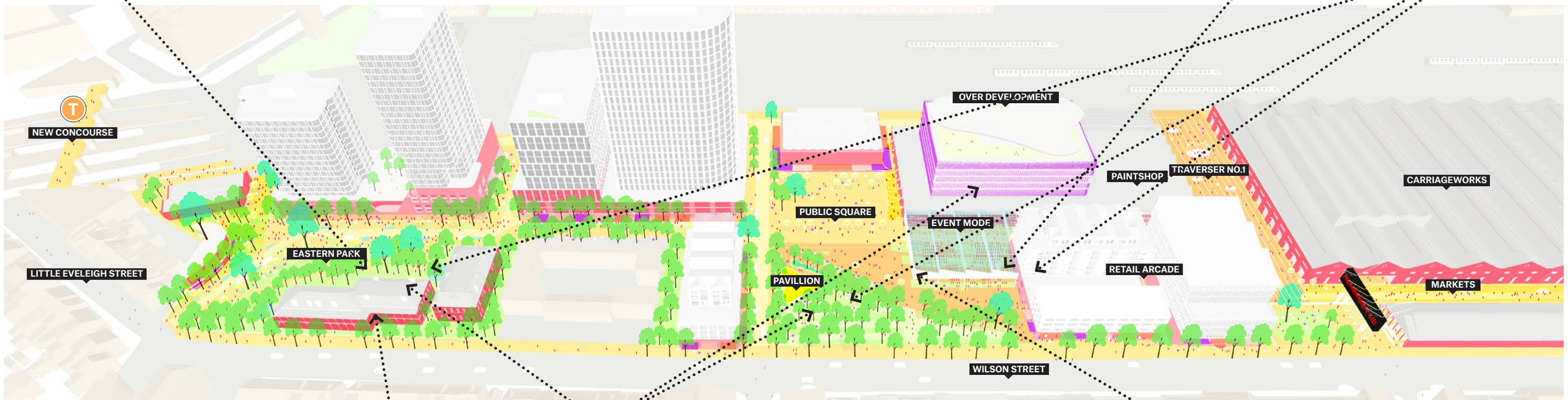
of Paint Shop

Suburban Car Workshop

Events, gathering, education, culture

Meeting places

and facilities



Landform

Recalling the pre-industrial landscapes

Adaptive reuse

of heritage buildings and elements

Identification

of specific future co-design opportunities

Landscape strategy

Distinction between upper and lower levels

Movement networks

Recalling tracks and paths

Public Square

Defined by Legacy of Sydney Trains

Design excellence

strategy

Figure 9.7.1.7 - CwC Urban Design Initiatives (A Meeting Place)

9.7.1 Connecting with Country
Urban Design Integration

Replacing Landmarks

Regenerating Country

A Meeting Place

Iconography of Country

The Legacy of Sydney Trains

Custodianship

New 'eastern park'

informal gathering and community facilities

Green infrastructure

Extensive tree canopy

Design Guidelines

Water

integration into landscape

Planting strategy

integration of endemic plant species

Adaptation

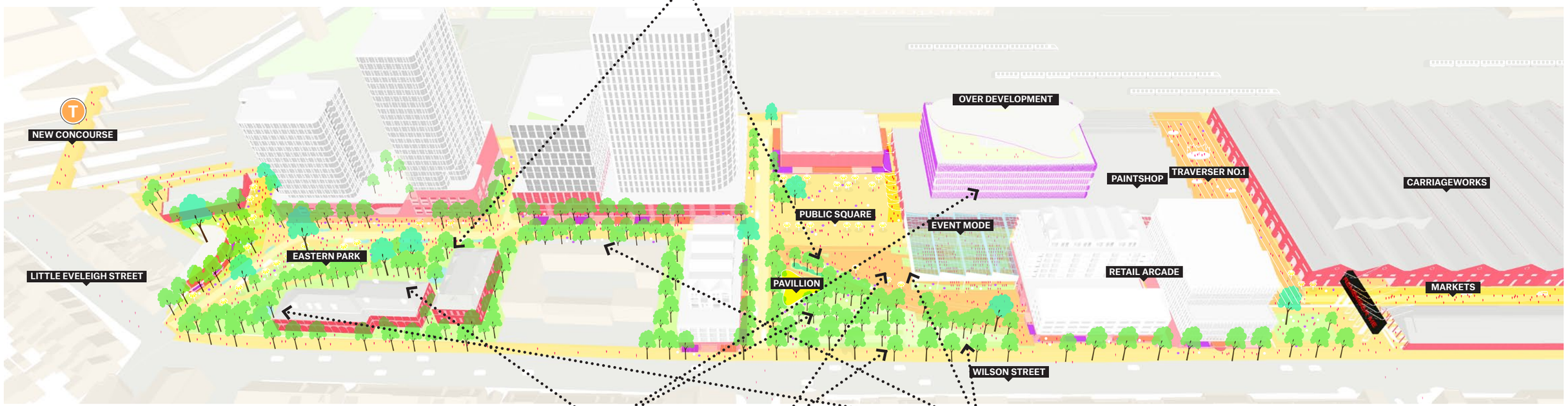
of Paint Shop

Suburban Car Workshop

Events, gathering, education, culture

Meeting places

and facilities



Landform

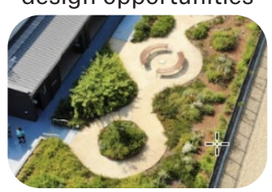
Recalling the pre-industrial landscapes

Adaptive reuse

of heritage buildings and elements

Identification

of specific future co-design opportunities



Landscape strategy

Distinction between upper and lower levels

Movement networks

Recalling tracks and paths

Public Square

Defined by Legacy of Sydney Trains

Design excellence

strategy

Figure 9.7.1.8 - CwC Urban Design Initiatives (Iconography of Country)

9.7.1 Connecting with Country
Urban Design Integration

Replacing Landmarks

Regenerating Country

A Meeting Place

Iconography of Country

The Legacy of Sydney Trains

Custodianship

New 'eastern park'

informal gathering and community facilities

Green infrastructure

Extensive tree canopy

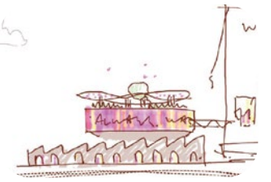
Design Guidelines

Water

integration into landscape

Planting strategy

integration of endemic plant species



Adaptation

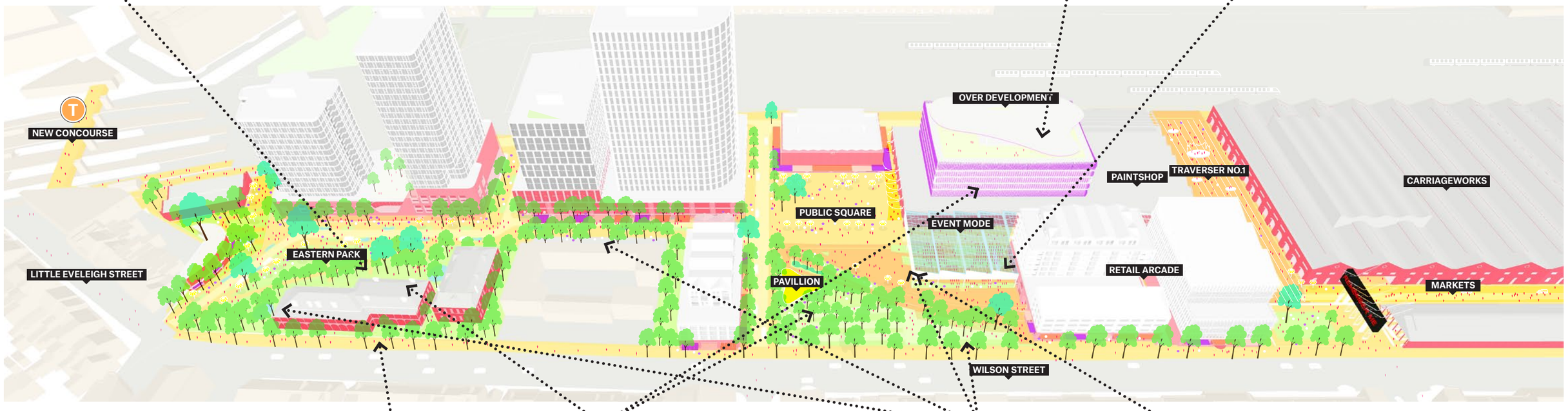
of Paint Shop

Suburban Car Workshop

Events, gathering, education, culture

Meeting places

and facilities



Landform

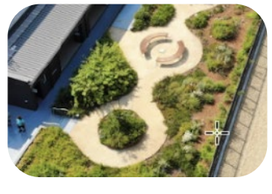
Recalling the pre-industrial landscapes

Adaptive reuse

of heritage buildings and elements

Identification

of specific future co-design opportunities

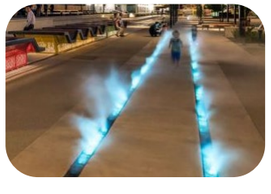


Landscape strategy

Distinction between upper and lower levels

Movement networks

Recalling tracks and paths



Public Square

Defined by Legacy of Sydney Trains

Design excellence

strategy

Figure 9.7.1.9 - CwC Urban Design Initiatives (The Legacy of Sydney Trains)

9.7.1 Connecting with Country
Urban Design Integration

Replacing Landmarks | Regenerating Country | A Meeting Place | Iconography of Country | The Legacy of Sydney Trains | Custodianship

New 'Eastern Park'

informal gathering and community facilities

Green infrastructure

Extensive tree canopy

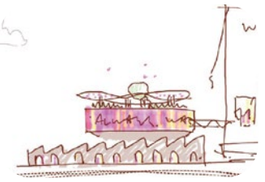
Design Guidelines

Water

integration into landscape

Planting strategy

integration of endemic plant species



Adaptation

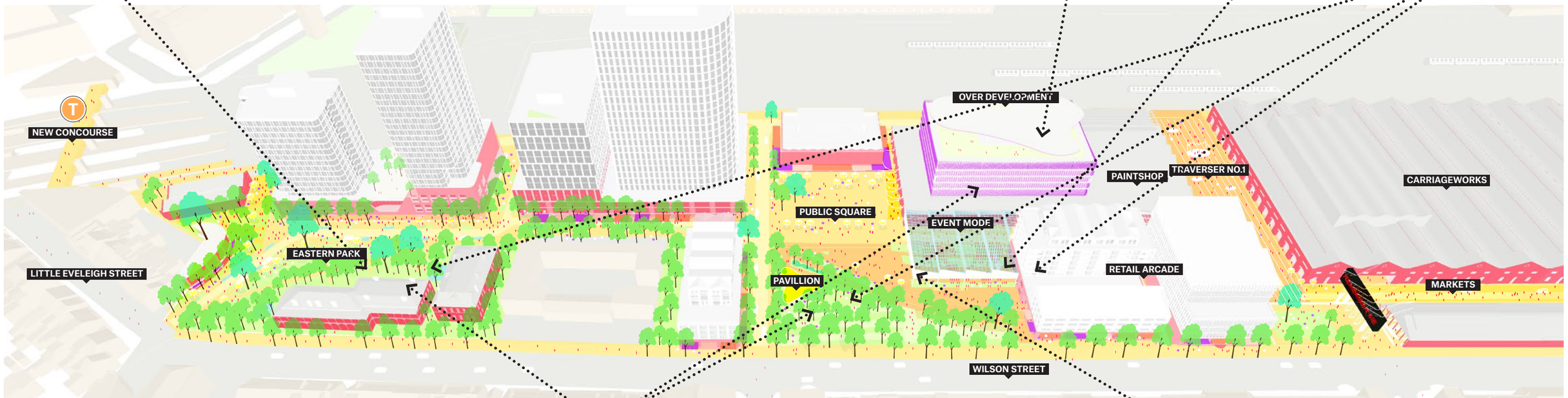
of Paint Shop

Suburban Car Workshop

Events, gathering, education, culture

Meeting places

and facilities



Landform

Recalling the pre-industrial landscapes

Adaptive reuse

of heritage buildings and elements

Identification

of specific future co-design opportunities

Landscape strategy

Distinction between upper and lower levels

Movement networks

Recalling tracks and paths

Public Square

Defined by Legacy of Sydney Trains

Design excellence

strategy

Figure 9.7.1.10 - CwC Urban Design Initiatives (Custodianship)

9.7.1 Connecting with Country
Additional Opportunities

The Connecting with Country Framework identifies a range of thematic opportunities that extend beyond the urban design considerations. The following table highlights other opportunities in the related technical studies being prepared as part of this SSP submission.

Connecting with Country Themes	Regenerating Country	Replacing Landmarks	A Meeting Place	Legacy of Sydney Trains	Iconography of County	Custodianship
	a. Due to the industrial history of the site the Country of the RNE Precinct is in need of regeneration. b. This would include cleaning Country of chemicals from the industrial processes carried out on site. c. Through regenerating Country it will allow the 'County under the concrete' to remerge and begin the restoration of the spirit of the site.	a. The traditional landmarks of Country have been obscured by the City, however Country and many of its landmarks are still under the concrete. b. Landmarks of Country can come in many forms including but not limited to; ecological, spatial and functionality of Country. c. By replacing landmarks, or acknowledging the traditional functionally of Country this can contribute to the restoration of Country.	a. Acknowledging RNE as a contemporary meeting place through its function as a major place of employment for the Aboriginal community from the late 1800s – 1980s. b. This function as a community gathering space is an example of a landmark that can be replaced by the design of the new precinct. By providing unstructured space for the community to gather, this replicates the function of Country as a gathering space.	a. The railways were one of the first employers of Aboriginal people in Sydney. Community moved into Sydney from regional areas for employment opportunities. b. Sydney Trains is still one of the largest government employers of the Aboriginal community today.	a. Acknowledge the unique nature of Gadigal Country through the integration of the icons/symbols of Country b. These include but are not limited to Sydney Rock Art Engravings, Integration of The Sydney Language, Native Planting that acknowledges the Six Seasons of Sydney	a. Commit to a community led approach to Indigenous Design and Art Integration b. Provide space for the locally connected Aboriginal community to practice culture and care for Country c. Regenerate Country in collaboration with Community Run Organisations d. Acknowledge that this site is culturally significant for the locally connected Aboriginal community.
Links to Cox Inall Ridgeway preliminary themes	Stories of Country	Stories of Country	Meeting Place	Meeting Place	Activism + Expression	Activism + Expression
Links to Bates Smart preliminary design themes	Geology, Flora & Water	Geology, Flora & Water	Travel & Tracks, Work	Travel & Tracks, Work		Work
Links to Artefact preliminary Heritage Interpretation Theme			Trackways and Places	Trackways and Places		Heart of Aboriginal Sydney, Large and Many - Gadigal & Diverse Aboriginal Community
Design initiatives and alignment with themes						
Other opportunities						
Sustainability - Refer ARUP	+	+				
Public Art Strategy				+	+	+
Wayfinding -			+			+
Aboriginal and Non-Aboriginal Heritage interpretation plan		+	+	+	+	+
Ecology and biodiversity strategy	+	+				
Green infrastructure strategy	+	+				
Language Engage Aboriginal community in place-naming - Precinct / key spaces / streets etc. Adopt dual-language signage throughout.					+	+

Table 9.7.1.11 - CwC Additional Opportunities

9.7.2 Heritage Integration
Overview

This report section provides an overview of the approach to integrating the important heritage elements into the new masterplan. It provides an account of key adaptive reuse opportunities and compares the heritage response against the approved 2008 Plan to demonstrate significantly improved heritage response.

Whilst the masterplan involves adaptive reuse and integration of a range of buildings, the approach to the Paint Shop building itself warrants further discussion. The proposal for additional development above the building will inevitably impact the heritage fabric.

The justification for the proposed development is premised on the strategic importance of the building in support of the project vision of establishing Redfern North Eveleigh as a successful innovation precinct. The following provides a summary of that rationale:

Plan constraints

1. Traverser - retain as existing (High Heritage Significance)
2. Paintshop retention, PS Annex retention, Suburban Car Workshop desired retention, fan of tracks retention (High Heritage Significance)
3. Curtilage to CME & Science Lab (High Heritage Significance)
4. Curtilage to Telecoms building and access to station
5. Access to high point on rail corridor for maintenance
6. High restriction along Wilson Street to reduce impacts on neighbours
7. Shepherd St extension for vehicular access
8. Offsets from working railway line
9. Offsets from existing residential

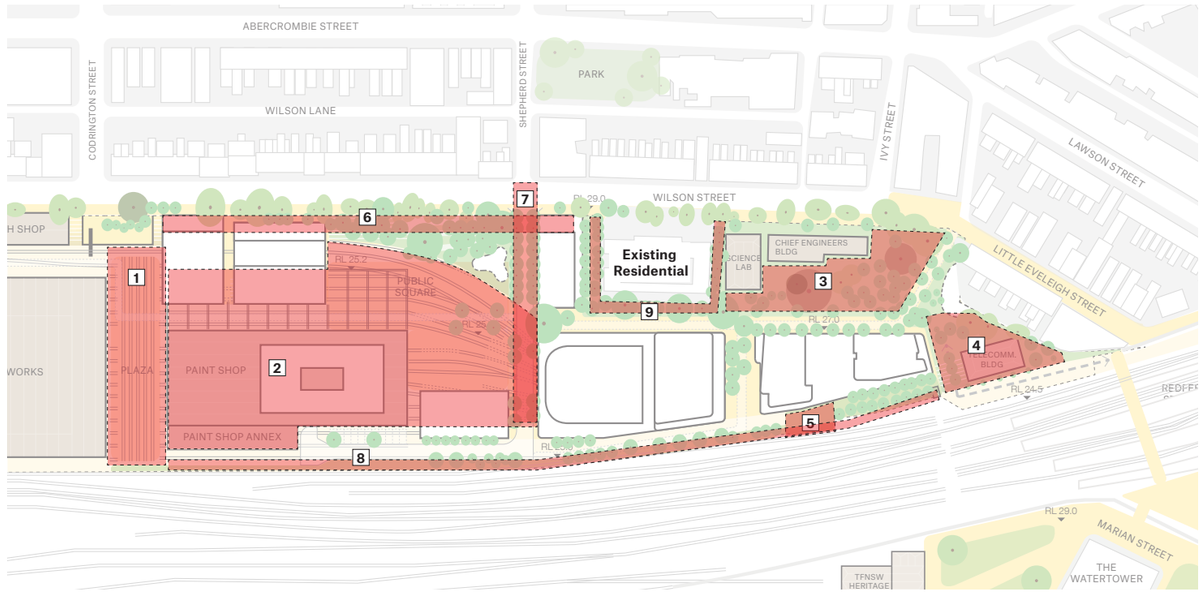


Figure 9.7.2.1 - Precinct Development Constraints Diagram

Innovation precincts need people

Successful innovation precincts provide an intensity of activity and diversity of uses.

Whilst part of the wider innovation corridor, North Eveleigh needs to provide sufficient quantum of development in its own right, and beyond the capacity of the approved 2008 Concept Plan.

Whilst the innovation precinct is principally a commercial activity, integrating residential, retail, and community uses are essential to ensure a safe, active, and engaging neighbourhood.

The site has significant constraints

Much of the Paint Shop sub-precinct is subject to constraints that prevent or limit development capacity, including:

- Existing heritage buildings or fabric and need to provide curtilage
- Important sightlines and relationships
- Existing topography
- New site access (cars + peds)
- Offsets from operational railway
- Existing trees
- Low-scale context limiting building height along Wilson Street
- Solar access requirements to private spaces and public domain
- ADG separation requirements to existing residential apartments

Heritage is a powerful attractor

The heritage character is one of the compelling differentiators for North Eveleigh and drawcards for potential tenants.

The Paint Shop building is highly attractive to potential tenants wanting a unique and distinctive workplace defined by the heritage character.

Tenant engagement and research indicates that without additional integrated development, the Paint Shop is unlikely to provide sufficient space or contemporary facilities to attract major anchor tenants.

Further - successful adaptive reuse of the Paint Shop is seen as a critical catalyst to underpin the other major commercial developments on the site.

Balance and benefits

Development of the Paint Shop will inevitably result in impacts.

On balance, these impacts are considered reasonable and necessary to deliver a wide range of benefits across the precinct, including the ongoing use of, and public access to, the heritage place.

Successful adaptive reuse of the Paint Shop will support the significant investment in remediation, heritage restoration, public domain, and interpretation strategies.

9.7.2 Heritage Integration Overview

This report section compares the approach taken to the heritage value of the site between the approved 2008 masterplan and the rezoning masterplan proposal. It compares the approach taken to:

- Buidlings and other items of high value
- Settings and views
- The approach to the retention of the fan of tracks.

This summary specifically responds to feedback received from the DRP and other stakeholdes, and includes the approach of not only maximising the extent of tracks in the public domain, which has been continuously increased over the course of the design development under this SSP, but also use the tracks as an opportunity to open up the large footprints of the proposed new development plots and continue the tracks through the semi-public ground floor spaces such as retail units and commercial lobbies in a direct, or interpretative way.

Please also read in conjunction with the Baseline Heritage Assessment, separate to this report.

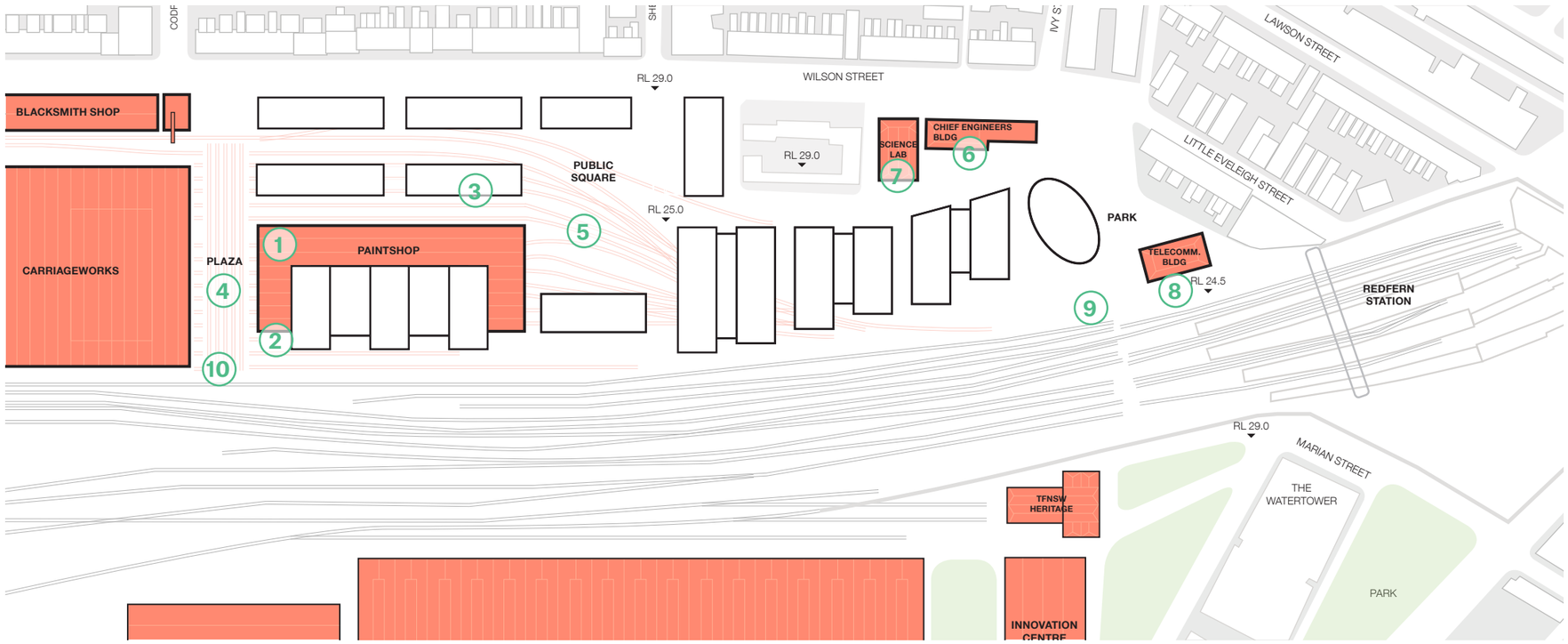


Figure 9.7.2.2 - 2008 Plan

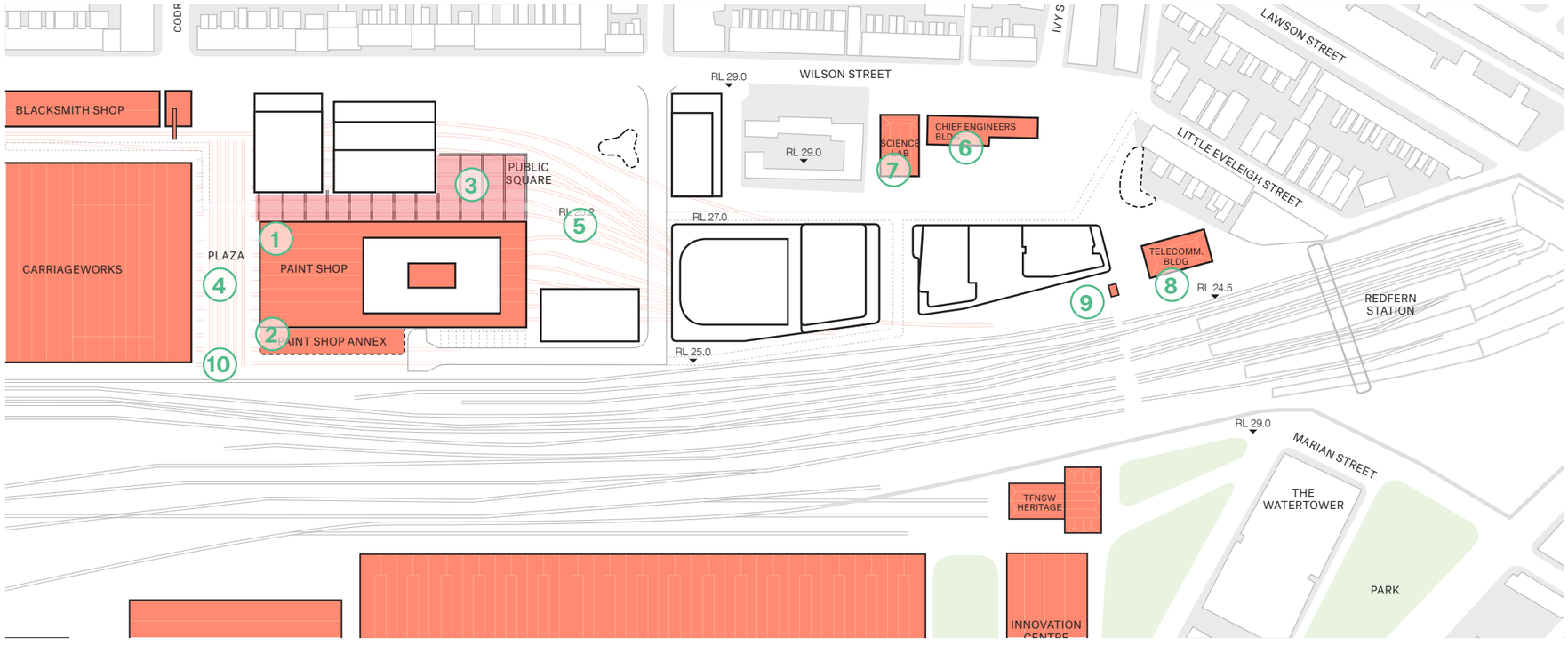


Figure 9.7.2.3 - Proposed Masterplan

Buildings / Items

1 Paint Shop

2 Paint Shop Annex

3 Suburban Car Workshop

4 Traverser

5 Fan-of-Tracks

6 Chief Mechanical Engineer's building

7 Scientific Services Building No.1

8 Telecommunications Equipment Centre

9 Additional items

10 Traverser

9.7.2 Heritage Integration
Overview

The views and settings selected in this section reflect the analysis work and coordination specifically with the european heritage consultant, and should be read in conjunction with the Baseline Heritage Assessment and

the View Impact Assessment, separate to this report.

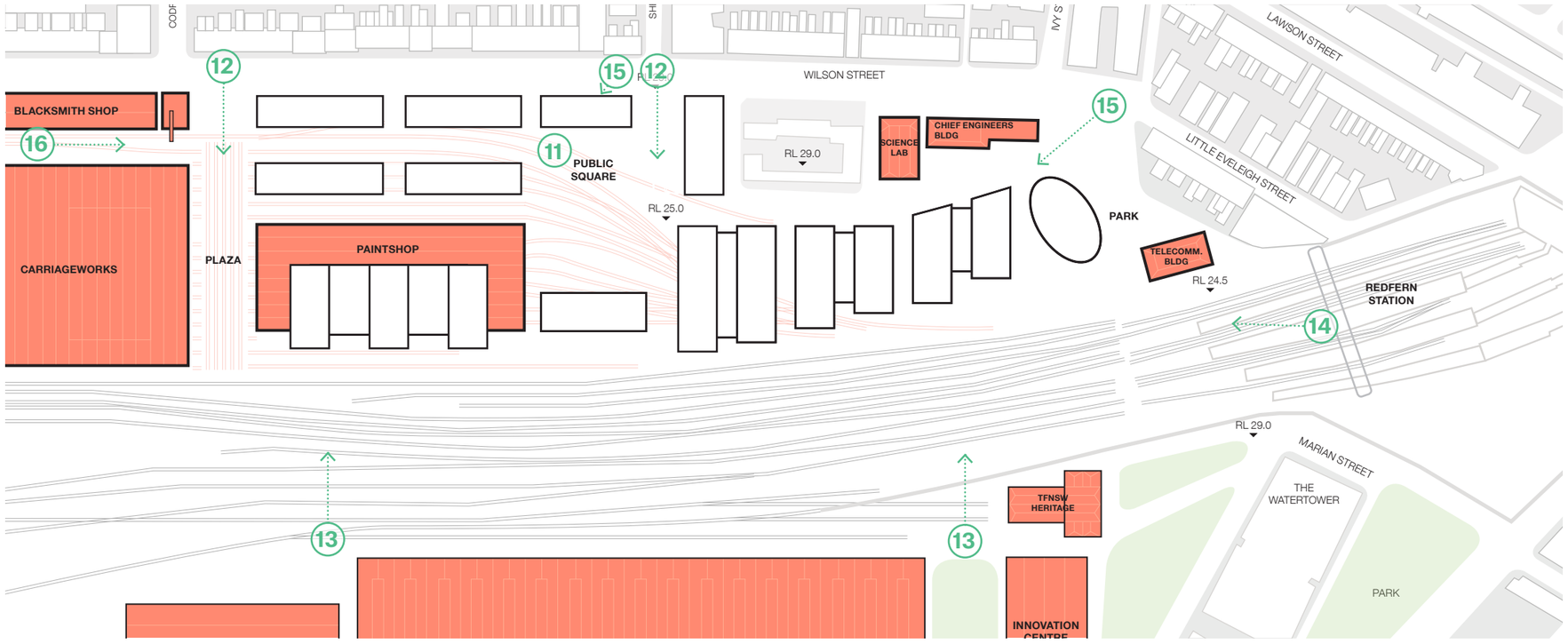


Figure 9.7.2.4 - 2008 Plan

Legibility

11 Setting + relationships

12 Views from North Eveleigh to South Eveleigh

13 Views from South Eveleigh

14 View from Redfern Station / Rail

15 Views from adjoining neighbourhood (Wilson Street / Little Eveleigh St)

16 Views from Carriageworks sub-precinct

New view opportunities from public domain, community or semi-public spaces

- Paint Shop roof garden
- Paint Shop Square pavilion
- Community facilities within podium
- Redfern Station southern concourse
- Wilson Street frontage

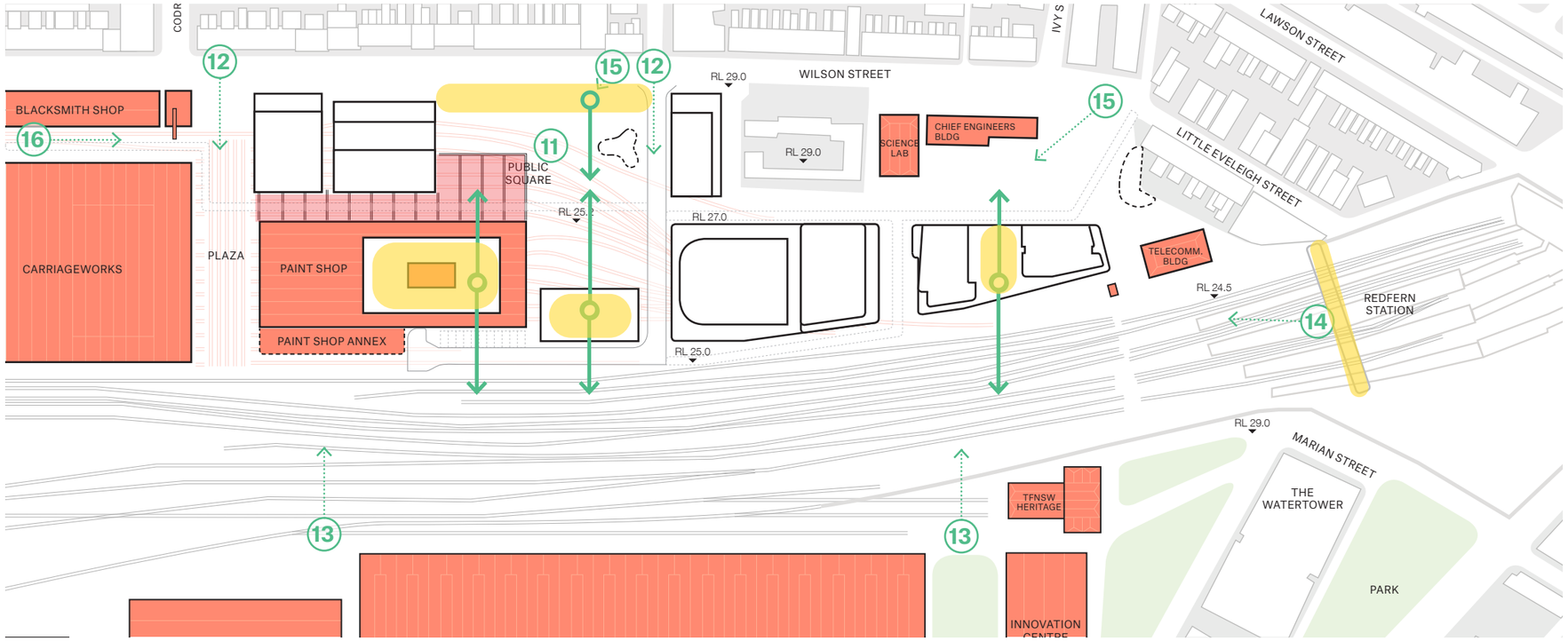


Figure 9.7.2.5 - Proposed Masterplan

9.7.2 Heritage Integration
Adaptive Reuse Opportunities

Chief Mechanical Engineers

— Retained + adapted for commercial use.

— Historic garden setting maintained, providing prominent public setting and generous curtilage

Scientific Services Building

— Retained and adapted for commercial use.

— Integrated in new public open space.

— Clear sightlines across to South Eveleigh

Telecommunications Building:

— Retained and adapted for commercial or retail use.

— New pedestrian access from Redfern Station establishes Telecommunications Building as prominent public entry to the precinct.

Traverser No1

— Traverser No1 retained in-situ

— Traverser No1 Square - retained as hardscape, largely unchanged.

— Potential for temporary events and further interpretation.

Carriageworks Way

— Carriageworks by-pass tracks retained in-situ and incorporated into new ‘arcade’ connecting Paint Shop sub-precinct to Carriageworks + Clothing Store

Paint Shop Annex

— Retained in public domain

— Potential for outdoor recreation uses requiring minimal intervention

Suburban Car Workshop

— Partially retained (structure, roofing, part cladding, tracks, miscellaneous elements.

— Incorporated in the public domain as covered public space.

Fan-of-Tracks

— Significant extent of tracks retained and integrated within public domain.

— Three tiers of integration:
- retained in-situ, reinstated, interpretation

Paint Shop

— adaptive reuse as commercial premises with semi-public areas incl food+beverage retail, lobbies, & interpretive areas.

— New Mezzanines & development will respond to spatial logic of existing building.

New view-lines + experiences

— new opportunities to view and interpret elements and relationships, including between North + South Eveleigh.

— development over Paint Shop provides opportunity for elevated roof terrace

9.7.2 Heritage Integration
Fan of Tracks

Adjacent diagram depicts the approach to the fan of tracks, with two principle types:

Retention of tracks in public domain as much as possible

Tracks to be retained and made publicly accessible. Finishes adjacent the tracks may be reinterpreted in line with the overall landscape proposal. Tracks may need to be lifted and regrounded during the construction of the public open spaces, however re-placement will need to follow the current geometry and the original tracks are to be used, and not substituted.

Intergation of tracks

New hard surfaces of roads and shared streets to include original tracks in their original location. Tracks will need to be lifted and relaid, and integration of tracks will need to be detailed to ensure a safe road environment while expressing the tracks as clear as possible.

Reinterpretaion of tracks in semi public spaces

Publicly accessible parts of buildings such as retail spaces and commercial lobbies to reinterpret tracks on ground floor areas. This can be achieved in different ways, including intergating tracks into the finishes zone, floor material changes, linear light features flush in the ground, biophilia, furniture etc. A transition between the tracks outside and inside should be considered.

Legend

- Retained tracks on publicly accessible land
- Integrated tracks into new finishes such as dedicated roads and shared streets
- Reinterpreted tracks in semi private spaces such as commercial lobbies, retail and community uses

1 Tracks in Locomotive Workshops

2 Tracks retained in new arcade

3 Laneway and Lobby Plot K1

4 Tracks retained in Public Square

5 Interpreted Tracks
Midland Railway square

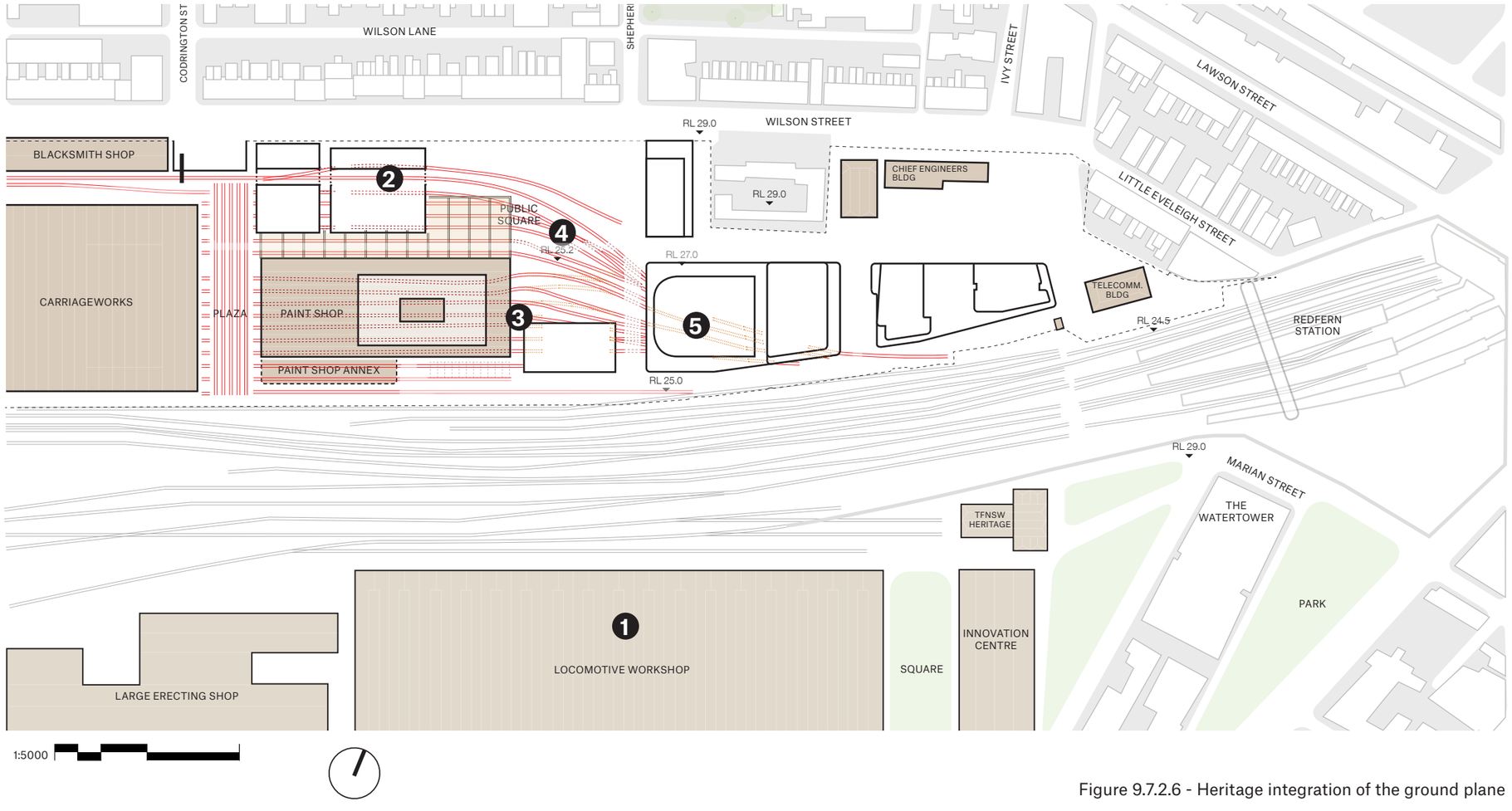


Figure 9.7.2.6 - Heritage integration of the ground plane

9.7.2 Heritage Integration
Evaluation

Item	Heritage items / considerations	Heritage Significance	2008 Concept Plan	Proposed Masterplan	Comment
1	Paint Shop	Exceptional	Adaptive reuse for retail + residential uses. Significant intervention, loss of fabric, and impact on south façade, compromising legibility when viewed from South Eveleigh / Rail corridor. Proposed residential development significantly impacts south façade (extending toward rail) and roof line.	Adaptive reuse for commercial uses + ancillary retail. Spatial quality substantially preserved with opportunity for semi-public access. External façade fully retained. Roof largely retained, preserving iconic complimentary small scale structure above roofline. Development above – raised to retain roof structure / skylights and provide clear distinction of old + new. Detailed design must minimise impact of new structure, services and vertical transportation.	Improved. Potential roof-terrace provides opportunities for new views across Eveleigh Railway Workshops.
2	Paint Shop Annex	High	Demolished	Retained and repurposed. Accessible in public domain.	Improved
3	Suburban Car Workshop (Paint Shop Extension)	High	Demolished	Partial retention of structure, cladding, and ground plane (tracks) as prominent element within new Public Square.	Improved. Significant opportunity for place-making and heritage interpretation.
4	Traverser	Exceptional	Retained as public domain	Retained as public domain with new entry form Wilson Street.	
5	Fan-of-Tracks	High	Rectangular expanse of tracks retained in new Park, partially removed to accommodate new building. Retention of tracks within extension of Carriageworks Way (street).	Largely retained, interpreted and repurposed for public use. Expanse of tracks retained within new Public Square and extending under retained portion of Suburban Car Workshop structure. Integration of tracks within new public arcade connecting Carriageworks Way. Interpretation of tracks within commercial lobbies and through-site links. Curved geometry of the 'fan' is expressed in the landscape and tree planting strategy.	Improved. Significant and extensive interpretation opportunities with public domain and private development. Fan-of-Tracks provide a defining element of the new masterplan.
6	Chief Mechanical Engineer's building	Exceptional	Retained for commercial uses. Limited curtilage with tall residential building in close proximity.	Retained for commercial use. Integrated within new Park providing generous curtilage and preserving historic garden setting.	Improved
7	Scientific Services Building No.1	High	Retained for commercial uses.	Retained for commercial use. Integrated within new Park providing generous curtilage.	Improved
8	Telecommunications Equipment Centre	High	Retained in public domain.	Retained in public domain. Adaptive reuse for commercial or community uses adjacent new direct pedestrian connection to Redfern Station (new southern concourse).	Improved
9	Additional items	Moderate	Demolished	Overbridge footings retained Elston's Sidings and Buffers integrated with new Platform One station entry boardwalk	Improved
10	Traverser Equipment	Exceptional	Retained in situ	Retained in situ	No change

Table 9.7.2.7 - Heritage Integration Evaluation

9.7.2 Heritage Integration
Evaluation

Item	Heritage items / considerations	2008 Concept Plan	Proposed Masterplan	Comment
	Legibility			
11	Setting + relationships	Main new Park provides public setting for Paint Shop and Fan-of-Tracks, and reveals their relationship.	New Public Square provides enhanced and prominent setting for Paint Shop, Fan-of-Tracks, and Suburban Car Workshop and their relationships.	Improved
12	Views from North Eveleigh to South Eveleigh	View from Traverser across tracks. Extension of Shepherd Street Views between buildings.	View from Traverser across tracks, with new Wilson St plaza providing elevated viewing platform. Extension of Shepherd Street. Views between buildings. Potential roof-terrace to Paint Shop over-development provides new viewing opportunity. Continuous pedestrian access along railway edge providing new views to South Eveleigh.	Improved
13	Views from South Eveleigh	Substantially obstructed. View to Paint Shop compromised by the proposed residential development which impacts façade and extends toward rail.	Views to CME / Science Laboratory obstructed. Sightlines to Paint Shop and Paint Shop extension maintained.	Improved
14	View from Redfern Station / Rail	Substantially obstructed. View to Paint Shop compromised by invasive residential development which impacts façade and extends toward rail.	Sightlines to Paint Shop partly preserved from Station / Concourse and wholly visible from rail.	Improved
15	Views from adjoining neighbourhood (Wilson Street / Little Eveleigh St)	View to CME, Science Laboratory from street. Minor views from Wilson Street to Paint Shop and fan-of-tracks.	View to CME, Science Laboratory from street, including new entry points at Little Eveleigh Street and from Platform One. New Public Square provides generous opening to Wilson Street, providing clear sightlines to Paint Shop, Suburban Car Workshop, and fan-of-tracks.	Improved
16	Views from Carriageworks sub-precinct	Extension of Carriageworks Way providing sightlines to Paint Shop precinct.	Provision of public arcade through development. Provides all-weather pedestrian connection and sightlines from Carriageworks Way to new Public Square.	Similar outcome

Table 9.7.2.7 - Heritage Integration Evaluation

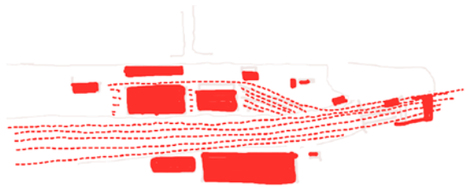
9.7.2 Paint Shop
Over Development

The Paint Shop and the Paint Shop Over Development are at the intersection of work and travel and a reminder of the legacy of Sydney Trains. This is one of three built form opportunities specifically identified as opportunities for celebrating the First Nations people's connection to the Legacy of Sydney Trains and Country more broadly.

It has the potential of serving as an introduction to the sub-precinct generally, but in particular when viewed from the rail line and from South Eveleigh, establishing a visual link across the tracks.

The Over Development has the potential to act as a cultural marker by incorporating references to Indigenous heritage and cultural practices into its architecture. The building provides the opportunity to showcase local art and activism, become a local meeting place, and a home for native flora and fauna.

The combined setting of Paint Shop and development above with its potential roof garden will represent the past, present and future of North Eveleigh and the surrounding Redfern area by intertwining Indigenous culture and creative, technological innovation.



Work

Travel

The Legacy of Sydney Trains

Custodianship

Envelope
local art and activism

Envelope
woven craftwork

Envelope
patterned art

Roof Garden
meeting place

Roof Garden
flora and fauna

Roof Garden
connection

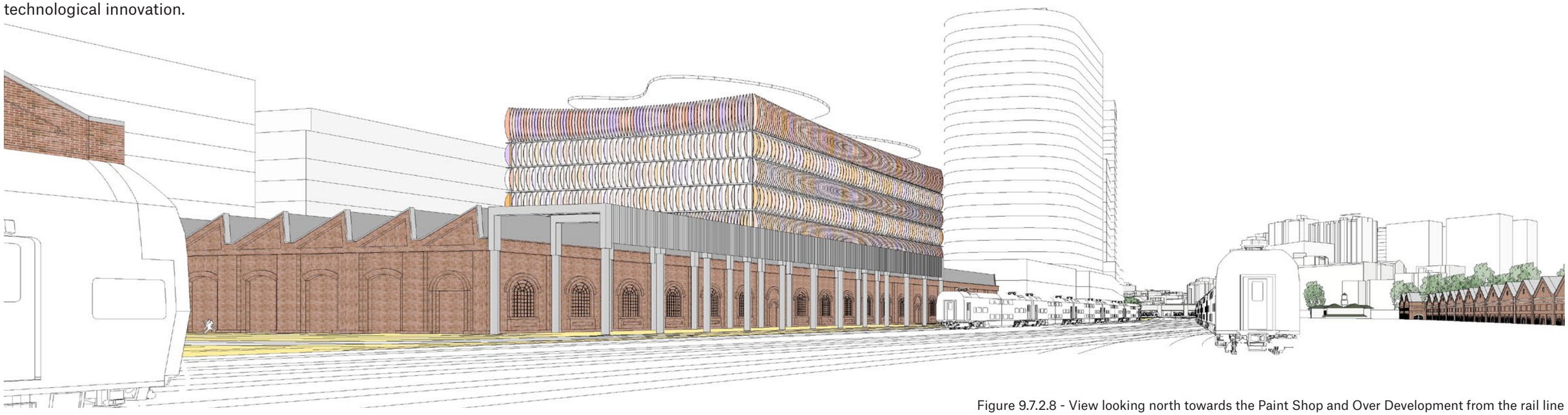


Figure 9.7.2.8 - View looking north towards the Paint Shop and Over Development from the rail line

10.0

Public Domain Strategy

PREPARED FOR

Transport for NSW

North Eveleigh Railway
Workshops Precinct
Wilson Street
Darlington NSW

Turf Design Studio
turfdesign.com

35 Wellington Street
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Simeon King
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ISSUE 9 JUNE 2022

10.1

Public Domain Vision

Study Requirements

Includes a vision statement and a series of goals to achieve the vision.

10.1 Public Domain Vision
Key Principles

This Public Domain Strategy supports the overall Urban Design and Place framework through establishment of a Vision for all public spaces in the Paint Shop Sub Precinct.

Vision Statement

The Public Domain Vision seeks to create a connected and open public realm that integrates the natural, cultural, social, heritage and industrial environments of the site — creating a contiguous extension of both the Carriageworks creative precinct, and the Redfern, Eveleigh and Darlington communities.

The site is a complex and layered place, recently of culture and gathering, previously through a long period of industry and work as railway workshops, a farm and gardens and for millennia as a forested bushland ecosystem on a ridge on Gadigal land, set between Sydney Harbour and Botany Bay.

This Vision sets outs seven key place based principles and goals:

1. A place with deep connection to Country and First Nations people.
2. A welcoming and open ground plane.
3. A public domain network of spaces that utilises landscape, heritage and industry to create a unique sequence of spaces for the community.
4. Celebrates landform and topography as a key component of the site.
5. Delivers high environmental performance and long term sustainability.
6. A place with creative and green streets.
7. A high quality built form interface that contributes to the public domain.

Principle 1: Deep connection to Country and First Nations people

The precinct sits within one of the most well known and celebrated urban Aboriginal communities in Australia; Redfern and Eveleigh, The site lies only a few kilometres from points of first contact with James Cook at Botany Bay in 1770 and later Governor Phillip and the First Fleet in Sydney Cove in 1788.

Although a significantly altered place there remains a deep connection to the landscape, a strong ongoing social history associated with the railway employment, urban living and the existing community, businesses and organisations in the area.

GOAL The public domain and open space is to embrace and integrate the deep physical and social connections to Country, in a way that informs all stages of the project design.

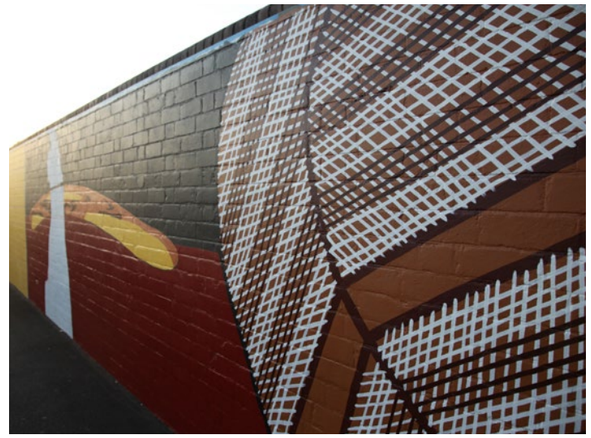
Reference: Connecting to Country Framework, Balarinji, 2021.

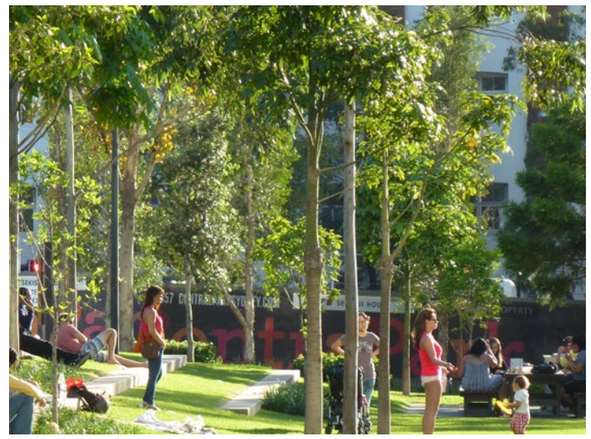
Principle 2: A welcoming and open public ground plane

The subject site has—for the most part of 150 years—been a fenced and enclosed industrial complex, only accessible to those that worked there. The site is still surrounded by corrugated metal and chainwire fences with access restricted to the east of the Traverser No.1. Although the site was fenced, it did have and still maintains a high level of visibility from the rail corridor to the south.

Since the opening in 2007 of Carriageworks as a cultural venue and the Eveleigh Markets, unimpeded public access has been provided to Carriageworks Way from Wilson Street, to the Boilermaker Sheds, Traverser No.1 and No.2 yards and a small pocket park on Wilson Street near Forbes Street. A direct pedestrian stair and ramp link connects to Carriageworks at the Codrington Street and Wilson Street intersection. The opening up of the site adds around five hectares of built urban area and public domain to the suburb of Darlington that lies immediately to the north. Understanding the existing urban and spatial character, streetscapes and public uses will inform the public domain so that it integrates and connects with the neighbourhood in a contiguous fashion, allowing the community and visitors to move through it as they would any other part of inner Sydney.

GOAL Establish a total public domain and street network of over a minimum of 50% of the site and remove fences and barriers to create an open and contiguous urban area that provides 24 hour access for movement, recreation and activities.





Principle 3: Place based public domain network of spaces

There are a range of place based narratives and ideas that inform the public domain, that reflect on and embody the multiple temporal and physical layers that define the place.

LANDSCAPE

The tension between the rich natural pre–colonial landscape, underlying geomorphology and the altered farmed, gardened and later industrial railway landscape provides a rich narrative that is to be embedded to the public domain. Former creeks, wateways and wetlands and associated habitat are important elements to interpret where possible.

HERITAGE

The former farms, gardens, houses, school and estates of the early 19th century were located on a large and gently sloping cleared area of land, and were initially visible to passers by on the first train line between Sydney and Parramatta.

RAIL INDUSTRY

The 19th and 20th Century era railway industry and infrastructure has had the most significant impact on the site. The land was significantly excavated and levelled to allow for the construction of large workshops and rail yards. Many buildings of various scales and styles have been left dormant on the site for decades and a great deal of rail infrastructure remains in its original form and location. These elements are both unique and critical to telling the site's story and articulating the new public spaces around them. High value industrial heritage items and landscape will be retained, preserved and interpreted within the public domain.

GOAL Create unique and interesting spaces that interpret previous uses and landscape values, whilst retaining high value heritage elements where possible, allowing visitors to understand and appreciate the natural, physical, historical and social layers on the site.

Principle 4: Celebrating levels and landform

Wilson Street sits high above most of the site at a RL of 29m, with a large part of the site established below at RL 25m including all railway tracks, and industrial railway buildings. Other ancillary and non–industrial buildings including the Chief Mechanical Engineer's building, Science Laboratory and Parcels Out were built to the Wilson Street frontage.

The change in level creates challenge in terms of pedestrian and universal access for all, connectivity to Redfern Station, vehicles and the visual connectivity between the street level and lower public domain. This significant change in levels provides opportunities to express different landscapes, watersheds and biodiversity and provides new points of views overlooking the site and beyond. The change in grade also creates places to sit in bleachers and steps that overlook public spaces, streets and parks.

GOAL Embrace and engage with the topographic level changes to allow views into and across the site, whilst allowing universal access to all areas.

Principle 5: High environmental performance and sustainability

The site is to develop a prescient and forward thinking approach to development by embedding climate responsiveness and sustainability performance into the public domain. This approach will ensure a deep care for Country to minimise global warming impacts and to meet future policy settings and commercial demand. The public domain will mitigate environmental issues such as the urban heat island effect, through design, planting, permeability and green cover.

GOAL Ensure best practice environmental performance in the public domain with greening, water management and urban heat mitigation.

Principle 6: Creative and Green Streets

Establish a network of green streets that contribute to the wider metropolitan 'green grid' and connect the key public spaces on the site. Streets should provide a high level of amenity, safety and comfort, with active transport modes the highest priority in terms of street design. Streets will also deliver and integrates water sensitive treatments.

GOAL Deliver new streets that are designed with high priority for walking and cycling, but also for gathering, interaction and community connection.

Principle 7: High quality building interfaces to public domain

Critical to the success of the public domain is the ground level and podium interfaces between both new and heritage buildings to streets, squares, plazas, parks and public spaces.

Buildings should be well detailed, with regular openings that provide protection with awnings and covered ways and undercrofts that support the pedestrian network.

GOAL Establish heritage and new builtform interfaces that provide interest, character and amenity to the public domain.

10.2

Public Space Needs

Study Requirements

Includes a separate chapter focusing specifically on public space, specifically what currently exists, what will be upgraded and what new public space will be delivered.

10.2 Public Space Needs

Contemporary public domain requirements and definitions

10.2.1 Policies and Guidelines for Public Space and Greening

A number of local and state policies are relevant to establishing the types, sizes and roles of public domain for the Paint Shop Sub–Precinct. The NSW Government Architect and the Department of Planning, Infrastructure and Environment have published policies relevant to the provision and quality of public space, greening, urban tree canopy and accessibility.

NSW GOVERNMENT GUIDELINES

Draft NSW Public Spaces Charter

The draft NSW Public Spaces Charter released in October 2020, was developed to support the planning, design, management and activation of public spaces in NSW. It identifies ten principles for quality public space, developed through evidence–based research and discussions with public space experts and community members.

Greener Places Design Guide

Greener Places prepared by the NSW Government Architect explains the value of green infrastructure, why it is needed and principles for implementation. The guide recommends green infrastructure is developed as an integrated network rather than made of separate components. The Design Guide includes information relating to:

1. Open Space for Recreation
   Green infrastructure for people
2. Urban Tree Canopy
   Green infrastructure for climate adaptation and resilience
3. Bushland & Waterways
   Green infrastructure for habitat and ecological health

TEN PRINCIPLES OUTLINED IN THE NSW PUBLIC SPACES CHARTER

The NSW Public Spaces Charter principles are:

1. **Open and welcoming**
   Public space belongs to everyone.
2. **Community-focused**
   Public spaces are where communities forge the ties that bind them.
3. **Culture and creativity**
   Public space is where we share our stories and values.
4. **Local character and identity**
   Public spaces make us proud of where we live.
5. **Green and resilient**
   Public space can help us adapt and thrive in a changing climate.
6. **Healthy and active**
   Public space supports healthy lifestyles and refreshes our spirits.
7. **Local business and economies**
   Public space supports more dynamic and exciting local economies.
8. **Safe and secure**
   Everyone should feel safe using public space at all times of the day.
9. **Designed for people**
   Public space that's flexible can meet the needs of our diverse population.
10. **Well managed**
    Public space is more inviting when it's well cared for.

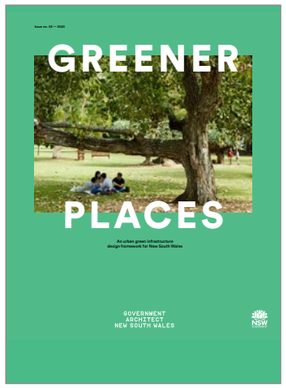
People for Public Places found that successful public places have four key qualities:

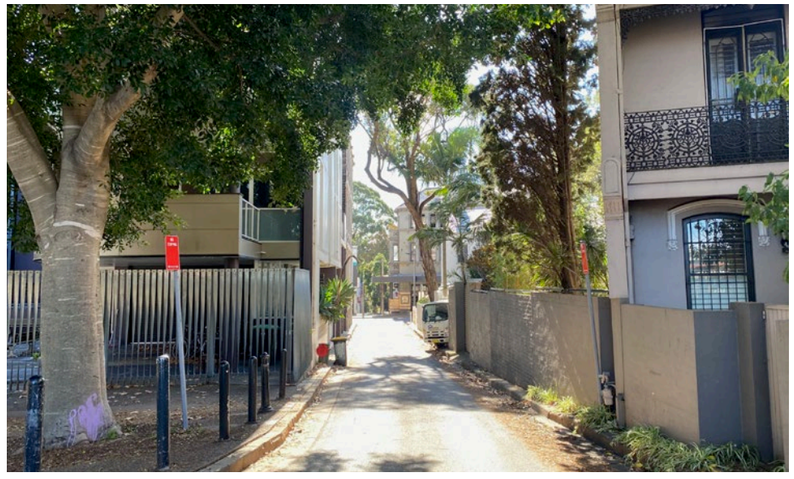
they are accessible
am I able to get there?

people can engage in activities there
am I able to play and participate?

the space is comfortable and has a good image
am I able to stay?

it is a sociable place
am I able to connect?





CITY OF SYDNEY

City of Sydney Open Space, Sports and Recreation Needs Study 2016

The City of Sydney *Open Space, Sports and Recreation Needs Study (2016)* provided a series of directions and recommendations for the future planning, provision, development and management of public open space and recreation facilities located within the City of Sydney LGA. The Study focus is on public open space, sport and recreation facilities which the City of Sydney 'has either ownership, Trustee management, or care, control and management responsibility'. However, the study notes that located within and adjacent to the City are other public open spaces, sport and recreation facility assets managed by other authorities that should be taken into account in determining overall provision, community access and amenity.

The Strategy

1. More Open Space for a Growing Population

Open space acquisition to address community demand and needs

2. Better Parks, Sport and Recreation Facilities

Improving the quality and capacity of open space, sport and recreation facilities

3. Improve the Provision and Diversity of Sport and Recreation Facilities

Providing an appropriate range and distribution of recreational and sporting opportunities

4. Access to Recreation in the City will be Inclusive and Accessible for All

Providing barrier free opportunities for all of the community to use and enjoy our parks, sport and recreation facilities

5. Linking the Network

Achieving a linked open space, sport and recreation facility network

6. Involving the Community

Facilitate and encourage participation in open space, sport and recreation facility development and use

7. Recreation will be Environmentally Sustainable

Contributing to the City and Local Government Area's environmental targets

8. Looking After Our Parks, Sport and Recreation Facilities

Efficient and effective planning, management and maintenance of our resources

9. Beyond the Boundary

District Open Space, Sport and Recreational Planning and Co-ordination

Greening Sydney Strategy 2021

The City of Sydney vision, for a cooler and more resilient city outlines six directions, and 20 supporting actions.

Direction 1 — Turn grey to green

Direction 2 — Greening for all

Direction 3 — Cool and calm spaces

Direction 4 — Greener buildings

Direction 5 — Nature in the city

Direction 6 — Greening together

Their research indicates the City will need to provide 30–40% canopy cover for heat, and 30% canopy cover for community health.

The City's target is to increase aggregate green cover to 40% including a minimum of 27% tree canopy across the LGA by 2050.

Other Directions push for greener buildings, using and celebrating water and providing equity to all residents, workers and visitors.

Through greening design and implementation strategies the City is looking to increase habitat and boost nature in the city.

Direction 5, Action 14 — Recognise and support Indigenous ecological knowledge

"The Gadigal of the Eora Nation managed their land resiliently for thousands of years. There is much we can learn to better care for this Country. To achieve this, we wish to work with the local Aboriginal community to explore and identify opportunities to celebrate, promote and educate about Aboriginal ecological knowledge and principles."

10.2.2 Scale, local context and relationship to nearby public spaces

Adjacent to the site in Darlington, Newtown and Redfern there a number of public spaces of varying sizes and qualities that provide amenity for a wide range of demographics and user profiles including Subregional Parks, Neighbourhood Parks, Local Park and Pocket Parks. Regional Parks such as Sydney Park and Centennial Park provide the largest parkland spaces within the LGA.

10.2.3 What types of public space and where?

There are few hard and fast rules or metrics for the dedication of new developed or redeveloped brownfield or former industrial land for public space.

There are objectives established by State and local governments, that are used to guide development of public space, building massing and form whilst other environmental and built form objectives and settings are influential in defining the spaces between buildings that creates public space. These conditions and settings can include building setbacks, development and utility easements or environmental conditions such as ventilation, solar access, deep soil and permeability requirements.

Public spaces need to support a range of age groups, uses and demographics, both for those that live and work on the site, and those visiting either from the adjacent community or further afield. This accessibility can be measured in time and distance, and density of population, or proposed or developed floor space. The site is located on an expanding cycle network also that provides an increased range and number of recreational and exercise options within easy access.

The following types of public spaces are discussed in terms of their context, scale and appropriateness for the site.

Local context map showing types of public space nearby

PUBLIC SPACE

- Subregional Park
- Neighbourhood Park
- Local Park
- Pocket Park
- Play Facilities
- Pedestrian Links
- Future Pedestrian Links

Subregional Parks

These large public spaces are sized between 50,000 and 100,000 m² with large lawns, mature trees, event spaces, cafés and recreation facilities (i.e. sport fields, ovals, courts, swimming pool etc). These parks play local, subregional and metropolitan roles in terms of the scale of events hosted, including concerts and festivals. They also provide valued green space for informal recreation all year round.

The provision of large subregional sized parks are not within the capability of this site or future user needs in the sub–precinct. Three large parks located nearby contain appropriate provision including;

— Victoria Park (10 min. walk/5 min. cycle)
— Prince Alfred Park (15 min. walk/7 min. cycle
— Redfern Park (15 min. walk/7 min. cycle).

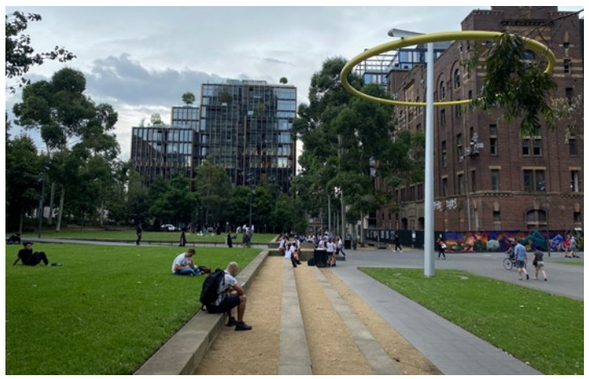
The next three levels of public space including Neighbourhood, Local and Pocket Parks are appropriate in scale and suitable in types and provision of activities for the site.

Local Examples
Victoria Park, Broadway 90,000 m² (image below)
Prince Alfred Park, Surry Hills 75,000 m²
Redfern Park, Redfern 52,000 m²

Neighbourhood Parks

Larger parks of around 3,000—15,000 m² in areas with lawn areas,significant tree planting, gardens, pathways, picnic tables, playgrounds, off leash dog areas etc. These parks perform social, community and recreation roles and can accommodate small to medium size events at times.

Local Examples
Cadigal Green, University of Sydney, Darlington 14,000 m²
Hollis Park, Newtown 6,500 m² (top image)
Eveleigh Green, South Eveleigh7,000 m²
Chippendale Green, Chippendale 6,500 m² (bottom image)



Local Parks

Small parks of around 1000—3000 m² in area and serve their immediate catchment of residents and workers. They usually are planted with lawn and have some paved areas, furniture, picnic tables, play equipment, community gardens etc. Local parks are usually more accessible and within a closer walking distance.

Local Examples
Charles Kernan Reserve, Darlington 1,500 m² (top image)
Redfern Community Centre, Redfern 2,200 m² (bottom image)
Green Ban Park, Erskineville 1,700 m²
Hugo Street Reserve, Eveleigh 1,200 m²

Pocket Parks

Very small parks under 1000 m² in area are often located on former residential sites, sometimes with park benches and play equipment. They provide convenient local outdoor recreational areas and breakout spaces for nearby residents. They are usually located in high density inner city neighbourhoods for residents who have little or no outdoor space at home.

Local Examples
Little Eveleigh Street Reserve, Darlington 220 m² (top image)
Wilson Street, Carriageworks Way 500 m² (bottom image)
Strickland Park Playground, Chippendale 400 m²

10.2.4 Evaluating proposed public space area requirements

Based on the Urban Design Framework the site of total area of **51,560m²** of which is **57.1%** total public space of which 27.7% is designated Public Open Space (i.e. parks, squares), 13.6% is other types of Public Space including footpaths, lanes and small squares and a total of 12.3% of the site is defined as slow speed 10km/h Shared Zone environments where pedestrians, cyclists and vehicles use the same street space and 3.5% is allocated to Public Vehicle Zones.

The following gives a guide to the future working and residential population on the site:

Proposed Resident Population

The Paint Shop Sub–precinct has a proposed **381 apartments** that will add around **702** residents to the site.

Proposed Worker Population

The Paint Shop Sub–precinct with a total of 109,500 m² of employment floorspace will add a maximum total daily workplace population of up to **6,201 people**.

Proposed Total Daily Population

The total combined maximum population of residential, commercial, retail and cultural workers is estimated at around **6,903**.

How much public space is needed?

Definitive rates are hard to apply on any given site, particularly mixed uses sites with cultural, commercial, retail and residential activities. These functions often occupy the site at different times of day and different days of the week. For example residential demand for public space is usually much greater on weekends, earlier in the morning and later in the afternoon or early evening. Workplace sites outdoor spaces tend to experience peak use at lunchtimes between 12 noon and 2pm.

Other factors that affect assessment by metric are issues of qualitative value over pure quantity of public space. Access to a variety of nearby public spaces and convenience also affects the perception of available public space.

Peaks and flows of temporal visitors for events or activities on site will also affect the perception of the adequate quantity of public space.

A mid range target for a typical employment campus is around 2 m² of open space per on site employee which would require a minimum total of around 13,000—15,000 m² of public space on this site.

How much public space per person?

Designated Public Space

The Paint Shop Sub–precinct has a proposed 14,306 m² of high value, high quality designated public space in five zones.

Rate 2.07m²/person

Other Public Spaces

The Paint Shop Sub Precinct has a proposed 7,013 m² of other types of public space across the site including footpaths, lanes, through site links etc.

Rate 1.01m²/person

Combined total public space 21,319 m² at a public space rate of 3.08m²/person

Shared Zone Slow Streets

The Paint Shop Sub Precinct has a proposed 6,330 m² in slow speed Shared Zones in public streets that prioritise pedestrians and cyclists.

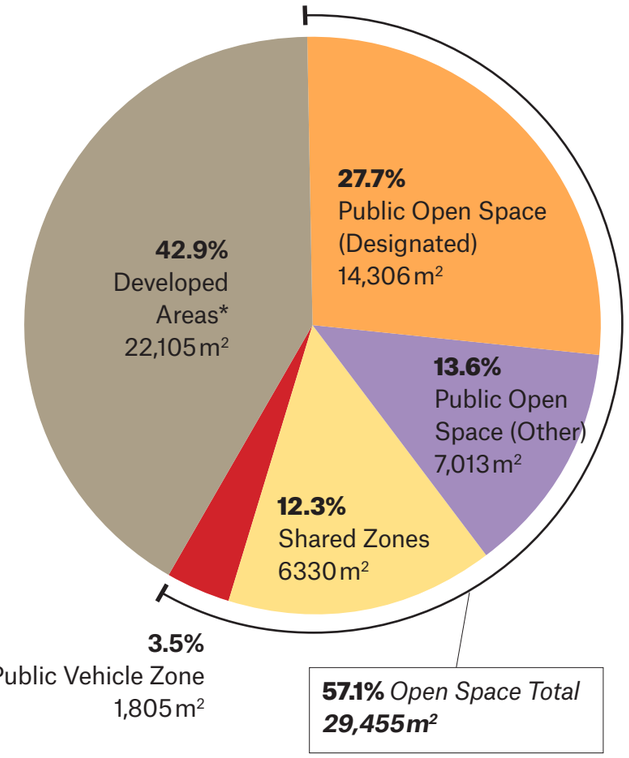
Rate 0.92m²/person

Aggregate of all three public space types:

Combined total 29,455 m² total public space (57.1% of the site)

Public space per person including Shared Zones Combined total rate of 4.26 m²/person

Paint Shop Sub-precinct
*Total Site Area **51,560m²***



**Privately Owned Public Links & Private Open Space (within developed area) 1,750m²*

Public Space % breakdown by typology, see page **215** for a spatial distribution of each

10.2.5 Proposed public domain types

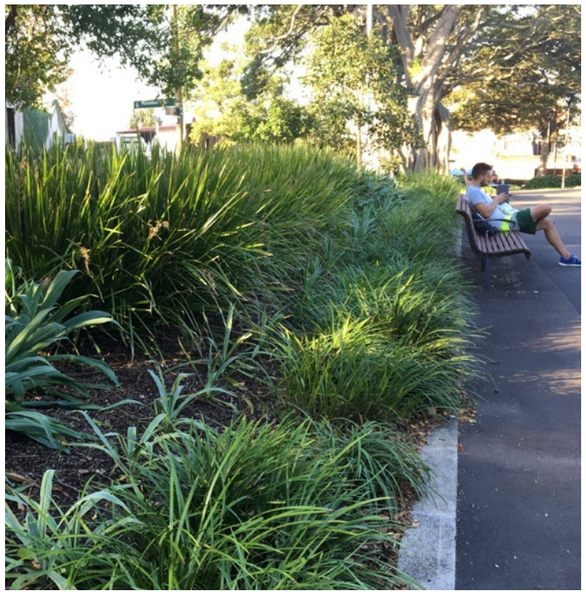
The following provides the full range of public spaces and typologies that will be required on the Paint Shop Sub-precinct so that it may become a successful and innovative extension to the city's public realm. It will need a variety of public realm experiences so that it becomes a unique destination in its own right and a highly liveable and attractive place for residents, workers and visitors.

Parks and green spaces

Green space is highly valued as a designated place for passive recreation, high visual amenity and high cooling. Parks can be formed by gardens, lawns, groves of trees and pathways.

- A strong narrative of regreening and replanting, Caring for Country and creating regenerative and healing spaces that allow for a wide range of activities to occur.
- Unprogrammed outdoor spaces with lawns, gardens, paths, groves, public art and furniture.
- Highly permeable with deep soil that allows tree canopy cover, lawns, gardens and natural systems to thrive, supporting biodiversity and fauna.
- Can provide appropriate curtilage to heritage environments

Local Examples
Cadigal Green, University of Sydney (image above)
Prince Alfred Park, Surry Hills
Chippendale Green, Central Park

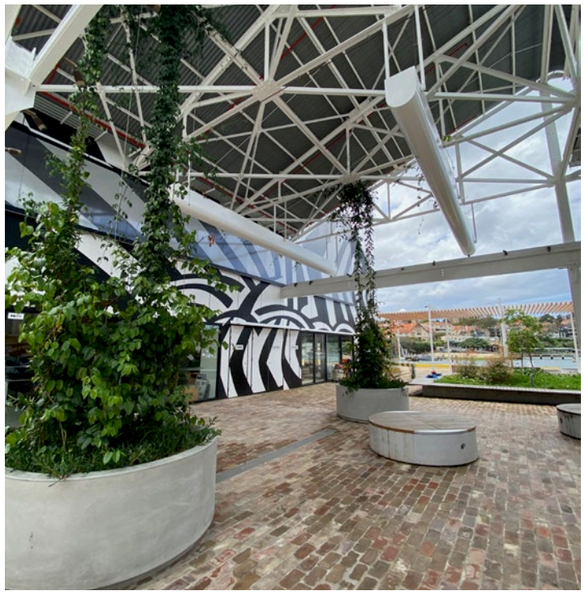


Gardens and terraces

Gardens provide character, texture and interest to the public domain, building curtilages and hardscapes. They also provide additional green cover and cooling to the site.

- Reinterpreting and transforming remnant gardens and heritage spaces, greening roofs and terraces.
- Establish a layer of curation and a dynamic human connection and involvement with nature on the site, that also provides an element of education and resources.
- Can use historic or endemic planting strategies and environmental narratives to tell different stories.

Local Examples
Foley Park, Glebe (image above)
Central Park, Chippendale
Yerrabingin Roof Garden, South Eveleigh



Squares and plazas

Squares are often related to adjacent buildings, and provide an alternative public domain experience to parks. There should be places that allow for different events and public activities on site that may include gatherings, retail, outdoor dining and cultural events.

- Spaces and activities that bring the community into the precinct everyday that are programmed and active at different times of day, year but sustainable without.
- A node of activity and gathering, supported by internal and perimeter building activities such as outdoor dining and function as both destination and movement spaces.
- Built–in longevity allowing flexibility over time, over seasons and over years and could include awnings, roofs, structures and existing heritage structures.

Local Examples
Sub Base Platypus, North Sydney (image above)
Darling Square, Chinatown
Innovation Plaza, South Eveleigh

Event and multiuse spaces

Spaces will be needed that provide areas for larger events, gatherings, festivals, and other uses associated with Carriageworks, community activities and future tenants.

- Provides hard wearing spaces that can accommodate larger crowds and different types of uses.
- May provide power, staging and audio capability.
- Potential to provide interesting and authentic public domain unlike other spaces in Sydney.
- Establishes curtilage and appropriate buffer spaces around heritage buildings.
- Allows vehicle access for bump in and bump out.

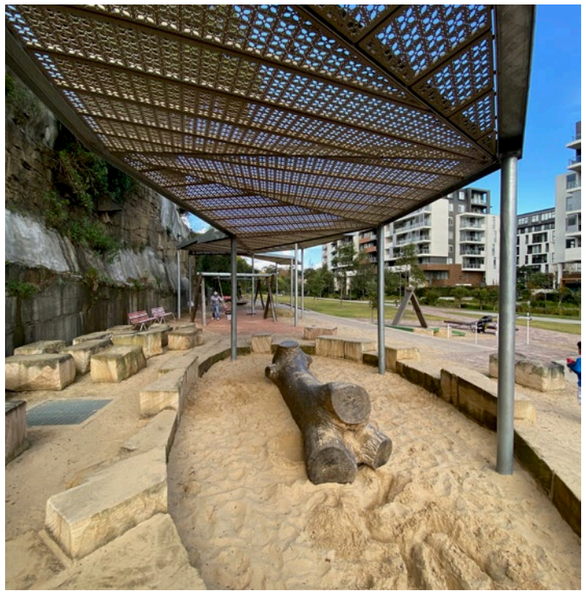
Local Examples
Carriageworks Way (image above)
Boilermakers Sheds, Carriageworks
Customs House Square, Circular Quay

Active sports

Organised and casual sports facilities are sought after across the inner city and where people work. They can be well suited to areas near other noise sources such as rail corridors and are a future opportunity to support the existing local community and the new community on site.

- Active sports spaces provide exercise opportunities and space from the workplace, and can also be used for team building, social interactions and community events.
- Active sports appeal to different age groups particularly teenagers and young adults who are under catered for in many public places and communities.

Local Examples
Prince Alfred Park: basketball courts, tennis courts and fitness gym
Victoria Park: basketball courts and fitness gym
Small scale recreation spaces for table tennis, badminton etc



Play

Play is an important part of growing up, and fulfils social, health and educational roles. High density residential areas have increasing numbers of families with children who benefit from access to play spaces outside of the home, and usually need to be within an easy walk.

- Play can interpret, invert and imbue different stories and narratives important to the site.
- Residential communities require outdoor areas for children to play, especially in higher density environments

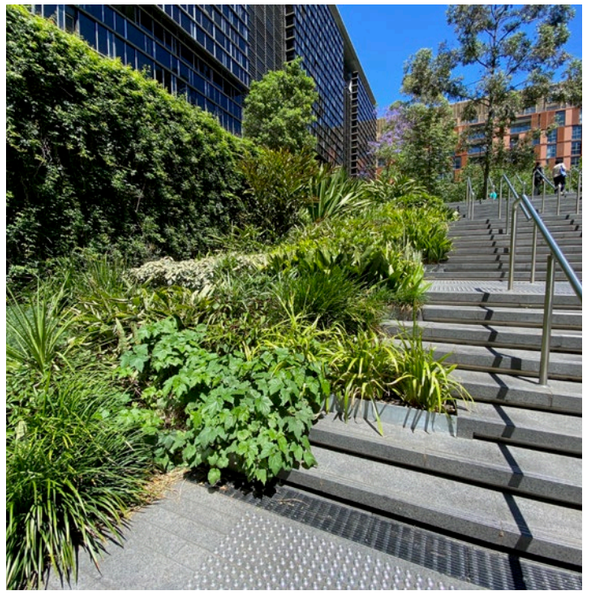
Local Examples
Harold Park Playground, Glebe (image above)
Foley Park Playground, Glebe
Redfern Park Playground Redfern
Jubilee Park Playground, Glebe

Streets and lanes

Streets, laneways and footpaths make up the great majority of public space that people use everyday, to move between home and destinations, to interact with others, people watch and to sit outside in cafés and restaurants. They also provide space for large trees, gardens and greening.

- Places for connecting indoors and outdoors are an important part of a successful ground plane.
- Anticipating future changes and ongoing needs in terms of transport, services and recreation.
- Reinforce the importance of Wilson Street to the site and the neighbourhood.

Local Examples
Abercrombie Street, Darlington (image above)
Kensington Street, Chippendale
Tumbalong Walk, Darling Harbour



Stairs, ramps and links

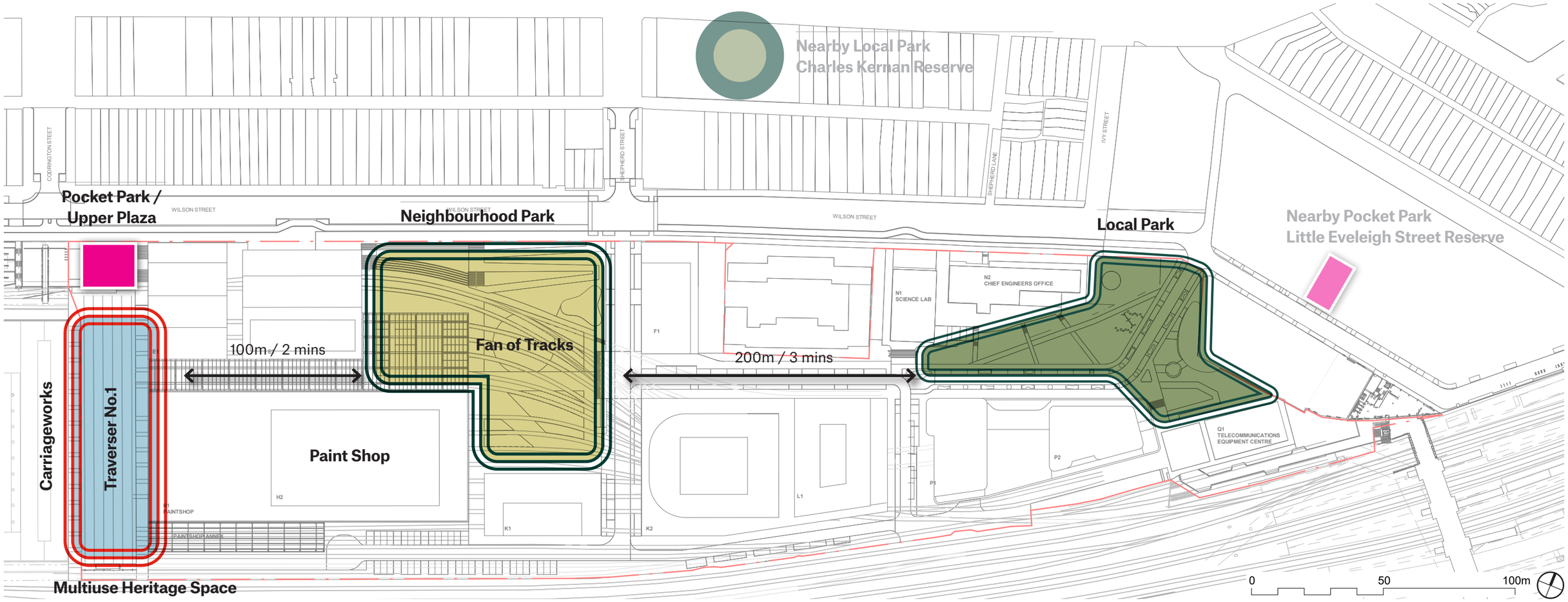
Public stairs, promenades, walkways and ramps can provide more than access, they can be places in their own right. The can create belvedere type spaces that can look out over other public spaces, provide a sense of connection and informal seating, people watching and gathering places.

- Places to meet, wait, overlook, inhabit.
- Important access to buildings and other public spaces.
- Improved safety and passive surveillance.
- Arcades, undercrofts and through site links.

Local Examples
Central Park, Chippendale (image above)
Town Hall Steps, Sydney CBD
The Goods Line, Ultimo

10.2.6 Key new public space nodes

As part of the wider public space network for the Sub–precinct a number of significant and legible landmark public spaces are proposed that provide a range of experiences and possibilities.



Based on the 5.15 hectare size of the site and future population mix and activities, this Public Domain Strategy proposes five designated public spaces as part of this masterplan which includes:

Immediate 1—2 minute catchment

Multi–use Heritage Space

Traverser No.1 between Carriageworks and the Paint Shop is to be preserved for a wide range of uses, and to maintain the existing spatial conditions between the two heritage listed buildings.

Pocket Park/Upper Plaza

A small public space on Wilson Street on axis and connected to the Traverser No.1 below, providing views and outlook to the south, and a pocket park on the east–west street.

Neighbourhood Park

Hybrid urban park/public square that incorporates the steel Paint Shop structure, Fan of Tracks, green space and is located centrally within the precinct, and an easy walk for local residents.

Local Park

A public park incorporating the heritage listed Chief Mechanic Engineers' building and gardens and the Telecommunications Equipment Centre.

These four significant public spaces are supplemented and connected by a network of green shared streets, footpaths, lane ways, public steps and through site links.

The four public domain spaces also deliver a balance of differing types of spaces with varying character, textures and activities with a relatively even distribution across the sub precinct—where a sizeable public space is located within a one or two minute walk of each place of work, dwelling or community venue.

10.3

Benchmarking Assessment

Study Requirements

Includes a Benchmarking Assessment of the proposed development against international best practice precedent studies for innovation and technology precincts, within heritage settings (including within industrial heritage contexts).

The assessment should also identify the specific initiatives used by case study and identify both the positive and negative effects that occurred during the budget, design and construction stages to ensure that it can be translated to an Australian setting.

This section responds in part to this study requirement, applicable to the scope of the public domain strategy, and should be read in conjunction with the following:

— Chapter 4 of this report

10.3.1 Public Domain Benchmarking

The four benchmark projects have been selected for their relevance, as both were located on former rail yards and industrial workshop sites, and have had significant recent investment in public domain upgrades that have facilitated new activities and created new parks and public realm for locals and visitors.

BENCHMARK 1

Railway Square, Midland, Western Australia

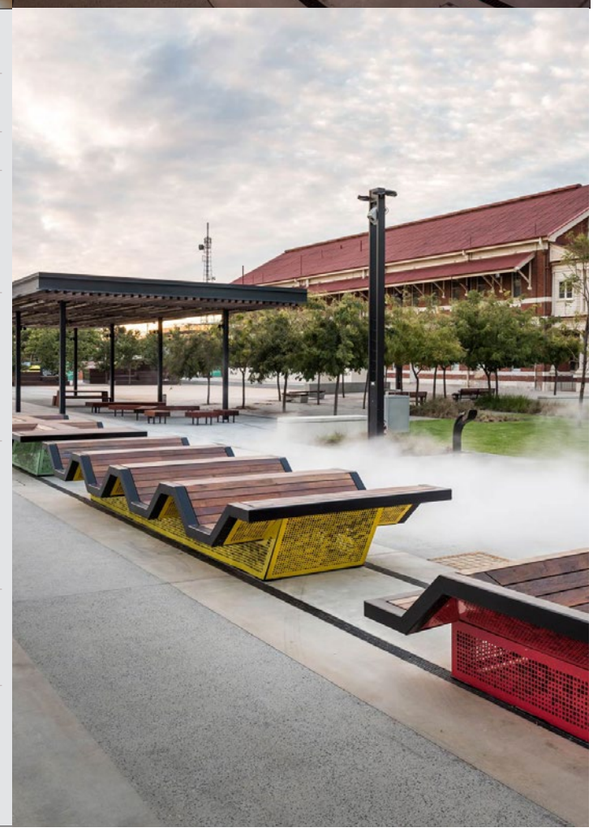
PLACE LABORATORY & MRA 2017

A new public square was constructed on the former Midland Railway Workshops a cluster of late 19th century restored industrial buildings to create a new urban village.

This former railway workshops has been reinvented with high value public domain around restored workshop and railway buildings. The public domain interprets and retains former rail tracks, platforms, war memorial and railway gardens.

The public domain includes new paving, integrated furniture, lighting, misting, gardens, lawns and trees. The public domain areas total around 9,000 m^2 with a network of open public streets running through and around the site.

The site retains an authentic, industrial fee and will be home to a range of residential, commercial, health, education, entertainment and creative industry uses.



BENCHMARK 2

Junction Square, Wodonga, Victoria

ASPECT STUDIOS, PLACES VICTORIA & CITY OF WODONGA 2018

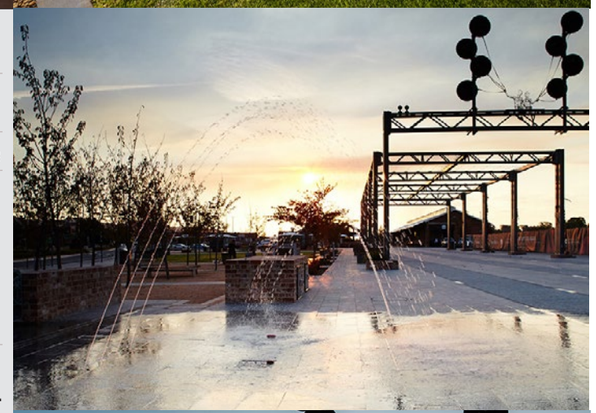
Located on a former 10 hectare railway yard, this redevelopment has created a hybrid public domain that integrates railway heritage interpretation through retention of original industrial elements alongside the new sculptural interpretation components and public art such as the railway stanchions and signals.

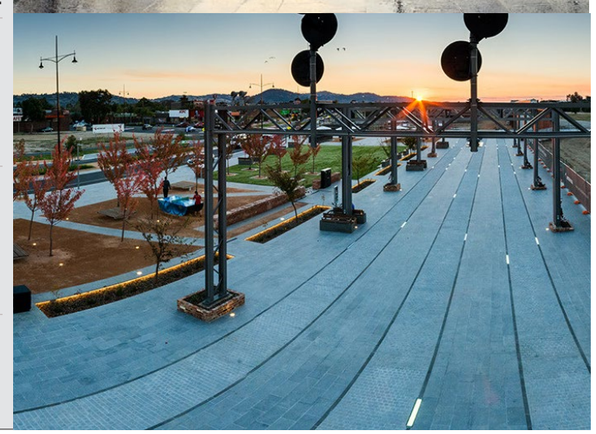
The public domain establishes a refined setting for retained sheds and buildings that are adapted for reuse.

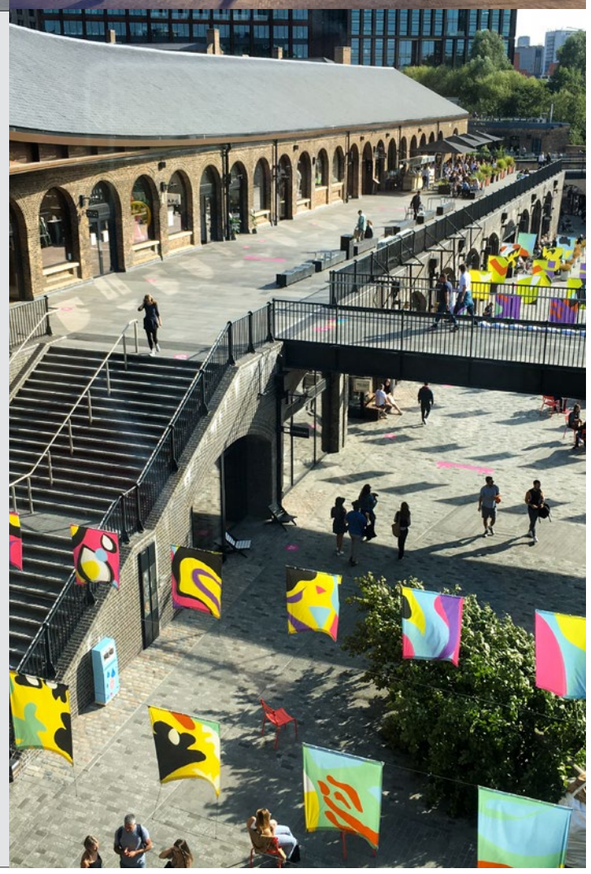
The site provides around 10,000 m^2 in public domain that includes 2500 m^2 of lawns and permeable ground with the remainder set out as hard paved squares, laneways and streets. Lighting, seating and water features have been integrated into the development.

The public domain is located immediately adjacent to a public street on Elgin Boulevard with a direct and level connection to the surrounding town centre and retail areas. The square provides a new civic heart for the Wodonga shopping precinct.

The square and park hosts markets and events and is home to a number of hospitality operators and a cafe on the main square.







BENCHMARK 3

Coal Drop Yards, London UK

HEATHERWICK STUDIOS, 2018

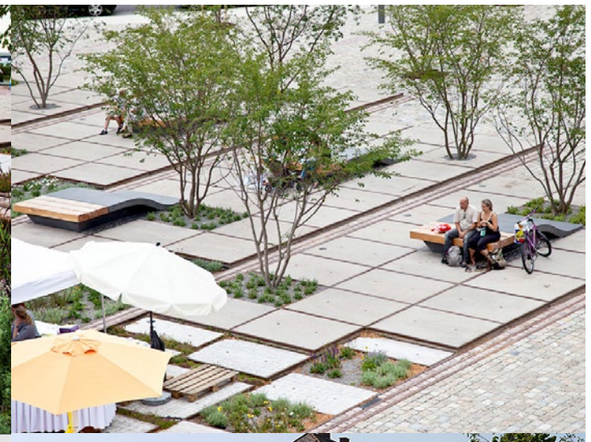
Coal Drop Yards is a large entertainment and shopping centre located at King's Cross in London formed of two converted 19th-century coal warehouses with new architecture integrated into existing heritage fabric on a site area of around 10,000 m^2. Around 50% of the site is open and accessible public domain of 5000 m^2.

Changes of level are managed with stairs and cross over links. The landscape is predominantly hard paved with active edges of retail and hospitality facing the square and set down laneway and access points.

The connection to Sable Street on the upper level is created by a number of stairs and ramps.

The project has become a major cultural, event and retail hub for the precinct, successfully knitting together dramatic new contemporary architecture with former industrial fabric on multiple levels.

The paved ground plane is relatively open and simple allowing full appreciation of the buildings and heritage elements flowing pedestrian movement, but is located in a cooler climate than that of Sydney. The spaces are vehicle free and are supported by close proximity to a major train terminus and underground stations, of around 8-10 minute walk (600—800m).



BENCHMARK 4

Zollhallen Platz, Freiburg, Germany

RAMBOLL STUDIO DREISEITL, 2011

Zollhallen Platz is new public space built as to accompany the adjacent customs hall restored in 2009.

The open 5000 m^2 plaza is an example of integrated water sensitive urban design using a mix of hard paved, planted and permeable surfaces on a former industrial rail yard site.

Planters provide infiltration, and subsurface gravel trenches with built in filter medium reduce hydraulic overload on the drainage system.

A lowered and inset plaza areas create a surface flood zone to capture water. The design tells the story of the as a former rail yard with furniture and tracks inlaid set into the paving areas.

Planting of gardens and trees have been integrated into the hardscape between former track areas using a mix of species. Biorentention solutions support the growth of gardens and trees. A grove of cherry trees provides shade and infiltration planters with perennial and ornamental grasses provide greening and contrast to the hardscape.

All hardscape materials were recycled from the old rail yard and installed in the new public domain.

10.4

Site and Context Analysis

Study Requirements

Includes a detailed site and context analysis that identifies strategic context, opportunities and constraints and key issues to be considered.

This section responds in part to this study requirement, applicable to the scope of the public domain strategy, and should be read in conjunction with the following:

— Chapter 5 of this report

10.4.1 Site Analysis

Public domain context, constraints and opportunities.

10.4.1.1 An enclosed parcel of land

Currently only around 5% of the site is accessible via the Traverser No.1 which was opened to the public as part of the Carriageworks redevelopment. The remainder of the site has been fenced off along Wilson Street, along the rail corridor and to adjacent properties on Wilson Street and Little Eveleigh Street. Due to the dilapidated state of some buildings, site dangers and safety issues related to ongoing rail projects, public access has not been permitted.

10.4.1.2 Levels and access points

The considerable level change between Wilson Street and the operational level of the workshops, with a very short transition zone between the two is a constraint in terms of providing easy pedestrian and vehicle access to the bulk of the site. Historically, access was provided by a long graded roadway from the junction of Ivy Lane and Little Eveleigh Street at the east of the site. Due to the constrained local streets, difficulty connecting to the wider road network and forthcoming changes to Little Eveleigh Street, this access point is not an ideal primary entry or egress point for vehicles.

10.4.1.3 Heritage

The considerable and significant heritage assets on site including buildings, tracks, machinery and high value trees are both formidable constraints and high opportunity. They provide the chance to establish a unique and interesting public domain.

LEGEND

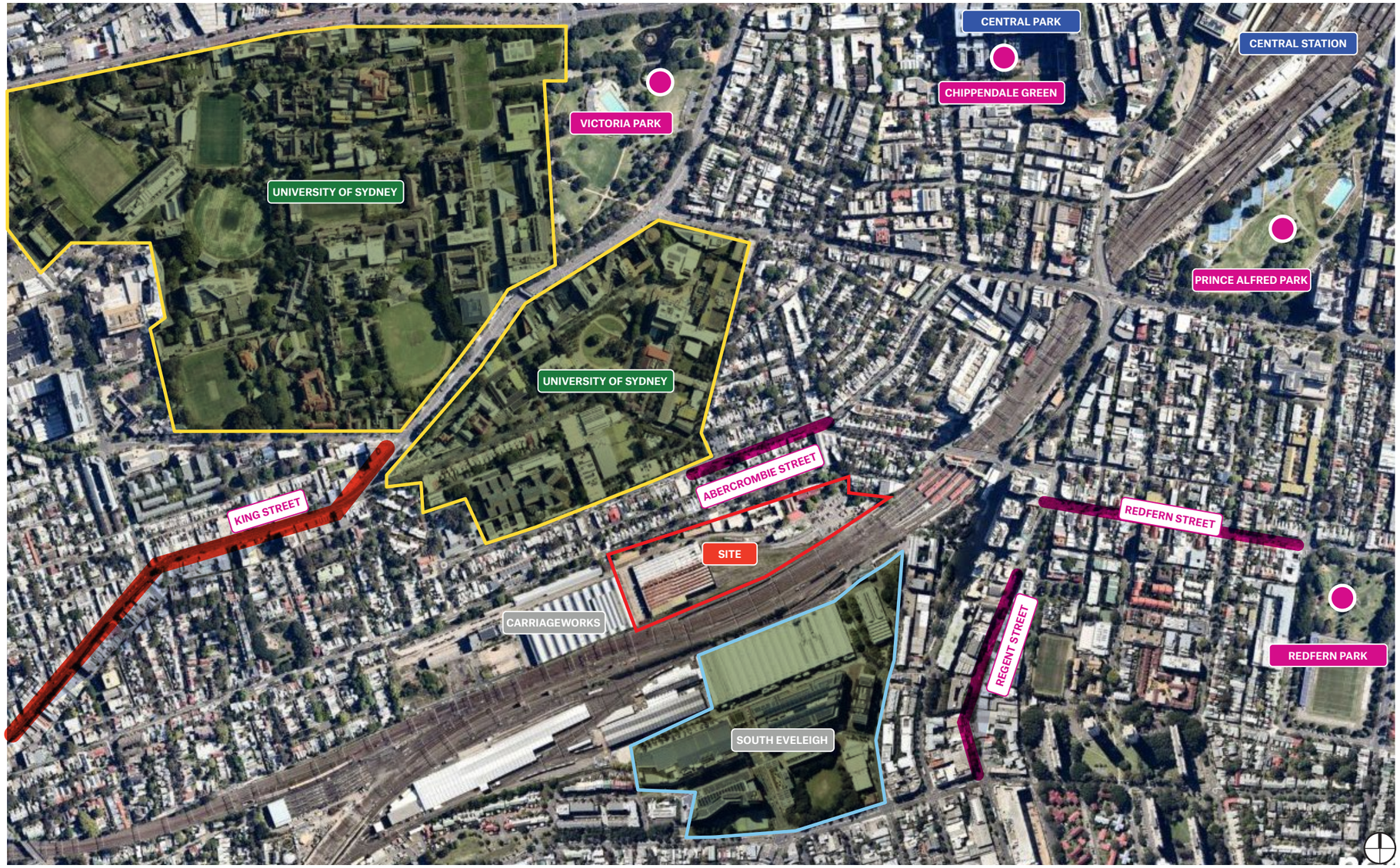
- No public access permitted
- Public access since 2007
- Private residential (not on site)
- Existing approach point
- Future approach point
- Open fence line with views into site
- Closed fence line without views to site
- Existing access road
- Area of greatest level change

10.4.1.4 Strategic Context
Campus environments in a fine grained residential precinct

The Paint Shop Sub–precinct is located in inner Sydney in an area surrounded by residential uses and large publicly accessible campus environments. The University of Sydney is located in two distinct precincts across Camperdown and Darlington. These two precincts are open to the public and have a range of recreational facilities and public spaces including promenades, sporting ovals and gardens. As unique precincts in the city context they create a different urban experience with different scales of buildings and spaces.

The recent redevelopment of South Eveleigh has created an enhanced commercial campus on the former Australian Technology Park site, which was built on the site of the southern half of the Eveleigh Railway Workshops. Whilst open to public it has a certain ambience and atmosphere that differs from the surrounding areas.

The opening up of Paint Shop Sub–precinct in North Eveleigh adds to this network of open campus type environments, that are special in their own right, but also permeable and interconnected to local streets and open space networks. The key to a successful public domain in this environment is working with the campus typology that is open and inviting.



10.4.2 Environmental metrics and targets
Interconnected outcomes

10.4.2.1 Introduction

Redeveloping five hectares of inner city brownfield land provides opportunity to embed high levels of precinct wide sustainable environmental performance to contribute to local neighbourhood, LGA, regional and metropolitan targets.

The Paint Shop Sub-precinct has an existing high level of ground permeability with large areas of unpaved railway track, but a low level of tree canopy and shade due to its former industrial uses, rail activities and arrangement.

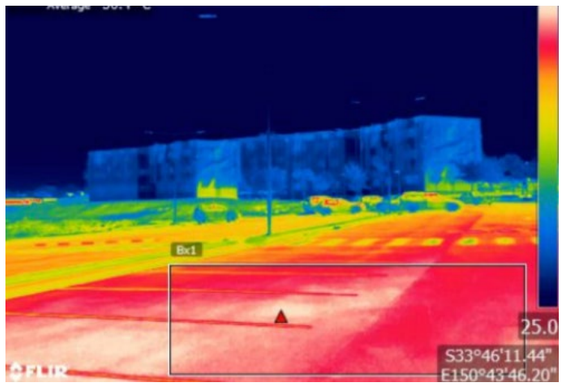
Mandated environmental metrics and targets present a number of opportunities that are most often realised in the public domain, landscape, streetscape and sometimes on built podium and roofs. Environmental objectives are nearly always interconnected with one measure supporting another.

10.4.2.2 Urban heat effect mitigation

With a warming climate the issues of environmental heat generation in urban areas have become critical to address. Absorbed and reradiated heat has a significant impact on local day and night time temperatures, particularly on residential communities.

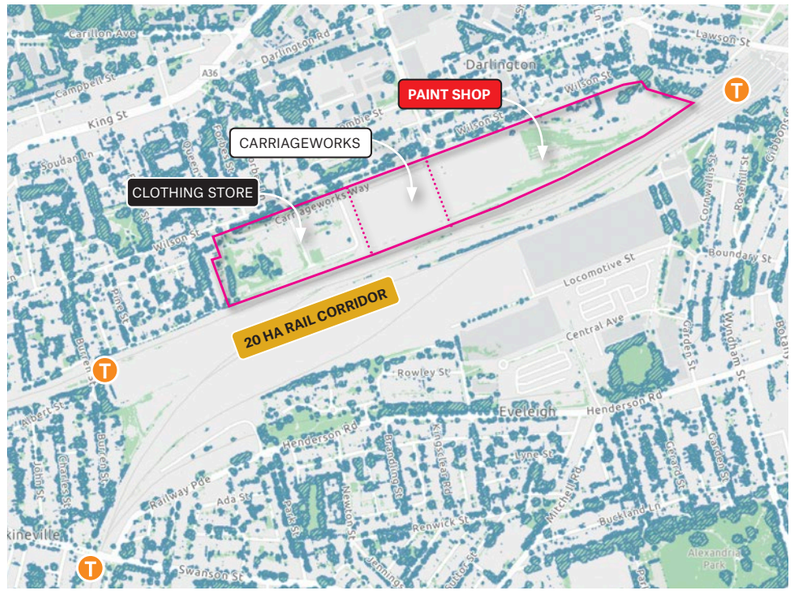
The Paint Shop Sub-precinct lies immediately north of approximately 20 hectares of exposed, unshaded operational railway corridor that generates significant urban heat in the warmer months. The existing amount of paving and metal roofing at Carriageworks and in the Paint Shop Sub-precinct, particularly at the railway level, is a significant contributor to ambient urban heat levels in the immediate context of the site.

Reducing urban heat requires a suite of environmental solutions including green cover, urban tree canopy shade, swales, permeable ground surfaces and rain gardens. Changes to buildings, structures, awnings and landscape materials, including, reflectivity and lighter colours also reduce heat absorption and the heat island effect.



Example of mapping showing heat contribution of roads

Existing green cover and tree canopy on site, source City of Sydney



Existing Tree Canopy and Green Cover Levels

AREA	EXISTING CANOPY	GREEN COVER
Paint Shop Sub-precinct	7%	19%
Clothing Store Sub-precinct	9%	18%
Carriageworks Sub-precinct	0%	0%

City of Sydney Tree Canopy Targets by Adjacent Suburb

SUBURB	USE	2008 LEVEL	2050 TARGET
Eveleigh	Infrastructure/Rail	5.9%	15%
Redfern	Urban/residential/light commercial	17.9%	25%
Darlington	Urban/residential/light commercial	18.5%	25%

10.4.2.3 Tree canopy target

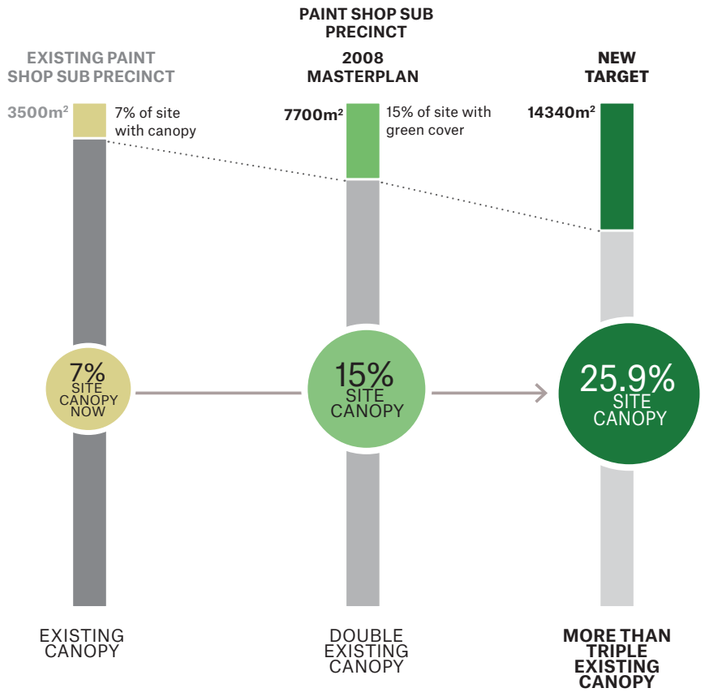
As a previous railway related industrial site there are few existing shade trees and an increase will be essential to the amenity and liveability of the site. Shade and tree canopy significantly contribute to the reduction of absorbed, reflected and reradiated urban heat.

— The existing tree canopy totals around 7% and total green cover of around 18% in the Paint Shop Sub–precinct.

— The Public Domain Strategy increases urban tree canopy from 15% in the 2008 masterplan to **25.9%** including an increase in street tree canopy on the south footpath on Wilson Street.

— There is a challenge between the preservation of former heritage industrial buildings, landscapes and views with new development and uses that require a more human-centred and biophilic approach. This conflict will require a level of compromise between long term future public amenity demands and heritage values.

— See Appendix A



10.4.2.4 Deep soil depth for gardens and trees

Appropriately sized areas of deep soil are required to grow healthy trees with canopy large enough to provide shade in warmer months. Deep soil areas also contributes to the level of permeability and natural in ground detention that reduces downstream flooding and waterway pollution. The development of the public domain on the site will require the following measures:

— Provide garden and verge areas large enough for trees to reach full maturity in parks, public spaces and streets.

— Integrate bioretention in gardens and street tree pits.

— Provide appropriate soil depth to allow small and medium trees to grow on podiums.

10.4.2.5 Permeable ground and stormwater mitigation

The site has a relatively high level of existing permeability despite it having very large areas of roofed buildings and hard paved surfaces. Much of the remaining external rail and track spaces are permeable with open draining areas of stone ballast.

This Public Domain Strategy establishes a benchmark quantity of permeable ground proposed at **19%** based on the building and street arrangement**.** In regard to permeable soil and on site stormwater management the public domain landscape design is to:

— ensure ground permeability is maximised.

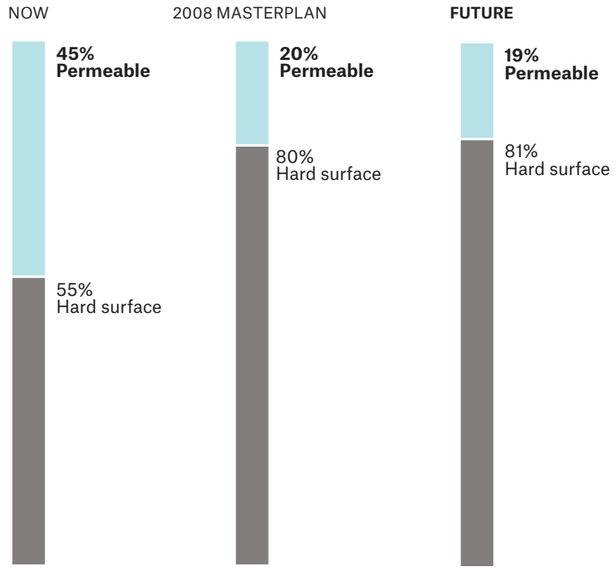
— minimise run–off to protect natural waterways.

— use permeable paving materials in new areas.

— use water in public spaces for cooling, noise mitigation and ambient purposes.

— manage and use roof and surface water and preferably used on site through on site detention, storage and irrigation.

— See Appendix B



10.4.2.6 Green cover target

The site will require an increase from a very low base green cover rate to establish a higher level of amenity for its future user groups, visitors residential and working communities.

— The Public Domain Strategy increases green cover from the existing 7% to **27.7%** including street tree canopy on the south side of Wilson Street.

— Urban heat is to be mitigated through green cover in public spaces and on building roofs, terraces and wall surfaces. Podium greening will deliver an additional **15.1%** green cover.

— The public domain is to meet or exceed policies and targets established by the NSW Government Architect 'Greener Places' and City of Sydney's 2021 'Greening Sydney Strategy.'

— See Appendix C

10.4.3 Landform, geology and water

Understanding natural systems and responding

10.4.3.1 Introduction

Understanding the existing subground conditions is important in developing appropriate public domain responses, that ensures flora thrives and is appropriate to the unique qualities of place. It also helps paint a picture of the site conditions prior to the major reconfiguration of landforms that has affected natural water flows.

10.4.3.2 Geological Conditions: Sandstone to Shale to Sand Dunes

The Redfern North Eveleigh precinct is located on the Ashfield Shale geological type of the Wianamatta Group of shales. Ashfield Shale is described as a black to dark gray shale and laminite and is the uppermost layer of the fine sedimentary rock laid down by a delta in the Triassic period over the older Hawkesbury sandstone (also formed in the Triassic period).

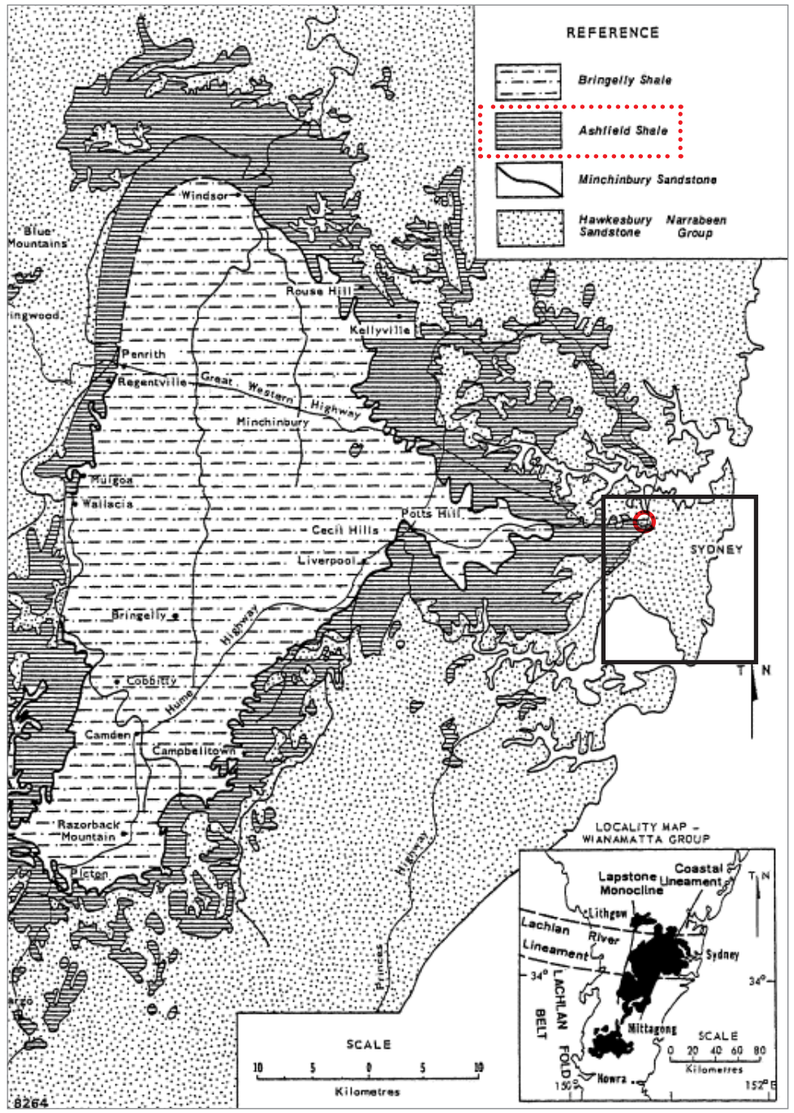
These shales generally comprise fine grained sedimentary rocks and laminates with low or no amounts of sandstone. The sites soil profiles is Blacktown Soil. This landscape is described as gently undulating rises on Wianamatta Shales and Hawkesbury Shale. The soil is moderately reactive, highly plastic with low soil fertility and poor drainage.

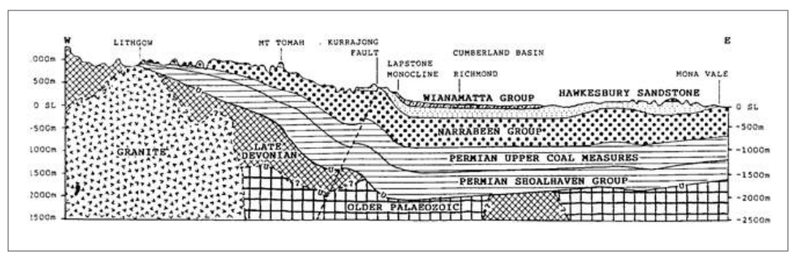
To the south of the site in South Eveleigh the soil conditions transition to Tuggerah Soils on Quaternary Alluvium on the alluvial and blown sands of the Botany Aquifer and Wetlands system that flowed to Botany Bay/Kamay. This landscape was greatly disturbed and reclaimed in the 19th and 20th centuries for intense and often toxic industrial purposes such as railways, steel works, tanneries, abattoirs and resource extraction as it was cheap, hard to build on land that was close to the city.

To the north of the site in Pyrmont lies Hawkesbury Sandstone at or near the surface around the edges of Sydney Harbour. Field investigation data from South Eveleigh in 2019 confirmed the presence of filling in each test borehole, underlain by sandy alluvial sediments, then underlain by a clayey residual soil. The residual soil grades into weathered shale and laminite, consistent with the Ashfield Shale unit.

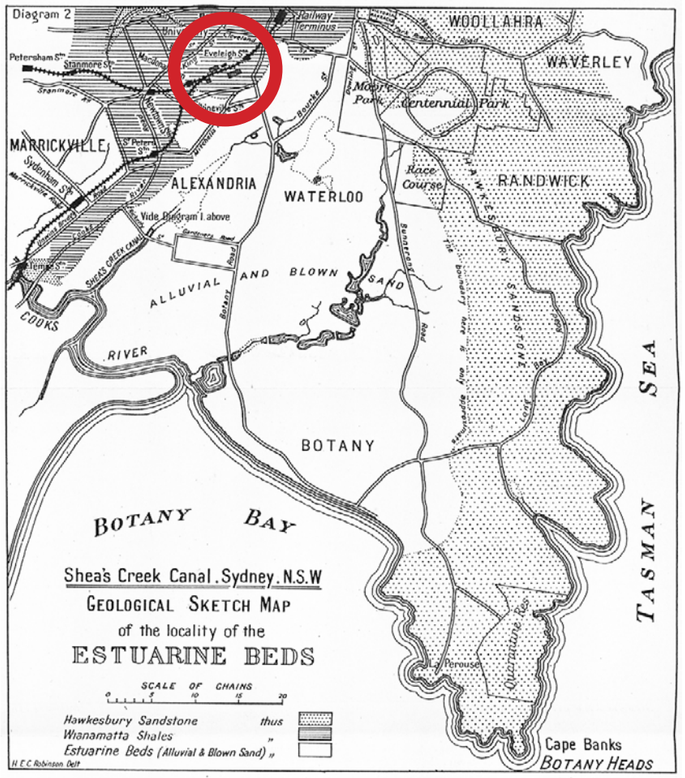
Ashfield Shale example

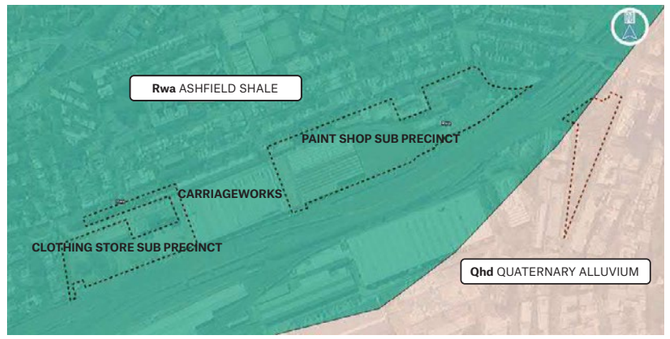
Groundwater in the Sydney Basin Symposium 2009 Edited by W.A. Milne-Home



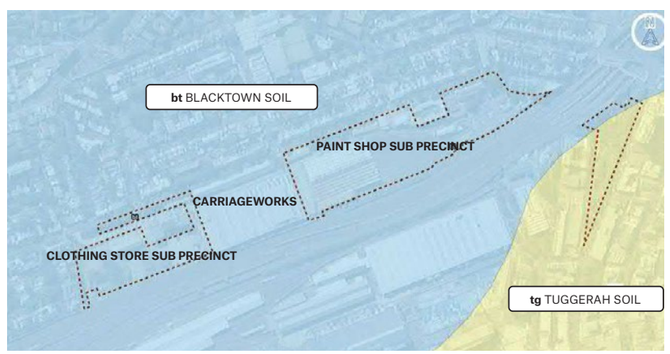


Geological section of the Sydney Basin





Extract from 1:100,00 Map showing Geological Sheet



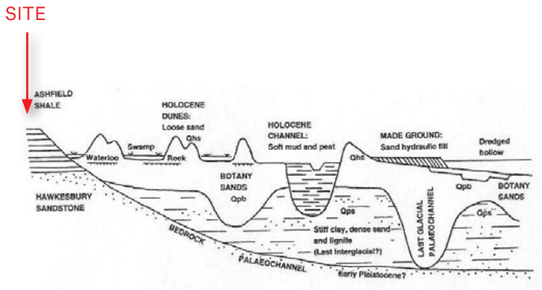
Extract from 1:100,00 Map showing Soil Landscape

10.4.3.3 Between two waters and two ecosystems

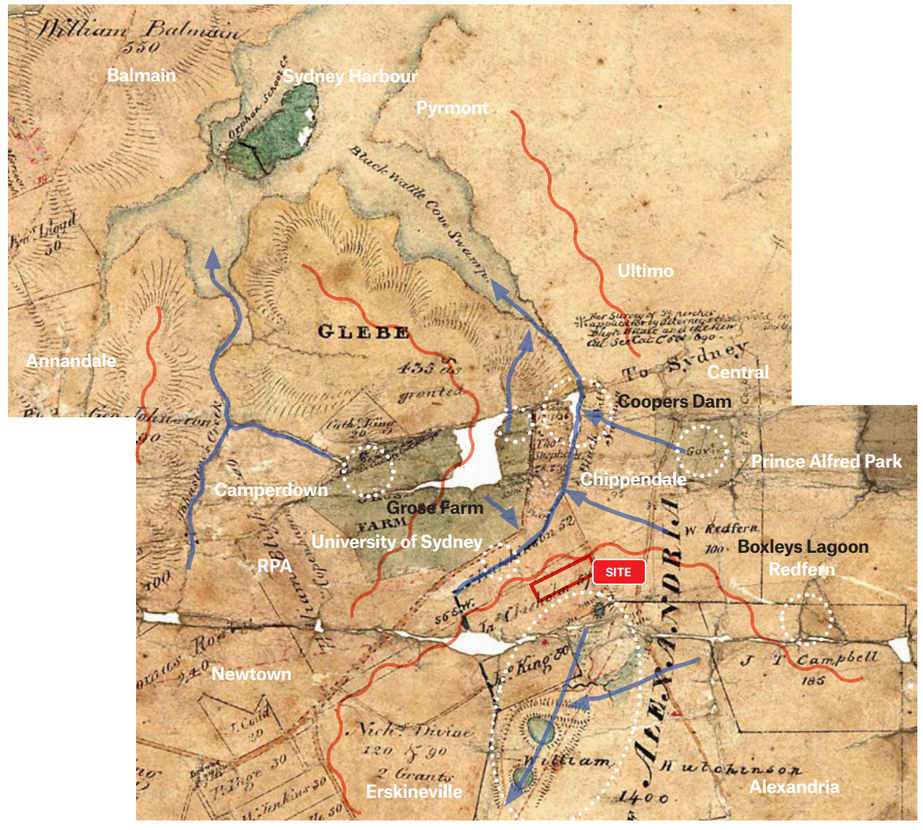
The North Eveleigh site is located adjacent to a natural ridge and watershed on Wilson Street, between the protected waters of Sydney Harbour to the north and Botany Bay Kamay to the south.

To the north, streams ran to Black Wattle Swamp Cove (now Blackwattle Bay) via Black Wattle Swamp Creek. To the south, springs and swamps connected across a chain of ponds, swamps and streams into the Sheas Creek system that flowed to the mouth of the Cooks River then into Botany Bay Kamay.

Breweries and distilleries opened up along Black Wattle Swamp Creek near Parramatta Road, as well as Shepherd's Plant and Seed Nursery in Chippendale close to the stream. Dams were constructed to retain and store some of the fresh water for industrial, agricultural and residential uses. Farms and market gardens also established along the creeks to the south of the site, albeit on relative poor quality clay or sandy soils.



Section through Botany Aquifer north east to south east
SOURCE: MCNALLY AND JANKOWSKI 1998



Early Parish Map prior to construction of railway showing original water courses north to Blackwattle Cove and south to Botany Bay

When we were boys and used to go bird-nesting and blackberry gathering along the creek that rippled along the site of the present workshops until it lost itself at the Chinese gardens at Waterloo. And close by was the lake, upon which the boys from Calder House floated their toy yachts.

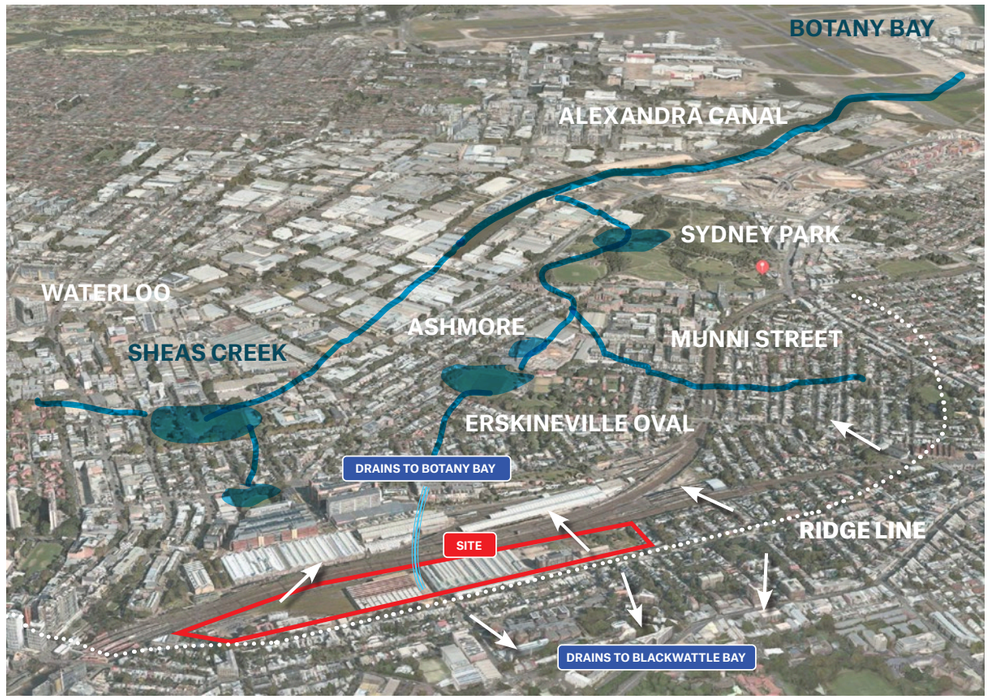
There trickled a stream on its way to Blackwattle Bay, a stream in which we fished gudgeons with a line of cotton thread and a bent pin for a hook. The stream supplied water for a large bed of watercress...

Former pupil J. McKern, describing the stream close to Calder House as it was in the 1860s
SYDNEY MORNING HERALD, 19 APRIL 1927

Northham Lake, Victoria Park on Broadway is a remnant of the ancient fresh watercourses and swampy grounds found near the site that flowed to Blackwattle Bay

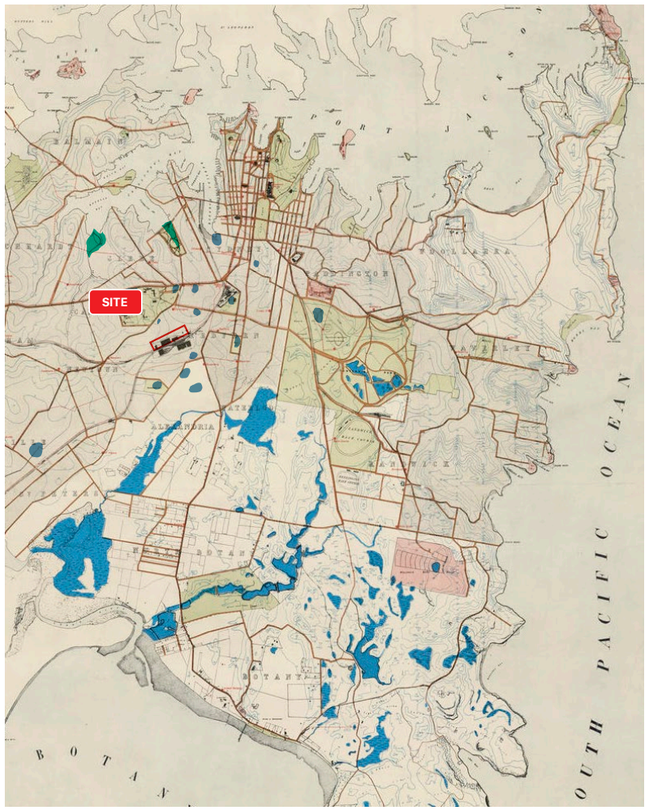
Swampy ground at Tempe Reserve near the Cooks River

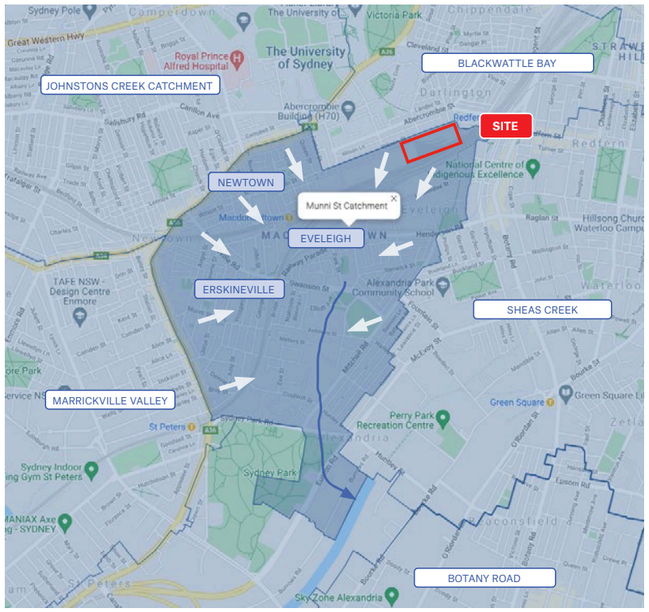
Map showing the extent of creeks, swamps and wetlands in the Botany Bay sand dunes and wetlands in blue



Botany Bay Wetlands and Dunes — A system of connected waterways, Dunes, Swampy Ground

The landscape between Sydney Harbour and Botany Bay was a wet environment, dotted with swamps and wetlands connected by trickling streams. The area had a deep biodiversity rich in flora and fauna (especially birds) and natural resources. The streams provided fresh water (sweet water) to the Cadi, Kamay and Wangal people. Later they were a source fresh water to farmers, industry and residents (some of the poorest in the settlement) as the town grew away from Sydney Cove and other sources of water were sought to supplement the dwindling supply of the Tank Stream.





Munni Street Catchment

SYDNEY CATCHMENT AUTHORITY

In the background — with the exception of the old church so prominent on Mt Carmel, the smoke stack of the kerosene works, the 'Half-way House' and the old waterworks on the edge of Botany Bay, at the mouth of Cook's River— all was sand hills clothed with dense scrub, brilliant in spring time with wild flowers, the home of the many birds, and the lurking place of snakes innumerable.

Former pupil J.McKern, describing the landscape to the south of Calder House in the 1860s

SYDNEY MORNING HERALD, 19 APRIL 1927

Stormwater from Eveleigh Rail Workshops that runs into the Munni Street Catchment is captured, cleaned and reused in the Sydney Park wetlands system before flowing to the Alexandra Canal and Botany Bay.

10.4.3.4 Celebrate, conserve, utilise and integrate water in the public domain

Blackwattle Swamp Creek to north

The watershed between Sydney Harbour and Botany Bay — a place of transition.

Replacing Landmarks

Regenerating Country

Bioretention

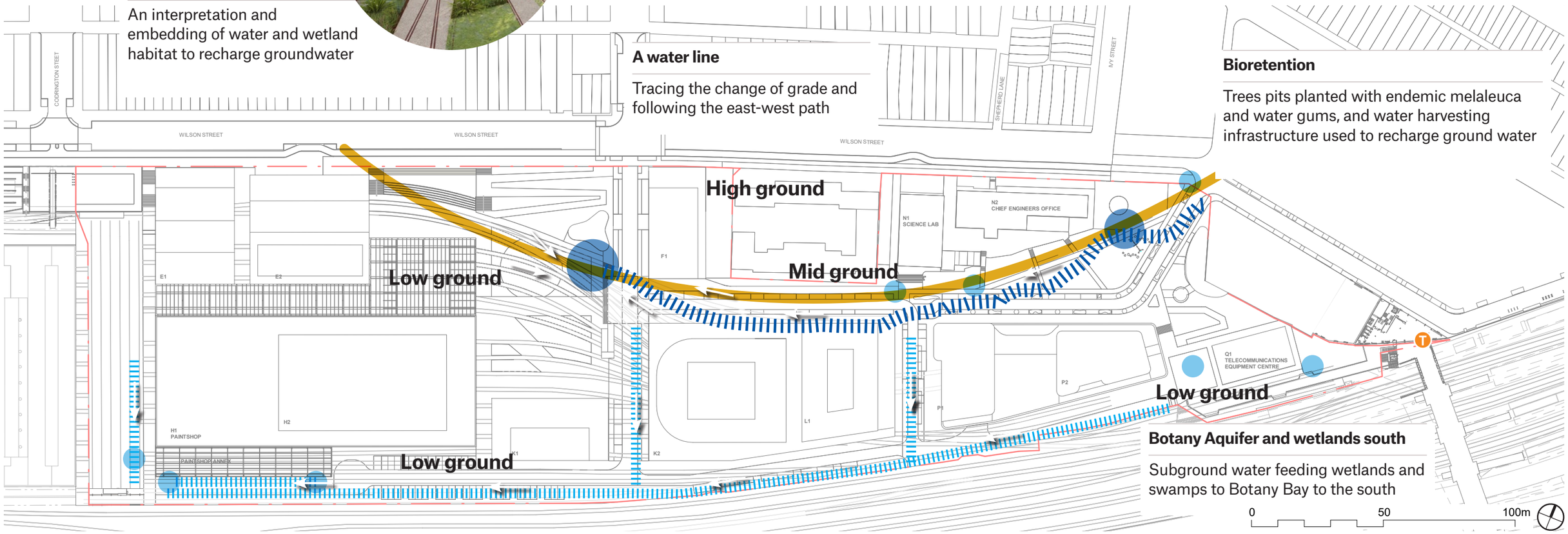
An interpretation and embedding of water and wetland habitat to recharge groundwater

A water line

Tracing the change of grade and following the east-west path

Bioretention

Trees pits planted with endemic melaleuca and water gums, and water harvesting infrastructure used to recharge ground water



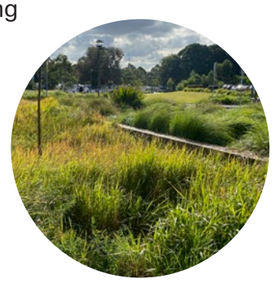
Botany Aquifer and wetlands south

Subground water feeding wetlands and swamps to Botany Bay to the south

The natural terrain of the lands in and around the site was strongly articulated and described by water. Creeks and swamps were fed by groundwater springs with rains turning slow moving streams into surging creeks at times. Originally distant views to the harbour and bays connected the site visually to the salt water and estuarine mangrove swamps. As the site redevelops there is potential to capture and store water from roofs of the Paint Shop and Carriageworks and from hard ground surfaces and streets.

Managing water

The mitigation and management of stormwater is critical with a level site and steep topography posing flooding risks. Reducing runoff where possible and utilising water to grow a healthy landscape are two primary demands for the redevelopment of the site.

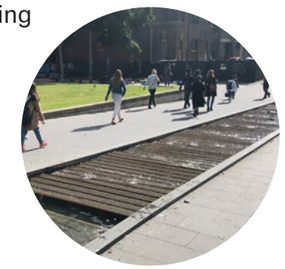


Telling a water story

The original freshwater creeks and tributaries in the area, and their importance to the habitats of animals, fish and people are a story that can be drawn out in the landscape and public domain, through natural and created water elements. The grade of the site lends itself to the movement of water from high to low ground.

Water in urban landscape

The addition of water features and elements in the public domain can add landmarks to the site, contribute to passive cooling and provide ambient noise and points of activity and intensity that adds to the sense of place.



10.4.4 Built Heritage and Industrial Landscapes

Value and retention of key spaces and building relationships

10.4.4.1 Introduction

Key to redeveloping and adapting the site for future uses is understanding the phases of development and changes that have occurred on the site which include it's first subdivision, farming, school and reshaping as part of huge industrial railway complex developed in the late 1800s to support a huge growth in railway construction and rail services across New South Wales.

10.4.4.2 Chisholm's Estate & Calder House Hill 1819—1924

Chisholm's property of around 60 acres was granted in 1819, became the site in later years of the main Eveleigh Railway Workshops complex both north and south of the railway.

When the main residence of Calder House when commenced in the late 1830s was considered to be located far from the main settled areas in bush and was considered a more dangerous frontier in which to farm and reside. The land was cleared for farming purposes including food production and dairy.

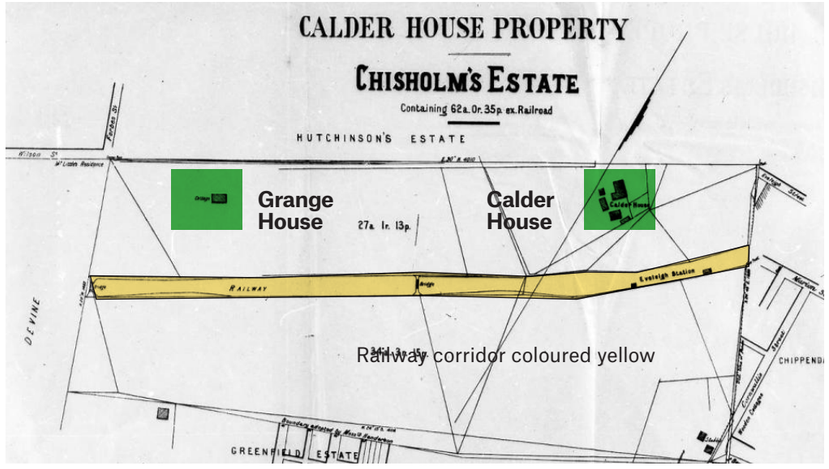
Another house, The Grange was built around where the Clothing Store is now located, and the two were connected along a green lane, now known as Wilson Street. It was recorded that at times up to two hundred of the Botany Bay tribe (Kamay) were known to visit Calder House asking for old sugar bags. The site had long views to the south across sand dunes towards Botany Bay and would have been visible to those living in the area.

Initially the Estate had the first narrow single track railway to Parramatta running east—west on the lower ground and the house, gardens and trees on the ridge were visible from the passing trains in the

A house in a park

Calder House was described as possessing "a beautiful staircase, spacious verandahs, dormer windows and beautiful park like grounds".

EVENING NEWS 17 APRIL 1924, P7



Railway corridor coloured yellow

Calder House on Wilson Street was demolished following a fire in 1924

1850s and 1860s. As the network grew and there was a need to build locomotives and carriages locally Chisholm's Estate was one of the first acquired along the railway corridor for a huge expansion of railway operations around Redfern and Eveleigh with the first workshops opened in 1887. The site was selected for its proximity to the Sydney Terminal, the city, the port, and a population of workers living nearby within walking distance.

Landmark Norfolk pine in a garden setting at Vaucluse House

A house on the hill

'Many thousands passing in the trains at the foot of the hill in by-gone days have beheld this familiar landmark, with its shady trees and tall Norfolk pines, all now going to the scrapheap of forgotten things.'

'A railway line through the garden'

The landscape was first altered by farming, the addition of new exotic trees, and gardens, all of which creating a bucolic and Arcadian scene, in strong contrast to the industrial landscape that replaced it, which now occupies and dominates the site.

The remaining higher elevations of the site should be informed by these former residential, educational and gardened landscapes on the site that were established over the original endemic habitat and that formed a transition zone to the cleared and levelled railway workshop site below.

Students from the school at Calder House on Wilson Street

The exclusive school in Calder House for 'the sons of gentleman' educated many boys who later became prominent local professionals "which brought them into prominence in the public life of this State as engineers, lawyers, doctors, surveyors, clergy, and in other avenues of public service".

10.4.4.3 Mid 19th Century railway establishment

Sydney to Parramatta and beyond

The turning of the first sod for the new railway station next to the Cleveland Paddocks (now Prince Alfred Park) in July 1850 heralded a great turning point and change in the reshaping of the natural and urban landscape of inner Sydney.

The new steam powered train technology was lauded and quickly embraced in the new colony for the movement of both goods and people — signalling the beginning of a great transition towards technological advances and rapid industrialisation.

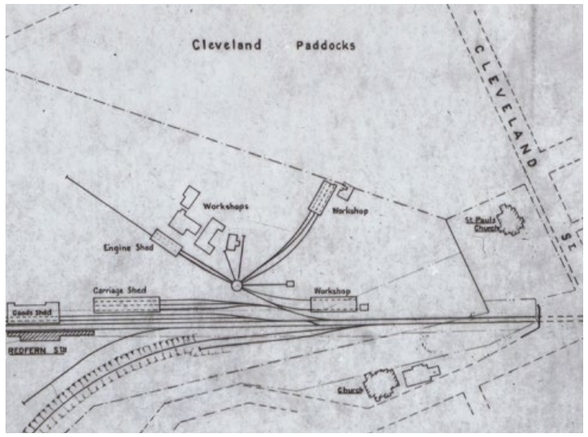
A scheme was drawn up in 1849 to use part of government owned land to the south of the town to build the first station and railway yards, with plans to connect Sydney to the growing town at Parramatta by train line. Large tracts of land had already been granted between the two centres to settlers and freed convicts along the most direct route to Parramatta. Large areas of land acquisition was required to provide land for the railway line and to find enough space for additional rail yards and infrastructure to grow and service the eventually vast network across the State.

Opening of Sydney Terminal in 1856 from Prince Alfred Park, showing a largely cleared landscape, by John Rae.
STATE LIBRARY OF NSW COLLECTION
ITEM [A928444/ML 244] (MITCHELL LIBRARY)

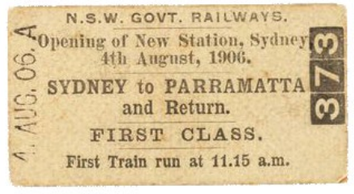
Sydney's first railway line commenced operation in 1855 and ran between the Sydney Terminal at Devonshire Street and Parramatta Junction. Carriage and engine sheds and locations were initially located near the terminus.

The new train line from Sydney to Parramatta ran through the bottom of the garden of Calder House on the Chisholm Estate. The house and land were eventually resumed in 1880 to establish Eveleigh Workshops and Calder House became the residence of Eveleigh's General Works Manager for a time.

To construct the level ground required for the railways the sloping site was heavily excavated below Wilson Street by around 4 to 5 metres, to the same level that trains running between Sydney and Parramatta were operating at. Ramps and driveways were formed to connect the surrounding streets to provide access down to the site excavations and the rail operations. The railway yards required thousands of workers, and in establishing the main workshops close to Redfern and Eveleigh close to a local population for employment in new technology, skills and trades.



Location of former original railways workshops and yards for adjacent Prince Alfred Park (Cleveland Paddocks) that were later replaced by the Eveleigh Railway Workshops in the late 1800s and to make way for the expansion of the terminus now known as Central Station.



10.4.4.4 A new railway landscape and new workshop buildings

The redevelopment of Chisholm Estate as a new industrial railway complex in the 1880s dramatically reshaped the lay of the land from a gently sloping south facing agricultural farm and gardens to a major collection of large brick and steel clad buildings, sheds and rail yards on a flat 'tabula rasa'.

A small strip of the original topography remains at the Wilson Street frontage where Calder House was sited until the 1920s, and where the Chief Mechanical Engineers offices and Science Lab where located at the higher level overlooking the rail yards. This strip also provided a long east–west graded access road from the entrance gate at the junction of Little Eveleigh Street and Ivy Lane down to the Fan of Tracks, Paint Shop, Traverser No.1 and Carriage Workshop.

Steel rails, timber sleepers and stone ballast from Bombo quarry are the main landscape conditions outside of the brick and steel buildings, with a small area of gardens to the east of the Chief Mechanical Engineers office. The primary building materials used on the site were local brick, corrugated iron, cast iron and steel.

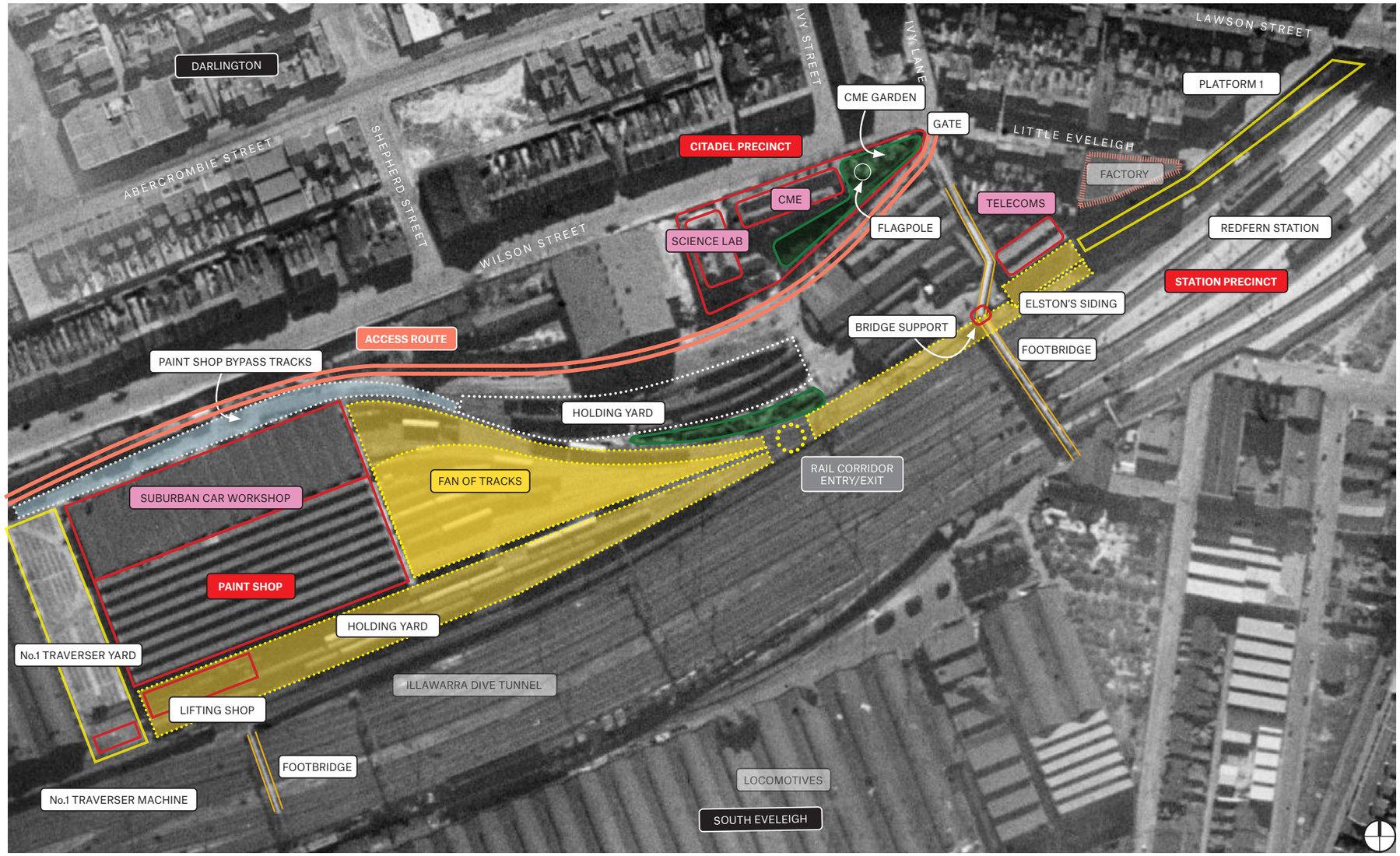
Along Carriageworks Way, and in some smaller areas rail tracks are set in concrete where vehicle or pedestrian access was regularly required. The paved surface and tracks on Carriageworks Way between the Carriage Workshop and the Boilermakers Shed have been retained in situ in concrete and further west the tracks have been interpreted in the new concrete road surface built around 2007.

The Fan of Tracks articulate the largest open area in the precinct and is still highly visible from the rail corridor to the south, but not at all from Wilson Street to the north. Traverser No.1 is the largest paved area in the North Eveleigh precinct. A footbridge with brick support structures linked the rail operations of North and South Eveleigh, but was demolished in the 1990s and some of the brick bridge supports remain in place and are visible near Redfern Station.

LEGEND

- Significant Existing Building/Structure
- Significant Rail Tracks (existing)
- Industrial Landscape/Item (existing)
- Other Existing Rail Tracks
- Vegetated or Garden Area
- Former Rail Yard Footbridges
- Access Route (Little Eveleigh St to Carriage Workshop)

1942



WORLD WAR 2 AERIAL PHOTOGRAPH 1942 / SOURCE MAPS.SIX.NSW.GOV.AU

10.4.4.5 Retention and adaptation of heritage items and landscapes

There are a range of buildings, landscapes, infrastructure and machinery that provide a high level of interest and potential in creating a public realm that engages with and integrates elements. The key sites and items include:

— The 'Fan of Tracks' and other rail tracks remaining on site.

— The Paint Shop buildings and Traverser No.1.

— The Citadel precinct that includes the Chief Mechanical Engineer's offices, Science Lab and CME gardens.

— Telecommunications Equipment Centre and Elston's Siding near Redfern Station.

10.4.4.6 Fan of Tracks

Constructed in 1884 the open area to the east of the Paint Shop and Suburban Car Workshops is commonly known as the 'Fan of Tracks', that describes the steel rail tracks that fan from an entry point on the rail corridor and Elston's Siding near Redfern Station. These tracks extend to the 12 doors on the Paint Shop's eastern facade that connect to internal 'roads' and bays in the workshop.

The Fan of Tracks is the largest unencumbered open area on the site of around 8,000 m² in area. The tracks sit on timber sleepers on stone ballast or concrete slab to the east of the Paint Shop with a maximum of 18 pairs of tracks at the widest point of the fan on the eastern side of the workshop buildings.

To the north of the Suburban Car Workshop a pair of tracks runs as bypass from the Fan of Tracks to Carriageworks Way, and to the south three pairs of tracks run parallel with the rail corridor to the Lifting Shed located on the southern side of the Paint Shop.

Preserving a substantial area of the Fan of Tracks is desired to maintain the existing heritage values associated with this part of the site whilst physically preserving the inherent relationship between the tracks and the workshop buildings.

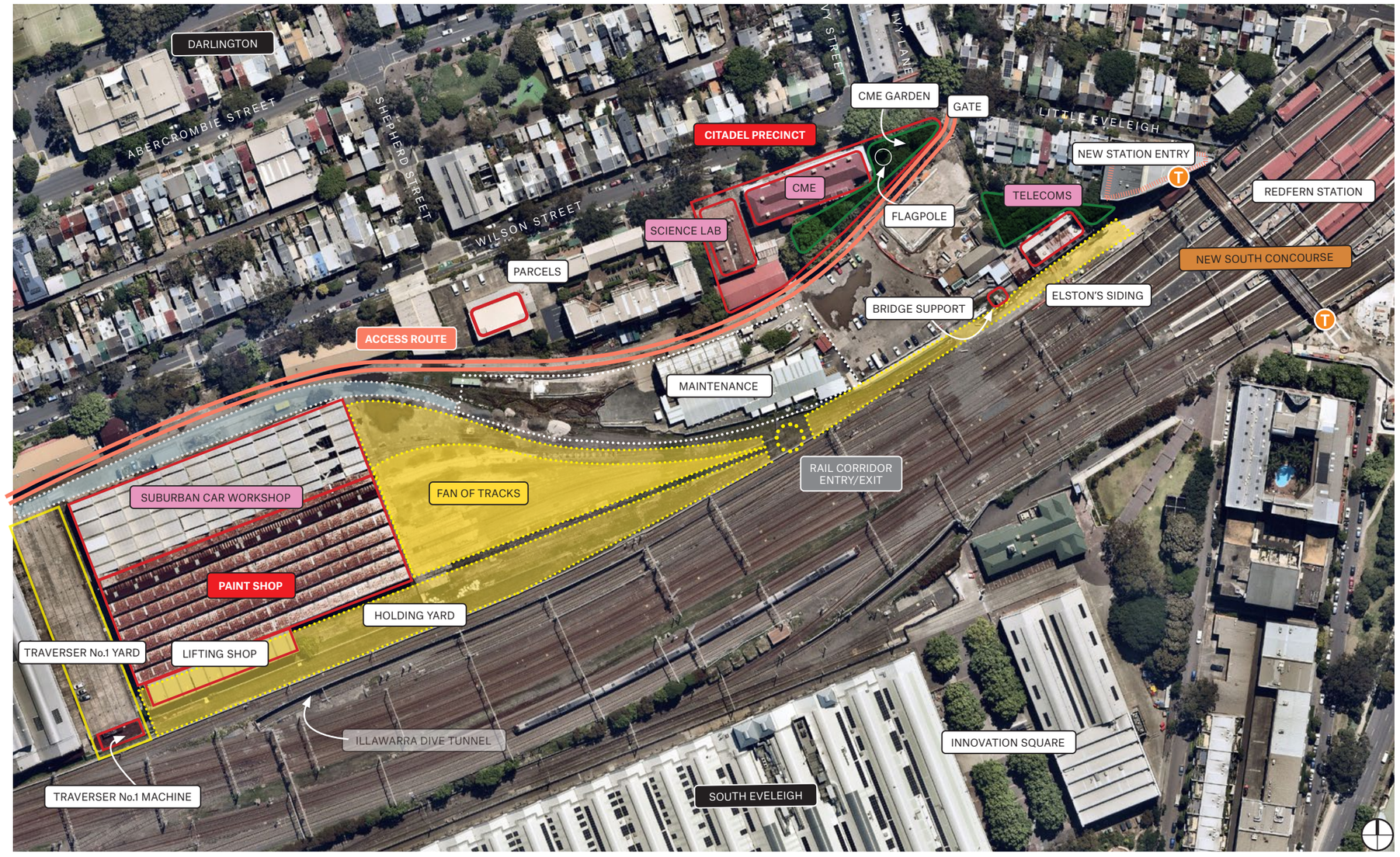
Future Opportunities

- Retention and interpretation of tracks
- New significant public spaces
- New and restored green spaces
- Landscape overlays

LEGEND

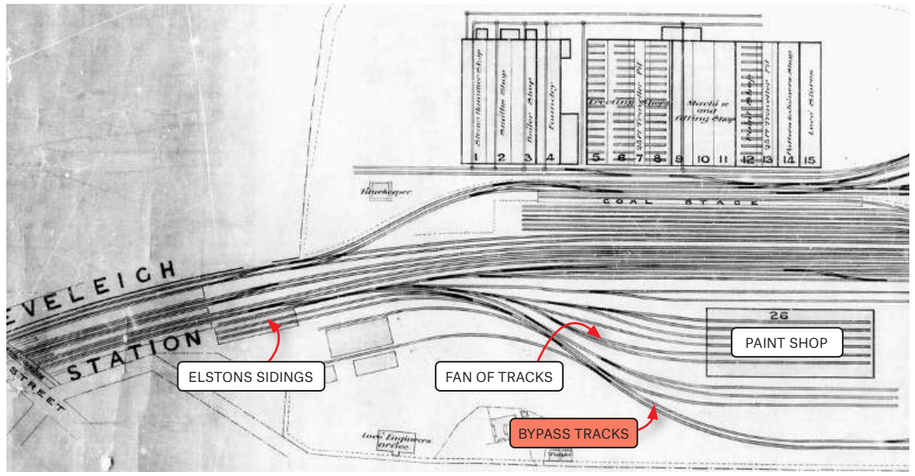
- Significant Existing Building/Structure
- Significant Rail Tracks (existing)
- Industrial Landscape/Item (existing)
- Other Existing Rail Tracks
- Vegetated or Garden Area
- Access Route (Little Eveleigh St to Carriageworks Way)

2022



AERIAL PHOTOGRAPH OCTOBER 2021 / SOURCE NEARMAP.COM.AU

Workers leaving at the end of the day and streaming towards Redfern Station following the Fan of Tracks towards the Eastern Footbridge and Platform 1, with the Paint Shop visible in the background.



Fan of Tracks view from the east Source Apple Maps

	TRACKS
T	Paint Shop Bay Road/Bay
T	Suburban Car Workshop Bay Road/ Bay
H	Lifting Shed/Holding Yard Track
B	Bypass Tracks to Carriage Workshops

FAN OF TRACKS AERIAL PHOTO / SOURCE: NEARMAP

10.4.4.7 Paint Shop, Traverser No.1 & Carriage Workshop

The large concrete paved rectilinear space of around 3,300 m² between the Paint Shop and the Carriage Workshops forms a mostly intact industrial public square and is the largest open paved area in the sub–precinct. The spatial relationship between the masonry brick facades of Carriage Workshop and the Paint Shop, articulated with large aligned bay doors and rail tracks to each bay or 'road' provide and intact picture of the former uses and scale of operations that occurred on the site.

The construction of the Traverser No. 1 in 1901 formed a large rectangular concrete yard in which a steam powered traverser machine could operate, moving carriages between different bays of the Carriage Workshop and Paint Shop. Standard carriage lengths of around 18 metres defined the scale and design of the Traverser that operated in a north–south direction within a set down basin of around 2,200 m². The raised sides of the basin formed a platform type raised edge to each workshop on the east and west sides of the space.

The traverser machine was later converted to electrical operation with an overhead power source, with wires and poles still located in their original location. The dilapidated electric powered traverser machine remains in place to the south against the southern site boundary.

This space is open directly to the rail corridor to the south and due to the hard ground surfaces and perimeter walls the space can be affected by passing train noise.

Future Opportunities

Public art and interpretation

Lighting and seating

Restoration of traverser machine

10.4.4.8 CME Building and Gardens

The grand two storey balconied late Victorian era Chief Mechanical Engineer offices located on the eastern end of Wilson Street provides a handsome and interesting built form to both Wilson Street, with gardens to the east and south. The building was constructed very close to the street and the footpath, and provides a character, rhythm and scale to the street that is unique but also highly representative of public buildings and larger residential homes of the time and also provides a connection to earlier homes located on the south side of Wilson Street include Calder House and The Grange.

Wilson Street Gardens and Fence

The north facing frontage of the CME building sits in close proximity to the street, with a raised garden bed sitting above street level but below the grand floor and verandah floor of the building. The recently installed green steel security fence along Wilson Street and the eastern garden is to be removed and replaced with either a more heritage appropriate style palisade fence with stone hob that connects with the style of the entrance gate, or alternatively a new fence designed with interpretive elements or with an artist.

Large Trees and Street Trees

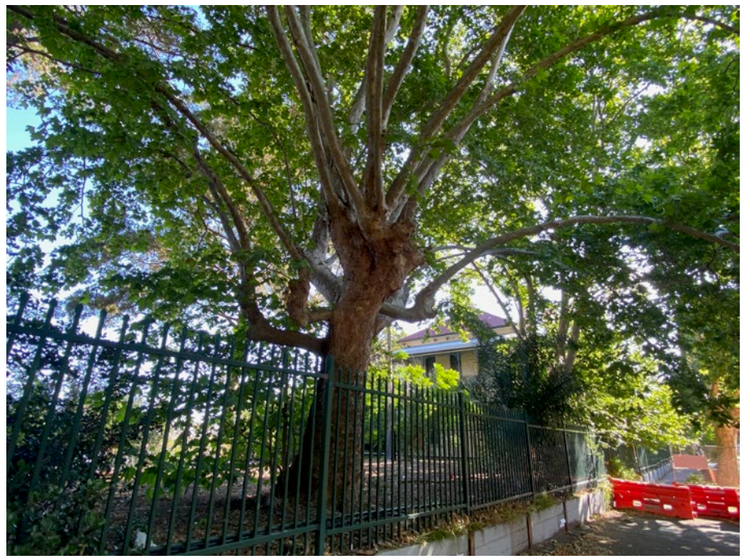
Mature deciduous London Plane trees, Brushbox and other Eucalyptus trees planted in the mid 20th century define the streetscape along the edge of the garden facing Wilson Street. Other large non–endemic tree species such as Camphor Laurels and Canary Island Palms are located close to the building on the sloping gardens on the south.

Future Opportunities

Re-establish and interpret gardens
Improved visual connections to street
New paved terraces around building
New fence along boundary

Wilson Street elevation of CME Building, June 2021

Original sandstone and cast iron gate at main pedestrian entrance on Wilson Street, June 2021



Mature London Plane Trees in the CME garden facing Wilson Street

View east along Wilson Street of CME, street trees and cycleway

CME Gardens
Originally a wedge shaped formal garden of around 375m^2 was located along the to the east of the CME and along the Wilson Street frontage with paths, hedges, topiary, garden beds and lawns. Over time as the trees grew, the style and form of garden changed. After the building was vacated in the 1990s the garden became over grown with weeds and self sown trees and shrubs. Reinstatement and interpretation of the gardens as part of the larger neighbourhood park is proposed to integrate and connect the building both to the street and new eastern neighbourhood park.

CME Flagpole
A tall painted white timber flag pole has been located in the eastern garden set in a circular garden dating back to at least the 1920s. The pole was a significant marker in the landscape prior to the growth of the trees in the garden and along Wilson Street. A flagpole is still located in the same location or close to the early site which is to be restored and integrated into the new garden design.

Eastern CME garden and flagpole, October 2021

10.4.4.9 Science Laboratory Building

Wilson Street frontage
The functional and modest two storey brick Science Lab building sits with the Citadel/ CME precinct and is aligned to Wilson Street, but set back from the adjacent CME building creating a level open space between the building and the street. The building does not particularly address the street or the space in front of it, with the facade composed of 12 windows and one small door. A new public space on the north facade will assist connection to the street.

Southern elevation
Similar to the northern frontage the building has no formal doorway and was not generally accessed from the south. Proposed works and demolition of low value buildings around the Science Lab will open up views and access to the building from a new southern approach via steps and a new street alignment on axis.

Concrete Shelter Structure
A large austere off form concrete shelter with steel stairs and railings is located on the western side of the Science Lab building adjacent to the boundary and neighbouring apartment complex facing Wilson Street.

Future Opportunities

Connection to Wilson Street and new entrance
New public space on Wilson Street
Connection to new east–west street via steps

10.4.4.10 Eveleigh Footbridges

Two former footbridges linked the work site areas of North Eveleigh to South Eveleigh. The primary connection was located just to the west of the Redfern platforms linking the CME buildings near the Little Eveleigh Street gate to the Locomotive Workshops on the south side of the railway corridor.

Eastern Footbridge

An approximately 150 metre long footbridge was constructed in 1914 to connect the north and south sides of the Eveleigh Railway Workshops, and provide access to the southern end of each of the Redfern Station platforms. The footbridge was demolished in 1996 with final closure of all workshops operations.

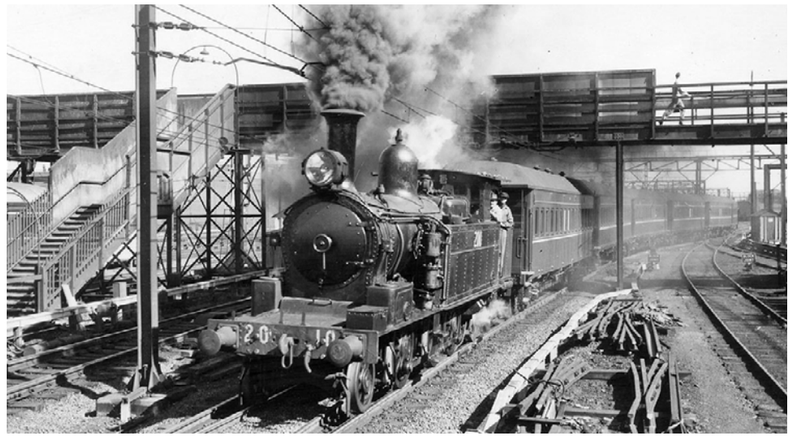
A part of the brick support structure is all that remains of the bridge close to the southern boundary near Redfern Station. There are opportunities to interpret the northern alignment of the footbridge and use the existing abutment in the eastern arrival area for interpretation of the footbridge. The new Southern Concourse under construction about 100m east of the former footbridge provides a new similar pedestrian connection from North to South Eveleigh and stair and lift access to each platform.

Paint Shop Footbridge

A smaller footbridge linked the Locomotives to the Paint Shop and Carriage Shops over the Illawarra Dive and is visible in the 1942 aerial photo.

Future Opportunities

- Retention of remaining structures
- Interpretation



View from footbridge to Redfern Station showing planted with palm trees on Platform 2/3 and the picketed walkways connecting to the footbridge steps.

CITY RAILWAY, PHOTOGRAPHS 1915—1922
JOHN JOB CREW BRADFIELD FL8961176
MITCHELL LIBRARY, STATE LIBRARY OF NSW

10.4.4.11 Elston's Sidings and Telecommunications Equipment Centre (1912)

To the very east of the site adjacent Redfern Station platform 1 is small brick workshop type building known at the Telecommunications Equipment Centre (TEC) located next to a pair of tracks known as Elston's Siding. The rail sidings were fundamental to the function of the Carriage Workshops and Paint Shop, as the delivery point for carriages arriving at and leaving the North Eveleigh site.

The sidings were built early in the life of the ERW and named for the first Car and Wagon Superintendent, Henry Elston, who's son George later served in the same role from 1942.

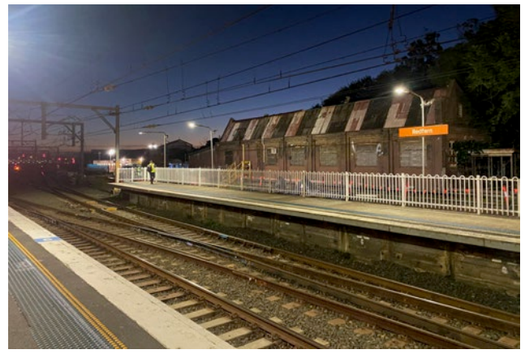
Future Opportunities

- Retention of buildings and structures
- Key arrival space
- Adaptive reuse and interpretation
- New public art and gardens

This part of the site will form an important arrival and distribution point for pedestrians arriving at the site from the station or South Eveleigh.

The TEC was at the heart of railway signalling and communications that the network relied upon to operate safely and efficiently, and housed new and innovative technology over its time of operation. The upgrade and opening up of this site to the public will be able to interpret the former uses and engage with the narratives of arrival, transport, innovation, communication and technology, alongside railway gardens.

The Telecommunications Equipment Centre is highly visible from the railway corridor and the station



10.4.4.12 Station Gardens and Platform Trees

In contrast to the mostly sparse and hard landscape of the railways there was a tradition of planting and gardens in and around stations and rail yards. These elements were mainly aesthetic additions, but were supported by the Railways and maintained by staff, providing identity and a sense of civic and workplace pride.

Platform Gardens

Redfern Station like many stations on the city and country network had elaborate station gardens and even palm trees planted in the platforms. In the later 20th century many of these were removed and due to rationalisation and loss of dedicated station staff who maintained the gardens, trees and pot plants.

Platform 1 which had few trains stop at it was an ideal location for these gardens that featured stone edged garden beds, painted rubber tyre planters, wheel barrows filled with plants, trees, shrubs, ground covers and annual flower displays.

Workshop area plantings and topiary

Next to Homebush Station was located the NSW Government Railways plant nursery that supplied the entire NSW network of stations with plants, flowers, shrubs and topiary materials.

Topiary was a popular form of gardening and local expression in the late 19th and early 20th century, with decorative topiary installed in a number of railway workshops and yards in Sydney including animals and structures like the Sydney Harbour Bridge.

Henderson and Shepherd Nurseries

The local street names of Henderson Road in South Eveleigh/Erskineville and Shepherd Street, Darlington adjacent to the Eveleigh Workshops are both named after two large nursery businesses that thrived in the area in the 19th century. Shepherd's Nursery was located on Blackwattle Swamp Creek in Chippendale and Henderson's Nursery was located to the south of the railway. These nurseries provided seed and plants, including many exotic species to the local community. The supply of freshwater would have been a prime motivator in the location of the nurseries to maintain their stocks. Michael Guilfoyle also had his first nursery in Redfern before relocating to Double Bay.

Embracing Green

There is potential to once again embrace these older garden traditions and greening of railway environments that enhances local social, place and ecological values.

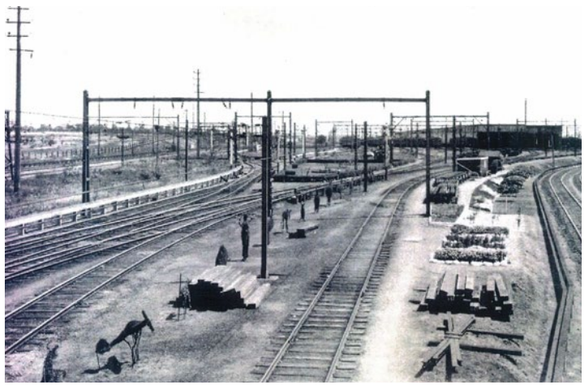
Future Opportunities

Interpretation or reinstatement of station and platform gardens

New gardens and trees

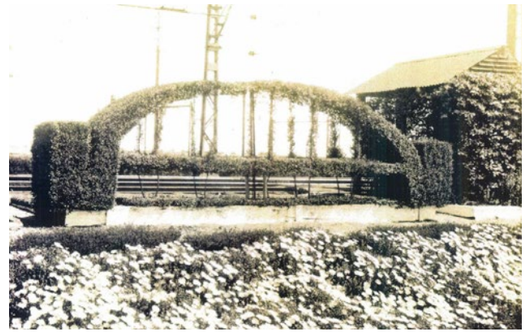
Palms on Platform 2/3 Redfern Station

Topiary and gardens at Chullora yards



Planted garden beds on the east end of Platform 1 of Redfern Station, February 1997

Existing garden bed on Platform 1, Redfern Station



Platform 1 planters in the Waiting Shed at Redfern Station, February 1997

Decorative garden items on the west end of Platform 1 at Elston's Siding and the TEC, February 1997

10.5

Connecting with Country

Study Requirements

Prepare a response in relation to the Connecting with Country framework, in consultation with the GANSW to embed an understanding of Country into the renewal of Redfern North Eveleigh Precinct.

The Connecting with Country narratives and themes that emerge from the Framework must be interwoven throughout the Redfern North Eveleigh Precinct planning package.

This section responds in part to this study requirement, applicable to the scope of the public domain strategy, and should be read in conjunction with the following:

— Chapter 6 of this report

— Section 9.7.1 of this report

— Connecting with Country Framework

— Aboriginal Cultural Heritage Study

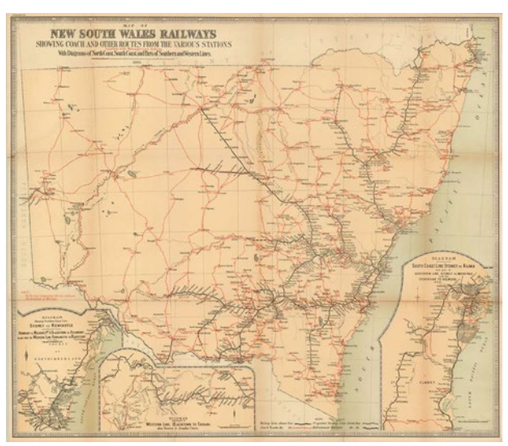
— Aboriginal interpretation strategy

10.5 Connecting With Country
Physical, Social and Cultural Connections

10.5.1 On Country

This precinct is located on Gadigal Country in an area now known as Redfern, Eveleigh and Darlington in the Eora Nation. Redfern and Eveleigh are widely considered the symbolic heart of the urban Aboriginal experience in Australia — a community that lived within walking distance of the growing English settlement around Sydney Cove and later the train station and railway industrial complex that was both a source of employment and a means of travel to and from areas outside of Sydney.

The location of Redfern close to the head of the entire State's railway network allowed people from across Sydney and NSW to access the economic opportunities of the city, the port associated with transport, freight, shipping and the emerging rail industry. This network brought Aboriginal people from many different First Nation Countries from all around NSW, that then interacted and shared stories and traditions from dispersed regions from the north, west and south with each other and the local Eora communities. It was a place of great gathering, interaction and connection.



10.5.2 Study Requirements and Processes

The NSW State Significant Precinct Study Requirements for the Redfern North Eveleigh Renewal Precinct identify it as a place with a 'unique combination of cultural, built, and historic factors that distinguishes the Redfern North Eveleigh Precinct from other places and forms the foundation of its identity'.

The public domain strategy seeks to engage with, embody and embed design principals that instil a deep connection with Country, that provides means and spaces for appropriate public domain narratives and design outcomes that are inclusive and reflect community interests and needs.

The new design should reveal those elements that are unique to the site and the environmental, social and cultural understanding of the place.

10.5.3 Process and Design Themes

The Connection with Country process has been embedded in the masterplanning process. The Public Domain Strategy aligns with the themes developed by Balarinji's Connecting with Country framework identifies that the public domain strategy applies these across the landscape and public spaces. The themes are:

— Replacing Landmarks
— Regenerating Country
— A Meeting Place
— Iconography of Country
— The Legacy of Sydney Trains
— Custodianship

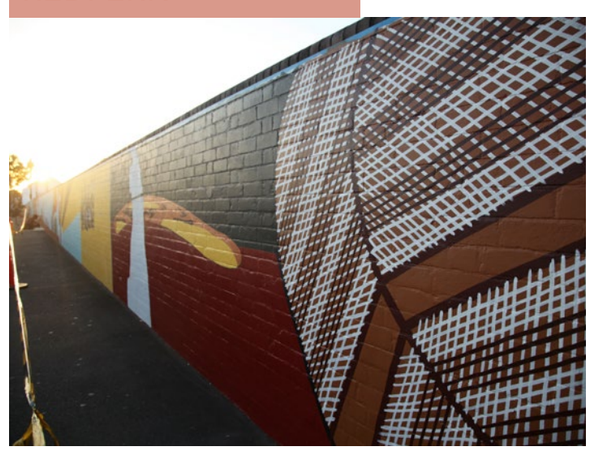
A narrative of regreening and replanting, caring for Country and creating regenerative and healing spaces that allows for a wide range of activities to occur and creating community touch points is a fundamental component to be integrated into the public domain.

GEOLOGY & WATER

FLORA

FAUNA

REDFERN



Replacing Landmarks

Sydney Golden Wattle

Turpentine—Ironbark Forest

Australian Bluebell

Kangaroo Grass

10.5.4 Landscape and biodiversity

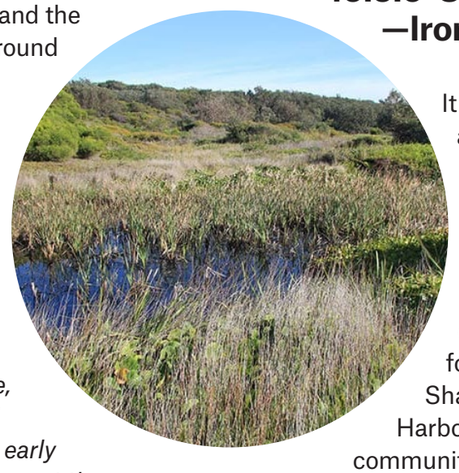
Hand–in–hand with 'Connecting with Country' is the concept of regenerating and healing country, that seeks to return of endemic plants, animals, birds and insects that assists to regenerate biodiversity belonging to the site.

These concepts seek to address changes and issues that have occurred on the site over the last 200 years, firstly through clearing for farming and gardens, changes to natural waterways, and later through excavation and heavy industry uses associated with the Eveleigh Carriage Workshops.

The site was so heavily modified over the 19th and 20th centuries that reinstating original topography and landscape with associated endemic habitats and ecosystems is not a realistic or possible proposition but where possible it should be considered, integrated and repaired and healed where possible, especially in parts of remaining terrain.

10.5.5 Water in Country

To the north of the site lay temperate forested land, with creeks fed by springs and swamps that flowed through mangrove swamps into the harbour at Blackwattle Bay. To the south of the site water flowed from swamps and wetlands into creeks and streams that found their way to the mouth of the Cooks River and into Botany Bay. Connection to freshwater and the rich food sources in and around them were important for sustenance and survival, but also were important landmarks and wayfinding elements in the landscape.



'Prior to European settlement, the creek was a source of fresh water for Sydney's Aboriginal people, and a place for fishing and other activities. During the early decades of European settlement the creek was located at the edge of town, but by the middle of the 19th century, the course of the creek was highly modified and densely inhabited by some of Sydney's poorest residents.'

Paul Irish and Tamika Goward

sydneybarani.com.au/sites/blackwattle-creek

10.5.6 Sydney Turpentine —Ironbark Forest

It is most likely given the location and soil type of the site that Sydney Turpentine–Ironbark Forest was the primary habitat on the site prior to clearing and excavations. The site of Chisholm's Estate in the early 1800s was described as 'bush on the edge of the town'. Turpentine and Ironbark forest areas grew on Wianamatta Shale derived clay soils around Sydney Harbour. The main canopy trees in this forest community are Turpentine (*Syncarpia glomulifera*) and Grey Ironbark (*Eucalyptus paniculata*). Under-storey plants would have included wattles such as Parramatta Green Wattle (*Acacia parramattensis*) and Sydney Golden Wattle (*Acacia longifolia*), the Common Hop Bush (*Dodonaea triquetra*), as well as native grasses, herbs and flowers such as Kangaroo Grass (*Themeda australis*) and Australian Bluebell *(Wahlenbergia gracilis*).

10.5.7 Local community and social connection

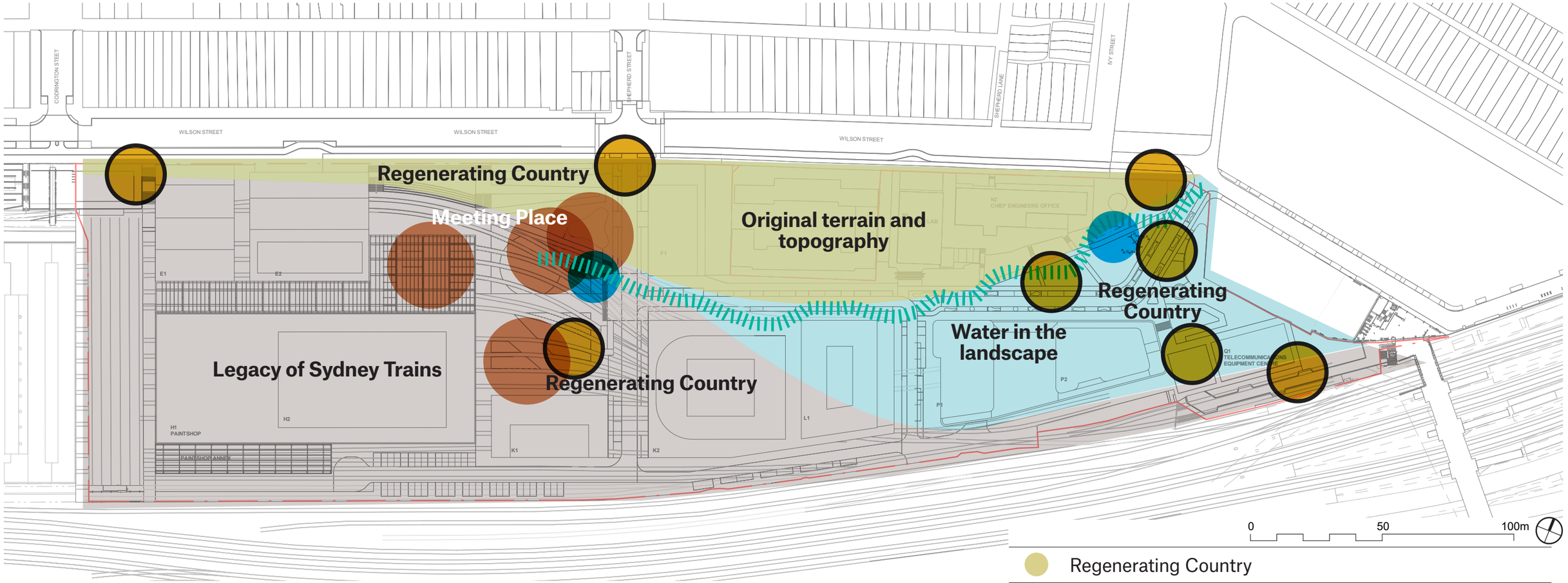
In accord with the vision for the public domain to create a 'welcoming and open public ground plane' the strategy seeks to deliver a range of places that allow for community to participate in different events and activities on site, to include informal gathering, community meeting, working, making, and for temporal, cultural and art based events. The public domain network seeks to establish a variety of spaces of different scale and activities that bring the community into the precinct everyday, one that feels inviting and comfortable.

10.5 Connecting With Country
Public Domain Concepts

Replacing Landmarks

A Meeting Place

Regenerating Country



The legacy of Sydney Trains

Iconography of Country

Custodianship

- Regenerating Country
- Legacy of Sydney Trains, Tracks and Connections
- Meeting Place
- Custodianship
- Acknowledgement of Country
- Water interpretation
- Water Element

10.6

Landscape Masterplan

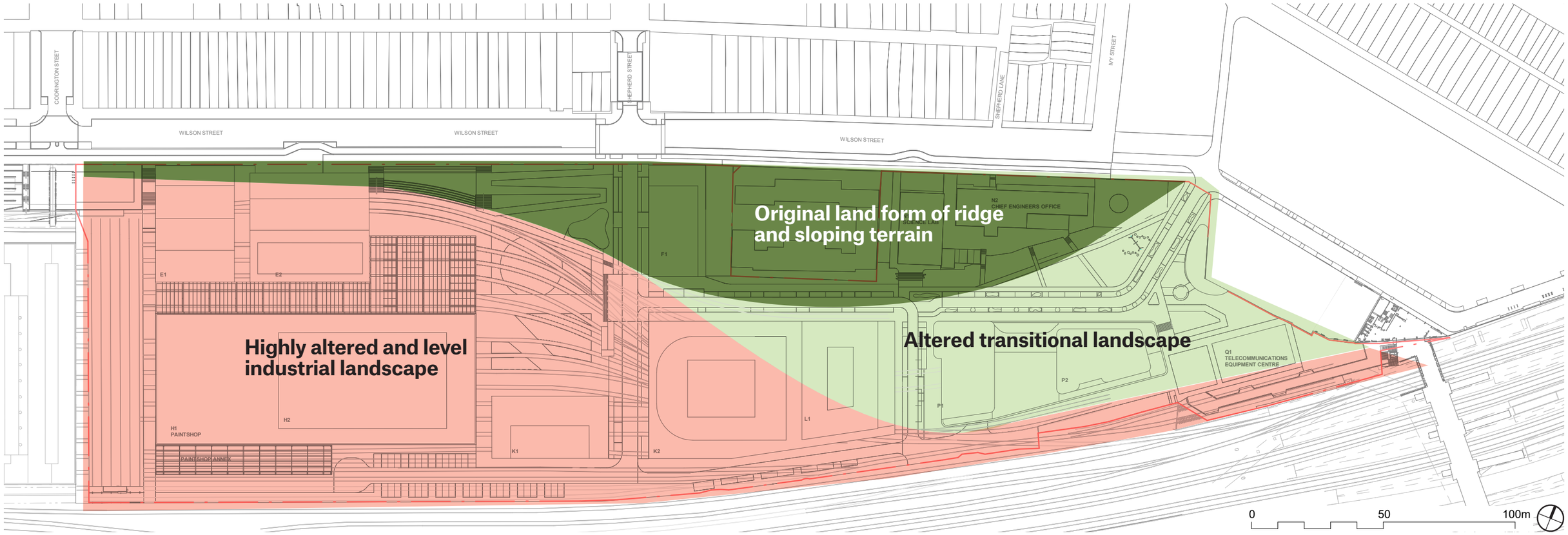
Study Requirements

Includes a Landscape Masterplan for the precinct locating public space (open space, plazas, squares) that have been derived from site analysis, benchmarking assessment and urban design principles.

The masterplan is to include (but not limited to) public space connections, deep soils zones, urban canopy outcomes and targets, Water Sensitive Urban Design principles.

10.6.1 Public Domain Plan

Conceptual approach to Country, topography and industrial landscape



There are three distinct landforms that establish the site character and spatial qualities of the Paint Shop Sub-precinct. Each of these types present opportunities and constraints to the public domain, accessibility, landscape and planting.

Wilson Street Ridge RL27—29

The highest area of the site sits in the north east sector with close to original topography, sloping to the south towards the rail corridor. The area has a level connection to the street and adjacent properties and allows for points of outlook over the lower areas. It is the area the first house and outbuildings were located on the site, and later the CME offices and has been kept free of industrial processes activities.

Transitional Mid-level RL25—27

A mid level transition area moderates the spatial condition between the upper adjacent streets with the workshops and railway located on the lowest part of the site. The area has been altered from its original form but helps to establish more shallow grades that provide for universal access to the lower parts of the site and minimsing intrusion of streets, ramps and roads on to the Fan of Tracks.

Railway Workshops and Railway RL25

The lowest area of the site was mostly formed by excavation down to a fixed flat level that allowed an even grade for the easy movement of rolling stock, consistent with the level of the first rail lines built in the 1850s between Sydney and Parramatta and the rail track levels at Central Station.

10.6.2 Illustrative Masterplan

LEGEND

- Trees
- Lawn
- Paved area
- Building footprint
- Site Boundary

10.6.3 Public Domain Typologies
A highly permeable network of public spaces

Six different types of public domain have been developed that respond to different site locations, needs and uses. The public domain typologies are also defined by their urban character and level of public accessibility. These designations are mapped and shown on the following page.

PUBLIC DOMAIN TYPE 1

Public Open Space (Designated)

Dedicated public spaces including Parks, Squares and Plazas with 24 hour access.

PUBLIC DOMAIN TYPE 2

Public Open Space (Other)

Publicly accessible spaces including footpaths, building curtilages and pedestrian links that connect to the broader network of streets and spaces.

PUBLIC DOMAIN TYPE 3

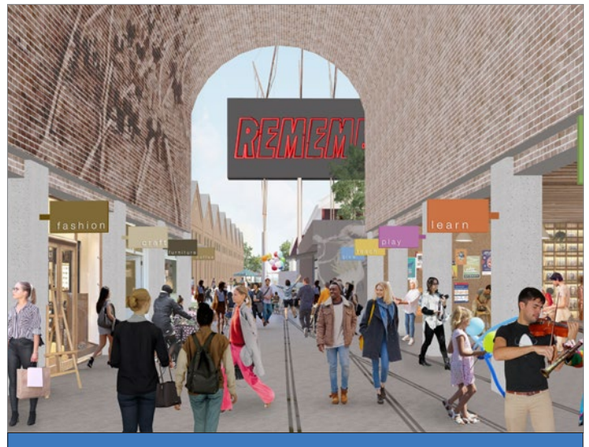
Public Shared Zone

Trafficable streets and lanes with a slow speed, flush kerb environment making it comfortable for pedestrians and cyclists to travel through.

PUBLIC DOMAIN TYPE 4

Vehicle Zone

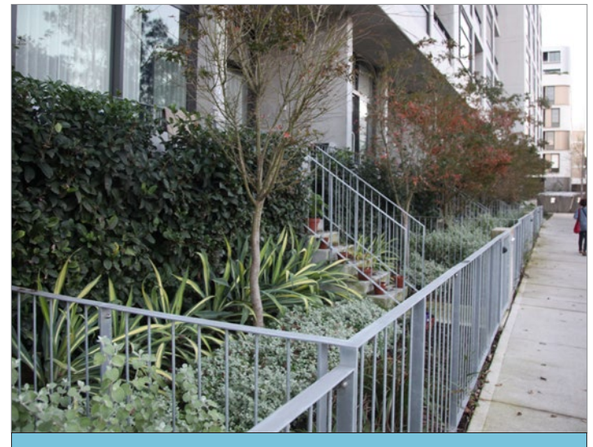
Street and laneway carriageways where vehicles have right of way. This sets a clear hierarchy for vehicular and pedestrian safety.



PUBLIC DOMAIN TYPE 5

Privately Owned Public Link

Privately owned links through buildings and arcades. These are privately maintained and may not always have 24/7 public access.



PUBLIC DOMAIN TYPE 6

Private Open Space

Private residential gardens, courtyards or terraces. These are open air spaces but are not accessible to the general public.

10.6.4 Public Domain Typology Metrics

Open Space Target

City of Sydney Open Space, Sport and Recreation Needs Study Target for High Density Urban Renewal Areas (2016)

15%

Proposed Public Open Space

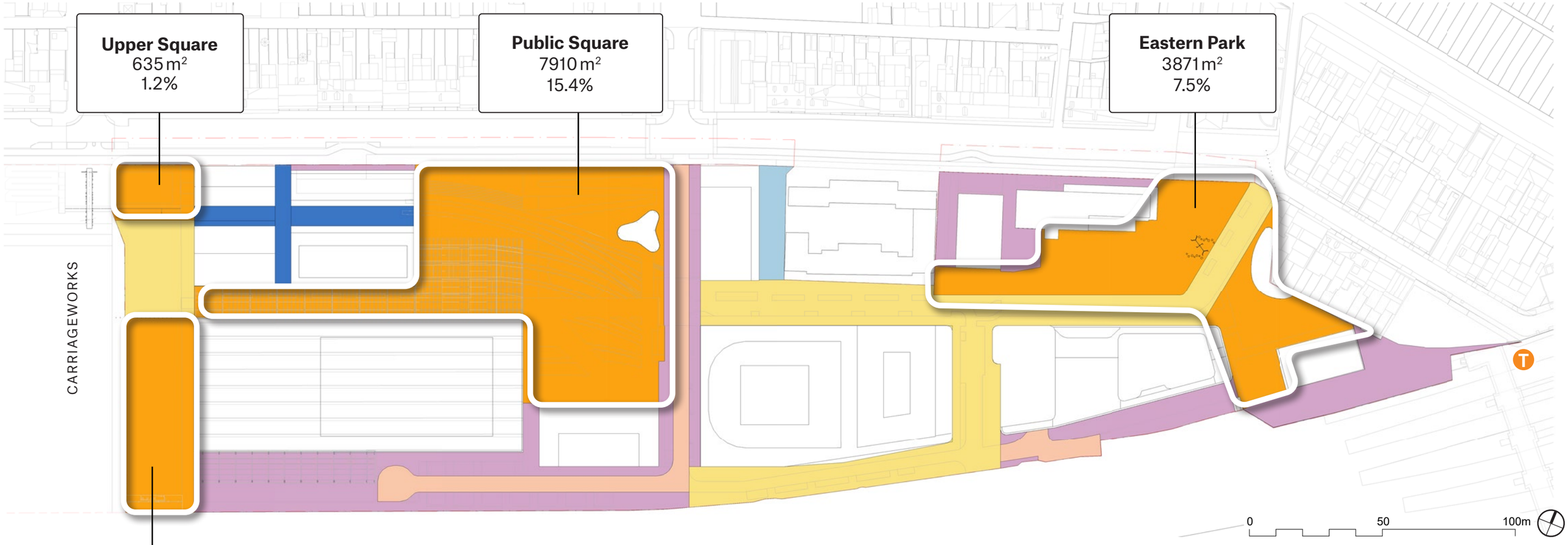
Dedicated Parks & Squares

27.7%

All Public Spaces

Parks & Squares
Footpaths
Shared Zones
Vehicle Zones

57.1%



Study Requirements

Breaking down types of public space into the three types used by the Department's Public Spaces Division which include:

- Public open spaces: active and passive (including parks, gardens, playgrounds, and outdoor playing fields and courts);
- Public facilities: public libraries, museums, galleries, civic/community centres, showgrounds and indoor public sports facilities; and
- Streets: streets, avenues and boulevards, squares and plazas, pavements, passages and lanes, and bicycle paths.

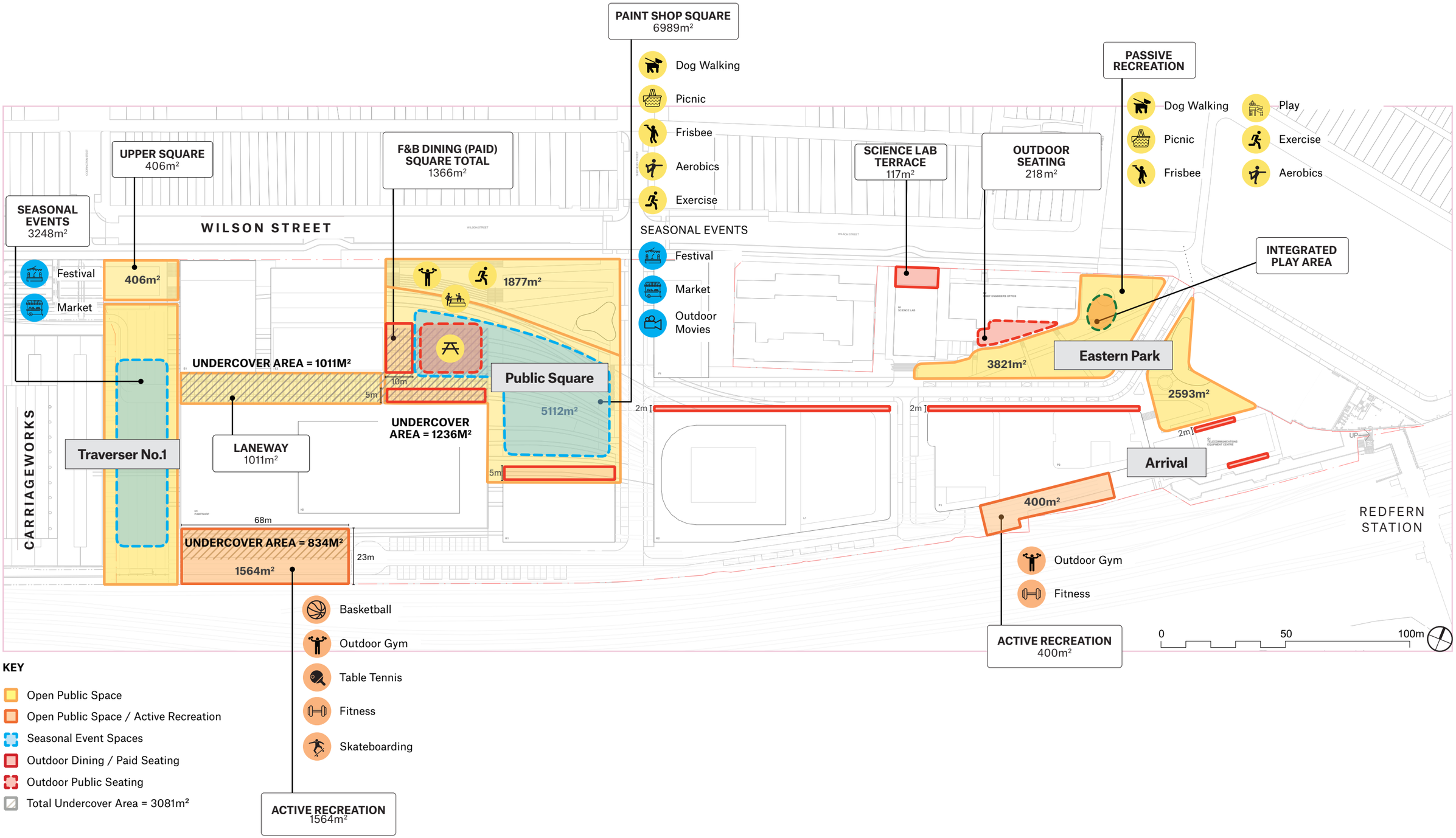
Total Site Area
51,560m²

Total Publicly Accessible Area
29,455m²

57.1% of site

TYPE	M²	% SITE	TOTAL M²	% SITE
Public Open Space (Designated)	14306	27.7 %	**29455**	**57.1%**
Public Open Space (Other)	7013	13.6 %		
Public Shared Zone	6331	12.3 %		
Public Vehicle Zone	1805	3.5 %		
Privately Owned Public Link	844	1.6 %	1281	
Private Open Space (Landscape)	437	0.8 %		

10.6.5 Public Domain Activity



10.6.6 Key Public Spaces

Three destinations along a green spine

1. Traverser No.1

A preserved industrial public space celebrating rail heritage and allowing for flexible community and event uses.

Original scale, form and relationships of industrial outdoor space to the Paint Shop and Carriageworks is maintained.

2. Public Square

A hybrid post-industrial public space on the Fan of Tracks, utilising heritage structures in a contemporary park.

A hybrid industrial sequence of public spaces set over the Fan of Tracks, utilising the structural frame of the Suburban Car Workshop to create an outward looking urban room with a high degree of social activation and flexibility. Indigenous themes and non-indigenous heritage are integrated, with a strong creative and innovation focus.

3. Eastern Park

A green arrival with park and gardens set around existing heritage buildings and mature trees.

New green public open space within existing heritage context retains existing trees in a new public park. Greenery extends down to meet the arrival point from Redfern Station Platform 1.

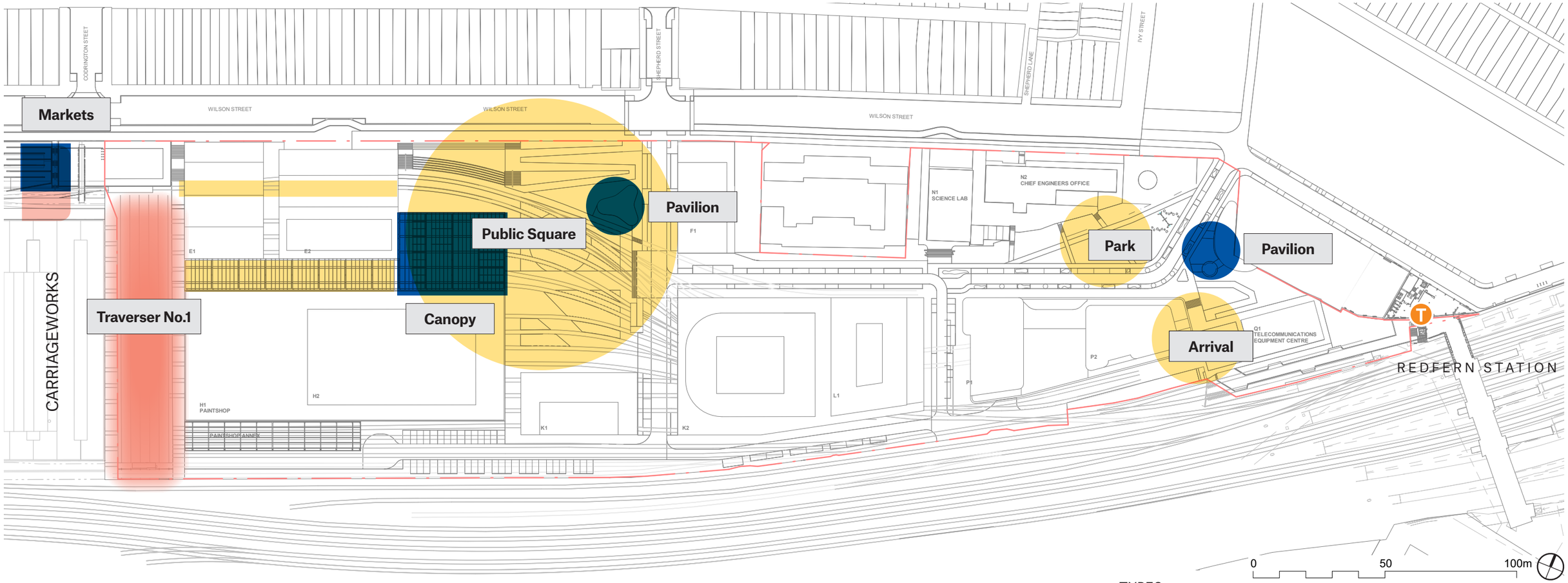
Green Spine

A green arrival sequence that adapts and reuses heritage buildings and rail siding.

Redfern Station gardens heritage reimagined to provide a strong cultural and social hub.

10.6.7 A Creative and Innovative Public Domain

Space for events, festivals, community gathering



The proposed Public Square will provide new hybrid public space, square and park that will allow space for a wide range of events that complement or extend the existing events already taking place around Carriageworks. Events that could take place in the primary event spaces include markets, fairs, concerts, art events and seasonal community events.

The provision of a 1400 m² weather protected public space under roof canopy gives even greater flexibility and opportunity for events in case of rain or extreme heat that could accommodate an audience of up to 2000 people at a comfortable density of around two people per square metre, including 400 m² for staging areas and circulation.

The covered area in the Public Square is augmented by two community pavilions, one in the square and another in the Eastern Park area. These smaller structures can provide space for smaller, more intimate events.

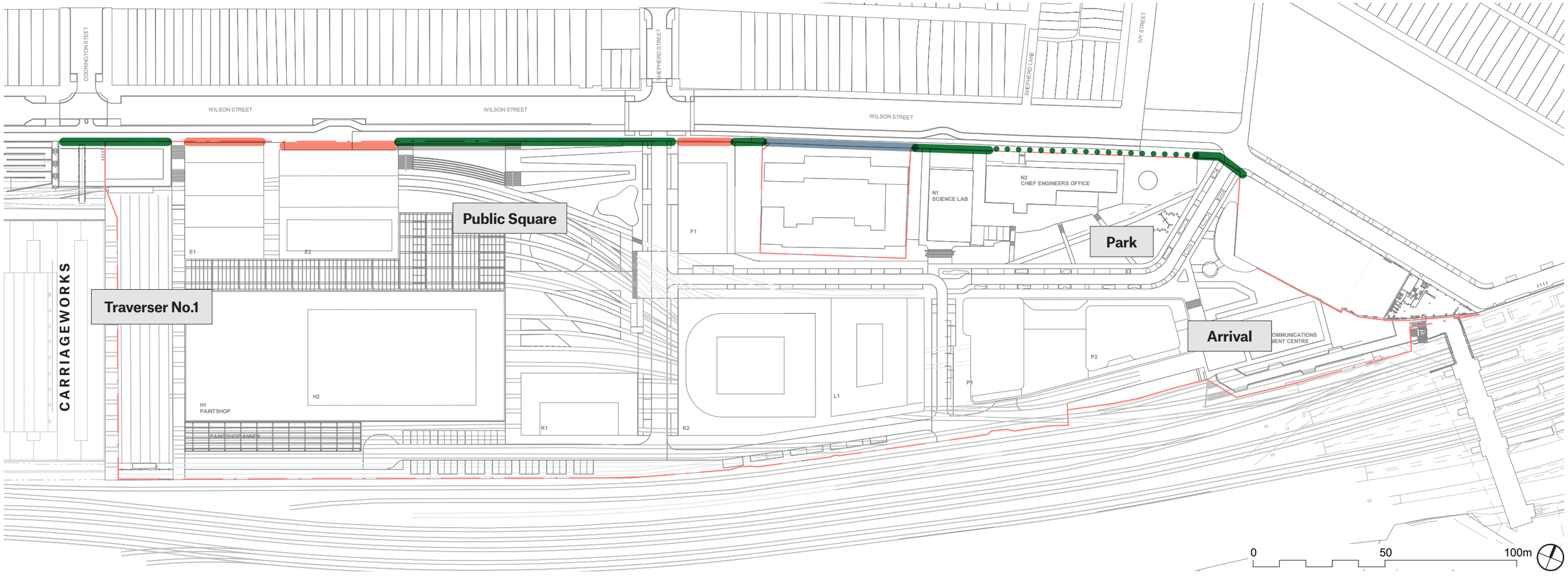
TYPES

- Primary event and activation spaces
- Undercover public spaces for events
- Existing public spaces used for events

10.6.8 Boundary Condition
Unlocking the site and opening up to Wilson Street

Study Requirements

Assessment of the accessibility (including inclusive Design) of the proposed locations of public spaces in relation to matters including but not limited to, maximising connections to the broader network of new and existing public spaces, topography, connections to Redfern Station, key destinations and transport interchange points;



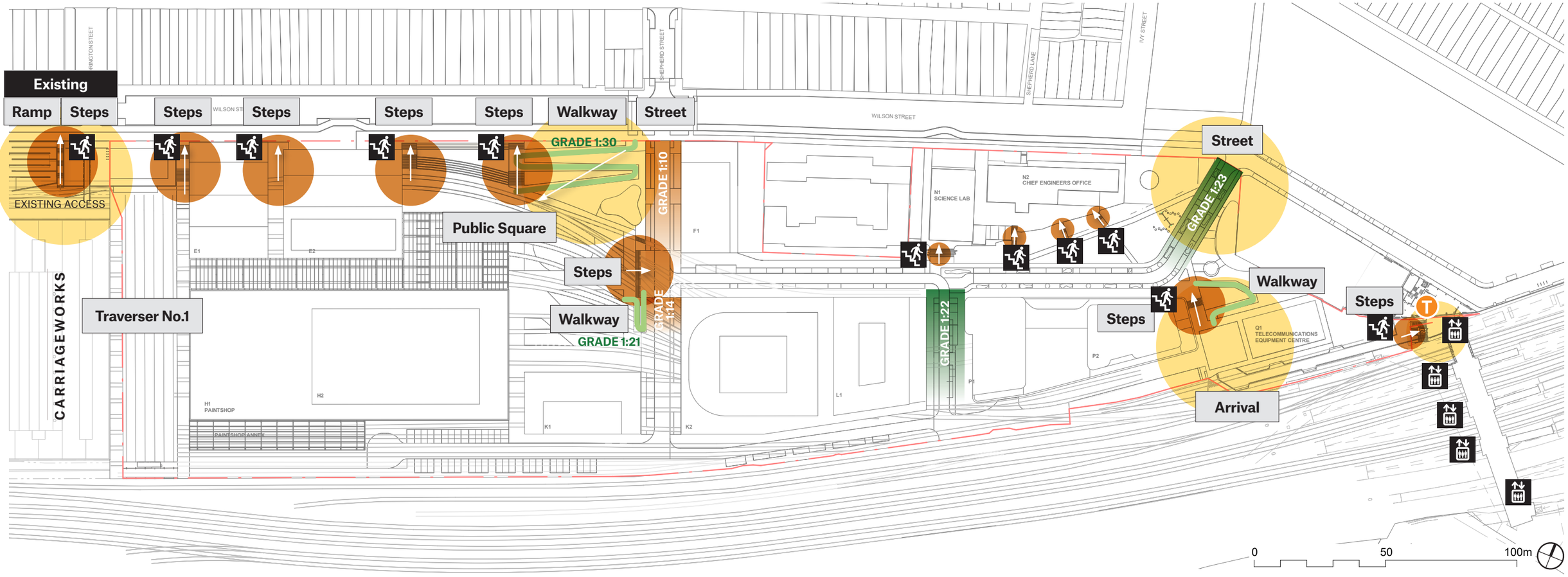
As the Sub-precinct evolves from a closed and inaccessible site to an open and inviting public domain, a number of changes will occur that increase permeability and visibility of the site to and from the surrounding streets. The proposed Public Square provides the largest continuous opening of the Wilson Street boundary, providing a direct connection, through a landscaped zone down to the Fan of Tracks and Paint Shop roof canopy and structures. New buildings on Wilson Street will provide new active street frontages. Along the eastern end of Wilson Street boundary in front of the Chief Mechanical Engineers offices and the Science Lab, a new palisade fence should be installed incorporating the heritage gate, driveways and entrances between the Beveridge Apartments and the Little Eveleigh Street entrance. The existing steel security fence is to be removed to increase amenity and sense of openness.

10.6.9 Accessibility
Proposed universal access response

Given the significant level changes between the adjacent streets and the main lower level of the site, access has been a highly considered component of the public domain strategy which ensures permanent access to as many points of the site without the need for mechanical assistance such as lifts of escalators.

Study Requirements

Assessment of the accessibility (including inclusive Design) of the proposed locations of public spaces in relation to matters including but not limited to, maximising connections to the broader network of new and existing public spaces, topography, connections to Redfern Station, key destinations and transport interchange points;



Universal access is provided at major entry points to the site balancing site topography, existing levels and retention of heritage features to allow comfortable travel for all degrees of mobility. There is an existing four metre level change from Wilson Street at RL29.0 down to the base rail corridor level at around RL25.0. To preserve as much of the Fan of Tracks at their existing level of RL25.2 the extension of Shepherd Street is set at a 1:10 grade and then a 1:14 grade, which necessitates the need for a compliant alternative access walkway at a shallower grade. This route commences near the intersection of the Shepherd and Wilson Street and supplements the existing ramp at the Codrington Street entrance. The footpath approach from Little Eveleigh Street down to the East–West Street is set at 1:23 and conforms to DDA requirements. A walkway provides access from the eastern arrival point to the East–West Street.

Lifts within the new Redfern Station southern concourse will provide universal access from all station platforms to Little Eveleigh Street and down to the proposed eastern arrival route via Platform 1.

TYPES

- Main Access Points (24 Hour Public Access)
- New Public Ramp/Walkway (DDA Compliant)
- New Public Steps up (24 Hour Public Access)
- Graded Street Steeper than 1:20 (high to low)
- Graded Street Gentler than 1:20 (high to low)

10.6.10 Paint Shop Sub-precinct Character Areas

Description and views of the key character areas on the site

1 Traverser No.1
Retained important heritage space between the brick Paint Shop and Carriageworks facades. A large 2000 m²+ space that can provide for multifunctional uses for larger events, break out spaces and everyday urban spaces for outdoor working, meeting and breaks.

2 Public Square
The largest public space in the precinct, located centrally. Strongly integrates railway heritage of Fan of Tracks and Suburban Car Workshop structure, whilst opening new views to the Paint Shop. Provides dining, retail, community, enterprise and cultural opportunities within.

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3 Eastern Park
A green park and garden space that provides space for unprogrammed activities, and an increased green cover, tree canopy and new WSUD measures. Forms part of the eastern arrival sequence of spaces and a urban threshold from Eveleigh, Darlington and Redfern Station.

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4 The Citadel
The Chief Mechanical Engineers Building and Science Lab on the upper plateau will reinvigorate and interpret the gardens and surrounding landscape whilst providing a more open and accessible public domain of a comfortable scale with paved areas, lawns and gardens.

Page 247

5 Eastern Arrival
An opportunity to adapt, reuse and interpret buildings, structures, sidings, tracks and platforms with intrinsic site heritage that provide a unique spatial quality particular to this site, whilst providing a new public gateway and threshold for those arriving from Redfern Station.

Page 241

6 East-West Street
Key public movement space that provides high amenity of walking and cycling.
An active ground plane encourages east—west movement and provides a 'high street' identity for the buildings fronting it. Dense tree canopy, planting and new WSUD measures.

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7 Upper Traverser Plaza
A new expanded entrance to Wilson and Codrington Streets intersection that faces and addresses the Traverser No.1 below. Treated as an urban space in which to meet, wait and view the Carriageworks, Paint Shop facades and across the rail corridor to South Eveleigh.

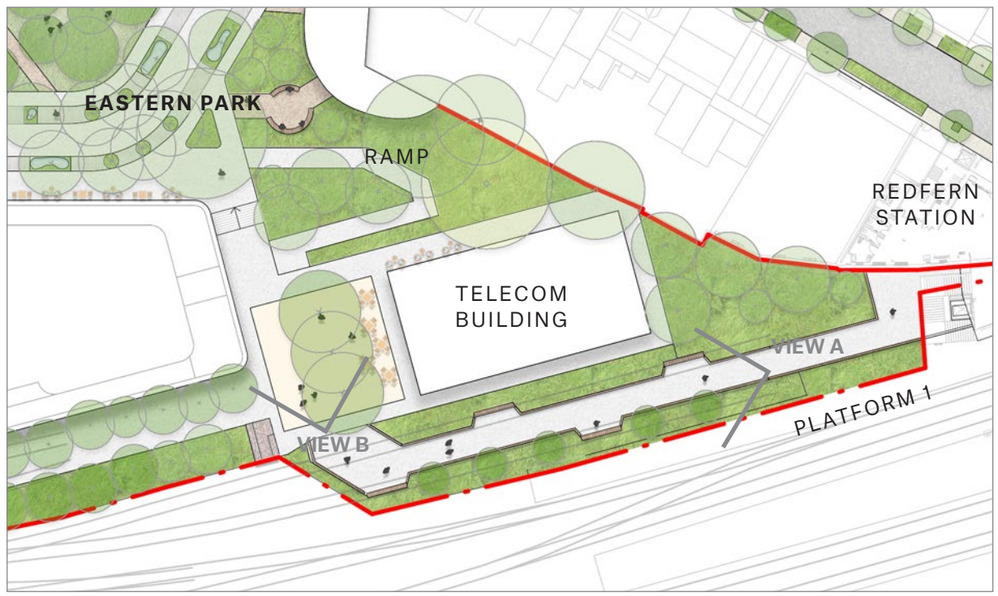
8 Small streets and lanes
A network of spaces between and through buildings and structures will provide additional pedestrian permeability to the site and create zones for more intimate scaled activities and frontages.

10.6.10 Eastern Arrival via Redfern Station/Platform 1

The addition of a new southern concourse at Redfern Station and a new ticketed entrance on Little Eveleigh Street creates a direct pedestrian link between the station and the North Eveleigh Precinct. The land to the west of the station includes existing platforms, rail sidings and the former Telecommunication Equipment Centre building that has a strong visual presence on the rail corridor and station environment and can be incorporated into the public domain, landscape and overall arrival experience.

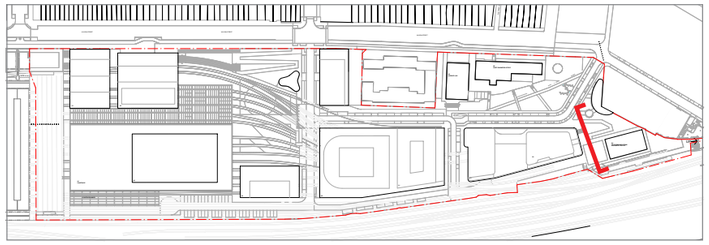
Design Moves and Opportunities

- Acknowledgement of Country.
- Connection with Country embedded.
- On grade arrival point that connects the site directly to Redfern Station South Concourse accessible platforms.
- Provides direct and DDA compliant access to site.
- Retains and adaptively reuses heritage structures.
- Innovation and creativity at 'front door' of site with an entry pavilion that provides a unique human scaled arrival experience to site with a mix of entrepreneurial, community, social and hospitality uses.
- Strong landscape, garden and nursery identity relating to Redfern Station Gardens, 18th century plant nurseries in the area.



Illustrative view A | Eastern Arrival by Platform 1 and the Telecommunications Equipment Centre building

Illustrative view B | Eastern Arrival at the Telecommunications Building looking toward Wilson Street



Pavilion precedents for the Eastern Arrival

Tree seating and cafe, Eastern Avenue, University of Sydney

Section through Eastern Arrival square

Arrival hub, WEAVE, Waterloo Skate Park

Illustrative view | Looking over the Eastern Arrival and Telecommunications Building

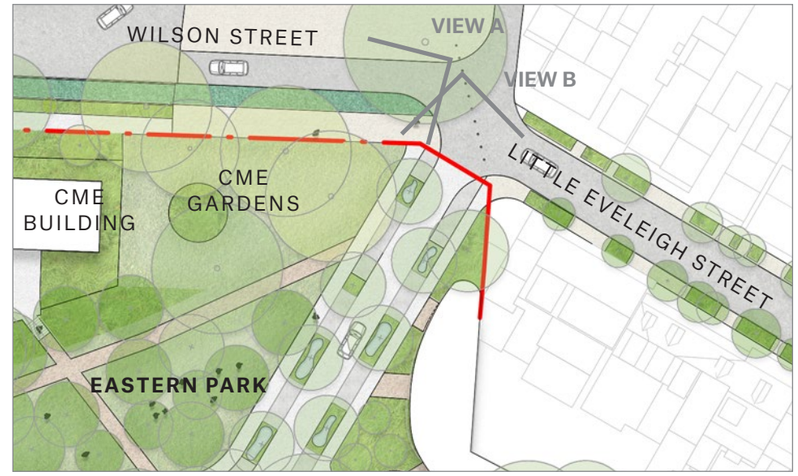
10.6.11 Little Eveleigh Street Shared Zone and eastern entrance

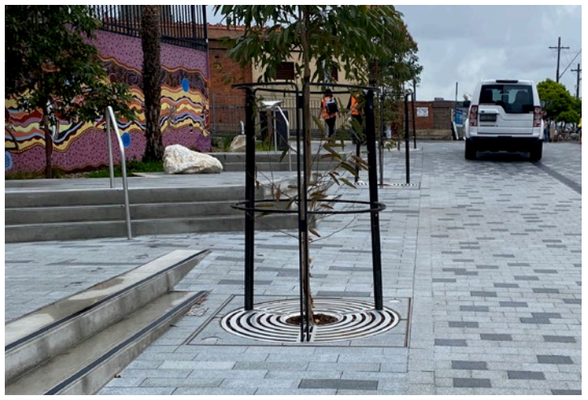
The eastern entrance from Little Eveleigh Street seamlessly continues the new shared zone pedestrian environment proposed as part of Southern Concourse works between Wilson and Lawson Streets. This upgraded street environment will connect through to Eveleigh Street north of Lawson Street providing a consistent and high quality pedestrian link between the Redfern Community Centre and the site.

The Shared Zone it to shaded by the existing mature trees and supplementary planted trees. Water sensitive urban design measures will embed bioretention in the park and street space echoing water flow paths that follow site topography as it slopes down into the site at a 1:22 grade.

Design Moves and Opportunities

- Low speed, legible, pedestrian friendly environment
- Slow zone at the Ivy Lane and Wilson Street junction where the shared streets, cycleway and pedestrian routes meet
- Street furniture includes seating, wayfinding and pedestrian lighting
- Green threshold with views from the high point at the site entrance along the East–West street





Paving and landscape on Eveleigh Street near Lawson Street

Proposed shared zone on Little Eveleigh Street, Transport for NSW

Illustrative View A

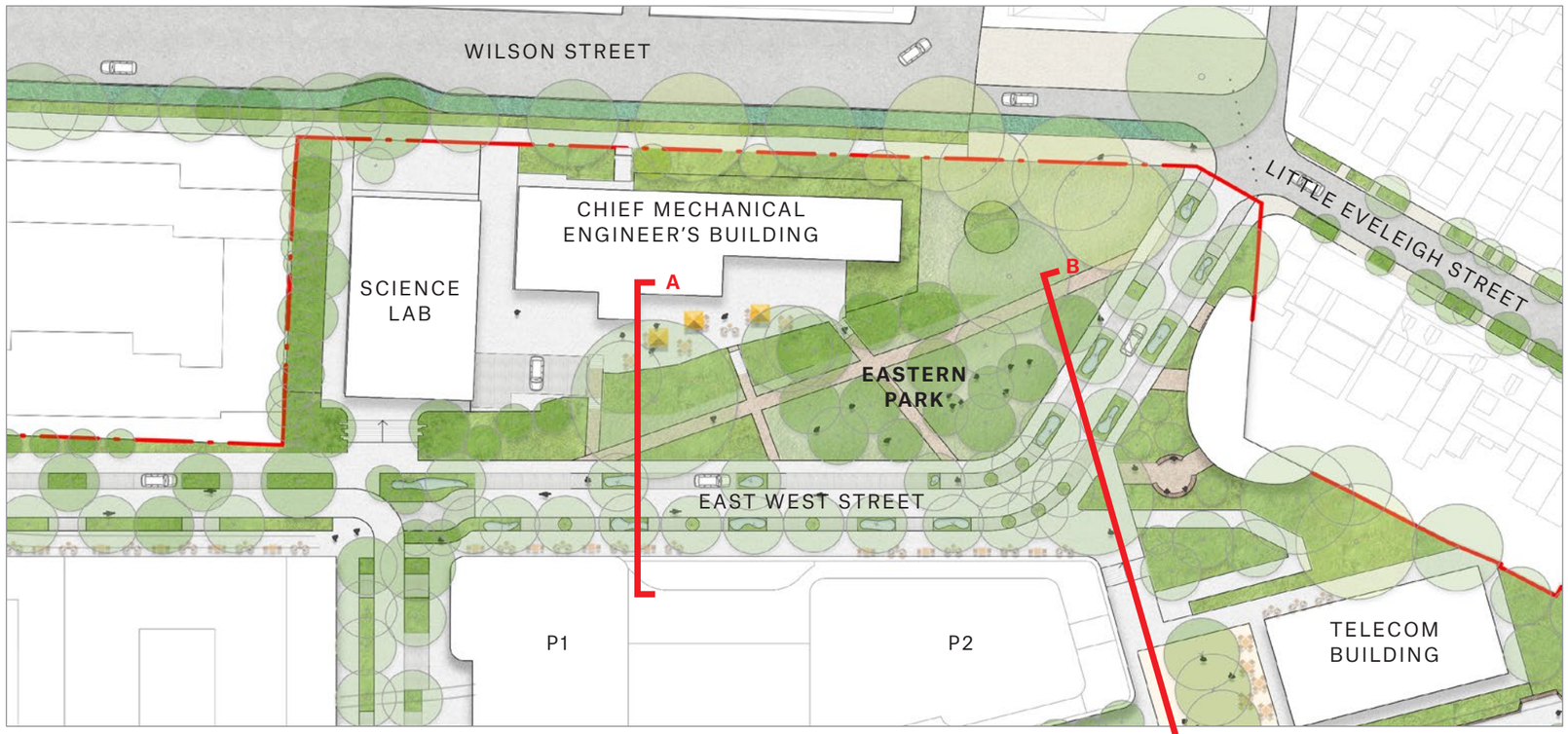
Illustrative View B

10.6.12 Eastern Park

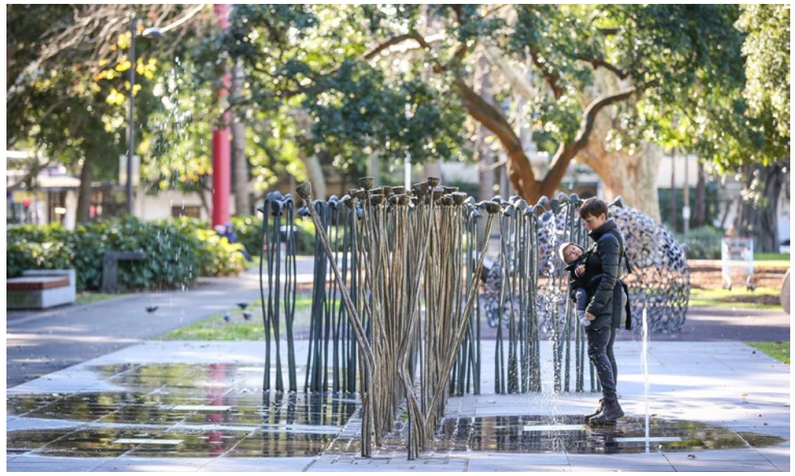
The Eastern Park provides a lush, shaded and open green space for residents, visitors and workers. Connection with Country themes, endemic planting, gardens and water integrated into landscape. The site allows views across to South Eveleigh and provides an enhanced green threshold experience from Redfern Station.

Design Moves and Opportunities

- Provides green space and passive recreational open space for the community and contributes to the Darlington open space network
- A 24 hour accessible public space for community
- Enhanced green threshold to Darlington, Redfern Station, Central, City
- Connection with Country measures embedded in landscape and public domain
- Retains significant mature trees
- Provides appropriate curtilage and setback to CME heritage building
- Moderates and transitions between development and existing residents
- Contributes to deep soil, soft scape and urban canopy and mitigates environmental issues.
- Permeable ground and stormwater use and mitigation opportunities
- Welcoming, interesting and authentic entry space with lower scaled buildings around the edges
- Interpretation options of former 19th century residential homes; Chisholm Estate and Calder House boys school prior to rail operations.
- Opportunity for play features in the park and utilising the level changes.

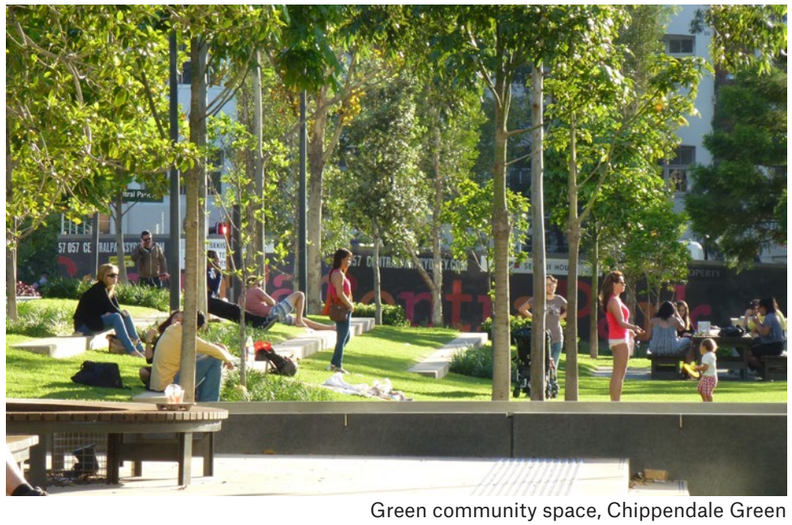


Section A



Integrated art and water play, Redfern Park

Integrated art and play, Redfern Park



Green community space, Chippendale Green

Illustrative View | Looking toward the Little Eveleigh Street arrival with CME Building to the left

65m

Section B

CLEC Site, Docklands Park

National Arboretum, Canberra

Illustrative view looking west toward East–West Street and CME Building

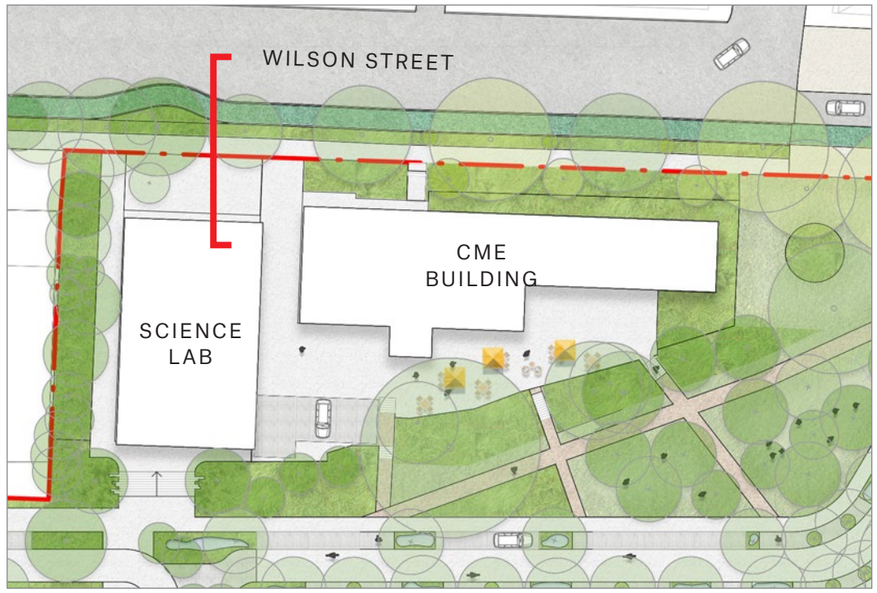
Illustrative view looking south toward Telecommunications Equipment Centre building and southern arrival from Redfern Station

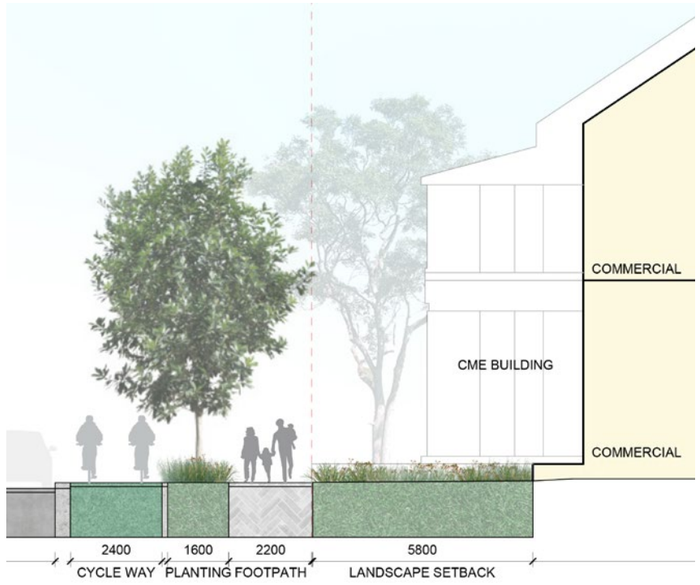
10.6.13 'The Citadel' Chief Mechanical Engineer's and Science Lab

This character area celebrates the heritage buildings, terraces and gardens. Existing mature trees and smaller scale characterful are buildings set in a planted garden and lawns to provide a human scale and a welcoming place. A new pathway connects from Wilson Street to the new East–West Street, following the alignment of the current access route, with a graded embankment that grades up to the CME terraces.

Design Moves and Opportunities

- Reinstatement and interpretation of original CME formal gardens and restoration of flag pole
- New boundary fence along Wilson Street and restoration of gates
- A network of public spaces in and around the CME and Science Lab connected to Wilson Street.
- Retains significant mature site trees
- Protects significant street trees
- A new stair connects Science Lab to east–west street
- New small public space on Science Lab street frontage
- Interpretation of former 19th century residential homes and gardens; Chisholm Estate and Calder House, and boys school prior to railway operations





Illustrative View

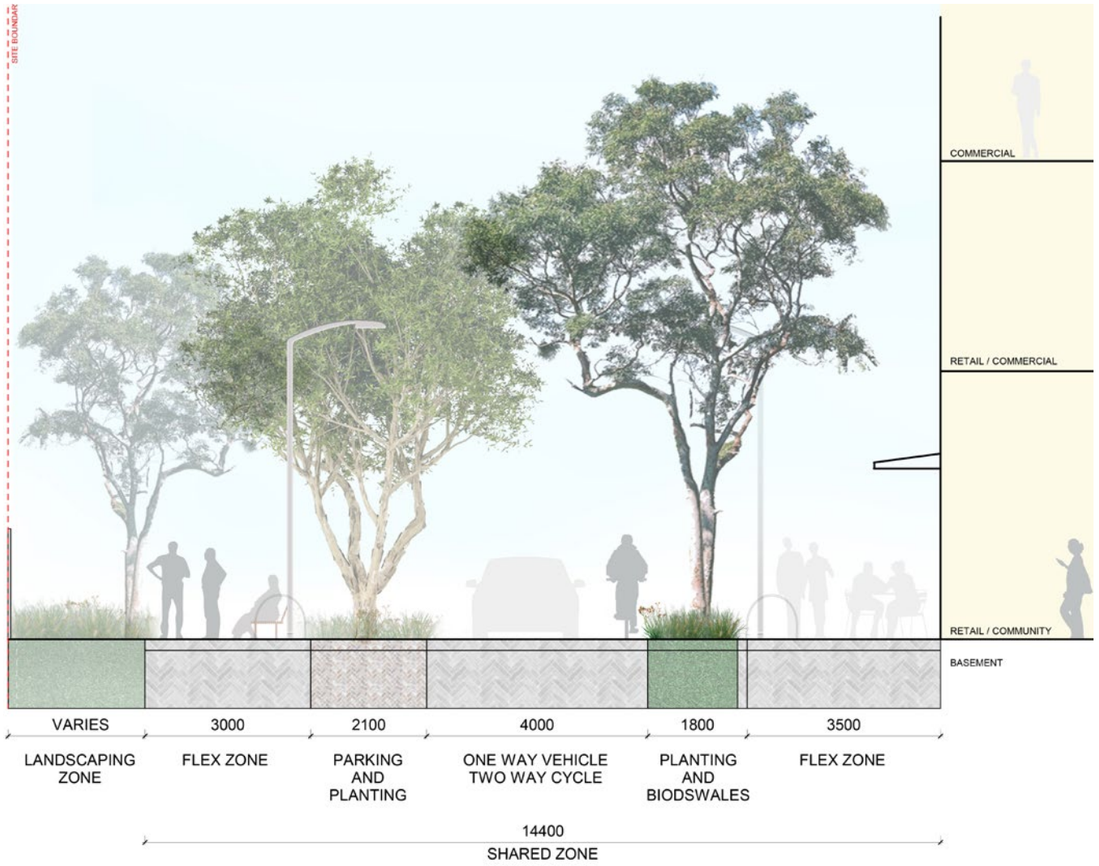
Illustrative View

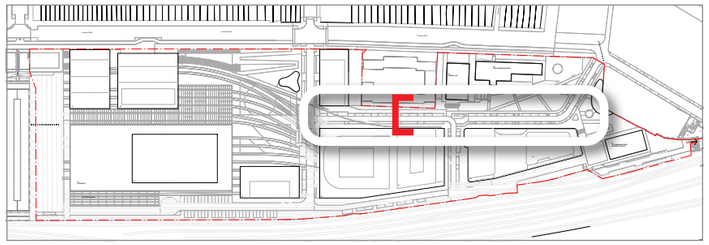
10.6.14 East—West Shared Street 'The Green Spine'

Approximately 3000 m² in area, the east–west spine establishes a comfortable and legible urban streetscape. This street spine provides a human scaled corridor that provides high amenity for pedestrians along a weather protected route with active frontages, outdoor dining, on street parking, street trees and smaller public spaces and laneways and links off the spine allowing north south connections.

Design Moves and Opportunities

- Shared street space, pedestrian and cycle priority
- Low speed environment
- Lighting, gardens and street trees
- Primary public link between station, buildings, public spaces, Paint Shop and Carriageworks
- Provides vehicle and emergency access to buildings, drop off, loading and parking
- Legible north facing sunny street with activities, entrances, retail and dining
- Provides greening, shade and integrated WSUD stormwater management opportunities
- A public place for local community and the on site community that feels a part of the city
- A shared street space where pedestrians and bicycles are the dominant transport modes
- Appropriate scale to streets in Darlington, Redfern and Chippendale neighbourhoods with weather protection and active facades to walk by
- Internal activities visible to three floors above street





Street section

Illustrative view looking west along the east–west street spine

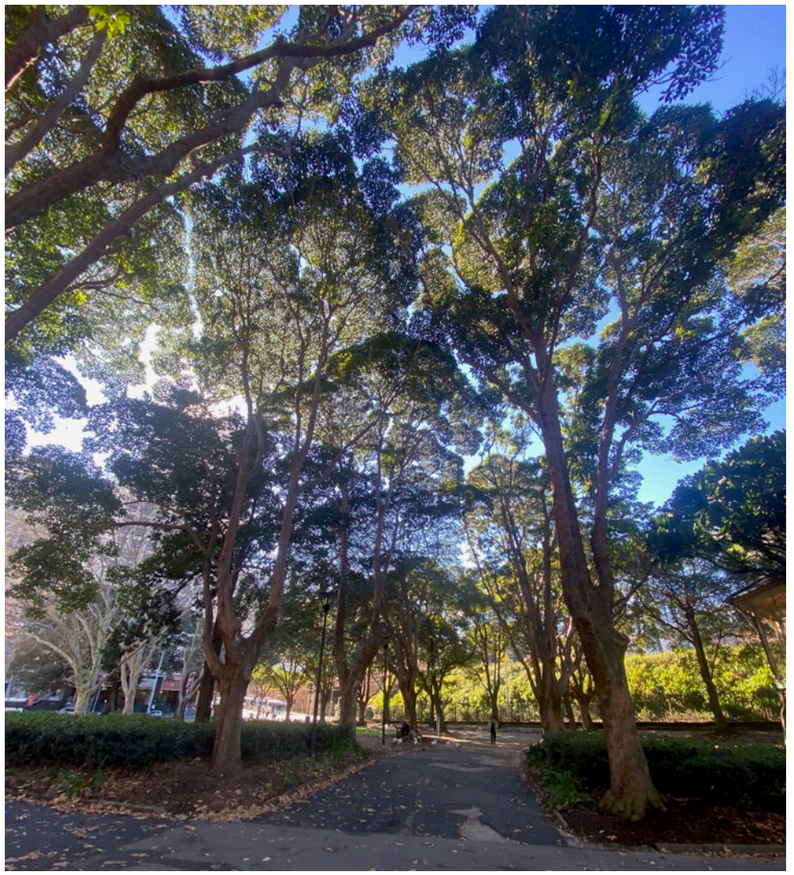
Precedents for the East—West Street

Consistent unit paving along a shared street

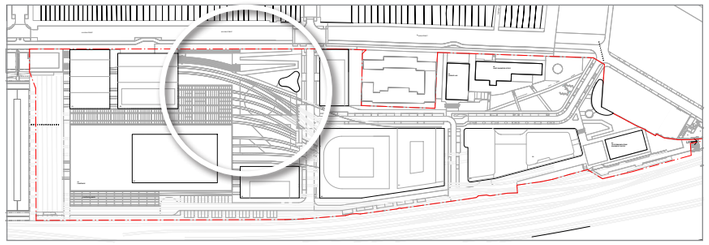
Active retail and hospitality street space, South Eveleigh

Places to stop and sit, Chippendale Green

Street trees and gardens, O'Connor Street, Chippendale



Dense tree canopy



10.6.15 Public Square

A large hybrid public square containing a collection of spaces and experiences, and celebrating the retained and adapted industrial heritage is proposed between the Paint Shop and Wilson Street.

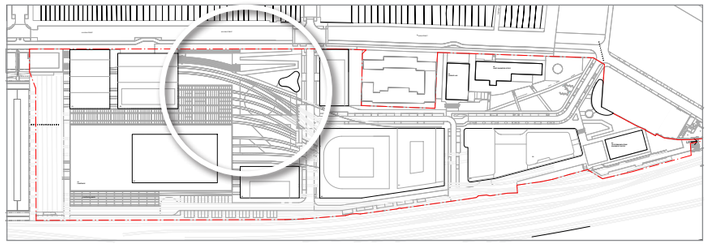
The Wilson Street interface will be green and treed, providing a welcome to view the square from the adjacent upper street level. A walkway, steps and bleacher steps traverse down to the main public space located on the Fan of Tracks.

The Fan of Tracks, Paint Shop and retained steel Suburban Car Workshop structure demarcate the primary public spaces of the square.

Retaining part of the steel roof structure of the Suburban Car Workshop creates an outdoor covered public space that retains heritage components including trusses, columns and rail tracks in the original location of the workshop bays and ‘roads’. The structure will provide shade and weather protection for workers, visitors and the community and opportunities for retail and outdoor dining around the perimeter.

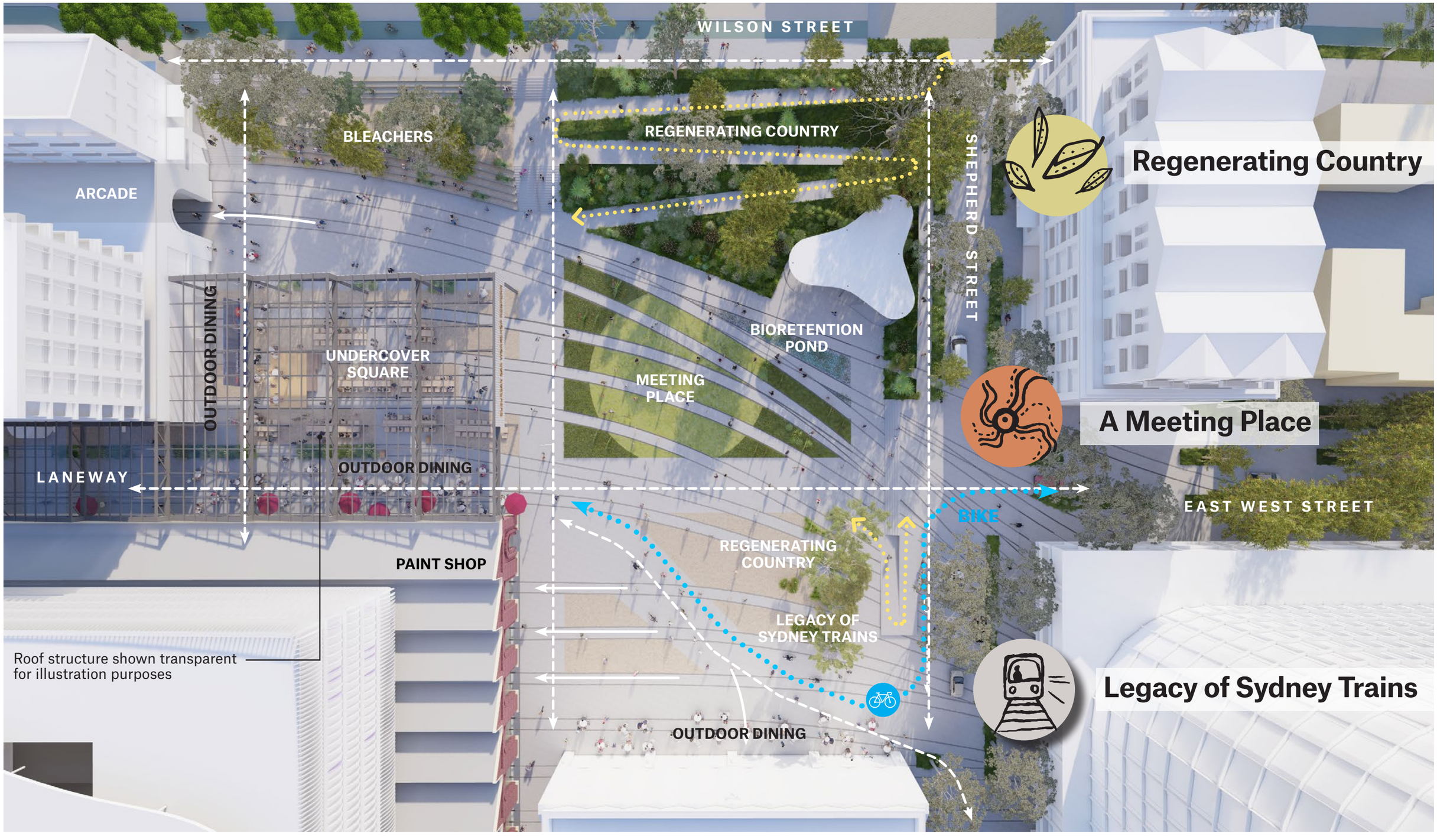
A covered lane connects the Public Square to the Traverser No.1 and Carriageworks activities to the west. An alternative link to Carriageworks Way is provided via a new arcade located parallel to Wilson Street that runs through the new building.

Illustrative view | Public Square



Aerial view of the Public Square

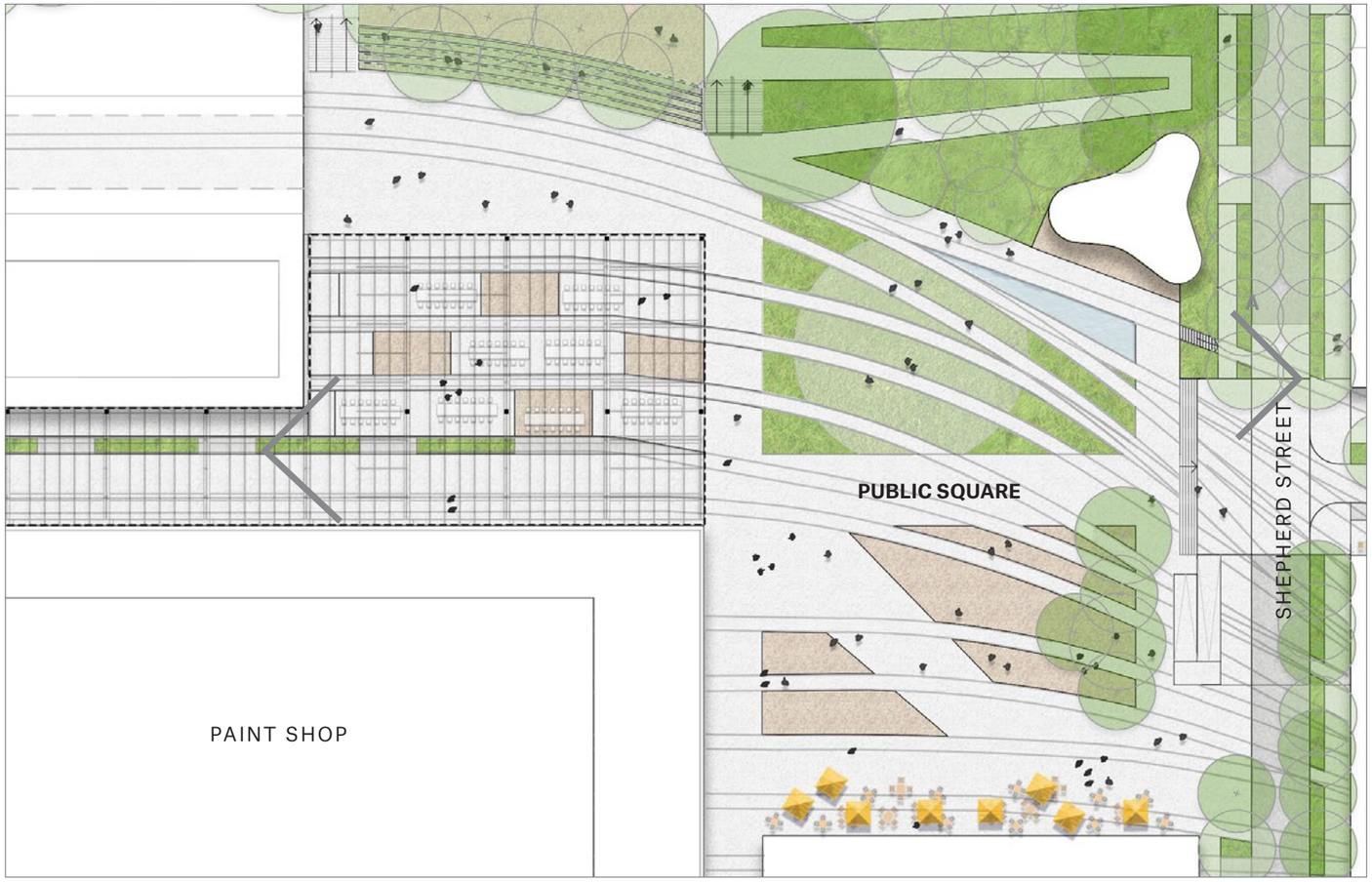
Primary pedestrian movement routes through the Public Square



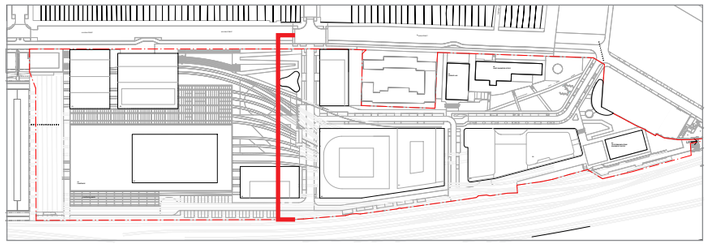
Design Moves and Opportunities

- Majority of Fan of Tracks preserved in-situ
- Compliant walkway for universal access from Wilson Street to Fan of Tracks level
- Steps and bleachers traverse from RL29.0 to RL25.2, frame the space and provide permeability and seating
- Heavily greened north of the Fan of Tracks, lower canopy and planting near the tracks to retain views to masonry Paint Shop and retained roof structure
- Lawn for amenity
- WSUD integrated into planting
- Endemic planting to strengthen sense of place, Connection with Country, regenerating Country and ecological benefits
- Paved space preserves the industrial rail heritage, allows for flexible uses

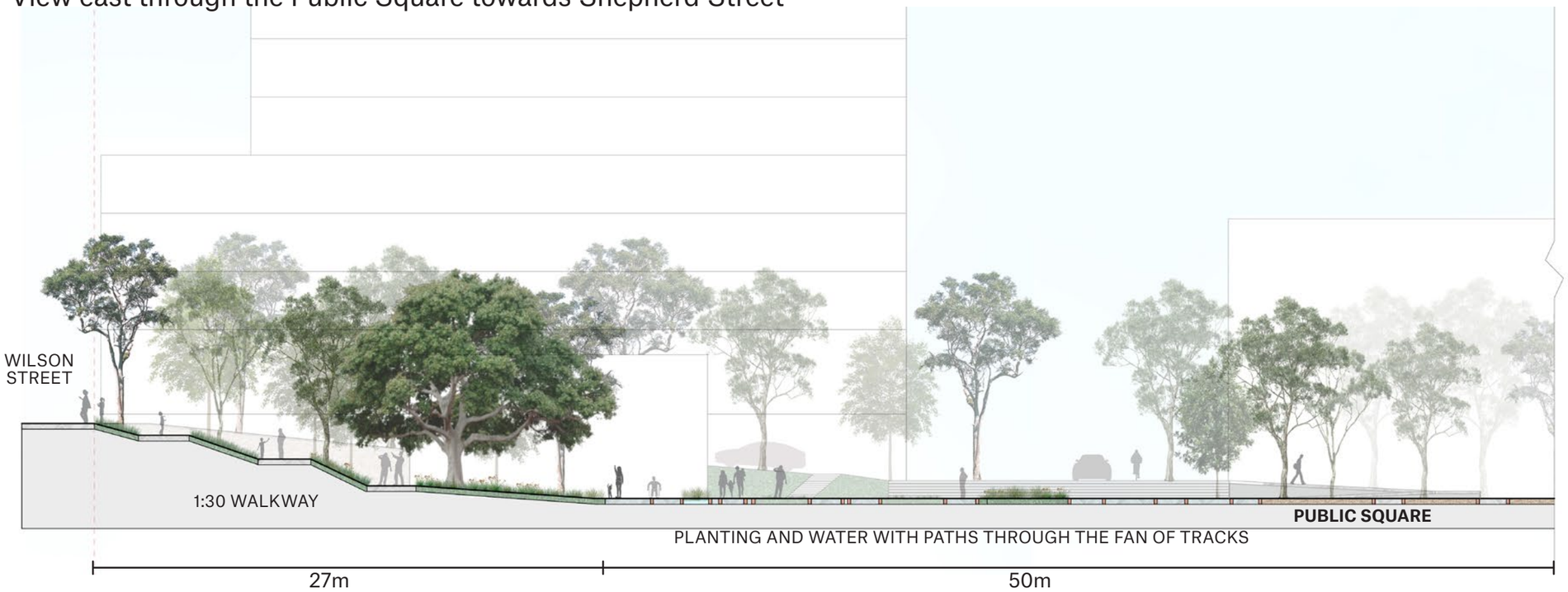
Illustrative view | Public Square

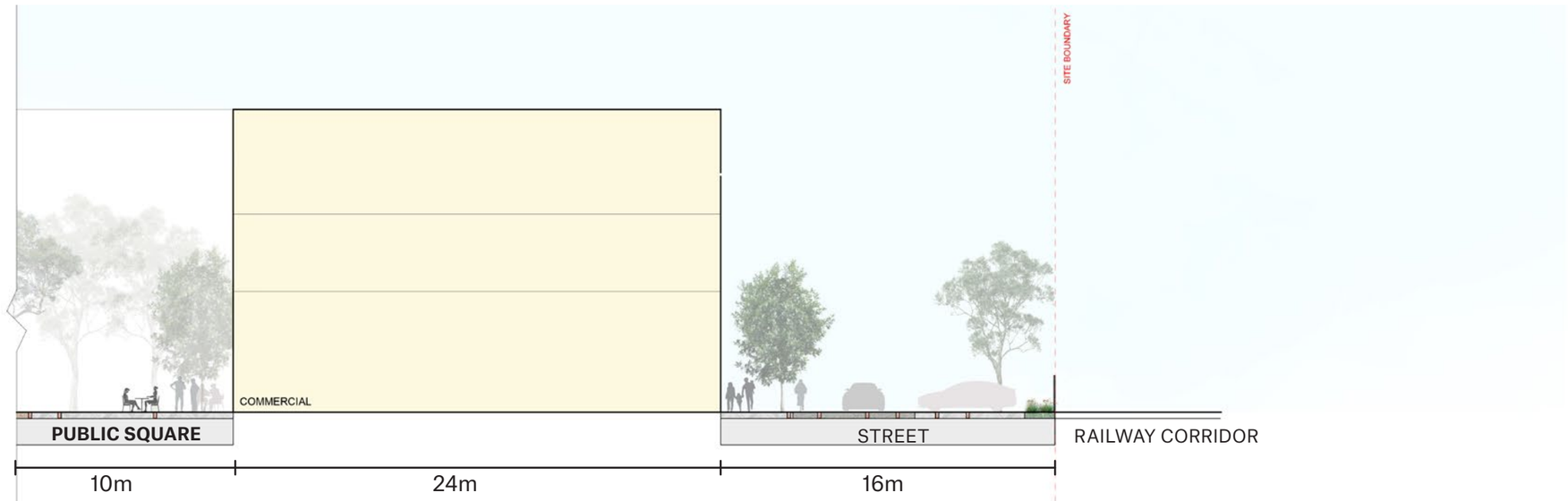


Illustrative view | Shared Zone laneway beneath the retained Paint Shop roof structure



View east through the Public Square towards Shepherd Street





A covered and sheltered public space for a range of activities

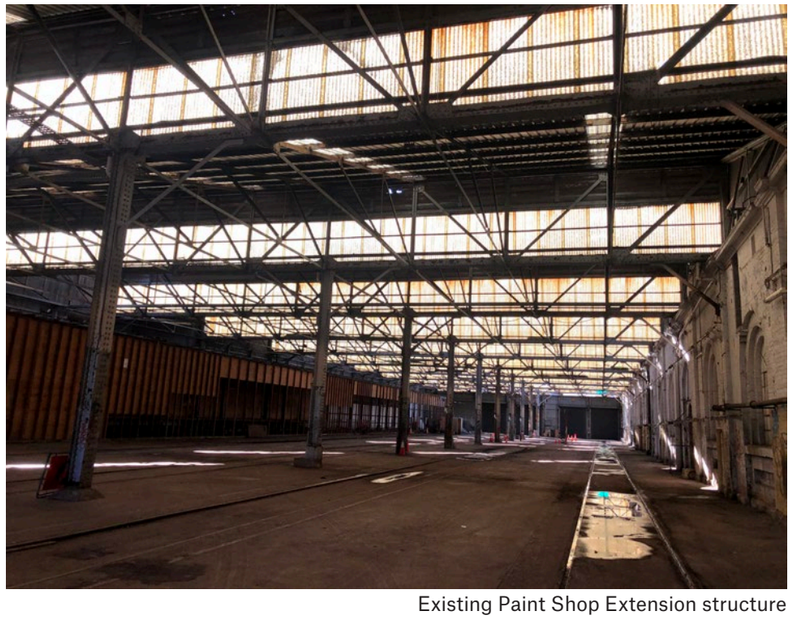
Illustrative view beneath retained Suburban Car Workshop roof structure

Public space framed by Industrial Structure

The retention of three eastern bays of the steel framed Paint Shop Extension/Suburban Car Workshop provides an innovative and adaptable public space that can be used for events, gatherings, presentations and performances. At other times it can be used as a casual meeting, outdoor workspace and lunchtime square.

Design Moves and Opportunities

- Retention of existing steel frame structure
- Roof cladding retained to provide sun and rain protection but open to allow cross ventilation
- Corrugated roof cladding replaced to match existing
- Retention of rail tracks (roads 7–11) in the existing concrete floor slab where possible
- Interpretation of Paint Shop building
- Public art integrated in facade or roof structure
- Lighting
- Outdoor screen
- 'Plug and play' staging



Existing Paint Shop Extension structure

Urban canopy and retained factory roof structure beyond, Sub Base Platypus

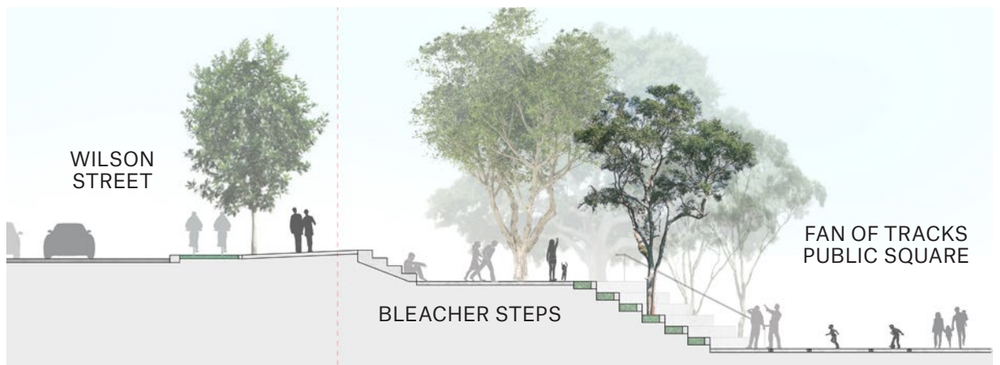
New urban space provides a series of opportunities, Plant 4 Bowden, Adelaide

Illustrative view approaching the tunnel that connects to Carriageworks Way and Traverser No.1

Illustrative view emerging from the tunnel looking east across the square

Illustrative view from Wilson Street footpath showing bleacher seating

Illustrative view from Wilson Street showing walkway to the Public Square



Journeys along the Fan of Tracks re-imagine history, leading through a tunnel arcade that connect to the Traverser No.1, Carriageworks, Carriageworks Way and Clothing Store Sub-precinct.

Illustrative views along the bypass tracks that lead to Carriageworks Way via a through-building tunnel arcade

10.6.16 Paint Shop Lane

Retaining part of the steel roof structure of the northern annex of the Paint Shop will create a covered laneway space that retains heritage components including trusses, columns and railway tracks in the pavement. The lane directly connects the Traverser No.1 and Carriageworks activities in the west with the Public Square to the east.

The structure will provide shade and weather protection for pedestrians and cyclists and opportunities for retail and outdoor dining.

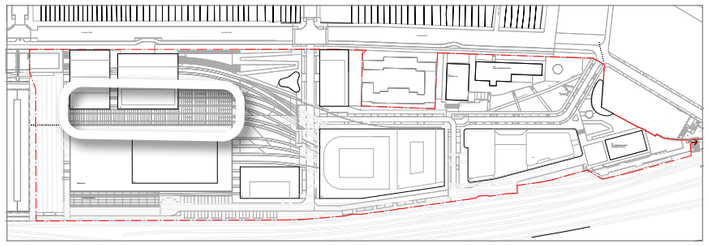
The Paint Shop building opens directly to the lane providing a high level of permeability and connectivity to the public domain.

Design Moves and Opportunities

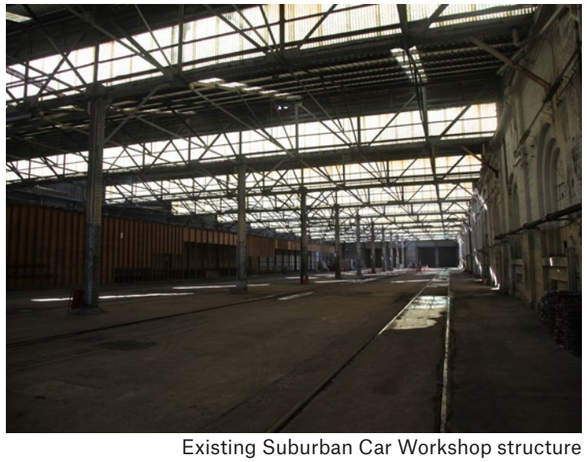
- Retained and restored heritage steel roof structure and structural columns
- Cladded roof to provide sun and rain protection but open to allow cross ventilation and light
- Integrated public art in roof structure
- Lighting
- Planters
- New paving

Burwood Brickworks mural, Balarinji

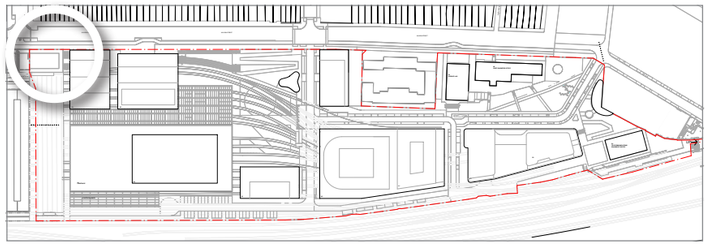
South Eveleigh



View of east–west street space that connects the Traverser No.1 with the Public Square, Eastern Park and Redfern Station further east.



Existing Suburban Car Workshop structure



10.6.17 Traverser No.1 Upper Square and Pocket Park

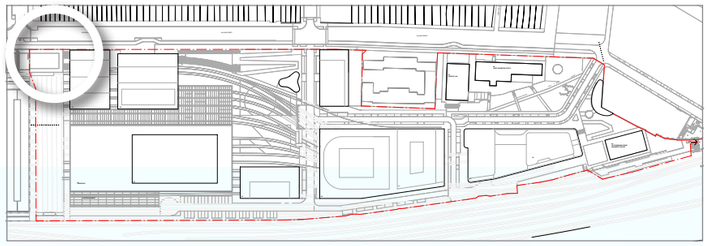
Improving the existing public arrival to Carriageworks and Traverser No.1 from Wilson Street at Codrington Street through the location of small street level square that provides a visual and physical connection to the Traverser No.1 below, Carriageworks frontages and foyer, and Paint Shop frontages and beyond to the rail corridor and South Eveleigh.

Design Moves and Opportunities

- Additional gathering, meeting,access and egress point that serves both Carriageworks and Paint Shop 'cultural heart'
- Paved and planted square with lettable space below that connects directly to the Traverser Yard and Carriageworks Way
- Place to wait and meet with views south to Paint Shop. Carriageworks, Traverser No.1 and across the rail corridor to South Eveleigh
- Endemic planting and gardens
- New stairs down to Traverser No.1
- Bike parking area with direct link to Wilson Street Cycleway
- Seating and tables
- Welcome and Acknowledgement of Country
- Integrated public art and interpretation
- Retail, commercial or cultural uses below

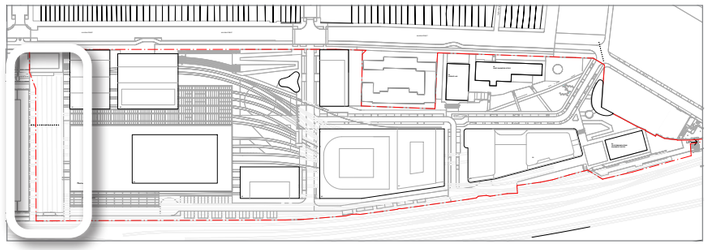
A new street level arrival plaza and public space

Illustrative view | Traverser No.1 Upper Square



Illustrative view | From the upper level square across the Traverser to South Eveleigh

Existing site access to Carriageworks from Wilson Street at Codrington Street

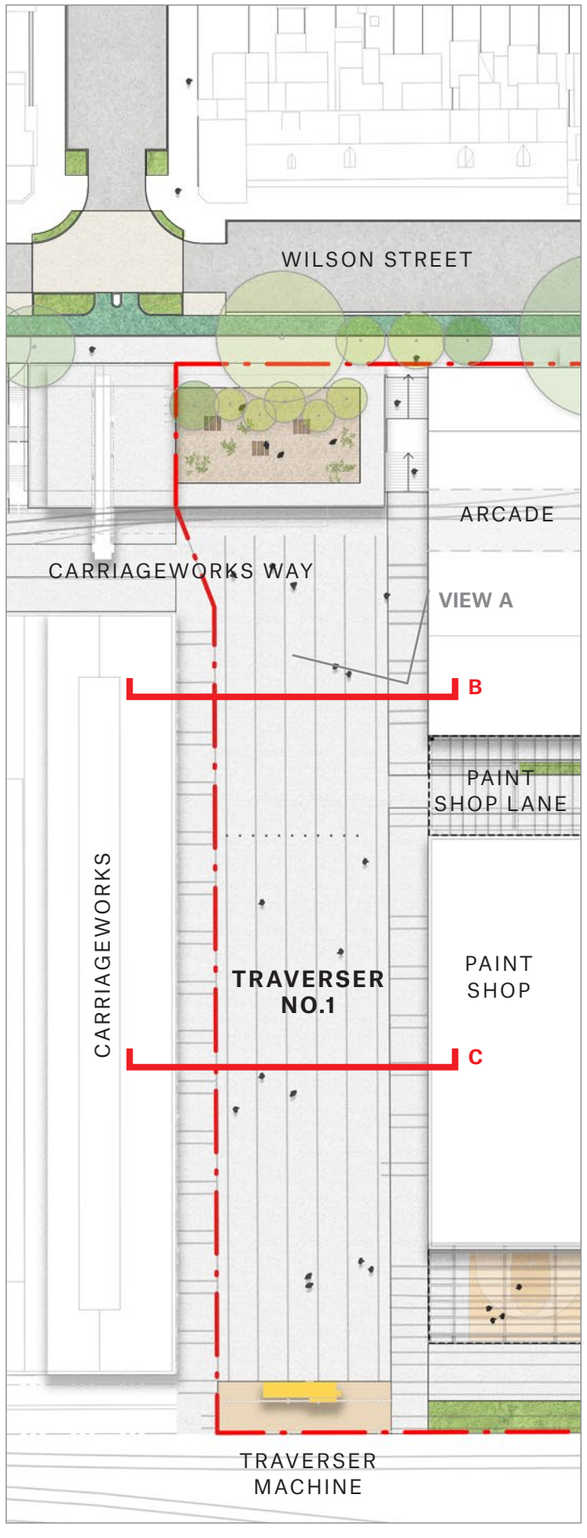


10.6.18 Traverser No.1

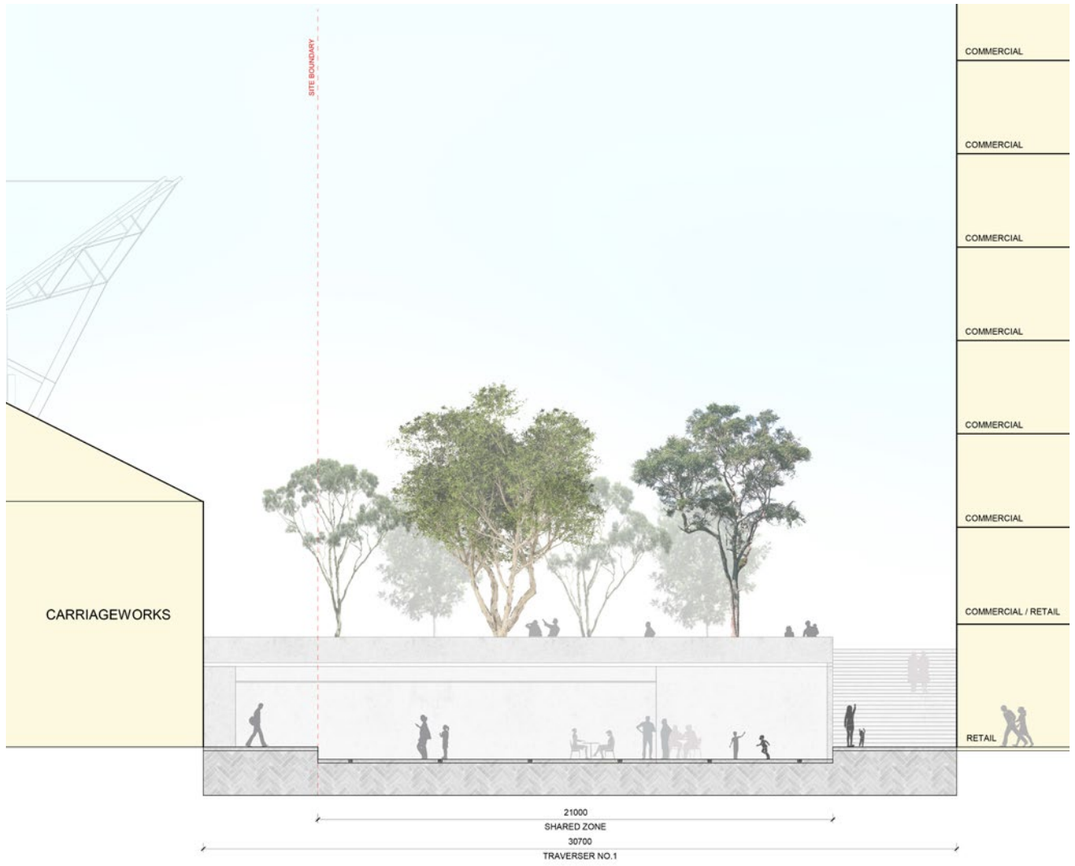
The existing heritage buildings of Carriageworks and the Paint Shop, along with new built form create a frame for the rectilinear form of the public space including the existing tracks and concrete pavement areas of the Traverser No.1. The space provides open views to the rail corridor and South Eveleigh whilst retaining the high value heritage relationships and allowing for temporary and flexible uses. Vehicular access will be permitted through the space from Carriageworks Way to new building vehicle entrances

Design Moves and Opportunities

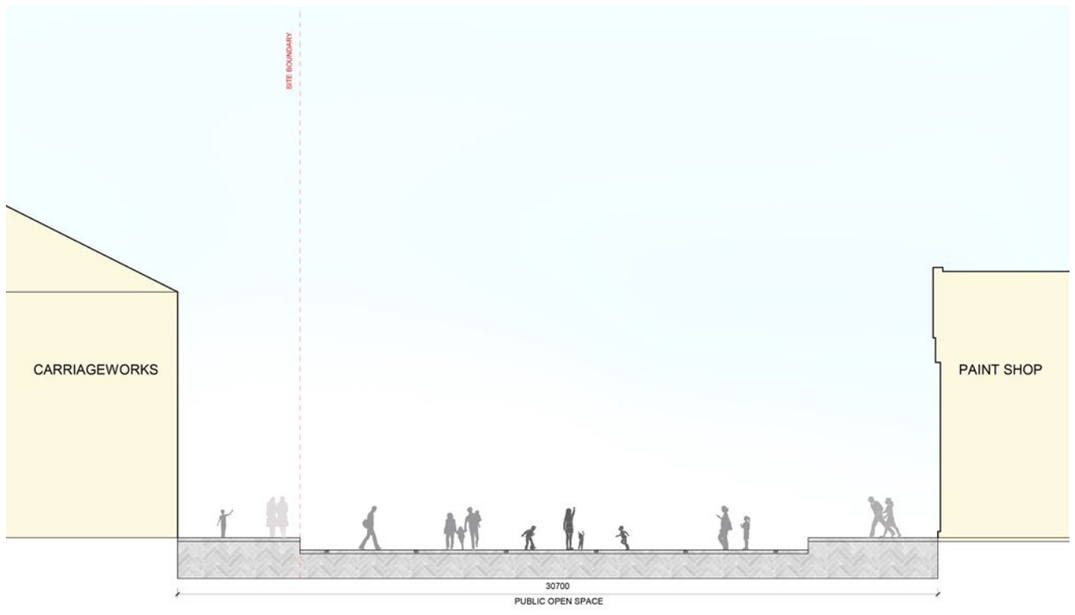
- Important industrial heritage space retained
- Preserves spatial relationship between Paint Shop and Carriage Shop (Carriageworks)
- Retains loading, and bump in, bump out to Carriageworks and provides access to the new adjacent buildings
- Around 2500 m² of the Traverser to be a pedestrian and cycle only space with the remaining areas designated as a shared zone 10 kmh for low volumes of vehicle movement, event set up and bump in and bump out
- Flexible community and event space
- Future restoration of Traverser No.1 machine
- Street furniture including outdoor seating and tables.



Illustrative View A



Section B looking toward Wilson Street

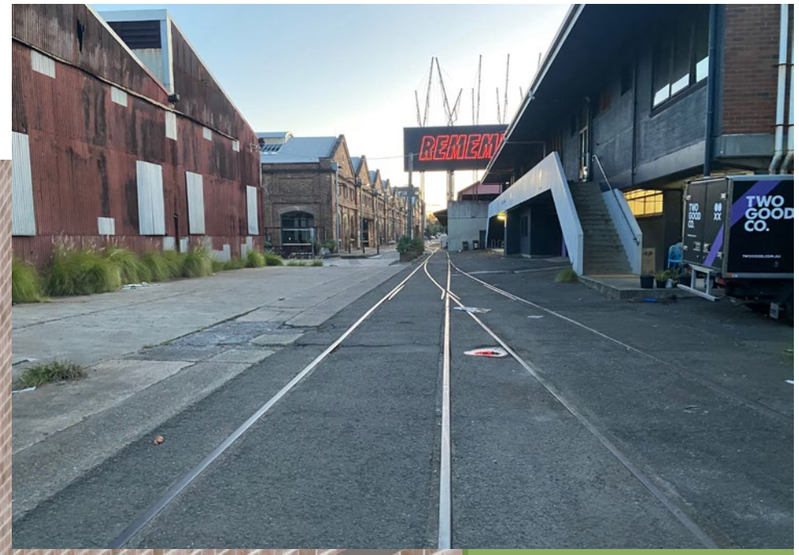


Section C between Carriageworks and the Paint Shop

Traverser No.1

Paint Shop facade

Existing view



View through tunnel arcade to Traverser No. 1 and Carriageworks Way

10.6.19 Railway Corridor Street

A street space designed with Street Type 4 consisting of a mix of pedestrian only, shared zone and two–way vehicle trafficked areas. Parallel and right angle parking is provided, as well as tree planting with clearance from the railway fence line. Opportunities for WSUD lie in the long landscape planting zones along the southern boundary. Trees are minimal around the Paint Shop to retain heritage views from the rail corridor.

Design Moves and Opportunities

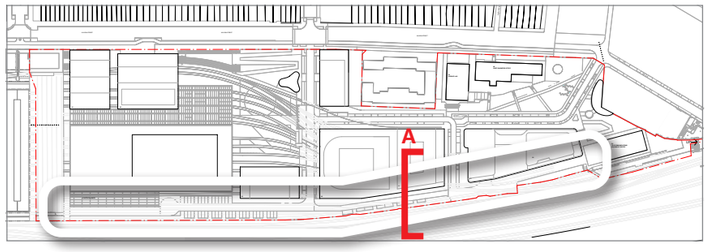
- Parking provision
- Water and rain garden integration (WSUD)
- Potential for active sports at western end under Lifting Shed structure
- Existing rail tracks retained and integrated in street
- New gardens and planting

Illustrative view looking west toward Paint Shop and Traverser No.1

Right angle parking, New Acton development, Canberra

Existing view of tracks and pits in Lifting Shed on south side of the Paint Shop

Active sports court, Reko Rennie artist, Southbank, Melbourne



Rail tracks retained in place in street space

Illustrative view looking east along Service Street on the rail corridor

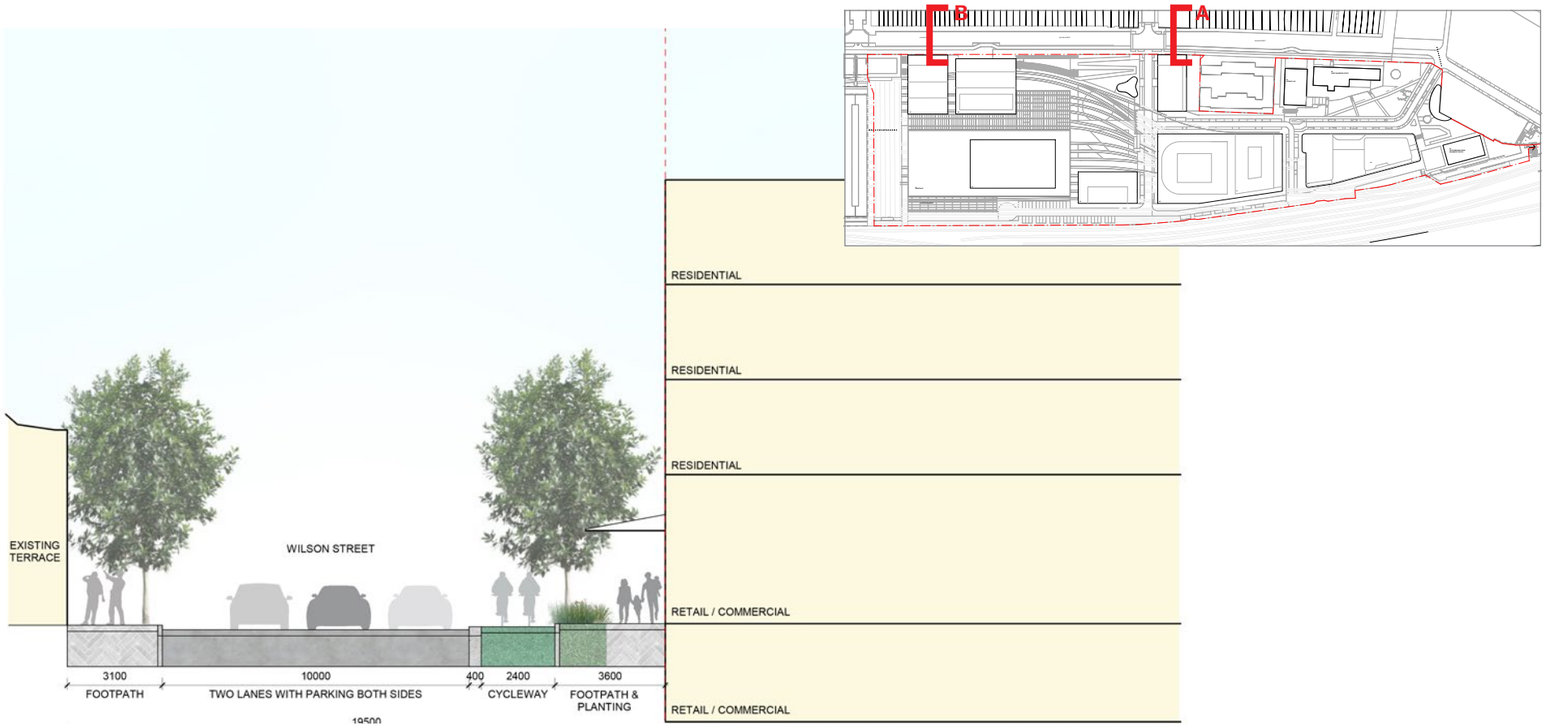
Section A | Shared zone, one way traffic and parallel parking

10.6.20 Wilson Street and Cycleway

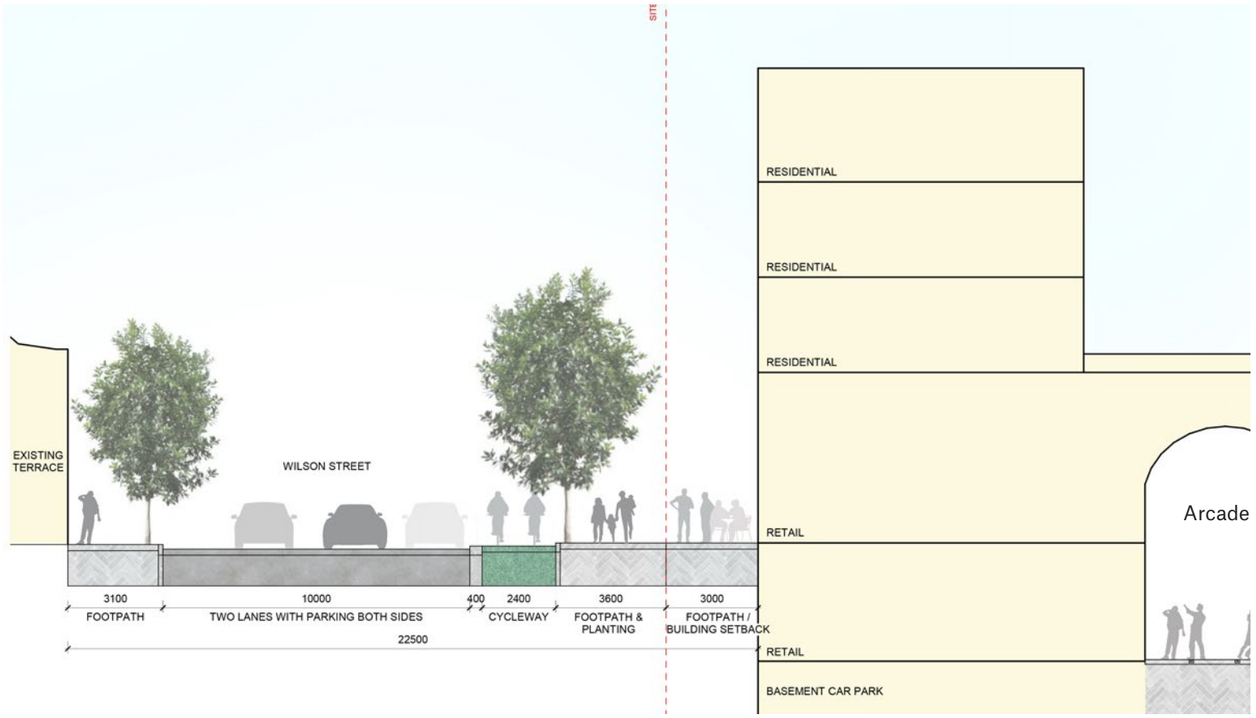
Wilson Street is a pleasant local street with existing trees, terrace houses, and a separated, highly utilised cycleway. The north–west aspect along the Paint Shop Sub-precinct boundary provides a sunny setting for retail and outdoor dining, with buildings, facades and awnings sensitive to the residential scale and character of the streetscape.

Design Moves and Opportunities

- Improve and connect building frontages of CME Building and Science Lab to Wilson Street
- Retained and additional tree canopy for continuous footpath and cycleway canopy cover
- Open and green street edge to Public Square
- Multiple access points and DDA routes into site
- Moments of widened footpaths for active frontages and outdoor dining
- Small squares and points of outlook into public spaces inside the precinct
- Easy cycle and pedestrian connection



Section A



Section B

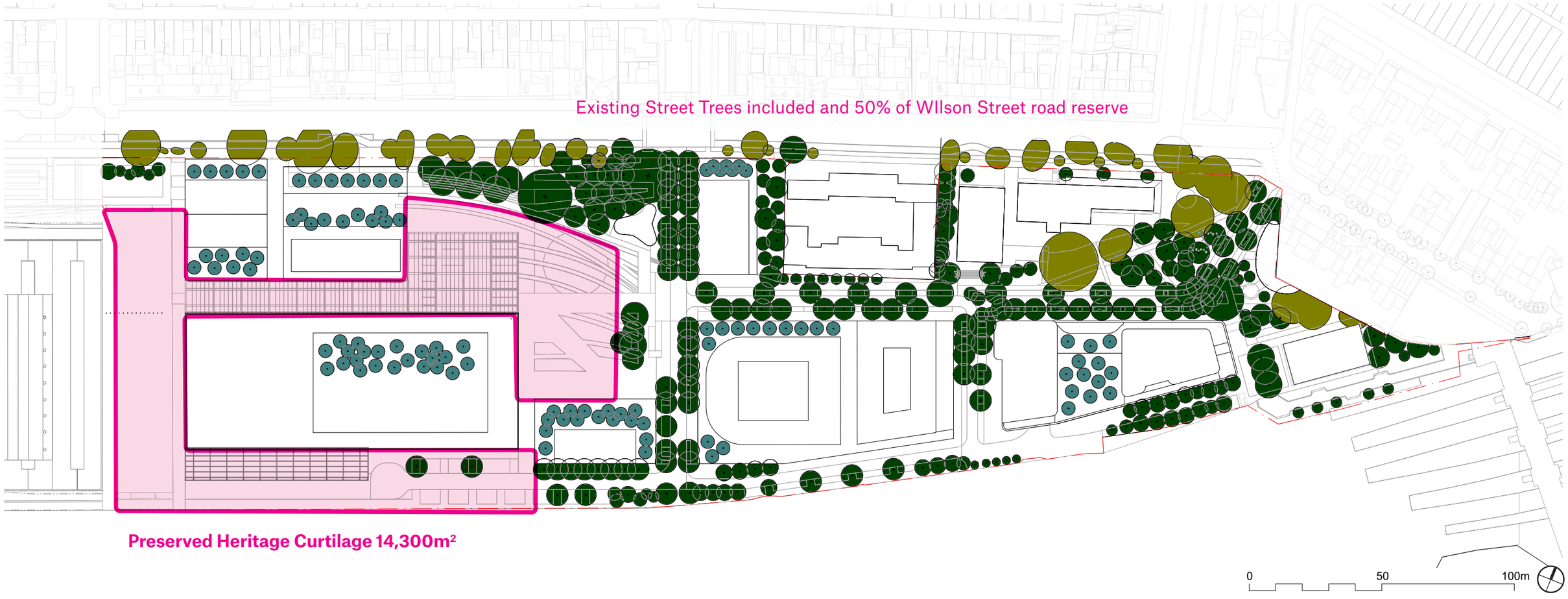
Street friendly facade, Rushcutters Bay

Illustrative View A

Illustrative View B

10.6.21 Tree Canopy

Proposed canopy on ground **25.9%**



For purposes of site canopy cover calculations the site area includes 50% of Wilson Street

55,376 m²

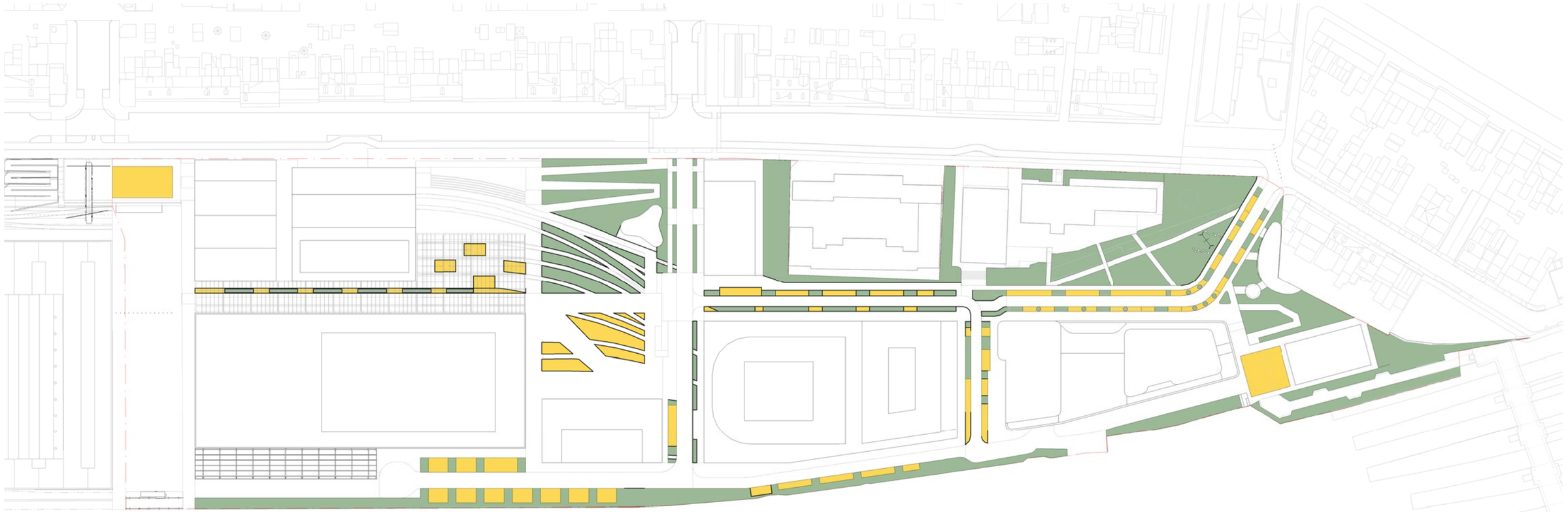
TYPE	
High Value Tree Canopy Retained	5.8 %
New Canopy Cover on Ground	16.6 %
New Canopy Cover on Podium	3.5 %
Total	**25.9 %**

10.6.22 Permeable Surfaces

Proposed Permeable Surface area of site

(34% of open space is permeable)

19%



	TYPE	m^2	
	Softscape	7399	14.4 %
	Permeable Paving	2385	4.6 %
	Total	**9784**	**19.0 %**

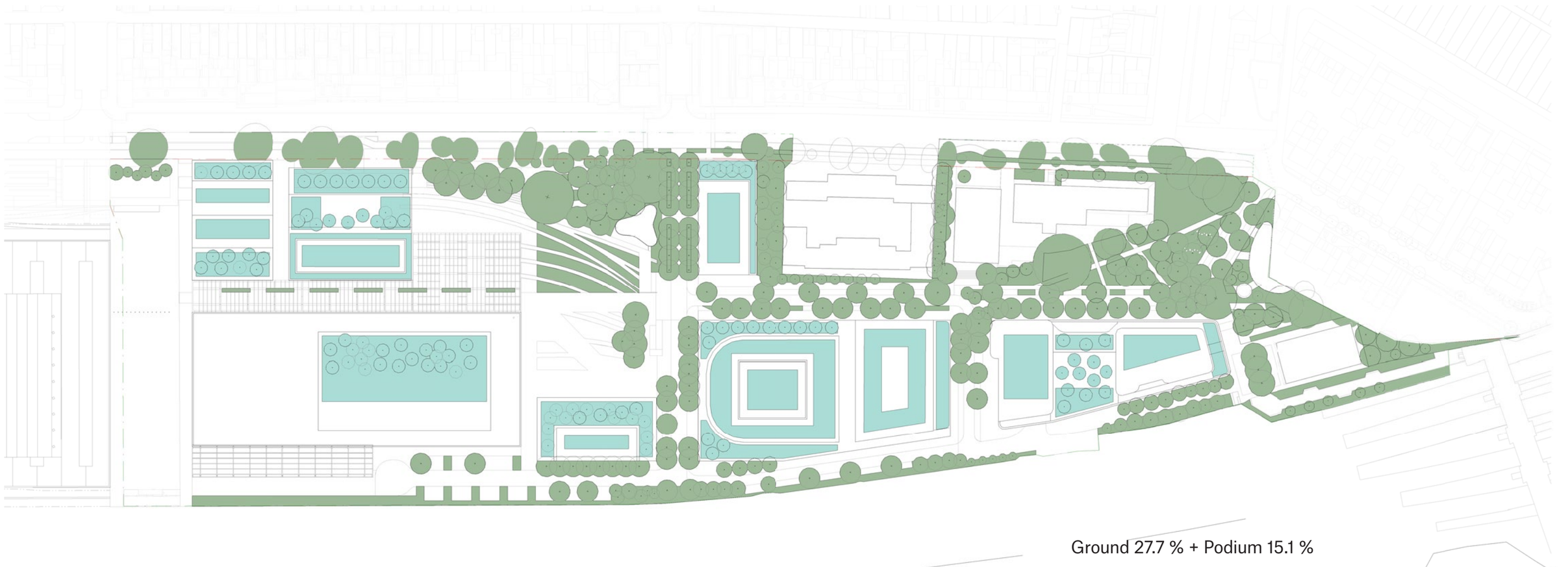
Site area

51,560 m^2

10.6.23 Green Cover

Proposed Greencover

42.8%



Ground 27.7 % + Podium 15.1 %

0 50 100m

	TYPE	m^2	
	Green Cover on Ground	15313	27.7 %
	Green Cover on Podium	8372	15.1 %
	Total	23685	42.8 %

Site area including
50% of Wilson Street

55,376 m^2

10.7

Movement and Access

Study Requirements

Includes a Movement and Access Plan setting out the proposed movement corridors, access and connectivity network throughout the precinct (and beyond), the types of movements to be captured through the precinct (i.e. walking, cycling, vehicles, machinery, employees etc. during a 24-hour period.

How squares or plazas could play a role in movement and include emphasis on creating strong pedestrian corridors linking outside areas to Redfern North Eveleigh Precinct's entrances and exit points.

This section responds in part to this study requirement, applicable to the scope of the public domain strategy, and should be read in conjunction with the following:

— Chapter 9.4 of this report

— Transport Strategy and Transport Impact Assessment

10.7 Movement and Access

Promoting active transport, shared streets and enhanced heritage spaces.

10.7.1 Active Transport Ambitions

There are broad objectives for the site to preference walking and cycling to, from and within the site.

Given the location of the Paint Shop Precinct immediately adjacent Redfern Station it is assumed that a high percentage of visitors and workers will arrive by public transport and then walk through to their destination. The site is also well connected to cycling infrastructure and a network of legible and comfortable public streets and lanes in Darlington, Redfern and Eveleigh.

With such a high mode share of movement to be undertaken by pedestrians and cyclists the highest priority is given to creating shared streets and public spaces that have very high amenity, safety and opportunity. Vehicles will have access to the site for deliveries and pick-ups but in a very slow 'shared zone' street space environment.

Historically there has been high pedestrian volumes in morning and peak times moving between Redfern Station and various destinations within the University of Sydney campus via Lawson and Abercrombie Streets.

10.7.2 Pedestrian Access

Train commuters and pedestrians from south of the rail corridor can access the site from Redfern Station via the new Southern Concourse, Platform 1 and a shared zone environment on Little Eveleigh Street. Pedestrian connections from the north will generally occur via Codrington Street and Shepherd Street and from the west via Wilson Street and Carriageworks Way.

10.7.3 Bicycle Access

Cyclists will be able to access the site via the a shared zone entrance at Little Eveleigh Street and Ivy Lane, via the Shepherd Street and Wilson Street intersection or via the existing entrance to Carriageworks Way off Wilson Street in the Clothing Store Sub-precinct. Vehicle movements in all site streets will be of a low level and low speed providing maximum safety for cyclists. End–of–trip facilities are to be included in building basements, and outdoor bike parking areas located conveniently close to venue entrances, in major public spaces and on active street frontages.

10.7.4 Wilson Street Cycleway and local bicycle routes

Along the entire Wilson Street frontage of the site a raised and separated cycleway is located on the southern kerb. This City of Sydney built cycleway is part of the regional network of cycle routes that connects the site to Redfern, Surry Hills and CBD South via Prince Alfred Park and Central Station to the east. To the west the cycleway connects to Newtown, Macdonaldtown Station, Erskineville and the greater Inner West regional cycleway network. This high value infrastructure addition has greatly increased access bicycle to the site and the adjacent precincts.

On street cycle access routes to Broadway, UTS, Chinatown and Darling Harbour travel via Shepherd Street north of the site.

10.7.5 Industrial street and movement spaces

Carriageworks Way between Carriageworks and the Boilermakers Shed is currently used as informal shared zone that allows vehicle access whilst providing a safe pedestrian and cycle zone and entrance to the buildings that are level with the outdoor street space. Little to no modification has been made of the streetscape, with the scale, materials, adjacent buildings and uses helping to articulate the inherent shared spatial qualities. Other industrial spaces and streets will be added to the existing industrial street spaces, including the Traverser, a laneway through the Paint Shop and the service street along the southern boundary which will retain the existing rail tracks.

10.7.6 Approach to street design

All streets on the site are designed to highly preference active transport in green and calmed low speed shared zones, generally without typical kerb and gutters. Shared zones allow vehicles to circulate through the space and also allows for parking, whilst allowing for two–way cycling and easy to navigate pedestrian spaces without pram ramps and other obstacles. New streets will have similar design approach to other shared zone streets nearby such as the proposed upgrade to Little Eveleigh Street, Carriageworks Way and Kensington Street, Chippendale. New streets will include substantial street trees, gardens, seating, green infrastructure and water sensitive design.

The streets connect into the local street network at Shepherd Street and Little Eveleigh Street providing easy access and permeability to the adjacent neighbourhoods and will meet the City of Sydney Street Design Code considerations for the Central to Eveleigh Corridor. As an extension of the local neighbourhood, materials, details and street furniture are to be consistent with the City's public domain palette.

Central to Eveleigh Precinct Areas
Key streetscape considerations

- highly permeable streets connected to the existing city street network
- promote pedestrian and bicycle priority
- create street hierarchy and legibility through use of the city palette
- universally accessible
- space to accommodate green infrastructure, street trees and include WSUD
- spaces for social interaction and public life

FROM SYDNEY STREETS CODE, CITY OF SYDNEY 2021

10.7.7 Local Streets

The precinct will deliver a new network of streets and pedestrianised public spaces that connects to the local Darlington street grid, Redfern Station, north to the University of Sydney and west to the urban activity of Newtown and Erskineville.

The site is fronted by Wilson Street to the north, with a long contiguous frontage. To the east it connects to Little Eveleigh Street which is to be reconstructed as kerb free street Shared Zone as part of the new Southern Concourse works at Redfern Station.

To the north the primary streets are Codrington and Shepherd Streets that connect the site locally to other nearby destinations and the arterial road network on City Road and Cleveland Street.

On the site Carriageworks Way is the main street that provides graded access from Wilson Street down to the track level buildings and public spaces. This street continues on axis along the space between Carriageworks and the Boilermaker Workshop retaining rail tracks in the road surface. The street was constructed in 2007 to provide access to the first stage of works within the precinct that included Carriageworks, the markets and a residential apartment building in the Clothing Store Sub-precinct.

WILSON STREET

Neighbourhood Street

Low traffic volume with existing 40kmh speed limit and two-way traffic.

Two-way separated regional cycleway is located on south side of street adjacent to precinct that links to Newtown and Erskineville.

Tree lined street with high pedestrian amenity.

Mix of street tree species, including Eucalypts and Planes.

Parallel parking on both sides of street.

Roundabouts and paved intersections.

Provides vehicle access to Carriageworks Way at the western end of site.

SHEPHERD STREET

Neighbourhood Street

40kmh speed limit, two-way traffic.

Important connector street to the arterial road network via Cleveland Street.

On road cycle route connects Wilson Street Cycleway to Broadway, UTS, Ultimo, Chinatown and CBD south.

Parallel parking on both sides of street.

Traffic lights at Abercrombie and Cleveland Streets, and speed humps used to slow traffic.

High pedestrian activity at Abercrombie Street and entry to walk to Cadigal Green and University, with changes in paving and speed humps deployed in locations.

LITTLE EVELEIGH STREET

Shared Street

Proposed 10kmh Shared Zone.

Direct connection to Redfern Station and new southern concourse with high pedestrian and cycle use.

To be upgraded without kerbs but defined by trees, planting, bollards and street furniture.

High quality paving.

No vehicle parking provision.

Links to Eveleigh Street further to the north.

CARRIAGEWORKS WAY

Neighbourhood Street

Low traffic volume with existing 50kmh speed limit and two-way traffic.

Typical street design with concrete kerbs and gutters, with Brushbox street trees in raingardens.

On road cycle route connects to Wilson Street.

Parallel parking on south side of street.

Retains some heritage rail tracks in road surface west of Carriageworks.

CODRINGTON STREET

Neighbourhood Street

40kmh speed limit, two-way traffic.

Connector street to arterial network via City Road.

Parallel parking on both sides of street.

High pedestrian activity at Abercrombie Street and around City Road and the university.

ABERCROMBIE STREET

Neighbourhood Street

40kmh speed limit, two-way traffic.

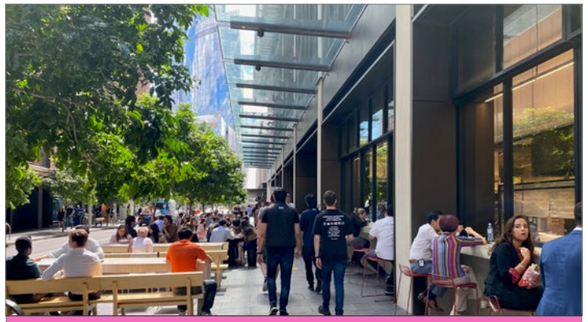
Connector street to arterial network via Cleveland Street.

Parallel parking on both sides of street.

A high pedestrian activity area with a local high street environment with retail uses, outdoor dining, pub etc.

10.7.8 Proposed Street Typologies

Creative, interesting streets.



STREET TYPE 1

Shared Street

Maximum 10 kmh, slow vehicle Shared Zone.

Provides a high level of comfort and amenity for pedestrians and cyclists.

High amenity for outdoor dining and retail trade to the street space, and awnings provided over all or part of building interface.

Kerbless street space defined by trees, planting, street furniture and vehicle parking bays.

Footpaths protected by awnings on buildings.

One way travel lanes for vehicles provided in a central four metre movement space that allows for counterflow cycle movements.

STREET TYPE 2

Two Way Vehicle Street

High Pedestrian Activity Area with a 30 kmh limit.

Typical City of Sydney street environment consistent with Shepherd Street and other streets in Darlington.

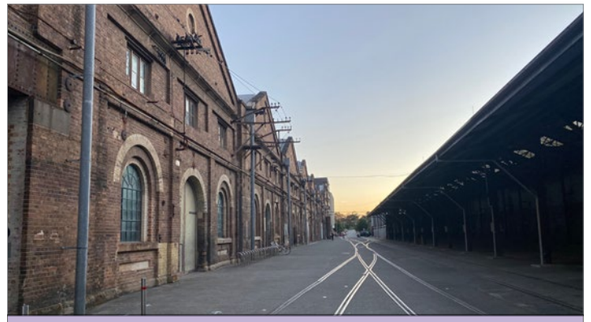
Kerbs and gutter with generous footpaths, street lighting, street trees, gardens, street furniture and raingardens where possible.

Provides a high level of amenity for pedestrians on defined footpaths on both sides of the street.

Footpaths protected by awnings on buildings.

Provides vehicle and service access to new buildings, basements and loading docks.

Loading zones and parallel parking bays provided adjacent to buildings.



STREET TYPE 3

Industrial Heritage Street

Maximum 10 kmh, slow vehicle Shared Zone.

Provides a high level of comfort and amenity for pedestrians and cyclists.

Maintains existing heritage conditions and original concrete surface materials, rail tracks etc.

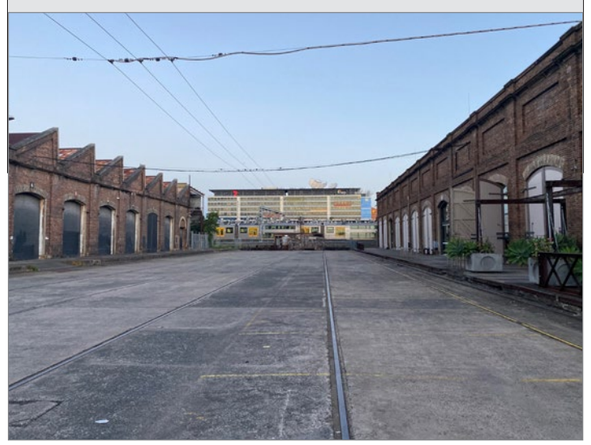
Minimal additional road furniture such as signage.

Minor vehicle access permitted for deliveries, events and bump in/out.

Alternative/secondary route and emergency services access provided.

Vehicle access may be restricted at times.

Minimal parking areas provided.



STREET TYPE 4

Service Street

Maximum 10 kmh slow vehicle zone.

Kerbless street space defined by trees, planting, bollards, street furniture and vehicle parking bays.

Provides vehicle and service access to new buildings, basements and loading docks.

Located adjacent to the rail corridor.

Alternative/secondary route and emergency services access provided.

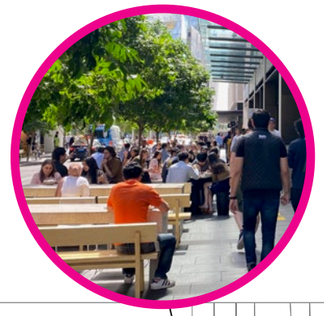
Parallel and right angle parking provided.

Awnings at building entrances.

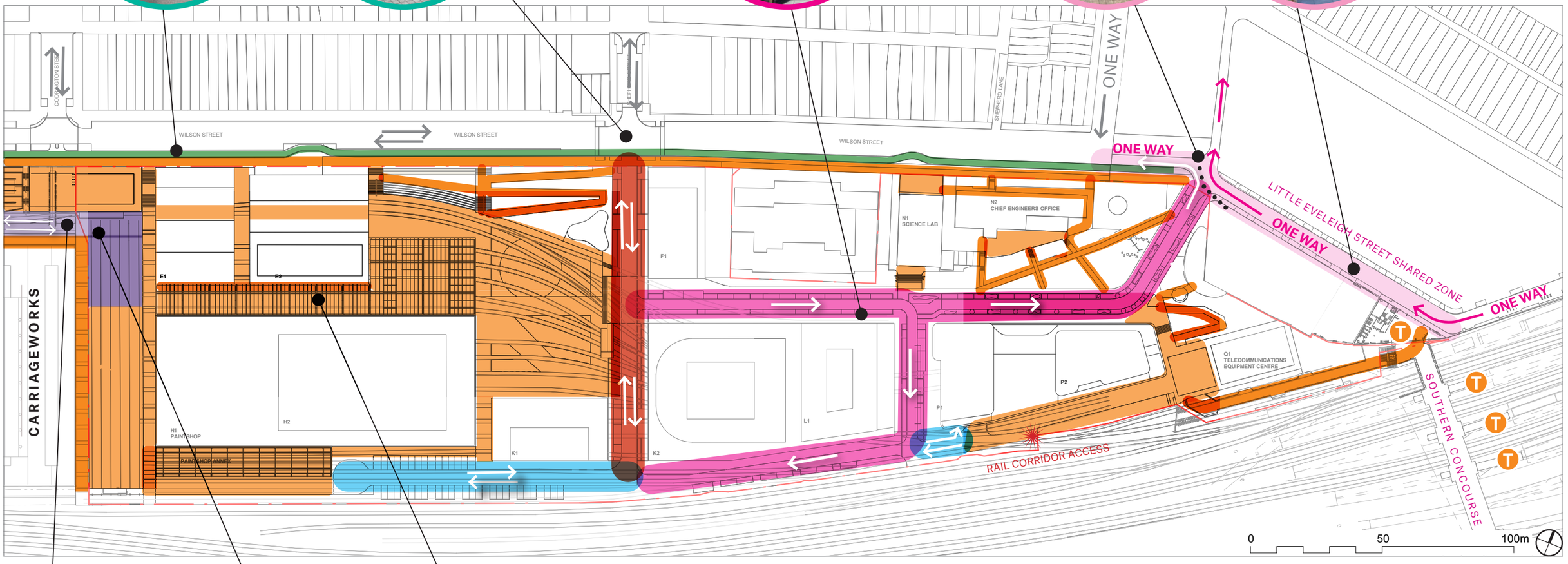
Cycleway

Wilson Street intersections

Shared Zone



Little Eveleigh Street & Ivy Lane



Industrial Heritage Streets

VEHICLE DIRECTION ON SITE

VEHICLE DIRECTION ON LOCAL STREETS

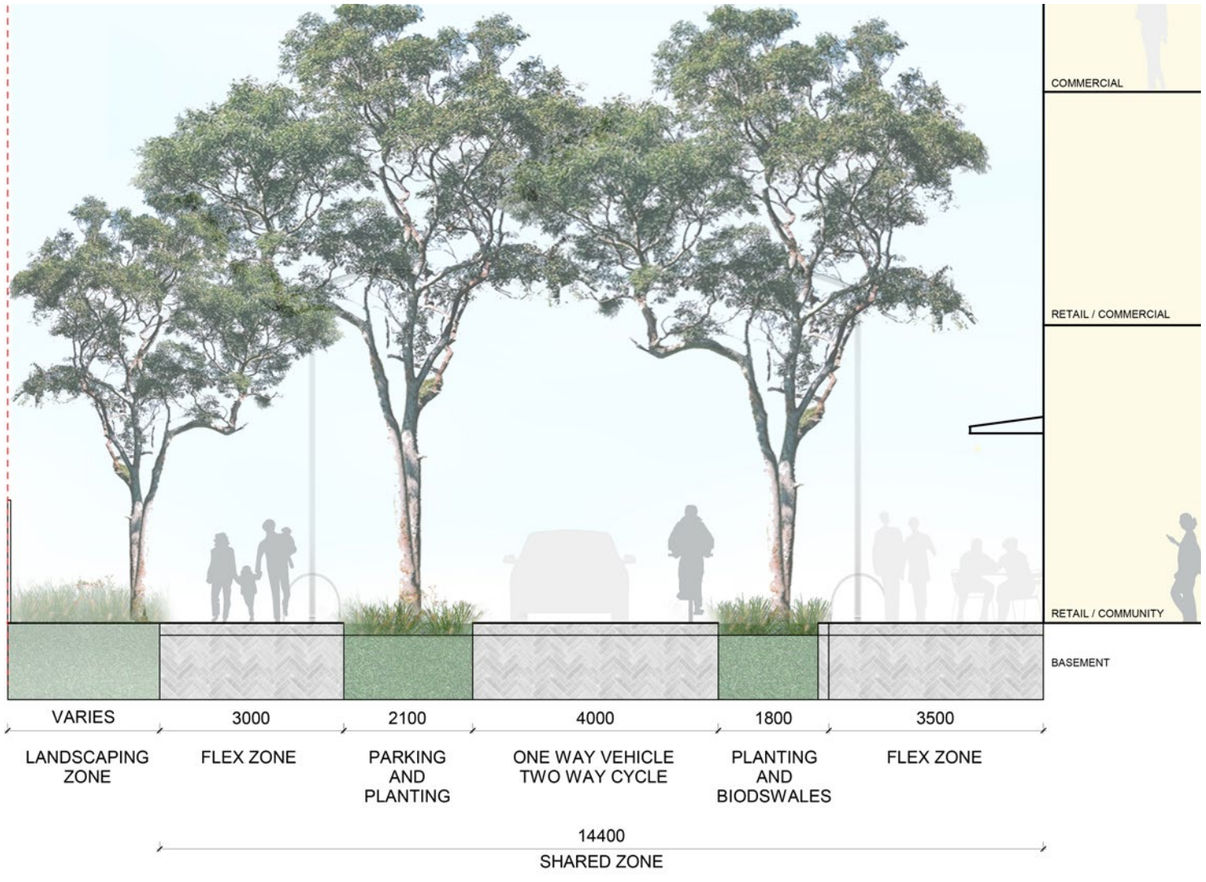
VEHICLE DIRECTION ON LITTLE EVELEIGH ST

TYPE	
STREET TYPE 1	One Way Shared Zone (two way cycle)
STREET TYPE 2	Two Way Vehicle
STREET TYPE 3	Industrial Heritage (two way cycle)
STREET TYPE 4	Service
Pedestrian/Cycle Only	
Wilson Street Separated	

10.7.9 Street Type 1: One-Way Shared Street

Overall the site will have the characteristics of a very low speed street space environment that promotes walking and cycling. Street Type 1 is a very slow speed designated Shared Zone with one–way vehicle movement within a four metre wide vehicle zone that allows for two-way cycle movement. The streetscape is designed without kerbs as a flush paved surface reducing obstacles and steps for pedestrians. Trees, garden planting and street furniture provides a comfortable environment for pedestrians and outdoor work and dining.

Illustrative view looking east along one-way Shared Street at the Eastern Park and Gardens



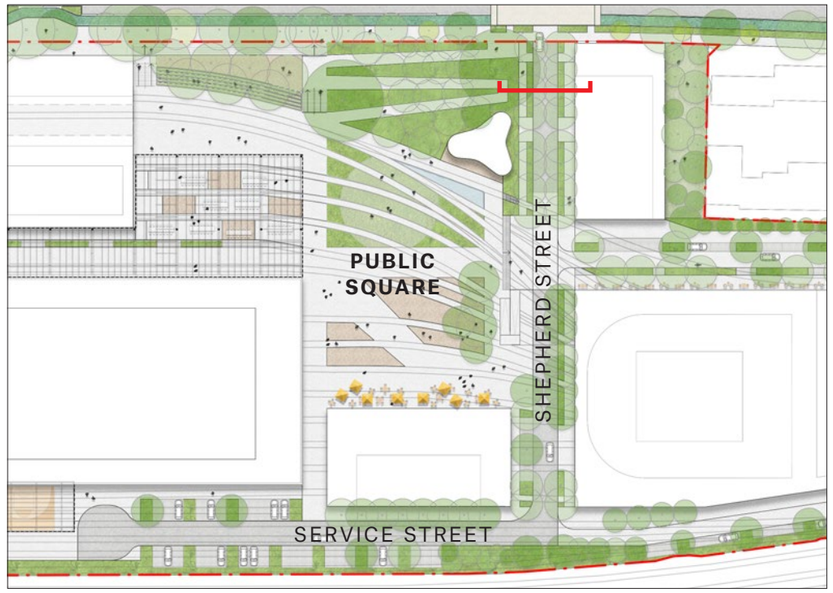
10.7.10 Street Type 2: Two-way Vehicle Street

This street type is a more standard street environment with two-way vehicular movement that provides for servicing vehicles and access to basement car parks. The street has raised footpaths with kerb and gutters and is more in keeping with typical streets in Darlington.

Street planting, gardens, bioretention, street trees, and a distinct change in paving treatment between footpaths and carriageway provide clear legibility for cars, cyclists and pedestrians.

Two-way street with WSUD, Nagurra Place, Rozelle

Illustrative view looking south from Wilson Street down Shepherd Street extension

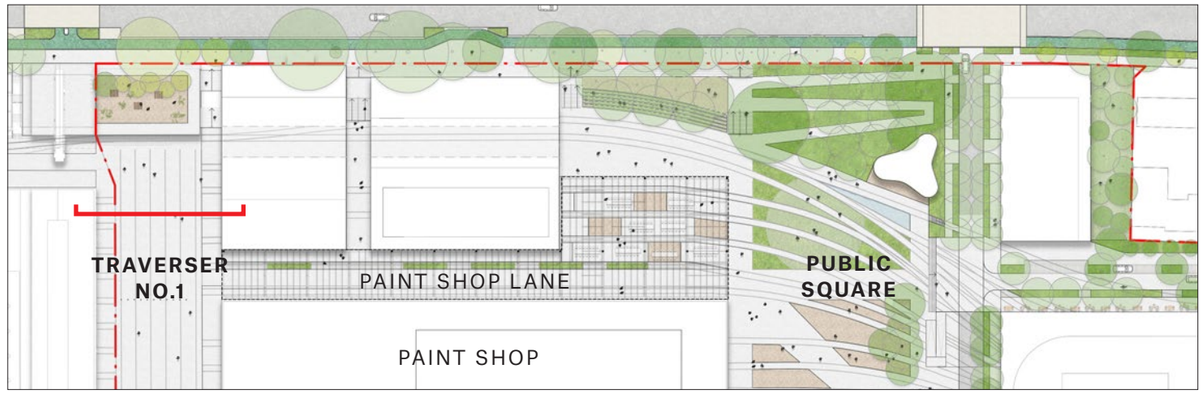


Key Plan

10.7.11 Street Type 3: Industrial Heritage Street

This street type retains existing industrial surfaces, levels and materials where possible, and has minimal new road furniture or infrastructure added. These streets prioritise walking and cycling.

All streets of this typology are slow, designated 10 kmh Shared Zone environments. They are legible and respect adjacent heritage buildings, curtilages and finishes. Retention of existing rail tracks are a key feature.



Key Plan

Eastern end of Carriageworks Way adjacent Boilermakers Sheds

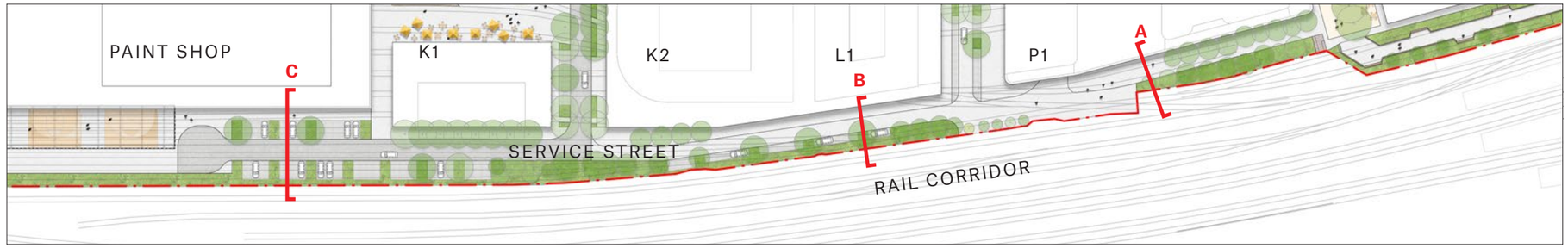
Retained tracks

Traverser No.1

10.7.12 Street Type 4: Service Street

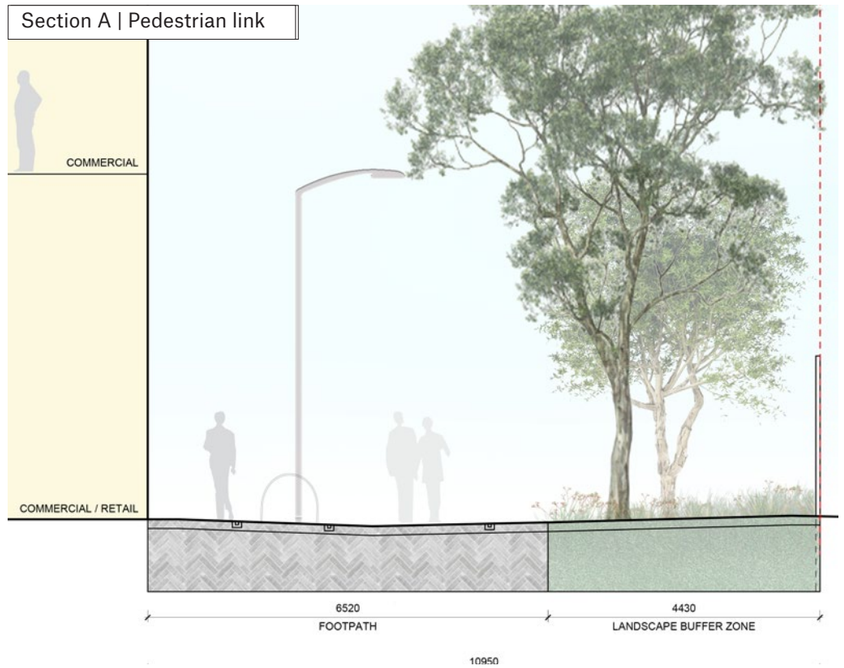
The street along the rail corridor provides parking and access for service vehicles. Differing conditions occur along the street with two–way traffic, a shared zone and pedestrian only areas. Right angle and parallel parking are used where space allows. Paving, planting and urban elements create a legible and safe environment. Like Street Types 3 and 4 the street is flush paved without kerbs with integrated bioretention garden areas and street trees.

Existing rail tracks are to be preserved and integrated into the road surface.

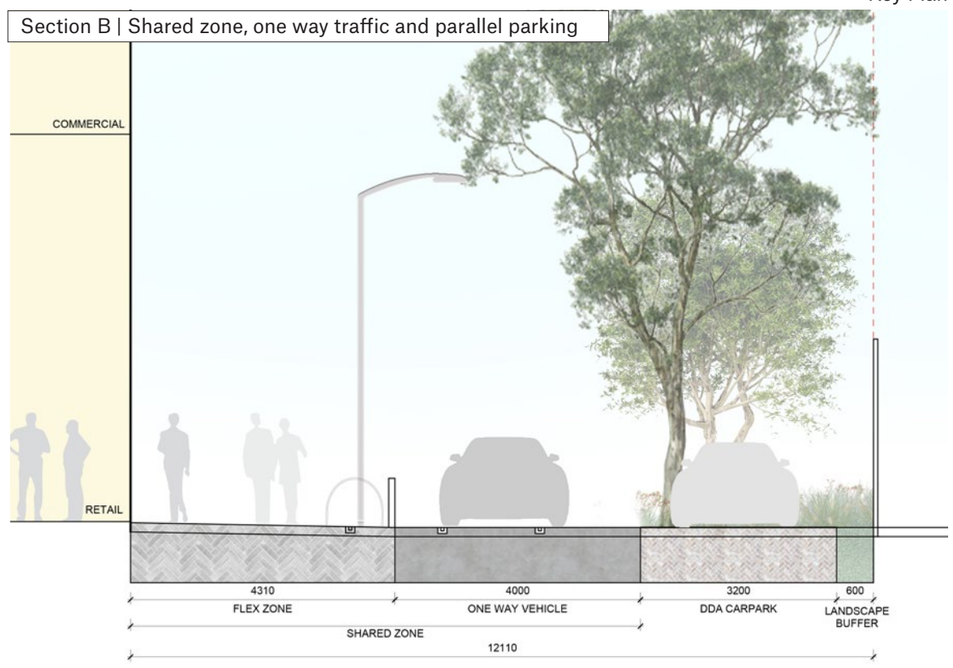


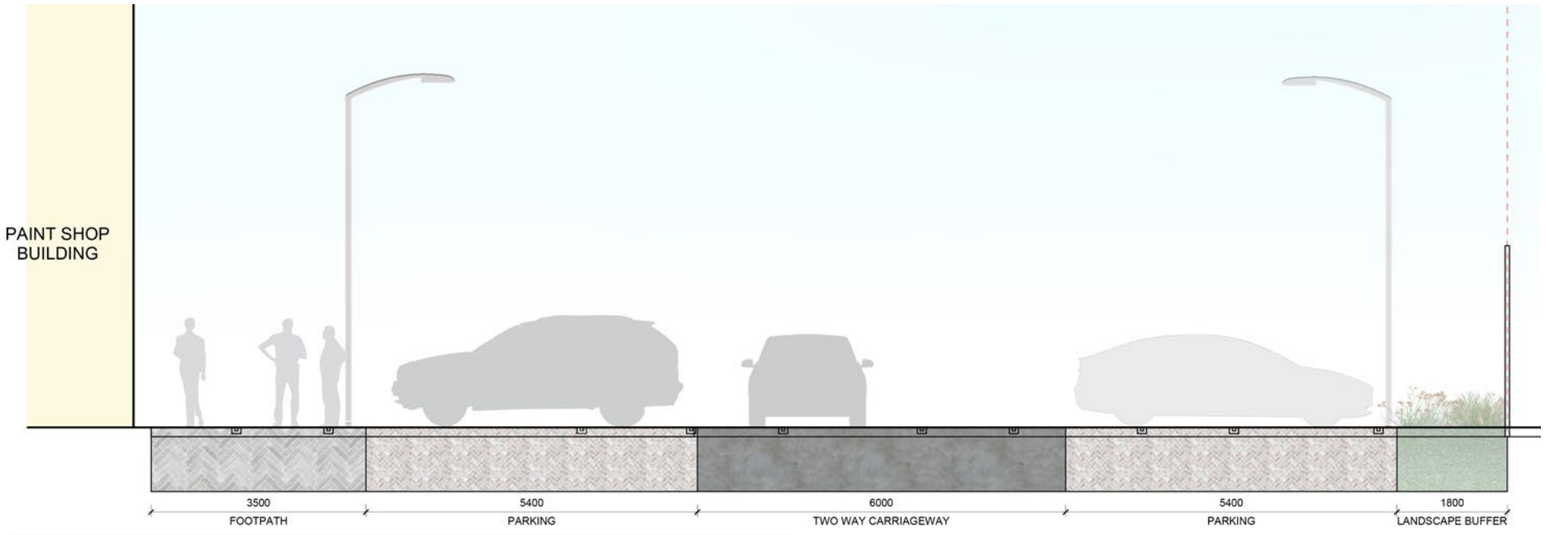
Key Plan

Section A | Pedestrian link



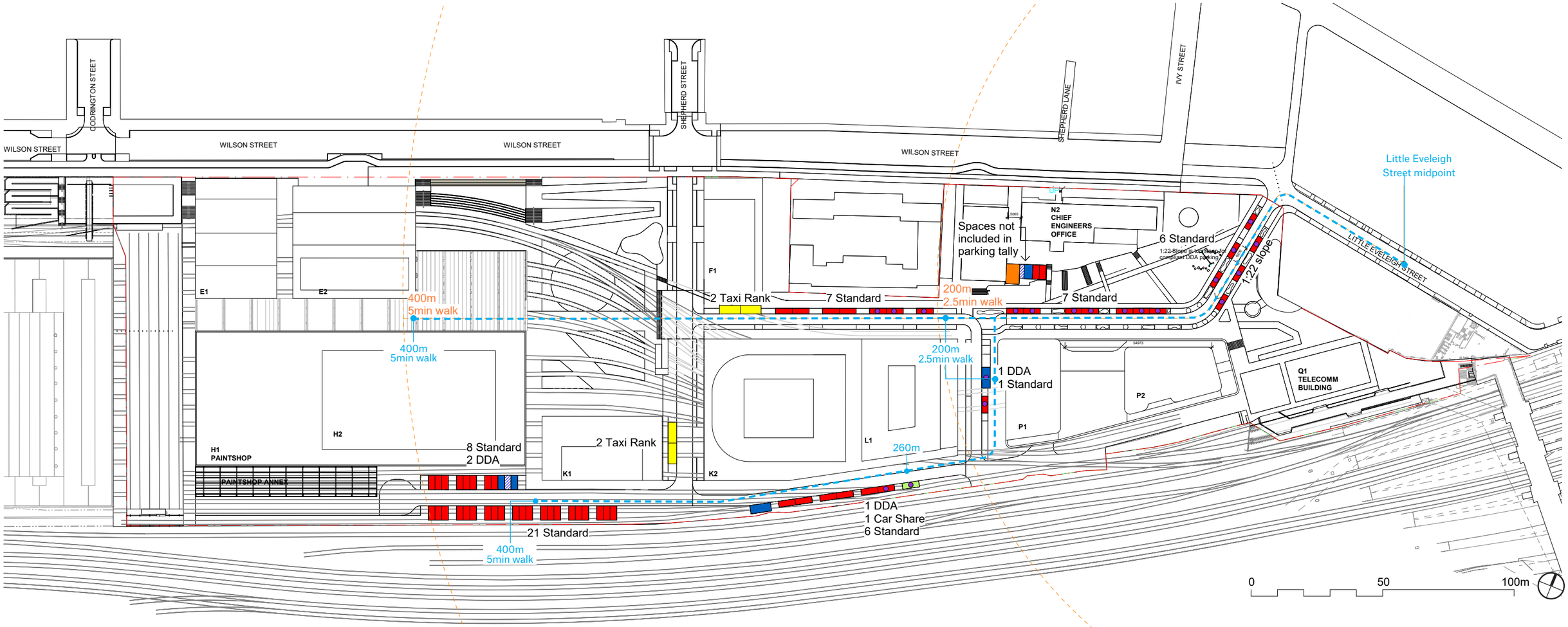
Section B | Shared zone, one way traffic and parallel parking





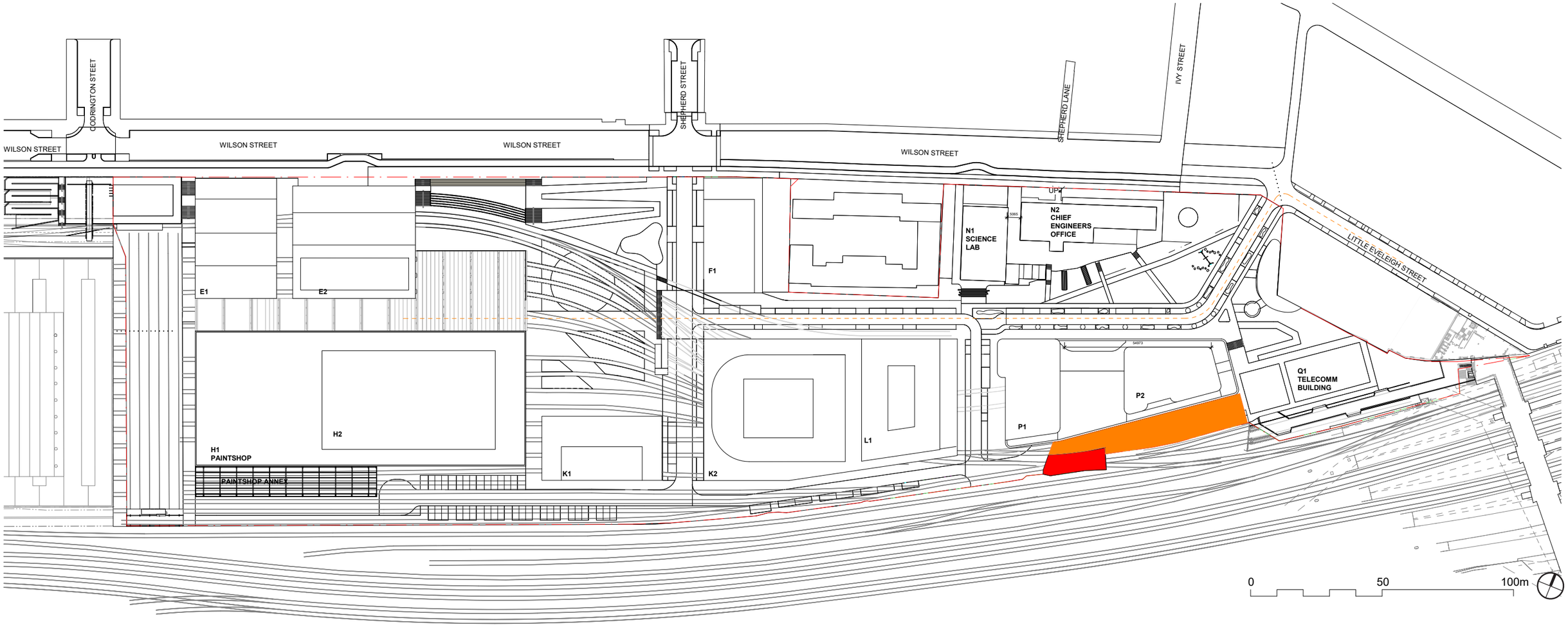
Section C | Two way street behind the Paint Shop with right angled parking

10.7.13 Parking



	TYPE	No.
	DDA Car Park	4
	Standard Car Park	56
	Car Share	1
	Taxi Rank (DDA Compliant)	4
	Total Car Park Spaces	**65**
	Loading Zone	
	Spaces Allocated to Adjacent Residents (18 Standard, 1 DDA, 1 Car Share)	20

10.7.14 Sydney Trains Access



TYPE
Rail Corridor Access
Potential Shared Use Area with Sydney Trains