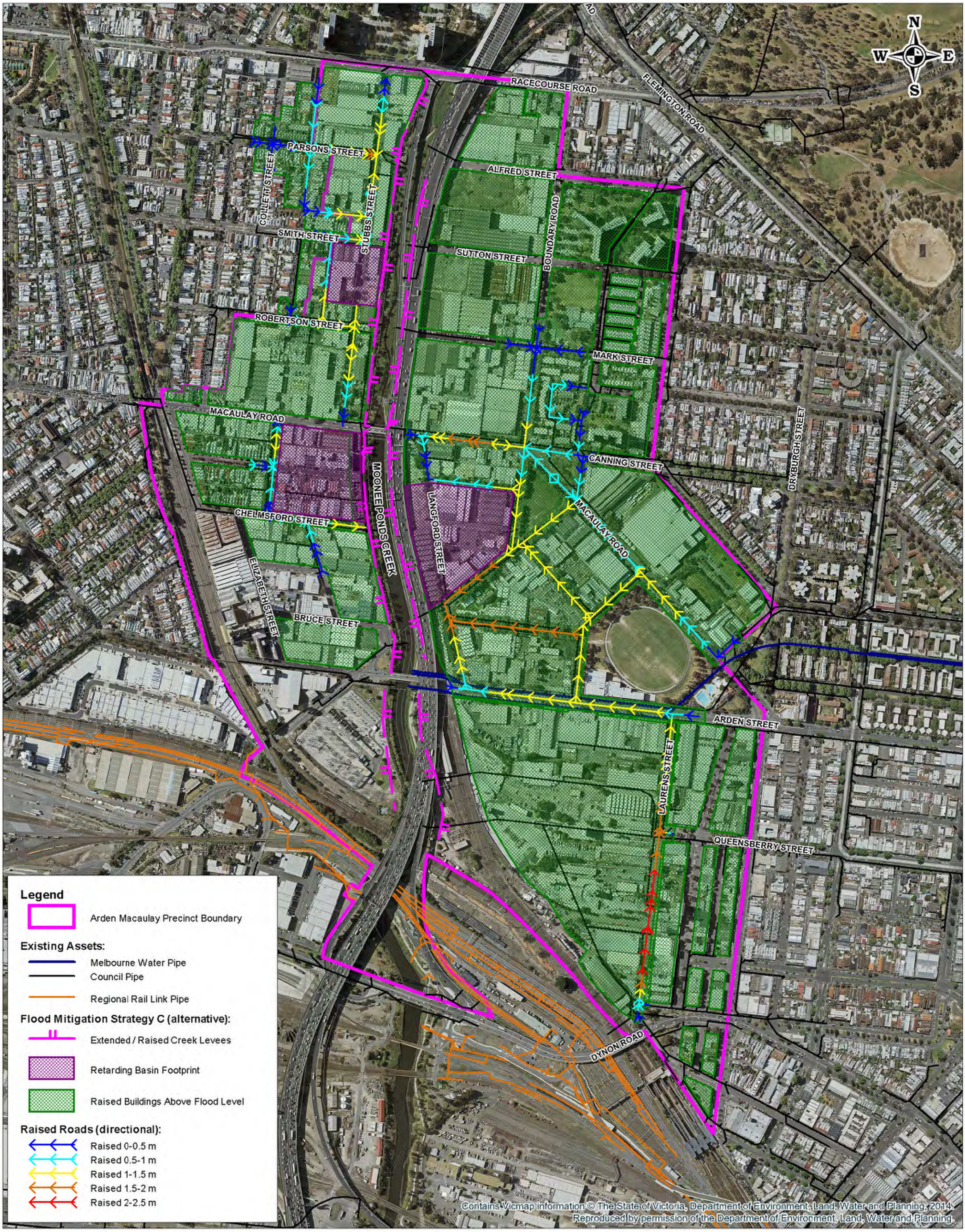
APPENDIX J

Flood Mitigation Strategy C (Alternative Setup) Concept Plan and Flood Maps



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ENGENY WATER MANAGEMENT

Melbourne Water

0 130 260

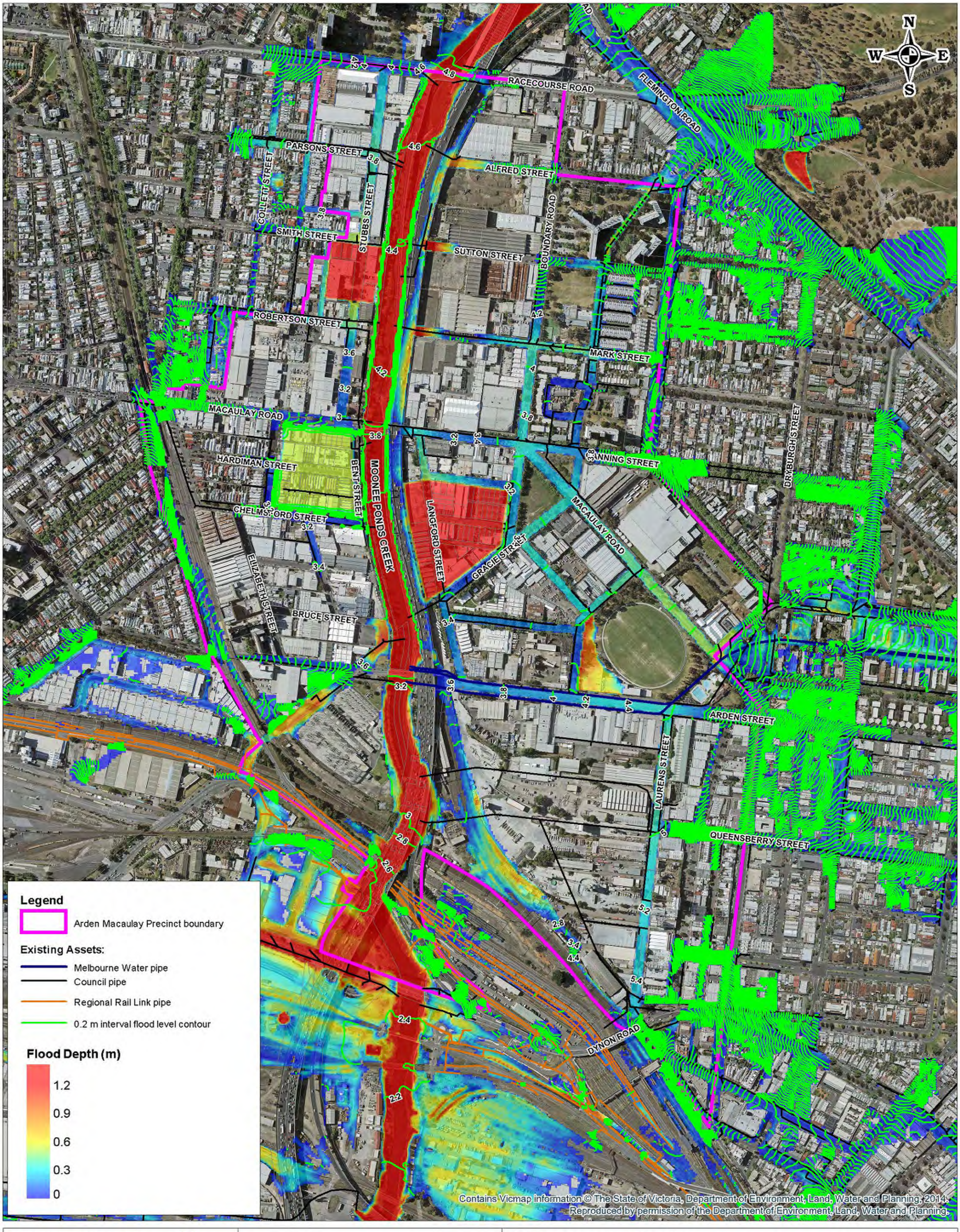
Scale in metres (1:6,500 @ A3)

Map Projection: Universal Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia 1994. (GDA94)
Vertical Datum: Australia Height Datum
Grid: Map Grid of Australia, Zone 55

Arden Macaulay Precinct

Figure J1
Flood Mitigation Strategy C (alternative setup)

Job Number: V3000_052
Revision: 0
Drawn: PC
Checked: AP
Date: 29 Feb 2016



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ENGENY WATER MANAGEMENT

Melbourne Water

0 130 260

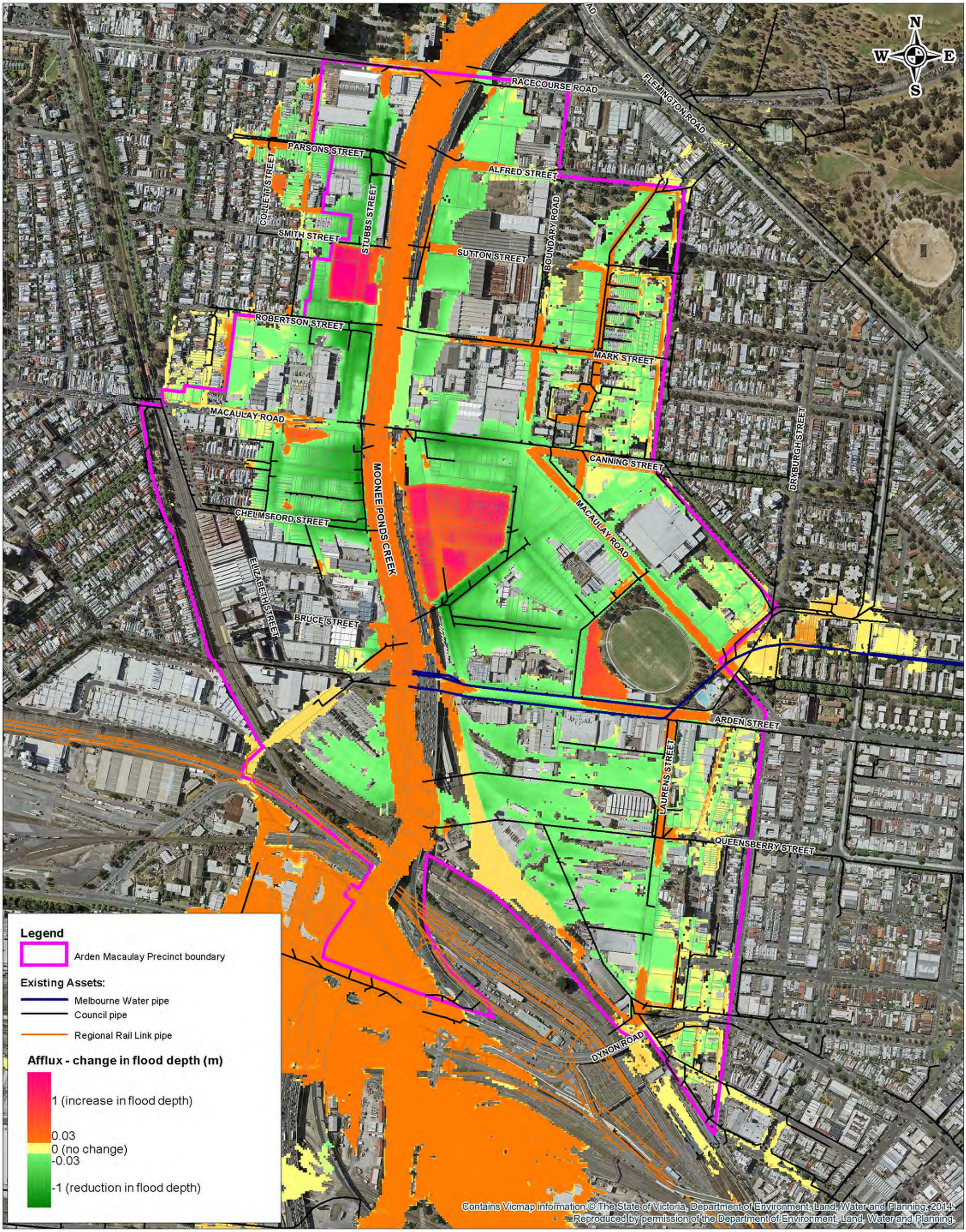
Scale in metres (1:6,500 @ A3)

Map Projection: Universal Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia 1994. (GDA94)
Vertical Datum: Australia Height Datum
Grid: Map Grid of Australia, Zone 55

Arden Macaulay Precinct

Figure J2
1% AEP Flood Map - Flood Mitigation Strategy C (alternative setup) for Existing Flows

Job Number: V3000_052
Revision: 0
Drawn: PC
Checked: AP
Date: 29 Feb 2016



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ENGENY WATER MANAGEMENT

Melbourne Water

0 130 260

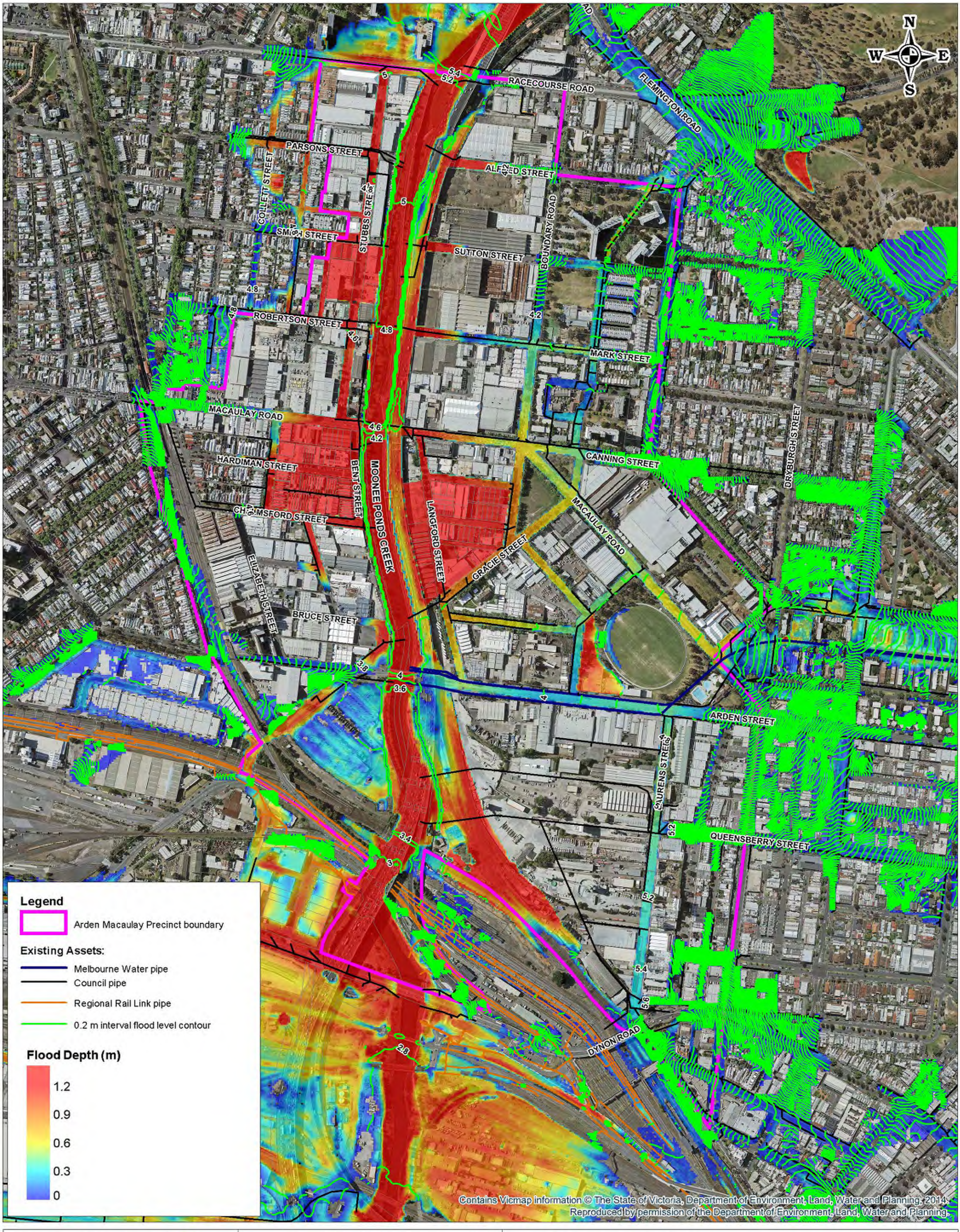
Scale in metres (1:6,500 @ A3)

Map Projection: Universal Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia 1994. (GDA94)
Vertical Datum: Australia Height Datum
Grid: Map Grid of Australia, Zone 55

Arden Macaulay Precinct

Figure J3
Change in flood depth due to flood mitigation strategy C (alternative setup) for existing flows

Job Number: V3000_052
Revision: 0
Drawn: PC
Checked: AP
Date: 29 Feb 2016



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ENGENY WATER MANAGEMENT

Melbourne Water

0 130 260

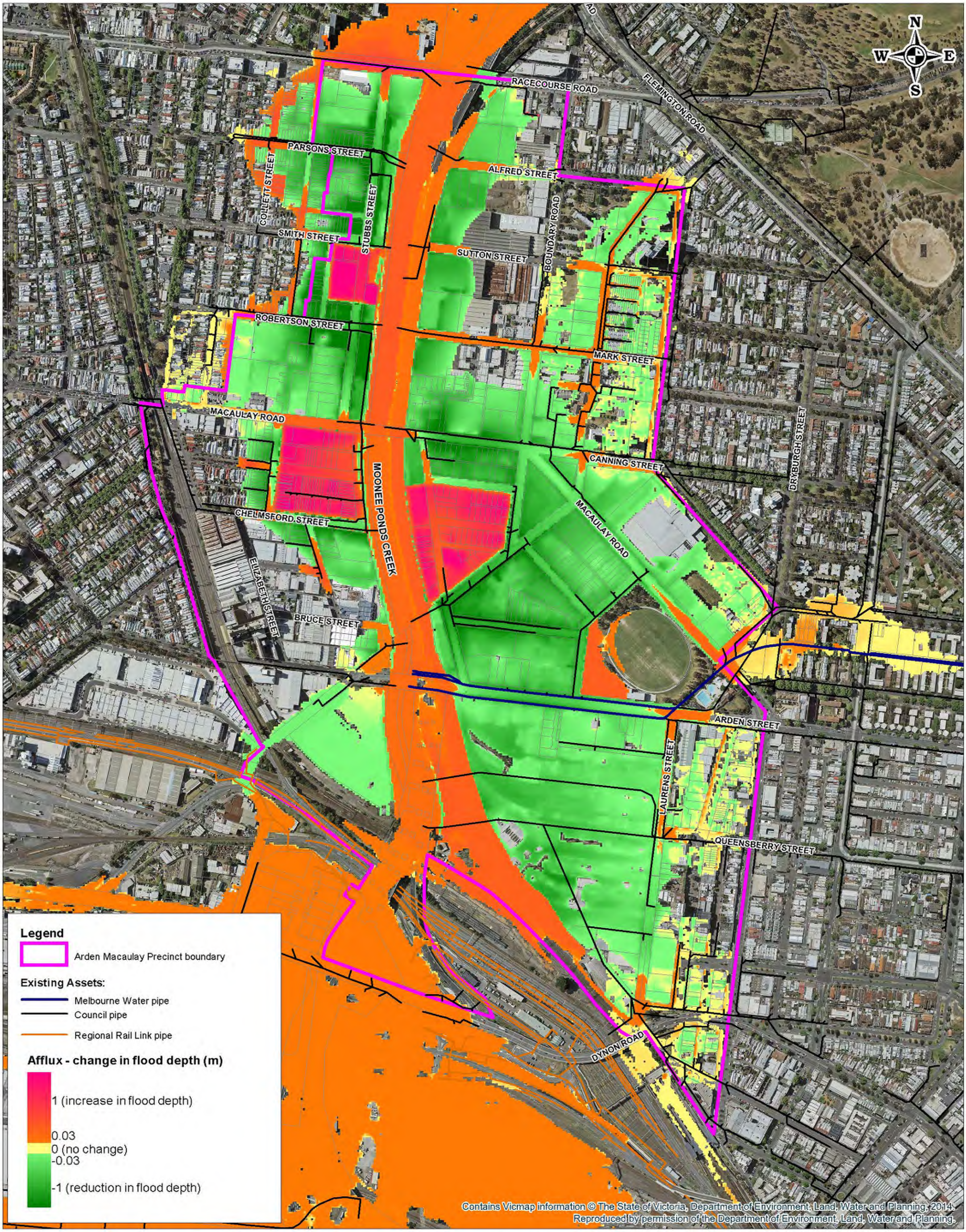
Scale in metres (1:6,500 @ A3)

Map Projection: Universal Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia 1994. (GDA94)
Vertical Datum: Australia Height Datum
Grid: Map Grid of Australia, Zone 55

Arden Macaulay Precinct

Figure J4
1% AEP Flood Map - Flood Mitigation Strategy C (alternative setup) for Year 2100 Flows

Job Number: V3000_052
Revision: 0
Drawn: PC
Checked: AP
Date: 29 Feb 2016



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ENGENY WATER MANAGEMENT

Melbourne Water

0 130 260

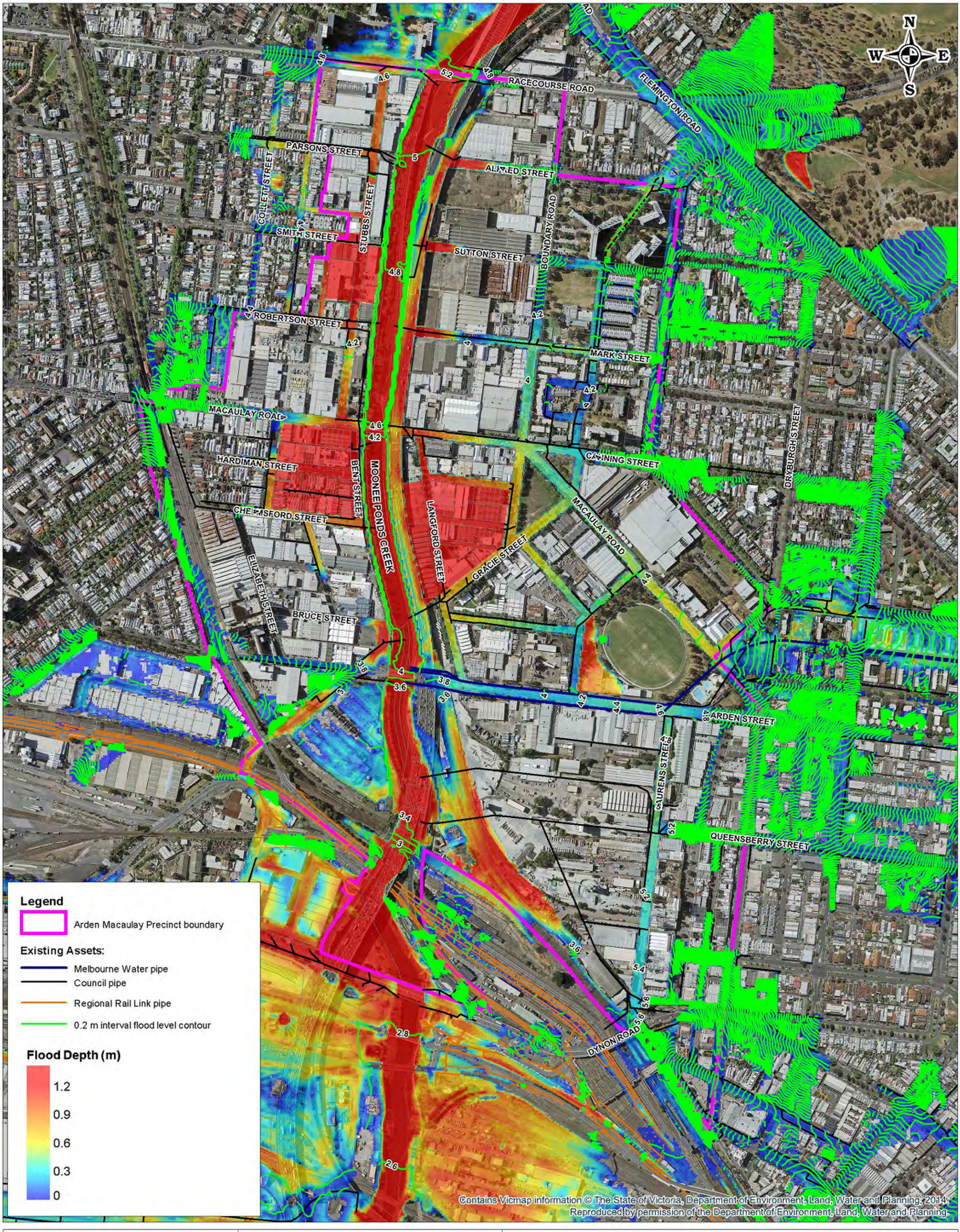
Scale in metres (1:6,500 @ A3)

Map Projection: Universal Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia 1994. (GDA94)
Vertical Datum: Australia Height Datum
Grid: Map Grid of Australia, Zone 55

Arden Macaulay Precinct

Figure J5
Change in flood depth due to flood mitigation strategy C (alternative setup) for year 2100 flows

Job Number: V3000_052
Revision: 0
Drawn: PC
Checked: AP
Date: 29 Feb 2016



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ENGENY WATER MANAGEMENT

Melbourne Water

0 130 260

Scale in metres (1:6,500 @ A3)

Map Projection: Universal Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia 1994. (GDA94)
Vertical Datum: Australia Height Datum
Grid: Map Grid of Australia, Zone 55

Arden Macaulay Precinct

Figure J6
1% AEP Flood Map - Flood Mitigation Strategy C (alternative setup) for Year 2100 with Planning Controls Flows

Job Number: V3000_052
Revision: 0
Drawn: PC
Checked: AP
Date: 29 Feb 2016

RACECOURSE ROAD
FLEMINGTON ROAD
PARSONS STREET
COLLETT STREET
STUBBS STREET
ALFRED STREET
BOUNDARY ROAD
SMITH STREET
SUTTON STREET
ROBERTSON STREET
MARK STREET
MACAULAY ROAD
CANNING STREET
DRYBURGH STREET
MOONEE PONDS CREEK
CHELMSFORD STREET
ELIZABETH STREET
BRUCE STREET
ARDEN STREET
LAURENS STREET
QUEENSBERRY STREET
DYNON ROAD

N
W
E
S

Legend

Arden Macaulay Precinct boundary

Existing Assets:

Melbourne Water pipe
Council pipe
Regional Rail Link pipe

Afflux - change in flood depth (m)

1 (increase in flood depth)
0.03
0 (no change)
-0.03
-1 (reduction in flood depth)

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ENGENY WATER MANAGEMENT

Melbourne Water

0 130 260

Scale in metres (1:6,500 @ A3)

Map Projection: Universal Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia 1994. (GDA94)
Vertical Datum: Australia Height Datum
Grid: Map Grid of Australia, Zone 55

Arden Macaulay Precinct

Figure J7
Change in flood depth due to flood mitigation strategy C (alternative setup) for year 2100 with planning controls flows

Job Number: V3000_052
Revision: 0
Drawn: PC
Checked: AP
Date: 29 Feb 2016

APPENDIX K

Flood Mitigation Strategy D Concept Plan and Flood Maps

RACECOURSE ROAD
FLEMINGTON ROAD
PARSONS STREET
COLLETT STREET
STUBBS STREET
ALFRED STREET
BOUNDARY ROAD
SMITH STREET
SUTTON STREET
ROBERTSON STREET
MARK STREET
MACAULAY ROAD
MOONEE PONDS CREEK
LANGFORD STREET
CANNING STREET
DRYBURGH STREET
CHELMSFORD STREET
ELIZABETH STREET
BRUCE STREET
ARDEN STREET
LAURENS STREET
QUEENSBERRY STREET
DYNON ROAD

N
W
E
S

Legend

- Arden Macaulay Precinct Boundary

Existing Assets:

- Melbourne Water Pipe
- Council Pipe
- Regional Rail Link Pipe

Flood Mitigation Strategy D (alternative):

- Extended / Raised Creek Levees
- Raised Buildings on Stils / Piers
- New Culvert Connections Under Roads

Raised Roads (directional):

- Raised 0-0.5 m
- Raised 0.5-1 m
- Raised 1-1.5 m
- Raised 1.5-2 m
- Raised 2-2.5 m

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ENGENY WATER MANAGEMENT

Melbourne Water

0 130 260

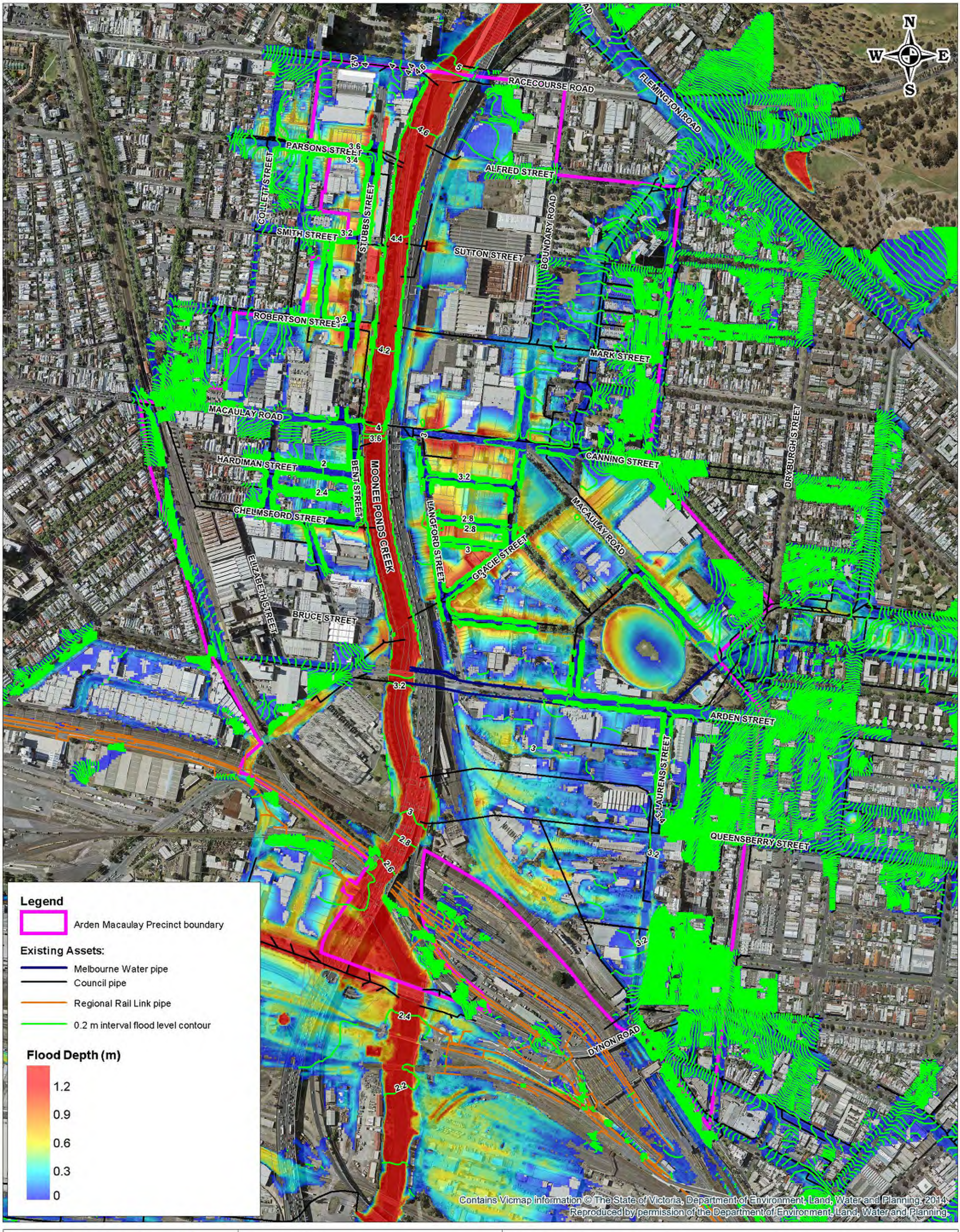
Scale in metres (1:6,500 @ A3)

Map Projection: Universal Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia 1994. (GDA94)
Vertical Datum: Australia Height Datum
Grid: Map Grid of Australia, Zone 55

Arden Macaulay Precinct

Figure K1
Flood Mitigation Strategy D

Job Number: V3000_052
Revision: 0
Drawn: PC
Checked: AP
Date: 29 Feb 2016



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ENGENY WATER MANAGEMENT

Melbourne Water

0 130 260

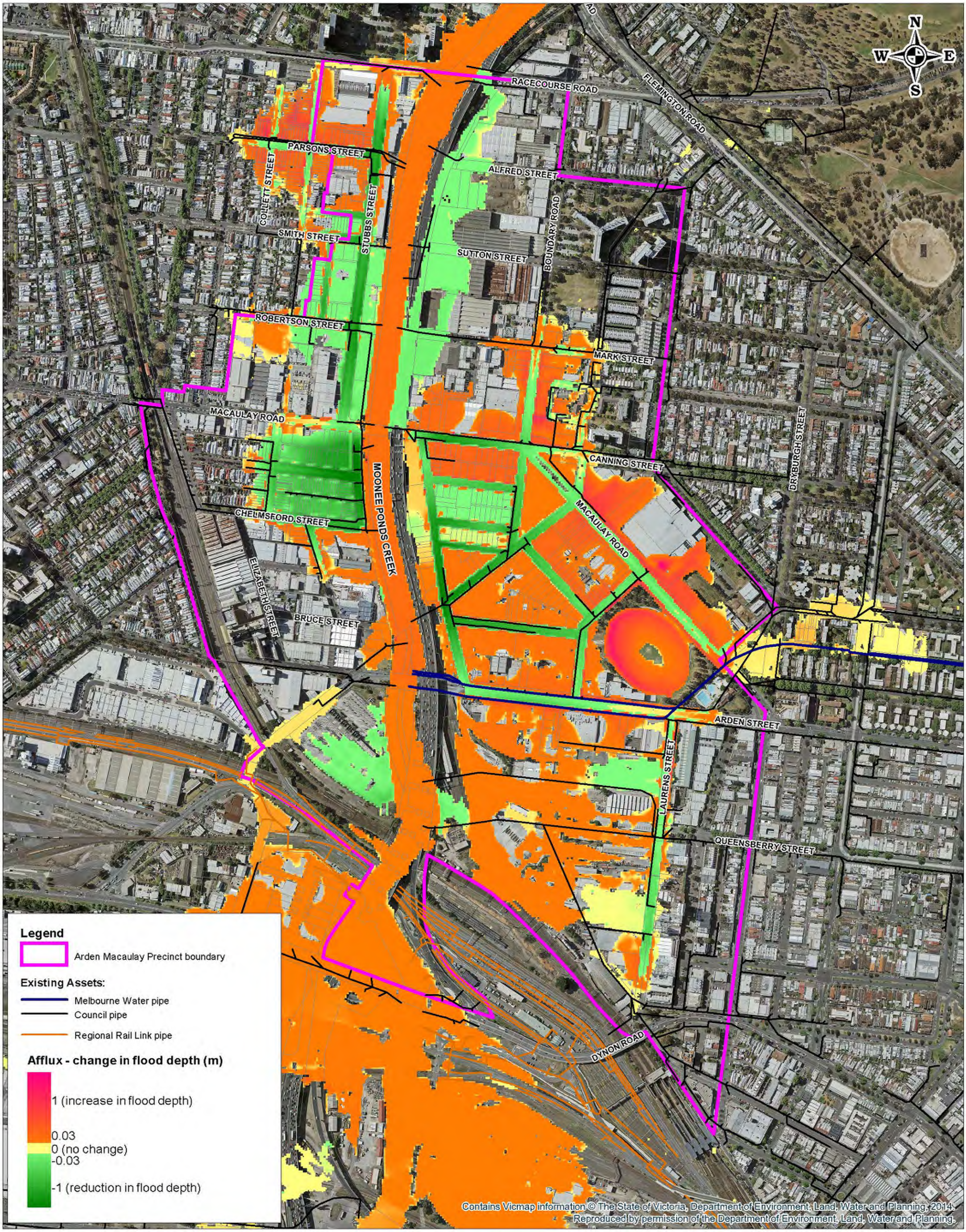
Scale in metres (1:6,500 @ A3)

Map Projection: Universal Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia 1994. (GDA94)
Vertical Datum: Australia Height Datum
Grid: Map Grid of Australia, Zone 55

Arden Macaulay Precinct

Figure K2
1% AEP Flood Map - Flood Mitigation Strategy D for Existing Flows

Job Number: V3000_052
Revision: 0
Drawn: PC
Checked: AP
Date: 29 Feb 2016



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ENGENY WATER MANAGEMENT

Melbourne Water

0 130 260

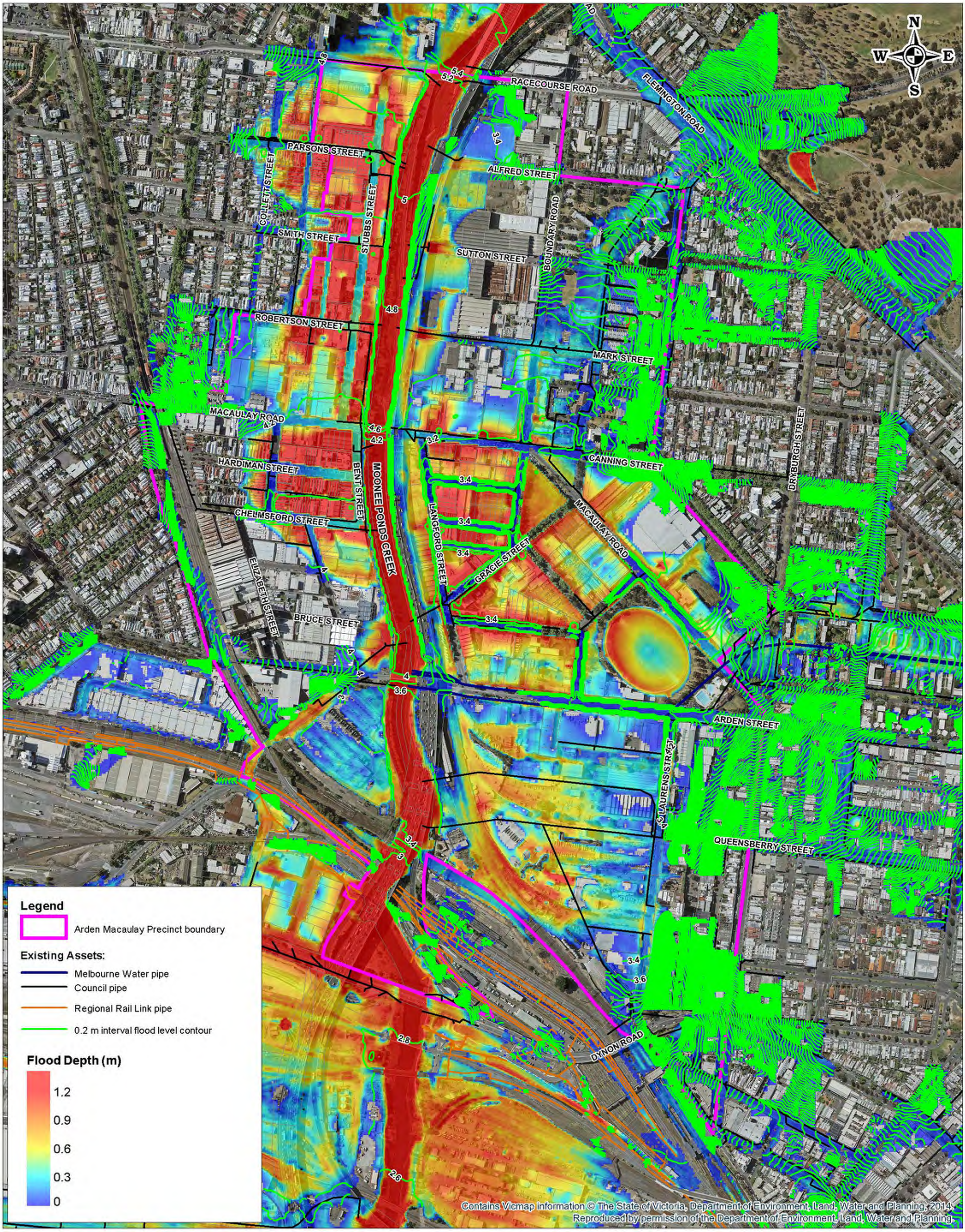
Scale in metres (1:6,500 @ A3)

Map Projection: Universal Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia 1994. (GDA94)
Vertical Datum: Australia Height Datum
Grid: Map Grid of Australia, Zone 55

Arden Macaulay Precinct

Figure K3
Change in flood depth due to flood mitigation strategy D for existing flows

Job Number: V3000_052
Revision: 0
Drawn: PC
Checked: AP
Date: 29 Feb 2016



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ENGENY WATER MANAGEMENT

Melbourne Water

0 130 260

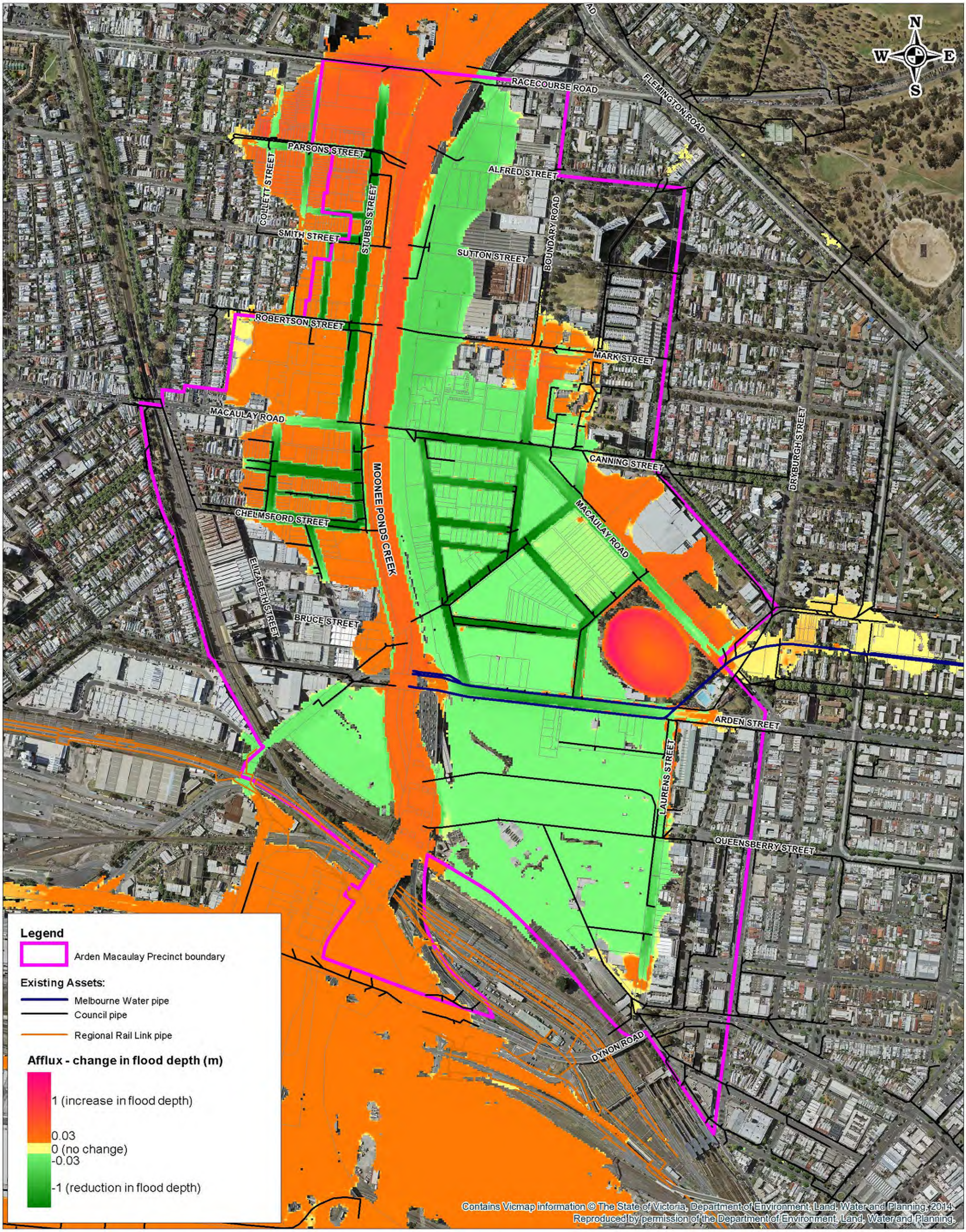
Scale in metres (1:6,500 @ A3)

Map Projection: Universal Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia 1994. (GDA94)
Vertical Datum: Australia Height Datum
Grid: Map Grid of Australia, Zone 55

Arden Macaulay Precinct

Figure K4
1% AEP Flood Map - Flood Mitigation Strategy D for Year 2100 Flows

Job Number: V3000_052
Revision: 0
Drawn: PC
Checked: AP
Date: 29 Feb 2016



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F: 03 9830 2601
E: melb@engeny.com.au

ENGENY WATER MANAGEMENT

Melbourne Water

0 130 260

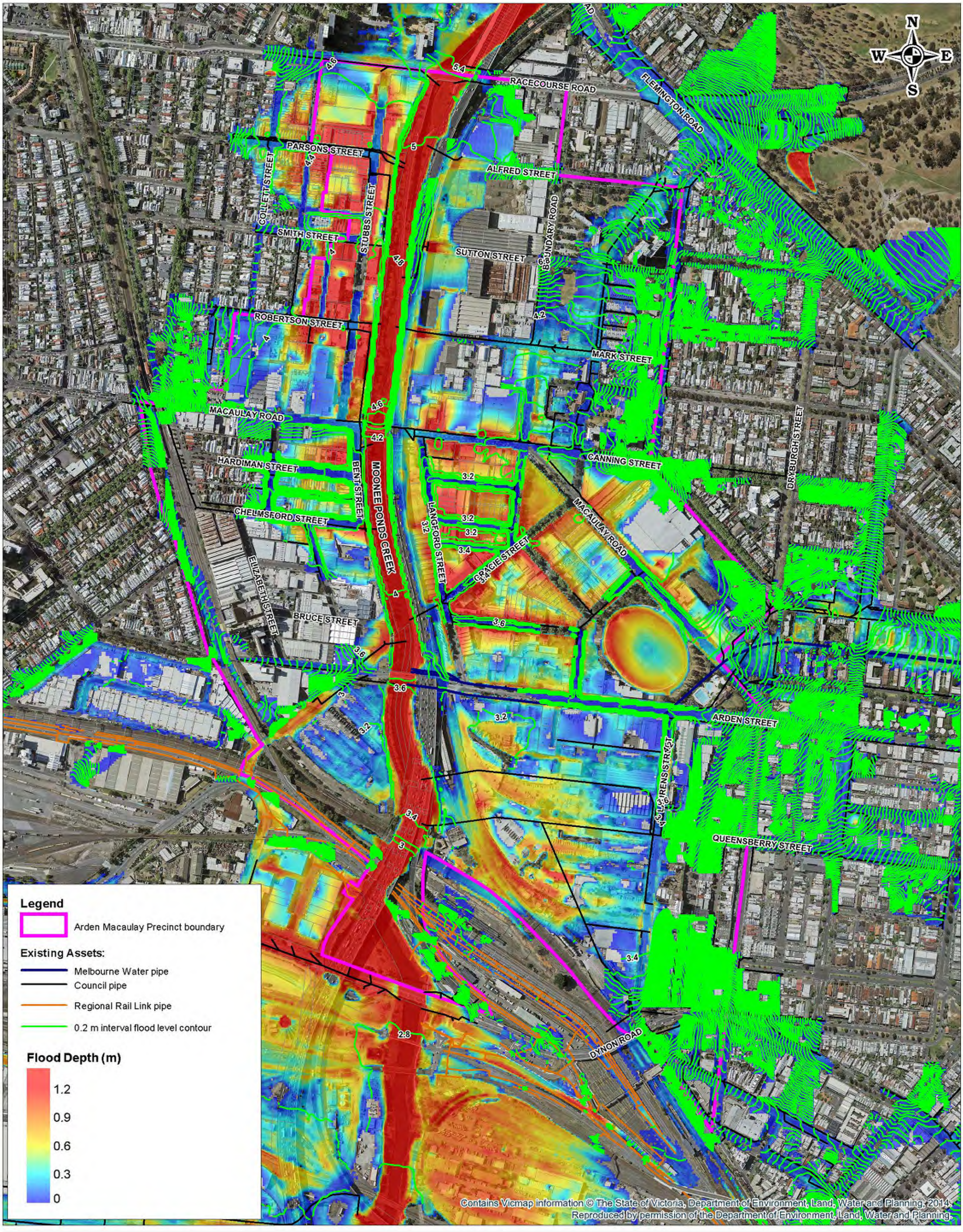
Scale in metres (1:6,500 @ A3)

Map Projection: Universal Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia 1994. (GDA94)
Vertical Datum: Australia Height Datum
Grid: Map Grid of Australia, Zone 55

Arden Macaulay Precinct

Figure K5
Change in flood depth due to flood mitigation strategy D for year 2100 flows

Job Number: V3000_052
Revision: 0
Drawn: PC
Checked: AP
Date: 29 Feb 2016



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E: melb@engeny.com.au

ENGENY WATER MANAGEMENT

Melbourne Water

0 130 260

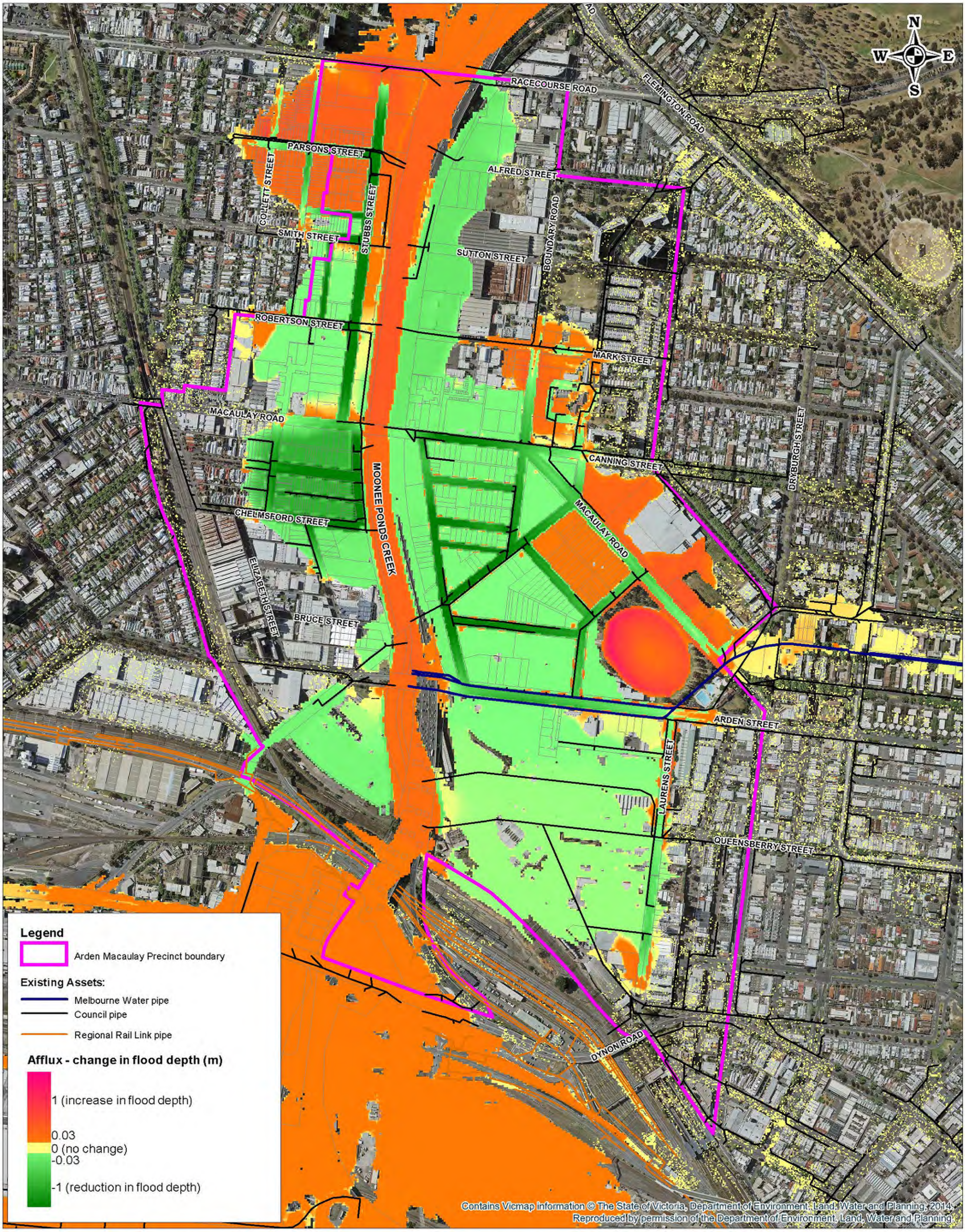
Scale in metres (1:6,500 @ A3)

Map Projection: Universal Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia 1994. (GDA94)
Vertical Datum: Australia Height Datum
Grid: Map Grid of Australia, Zone 55

Arden Macaulay Precinct

Figure K6
1% AEP Flood Map - Flood Mitigation Strategy D for Year 2100 with Planning Controls Scenario Flows

Job Number: V3000_052
Revision: 0
Drawn: PC
Checked: AP
Date: 29 Feb 2016



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ENGENY WATER MANAGEMENT

Melbourne Water

0 130 260

Scale in metres (1:6,500 @ A3)

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Vertical Datum: Australia Height Datum
Grid: Map Grid of Australia, Zone 55

Arden Macaulay Precinct

Figure K7
Change in flood depth due to flood mitigation strategy D for year 2100 with planning controls flows

Job Number: V3000_052
Revision: 0
Drawn: PC
Checked: AP
Date: 29 Feb 2016

N
W
E
S

ALFRED ST TO SUTTON ST PS
GRAVITY PIPE: 300-600mm dia

PARSONS ST TO STUBBS ST PS1
GRAVITY PIPE: 900-1200mm dia

SUTTON ST PS
EXISTING PS CAPACITY: 0.7 m³/s
PROPOSED PS CAPACITY: 0.9 m³/s

STUBBS ST PS1
EXISTING PS CAPACITY: 0.56 m³/s
PROPOSED PS CAPACITY: 2.0 m³/s

FLEMINGTON RD TO SUTTON ST
GRAVITY PIPE: 750-900mm dia

ROBERTSON ST
PRESSURE PIPE: 900mm dia

MARK ST PRESSURE
PIPES: 300-1500mm dia

ROBERTSON ST TO STUBBS ST PS2
GRAVITY PIPE: 900mm dia

STUBBS ST FLOOD
STORAGE ~3300 m³

MARK ST TO LANGFORD ST PS2
GRAVITY PIPE: 900-1200mm dia

STUBBS ST PS2
EXISTING PS CAPACITY: 1.2 m³/s
PROPOSED PS CAPACITY: 1.8 m³/s

CANNING ST & MACAULAY RD
PRESSURE PIPE: 600mm dia

BENT ST PS
EXISTING PS CAPACITY: 0.7 m³/s
PROPOSED PS CAPACITY: 1.3 m³/s

LANGFORD ST PS2
EXISTING PS CAPACITY: 0.7 m³/s
PROPOSED PS CAPACITY: 2.4 m³/s

CITYWIDE FLOOD
STORAGE ~17500 m³

NEW LOCAL DRAINAGE SYSTEM
ALONG ARDEN ST TO CONNECT
TO LANGFORD ST PS1: 1500mm dia

CHELMSFORD ST
PRESSURE PIPE: 900mm dia

LANGFORD ST LINEAR
FLOOD STORAGES
~10000 m³

ARDEN ST OVAL
STORAGE TANK
~12500 m³

LANGFORD ST PS1
EXISTING PS CAPACITY: 0.7 m³/s
PROPOSED PS CAPACITY: 7.0 m³/s

NEW PITS AND PIPES
IN DRYBURGH ST

ARDEN GOVERNMENT LAND
FLOOD STORAGE ~2800 m³
(SUBJECT TO REVIEW)

PRESSURISATION OF
ARDEN ST DRAIN
DETAILS TBC

ARDEN GOVERNMENT LAND
NEW PUMP STATION
PROPOSED CAPACITY: 2 m³/s
(SUBJECT TO REVIEW)

DIVERT EXISTING DRAINAGE SYSTEM
AWAY FROM ARDEN ST DRAIN

NEW PRESSURE PIPES IN
LAURENS ST & ARDEN
GOVERNMENT LAND
1200mm dia

REALIGN AND UPGRADE DRAINAGE
THROUGH ARDEN GOVERNMENT LAND
900-1200mm dia

Racecourse Rd
Stubbs St
Parsons St
Alfred St
Elliott Av
Smith St
Sutton St
Stubbs St
MOONEE PONDS CREEK
Melrose St
Flemington Rd
Dryburgh St
Robertson St
Mark St
Citylink
Macaulay Rd
Canning St
Bent St
Langford St
Boundary Rd
Chelmsford St
Macaulay Rd
Green St
Arden St
Lloyd St
Queensberry St
Laurens St

Legend

- Arden Macaulay Precinct Boundary
- Arden Government Land

Existing Assets

- Melbourne Water Pipe
- Council Pipe

Proposed Drainage Upgrades

Melbourne Water Works:

- Gravity Pipe Upgrade
- Pressurisation of Arden St Main Drain
- Pump Station Upgrade (Langford St PS1)
- Flood Storage - Underground Tank
- Flood Storage - Above Ground
- New / Raised Levee

City of Melbourne Works:

- Gravity Pipe Upgrade
- Pressure Pipe
- Pump Station Upgrade
- Flood Storage - Above Ground

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ENGENY WATER MANAGEMENT

Melbourne Water
CITY OF MELBOURNE

0 130 260
Scale in metres (1:6,500 @ A3)

Map Projection: Universal Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia 1994. (GDA94)
Vertical Datum: Australia Height Datum
Grid: Map Grid of Australia, Zone 55

Arden Macaulay Precinct

Working Drainage Strategy (SUBJECT TO REVIEW)

Job Number: V3000_052
Revision: 2
Drawn: PC
Checked: -
Date: 19 June 2020

DRAFT Arden STRUCTURE PLAN

JUNE 2020

Victorian Planning Authority

CITY OF MELBOURNE

VICTORIA State Government

Aboriginal acknowledgement

Before European settlement in 1835, Aboriginal people lived on the land now called Melbourne for tens of thousands of years.

We acknowledge Aboriginal people as Australia's first peoples and as the Traditional Owners and custodians of the land and water on which we rely. We recognise and value the ongoing contribution of Aboriginal people and communities to Victoria and how this enriches us. We embrace the spirit of reconciliation, working towards the equality of outcomes and ensuring an equal voice.

The *Arden Structure Plan* has been developed by the Victorian Planning Authority (VPA) and the City of Melbourne in collaboration with the Department of Environment, Land, Water and Planning; the Department of Jobs, Precincts and Regions; Development Victoria; Rail Projects Victoria and other Victorian Government departments and agencies.

Contents

Making the most of its unique sense of place and local characteristics, Arden will become a new destination for Melbourne.

Its renewal will be pivotal to the growth of Victoria's knowledge economy and its continued success as Australia's top performing economy.

It will also assist in advancing Melbourne's strengths as a progressive, innovative and connected local and global city.

To achieve this, Arden will develop into an innovation precinct with a focus on digital technology, life sciences, health and education at its core.

Arden will be a new destination for Melbourne, setting the standard for urban renewal. It will contribute to a future Melbourne that is not only the world's most liveable city, but also one of the most forward-looking.

With its rapid rail connections to the Parkville National Employment and Innovation Cluster, the Central Business District and Melbourne's western suburbs, Arden is ideally placed to be an international innovation and technology precinct.

This new employment hub will be pivotal to the growth of Victoria's knowledge economy and advancing Melbourne's strengths as a progressive, innovative and connected local and global city.

The precinct will have its own civic heart and character. It will remain connected to its Aboriginal and industrial heritage as it changes to support a diverse resident and worker population. It will become a new neighbourhood of Melbourne with quality and affordable housing, a thriving network of open spaces, active transport links, and adaptable community facilities, schools and workspaces.

Arden will be at the forefront of sustainable development, embracing new ways to live, learn, work and travel in an energy-efficient district. Water will be safely managed to become a visible feature in the landscape, while green spaces, trees and water will help the precinct become a cooler, greener version of the city.

The Moonee Ponds Creek corridor will be revitalised as a new green spine for Melbourne. It will be a celebrated waterway with a valued environmental and cultural heritage, serving recreational, biodiversity habitat and active transport functions. The creek corridor will be an essential link for Arden and neighbouring urban renewal precincts.

Partnerships with all levels of government, the community and the private sector will deliver the eight key directions that support the vision for Arden.

– Arden Vision, 2018.

Figure 1 Artist's impression of the future Arden precinct. Indicative only for illustrative purposes.

A great place

Arden will evolve as a thriving inner-city neighbourhood within Melbourne's many different neighbourhoods. It will showcase quality and affordable housing, a thriving network of open spaces, active transport links, and adaptable community facilities, schools and workspaces.

Arden's cultural and industrial history is still visible in the unique character and heritage of notable landmarks and uses including the North and West Melbourne Milling Precinct, Mulcahy's Hotel and the North Melbourne Recreation Centre.

Wide tree-lined streets that date from its time as a main route for travellers to the 19th century goldfields of Ballarat and Bendigo are still evident, as are the railway lines and roads, industrial buildings and open spaces.

Arden's natural and built form will provide the context for future development of the precinct and these existing conditions form the base from which the draft *Arden Structure Plan* has been created.

Arden will have its own civic heart and character. It will remain connected to its Aboriginal and industrial heritage as it changes to support a diverse resident and worker population.

Water will be safely managed to become a visible feature in the landscape, while green spaces and trees will help the precinct become a cooler, greener city landscape.

The Moonee Ponds Creek corridor will be revitalised as a new green spine for Melbourne. It will be a celebrated waterway with a valued environmental and cultural heritage, serving recreational, biodiversity habitat and active transport functions. The creek corridor will be an essential link for Arden and neighbouring urban renewal precincts.

Planning will leverage government landholdings and public infrastructure investment to transform the precinct.

A new innovation precinct

Large government land ownership within the precinct is unique. It gives the precinct potential to develop into a technology innovation hub and life sciences centre to complement Australia's pre-eminent biomedical cluster in Parkville.

Innovation precincts facilitate the creation and commercialisation of new ideas and support metropolitan economies by growing jobs in ways that leverage their distinct economic attributes.

Arden's development as an innovation precinct will unlock opportunities for greater economic output, leveraging capabilities and investment in Victoria's high growth knowledge-based industries.

The precinct's shift from an industrial to knowledge-based economy will encourage clustering together of small and large organisations, with a focus on catalysing and enabling growth in the digital technologies, life sciences, health and education sectors.

Large enterprises will be attracted to the area by its advantageous location and variety of development opportunities and building types. Smaller companies and creative ventures will be supported by world leading institutions and will help attract workers, residents and visitors to the precinct.

As Arden evolves to support knowledge industry innovation, it has the potential to provide spaces for co-working and collaboration, affordable shared research infrastructure (including labs and technical equipment), small-footprint advanced manufacturing plants, clinics for medical trials, multi-purpose education facilities and events spaces, makers spaces and studios, short term accommodation for visiting experts and students, and places to showcase Melbourne's innovation outputs to the world.

This core infrastructure will be supported with enabling spaces that promote informal and formal interaction between industries, an innovatively designed public realm that encourages collaboration and excellent physical and digital connections to other innovation precincts.

Figure 2 Arden (in purple) is an evolving and distinct neighbourhood within Melbourne's many different neighbourhoods.

Unlocking Arden's potential

This world-class innovation and technology precinct will be catalysed by the new Arden train station scheduled to open in 2025. The station will connect the digital technologies, life sciences, health and education sectors in Arden with Victoria's growing knowledge economy.

Arden will be an exemplar mixed-use urban renewal precinct at the forefront of sustainable and inclusive development with quality urban realm, a thriving network of open spaces and community facilities.

Inclusive growth will occur by providing affordable housing options and creating educational, employment and other opportunities for low-income residents of the city.

Arden aspires to accommodate approximately 34,000 jobs and around 15,000 residents by 2051.

An arts, cultural and community hub overlooking the park. This hub will share and celebrate Aboriginal history, culture and values.

A major health or institutional use to be established in Arden Central providing an economic anchor for the precinct to build upon and thrive; creating jobs, providing high quality facilities and spaces and attracting innovative businesses.

Fogarty Street is extended to create a north–south civic green spine that brings new and existing communities together and into Arden's civic heart. The street will have safe and comfortable spaces for people walking and riding bikes and improve connections to public transport.

Varied heights and density of development in Arden. Heights and densities will reduce around the Arden Central open spaces to ensure they are not overshadowed and are high amenity gathering spaces at the heart of the inner city neighbourhood. The block structure will be flexible to allow a variety of building types to develop while ensuring pedestrian connectivity and great streets for people.

A proposed government primary school in Arden Central with other community uses such as maternal child health facilities, indoor recreation spaces, open space and public transport.

Plan 1 Highlights of the draft Arden Structure Plan

Integrated stormwater management open space in Arden North to celebrate water in the landscape and provide the community with an informal recreation space, while also serving drainage, heritage and biodiversity functions.

A new high street along Barwise Street will provide a community meeting place, amenity and services to new community residents and workers.

The commercial and civic heart around the new Arden Station will create places to gather and meet.

Queensberry Street extends into the heart of the precinct to create direct walking and cycling links through North Melbourne to Parkville.

The Arden Central open spaces will be surrounded by well-designed active uses, provide space for events and places for people to rest, meet and play.

Laurens Street will be upgraded into a tree-lined, pedestrian focussed street and potential future high capacity public transport capable corridor.

Delivering the vision

The draft structure plan is organised by the following chapters to reflect the key directions for Arden's renewal established by the Arden Vision. Each chapter contains objectives and strategies to guide Arden's renewal.

Introduction

- Arden's context
- Metro Tunnel Project
- Arden's sub-precincts

Transforming Arden

- Innovation
- Land use
- Embedding cultural values

Designing a distinctive place

- Spatial structure
- Built form
- Design excellence

Embedding sustainable change

- Reaching zero carbon
- Circular economy
- Managing heat

Prioritising active transport

- Walking and cycling
- Public transport
- Parking

Celebrating water

- Managing flooding
- Urban water cycle

Creating diverse open spaces

- Open space network
- Open space design

Accommodating diverse communities

- Affordable housing

Investing in community infrastructure

- Community hubs
- Schools

Delivering Arden

- Governance
- Development staging
- Early activation
- Infrastructure funding and delivery

The objectives

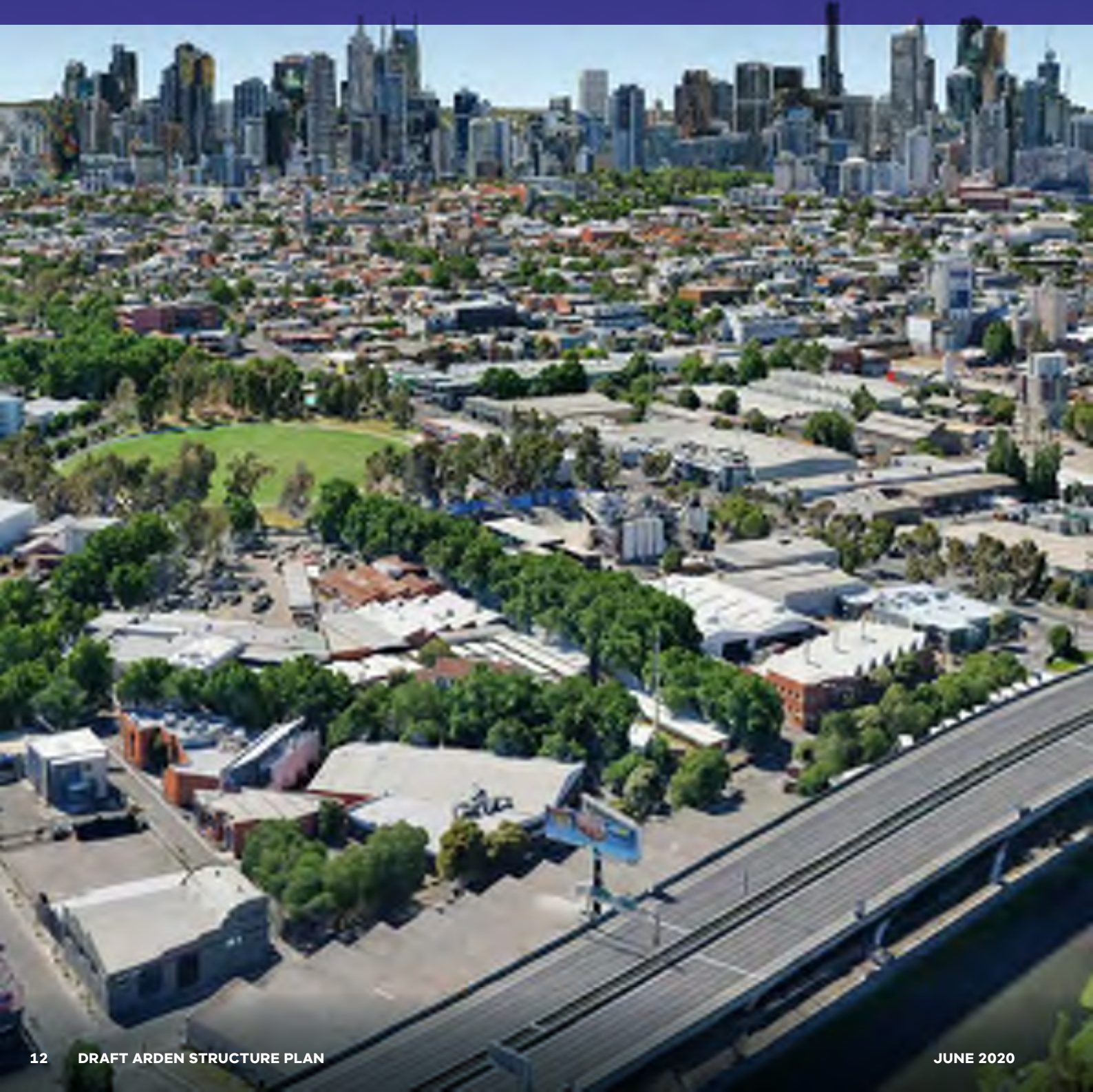
Transforming Arden

Designing a distinctive place

Embedding sustainable change

1 Introducing Arden

Arden's context
Metro Tunnel Project
Sub-precincts



What is this document?

The draft *Arden Structure Plan* (the draft plan) translates the vision for Arden's future into objectives and strategies to guide how the precinct should develop in the short-, medium- and long-term along economic, physical and social dimensions. This document supersedes the *Arden–Macaulay Structure Plan* (2012).

The draft plan responds to the eight key directions within the *Arden Vision* (2018). The **objectives** identify the key moves that will be made to achieve the vision for the precinct. The **strategies** outline how each objective will be achieved.

Planning for Arden is being undertaken jointly by the Victorian Planning Authority and City of Melbourne. These agencies are now seeking community feedback on key structure plan deliverables from the current and future residents, businesses, landowners, workers and visitors of Arden to input into the future of the precinct.

The engagement process will enable the Arden community to influence critical components of the draft structure plan, including function of open spaces, neighbourhood character, community services, local transport amenities, sustainability initiatives. This engagement process will help shape the final *Arden Structure Plan* so it reflects the interests and needs of the community and stakeholders when it is prepared for statutory exhibition.

The Arden precinct adjoins the neighbourhoods of Macaulay and West Melbourne. The *West Melbourne Structure Plan* has been adopted by Melbourne City Council. The interface between these three areas will be resolved as part of finalising the *Arden Structure Plan* and its planning controls.

A separate structure plan refresh is also being developed for the Macaulay urban renewal area by the City of Melbourne. Arden and Macaulay each have a distinct role and character, however the plans are being developed to be complementary and co-ordinated in their delivery.

Numerous technical studies inform the plan for Arden and will be available to view during the formal statutory exhibition process when the final plan is considered as an amendment to the planning scheme.

Who delivers innovation precincts?

The draft plan is just the beginning. Successful innovation precincts evolve as a partnership between government, institutions, the private sector and many others.

Some of the key players involved include:.

- State government and state government agencies
- Mayors and local government
- Major real estate developers and land owners
- Managers of research campuses
- Anchor companies
- Advanced research institutions
- Advanced medical campuses
- Philanthropic investors
- Incubators, accelerators, and other economic cultivators
- Social networking programmers.

Where is Arden?

Arden is a 50 hectare urban renewal precinct in the inner urban area of Melbourne. It is less than 2 km from the central city and adjacent to the established residential areas of North Melbourne, Kensington and West Melbourne and immediately south of the evolving, mixed use Macaulay urban renewal area.

At Arden's core will be a world-class innovation and technology district catalysed by the new Arden Station – scheduled to open in 2025 as part of the Metro Tunnel Project. Arden's exceptional connectivity is central to its value proposition – just 25 minutes from Melbourne's airport, 4.5 km from the Port of Melbourne and 2 km from the central city.

The Parkville biomedical precinct and the Melbourne Innovation District are located 1 km east of Arden and support over 40,000 jobs. The Metro Tunnel Project will connect Arden and Parkville via a two minute train ride, with Queensberry Street and Arden Street providing safe and direct walking and cycling links.

Arden is one of several precincts at various stages of planning, development or completion within inner metropolitan Melbourne. The Victorian Government has identified Arden as a Priority Precinct, making it part of a network of precincts that will work together to boost innovation, productivity and build on Victoria's global record of commercial success.

Arden will play a pivotal role in linking National Employment and Innovation Clusters, from Sunshine, through Parkville and the central business district, to Monash and Dandenong.

Accessing Arden

Arden is a well-connected piece of the city, with walking and cycling access to adjacent neighbourhoods, the central city and Parkville.

The precinct has excellent rail connections with the new Arden Station at the heart of the precinct to be delivered as part of the Metro Tunnel Project, Macaulay Station to the north and North Melbourne Station to the south.

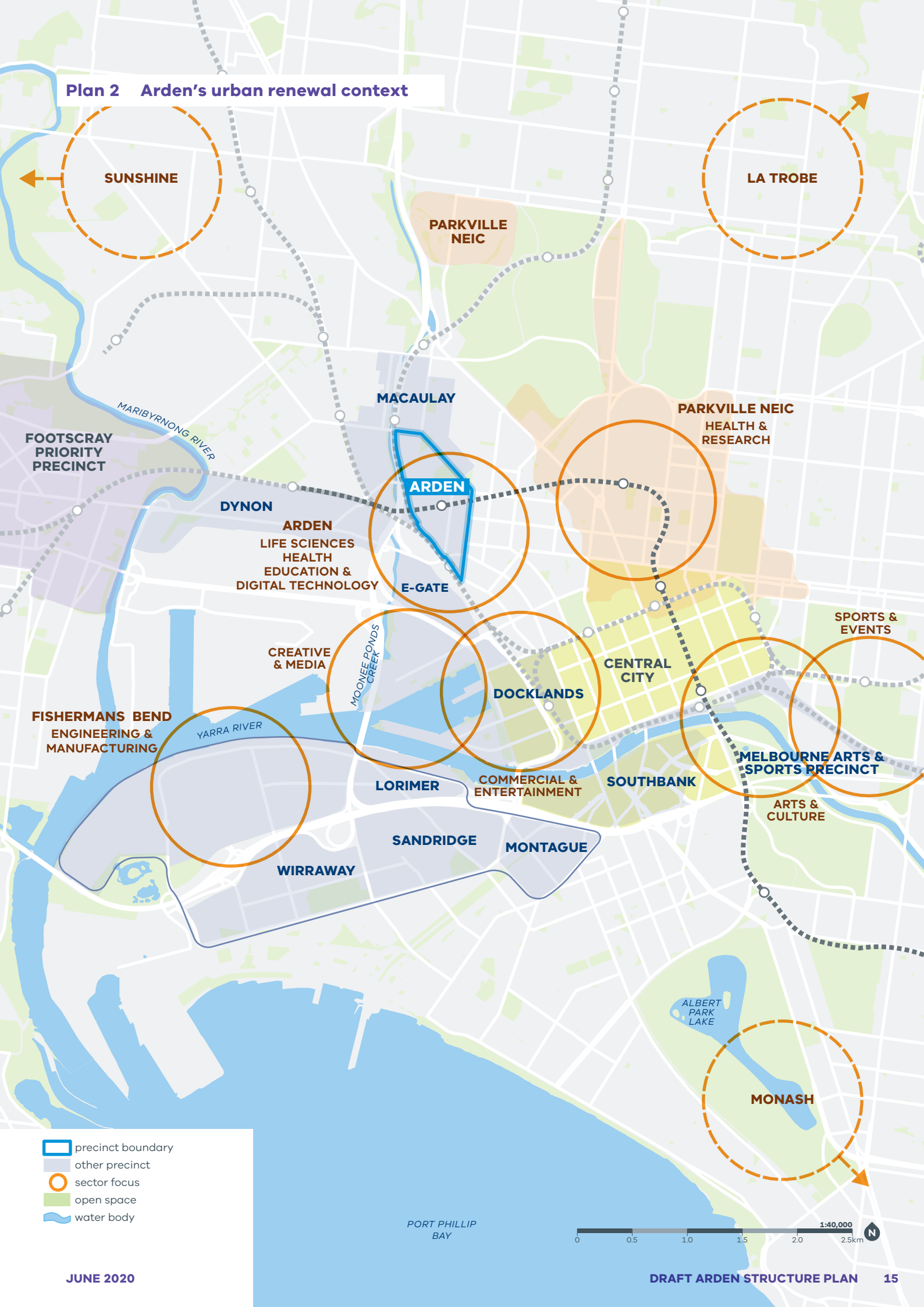
The Moonee Ponds Creek corridor and CityLink elevated roadway create a barrier along the western edge of Arden, with three access points to the west of the precinct at Macaulay Street, Arden Street and Dynon Road.

Streets in Arden are generally wide, with on-street parking and varied supply of bike lanes. Arden Street is the primary east–west connector between North Melbourne and Kensington. Macaulay Road and Dryburgh Street are the primary north–south routes. Several streets within Arden are designated for heavy vehicles such as B-double trucks to service existing, local industrial uses.

The current walking and cycling experiences through Arden are poor, due to large block sizes, relatively high vehicle speeds and poor quality footpaths and crossings. The Capital City Trail provides dedicated access for cyclists and pedestrians to the CBD and Docklands along Moonee Ponds Creek.

Five bus routes service the precinct and the Route 57 tram service (Maribyrnong–Flinders Street Station) operates along Abbotsford Street 200 metres east of Arden. The precinct is near a direct link to Melbourne Airport via CityLink and potentially through the future Melbourne Airport Rail Link.

Plan 2 Arden's urban renewal context



Arden through time

Between six and eight thousand years ago, Port Phillip Bay extended up to the areas now known as North Melbourne and Flemington. This ancient coastline can still be seen today near Flagstaff Gardens and the edge of West Melbourne, evident in the distinction between the low-lying ground and the high ground.

After the sea retreated, the low-lying areas formed an extensive and resource-rich swamp (known as West Melbourne Swamp) fed by the Moonee Ponds Creek (formerly known as the Moonee Moonee Chain of Ponds), which appeared and disappeared according to the seasons, rainfall patterns and broader climatic epochs.

For millennia the Kulin nation lived in close connection with the land, water and the seasons. The landscape of inner North and West Melbourne surrounding Arden provided habitat for a rich ecology of birds, animals, fish and plants. The area provided food and resources to the Aboriginal people and served as a meeting place and camp for travelling along the coast.

When Europeans first settled the Port Phillip area in the mid-1830s, they described pleasant undulating country and open woodland across North Melbourne that attracted a variety of birdlife and was graced with mature River Red Gums and dense and diverse grasslands. Early settlers recalled that Aboriginal people used to camp in the park-like lands in the early years of the town including areas near the Moonee Ponds Creek, in North Melbourne, the low-lying area of West Melbourne and other localities.

The introduction of a pastoral economy impacted on the natural balance of the land and waterways as sheep and cattle grazed the wetlands and trampled the native grasses. The Kulin were relocated to designated reserves on the outskirts of the city.

By the 1850s, the West Melbourne Swamp was reclaimed for railway, freight, port and industrial purposes for the city and a permanent course for the Moonee Ponds Creek was dredged to reach the Yarra River. Industrial growth along the Moonee Ponds Creek coincided with this reclamation and the 1854 River Yarra Pollution Prevention bill, which aimed to protect Melbourne's Yarra River water supply, forced noxious trades upstream or elsewhere including along the Moonee Ponds Creek. This encouraged industrial growth to sprawl along the creek corridor including brick works, flour mills, tanneries, soap and candle factories, a pottery and a bone mill. These noxious trades polluted the waters with large amounts of waste material, resulting in a putrid stench and the spread of disease. Figure 3 depicts Melbourne's planned growth in 1855 as the city expanded, in part, towards the West Melbourne Swamp.

Figure 3 View from Batman's Hill, overlooking the rich, watery landscape of West Melbourne Swamp. (Source: National Gallery of Victoria)

The industries of Arden and the surrounding areas continued through the 20th century. This strong industrial function in and around Arden provided opportunities for work and cheap rent. A strong working class emerged in the area. Many Aboriginal people took up work in the factories after being forced off the reserves and missions in the 1920s and 1930s.

Arden has undergone incremental redevelopment as economic activities and buildings have reached t he end of their utility. More recent redevelopment pressure in the vicinity of the precinct, as well the construction of the Metro Tunnel Project and Arden Station are presenting exciting new opportunities for Arden's future. Despite the swamp being filled in and the Moonee Ponds Creek being significantly altered, frequent and significant flooding in Arden continues to remind us of the underlying landscape.

Figure 4 Droving cattle through Arden, view looking west from Haines Street, 1935.

Figure 5 Aerial photograph of Arden and surrounds looking south-west, mid-20th century. Notable landmarks include the North Melbourne Gasometer, North Melbourne Oval and Moonee Ponds Creek (Source: State Library of Victoria).

Arden today

Landmarks and views

The Weston Milling site on Munster Terrace is a key landmark of the local area. Vantage points give long range views towards the Melbourne CBD skyline. Looking west, the CityLink elevated roadway is a significant feature of the local area. The Arden precinct is viewed each day by thousands of commuters on the Upfield rail line and CityLink to the west, and the Craigieburn, Sunbury, Werribee and Williamstown and regional rail lines to the south of the precinct.

Open space

Arden's existing open spaces include the North Melbourne Recreational Reserve and Clayton Reserve.

The North Melbourne Recreation Reserve provides a highly programmed active recreation function, being home to the North Melbourne Football Club, and is restricted for public use at times. Clayton Reserve is currently used as a fenced dog off-leash area. Gardiner Reserve is next to the precinct and provides passive open space in a park setting.

The Moonee Ponds Creek is one of three major waterways in the City of Melbourne and is a significant open space asset despite sections of it being highly degraded. Access to it is restricted by the Upfield Rail Corridor.

Open space and landscaping associated with the North Melbourne Recreation Centre and Clayton Reserve define entrances into the precinct from the north. This is reinforced by existing trees lining the streets of the precinct.

Flooding

Flooding and drainage are key issues to resolve for the potential of land development to be realised. This needs to be considered strategically as well as on a site-by-site basis. Climate change projections to the year 2100 indicate an increased risk of flooding due to a combination of sea level rise and more extreme rainfall events.

Much of the precinct is flood-prone and covered by the Land Subject to Inundation Overlay and Special Building Overlay, used to manage the impact of flooded land on urban development. It means these areas are subject to flooding at a level of 1 per cent Annual Exceedance Probability (AEP) – the likelihood in any given year that flooding exceeds a given height.

Land ownership

The block structure in Arden is varied, comprising both large industrial blocks and smaller, fine-grain residential blocks.

The largest land holding is owned by the Victorian Government and bound largely by Arden Street, Barwise Street and Laurens Street. Other major land holders include Weston Milling, Citywide and the Lost Dogs Home.

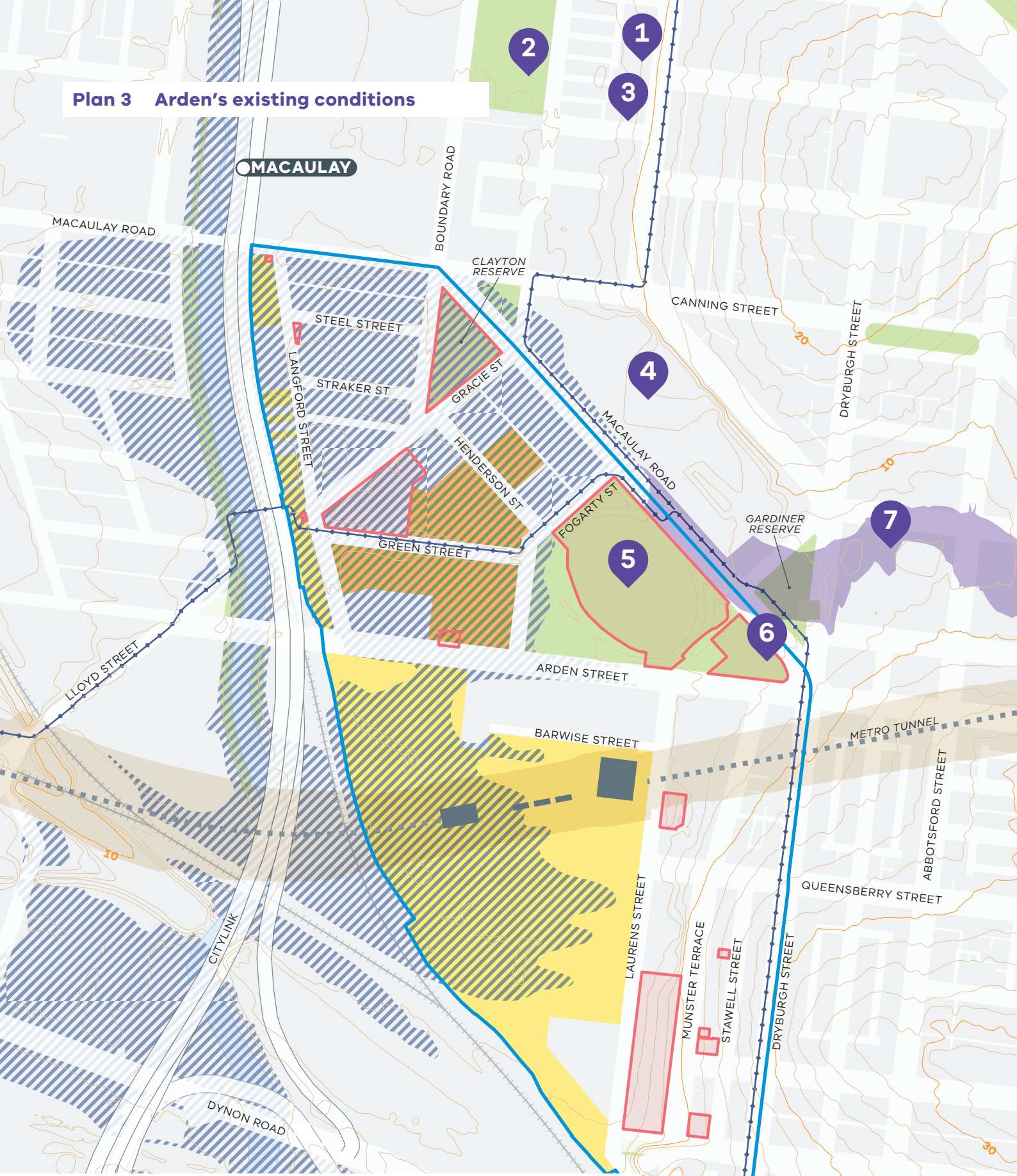
Heritage assets

There are a number of heritage buildings within Arden which give the precinct a depth of character from which to evolve. Converted warehousing, milling structures and saw tooth industrial buildings are some examples of the mix of existing typologies within the precinct.

Contamination

Arden's industrial past leaves a legacy of contaminated sites that require remediation to enable development.

Plan 3 Arden's existing conditions



- precinct boundary
- local government-owned land
- Victorian Government-owned land
- new Arden Station above-ground features
- significant heritage attributes
- Land Subject To Inundation Overlay
- Special Building Overlay
- development subject to DDO70 Metro Tunnel Project – Infrastructure Protection Areas
- contour interval 2 metres
- transmission pressure gas pipeline indicative location

1. Hotham Hub Children's Centre
2. North Melbourne Community Centre
3. Jean McKendry Neighbourhood Centre
4. Victorian Archives Centre
5. North Melbourne Recreation Reserve
6. North Melbourne Recreation Centre & Pool
7. Lady Huntingfield Children's Centre

Land use

A variety of zones currently apply in Arden including:

- **Commercial 1 Zone (C1Z)** to properties along Macaulay Road, between CityLink and Boundary Road. The zone provides for mixed use commercial centres for retail, office, business, entertainment and community uses. It also provides for some residential uses.
- **Industrial 1 Zone (IN1Z)** to sites along Laurens Street and Arden Street. The zone provides for manufacturing industry, the storage and distribution of goods and associated uses in a manner that does not affect the safety and amenity of local communities.
- **Industrial 3 Zone (IN1Z)** to sites along Laurens Street and Arden Street. The zone provides for industries and associated uses in specific areas where special consideration of the nature and impacts of industrial uses is required or to avoid inter-industry conflict. It also allows some retail opportunities.
- **Mixed Use Zone (MUZ)** to the majority of sites to the east of the precinct. The zone provides for a range of residential, commercial, industrial and other uses.
- **Public Use Zone 4 – Transport (PUZ4)** to railway land along the Upfield railway line and to the east of Laurens Street in the south of the study area.
- **Public Park and Recreation Zone (PPRZ)** to the North Melbourne Recreation Centre site. The zone recognises areas for public recreation and open space.

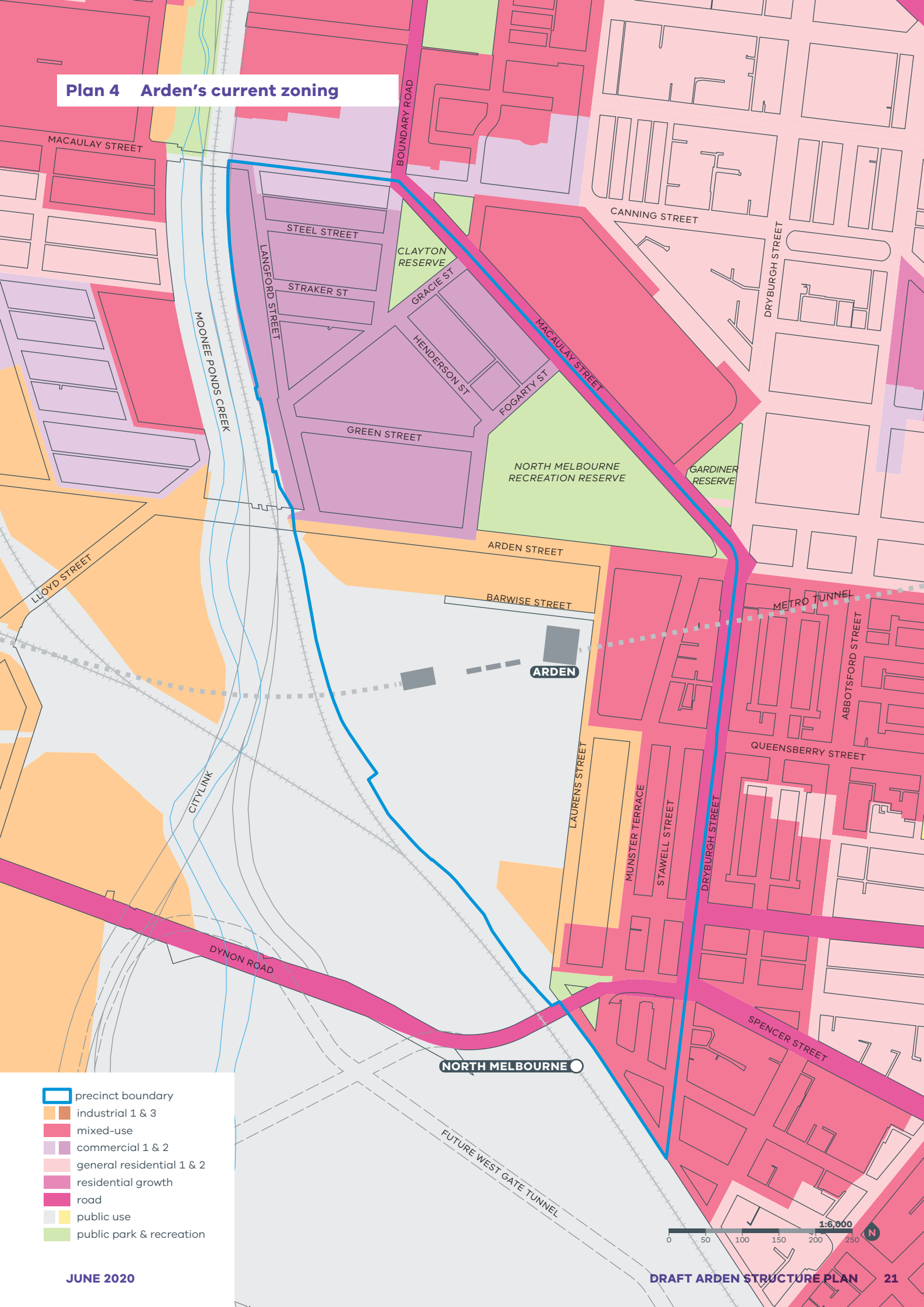
Industries in Arden are diverse and include warehousing and showrooms, concrete batching, food manufacturing, transport industries, and other construction industries.

Arden's renewal will generate opportunities for government to support existing businesses that are undergoing change to find more suitable locations as the precinct becomes a place for a mix of employment and residential uses, people focussed streets and green spaces.

Current zoning has limited the establishment of residential land uses in Arden, which are primarily clustered in the Laurens Street sub-precinct within the Mixed Use Zone. Despite this zoning, the majority of new development has been residential. While the zoning allows for it, there is limited retail offering in the area.

Recent development activity has seen a greater focus on residential apartment development. One example includes a major mixed use development proposed on a 1.5 hectare site on Arden Street. This activity is in part a response to the future infrastructure provision, public realm upgrades and development potential indicated by the draft *Arden Vision* released in 2018.

Plan 4 Arden's current zoning



The Metro Tunnel Project – Arden Station

The Metro Tunnel Project's legacy in creating a great place in Arden will be defined by the quality of the design and integration of Arden Station into the public realm. There will be four above-ground elements to the station as well as the station box and tunnel below ground:

Main station building

Located near the corner of Laurens Street and Barwise Street, the main station building will be the key arrival point into Arden. The station's striking 'barrel vault' archway design will be the central feature of a continuous public space at the centre of the precinct.

Its design will reference Arden's rich industrial history through the use of materials such as clay brick, bluestone, timber, steel and glass. Retail spaces and a café will be included in the station, with outdoor dining terraces. Public seating, garden beds and lawn areas will provide a new gathering place for locals and visitors to enjoy.

Western service building

The western service building will be located on the western side of the Fogarty Street extension and provide essential services access to the station including electrical service rooms, loading and logistics spaces and emergency exits. All service openings are located on the building's eastern façade, allowing for development immediately adjacent to the three other façades.

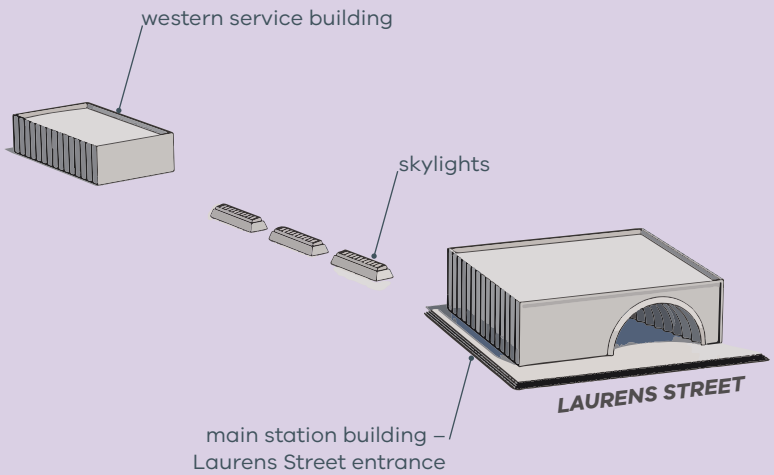


Figure 6 Arden Station's proposed above-ground design features. Indicative only for illustrative purposes.

It will be built of brick and concrete with a similar external character to the main station building. It is not a passenger-accessible building.

It is not possible to build directly on top of the western service building, though design options will be investigated on the feasibility of a cantilever structure to allow for some development of the building. Activation or sleeving of the south wall of the building will also be investigated, including the potential for a small retail or bookable community space or a performance space fronting onto the Arden Capital City open space.

Skylights

Three skylights of 2.5–3.0 metres in height and approximately 17 metres long each will be located in the Arden Central public space between the two station buildings. These will provide natural light to the central void space of the underground station.

The skylights will be glass and concrete, clad in grey granite and integrated into the landscaping of the central public space.

Future entrances

The design of the station concourse leaves available the option for future entrances to be added. A potential future entrance could be accommodated such as on the corner of the future Fogarty and Queensberry Street extension intersection.

Design and Development Overlay – Metro Tunnel Project – Infrastructure Protection Areas

Below ground, the Arden Station box and tunnels are planned assets under construction. Schedule 70 to the Design and Development Overlay seeks to ensure development does not adversely affect or put at risk the construction, integrity or operation of the Metro Tunnel infrastructure. Proposed new developments will need to ensure that matters such as design loading, design clearances, noise, vibration and electromagnetic interference are within the acceptability limits designed for operation of the Metro Tunnel, and will need to respond to the noise, vibration and electromagnetic interference impacts anticipated for the Metro Tunnel operations.

Developers are strongly encouraged to engage early with Rail Projects Victoria, which is responsible for the delivery of the Metro Tunnel Project.

Figure 7 Entrance to the new Arden Station from Laurens Street (concept image).

Figure 8 Concourse of the new Arden Station (concept image).

The sub-precincts

Arden is divided into three sub-precincts – Arden North, Arden Central and Laurens Street – that reflect the differences in their character.

Figure 9 Construction site for the new Arden Station in Arden Central.

Figure 10 North Melbourne Recreation Reserve and oval.

Figure 11 Queensberry Street, looking west towards Laurens Street.

Arden Central

Approximately 16 hectares

The Arden Central sub-precinct currently contains mainly Victorian Government-owned land used for transport purposes, with privately-owned parcels on Arden Street and at the southern end of Laurens Street. The new Arden Station is located within this block, fronting Laurens Street.

The area is flat and highly walkable, with striking views of the central city skyline, the freeway, the Melbourne Star Observation Wheel, and the prominent 'Don's' painted silos.

The sub-precinct is currently laid out as a single large block, with no permeability to surrounding areas. Existing buildings in this area are typically industrial buildings of one or two storeys in height.

Arden North

Approximately 22 hectares

Arden North contains small-scale industry, warehousing, community services, open space and recreation, including local icons such as the North Melbourne Recreation Reserve, the North Melbourne Recreation Centre and Pool and Clayton Reserve.

Large floorplate brick or sheet metal clad industrial buildings with blank walls or car parking at ground level is a common feature. The precinct includes wide roads that accommodate industrial and logistics vehicles, with generally large but irregular blocks due to the street network layout.

Laurens Street

Approximately 12 hectares

The Laurens Street sub-precinct includes residential, commercial and industrial land uses set along wide tree-lined streets. It is already transitioning from a primarily industrial area to some residential uses and contains a number of buildings of heritage significance. The land rises sharply to the east within the sub-precinct.

Larger land uses such as a flour mill and car sales centre are located between Laurens Street and Munster Terrace, with street frontages a mix of heritage brick and more modern materials.

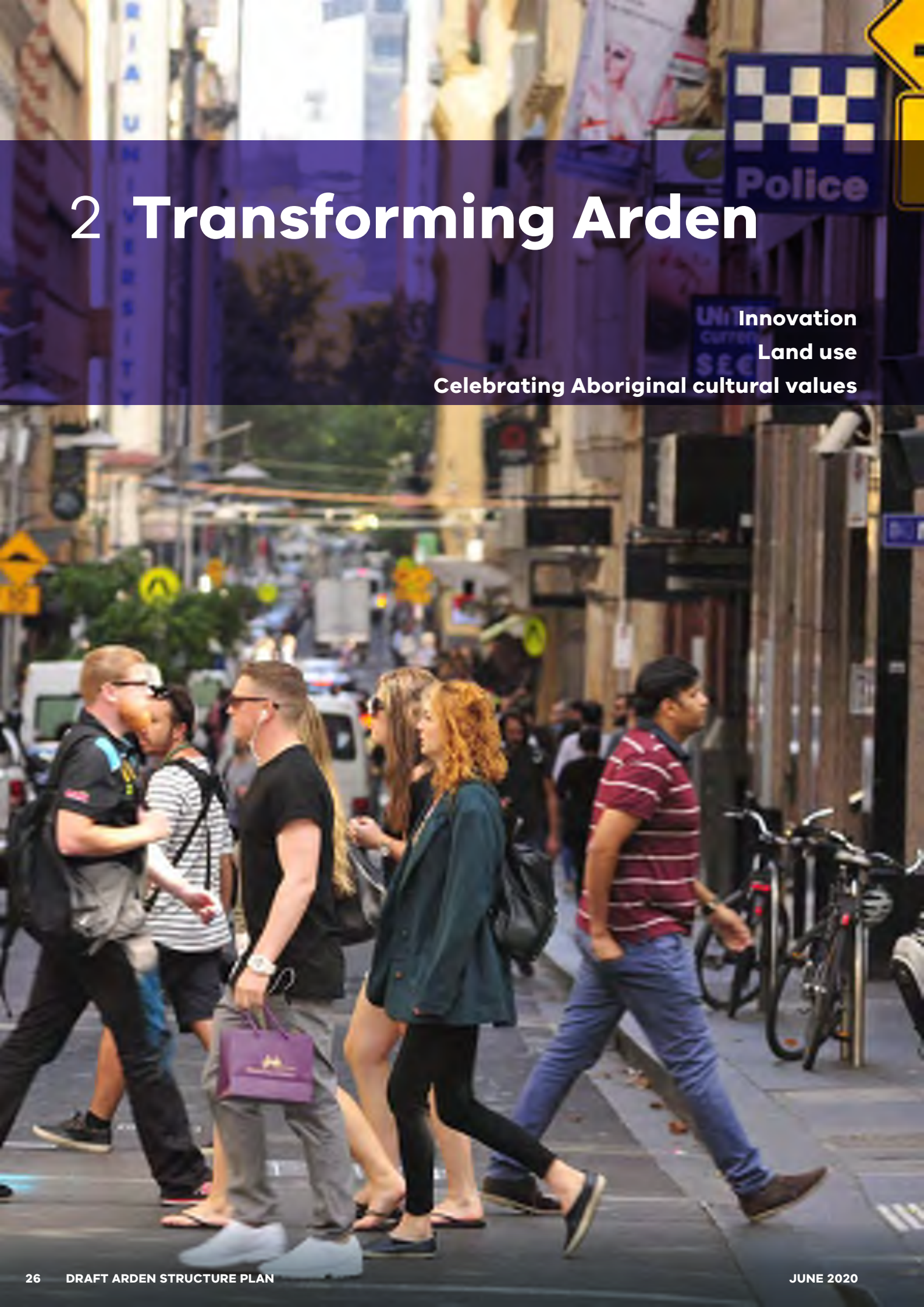
There are smaller residential blocks along the eastern edge between Munster Terrace and Dryburgh Street. Residential buildings are generally low-rise terrace houses, some warehouse conversions and recently constructed low-rise apartments and terraces. The latter are generally three to five storeys with ground floors typically dominated by car parking access or garaging.

The southern portion of the sub-precinct is included within the West Melbourne Structure Plan boundary and aligns with the future vision for the precinct.

Figure 12 Arden's sub-precincts.

2 Transforming Arden

Innovation
Land use
Celebrating Aboriginal cultural values



Arden will advance Melbourne's strengths as a progressive, innovative and connected local and global city. The new Arden Station will catalyse Arden's transformation into a new employment hub. There will be significant opportunities for better and diverse ways of working, living and learning, as it evolves from an industrial area into an innovation precinct.

***– Arden Vision*, 2018.**

The precinct's transformation from an industrial to knowledge-based economy will encourage clustering of small and large organisations, with a focus on catalysing and enabling growth in the digital technologies, life sciences, health and education sectors. Arden's development as an innovation precinct will unlock opportunities for greater economic output, leveraging capabilities and investment in Victoria's high-growth knowledge based-industries.

To create an innovation ecosystem, the Brookings Institute identifies t a precinct must comprise three types of assets:

- **Economic assets** including the firms, institutions and organisations that drive, cultivate or support an innovation rich environment.
- **Physical assets** including publicly- or privately-owned spaces such as streets and other infrastructure, designed and organised to stimulate new and higher levels of connectivity, collaboration and innovation.
- **Networking assets** including the relationships between people, firms and places that facilitate idea generation and advances in commercialisation.

Innovation precincts

"... are geographic areas where leading-edge anchor institutions and companies cluster and connect with start-ups, business incubators and accelerators. They are also physically compact, transit-accessible, and technically-wired and offer mixed-use housing, office, and retail."

"... facilitate the creation and commercialisation of new ideas and support metropolitan economies by growing jobs in ways that leverage their distinct economic attributes."

– Bruce Katz & Julie Wagner (2014)

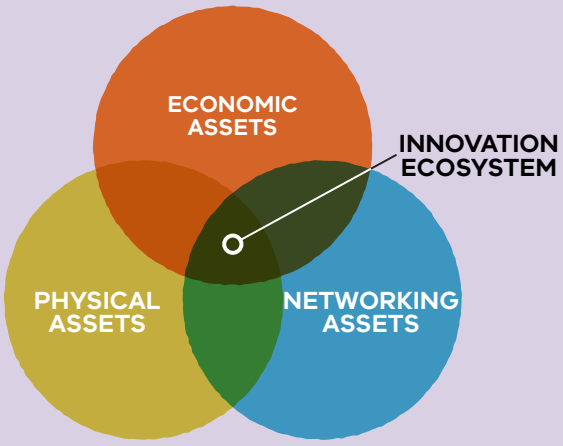


Figure 13 Three types of assets required to create an innovation precinct. Adapted from Katz & Wagner, 2014.

OBJECTIVE 1

Create the conditions that attract and retain global talent in the life-sciences, education, health and digital technology sectors and foster interaction, collaboration and knowledge sharing between enterprise, government and education.

Successful innovation precincts have specific economic, physical and networking assets that work together to make a successful place. These criteria are described in Figure 15.

The urban structure established by the draft plan enables the delivery of an innovation precinct while maintaining strong urban design principles. Blocks are designed to be flexible as economic development opportunities arise over the life of the precinct, while built form controls, a walkable street network, generous open spaces and other planning controls will ensure Arden is a great place to live, work and visit.

Arden will require a range of industry-focussed facilities, such as spaces for co-working and collaboration, affordable shared research infrastructure (including labs and technical equipment), small-footprint advanced manufacturing plants, clinics for medical trials, artists' studios and makers spaces, multi-purpose education facilities and events spaces, short term accommodation for visiting experts and students, and places to showcase Melbourne's innovation and creativity to the world.

An innovation hub proposed for the heart of Arden will be one of the ways to bring these components together. The hub will act as a 'front door' to the precinct that connects prospective businesses, travelling academics or clients to the opportunities that will emerge from the clustering of businesses in Arden.

STRATEGY 1.1

Facilitate the development of anchor enterprises and industry facilities early in Arden's development to showcase innovation, create jobs in the precinct and attract ancillary businesses and industries.

STRATEGY 1.2

Establish an innovation hub in the heart of Arden that includes affordable space for innovation and technology labs, artists' and makers' studios and co-working spaces, complemented by presentation and seminar spaces for sharing, exhibiting and commercialising work.

STRATEGY 1.3

Support the delivery of world-class and networked facilities and equipment throughout the precinct, such as laboratories and high-speed internet, to provide the tools for innovation, attract global talent and facilitate formal and informal collaboration and knowledge sharing.

STRATEGY 1.4

Explore private and public delivery models for affordable workspaces for arts, creative and innovation industries necessary for the desired economic activity. This includes delivering workshops and artists' studios, presentation spaces and co-working and collaboration spaces available on a variety of tenures and price-points to support Arden's future businesses.

STRATEGY 1.5

Monitor and measure success against the factors driving the success of innovation precincts in Figure 15.

Figure 14 Artist's impressions of potential innovation hub models anticipated for Arden. Indicative only for illustrative purposes.

Factors driving the success of innovation precincts

A checklist of nine criteria have been adopted from the Department of Environment, Land, Water and Planning's *Unlocking Enterprise in a Changing Economy* (2019) to guide the structure planning process.

These criteria can highlight how, for example, deficiencies in one of these factors, such as poor quality of place or lack of collaborative culture, could be holding back a precinct from realising its full potential despite the presence of other factors, such as strong anchor institutions or high quality information and communications technology infrastructure.

Figure 15 Factors that will drive the success of Arden as an Innovation precinct. (Source: DELWP)

OBJECTIVE 2

Deliver a highly liveable, mixed use precinct of Melbourne that aspires to accommodate approximately 34,000 jobs and around 15,000 residents with innovation at its heart.

The Victorian Government and City of Melbourne have significant land holdings within Arden and are taking a proactive approach to curating the precincts development. Arden's government land holdings and the new train station uniquely position the precinct to provide homes and jobs for Melbourne's growing population. Arden's vision is to be a world leading urban renewal precinct exemplifying Melbourne's reputation for liveability.

Arden will host a productive and innovative economy specialising in digital technologies, life sciences, health and educational sectors, complementing the globally recognised biomedical precinct in nearby Parkville.

To be successful, Arden needs to deliver approximately two-thirds of its development for employment uses and one-third for residential uses.

Future zoning in Arden will ensure a genuine mix of land uses can be achieved, particularly zones that cater to an employment focussed and amenity-rich innovation precinct. Zoning needs to manage conflicting land uses and activities and ensure that this mixed use creates the platform for innovation and activation.

The City of Melbourne is continually reviewing and refining its land use zoning policies to understand the effectiveness of the planning policy tools available. Zones such as the Mixed-Use Zone, Capital City Zone, Commercial Zone and Special Use Zone have all been applied within the Melbourne local government area to facilitate the transformation of new places.

STRATEGY 2.1

Provide an urban structure that aspires to accommodate approximately 34,000 jobs and around 15,000 residents and caters for a broad range of building types and floorspaces for the many different uses that will comprise the future of Arden.

STRATEGY 2.2

Provide appropriate planning controls and policy to attract the identified jobs mix and unlock Arden's potential for innovation.

Figure 16 Example of a potential innovation hub, as seen at Swinburne University Engineering Campus.

Case study: Exploring design responses to innovation uses

The Melbourne Brain Centre, Parkville, Melbourne

The Melbourne Brain Centre is the largest brain research collaboration in the southern hemisphere. Research at the Centre is focused on translating clinical neuroscience research into improved clinical practice, policy and patient outcomes. At approximately 20,000 square metres, the centre incorporates six levels of intensive laboratories, auditorium, art gallery and MRI facilities.

Sustainability is part of the everyday operation of the centre, with water reuse and efficient energy consumption embedded within the building design.

Now internationally recognised as a cutting-edge educational facility, the Melbourne Brain Centre provides a home for Australian medical research now and into the future.

Figure 17 Top, above: external and internal views of the Melbourne Brain Centre.

Figure 18 Above, right: views of the RBA 22@ headquarters.

RBA 22@ headquarters, Barcelona

The RBA 22@ building was designed to bring together formal and informal collaboration through internal and external open spaces on every floor.

The surrounding context and neighbourhood's industrial past are expressed in the simple structure frame with coloured ceramic panelling, referring to the few surviving brick factories. A through block link at ground levels creates a pedestrian passageway that aligns with the surrounding context.

The building delivers 19,000 square metres of commercial office space across 17 storeys.

OBJECTIVE 3

Celebrate, protect and interpret Aboriginal cultural values and heritage in the planning, design and curation of Arden.

For millennia the Kulin nation lived in close connection with the landscape surrounding Arden. This connection to country has continued since the arrival of Europeans in a variety of traditional and contemporary ways. While there are many stories and places in Melbourne that contain evidence of this connection, this is not always something that is apparent to people who live, work or visit Melbourne.

Places of contemporary and historical cultural significance enrich people's lives, often providing a deep and inspirational sense of connection to community and landscape.

The transformation of Arden presents an opportunity to reveal the areas rich cultural history and to create space for the ongoing interpretation and sharing of cultural values that remain an important part of contemporary Aboriginal communities.

Figure 19 Detail, by George Alexander Gilbert of the view from Batman's Hill looking north-west across West Melbourne Swamp, 1847. (Source: State Library Victoria)

An Aboriginal Cultural Values Assessment has been prepared in consultation with the Traditional Custodians of the land and has identified the following eight cultural values to underpin the planning for Arden:

- **Caring for Country:** Holistic approach to Country, nurturing Country, including the land, water, plants, and birds, animals and fish.
- **Connections to Country:** Strengthening connection to Country through stories, traditions and cultural practices, both traditional and contemporary.
- **Traditional knowledge:** Promoting, preserving and reigniting traditional knowledge, including Aboriginal languages; education.
- **Celebrating community:** Celebrating all of the community inclusively, including recent immigrant groups.
- **Respect for ancestors:** Remembering the stories of ancestors.
- **Celebrating culture:** Expressing Aboriginal identity, culture and spiritual life.
- **Stories of survival and the need for healing:** Stories of Aboriginal people finding their community and keeping community strong, for example, after leaving the missions and making new lives in Melbourne.
- **New knowledge:** Valuing archaeological and historical research that uncovers new information about Aboriginal history.

The findings of the cultural values assessment have informed the development of this plan and will be used by state and local government to ensure Aboriginal cultural values are reflected in developments which they undertake, support and/or have a role in approving.

STRATEGY 3.1
Plan for a new arts, cultural and community hub in Arden North to provide spaces for sharing Aboriginal history, culture and values associated with the area and for supporting Aboriginal business.

STRATEGY 3.2
Support the recognition and interpretation of the Aboriginal cultural values and heritage in Arden through engagement with the development industry and other stakeholders and in ongoing consultation and collaboration with Traditional Custodians.

STRATEGY 3.3
Explore opportunities to reveal the history of Arden as a rich and watery ecology, source of food and place of meeting through design, planting and curated programs. In particular, collaborate with the Traditional Custodians and local community to recognise this through the design of key spaces including the Arden North integrated stormwater management open space.

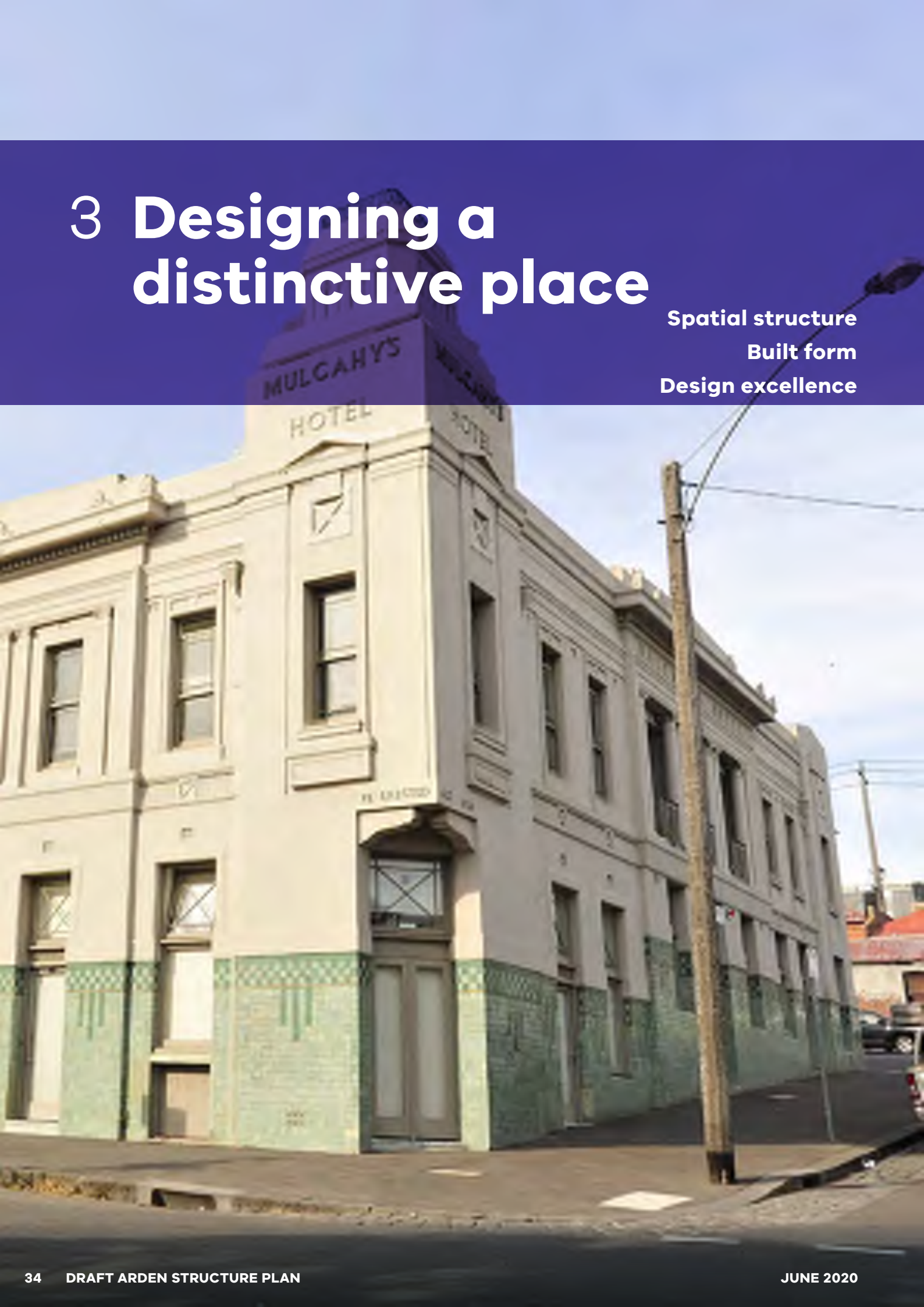
STRATEGY 3.4
Restore and nurture the local natural environment through indigenous planting and land management practices developed in collaboration with Traditional Custodians.

STRATEGY 3.5
Create opportunities to embed Aboriginal language, design and names in streets, parks and public buildings in consultation with Traditional Custodians.

STRATEGY 3.6
Identify opportunities for inclusive and social procurement policies and skills development for Aboriginal people in delivering Arden.

3 Designing a distinctive place

Spatial structure
Built form
Design excellence



Arden will be shaped by exemplary urban design and built form, anchored by the valued characteristics that make the suburbs of North and West Melbourne special to its residents and workers. Public areas will respond to the existing environment and strengthen the evolving identity of the precinct.

***– Arden Vision*, 2018.**

Arden has a rich history and context that will help create a distinctive new piece of Melbourne and a new destination for the city. Arden will include the characteristics of successful places – a new structure of great streets creating walkable and connected blocks and a range of new open spaces connecting to those already there, including Clayton Reserve and North Melbourne Recreation Reserve.

The place-based approach to Arden identified through the three sub-precincts of Arden North, Arden Central and Laurens Street will include a variety of building types, heights and densities that fit well within their surrounding context, while also helping to create a new and distinct character.

A high-quality and connected public realm will piece together these three distinct sub-precincts and connect Arden with neighbouring areas to help attract new businesses and residents to the area. The new streets and spaces will be framed by high quality architecture – as the expectation rather than the exception – and design excellence will be expected on key sites within the area to help deliver the key directions of exemplary urban design in Arden.

Urban structure

Melbourne has a proud history of being planned with a grid street network with parks and boulevards as important features of the public realm. Arden will continue this walkable grid structure while incorporating more contextual elements such as diagonal streets and triangular parks that are specific to North Melbourne, West Melbourne and Kensington. Arden will look and feel like a part of Melbourne from both the street and the sky, while also delivering a new and exciting offering to the city.

The network of streets and open spaces will respond to the existing context of the area – including surrounding buildings, the topography and stormwater management – to provide a framework for the future development and transformation of Arden.

Figure 20 The concept plan for Arden highlighting the key moves that have informed the new urban structure. Indicative only for illustrative purposes.

The proposed spatial plan for Arden recognises the importance of creating a new part of the city where uses can change and evolve over time around a robust framework of streets. The Hoddle Grid in Melbourne is a successful example of how many different uses can occupy buildings over time.

The key moves and elements (Figure 20) of the proposed spatial plan for Arden include:

1. **A civic heart** in Arden Central, centred around the new Arden Station opening out to a new Capital City Open Space and connected to a new green neighbourhood park. These spaces will be framed by a layer of low to mid-rise buildings housing a range of uses that allow sunlight to the new spaces – the heart of Arden.
2. **Extending Fogarty Street** through the heart of Arden Central and connecting to the Macaulay urban renewal area via Henderson Street and Boundary Road, forming an urban boulevard and main north–south green spine through the precinct.
3. **Extending Queensberry Street** boulevard through the precinct to connect Arden with North Melbourne and become the main east-west route through Arden Central and Laurens Street sub-precincts.
4. **A connected network of open spaces and green streets** with a 2.5–3km green loop around Arden.
5. New **integrated stormwater management** open spaces become a focal point for Arden North and an important asset to the community along the entire western boundary.
6. Creating a **new linear park** along Munster Terrace to form a focal point and new open space in the Laurens Street sub-precinct.
7. A new **innovation precinct** with a range of building types and sizes clustered around the northern half of the Arden Central sub-precinct and the new Arden Station.
8. Designing **built form to transition** from the established lower scale of North Melbourne towards the higher density development in Arden Central and around the new Arden Station while also ensuring appropriate sunlight access to new and existing open spaces.

Plan 5 Arden's future urban structure

Arden North will be defined by...

1. Water in the landscape, where streets will manage water flows with green links and cloudbusrt elements. The new Arden North integrated stormwater management open space will help manage flooding during rain events.
2. Continuous green space that extends from the North Melbourne Recreation Reserve.
3. The Fogarty Street urban boulevard providing green links and public transport options, connecting Arden North to Arden Central and the Macaulay urban renewal area.
4. New and expanded community facilities at the North Melbourne Recreation Reserve.

Arden Central will be defined by...

5. A major health or education institution embedded in the precinct to foster innovation.
6. Design excellence and leading sustainability practice in buildings and the wider public realm.
7. A major activity centre for Arden around the station and major intersections of Queensberry Street, Fogarty Street and Laurens Street.
8. A civic centre in Arden Central including open space, public transport, public institutions and a proposed government primary school, framed by mixed-use development.

Laurens Street will be defined by...

9. Transitional density opportunities that provide a comfortable interface to the activity of Arden Central.
10. Walkable and connected streets that invite visitors into the precinct with sustainable transport links along the Queensberry Street boulevard.
11. Built form that complements and builds on existing North Melbourne character, seamlessly interfacing with the existing residential areas to the east with creative and adaptive reuse of heritage buildings.

- precinct boundary
- innovation hub
- residential/mixed use
- transitional residential & business
- innovation heart
- community facilities
- potential institutional use
- local indoor recreation
- Capital City Open Space
- new open space
- existing open space
- new integrated stormwater management open space
- new Arden Station above-ground features

1:6,000 0 50 100 150 200 250 N

OBJECTIVE 4

Deliver a new urban structure for Arden that incorporates a high-quality network of connected streets and open spaces that help support a varied and walkable block structure.

The proposed spatial plan (see Figure 21) helps to provide certainty and control for Arden's future but also allows for a degree of variation and flexibility as the precinct develops over time. A clear, connected street network throughout the precinct helps to deliver a range of different development blocks throughout the three sub-precincts.

The proposed development blocks provide enough certainty and control to help plan for Arden's future, but also allow for robustness, variation and flexibility for future development to respond to changes that may occur as Arden gradually develops.

A wide range of development block sizes are proposed in Arden Central and Arden North. These block sizes will help support a mix of different uses, including laboratories, pharmaceutical uses, and innovation uses, as well as other commercial, retail and residential uses.

The smallest block sizes can be found in areas that have already been subdivided such as those in Arden North near Macaulay Station and Laurens Street.

There is flexibility within the proposed street network of smaller streets and laneways to ensure adaptability to future needs of new businesses and tenants while ensuring a connected, fine grain and walkable structure. As a result, some blocks could be combined to become larger or smaller according to the needs of future uses, but care needs to be taken to ensure the smaller streets and laneways still deliver a connected, permeable and safe street network.

Design of the new Arden Station has allowed for a future second entrance within Arden Central, to the west of the station building. The realisation of this second entrance will improve the walkability of the precinct. It is proposed that this entrance is located in the new Capital City Open Space, at the intersection of the Fogarty Street and Queensberry Street extensions as shown in Figure 21.

The success of the proposed public spaces in Arden depends partly on a clear definition and activation of their edges. This is achieved by having a consistency of building frontages facing the open space; sufficient height and mass to achieve a good sense of enclosure and good levels of sunlight. More information on the roles and functions of these spaces can be found in Chapter 7 – Creating diverse open spaces.

STRATEGY 4.1

Deliver Arden's renewal in general accordance with the spatial plan as per Figure 21 to deliver exemplary urban design, a mix of block sizes and a broad range of building types.

Figure 21 Artist's impression of Arden's future urban structure. Further detailed design of open spaces and streets will be undertaken in consultation with community, Traditional Custodians and other stakeholders. Indicative only for illustrative purposes.

Key components of the Arden spatial plan

A distinct and contextual spatial plan

The spatial plan responds to the existing context of the area, including existing buildings, established trees, heritage, topography (brown arrows), flooding and key views (blue arrows).

Taller buildings (orange areas) will be located where they will frame key views and create a new skyline and character, while minimising the impact on surrounding areas.

A clear street hierarchy in the spatial plan

A hierarchy of different types of streets within Arden will serve a range of functions including transport and movement, urban greening and environmental performance, providing spaces for people to spend time, and creating a thriving retail environment.

Fogarty Street (dark green) will be the key north–south connector that enables movement through the precinct and connects Arden into West Melbourne and Macaulay, while Queensberry Street (light green) will provide a direct connection to nearby Parkville and the North Melbourne Arts precinct. Arden Street (blue) is the key east–west street. Laurens Street (purple) forms a crucial connection between North Melbourne Station and Arden Station.

Pedestrian priority zones (yellow) will encourage people to spend time, move and play as extensions of the open space network.

A network of open spaces in the spatial plan

The spatial plan proposes a network of new and existing open spaces (green areas) – these include the key spaces of a new Capital City Open Space and adjacent open space in Arden Central, new open spaces in Arden North that act as stormwater storage areas and a new linear park along Munster Terrace. These spaces are connected to existing open spaces in the area, including Clayton Reserve and North Melbourne Recreation Reserve which help to create a 2.5–3 km walking and running path (purple line) through the precinct.

A variety of proposed block sizes in the spatial plan

A variety of block sizes (orange blocks) are proposed throughout Arden for a range of specific uses including Arden's sector focus uses, as well as other commercial, retail, community and residential uses. Within the new structure in Arden Central and Arden North, the proposed block sizes range from approximately 1,500 square metres to approximately 4,000 square metres, with a larger block of approximately 10,000 square metres in Arden Central to support a major health or education institution.

OBJECTIVE 5

Introduce density and built form controls that help transform Arden into a world-leading urban renewal precinct and innovation precinct while celebrating the precinct's existing assets and surrounding neighbourhoods.

New density and built form controls will transform Arden to a new and distinctive part of the city, while being sensitive to the existing built form and character of North Melbourne. The new controls will consist of design recommendations (to help inform new Design and Development Overlays in the planning scheme amendment), floor area ratio controls (FARs) and built form controls (such as building heights and setbacks). These controls will allow certainty around the scale of development that can be expected within each part of Arden, while allowing flexibility at a site level to respond to local conditions.

FARs allow for a variety of building types. When combined with built form controls, FARs create a flexible framework to achieve a variety of creative and contextually responsive building designs.

The introduction of mid-rise (7 to 15 storeys) and high-rise (16 storeys and taller) development in Arden, with some low-rise development (up to and including 6 storeys) will redefine the skyline of this part of Melbourne. Arden's taller skyline will stand out from the stretch of low to mid-rise development along the Moonee Ponds Creek from Docklands through to Flemington.

The Laurens Street sub-precinct plays an important role stepping and transitioning new developments down to an appropriate scale to integrate with the existing urban form. Building heights and types to the western and northern boundaries will vary to help create visual interest and depth while helping avoid solid walls of development.

An Arden Design Guide (similar to the Central Melbourne Design Guide) will be prepared to support the use and interpretation of the proposed new controls by focusing on the key components of design that will contribute to inspiring well designed buildings, streets and places within Arden.

The main elements of built form character for each precinct are:

Arden Central

- Low to mid-rise development within the core surrounding the new open spaces and the heart of Arden, with denser and taller buildings layered around the edge. A range of typologies will be required to respond to the controls, specific land use needs and the opportunity for taller built form in the south-west area.

Arden North

- Mid to high-rise developments on larger sites and a hybrid of perimeter blocks and slender towers to avoid significant overshadowing of Clayton Reserve, North Melbourne Recreation Reserve and the new integrated stormwater management open spaces in Arden North.

Laurens Street

- Predominantly low to mid-rise developments with some opportunities for additional upper levels that are visually recessed from the street and provide appropriate solar access to streets. Some high-rise development as appropriate near the new Arden Station.

An iterative process to ensure an appropriate balance between the future population and the desired built form has resulted in the proposed design recommendations, FARs and built form outcomes in Arden as shown in Plan 6 and the corresponding table.

Following engagement and feedback on the draft plan, further built form analysis will be carried out to continue to test and refine the FARs and how they work with the proposed height and other built form controls. This could include analysis to ensure buildings do not cause unsafe or uncomfortable wind conditions in streets and open spaces.

STRATEGY 5.1

Prepare an Arden Design Guide and planning scheme amendment to implement the relevant strategies of the plan. This will implement the design recommendations, floor area ratio controls and built form controls.

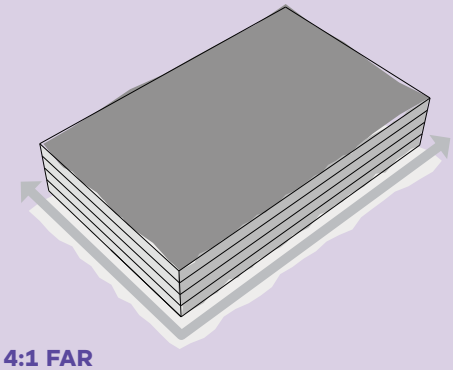
Understanding floor area ratios

A floor area ratio is a type of planning control that sets a specific amount of development that can occur on a site. The floor area ratio is the ratio of a new building's total floor area in relation to the size of the site it is being built on.

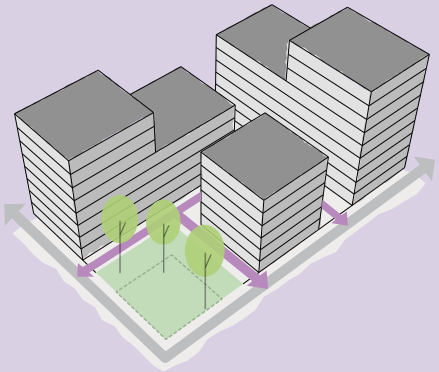
When combined with other built form controls, it allows for variation in the height and shape of buildings. This will help to ensure that new development is more responsive to its site and the characteristics of an area.

The diagrams below explain the concept of floor area ratios and how it can result in different building types. For example, a floor area ratio of 4:1 allows for a total floor area up to four times the size of the site itself. This could be up to four storeys if 100 per cent of the site is developed or eight storeys if only half the site is developed.

For larger sites, a floor area ratio combined with other built form controls allows for variation in the height and shape of buildings while also enabling the delivery of new streets and open spaces.



4:1 FAR
4 storeys, 100% site coverage



4:1 FAR
4–11 storeys, 60% site coverage

Some of the benefits of floor area ratios are they:

- can often be aligned to the overall population or employment target for an area;
- can help to deliver a range of building typologies, helping to deliver a range of uses and provide visual interest;
- set realistic and clear expectations about the potential development yield on a site;
- enables flexibility for an architect to choose how they organise their building layout and form on their site within a preferred built form envelope, and focus on design quality rather than yield;
- have a direct relationship with the size of a site and can therefore be relatively easy to communicate;
- can help deliver a mix of uses with requirements for minimum floor areas for a range of different uses; and
- provide a clear and consistent measure to support efficient decision making.

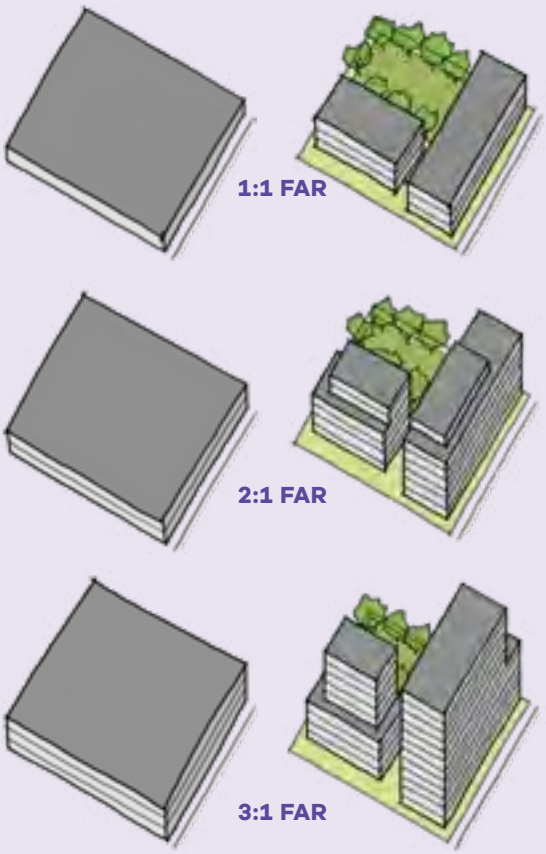


Figure 22 Indicative built form massing showing potential different built form outcomes for FARs of 1:1, 2:1 and 3:1. (Adapted from *Apartment Design Guide*, NSW Department of Planning and Environment, 2015)

Key design recommendations for Arden

The following key design recommendations for Arden inform the proposed design outcomes, FARs and height ranges in the draft plan:

- Deliver a range of built form typologies in Arden to meet the needs of different uses and users, with a layered mix of low-, mid- and high-rise and hybrid typologies (such as perimeter blocks with slender towers).
- Require spacing between taller buildings to create a skyline of separate forms, rather than a continuous wall of built form when viewed from within Arden (particularly from the new neighbourhood park and Capital City Open Space), and from surrounding areas, including those travelling on trains on the adjacent rail lines or on the elevated CityLink freeway.
- Ensure new developments have consistent building lines and sufficient height and mass to positively address key spaces and manage overshadowing – the core of Arden Central around the new neighbourhood park and Capital City Open Space will be of lower rise to ensure sufficient sunlight to these spaces and provide a human scale and layering of development.
- Locate taller buildings to have minimal impact on surrounding areas. Important views into and out of the precinct will be created by responding to local topography.
- Create a distinct, varied and architecturally interesting skyline for Arden that establishes a strong sense of place at a local and city scale.
- Deliver comfortable wind conditions in the public realm for walking, sitting or standing.
- Facilitate the transition of scale between buildings fronting Dryburgh Street and Laurens Street.
- Require development directly abutting heritage-built form to respond with a respectful and contextually appropriate design.
- Provide new, direct and convenient pedestrian connections that align with other streets, laneways or walking routes in new development.
- Ensure the site layout of development responds to the function and character of adjoining streets, laneways and open spaces.
- Ensure development appropriately considers the amenity impacts on neighbouring development.
- Ensure a high standard of internal amenity within the new developments.

Figure 23 Example of varied architectural form in Amsterdam, Netherlands.

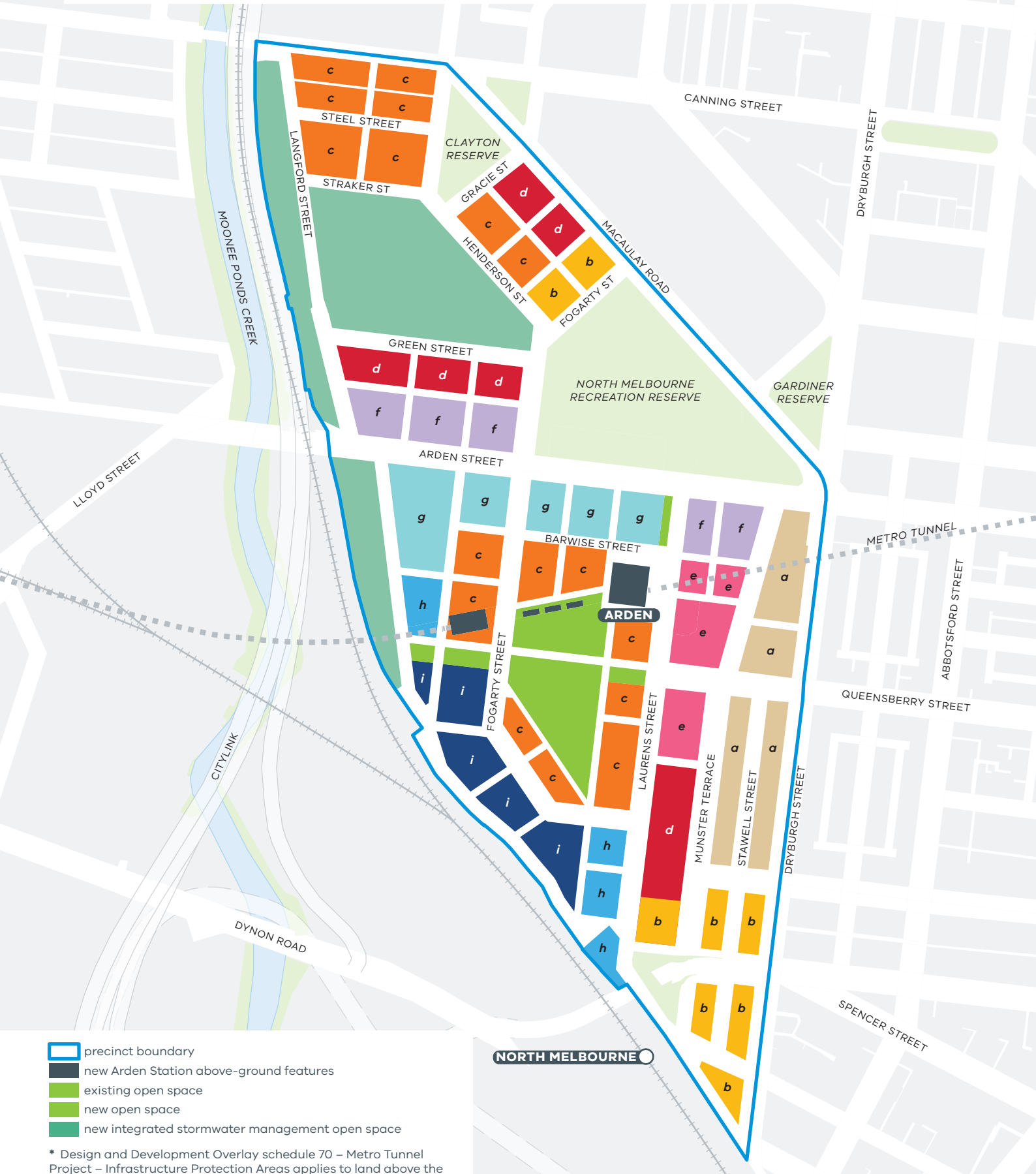
Figure 24 Example of design excellence at Arc Tower, Sydney.

- Deliver contextually appropriate built form interfaces to streets with regard to street width and lower street walls heights on narrower streets.
- Support equitable development by ensuring primary outlook is secured within development sites.
- Ensure buildings along Arden Street have a positive street address to both Arden Street and Barwise Street.
- Ensure new development does not cast any additional shadow to that cast by buildings built to the maximum street wall to the new neighbourhood park in Arden Central from 11:00am to 2:00pm from 21 June to 22 September.
- Ensure new development do not cast any additional shadow to that cast by buildings built to the maximum street wall to Clayton Reserve, North Melbourne Recreation Reserve and the new open space park in Arden North from 11:00am to 2:00pm on 22 September.
- Ensure buildings are setback sufficiently from front, side and rear boundaries (based on the height of a building) to help deliver comfortable wind conditions, enable adequate sunlight and daylight in streets, allow for views to the sky, to not overwhelm the public realm and achieve privacy.
- Ensure appropriate building separation within a site to deliver high quality amenity within buildings having regard to outlook, daylight and overlooking.
- Encourage fine grain ground floor shop fronts, lobbies and service areas.
- Ensure the design of buildings conceals service areas from the street frontage to minimise the loss of active perimeter.
- Maximise personal safety and security through activation of ground floors around open spaces and along Arden Street, Fogarty Street, Barwise Street and Laurens Street.
- Minimise the cumulative length of each service area and avoid any continuous service frontage of greater than 10 metres in length.
- Require that the design of services, loading and parking areas adopt the best practice approach comprising location, integration and decoration of elements to create a high quality pedestrian environment.

Figure 25 Example of heritage infill development at the High Line, New York.

Figure 26 Example of fine grain ground floor development with a positive interface to the street in Melbourne.

Plan 6 Arden's potential built form outcomes, floor area ratios, building height ranges and other built form controls



* Design and Development Overlay schedule 70 – Metro Tunnel Project – Infrastructure Protection Areas applies to land above the Metro Tunnel. The maximum height of buildings within DDO70 will be subject to the design clearance and loading allowance of the tunnel.

Note: Further built form analysis will be carried out for the Final Arden Structure Plan to test and refine the FARs and how they work with the proposed height and other built form controls.

	DESIRED OUTCOME	MAXIMUM POTENTIAL FLOOR AREA RATIO (FAR)	POTENTIAL BUILDING HEIGHT RANGE	OTHER POTENTIAL BUILT FORM CONTROLS
	Laurens Street			
*a**	Low rise, mid-density development to respect adjacent existing heritage area	4:1	3–6 storeys	• Setback above 4 storey street wall
	Arden North – adjacent to North Melbourne Recreation Reserve **Laurens Street** – Interface with West Melbourne Structure Plan as per C309 controls			
b	Mid-rise, mid-density development with overshadowing controls for North Melbourne Recreation Reserve	5:1	4–8 storeys	• Setback above 4 storey street wall
	Arden North & Arden Central – core around new open space			
*c**	Mid-rise development with overshadowing controls for Clayton Reserve and the new open spaces proposed in Arden North and Arden Central	6:1	6–15 storeys	• Setback above 6 storey street wall adjacent to open space
	Arden North **Laurens Street**			
d	Mid to high rise development, mixed typologies including hybrid development (e.g. perimeter block with tower)	7:1	12–18 storeys (Arden North)	• Setback above 4 storey street wall along Munster Terrace • Front, side and rear setbacks
	Overshadowing controls of North Melbourne Recreation Reserve and proposed Munster Terrace linear park		8–16 storeys (Laurens Street)	
	Laurens Street			
*e**	Predominantly mid-rise development, transitioning from Munster Terrace to Arden Central	8:1	10–16 storeys	• Setback above 4 storey street wall along Munster Terrace • Front, side and rear setbacks
	Arden North **Laurens Street**			
f	High-rise development fronting Arden Street	9:1	12–20 storeys	• Setback above 6 storey street wall along Arden Street • Setback above 4 storey street wall along Fogarty Street and Munster Terrace • Front, side and rear setbacks
	Arden Central			
g	Mid to high rise development, mixed typologies for innovation uses including hybrid development (e.g. perimeter block with tower).	10:1	8–25 storeys	• Setback above 6 storey street wall along Arden Street and Fogarty Street extension • Front, side and rear setbacks
*h**	Mid to high rise development, mixed typologies including hybrid development (e.g. perimeter block with tower)	12:1	20–35 storeys	• Setback above 6 storey street wall along Fogarty Street extension. • Front, side and rear setbacks
i	High rise development, mixed typologies including hybrid development (e.g. perimeter block with tower)	15:1	30–40 storeys	• Setback above 6 storey street wall. • Front, side and rear setbacks

Figure 27 Artist's impression of Arden in the context of the central city in the background. Indicative only for illustrative purposes.

Figure 28 Artist's impression of the view looking north from the southern end of the new neighbourhood park in Arden Central. Indicative only for illustrative purposes.

Figure 29 Artist's impression of the integrated stormwater management open space in Arden North. Indicative only for illustrative purposes.

Figure 30 Artist's impression looking west out of the main station building. Indicative only for illustrative purposes.

OBJECTIVE 6

Recognise and celebrate the valued built form heritage and character of Arden*.

There is an abundance of local heritage within Arden, reflecting the evolution of residential and industrial development in the area. From the iconic Weston Milling site through to individual cottages, the precinct has a wealth of history that can be woven into the future fabric of the place. There will be a need to protect locally significant heritage sites from unreasonable impacts from neighbouring development. Heritage sites that are of a contributory nature will offer opportunities for sensitively designed adaptive reuse of these spaces, so that they continue to offer value in a changing environment.

STRATEGY 6.1

Protect and enhance heritage features of the precinct which are identified in the Melbourne Planning Scheme as being of significance.

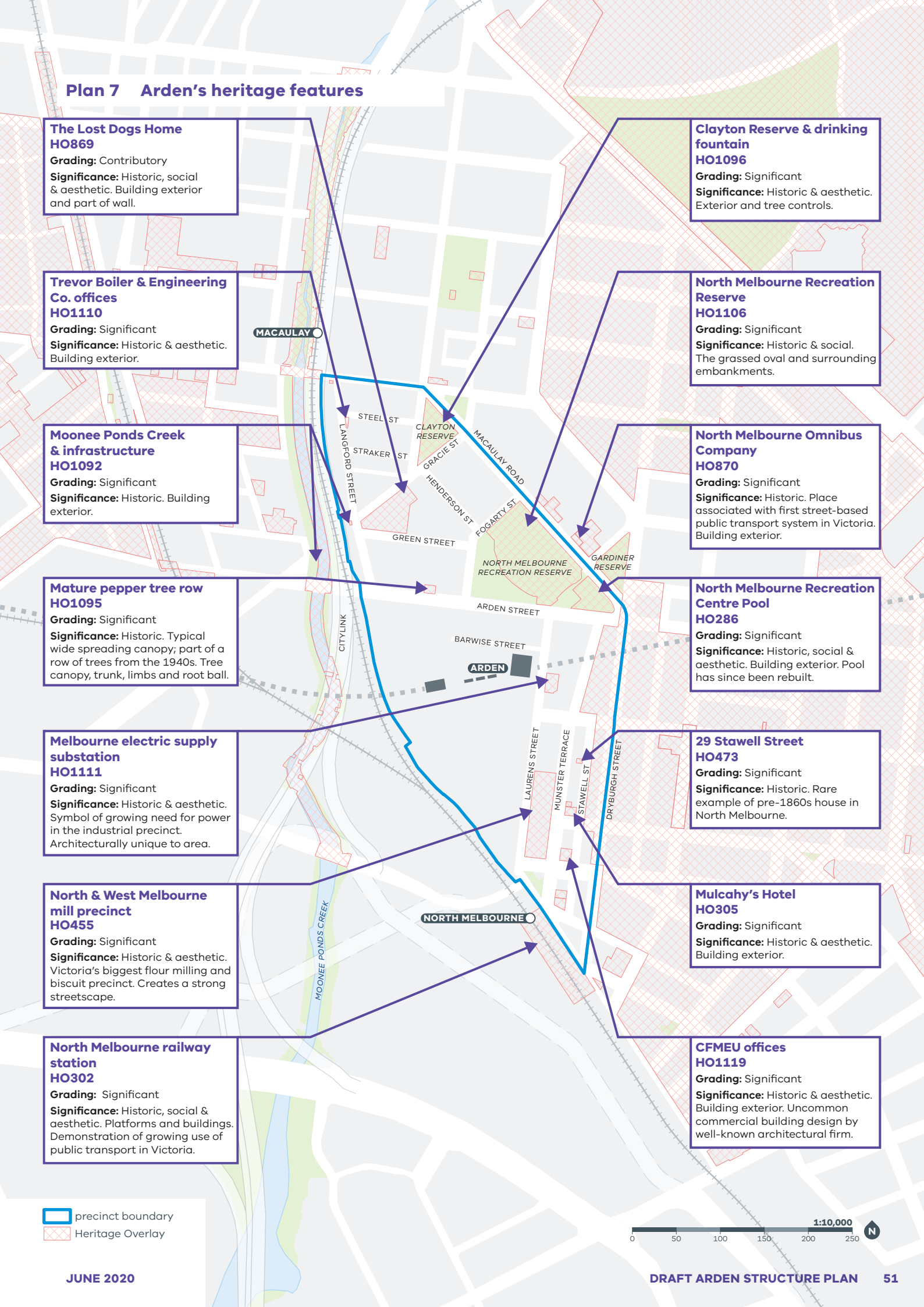
STRATEGY 6.2

Plan for heritage buildings to be incorporated sensitively into new development, supporting adaptive re-use where the design is of a high quality and reflects the heritage elements of the site and surrounds.

* Recognising, protecting and interpreting Aboriginal cultural values and heritage in the planning and design for Arden is discussed in Objective 3.

Figure 31 Examples of Arden's built form heritage features.

Plan 7 Arden's heritage features



The Lost Dogs Home HO869

Grading: Contributory

Significance: Historic, social & aesthetic. Building exterior and part of wall.

Trevor Boiler & Engineering Co. offices HO1110

Grading: Significant

Significance: Historic & aesthetic. Building exterior.

Moonee Ponds Creek & infrastructure HO1092

Grading: Significant

Significance: Historic. Building exterior.

Mature pepper tree row HO1095

Grading: Significant

Significance: Historic. Typical wide spreading canopy; part of a row of trees from the 1940s. Tree canopy, trunk, limbs and root ball.

Melbourne electric supply substation HO1111

Grading: Significant

Significance: Historic & aesthetic. Symbol of growing need for power in the industrial precinct. Architecturally unique to area.

North & West Melbourne mill precinct HO455

Grading: Significant

Significance: Historic & aesthetic. Victoria's biggest flour milling and biscuit precinct. Creates a strong streetscape.

North Melbourne railway station HO302

Grading: Significant

Significance: Historic, social & aesthetic. Platforms and buildings. Demonstration of growing use of public transport in Victoria.

Clayton Reserve & drinking fountain HO1096

Grading: Significant

Significance: Historic & aesthetic. Exterior and tree controls.

North Melbourne Recreation Reserve HO1106

Grading: Significant

Significance: Historic & social. The grassed oval and surrounding embankments.

North Melbourne Omnibus Company HO870

Grading: Significant

Significance: Historic. Place associated with first street-based public transport system in Victoria. Building exterior.

North Melbourne Recreation Centre Pool HO286

Grading: Significant

Significance: Historic, social & aesthetic. Building exterior. Pool has since been rebuilt.

29 Stawell Street HO473

Grading: Significant

Significance: Historic. Rare example of pre-1860s house in North Melbourne.

Mulcahy's Hotel HO305

Grading: Significant

Significance: Historic & aesthetic. Building exterior.

CFMEU offices HO1119

Grading: Significant

Significance: Historic & aesthetic. Building exterior. Uncommon commercial building design by well-known architectural firm.

OBJECTIVE 7

Encourage buildings that remain adaptable as uses change over time.

Buildings in Arden will need to respond to changes in technology and the way we live and work over time. As spaces such as car parking become redundant, they should be easily adaptable to alternative uses to avoid unnecessary demolition and associated environmental impact through building obsolescence. Similarly, buildings should be adaptable to accommodate new uses and needs, such as changing ways of working. Flexibility in building design will be critical to achieving this objective.

STRATEGY 7.1

Require that any new car parking facilities can be adapted to future habitable buildings for other uses, including internal layouts, adequate floor to ceiling heights and avoidance of sloping or excessively deep floorplates which preclude future use.

STRATEGY 7.2

Require that highly specific building configurations, such as student accommodation and hotels, use structural design systems which enable conversion to other uses should needs change over time.

STRATEGY 7.3

Require that commercial buildings be designed to enable subdivision of floorplates into smaller tenancies over time through the placement and configuration of cores, atria and other elements in response to evolving workplace patterns.

STRATEGY 7.4

Design all buildings to exceed minimum required life expectancies and aim for at least 100 years of structural performance (considering future climate scenarios) with a higher expected turnover of interior fit-out.

Figure 32 Sydney's competitive design competition process has resulted in buildings that deliver higher design quality and innovation and contribute to an improved public realm. (Source: Martin Siegner)

OBJECTIVE 8

Ensure design excellence is achieved for key strategic sites within Arden.

Design excellence describes projects that demonstrate exceptional standards of architecture, landscape architecture and urban design, befitting of the intended role of Arden – and goes beyond the already-set expectation of high quality and exemplary urban design and built form on all sites (as set out in the *Arden Vision* and Objectives 4 and 5).

Design excellence ensures that buildings on key sites in Arden demonstrate an exceptional standard of design innovation and creativity. These buildings should aspire to be generous to the public realm and contribute to, what will in time, become our future heritage. Buildings of outstanding quality and character have an enduring legacy, influencing the character of an area, its liveability, attractiveness and quality of place.

Design excellence will be measured by the function, liveability, sustainability and public contribution of buildings and urban spaces. Design excellence will be required for strategic sites in Arden as defined by criteria or attributes which could include the following:

Development scale

- Where a development exceeds a threshold scale (e.g. gross floor area), capital investment (e.g. gross realisation value), building height or site size.

Sensitivity criteria

- Identified gateway location
- Location on or adjacent to a heritage property
- Master-planned development comprising multiple stages
- Adjacent to public spaces or major public infrastructure such as railway stations, civic buildings etc.

The final criteria and/or provisions that trigger the requirement for design excellence and identification of key strategic sites in Arden will be identified in the final structure plan and implemented through the subsequent planning scheme amendment. The requirements will ensure that planning applications are assessed after one of the following processes has taken place:

Design competitions

The establishment of mandatory design competitions for strategic sites and civic works can foster design excellence. A well-managed competitive design process can enable the testing of options to ensure the best development outcome for a given site. Guidelines will be prepared to inform design excellence competitions in Arden and will include the calculation of potential development incentives for pursuing a competition.

Design review panel

An independent expert design review enables peer-to-peer assessment by design experts whose knowledge, experience and industry credibility provide leverage to support outcomes that achieve design excellence.

An independent expert panel review of projects on strategic sites could be required at pre-lodgement and at key approval phases where the impact is greatest. Early engagement of the panel provides the best opportunity to increase the quality of a design proposal.

STRATEGY 8.1

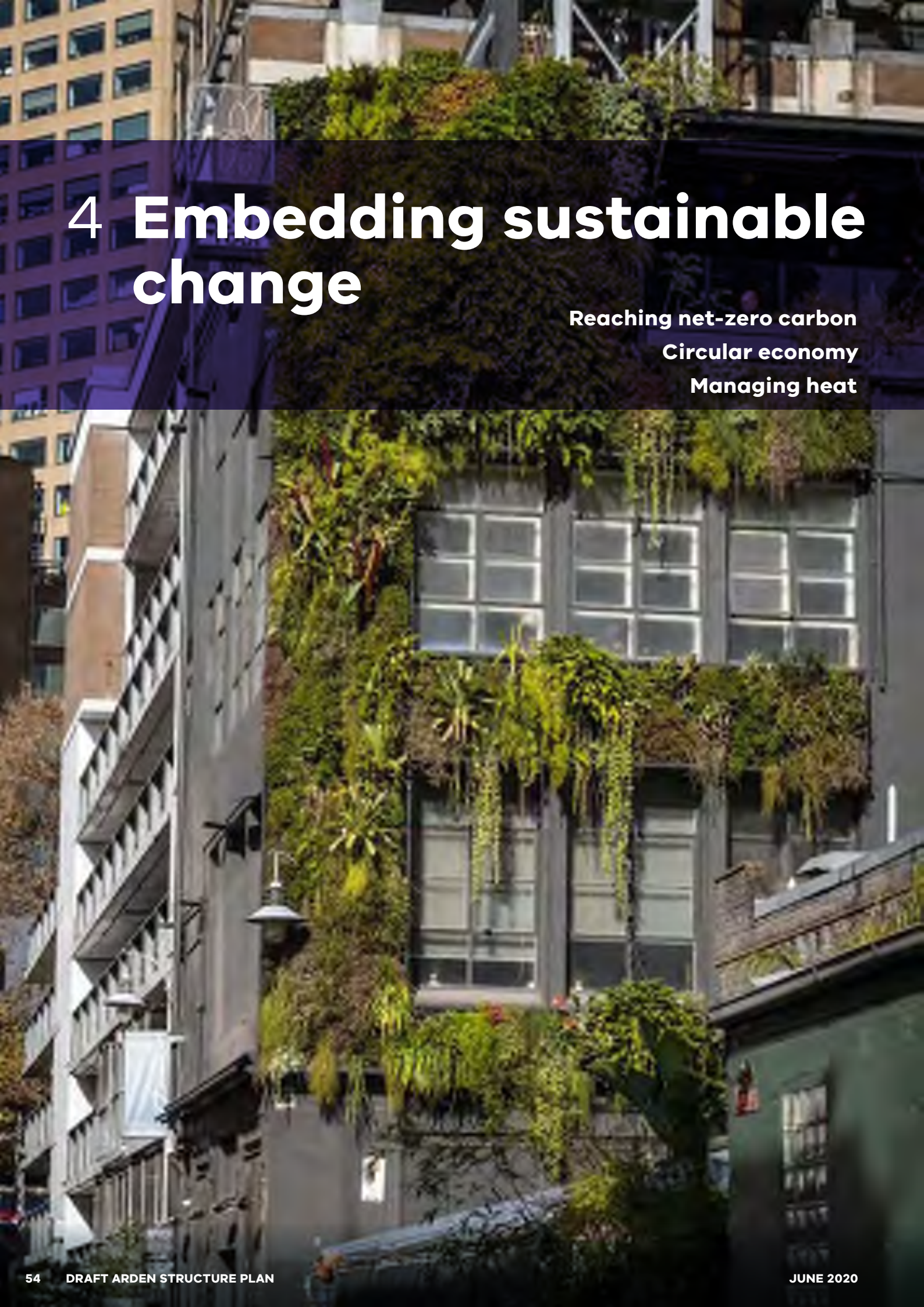
Require strategic sites to deliver design excellence through either a design competition or design review panel.

STRATEGY 8.2

Prepare guidelines to inform design excellence competitions in Arden.

STRATEGY 8.3

Work with the Office of the Victorian Government Architect to strengthen the quality of design review of projects within Arden, either through the Victorian Design Review panel process or through a new design review panel.



4 Embedding sustainable change

Reaching net-zero carbon
Circular economy
Managing heat

Best practice standards for environmental, social and economic sustainability will underpin planning for the new communities and buildings, making Arden an exemplar of sustainable urban renewal.

– Arden Vision, 2018.

Arden will be an innovator and leader in sustainable urban renewal. Sustainability is embedded in every decision of the plan including transport, building design, water management, the public realm and open space. Sustainability will be a highly visible part of the identity of Arden.

Many of Australia's leading developers and investors are setting targets to transition their portfolios to net-zero carbon by 2030 and are increasingly producing carbon neutral buildings.

Better building practices reduce the costs of owning and operating buildings, reduce the cost of expensive future retrofits, and reduce the cost of purchasing carbon offsets.

Arden's development will harness this momentum to demonstrate new ambition and scale.

The result will be a precinct that is cool, green, celebrates water in the landscape, demonstrates word leading building design and has a visible connection with nature.

The Victorian Government and the City of Melbourne recognise the importance of the Arden Precinct as setting the standard for urban renewal in Melbourne and aspire to achieve greater sustainability outcomes. The City of Melbourne aspires to be a net-zero carbon municipality by 2040. The final *Arden Structure Plan* will set out the confirmed targets for sustainability, subject to the refinement of technical studies, feasibility testing and intra-government consultation.

OBJECTIVE 9

Establish strong environmental governance in Arden that provides certainty, accountability and transparency to achieve the precinct's net-zero carbon target.

Coordination and partnership between private industry and government will be critical to delivering on many of the precinct scale initiatives that are central to achieving net-zero carbon emissions. The significant government role in the development of the precinct offers the opportunity to negotiate partnerships, facilitate outcomes, and will assist in achieving a 6 Star rating using the Green Star Communities tool.

A coordinated, precinct-wide approach to sustainability will enable major infrastructure projects to be delivered, enable previously unachievable disclosure requirements to be enforced, and accurately monitor and evaluate performance to ensure accountability and adaptability. Beyond locking in a net-zero carbon pathway, strong governance will help to capitalise on the precinct's leading environmental credentials. The sale or lease of any government land or property can be used to enforce a contractual carbon target requiring the zero-carbon performance of development and use.

STRATEGY 9.1

Require large developments to prepare an operational management plan encompassing energy, transport, water, waste and climate resilience.

STRATEGY 9.2

Investigate requirements for annual public disclosure of energy operating performance of all developments. This may be extended to water, transport and waste over time.

STRATEGY 9.3

Embed emissions reduction targets within development agreements and leasing arrangements to ensure outcomes.

OBJECTIVE 10

Facilitate the delivery of precinct-scale infrastructure and centralised facilities that makes achieving building scale targets easier.

The relative 'blank slate' of the large government land holdings provide the greatest opportunities to ensure the future sustainability of Arden. This is one of the defining features that enable Arden to strive for and achieve greater levels of sustainability.

Early intervention with precinct-scale sustainable services infrastructure to support development will ensure sustainable outcomes and lift the cost burden of delivering highly sustainable buildings from developers by reducing the cost of expensive future retrofits. This support will make development in the precinct more feasible and buying and living in the precinct more affordable.

STRATEGY 10.1

Facilitate a mechanism to procure a power purchase agreement to power the precinct with 100 per cent renewable energy. Opportunities exist for this agreement to also address the energy needs of surrounding neighbourhoods.

STRATEGY 10.2

Facilitate the delivery of centralised or shared freight and waste management sites to reduce freight and services vehicle trips inside the precinct and better manage waste.

STRATEGY 10.3

Require a commitment to precinct organics collection by the City of Melbourne or alternative private operator.

STRATEGY 10.4

Deliver precinct infrastructure commensurate with the fossil fuel-free ambitions for the majority of precinct land uses.

Case studies: sustainable development

Barangaroo, Sydney

Barangaroo in central Sydney is a national leader in sustainable urban renewal and is comparable to Arden in context. Barangaroo is atop a new metro station, is wholly owned by NSW State Government and was delivered by a government agency, Barangaroo Delivery Authority. It is a dense, mixed-use transit-oriented development with leading environmental standards including carbon positive and water positive development, which means that the treatment of alternatively sourced water on site is equal or greater than water consumption

The project provides learnings for sustainability outcomes and delivery methods. It was delivered in partnership with developer Lendlease under a 99-year lease. This enabled government to retain ownership of the land and contractually enforce sustainability outcomes. Enshrined in the planning scheme and through the leasing agreement, Lendlease is required to deliver 6 Star Green Star ratings across all commercial buildings and 5 Star rated residential buildings.

Figure 33 The view of Barangaroo from the water.

A key feature of the development is a large shared basement which enables the centralisation and coordination of key servicing requirements such as waste management and collection and freight. This increases the efficiency of services and reduces waste through better waste management practices.

Clichy-Batignolles, Paris

The Paris 'Ecodistrict' is a dense, inner-city urban renewal area due to be home to 7,500 residents and 12,000 jobs across 54 hectares by 2022. The former railway yard is owned by a mix of private and government landholders.

The *ecodistrict* label is achieved through its commitment to triple-bottom line sustainability targets, covering environmental, social and economic sustainability. Environmental efficiency is maximised through precinct-wide infrastructure, including Paris' first smart energy grid distributing a substantial amount of solar generated energy, and a district heating system using geothermal energy.

Beyond the environmental credentials, a commitment to generous provision of community infrastructure and open space, including 50 per cent affordable housing and a 10 hectare park at the heart of the site, makes the precinct highly inclusive in an increasingly expensive city. Other features of the project include water positive credentials, a pedestrian prioritised street network, mandated building energy performance standards and green infrastructure standards, and limits on car parking.

Figure 34 Top: Artist's impression of Ecodistrict.
Above: Open space and residential uses interact.

OBJECTIVE 11

Embed sustainable living and building practices in planning and built form controls.

The draft structure plan takes a systems approach to ensure the precinct is aligned with a net-zero carbon and ecologically responsive future. In particular, building design, transport, public realm, open space and water management have been embedded with sustainable decision making to support these outcomes.

The success of new buildings will be measured through several recognised sustainability ratings tools. Combined with environmental disclosure requirements, these measures are recognised as part of a well-functioning building market that encourages the development of highly sustainable buildings, monitors performance and outcomes, and provides a credible means for projects to capitalise on these credentials.

STRATEGY 11.1

Require all new buildings to connect to precinct sustainability infrastructure (such as a third pipe system) if it is available at the time of development.

STRATEGY 11.2

Require all new buildings to achieve world-leading sustainability performance (such as 6 Star Green Star Design & As Built rating for larger buildings and 70% Built Environment Sustainability Scorecard rating for smaller buildings, or equivalent rating under comparable or updated systems).

STRATEGY 11.3

Require all new buildings to be 100 per cent electric (with exception to essential life science buildings where need is sufficiently justified).

OBJECTIVE 12

Measure the performance of the precinct, its buildings and its occupants and be able to adapt to changes in climate, lifestyle and technology in the future.

'Best practice' is inherently constantly changing. For Arden to continue as a leader and innovator in sustainability, the approach to sustainable development needs to be flexible and adaptable. Core to this is a culture of constant learning and improving. Disclosure standards and a monitoring and evaluation framework will enable data to be collected on the ongoing performance of the precinct against its targets, and strategies to be evaluated and adapted according to their performance. Buildings will be 'future-proofed' to ensure they can adapt to changes in lifestyle (such as the reducing dependence on private vehicle ownership) and the introduction of new technologies such as energy trading technology and electrification of homes.

STRATEGY 12.1

Require buildings to maximise flexibility to integrate current and future energy technologies and precinct infrastructure.

STRATEGY 12.2

Establish a robust monitoring and evaluation program across the precinct that will enable performance to be evaluated and approaches to be adapted.

OBJECTIVE 13

Minimise waste production and water use, optimise reuse and recycling and encourage a circular economy in Arden.

To manage waste in Victoria the Victorian Government has prepared *A circular economy for Victoria* (2019) strategy.

A circular economy continually seeks to reduce the environmental impacts of production and consumption and gain more productive use from natural resources.

Resource use is minimised, and waste and pollution are avoided with good design and efficient practices. This reduces environmental impacts while maintaining or increasing the value people obtain from goods and services.

Products are designed so that they are durable and can be readily repaired, reused and recycled at the end of their lives.

Business models encourage intense and efficient product use, like sharing products between multiple users, or supplying a product as a service that includes maintenance, repair and disposal.

Innovations to increase resource productivity bring a range of benefits including jobs, growth and social inclusion to local, regional and global economies.

STRATEGY 13.1

Require all new developments to meet the City of Melbourne's waste management guidelines.

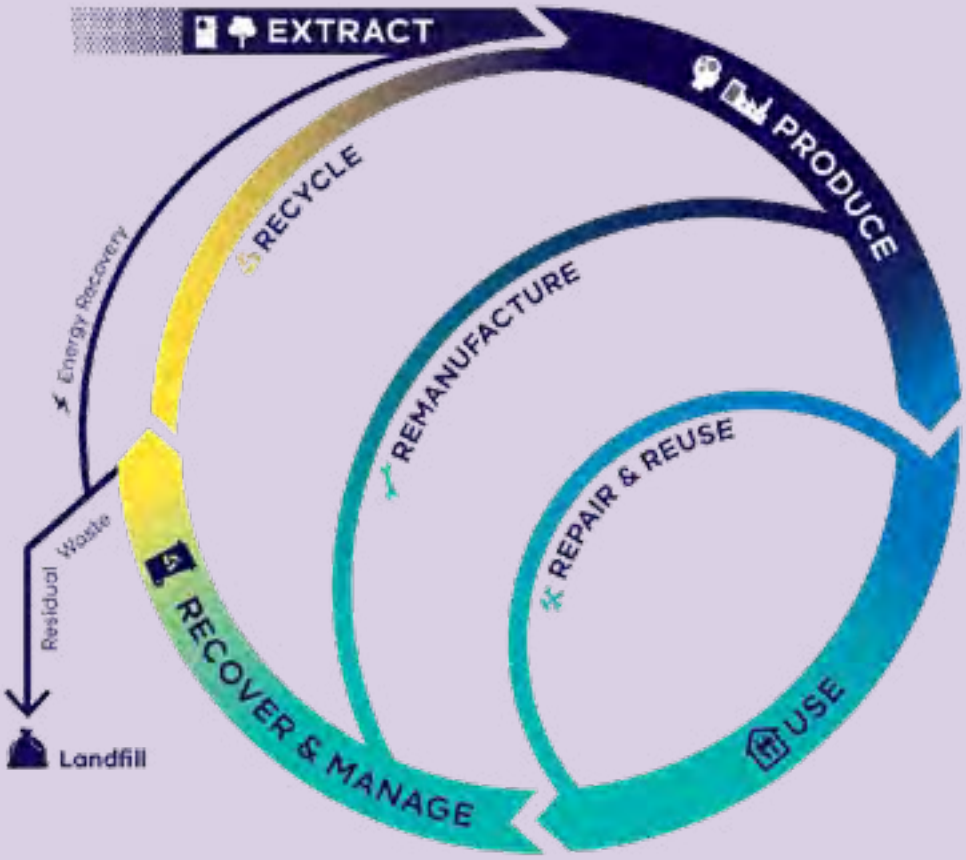
STRATEGY 13.2

Require all new developments to respond to a precinct wide waste management design.

STRATEGY 13.3

Minimise the use of virgin materials, maximise the recycled content of materials and increase the recycling of materials in the construction phase of new buildings.

A circular economy



Around 43 per cent of waste in Victoria is generated from construction and demolition activities. There is a big opportunity in this sector to reduce waste and put recovered resources to better use.

Buildings and other civil infrastructure can be built with recovered materials and can be designed so that they can be adapted for different purposes throughout their lifetime and more readily separated and reused after demolition.

Approximately 3.9 million tonnes of recovered material are already used in road and other construction in Victoria. There is an opportunity to use more recycled materials in the construction of our public infrastructure.

Figure 35 Illustration of a circular economy, DELWP, *A circular economy for Victoria* (2019).

OBJECTIVE 14

Mitigate the urban heat island effect in the design and delivery of the public realm and private developments accordant with desired urban greening outcomes and standards.

The urban heat island effect describes the phenomena of hotter temperatures being recorded in urban areas that have high levels of impermeable surfaces and thermal mass, such as concrete. Melbourne is actively combatting this by 'greening' the public realm. This cools the environment by providing shading and transferring heat from the landscape.

Much of the landscape in Arden Central currently lacks canopy cover, with very few mature trees on the land near Arden Station. Many streets in Arden North currently have strong canopy cover, which will help that area of the precinct remain cool. Accordant with City of Melbourne's *Urban Forest Strategy*, the whole of Arden will have a highly landscaped public realm that achieves a minimum canopy cover of 40 per cent by 2040 using species that are appropriate to Melbourne's climate and needs as described in the strategy. Alternative water systems (Objective 19) will play a critical role in irrigating the urban forest sustainably, underpinning the effectiveness of these greening strategies.

Building design in Arden will also help to reduce the urban heat island effect through the use of greening, further enhancing the precinct's liveability.

Figure 36 Example of potential urban greening anticipated for Arden.

STRATEGY 14.1

Design the public realm to provide urban cooling benefits through shading, planting and integrated water management for cooling and irrigation effects.

STRATEGY 14.2

Require all new buildings to use materials that minimise the urban heat island effect with a standard that at least 75 per cent of total project site areas should comprise of building or landscaping elements that increase the solar reflectance of the site.

STRATEGY 14.3

Require all new buildings to meet a standard of 40 per cent total site area as green cover comprising canopy and understorey planting, native and indigenous planting or maximises adjacent public realm cooling benefits, or an equivalent Green Factor tool score of 0.55.

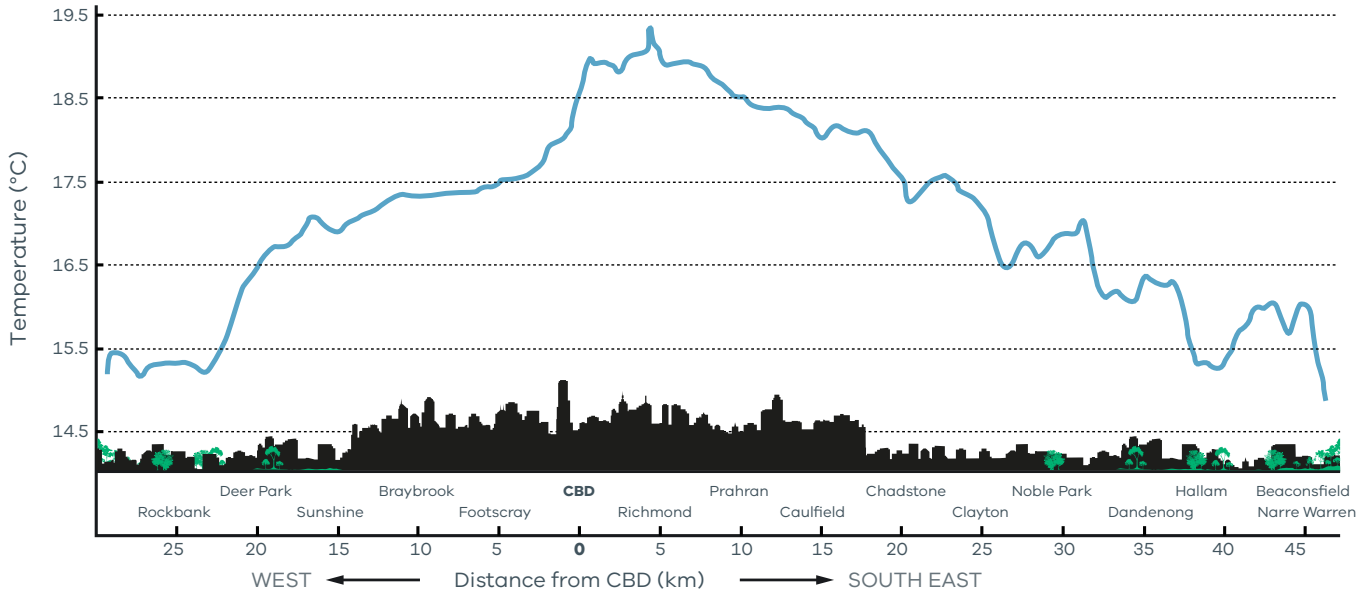


Figure 37 Illustration of the urban heat island effect across Melbourne and its suburbs. Source: *Urban Forest Strategy*, City of Melbourne.

Figure 38 Example of green infrastructure incorporated into the design of One Central Park, Sydney.