Craigieburn North
Employment Area
Precinct Structure Plan

JUNE 2016

METROPOLITAN PLANNING AUTHORITY

PLANS

TABLES

FIGURES

Note: Any reference to the Metropolitan Planning Authority (MPA) in this document is a reference to the Growth Areas Authority (GAA) as defined under the Planning & Environment Act 1987.

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Plan 1 - Regional Context Plan

Craigieburn North Employment Precinct Structure Plan

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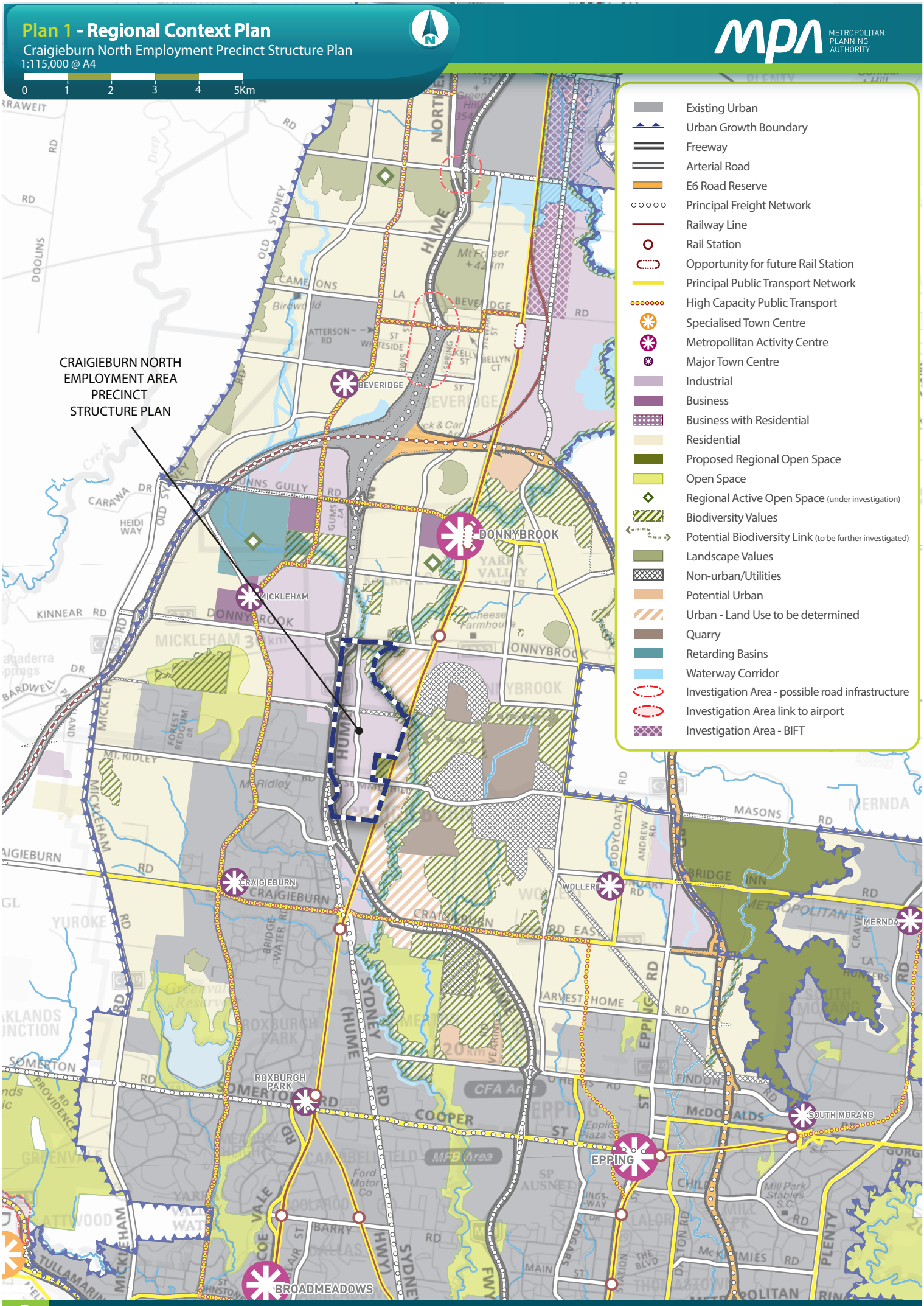

1.0 INTRODUCTION

The Craigieburn North Employment Area Precinct Structure Plan (the PSP) has been prepared by the Metropolitan Planning Authority (MPA) with the assistance of the Hume City Council, Government agencies, service authorities and major stakeholders.

The PSP is a long-term plan for urban development. It describes how the land is expected to be developed, and how and where services are planned to support development.

The PSP is a set of decisions about how the land is to be developed. The PSP:

- Sets out plans to guide the delivery of quality urban environments in accordance with the Victorian Government guidelines.
- Enables the transition of non-urban land to urban land.
- Sets the vision for how the land should be developed and the outcomes to be achieved.
- Outlines the projects required to ensure that future workers and visitors within the area can be provided with timely access to services and transport necessary to support a quality and working environment.
- Sets out objectives, requirements and guidelines for land use, development and subdivision.
- Provides Government agencies, the Council, developers, investors and local communities with certainty about future development.
- Addresses the requirements of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act 1999) through Federal approval of the *Biodiversity Conservation Strategy and Sub Regional Species Strategies for Melbourne's Growth Areas* (September 2013)*.

*On September 2013 an approval under the Environmental Protection and Biodiversity Conservation Act 1999 (EPBCAct) was issued by the Commonwealth Minister for Environment, Heritage and Water. The approval applies to all actions associated with urban development in growth corridors in the expanded Melbourne 2010 Urban Growth Boundary as described in page 4 in the Biodiversity Conservation Strategy for Melbourne's Growth Corridors (Department of Environment, Land, Water & Planning, 2013). The Commonwealth approval has effect until 31 December 2060. The approval is subject to conditions specified at Annexure 1 of the approval. Provided the conditions of the EPBC Act approval are satisfied individual assessment and approval under the EPBC Act is not required.

The PSP is informed by:

- The *State Planning Policy Framework set out in the Hume Planning Scheme*;
- The *Growth Corridor Plans: Managing Melbourne's Growth* (Growth Areas Authority, June 2012);
- The *Local Planning Policy Framework of the Hume Planning Scheme*;
- The *Biodiversity Conservation Strategy and Sub Regional Species Strategies for Melbourne's Growth Areas* (Department of Environment and Primary industries, June 2013);
- *The Precinct Structure Planning Guidelines*.

The following planning documents have been developed in parallel with the PSP to inform and direct the future planning and development of the Precinct:

- The *Craigieburn North Employment Area Development Contributions Plan* (DCP) requires development proponents to make a contribution toward infrastructure required to support the development of the Precinct.
- The *English Street Precinct Structure Plan and English Street Development Contributions Plan.*
- The *Craigieburn North Employment Area and English Street Background Report* (Background Report).

Plan 2 - Precinct Features

Craigieburn North Employment Precinct Structure Plan

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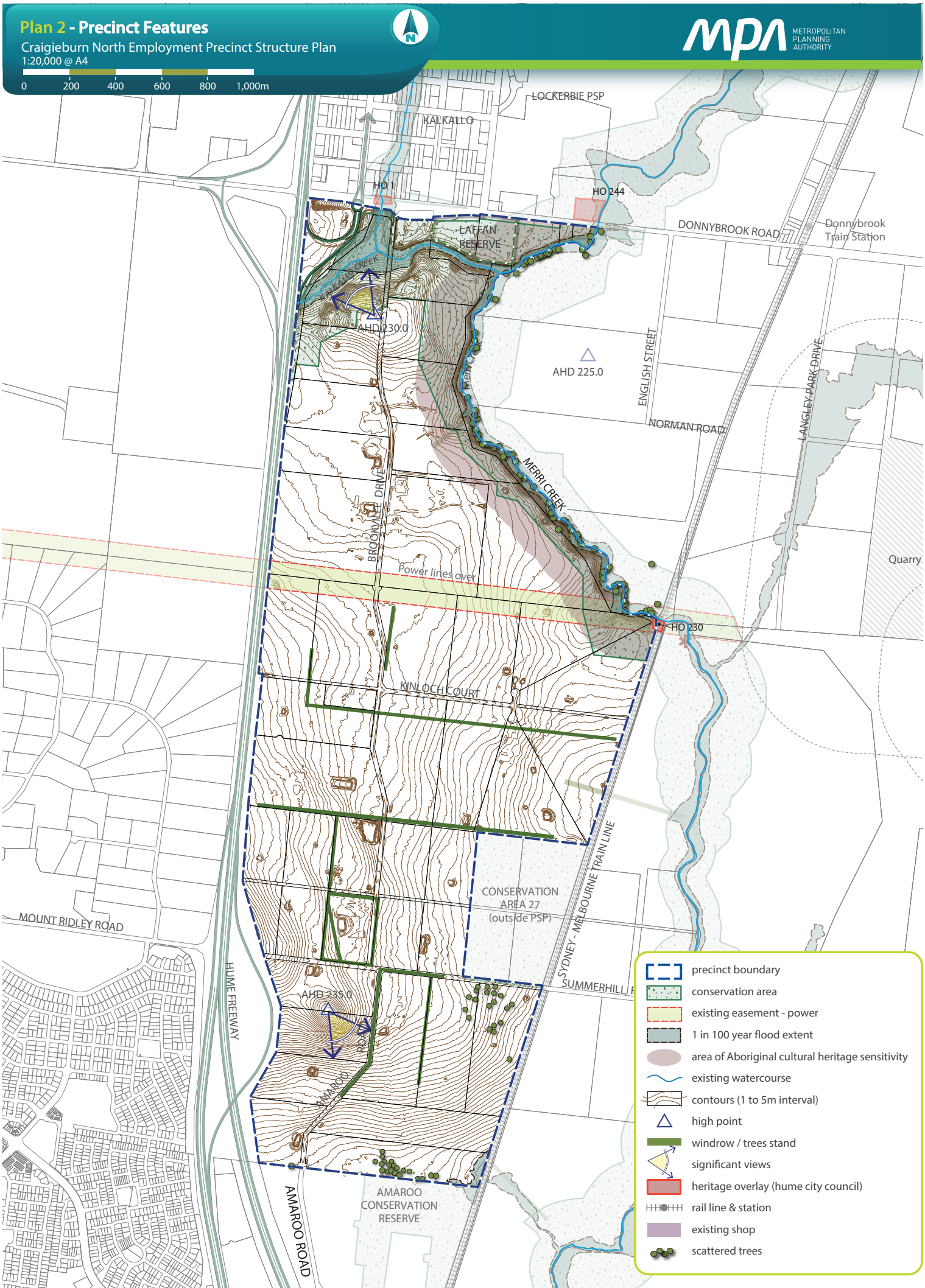

1.1 How to read this document

This PSP guides land use and development where a planning permit is required under the Urban Growth Zone (Clause 37.07 of the Hume Planning Scheme), or any other provision of the planning scheme that references this structure plan.

A planning application and a planning permit must implement the outcomes of the precinct structure plan. The outcomes are expressed as the vision and objectives.

Each element of the precinct structure plan contains requirements and guidelines as relevant.

Requirements must be adhered to in developing the land. Where they are not demonstrated in a permit application, requirements will usually be included as a condition on a planning permit whether or not they take the same wording as in this structure plan. A requirement may reference a plan, table or figure in the structure plan.

Guidelines express how discretion will be exercised by the responsible authority in certain matters that require a planning permit. If the responsible authority is satisfied that an application for an alternative to a guideline implements the outcomes, the responsible authority may consider the alternative. A guideline may include or reference a plan, table or figure in the PSP.

Meeting these requirements and guidelines will implement the outcomes of the PSP.

Development must also comply with other Acts and approvals where relevant e.g. the *Environment Protection and Biodiversity Conservation Act 1999* in the case of biodiversity or the *Aboriginal Heritage Act 2006* in the case of cultural heritage amongst others.

Not every aspect of the land's use, development or subdivision of land is addressed in this structure plan. A responsible authority may manage development and issue permits as relevant under its general discretion.

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1.2 Land to which this PSP applies

The PSP applies to approximately 488 hectares of land as shown on Plan 2. The land budget for the precinct is at Table 6 (see appendices).

The PSP area is generally bound by:

- the Sydney-Melbourne railway line and Merri Creek to the east;
- Donnybrook Road to the north;
- Hume Freeway to the west; and
- Amaroo Business Park (Business 3 Zone / Commercial 2 Zone) to the south.

The precinct is located approximately 28 kilometres north of Melbourne's Central Business District. The site is strategically located on the Hume Freeway and Melbourne-Sydney rail line. The Amaroo Business Park is situated immediately south of the precinct. The approved Merrifield Central and Folkestone Employment Precincts lie to the north west of the precinct, across the Hume Freeway, with low-density housing to the south-west. North of the precinct lies the Kalkallo township and approved Lockerbie Precinct Structure Plan. The English Street Precinct Structure Plan, comprising a mix of business with residential uses, lies immediately across the Merri Creek to the north-east.

The site is predominantly flat through the centre, with a small hill in the north and another elevated area in the south. Merri Creek enters the precinct from the north-east, and exits in the central east, under the Melbourne-Sydney railway line. Kalkallo Creek and a minor tributary enter the precinct, immediately south of the Kalkallo township, and flow across the north to join the Merri Creek. Several ephemeral drainage lines dissect the precinct and generally flow south-east to meet the Merri Creek.

The precinct has been largely cleared for agriculture; however there are areas of remnant native Grassy Eucalypt Woodland, Plains Grassy Woodland vegetation and Golden Sun Moth habitat across the north. Grassy Eucalypt Woodland patches in the south around Summerhill Road are marked by several large stands of River Red Gums.

The Amaroo Conservation Area abuts the southern boundary of the PSP and protects remnant Plains Grassland and Plains Grassy Woodland.

Two conservation areas are also identified within or abutting the precinct in the Biodiversity Conservation Strategy (BCS):

- Conservation Area no. 34 comprises part of the Growling Grass Frog Conservation Area reserve. This reserve protects remnant native riparian vegetation and nationally significant habitat for the threatened GGF. Within the precinct, this reserve encompasses land up to 200 metres from Kalkallo and Merri Creeks;
- Conservation Area no. 27, north of Summerhill Road, comprises Grassy Eucalypt Woodland and provides high persistence habitat for the Golden Sun Moth.

Plan 2 identifies the key features of the precinct.

1.3 Development Contributions Plan

Development proponents within the Craigieburn North Employment Area Precinct will be bound by the *Craigieburn North Employment Area Development Contributions Plan* (the DCP). The DCP sets out requirements for infrastructure funding across the Craigieburn North Employment Area.

The DCP is a separate document incorporated in the Hume Planning Scheme.

A DCP has also been prepared for the abutting English Street precinct in the City of Whittlesea; the English Street DCP. Although it constitutes a separate DCP, the English Street DCP shares a DCP project with the Craigieburn North Employment Area DCP.

Development proponents wishing to commence works prior to incorporation of this DCP can enter into agreements with the City of Hume under Section 173 of the *Planning and Environment Act 1987* to expedite contributions.

1.4 Background Information

Detailed background information on the precinct is available including the local and metropolitan context, landform and topography, history, biodiversity, land contamination, targeted aboriginal cultural values inspection, integrated water management, transport, economic and retail provision, open space and community facilities. This information is summarised in the *Craigieburn North Employment Area and English Street Background Report* and has informed the preparation of the PSP.

Plan 3 - Future Urban Structure

Craigieburn North Employment Precinct Structure Plan

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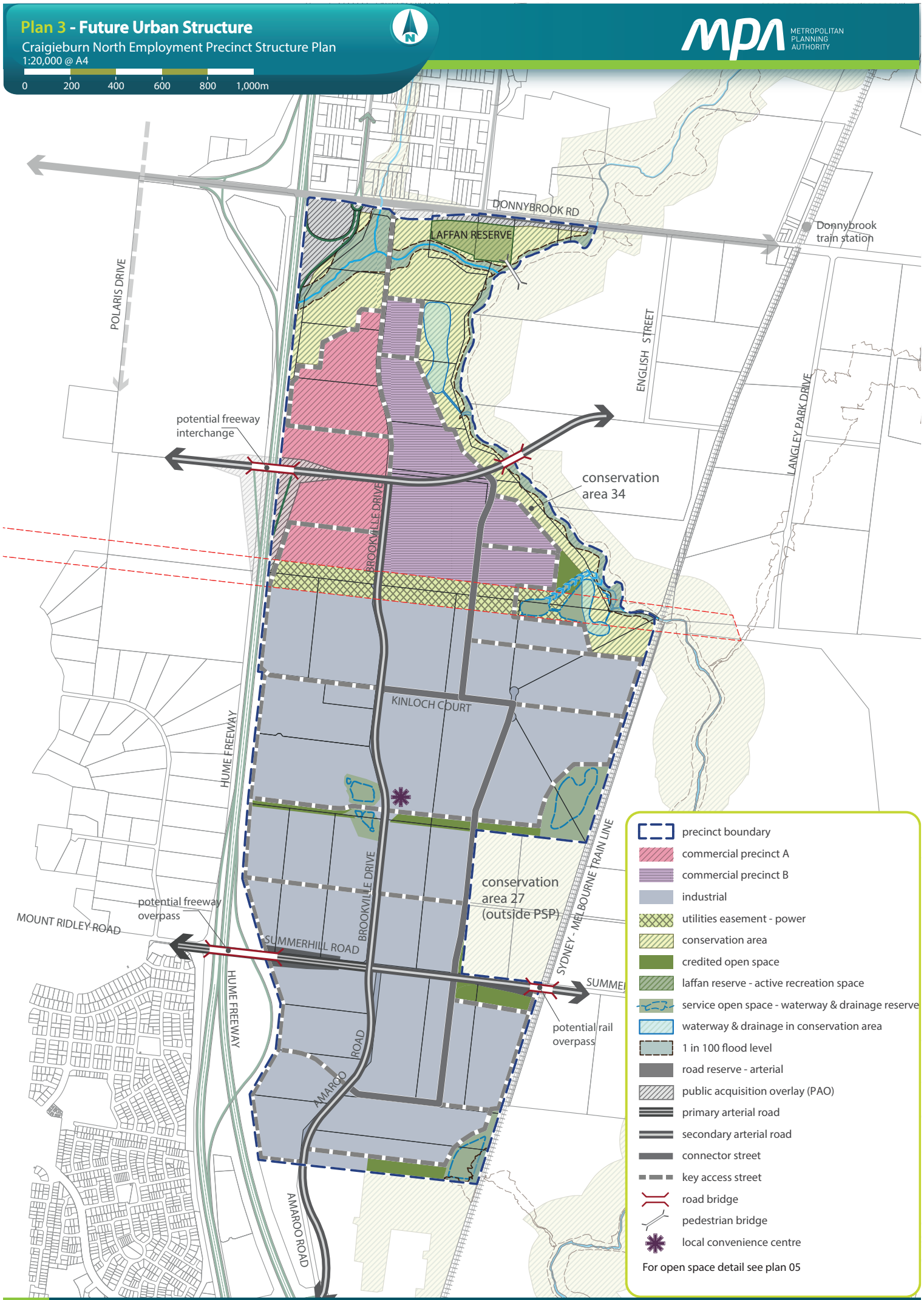

2.0 OUTCOMES

2.1 Vision

The Craigieburn North Employment Area (CNEA) is planned as an integrated commercial and industrial business park. It establishes a precinct which combines a high amenity setting characterised by the landscape and biodiversity values associated with the Merri Creek environs and adjacent residential areas and conventional industrial area suited to the development of local industry and business needs. Development of the precinct will form part of a future regional economic cluster and add to the supply of industrial and commercial land needed in the North Growth Corridor to meet demand for a variety of businesses and employment opportunities as the region develops from non-urban to urban.

The northern part of the CNEA responds to the environmental significance of the Merri Creek and anticipates the need to develop a sensitive interface with the creek environs and the adjacent residential precinct. This will be achieved by encouraging the development of a contemporary business park that includes adaptable commercial floorspace suitable for modern manufacturing and technology based industries with high quality landscaping and built form standards. This area has been marked as Commercial Precincts A and B on the plans. The location of the Precinct A abutting the Hume Freeway provides an opportunity to establish some higher order large floor plate restricted retail development which can take advantage of the high exposure to passing traffic along the Hume Freeway and Donnybrook Road with direct connections to Melbourne. Commercial Precinct B provides an opportunity to establish a commercial environment suitable for higher amenity office and 21st century manufacturing.

The remainder of CNEA, located south of Commercial Precincts A and B, will be the Industrial Precinct. The Industrial Precinct is intended to develop as an industrial area to meet local demand for the development of manufacturing, storage and distribution of goods services.

Linear trails, passive parks and a convenience centre will provide interesting recreation places for future employees as well as protecting existing significant trees. Merri Creek provides a key conservation and landscape asset for the precinct, and draws its significance from its role as a continuous corridor supporting environmental, heritage and recreation values. The Creek corridor supports populations of critically endangered Growling Grass Frog (GGF) and habitat links will be preserved and enhanced in accordance with the BCS and the Sub-Regional Strategy for the GGF. The Merri Creek corridor also supports a range of other biodiversity values that will be protected and enhanced, and will bestow local amenity through native plantings and provide informal recreation opportunities through the provision of linear trails and passive park areas.

Plan 3 demonstrates the future urban structure for the precinct.

2.2 Objectives

The following objectives describe the desired outcomes of the precinct's development, and guide the implementation of the vision.

IMAGE AND CHARACTER	
O1	Create a high amenity industrial and commercial precinct to attract a diversity of businesses and employers.
O2	Provide an attractive urban environment through the provision of well-designed buildings, landscaping to businesses, open spaces, road and linear path networks.
O3	Reinforce the Hume Freeway's role as an entry to Melbourne by encouraging high quality presentation of businesses that face onto the Hume Freeway.
O4	Promote the retention of existing trees and windrows to add established character to the area.
O5	Encourage high-quality built form that demonstrates environmentally sustainable design principles.
O6	Retain, protect and enhance the landscape value and visual character of the Merri and Kalkallo Creeks by ensuring that these areas are not compromised by adjacent development.
O7	Consider and protect areas likely to be of Aboriginal cultural heritage sensitivity.
O8	Protect natural landforms and geological features.
O9	Protect key views of the creek corridor and environs.

COMMERCIAL AND INDUSTRIAL EMPLOYMENT LAND	
O10	Develop a higher amenity commercial area (Precinct B) that responds appropriately to the environmental sensitivity of the Merri and Kalkallo Creeks and the adjacent residential precinct.
O11	To contain restricted retailing in the precinct to an integrated centre in Commercial Precinct A that does not develop to a large or regional scale.
O12	Encourage a range of industrial and commercial development types to provide a diversity of local employment opportunities in close proximity to existing and future surrounding residential populations.
O13	Promote local employment opportunities to encourage counter-cyclical travel patterns to alleviate congestion on Melbourne's roads.
O14	Maximise accessibility of the precinct through the strengthening of links to the Hume Freeway and to the surrounding arterial road network.
O15	Encourage a diversity in lot sizes at subdivision to meet the needs of a range of businesses.
O16	Encourage industrial areas with well-designed road networks that offer direct connections to arterial roads and deliver greater operational efficiency for businesses.
O17	Capitalise on proximity and access to major freight hubs and distribution networks, including Melbourne Airport, Port, Melbourne Market, future OMR/E6 roads and the potential Beveridge Interstate Freight Terminal by encouraging allied industries to situate in the precinct, maximising connectivity to the surrounding road network.
O18	Encourage the provision of local services to meet needs generated within the precinct, without compromising the functions and roles of surrounding existing and planned activity centres.
OPEN SPACE NATURAL SYSTEMS & COMMUNITY FACILITIES	
O19	Restore and revitalise the health and vitality of the Merri and Kalkallo Creeks and their environs, including: • Improving and protecting the water quality and natural systems of the creeks; • Providing the retention, restoration and revegetation of local native plant species as suitable to the riparian, escarpment, plains and in-stream habitats on and around the creeks; • Protection and enhancement of the diversity and integrity of landforms and embankments of the creek corridors; and • Adjoining open spaces to provide a more natural and ecologically diverse environment.
O20	Ensure development adjacent to the Merri and Kalkallo Creeks is planned and developed sensitively.
O21	Provide an integrated and accessible public open space network that: • Protects and enhances the sports facilities at Laffan Reserve; • Offers local informal recreation opportunities including links to the Merri Creek metropolitan/ regional open space network; and • Provides a range of informal recreation uses that form part of the Merri Creek regional open space corridor including pedestrian and cycle routes.
O22	Encourage the retention of existing vegetation to enhance the public and private realm.
O23	Create an urban landscape that integrates with the existing biodiversity, cultural heritage, drainage and landscape values within the precinct and along the conservation areas.

BIODIVERSITY, THREATENED SPECIES & BUSHFIRE MANAGEMENT	
O24	Create high quality habitat for the Growling Grass Frog along the Kalkallo and Merri Creek corridors and support other environmental habitat values.
O25	Plan for the long-term conservation and enhancement of areas of biodiversity.
O26	Identify bushfire threats and specify bushfire protection measures for affected subdivision and buildings and works.
TRANSPORT & MOVEMENT	
O27	Provide strong external connections to the surrounding road network to foster accessibility of the precinct.
O28	Develop access to the adjacent employment and residential precincts via new access points to the Hume Freeway, Merrifield and Mt Ridley and provide a road network that is permeable for efficient and direct pedestrian, cyclist and vehicle movements.
O29	Facilitate the movement of heavy vehicles through the precinct in a manner that minimises adverse amenity impacts the adjacent residential precinct and Merri and Kalkallo Creek environs.
O30	Provide alternatives to the use of private vehicles through the creation of safe and direct links to jobs for pedestrians, cyclists and the public transport system.
INTEGRATED WATER MANAGEMENT & UTILITIES	
O31	Deliver an integrated and resilient water system that supports liveable and sustainable communities, protects the environmental health of waterways and Port Phillip Bay, provides secure water supplies efficiently, protects public health and delivers affordable, essential water services.
O32	Provide flood management and water quality protection through works which seek to mimic natural systems and produce more natural-looking stream forms.
PRECINCT INFRASTRUCTURE PLAN & STAGING	
O33	Provide for the orderly delivery of infrastructure to all lots, to the satisfaction of the relevant authority, with potable water, electricity, reticulated sewerage, drainage, gas, telecommunications, arterial road connections and bridge crossings.
O34	Provide for the progressive upgrade of Brookville Drive from the south of the precinct as the area develops
O35	Install essential services in a way that does not impede the ability to plant canopy trees in streets and along easements.
O36	Ensure that development staging is co-ordinated with the delivery of key local and state infrastructure.

Plan 4 - Image and Character

Craigieburn North Employment Precinct Structure Plan

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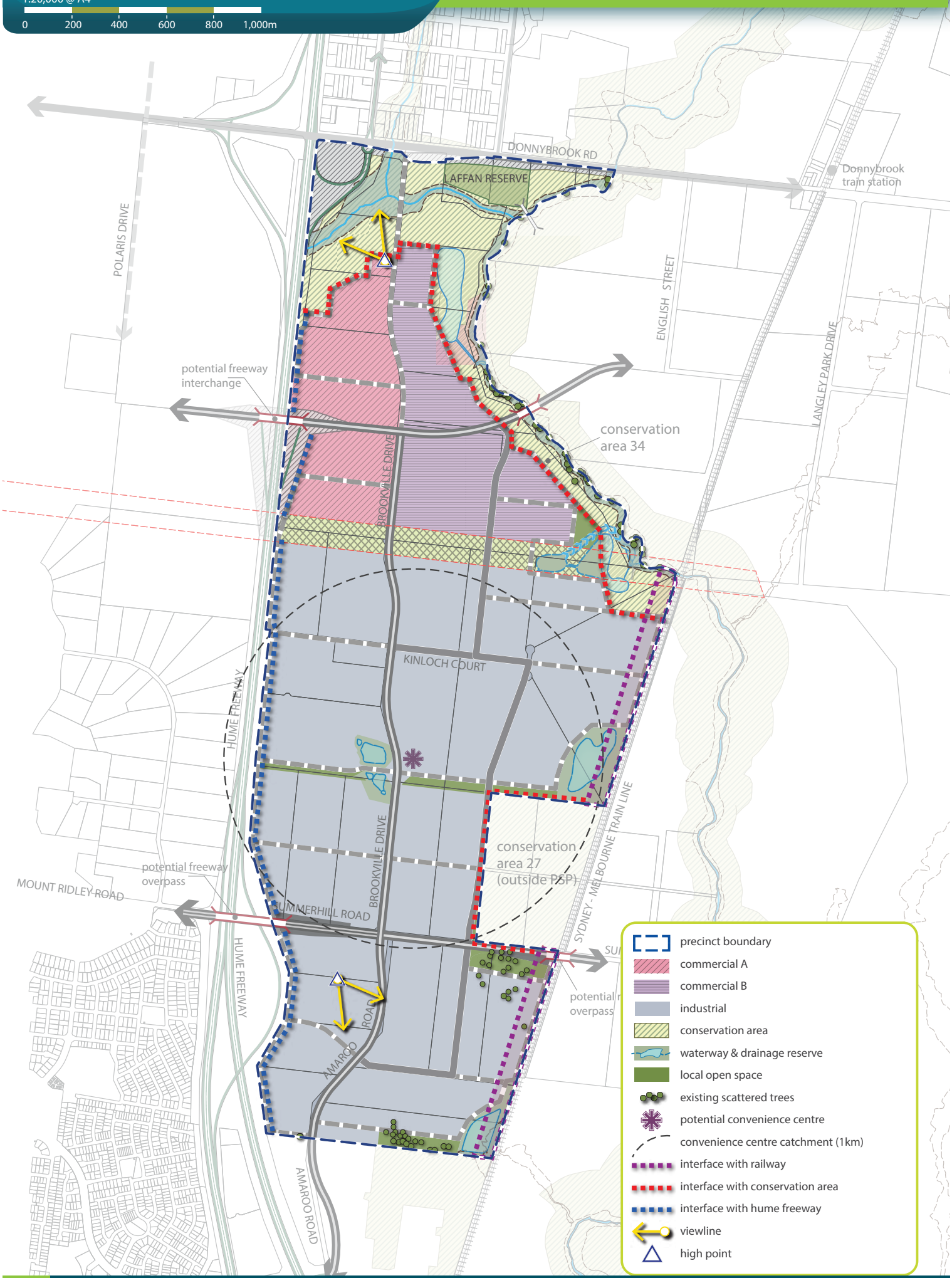
METROPOLITAN PLANNING AUTHORITY



3.0 IMPLEMENTATION

3.1 Image and character

3.1.1 Image & character

	REQUIREMENTS
R1	Street trees must be provided on both sides of all roads and streets (excluding laneways) at regular intervals appropriate to tree size at maturity, unless otherwise agreed by the Responsible Authority, and at an average of: AVERAGE INTERVAL — TREE SIZE 8 – 10 metres — Small trees (less than 10 metre canopy) 10 – 12 metres — Medium trees (10 – 15 metre canopy) 12 – 15 metres — Large trees (Canopy larger than 15 metres)
R2	Street tree planting must use locally appropriate species and be consistent with any guidance provided on the relevant cross section within this Precinct Structure Plan unless otherwise approved by the Responsible Authority.
R3	Ensure that scenic qualities and visual character of the waterway corridor is not compromised by the inappropriate siting of buildings, the placement of fill or lack of screening vegetation.
	GUIDELINES
G1	Street networks within subdivisions should be designed to maximise the number of connections and direct views to waterways and public open spaces.
G2	Significant elements of the landscape and built form should be used as focal points for view lines along streets.
G3	Retained windrows and significant trees should be located within the public domain, including parks and road reserves, subject to the agreement of the Responsible Authority.
G4	Development and subdivision design should seek to retain existing trees in private ownership, where practicable.

3.2 Centres & employment

3.2.1 Local Convenience Centre

	REQUIREMENTS
R4	The design of any local convenience centre must: • Provide for a mix of tenancies. • Provide for the majority of car parking and servicing infrastructure to the rear or centre of the allotment in a manner that protects the visual amenity of the precinct.
	GUIDELINES
G5	The built form of the local convenience centre should positively address Brookville Drive and the east-west access street.

3.2.2 Employment

	REQUIREMENTS
R5	Allocation of land uses, building design and interface treatment in the commercial areas shown on Plan 3 must create a positive address to streets and avoid negative impacts on the significance of the Merri Creek environs and the amenity of adjacent residential precincts.
R6	Water tanks, loading service infrastructure, refuse storage areas and other structures (including plant and equipment) that are not part of the building must be located behind the building line. Where this is still visible, they must be located behind constructed screening using durable and attractive materials to the satisfaction of the responsible authority.
R7	Goods and materials storage areas and refuse areas must not be visible from public areas.

R8	Development proposals in industrial and commercial areas must take into account the Crime Prevention Through Environmental Design (CPTED) and Safer Design Guidelines.
R9	Development of lots facing the Hume Freeway interface must provide for the outcomes illustrated in Figure 1.
R10	Subdivision and development of lots facing the Conservation Areas must provide for the outcomes illustrated in Figure 2.
R11	Development of lots facing the Melbourne-Sydney railway line must provide for the outcomes illustrated in Figure 3.
R12	Office development associated with industrial or warehouse buildings must be located at the front of buildings and must include a façade addressing the street frontage of the lot and provide for safe pedestrian access and engagement with the public domain.
R13	Vehicular access to properties fronting primary arterial must be from service roads or internal loop roads. Lots fronting primary arterial roads must provide indented parking lanes to cater for on street parking.
R14	Key locations within the commercial areas must incorporate features of interest into the built form and surrounding landscape, including: • Variations in built form elements (such as building heights, use of parapets, awnings, shade structures, balconies, and roof elements). • Articulation of building facades. • Feature colours and materials.
R15	The design of any restricted retail centre or area must be integrated even where development is proposed on multiple adjoining properties and: • Provide for easy vehicular and pedestrian movement to all restricted retail tenancies within the centre or area; • Provide integrated car parking with dedicated pedestrian routes that enables access to all tenancies and a 'park once' approach; • Limit fencing and landscaping which prohibits vehicular and pedestrian movement between tenancies; and • Provide dedicated access arrangements for servicing and delivery vehicles from the road network or a clearly separate arrangement where access is proposed from the car park.

	GUIDELINES
G6	Encourage a limited amount of restricted retail uses, not significantly exceeding 25,000 square metres, to leverage from the exposure provided along the Hume Freeway along with a mix of other commercial and industrial uses (Precinct A).
G7	Buildings within commercial or industrial areas shown on Plan 3 should be oriented (in order of priority where a lot fronts multiple elements): • Hume Freeway interface (as identified in Plan 4) • Arterial Roads • Conservation Areas • Waterways and public open space • Connector roads • Local access roads.
G8	Subdivision should provide for the creation of a range of regular shaped lots to cater for various uses.
G9	Car parking and loading facilities should be located to the side or rear of buildings. Any visitor car parking and access areas in the front setback area should be setback a minimum of 3 metres from the street frontage to enable provision of sufficient landscape strips.
G10	Staff car parking and loading facilities should be located to the side or rear of any buildings.
G11	Front fencing is discouraged. Where fencing is required forward of building lines and along public streets, it should be visually permeable and not greater than 1.2 metres in height.
G12	Large expanses of continuous wall visible to the street should have appropriate articulation and other elements to provide relief and visual interest, and provide appropriate landscaping to minimise visual mass.
G13	Buildings and signage should be designed to have an integrated appearance so as to avoid the appearance of clutter.
G14	Streets should be aligned to create views and direct connections to the open space areas and wetlands and encumbered open space within the conservation area, as appropriate.
G15	Environmentally sustainable principles and initiatives should be considered in the design of buildings, such as solar aspect, cross-flow ventilation, materials and finishes, embodied energy, use of solar hot water and on-site collection and reuse of stormwater.
G16	Streets should be the primary interface between development and the constructed waterway corridors. Public open space and lots with a direct frontage may be provided as a minor component of the constructed waterway interface. Where lots with direct frontage are provided, they should be sufficiently set back from the waterway corridor to allow for the provision of pedestrian access to the front of those lots, to the satisfaction of Melbourne Water and the Responsible Authority.
G17	Land in the electricity transmission line easement should be utilised to support surrounding employment land activities

Table 1 Anticipated employment creation in Craigieburn North Employment Area

JOBS	AREA	MEASURE	JOBS
Restricted Retail @ 60 jobs/ha retail	2.5	ha	150
Commercial @ 30 jobs/ha	83.25	ha	2,498
Industrial @ 20 jobs/ha	261.51	ha	5,230
Convenience Centre @ 40 jobs/ha	0.15	ha	6
TOTAL			**7,878**

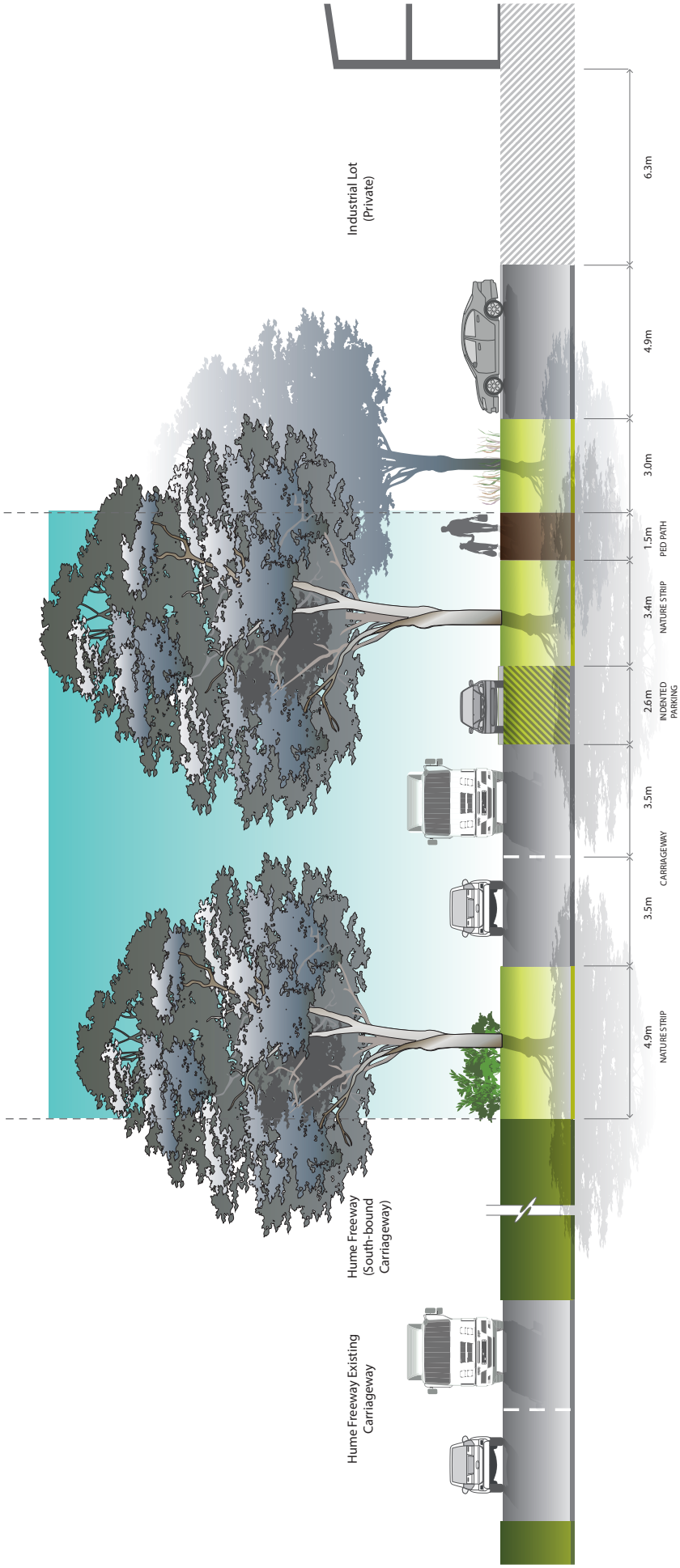


Figure 1 - Hume Freeway Interface

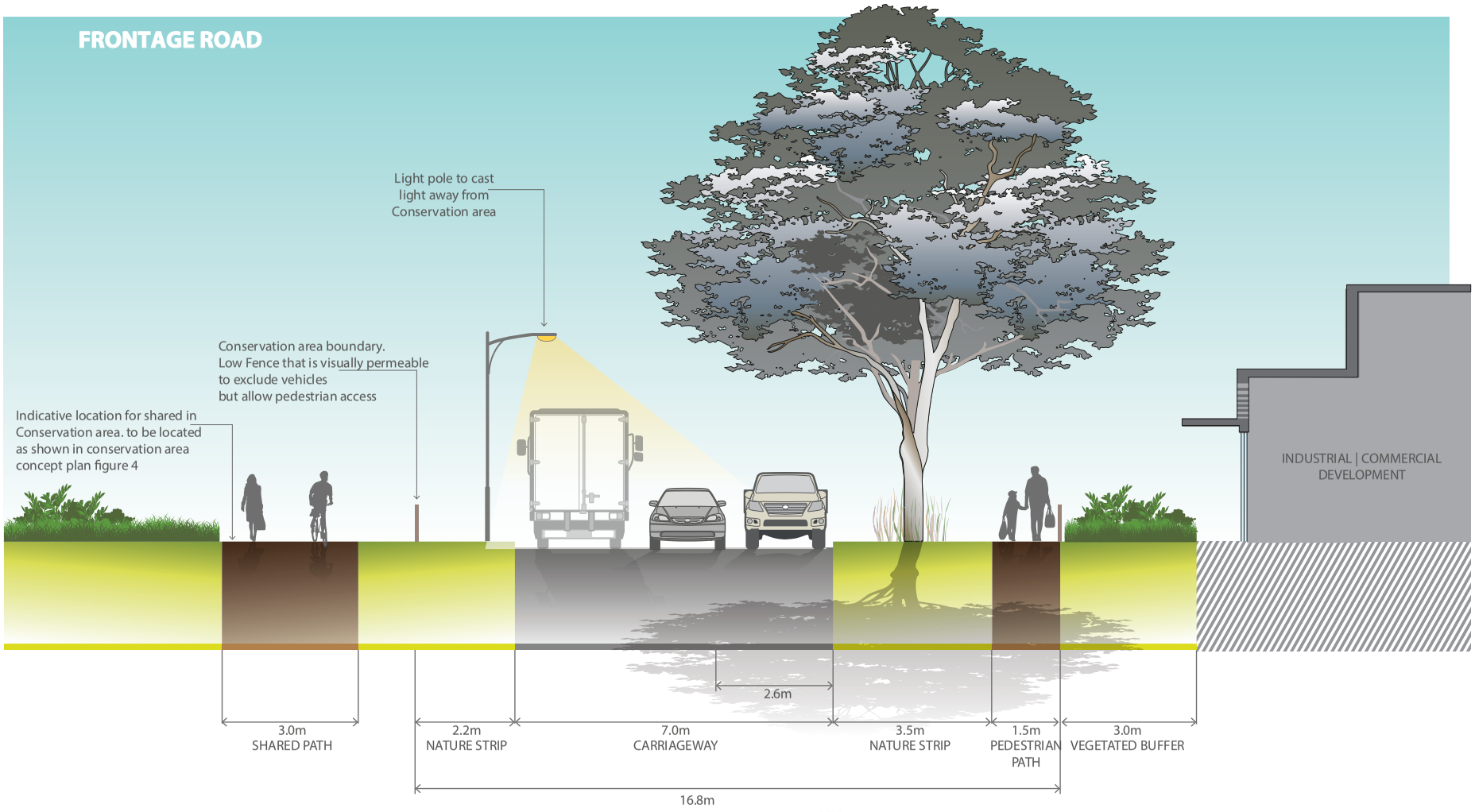
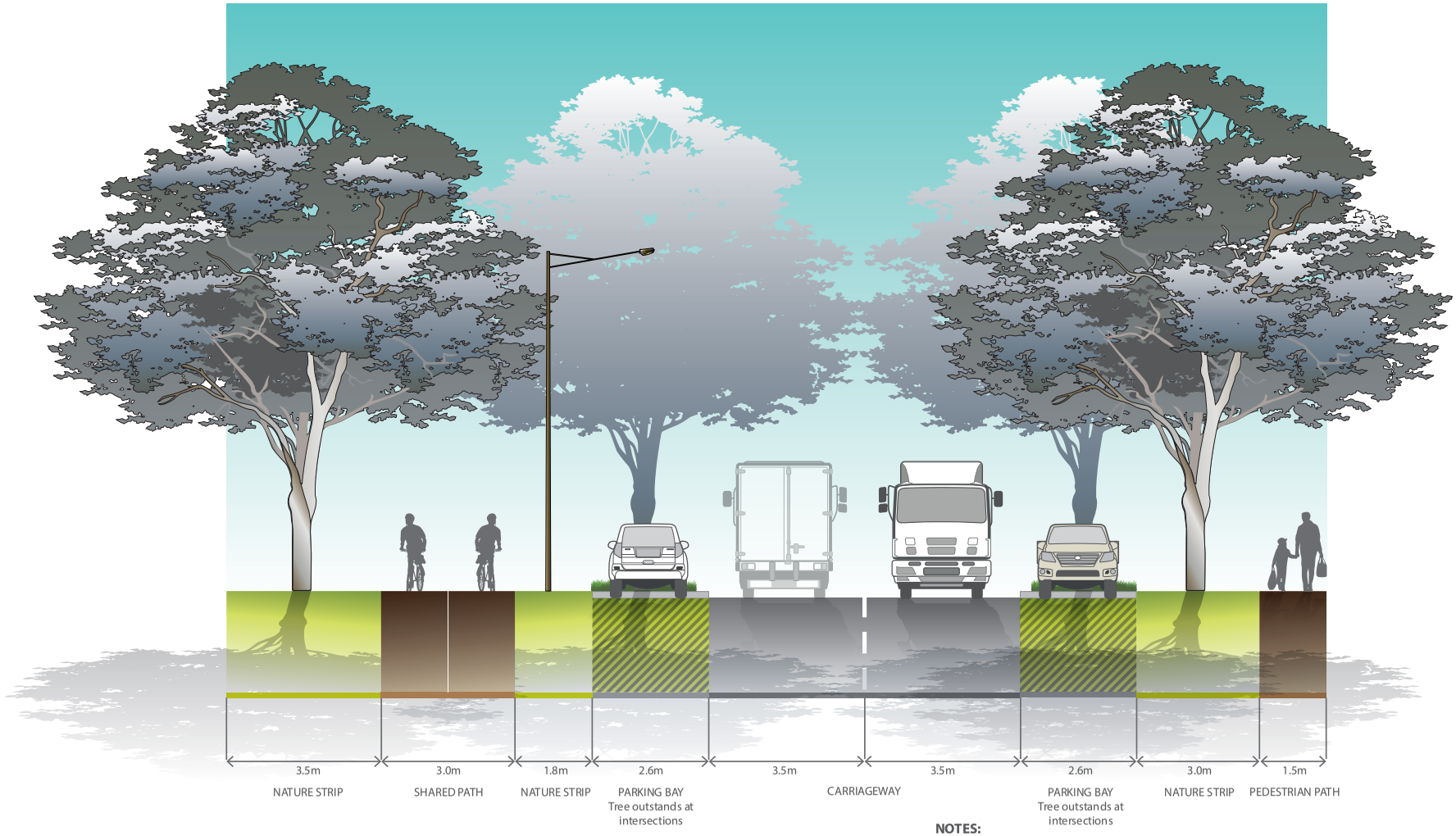


Figure 2a - Industrial access frontage road
Conservation Interface

NOTE:

- Trees should not be planted within 10 metres of the conservation area boundary
- Where practical landscaping within any private lot should provide canopy trees & shrubs to help passive surveillance on the street. This will minimise the visual impact of industrial areas from CA 34 & residential interface.



NOTES:

- Minimum street tree mature height 12 metres
- All kerbs are to be B2 Barrier Kerb as per Figure 008 in Engineering Design and Construction Manual for Subdivision in Growth Areas (April 2011)
- Where roads abut school drop-off zone and thoroughfares, grassed nature strip should be replaced with pavement. Canopy tree planting must be incorporated inot any additional pavement.
- Verge widths may be reduced where roads abut open space with the consent of the responsible authority.

Figure 2b Industrial Connector Street (25.0m)

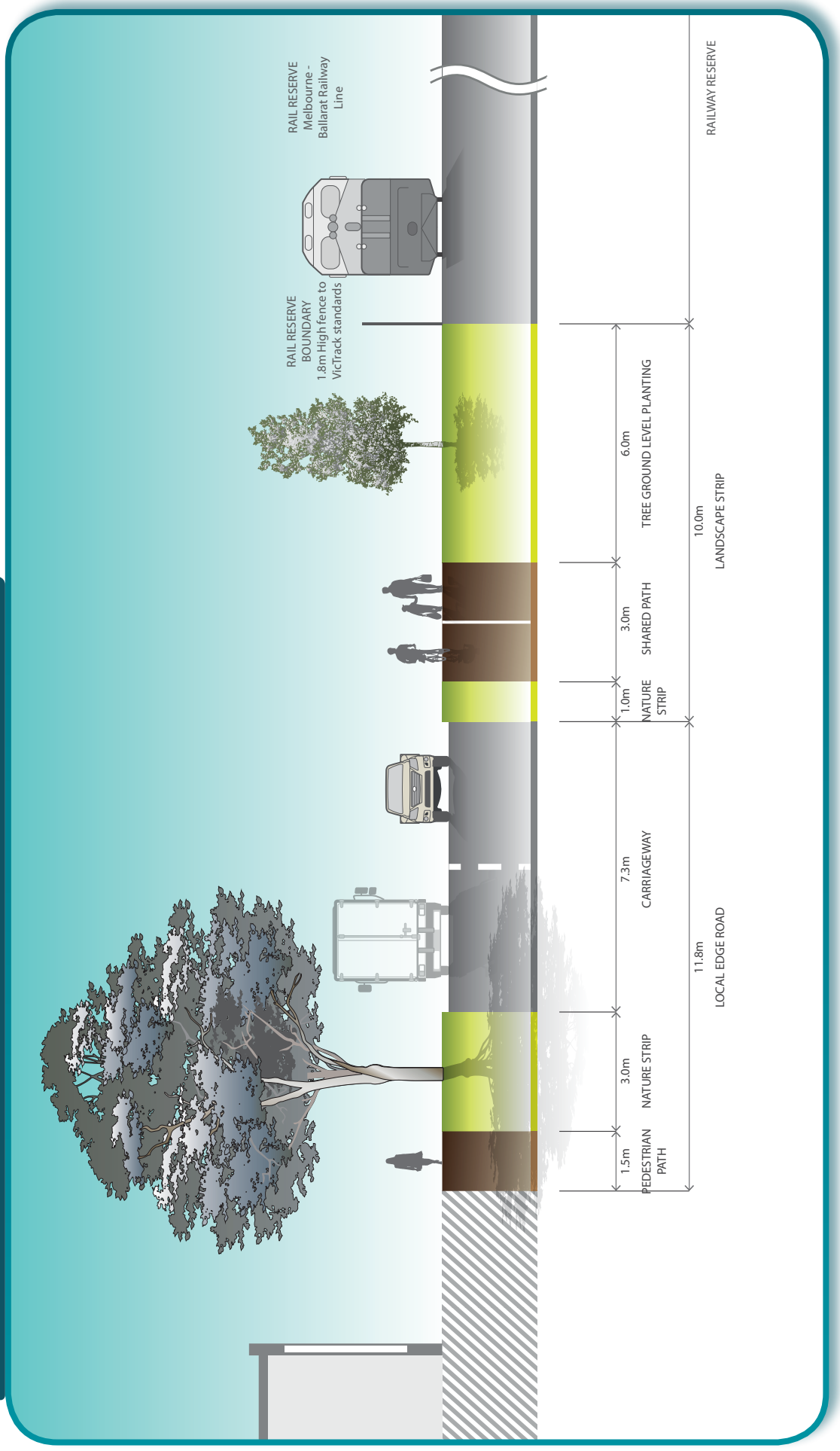


Figure 6b Access Street Railway Interface

Plan 5 - Open Space

Craigieburn North Employment Precinct Structure Plan

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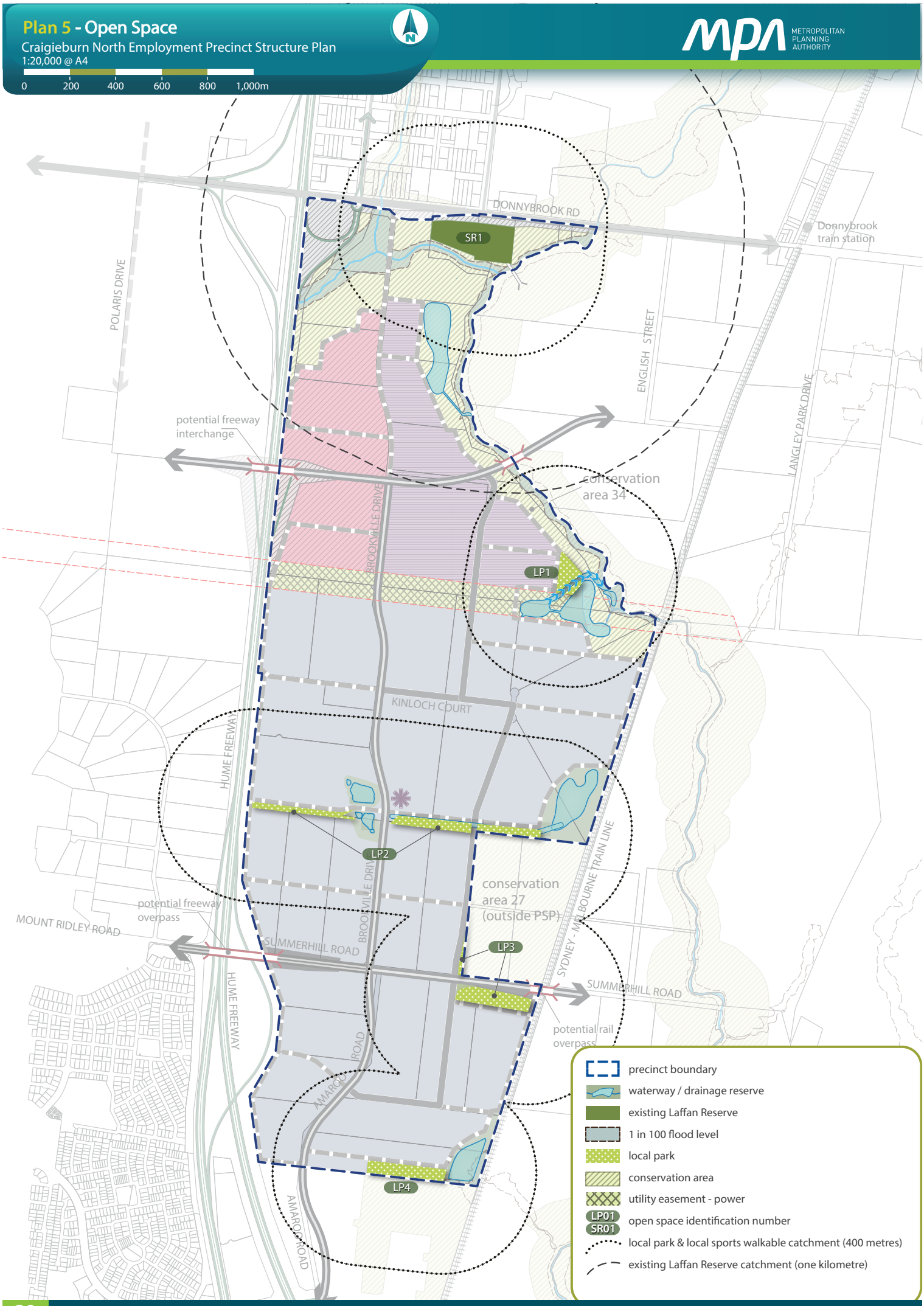

3.3 Open Space

Table 2 Open Space Delivery Guide

PARK ID	AREA (Ha)	TYPE	LOCATION & OTHER ATTRIBUTES	RESPONSIBILITY
SR1	4.80	Laffan Reserve	Upgrade to existing ovals and facilities 2 x soccer fields and pavilion, incorporated within Conservation Area 34	HCC
LP1	1.20	Local Park	Located adjacent to drainage basin and transmission line easement	HCC
LP2	3.44	Local Park	Connects drainage basins along a constructed drainage line. Protects and maintains windrow.	HCC
LP3	2.30	Local Park	Protects a stand of remnant Red Gum trees	HCC
LP4	2.00	Local Park	Protects a stand of remnant Red Gum trees adjoining the Amaroo Conservation Area	HCC
CA34	56.24	Conservation Area 34	Growling Grass Frog Corridor, Northern Growth Corridor	DELWP

HCC = Hume City Council, DELWP= Department of Environment, Land, Water & Planning

3.3.1 Open Space

	REQUIREMENTS
R16	All parks must be located, designed and developed in accordance with the relevant description in Table 2 unless otherwise agreed by the Responsible Authority. The area of the park may vary so long as it remains inside the guidance for the relevant type of park.
R17	Where a local park shown on Plan 5 spans across multiple properties, the first development proponent to lodge a permit application must prepare an indicative concept plan for the entire park unless otherwise agreed by the Responsible Authority.
R18	Where local parks interface with a drainage corridor, conservation area or encompass remnant native vegetation, the design of that open space must demonstrate that it has integrated the relevant environmental constraints and features into the design of the park, including Tree Protection Zones for retained trees and tree groups/patches.
R19	Where lots abut local parks, a minimum 3m wide vegetated buffer is required along the abutting interface.
R20	Any fencing abutting a local park, whether encumbered or unencumbered, must be visually-permeable to facilitate public safety and surveillance and where practical it should also be low scale.
R21	Further to the public open space contribution required by Clause 52.01 of the Hume Planning Scheme, this provision sets out the amount of land to be contributed by each property in the precinct and consequently where a cash contribution is required in lieu of land. All land owners must provide a public open space contribution equal to 2.59% of the Net Developable Area (NDA) upon subdivision of land in accordance with the following: • Where land is required for unencumbered open space purposes as shown on Plan 5 and specified in Table 2 and is equal to 2.59% of NDA that land is to be transferred to Council at no cost. • Where no land or less than 2.59% of NDA is shown Plan 5 and specified in Table 2, as required for unencumbered open space purposes a cash contribution is to be made to Council to bring the total open space contribution to a value equal to 2.59% of NDA of that site. • Where land required for unencumbered open space purpose as shown on Plan 5 and specified in Table 2 is more than 2.59% of NDA, Council will pay an amount equivalent to the value of the additional land being provided by that proposed development. The value of land for equalisation purposes is to be assessed as an equivalent proportion of the value of the whole of the land, in accordance with Section 18 of the Subdivision Act 1988.
	GUIDELINES
G18	Subject to being compatible with Table 2, parks and open space should seek to maximise retention of existing trees and road frontage should be provided to at least three sides of parks and open space, where practicable.

Figure 4

Growling Grass Frog Conservation Area - Concept Plan

Scale: 1:12,500 @ A4, Date: 01 December, 2015

1. The conservation objectives of the conservation area are:
   a. Maintain and improve the current site quality and extent of native vegetation in the conservation area.
   b. Growling Grass Frog persists in the Conservation Area.
2. Water management locations provide for the construction and maintenance of stormwater treatment infrastructure, including retarding basins, treatment wetlands, swales, sediment ponds, bio-retention systems and outlet pipes connecting into the waterway (not shown). Maintenance activities may include works such as de-silting, spreading sediment, controlling weeds and reconstructing wetlands.
3. Passive recreation locations provide for low intensity passive recreation, where compatible with the functioning and management objectives of the conservation area. Associated infrastructure may include BBQs, picnic areas, tables, shelters, playgrounds and lighting. Passive recreation locations are likely to include some potential Growling Grass Frog habitat (e.g. grassy areas with sparse tree/shrub cover) that should be managed in accordance with the Department of Environment, Land, Water & Planning's Growling Grass Frog habitat management standards.
4. The balance of the conservation area provides for the creation, enhancement and management of habitat for the Growling Grass Frog and protects strategically important areas for the Growling Grass Frog from incompatible land-uses and infrastructure. It also provides for the protection of native vegetation.
5. Low intensity passive recreational infrastructure, such as walking paths, shared trails, boardwalks and footbridges may be sited outside passive recreation locations, where appropriately located and designed and compatible with the functioning and management objectives of the conservation area to the satisfaction of the Department of Environment, Land, Water & Planning. Where an indicative location is shown, the final location and design must be to the satisfaction of the Department of Environment, Land, Water & Planning.
6. Development or works, other than shown in this plan or associated with the conservation of the Growling Grass Frog or native vegetation, are not generally suitable within the conservation area. Any proposed development or works requires the approval of the Department of Environment, Land, Water & Planning.
7. Lighting must be designed and baffled to prevent light spill and glare into the conservation area outside the identified passive recreation areas.
8. Any planting and revegetation must be to the satisfaction of the Department of Environment, Land, Water & Planning.
9. A Fire Management Plan is to be prepared for the conservation area to the satisfaction of the Country Fire Authority.
10. Drainage from storm water treatment infrastructure must be designed to minimise impacts on biodiversity values.
11. The conservation area is to be designed and managed as a 'dog on-lead' area, in areas that are publicly accessible.
12. The active open space location provides for recreation uses associated with Laffan Reserve.
13. Woody weeds must be managed to prevent over shading or other negative impacts on the GGF habitat, to the satisfaction of the Department of Environment, Land, Water & Planning.

3.4 Biodiversity and Threatened Species

3.4.1 Biodiversity & Threatened Species

	REQUIREMENTS
R22	Development abutting any conservation area must be in accordance with the Growling Grass Frog Conservation Area - Concept Plan (Figure 4) and the Conservation Interface (Figure 2) to the satisfaction of the Secretary to the Department of Environment, Land, Water & Planning and the responsible authority.
R23	Any public paths or infrastructure located within a conservation area must be designed to avoid/ minimise disturbance to vegetation or Growling Grass Frog (GGF) habitat. Public paths are to be generally located in accordance with the Growling Grass Frog Conservation Area -Concept Plan (Figure 4).
R24	Public lighting must be designed and baffled to prevent light spill and glare within and adjacent to any GGF conservation area, except where agreed by the Secretary to the Department of Environment, Land, Water & Planning.
R25	Native vegetation may be removed as illustrated on Plan 6, as specified within Clause 52.17.
	GUIDELINES
G19	The layout and design of the waterways, wetlands and retarding basins (including the design of paths, bridges and boardwalks and the stormwater drainage system) should integrate with biodiversity and natural systems to the satisfaction of the responsible authority, Melbourne Water and DELWP.
G20	Planting in streetscapes and parks abutting waterways should make use of indigenous species to the satisfaction of Melbourne Water and the responsible authority.
G21	Native vegetation and scattered trees that are marked for removal on Plan 6, but are located where a local park is to be proposed, should seek to retain as much native vegetation as possible.

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Plan 6 - Native Vegetation Retention & Removal

Craigieburn North Employment Precinct Structure Plan

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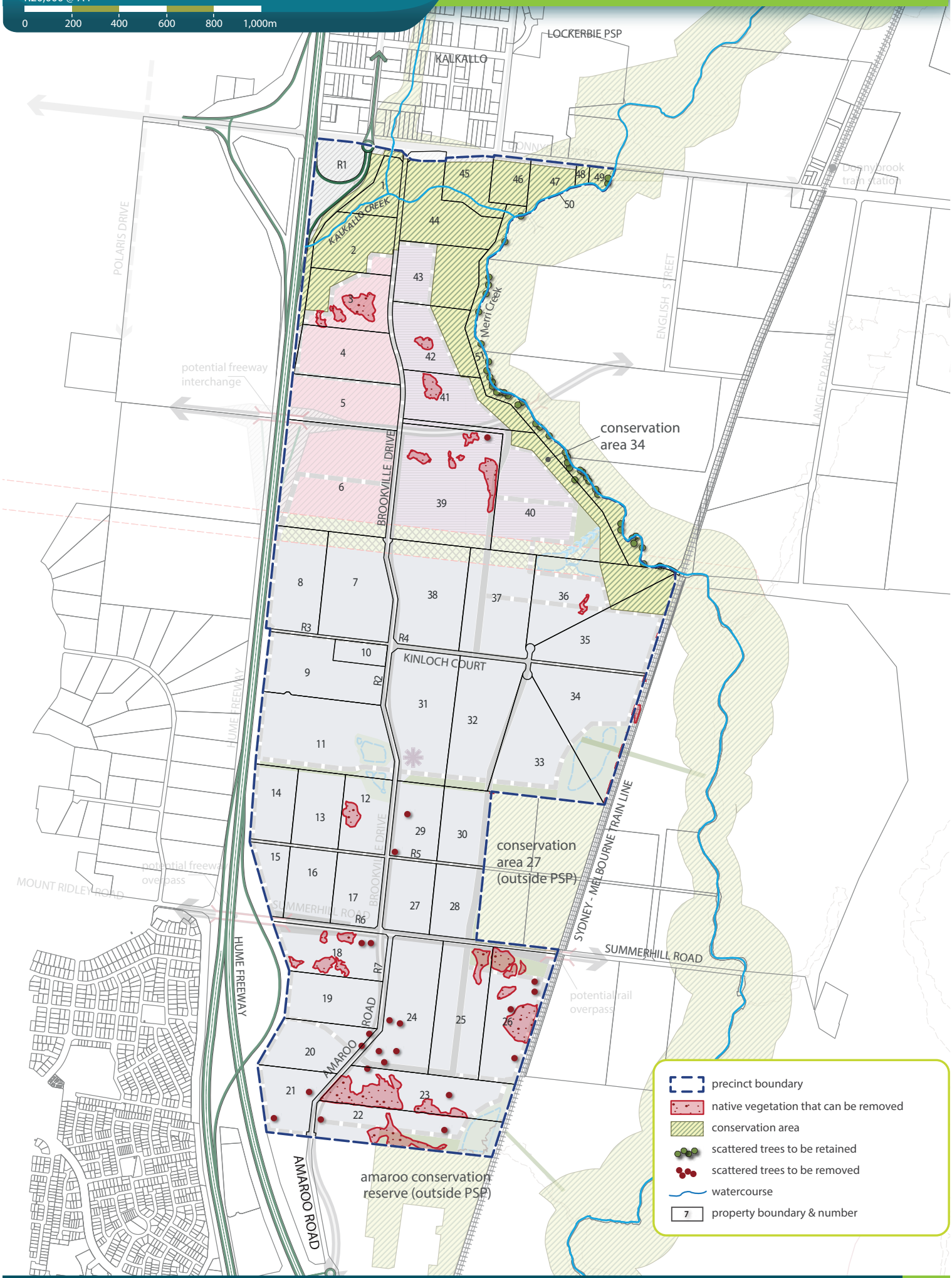

Plan 7 - Public Transport & Path Network

Craigieburn North Employment Precinct Structure Plan

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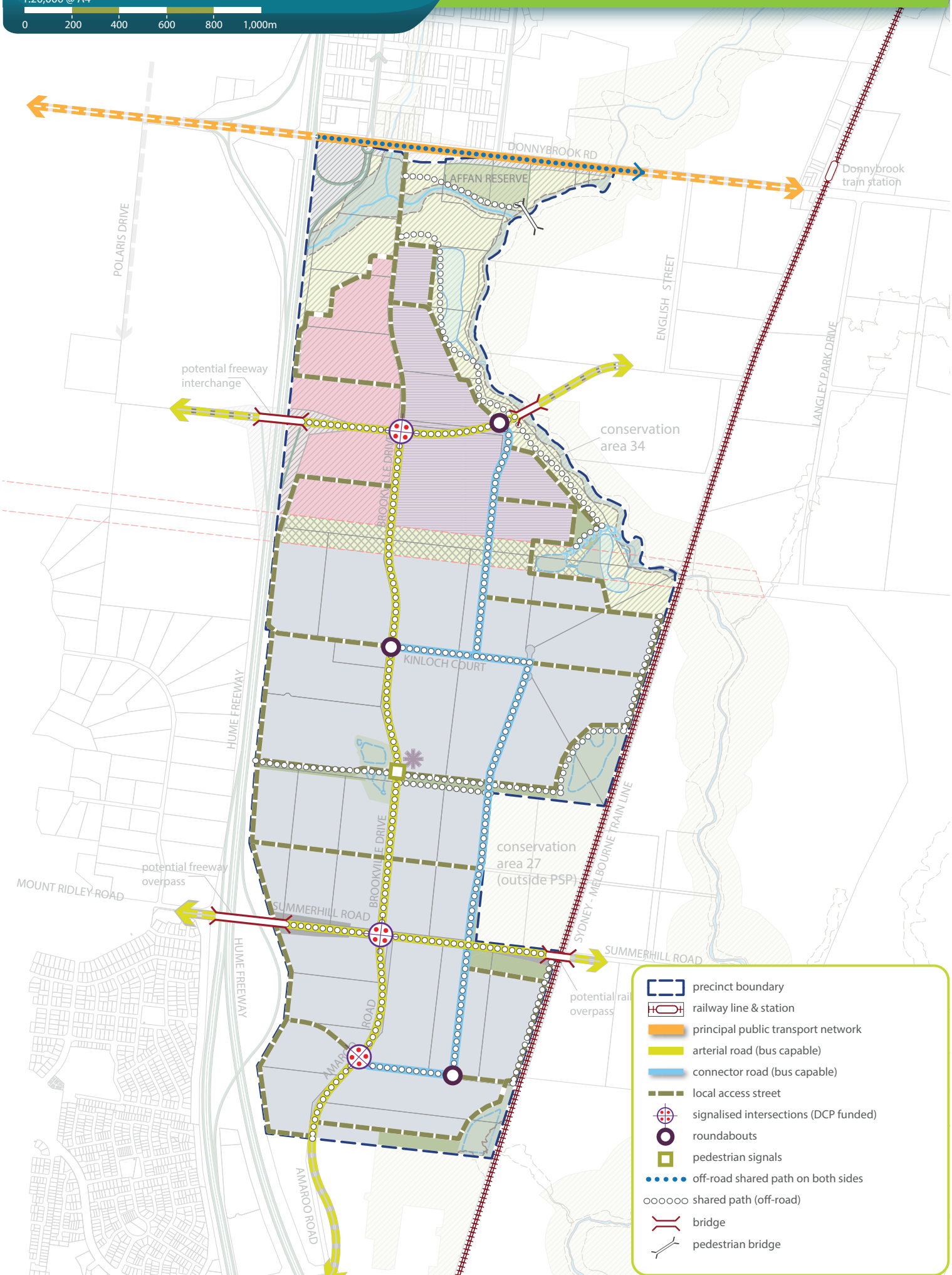

3.5 Transport & Movement

3.5.1 Public Transport

	REQUIREMENTS
R26	Any roundabouts on roads shown as 'bus capable' on Plan 7 must be constructed to accommodate ultra-low-floor buses in accordance with the Public Transport Guidelines for Land Use and Development.
R27	Bus stop facilities must be designed to the satisfaction of Public Transport Victoria (PTV).

3.5.2 Walking & Cycling

	REQUIREMENTS
R28	Design of all roads must give priority to the requirements of pedestrians and cyclists by providing: • Footpaths of at least 1.5 metres on both sides of all streets and roads unless otherwise specified by the PSP. • Shared paths or bicycle paths of 3.0 metres in width where shown on Plan 7 or as shown on the relevant cross-sections in Appendix 4.4 or as specified by another requirement in the PSP. • Safe and convenient crossing points of connector roads and local streets at all intersections and on key desire lines. • Safe pedestrian crossings of arterial roads at all intersections, at key desire lines, and on regular intervals appropriate to the function of the road and public transport provision. • Pedestrian priority crossings on all slip lanes. • Safe and convenient transition between on and off-road bicycle networks. All to the satisfaction of the coordinating roads authority and the Responsible Authority.
R29	Shared and pedestrian paths along waterways must: • Be delivered by development proponents consistent with the network shown on Plan 7. • Be above 1:10 year flood level with any crossing of the waterway designed to maintain hydraulic function of the waterway. • Be constructed to a standard that satisfies the requirements of the relevant authority. • Where a shared path is to be delivered on one side of a minor waterway as outlined in Plan 7, a path is also to be delivered on the other side of the waterway but may be constructed to a lesser standard. All to the satisfaction of the Melbourne Water and the Responsible Authority.
R30	Bicycle parking facilities are to be provided by development proponents in convenient locations at key destinations such as parks and the local convenience centre.
	GUIDELINES
G22	Lighting should be installed along shared, pedestrian, and cycle paths linking to key destinations, unless otherwise agreed by the Responsible Authority.

Plan 8 - Street Network

Craigieburn North Employment Precinct Structure Plan

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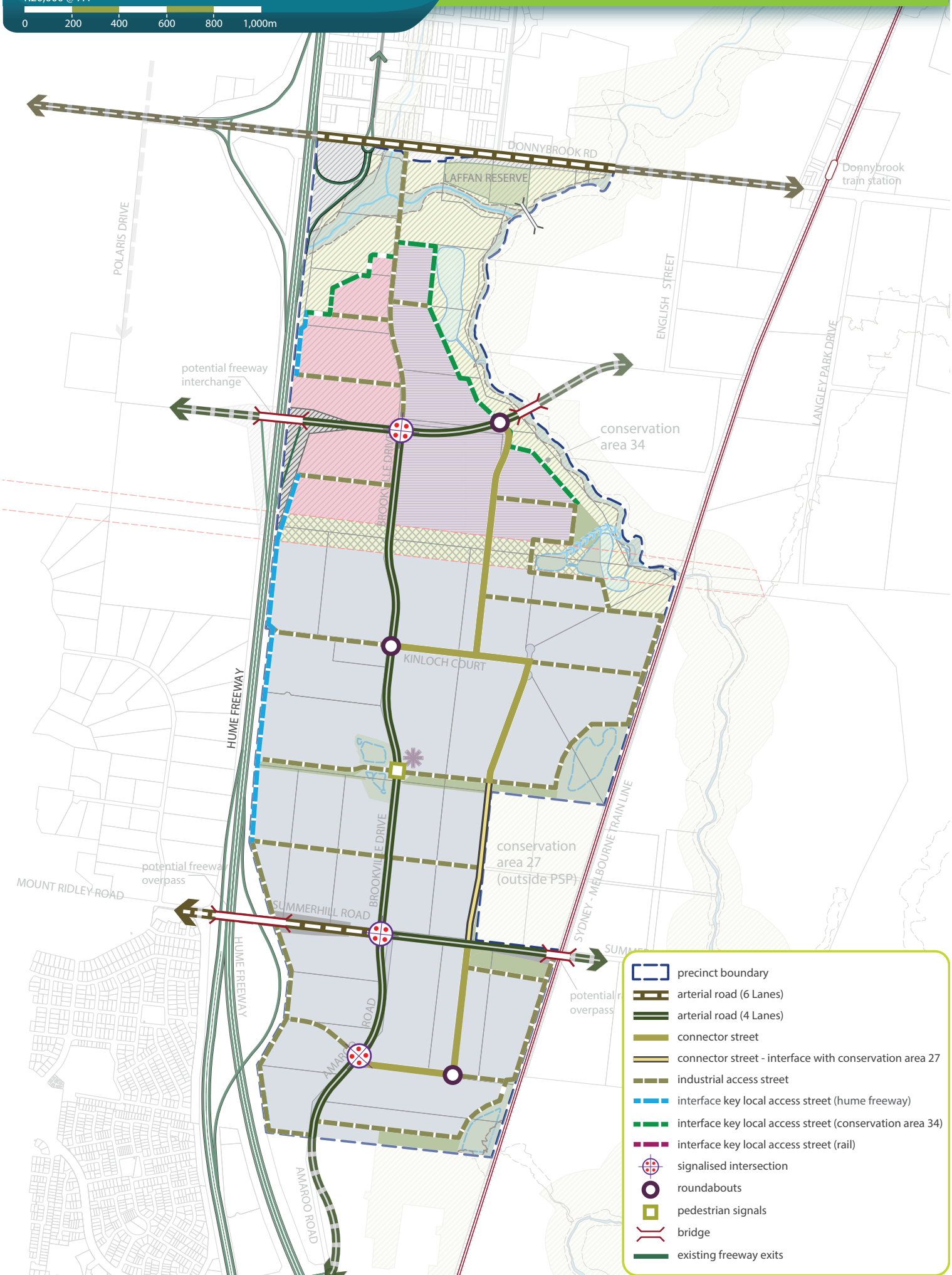

3.5.3 Road Network

	REQUIREMENTS
R31	Staging of subdivisions must provide for the timely connection of: • Road links between properties. • Road links to the connector and arterial road network. • Pedestrian and cyclist links to the off-road pedestrian and bicycle network.
R32	Where a subdivision abuts an arterial road, the abutting development may apply any one of the alternative treatments outlined in the relevant cross-sections in Appendix 4.4 to the satisfaction of the coordinating road authority. Alternative cross sections for Brookville Drive must ensure that the street remains suitable for the safe operation of buses.
R33	Vehicle access to lots fronting arterial roads must be provided from a service road, local internal road or rear lane only, to the satisfaction of the coordinating road authority.
R34	Where a single street spans across multiple properties that street may consist of multiple cross sections so long as a suitable transition has been allowed for between each. Where that street has already been constructed or approved for construction to a property boundary, the onus is on the development connecting into that street to adopt a consistent cross-section until that suitable transition can be made.
R35	Streets must be constructed to property boundaries where an inter-parcel connection is intended or indicated in the structure plan, by any date or stage of development required or approved by the Responsible Authority.
R36	Convenient and direct access to the connector road network must be provided through neighbouring properties where a property does not otherwise have access to the connector network or signalised access to the arterial network, as appropriate.
	GUIDELINES
G23	Culs-de-sac should not detract from convenient pedestrian and vehicular connections.
G24	Slip lanes should be avoided in areas of high pedestrian activity and only be provided at any other intersection between connector roads and arterial roads where they are necessitated by high traffic volumes/turning movements, to the satisfaction of the coordinating road authority.

Plan 9 - Integrated Water Management

Craigieburn North Employment Precinct Structure Plan

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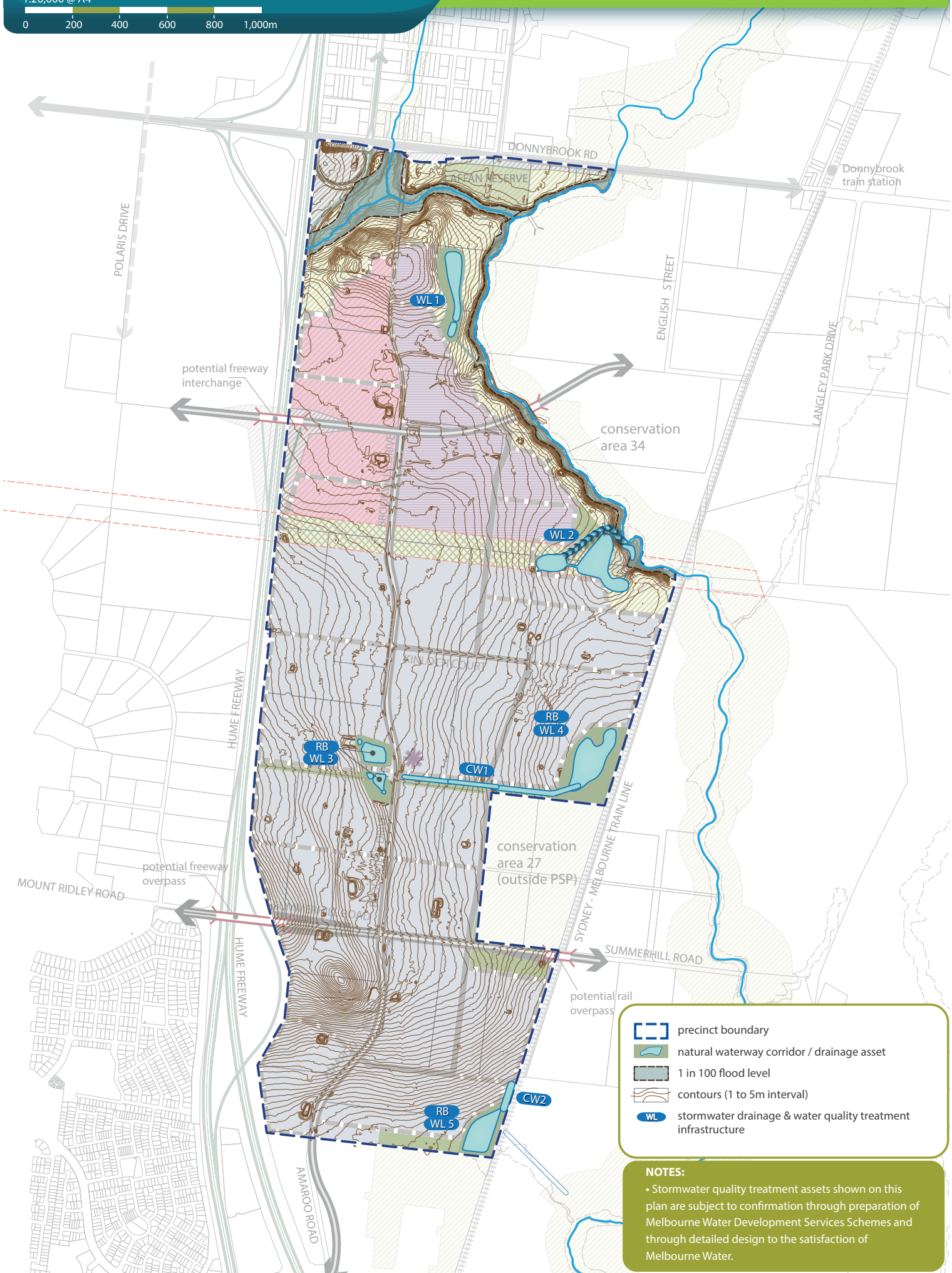

NOTES:

- Stormwater quality treatment assets shown on this plan are subject to confirmation through preparation of Melbourne Water Development Services Schemes and through detailed design to the satisfaction of Melbourne Water.

3.6 Integrated Water Management & Utilities

3.6.1 Integrated Water Management

	REQUIREMENTS
R37	Stormwater runoff from the development must be treated to meet at a minimum best practice standards prior to discharge to receiving waterways and as outlined on Plan 9, unless otherwise approved by the responsible authority and Melbourne Water.
R38	Final design of constructed waterways (including widths), waterway corridors, retarding basins, wetlands, and associated paths, boardwalks, bridges, and planting, must be to the satisfaction of Melbourne Water and the Responsible Authority.
R39	Development staging must provide for the delivery of ultimate waterway and drainage infrastructure, including stormwater quality treatment, listed in Table 3. Where this is not possible, development proposals must demonstrate how any interim solution adequately manages and treats stormwater generated from the development and how this will enable delivery of an ultimate drainage solution, to the satisfaction of Melbourne Water and the Responsible Authority.
R40	Applications must demonstrate how: • Waterways and integrated water management design enables land to be used for multiple recreation and environmental purposes. • Overland flow paths and piping within road reserves will be connected and integrated across property / parcel boundaries. • Freeboard requirements for overland flow paths will be adequately contained within road reserves. All to the satisfaction of Melbourne Water and the Responsible Authority.
R41	Stormwater conveyance and treatment must be designed in accordance with the relevant Development Services Scheme (DSS) to the satisfaction of Melbourne Water.
R42	Development on those lots affected by the central linear waterway in the Brookville DSS must provide for the outcomes illustrated in Plan 9 and Figure 5a or Figure 5b, as relevant.
	GUIDELINES
G25	The design and layout of roads, road reserves, and public open space should optimise water use efficiency and long-term viability of vegetation and public uses through the use of WSUD initiatives, such as rain gardens and / or locally treated storm water for irrigation to contribute to a sustainable and green urban environment.
G26	Where practical, and where primary waterway, conservation or recreation functions are not adversely affected, land required for integrated water management initiatives (such as stormwater harvesting, aquifer storage and recharge, sewer mining) should be incorporated within the precinct open space system as depicted on Plan 5.
G27	Where practical, development should include integrated water management initiatives to reduce reliance on potable water and increase utilization of storm and waste water, contributing to a sustainable and green urban environment.
G28	Development should have regard to relevant policies and strategies being implemented by the responsible authority, Melbourne Water and Yarra Valley Water, including any approved Integrated Management Plan.
G29	Where practical, integrated water management should be designed to: • Maximize habitat values for local flora and fauna species. • Enable future harvesting and/or treatment and re-use of stormwater.

Table 3 Stormwater Drainage and Water Quality Infrastructure

ASSET TYPE	ISP REFERENCE ID	RELEVANT MW DSS	LAND TAKE REQUIRED / MINIMUM WATERWAY CORRIDOR WIDTH	MAINTENANCE RESOPONSIBILITY
Wetland	WL1	Donnybrook East DSS	3.5 ha	MWC
Wetland	WL2	Donnybrook East DSS	4 ha	MWC
Retarding basin / wetland	RB/WL3	Brookville Drive DSS	3 ha	MWC
Retarding basin / wetland	RB/WL4	Brookville Drive DSS	6.8 ha	MWC
Retarding basin / wetland	RB/WL5	Amaroo Road DSS	3 ha	MWC
Constructed Waterway	CW1	Brookville Drive DSS	channel 22m wide	MWC/HCC
Constructed Waterway	CW2	Amaroo Road DSS	channel 29m wide	MWC

HCC = Hume City Council, MWC= Melbourne Water Corporation, DSS = Drainage Services Scheme

*The land budget has been prepared to reflect current advice from Melbourne Water regarding land required for drainage assets as part of the preparation of the draft Development Services Scheme (DSS) for the PSP. The land required for these assets may be subject to refinement or allow alternative water quality treatment solutions, to the satisfaction of Melbourne Water and the responsible authority.

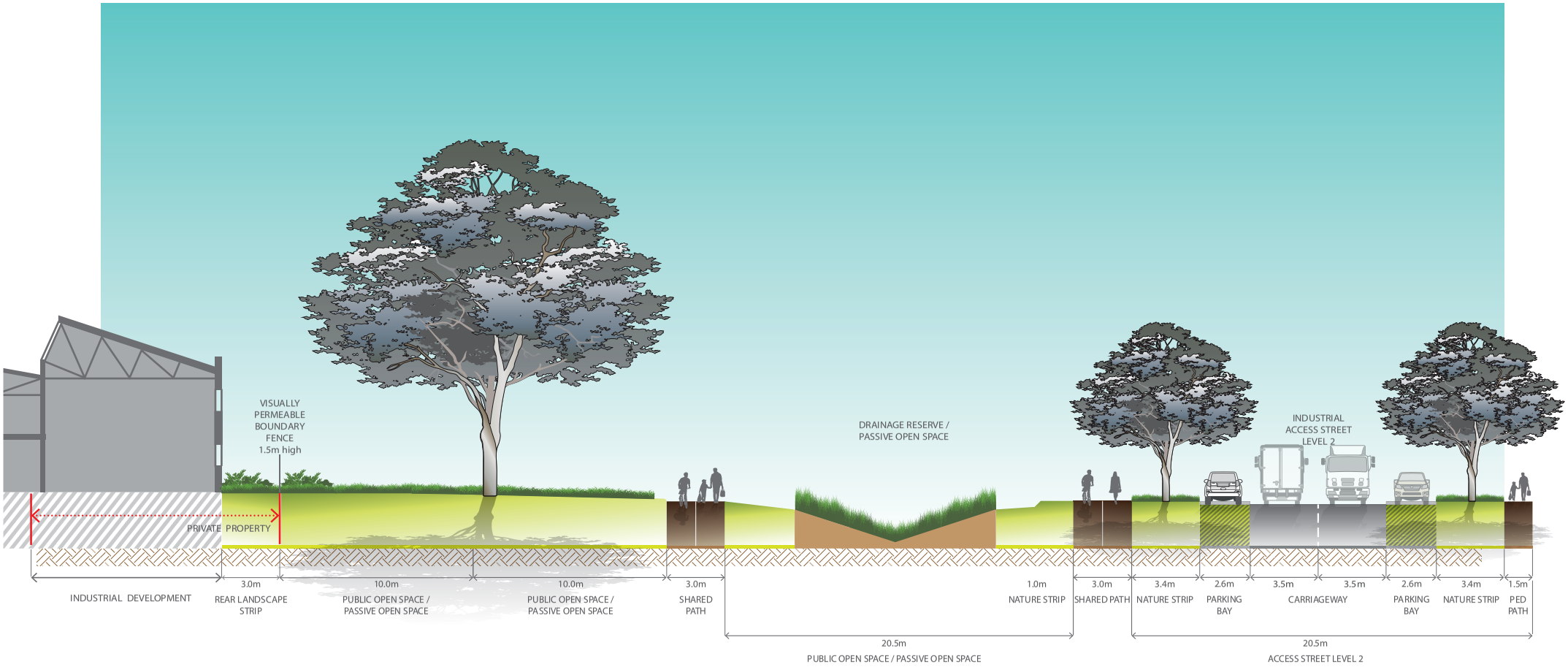

Figure 5a Eastern Section Central Linear Reserve

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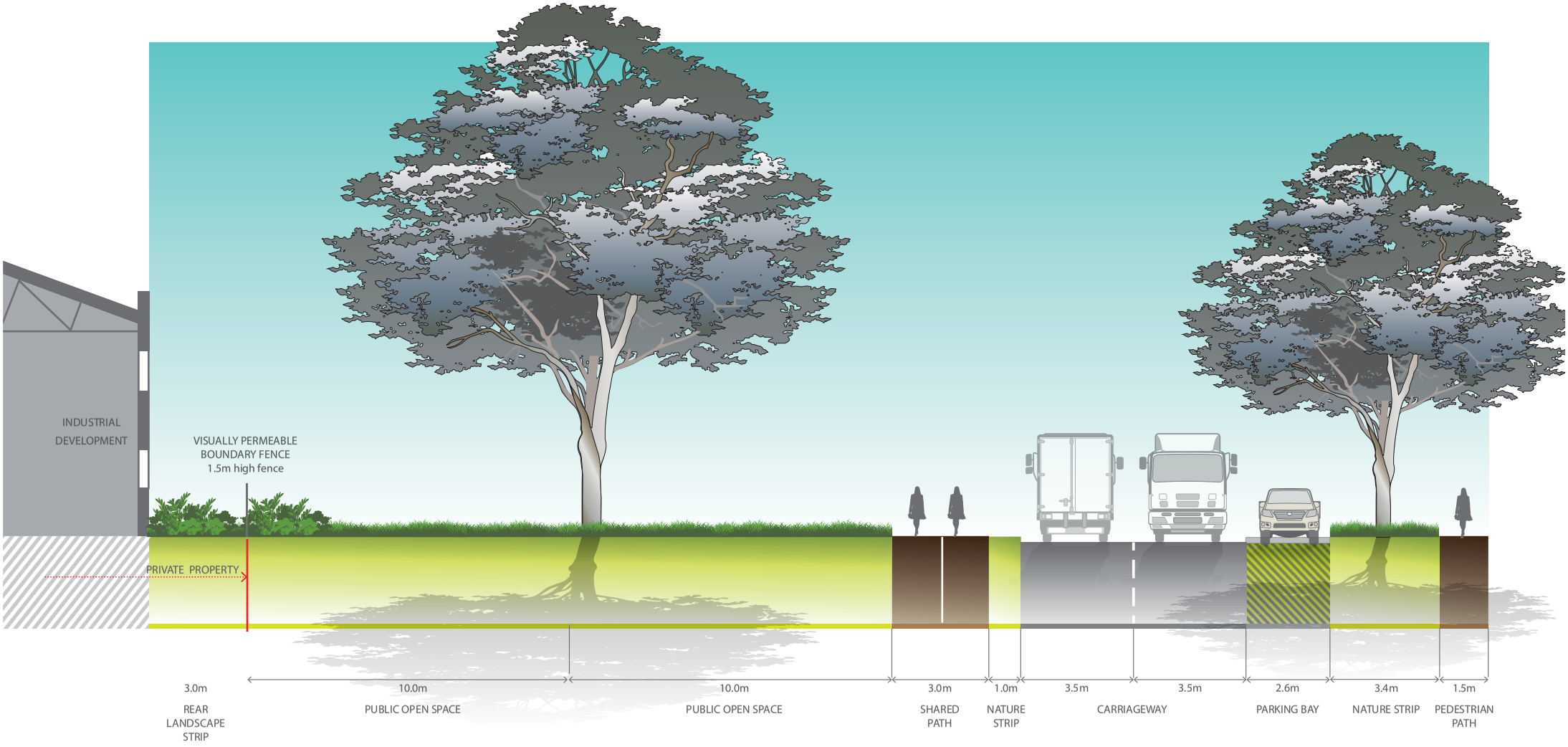

Figure 5b Western Section Central Linear Reserve

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3.6.2 Precinct Infrastructure Plan

Table 4 Precinct Infrastructure Plan

CATEGORY	TITLE	DESCRIPTION	LEAD AGENCY	PRIORITY L - LOW M - MEDIUM H - HIGH	INCLUDED IN DCP	DCP REFERENCE NO.
Road Projects						
Road	Donnybrook Road	6 lane arterial road (ultimate) – land (41m).	VicRoads	M	No	N/A
Road	Hume Freeway	On-ramps from English Street (west - ultimate)	VicRoads	L	No	N/A
Road	English Street (West)	4 lane arterial road (ultimate) – land (34m).	VicRoads	M L	Yes (interim) No (ultimate)	RD-25.1-1
Road	Brookville Drive / Amaroo Road	4 lane arterial road (ultimate) –land for road widening to 34m.	Hume City Council	H M	Yes (interim) No (ultimate)	RD-25.1-3
Road	Summerhill Road	4 lane arterial road (ultimate) –land for road widening to six lanes up to 34m.	Hume City Council	H M	Yes (interim) No (ultimate)	RD-25.1-4
Road	English Street (west) to interchange with Hume Freeway	Land for Freeway interchange and bridge (interim treatment)	Hume City Council	H	Yes (land only)	RD-25.1-2
Road	Summerhill Road overpass of Hume Freeway	Land for Freeway overpass bridge (interim treatment)	Hume City Council	H	Yes (land only)	RD-25.1-5
Road	Summerhill Road overpass of Sydney-Melbourne railway line.	Land for overpass bridge (interim treatment)	Hume City Council	H	Yes (land only)	N/A
Bridge Projects						
Bridge	Hume Freeway – Interchange and overpass	Freeway half-diamond interchange comprising bridge overpass and two city-bound freeway on-ramps.	VicRoads	M	No	N/A
Bridge	Summerhill Road overpass of Hume Freeway	Bridge over the Hume Freeway to connect Mt Ridley Road to Summerhill Road.	VicRoads	L	No	N/A
Bridge	Summerhill Road overpass of Sydney-Melbourne railway line.	Bridge over the railway line to provide for grade separation.	VicRoads	L	No	N/A
Bridge	Merri Creek Road Bridge	4 lane bridge crossing of Merri creek – 2 lane interim	Hume City Council and City of Whittlesea	M L	Yes (interim) No (ultimate)	BR-25.1-1
Bridge	Merri Creek Pedestrian Bridge	Shared trail bridge crossing of Merri Creek	Hume City Council and City of Whittlesea	M	No, in DCP for PSP 25.2	BR-25.2-2
Intersection Projects						
Intersection	English Street (West) / North-South Connector road	Purchase of land for intersection (ultimate treatment) and construction of 4-way arterial to connector roundabout (interim treatment)	Hume City Council	M L	Yes (interim) No (ultimate)	IN-25.1-1
Intersection	Brookville Drive / English Street (West)	Purchase of land for intersection (ultimate treatment) and construction of arterial to arterial signalised 4-way intersection (interim treatment)	Hume City Council	H M	Yes (interim) No (ultimate)	IN-25.1-2
Intersection	Brookville Drive / east-west access road (Kinloch Court)	Purchase of land for intersection (ultimate treatment) and construction of arterial to access road 4-way roundabout (interim treatment)	Hume City Council	H M	Yes (interim) No (ultimate)	IN-25.1-3
Intersection	Brookville Drive / East-West access	Purchase of land for intersection (ultimate treatment) and construction of arterial to connector road 4-way roundabout (interim treatment - near proposed convenience centre)	Hume City Council	H M	Yes (interim) No (ultimate)	IN-25.1-4
Intersection	Brookville Drive (Amaroo Road) / Summerhill Road	Purchase of land for intersection (ultimate treatment) and construction of arterial to arterial signalised 4-way intersection (interim treatment)	Hume City Council	H M	Yes (interim) No (ultimate)	IN-25.1-5
Intersection	Summerhill Road / North-South connector road	Purchase of land for intersection (ultimate treatment) and construction of arterial to connector 4-way roundabout (interim treatment)	Hume City Council	H M	Yes (interim) No (ultimate)	IN-25.1-6
Intersection	Brookville Drive/Amaroo Road / East-West connector road (South)	Purchase of land for intersection (ultimate treatment) and construction of arterial to connector 4-way roundabout (interim treatment)	Hume City Council	H M	Yes (interim) No (ultimate)	IN-25.1-7

The development staging is indicative only as infrastructure deliver must respond to on-ground development which is at the discretion of the collecting agency.

Plan 10 - Utilities

Craigieburn North Employment Precinct Structure Plan

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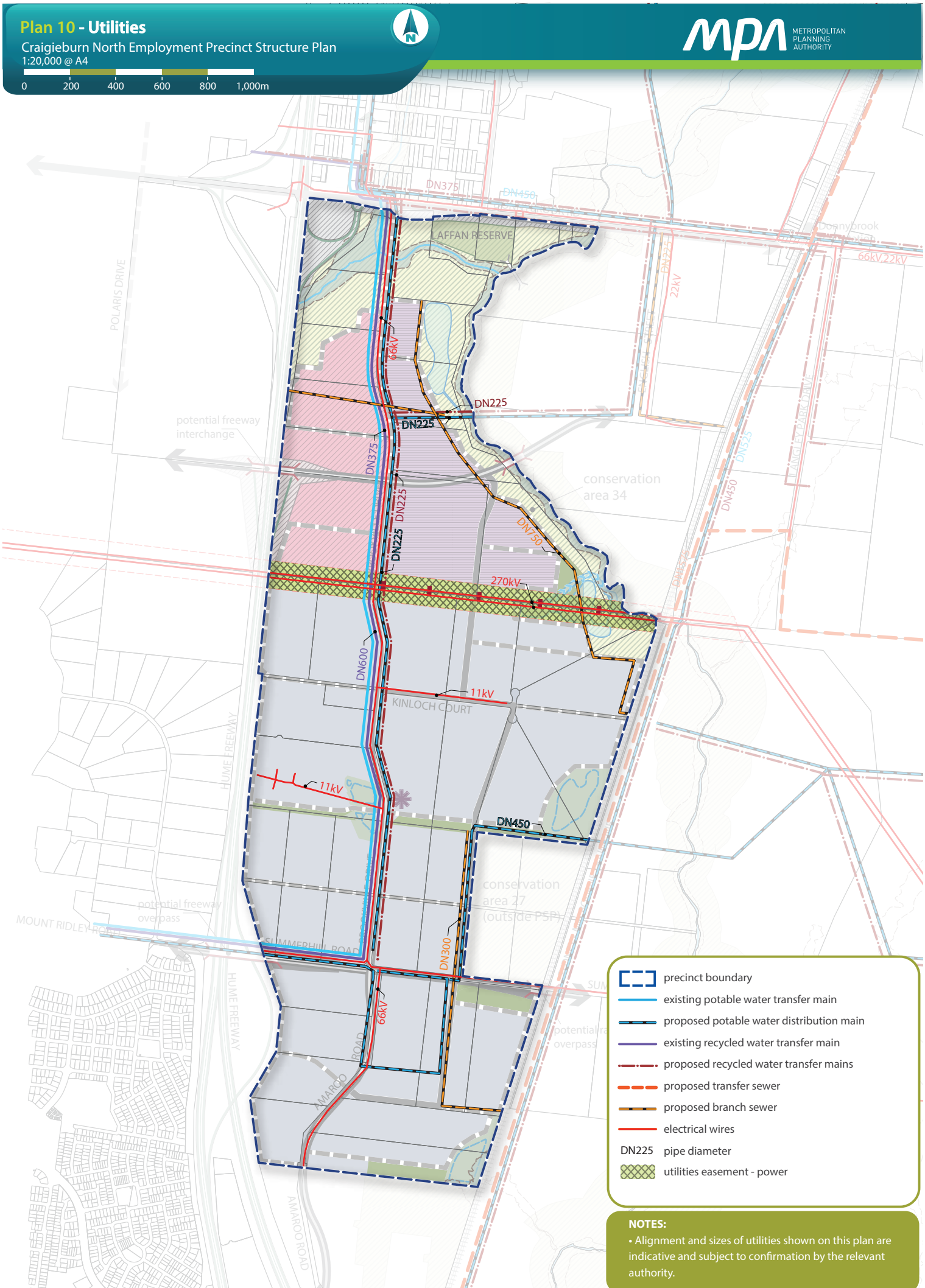

NOTES:

- Alignment and sizes of utilities shown on this plan are indicative and subject to confirmation by the relevant authority.

3.6.3 Utilities

	REQUIREMENTS
R43	Trunk services are to be placed along the general alignments shown on Plan 10, subject to any refinements as advised by the relevant servicing authorities.
R44	Before development commences on a property, functional layout plans are to be submitted of the road network showing the location of all: • Underground services • Driveways/crossovers • intersections • footpaths / shared paths • Street lights • Street trees A typical cross section of each street is also to be submitted showing above and below ground placement of services, street lights and trees. The plans and cross sections must demonstrate how services, driveways and street lights will be placed so as to achieve the road reserve width (consistent with the road cross sections outlined in Appendix 4.4 in this PSP) and accommodate the minimum level of street tree planting (as outlined in this PSP). If required, the plan and cross sections will nominate which services will be placed under footpaths or road pavement. The plans and cross sections are to be approved by the Responsible Authority and all relevant service authorities before development commences.
R45	Delivery of underground services must be coordinated, located, and bundled (utilising common trenching) to facilitate the planting of trees and other vegetation within road verges.
R46	All existing above ground electricity cables of less than 66kV voltage must be placed underground as part of the upgrade of existing roads.
R47	All new electricity supply infrastructure (excluding substations and cables of a voltage greater than 66kV) must be provided underground.
R48	Where existing above ground electricity cables of 66kV voltage are retained along road ways, underground conduits are to be provided as part of the upgrade of these roads to allow for future undergrounding of the electricity supply.
R49	Above ground utilities must be identified at the subdivision design stage to ensure effective integration with the surrounding neighbourhood and to minimise amenity impacts, and be designed to the satisfaction of the relevant authority. Where that infrastructure is intended to be located in public open space, the land required to accommodate that infrastructure will not be counted as contribution to public open space requirements classified under Clause 52.01 or the Craigieburn North Employment Area Development Contributions Plan.
R50	Utilities must be placed outside any conservation areas shown on Plan 6. Utilities must be placed outside of natural waterway corridors or on the outer edges of these corridors to avoid disturbance to existing waterway values, native vegetation, significant landform features and heritage sites, to the satisfaction of Melbourne Water and the Responsible Authority.
R51	Development incorporating or abutting the high voltage transmission line easement must be integrated with the surrounding subdivision pattern.
	GUIDELINES
G30	Above ground utilities should be located outside of key view lines and screened with vegetation, as appropriate.
G31	Existing above ground 66kV electricity cables should be removed and placed underground as part of the upgrade of existing roads.
G32	Design and placement of underground services in new or upgraded streets should utilise the service placement guidelines outlined in Appendix 4.5.
G33	Land within the electricity transmission line easement should be utilised for ancillary commercial and industrial uses, as permitted by the relevant electricity authority.

Plan 11 - Merri Creek Crossing

Craigieburn North Employment Precinct Structure Plan

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METROPOLITAN PLANNING AUTHORITY

3.6.4 Development Staging

	REQUIREMENTS
R52	Development within area for possible bridge and road alignment', identified in Plan 11 adjacent to the future bridge crossing of the Merri Creek, is not permitted until the exact location for bridge abutments has been confirmed through a geotechnical assessment and a cultural heritage management plan (CHMP), or unless otherwise agreed by the responsible authority and the City of Whittlesea.
R53	Development staging must provide for the timely provision and delivery of: • Arterial road reservations. • Street links between properties, constructed to the property boundary. • Connection of the on- and off-road pedestrian and bicycle network.
R54	Development viability and staging in this precinct will be determined largely through the availability and provision of infrastructure in order to access and service each development site. Within this context, development must: • Ensure the safe and orderly vehicular access to the existing arterial network; and • Provide access to each new lot via a sealed road to service the development and constructed to an industrial standard, all to the satisfaction of the responsible authority.

3.6.5 Subdivision Works

	REQUIREMENTS
R55	Subdivision of land within the precinct must provide and meet the total cost of delivering the following infrastructure: • Connector roads and local streets. • Local bus stop infrastructure (where locations have been agreed in writing by Public Transport Victoria). • Landscaping of all existing and future roads and local streets. • Intersection works and traffic management measures along arterial roads, connector streets, and local streets (except those included in the DCP). • Council approved fencing and landscaping (where required) along arterial roads. • Fencing along the rail corridor to the satisfaction of Public Transport Victoria (PTV). • Local shared, pedestrian and bicycle paths along local arterial roads, connector roads, utilities easements, local streets, waterways and within local parks including bridges, intersections, and barrier crossing points (except those included in the DCP). • Bicycle parking as required in this document. • Appropriately scaled lighting along all roads, major shared and pedestrian paths, and traversing public open space. • Basic improvements to local parks and other open space (refer open space delivery below). • Local drainage system. • Local street or pedestrian path crossings of waterways unless included in the DCP or outlined as the responsibility of another agency in the Precinct Infrastructure Plan. • Construction of shared paths along waterways and in local parks; • Infrastructure as required by utility service providers including water, sewerage, drainage (except where the item is funded through a Development Services Scheme), electricity, gas, • and telecommunications. • Remediation and / or reconstruction of dry stone walls where required.
R56	**OPEN SPACE DELIVERY** All local parks must be finished to a standard that satisfies the requirements of the Responsible Authority prior to the transfer of the public open space, including: • Removal of all existing and disused structures, foundations, pipelines, and stockpiles. • Clearing of rubbish and weeds, levelled, topsoiled and grassed with warm climate grass (unless conservation reserve requirements dictate otherwise). • Provision of water tapping, potable and recycled water connection points. • Implementation of Tree Protection Zones for existing trees to be retained, to the satisfaction of the Responsible Authority. • Planting of trees and shrubs. • Provision of vehicular exclusion devices (fence, bollards, or other suitable method) and maintenance access points. • Installation of park furniture which may include barbeques, shelters, furniture, rubbish bins, and appropriate paving to support these facilities, consistent with the type of public open space listed in the open space delivery guide (Table 2).

Plan 12 - Land Use Budget

Craigieburn North Employment Precinct Structure Plan

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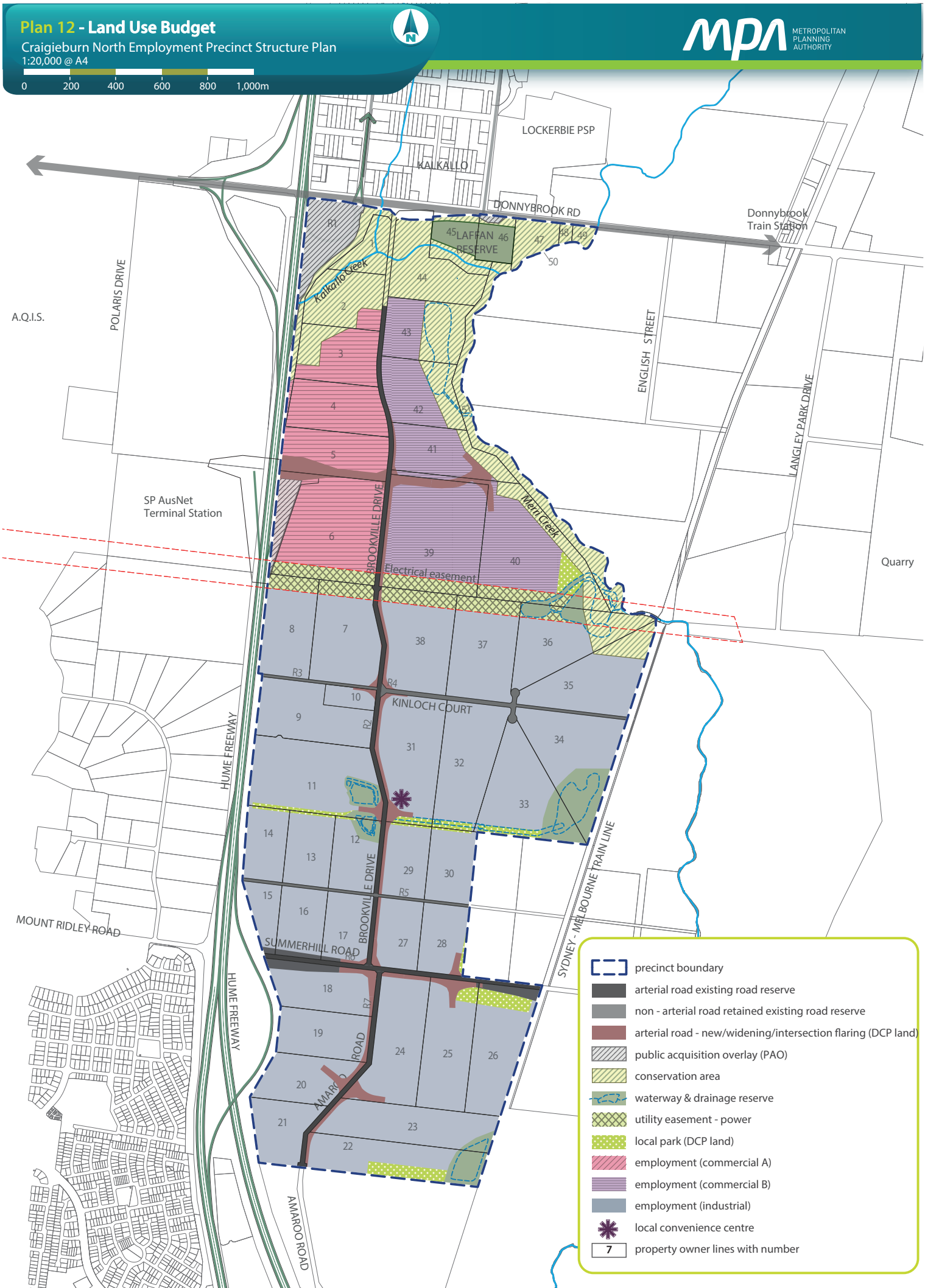

4.0 APPENDICES

4.1 Property Specific Land Budget

The area of Net Developable Area (NDA) is established by deducting the land requirements for major roads, servicing, and open space from the overall Precinct area. The estimated NDA for the precinct is

344.23 hectares representing approximately 70% of the PSP area.

Table 5 Summary Land Use Budget sets out the land area and summary lot yield for various uses in the future urban structure.

Table 5 Summary Land Use Budget

DESCRIPTION	HECTARES	% OF PRECINCT	% OF NDA
TOTAL PRECINCT AREA (ha)	**488.37**	**%100**	
TRANSPORT			
Arterial Road - Existing Road Reserve	0.00	0.00%	0.00%
Arterial Road - Public Acquisition Overlay	9.07	1.86%	2.63%
Arterial Road - Widening and Intersection Flaring (DCP land)	17.54	3.59%	5.09%
Non-Arterial Road - Existing Road Reserve	14.20	2.91%	4.12%
Non-Arterial Road - landscape buffer adjoining	0.00	0.00%	0.00%
Sub-total Transport	40.81	8.4%	11.84%
COMMUNITY & EDUCATION			
Sub-total Education	0.00	0.0%	0.0%
OPEN SPACE			
SERVICE OPEN SPACE			
Conservation Reserve	59.78	12.24%	17.34%
Waterway and Drainage Reserve	15.08	3.09%	4.37%
Utilities Easements	14.21	2.91%	4.12%
Sub-total Service Open Space	89.08	18.24%	25.84%
CREDITED OPEN SPACE			
Local Sports Reserve (DCP land)	0.00	0.0%	0.00%
Local Network Park (via Cl 52.01)	8.92	1.8%	2.59%
Sub-total Credited Open Space	8.92	1.8%	2.59%
REGIONAL OPEN SPACE			
Sub-total Regional Open Space	0.00	0.0%	0.00%
Total All Open Space	**98.00**	**20.1%**	**28.43%**
OTHER			
Existing Sports Reserve	4.80	0.98%	1.39%
Sub-total	4.80	0.98%	1.39%
NET DEVELOPABLE AREA - EMPLOYMENT (NDAE) HA	**344.76**	**70.59%**	
EMPLOYMENT LOCAL OPEN SPACE (EXPRESSED AS % OF NDAE)	**HECTARES**	**% OF NDAE**	
Local Parks (passive open space) employment	8.92	2.59%	
Sub-total	8.92	2.59%	
TOTAL OPEN SPACE	**22.64**		

Table 6 Property Specific Land Budget

PSP PROPERTY ID	TOTAL AREA (HECTARES)	TRANSPORT														SERVICE OPEN SPACE			CREDITED OPEN SPACE	OTHER OPEN SPACE	TOTAL NET DEVELOPABLE AREA (HECTARES)	NET DEVELOPABLE AREA % OF PROPERTY	VALUERS BEFORE AREA	DCP CONTRIBUTION (ALL)	% OF NDA	UNDER PROVISION	OVER PROVISION
				DCP ARTERIAL ROADS / WIDENING			DCP FLARING FOR INTERSECTIONS							ARTERIAL ROAD - WIDENING AND INTERSECTION FLARING (DCP LAND)	OTHER TRANSPORT				LOCAL PARKS							
		ARTERIAL ROAD - EXISTING ROAD RESERVE	ARTERIAL ROAD - PUBLIC ACQUISITION OVERLAY	RD-01	RD-02	RD-03	IN-01	IN-02	IN-03	IN-04	IN-05	IN-06	IN-07		NON-ARTERIAL ROAD - EXISTING ROAD RESERVE	CONSERVATION RESERVE	WATERWAY AND DRAINAGE RESERVE	UTILITIES EASEMENTS	LOCAL NETWORK PARK (VIA CL 52.01)	EXISTING SPORTS RESERVE							
1	3.67	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.67	-	-	-	-	0.00	0.00%	-	-	0.00%	0.00	0.00
2	7.84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.89	-	-	-	-	0.95	12.06%	0.95	-	0.00%	0.00	0.00
3	8.40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.11	-	-	-	-	6.30	74.93%	6.30	-	0.00%	0.00	0.00
4	8.73	-	-	-	-	-	-	0.00	-	-	-	-	-	0.00	-	-	-	-	-	-	8.73	99.98%	8.73	0.00	0.02%	0.00	0.00
5	8.96	-	-	1.75	-	-	-	0.45	-	-	-	-	-	2.20	-	-	-	-	-	-	6.76	75.43%	8.96	2.20	32.57%	0.34	1.86
6	20.93	-	2.22	0.57	-	-	-	0.04	-	-	-	-	-	0.61	-	-	-	2.55	-	-	15.55	74.28%	18.38	0.61	3.94%	0.61	0.00
7	12.14	-	-	-	0.02	-	-	-	0.10	-	-	-	-	0.12	-	-	-	1.51	-	-	10.52	86.64%	10.63	0.12	1.11%	0.12	0.00
8	9.63	-	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.38	-	-	8.24	85.58%	8.25	-	0.00%	0.00	0.00
9	10.72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.72	100.00%	10.72	-	0.00%	0.00	0.00
10	2.00	-	-	-	-	-	-	-	0.17	-	-	-	-	0.17	-	-	-	-	-	-	1.83	91.63%	2.00	0.17	9.13%	0.09	0.07
11	17.06	-	-	-	-	-	-	-	-	0.42	-	-	-	0.42	-	-	2.00	-	0.60	-	14.04	82.32%	15.06	0.42	2.96%	0.42	0.00
12	6.32	-	-	-	-	-	-	-	-	0.01	-	-	-	0.01	-	-	1.00	-	0.09	-	5.21	82.53%	5.31	0.01	0.24%	0.01	0.00
13	6.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.21	-	6.13	96.65%	6.34	-	0.00%	0.00	0.00
14	5.65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.18	-	5.47	96.82%	5.65	-	0.00%	0.00	0.00
15	3.40	-	-	-	-	0.15	-	-	-	-	-	-	-	0.15	-	-	-	-	-	-	3.24	95.51%	3.40	0.15	4.70%	0.15	0.00
16	6.04	-	-	-	-	0.43	-	-	-	-	-	-	-	0.43	-	-	-	-	-	-	5.61	92.86%	6.04	0.43	7.69%	0.29	0.15
17	6.00	-	-	-	-	0.14	-	-	-	-	0.17	-	-	0.31	-	-	-	-	-	-	5.68	94.79%	6.00	0.31	5.49%	0.29	0.02
18	8.89	-	-	-	0.14	1.15	-	-	-	-	0.65	-	-	1.94	-	-	-	-	-	-	6.95	78.17%	8.89	1.94	27.93%	0.35	1.59
19	7.96	-	-	-	0.15	-	-	-	-	-	-	-	0.13	0.28	-	-	-	-	-	-	7.68	96.49%	7.96	0.28	3.64%	0.28	0.00
20	7.62	-	-	-	-	-	-	-	-	-	-	-	0.64	0.64	-	-	-	-	-	-	6.98	91.59%	7.62	0.64	9.18%	0.36	0.29
21	6.51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.51	100.00%	6.51	-	0.00%	0.00	0.00
22	11.90	-	-	-	0.22	-	-	-	-	-	-	-	-	0.22	-	-	2.22	-	1.98	-	7.48	62.82%	9.68	0.22	3.01%	0.22	0.00
23	12.10	-	-	-	0.18	-	-	-	-	-	-	-	0.12	0.31	-	-	0.78	-	-	-	11.01	91.01%	11.32	0.31	2.79%	0.31	0.00
24	12.92	-	-	-	-	0.22	-	-	-	-	0.19	-	0.74	1.15	-	-	-	-	-	-	11.78	91.13%	12.92	1.15	9.73%	0.60	0.55
25	12.04	-	-	-	-	0.04	-	-	-	-	-	0.87	-	0.91	-	-	-	-	0.54	-	10.59	87.96%	12.04	0.91	8.58%	0.54	0.37
26	12.05	-	-	-	-	0.92	-	-	-	-	-	-	-	0.92	-	-	-	-	1.51	-	9.62	79.85%	12.05	0.92	9.56%	0.49	0.43
27	6.02	-	-	-	0.25	-	-	-	-	-	0.27	-	-	0.53	-	-	-	-	-	-	5.49	91.27%	6.02	0.53	9.57%	0.28	0.25
28	6.00	-	-	-	-	-	-	-	-	-	-	0.31	-	0.31	-	-	-	-	0.25	-	5.43	90.58%	6.00	0.31	5.75%	0.28	0.04
29	6.37	-	-	-	0.31	-	-	-	-	0.16	-	-	-	0.47	-	-	-	-	0.17	-	5.72	89.88%	6.37	0.47	8.22%	0.29	0.18
30	6.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.17	-	6.17	97.35%	6.34	-	0.00%	0.00	0.00
31	14.27	-	-	-	0.45	-	-	-	0.27	0.58	-	-	-	1.30	-	-	-	-	0.49	-	12.48	87.44%	14.27	1.30	10.46%	0.64	0.67
32	12.80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.56	-	12.24	95.66%	12.80	-	0.00%	0.00	0.00

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		ARTERIAL ROAD - EXISTING ROAD RESERVE	ARTERIAL ROAD - PUBLIC ACQUISITION OVERLAY	RD-01	RD-02	RD-03	IN-01	IN-02	IN-03	IN-04	IN-05	IN-06	IN-07		NON-ARTERIAL ROAD - EXISTING ROAD RESERVE	CONSERVATION RESERVE	WATERWAY AND DRAINAGE RESERVE	UTILITIES EASEMENTS	LOCAL NETWORK PARK (VIA CL 52.01)	EXISTING SPORTS RESERVE							
33	13.50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.54	-	0.97	-	9.99	74.02%	10.97	-	0.00%	0.00	0.00
34	14.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.26	-	-	-	10.07	70.25%	10.07	-	0.00%	0.00	0.00
35	12.31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.16	-	-	-	-	10.15	82.44%	10.15	-	0.00%	0.00	0.00
36	12.30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.06	1.33	0.52	-	-	7.39	60.04%	7.39	-	0.00%	0.00	0.00
37	12.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.78	-	-	10.56	85.57%	10.56	-	0.00%	0.00	0.00
38	13.22	-	-	-	0.48	-	-	-	0.17	-	-	-	-	0.65	-	-	-	2.06	-	-	10.51	79.47%	11.16	0.65	6.21%	0.54	0.12
39	20.90	-	-	0.38	0.47	-	0.20	0.86	-	-	-	-	-	1.91	-	-	-	2.42	-	-	16.56	79.25%	18.47	1.91	11.54%	0.84	1.07
40	20.64	-	-	0.03	-	-	0.56	0.05	-	-	-	-	-	0.64	-	4.13	0.95	1.99	1.20	-	11.74	56.87%	13.58	0.64	5.43%	0.60	0.04
41	8.88	-	-	-	-	-	0.70	0.21	-	-	-	-	-	0.91	-	1.73	-	-	-	-	6.23	70.18%	7.14	0.91	14.64%	0.32	0.59
42	8.99	-	-	-	-	-	-	0.02	-	-	-	-	-	0.02	-	2.98	-	-	-	-	5.99	66.62%	6.01	0.02	0.39%	0.02	0.00
43	9.06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.85	-	-	-	-	4.21	46.45%	4.21	-	0.00%	0.00	0.00
44	9.56	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.56	-	-	-	-	0.00	0.00%	-	-	0.00%	0.00	0.00
45	4.66	-	0.00	-	-	-	-	-	-	-	-	-	-	-	-	2.40	-	-	-	2.26	0.00	0.00%	2.26	-	0.00%	0.00	0.00
46	3.18	-	0.29	-	-	-	-	-	-	-	-	-	-	-	-	0.35	-	-	-	2.54	0.00	0.00%	2.83	-	0.00%	0.00	0.00
47	2.95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.95	-	-	-	-	0.00	0.00%	-	-	0.00%	0.00	0.00
48	0.47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.47	-	-	-	-	0.00	0.00%	-	-	0.00%	0.00	0.00
49	0.77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.77	-	-	-	-	0.00	0.00%	-	-	0.00%	0.00	0.00
50	7.86	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.86	-	-	-	-	0.00	0.00%	-	-	0.00%	0.00	0.00
51	0.56	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.56	-	-	-	-	0.00	0.00%	-	-	0.00%	0.00	0.00
SUB-TOTAL	464.09	-	2.52	2.73	2.68	3.06	1.46	1.64	0.71	1.17	1.28	1.19	1.63	17.54	-	56.50	15.08	14.21	8.92	4.80	344.51	74.23%	378.29	17.54	5.09%	9.27	8.27
ROAD RESERVE																											
R1 (Hume Fwy)	9.26	-	6.55	-	-	-	-	-	-	-	-	-	-	-	-	2.46	-	-	-		0.25	2.70%					
R2 (Brookville Dr)	6.60	-	-	-	-	-	-	-	-	-	-	-	-	-	5.78	0.82	-	-	-		0.00	0.00%					
R3 (Summerhill Rd)	2.46	-	-	-	-	-	-	-	-	-	-	-	-	-	2.46	-	-	-	-		0.00	0.00%					
R4 (Kinloch Ct)	2.09	-	-	-	-	-	-	-	-	-	-	-	-	-	2.09	-	-	-	-		0.00	0.00%					
R5 (Future)	1.20	-	-	-	-	-	-	-	-	-	-	-	-	-	1.20	-	-	-	-		0.00	0.00%					
R6 (Future)	0.60	-	-	-	-	-	-	-	-	-	-	-	-	-	0.60	-	-	-	-		0.00	0.00%					
R7 (Amaroo Rd)	2.06	-	-	-	-	-	-	-	-	-	-	-	-	-	2.06	-	-	-	-		0.00	0.00%					
SUB-TOTAL	24.28	-	6.55	-	-	-	-	-	-	-	-	-	-	-	14.20	3.28	-	-	-	-	0.25	1.03%					
TOTALS PSP 25.1	488.37	-	9.07	2.73	2.68	3.06	1.46	1.64	0.71	1.17	1.28	1.19	1.63	17.54	14.20	59.78	15.08	14.21	8.92	4.80	344.76	70.59%					

4.2 Commercial Areas and Local Convenience Centre Urban Design Principles

PRINCIPLES	GUIDELINES
Principle 1 Provide smaller neighbourhoods with a viable Local Convenience Centre which offers accessible services to the surrounding community.	• Local Convenience Centres should be planned in conjunction with Local Town Centres in order to deliver a fine grain distribution of town centres within the region. • Local Convenience Centres should be planned for neighbourhoods that contain less than 8,000 people and are located more than 1km away from a Local Town Centre or higher order town centre. • Locate Local Convenience Centres in locations which are central to the residential community they serve and that provide exposure to passing traffic. • Where appropriate, locate Local Convenience Centres in attractive settings and incorporate natural or cultural landscape features such creeks and waterways, linear open space, pedestrian and cycle links and areas of high aesthetic value.
Principle 2 Provide a range of local services and facilities which are appropriate to the Local Convenience Centre location and the catchment that it serves.	• Land uses should be located generally in accordance with the locations and general land use terms identified on the Local Convenience Centre Concept Plan. • The design of the Local Convenience Centre should facilitate development with a high degree of community interaction and provide an appropriate mix of retail, commercial and community facilities to suit the catchment that the Local Convenience Centre serves. • The design of the Local Convenience Centre should also encourage a pattern of smaller scale individual tenancies and land ownership patterns within the Local Town Centre to attract investment and encourage greater diversity and opportunities for local business investment. • Active building frontages should address the primary street frontage to maximise exposure to passing trade, and promote pedestrian interaction.
Principle 3 Design the Local Convenience Centre to be pedestrian friendly and accessible by all modes including public transport, while enabling private vehicle access. The Local Convenience Centre should be easily, directly and safely accessible for pedestrians, cyclists, public transport modes, private vehicles, service and delivery vehicles with priority given to pedestrian movement, amenity, convenience and safety.	• Public transport infrastructure/facilities should be planned for commuter friendly/convenient locations adjacent to the Local Convenience Centre. • Bus stops should be provided in accordance with the Public Transport Victoria Public Transport Guidelines for Land Use and Development, to the satisfaction of the Public Transport Victoria. • Bicycle parking should be provided within the street network and public spaces in highly visible locations and close to pedestrian desire lines and key destinations. • The design of buildings within the Local Convenience Centre should have a relationship with and should interface to the public street network. • Car parking areas should be located centrally to the site and to the rear and or side of street based retail frontages. • Car parking areas should be designated to ensure passive surveillance and public safety through adequate positioning and lighting. • Car parking areas should be designed to provide dedicated pedestrian routes and areas of landscaping. • On street car parking should be provided either as parallel or angle parking to encourage short stay parking. • Car parking ingress and egress crossovers should be grouped and limited. • Car parking ingress or egress and car parking areas accommodating heavy vehicle movements should be designed to limit the pedestrian/vehicle conflict. • Streets, public spaces and car parks should be well lit to Australian standards and with pedestrian friendly (generally white) light. Lighting should be designed to avoid unnecessary spill to the side or above.
Principle 4 Create a sense of place with high quality engaging urban design.	• Development should complement and enhance the character of the surrounding area by responding appropriately to key visual cues associated with the topography of the Local Convenience Centre location and its surrounds. • The Local Convenience Centre design should seek to minimise amenity and noise impacts resulting from the mix of uses by maintaining separation and transitional areas between retail and housing activities, such as open space, road networks and community facilities. • The design of each building should contribute to a cohesive and legible character for the Local Convenience Centre as a whole. • Sites in prominent locations (such as at key intersections, surrounding public spaces and terminating key view lines and vistas) should be identified for significant buildings or landmark structures. • The design of building frontages should incorporate the use of a consistent covered walkway or verandah to provide for weather protection. • The built form should define the primary street frontage and be aligned with the property boundary.

	• Street facades and all visible side or rear facades should be visually rich, interesting and well articulated and be finished in suitable materials and colours that contribute to the character of the Local Convenience Centre. • Materials and design elements should be compatible with the environment and landscape character of the broader precinct. • If a supermarket is proposed, the supermarket should have a frontage that directly address the primary street frontage so that the use integrates with and promotes activity within the public realm. • Supermarkets with a frontage to the primary street frontage should use clear glazing to allow view lines into the store from the street. (Planning permits for buildings and works should condition against the use of white washed windows, excessive window advertising and obtrusive internal shelving or 'false walls' offset from the glazing). • Secondary access to a supermarket from car parking areas should be considered where it facilitates convenient trolley access and does not diminish the role of the primary access from the primary street frontage. • The design and siting of supermarkets should provide an appropriate response to the entire public domain. This includes but is not limited to car parking areas, predominantly routes and streets. • Retail uses along street frontages should generally include access points at regular intervals to encourage activity along the length of the street. • Retail and commercial buildings within the Local Convenience Centre should generally be built to the property line. • Public spaces should be oriented to capture north sun and protect from prevailing winds and weather. • Landscaping of all interface areas should be of a high standard as an important element to complement the built form design. • Urban art should be incorporated into the design of the public realm. • Street furniture should be located in areas that are highly visible and close to or adjoining pedestrian desire lines/gathering spaces and designed to add visual interest to the Local Convenience Centre. • Wrapping of car parking edges with built form, to improve street interface, should be maximised. • Car parking areas should provide for appropriate landscaping with planting of canopy trees and dedicated pedestrian thoroughfares. • Screening of centralised waste collection points should minimise amenity impacts with adjoining areas and users of the centre. • Where service areas are accessible from car parks, they should present a well designed and secure facade to public areas. • Mechanical plant and service structure roofs should be included within roof lines or otherwise hidden from view.

Principle 5
 	
Promote localisation, sustainability and adaptability.
	• The Local Convenience Centre should promote the localisation of services which will contribute to a reduction of travel distance to access local services and less dependence on the car.
	• The Local Convenience Centre should be designed to be sympathetic to its natural surrounds by:
	  • Investigating the use of energy efficient design and construction methods for all buildings;
	  • Including Water Sensitive Urban Design principles such as integrated stormwater retention and reuse (e.g. toilet flushing and landscape irrigation);
	  • Promoting safe and direct accessibility and mobility within and to and from the Local Convenience Centre;
	  • Including options for shade and shelter through a combination of landscape and built form treatments;
	  • Ensuring buildings are naturally ventilated to reduce the reliance on plant equipment for heating and cooling;
	  • Promoting passive solar orientation in the configuration and distribution of built form and public spaces;
	  • Grouping waste collection points to maximise opportunities for recycling and reuse;
	  • Promoting solar energy for water and space heating, electricity generation and internal and external lighting; and
	  • Investigating other opportunities for the built form to reduce greenhouse gas emissions associated with the occupation and the ongoing use of buildings.
	• Encourage building design which can be adapted to accommodate a variety of uses over time.

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4.3 Key Interface Design Principles for Industrial and Employment Areas

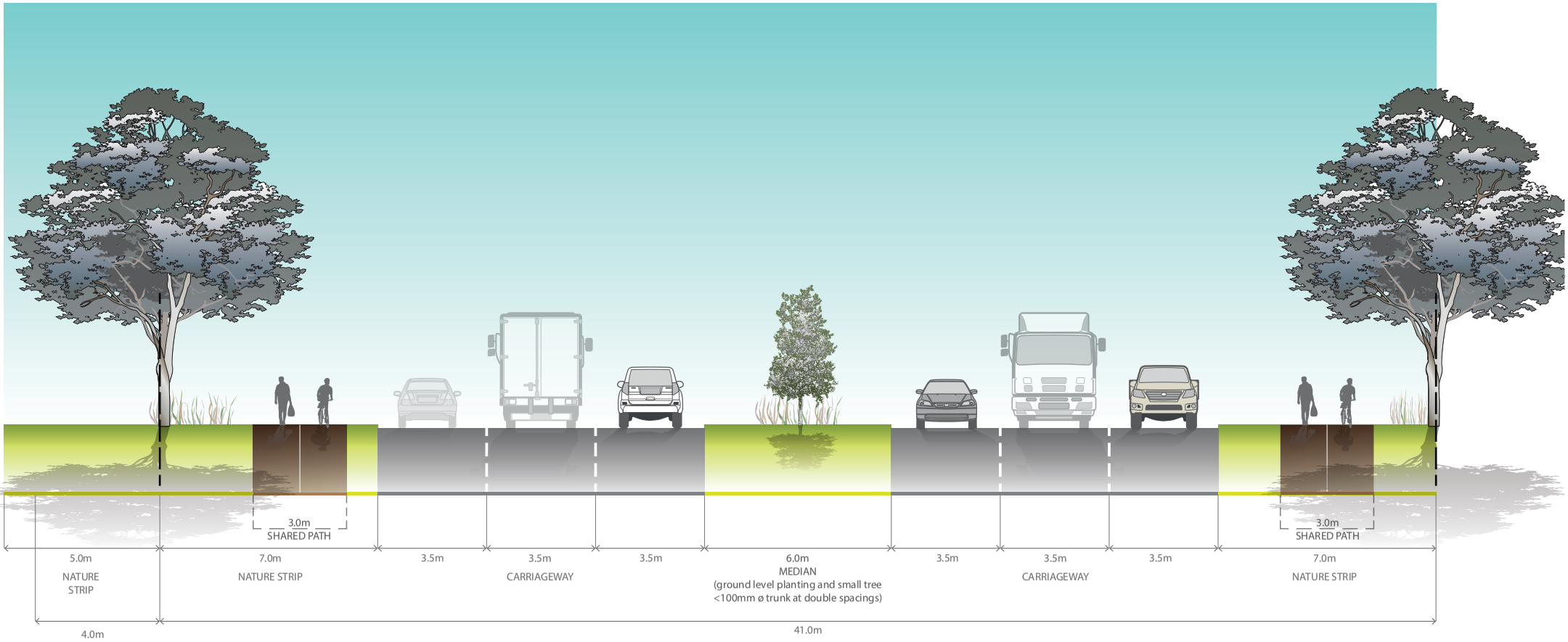
This precinct is located in an important corridor of activity with a strong employment focus and good connections to future residential areas, town centres and regional transit opportunities. Urban design treatments maximise its locational advantage and promote this region as a high amenity employment destination. The built form, streetscapes and urban structure should take cues from the natural setting and take advantage of high exposure to major movement networks. The way in which a development Interfaces with the surrounding environment is of great importance in this precinct.

The key interfaces are:

1. Hume Freeway;
2. Growling Grass Frog Reserve to north/ Donnybrook Road;
3. Merri Creek; and
4. High Voltage Powerlines.

KEY INTERFACE	PRINCIPLES
Interface 1 Hume Freeway	• Along the frontage a high quality landscape and built form treatment is required. • Built form should address the freeway with service areas located to the rear of premises. • Given the high speed environment, built form elements can be "coarser" on this edge, designed to be viewed from a distance.
Interface 2 Growling Grass Frog Reserve to north/ Donnybrook Road –	• This interface provides a natural foreground to the area. The precinct will be viewed from Donnybrook Road across a large open area. The development should respond positively to this setting. • Back of house elements should be screened and located to the rear of premises where possible. • Connectivity to regional walking and cycling trails should be enhanced. • Opportunities to provide high amenity streetscapes and open space for employees to use in close proximity to workplaces are encouraged. • Water sensitive urban design techniques which protect water quality and habitat in the creek corridor are mandatory for all sites along this edge.
Interface 13 Merri Creek	• Merri Creek is a significant environmental and recreational opportunity as well as a major regional linear open space with potential for walking and cycling trails which link PSP areas of the northern growth corridor from the rural fringe to the north to the established areas to the south. This green break also provides an important backdrop to the precinct. • Creek fronting roads should be incorporated where possible along with other techniques to maximise surveillance. • A 3m vegetated buffer set back from the boundary must be included on interfaces with the creek to screen the visual impact of industrial buildings but maintain passive surveillance on the street. • Water sensitive urban design techniques which protect water quality and habitat in the creek corridor are mandatory for all sites along this edge.
Interface 4 High Voltage Powerlines	• These corridors have restrictions in terms of use and activity but also provide opportunities compatible with industrial employment areas including water sensitive urban design stormwater wetlands, storage, car parking, plant nurseries etc. • Where the corridor is crossed by the Hume Freeway and other roads and the Merri Creek corridor, appropriate landscape screening (within the height limits of the power authority) are required.

4.4 Street Cross Sections

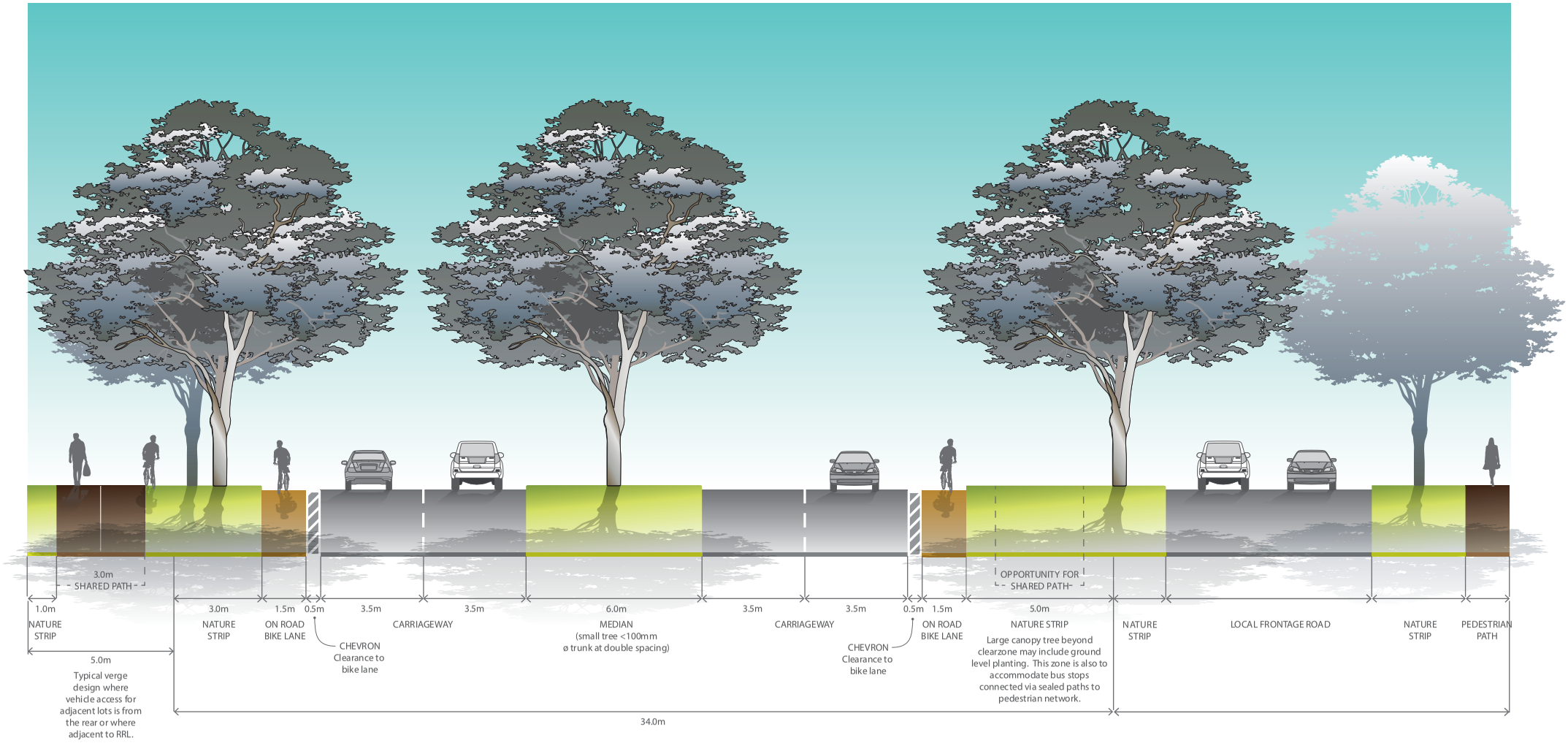


NOTES:

- Includes typical residential frontage roads each side.
- Investigation and use of physical barriers such as wire rope fencing is encouraged to enable more extensive canopy tree planting.
- * Clear zone assumes 80 Km/h speed limit > 5,000 VPD.
- Reservation width will be affected by clear zone and service infrastructure clearance requirements.

Primary Arterial Road 6 lane (41m)

MPA METROPOLITAN PLANNING AUTHORITY

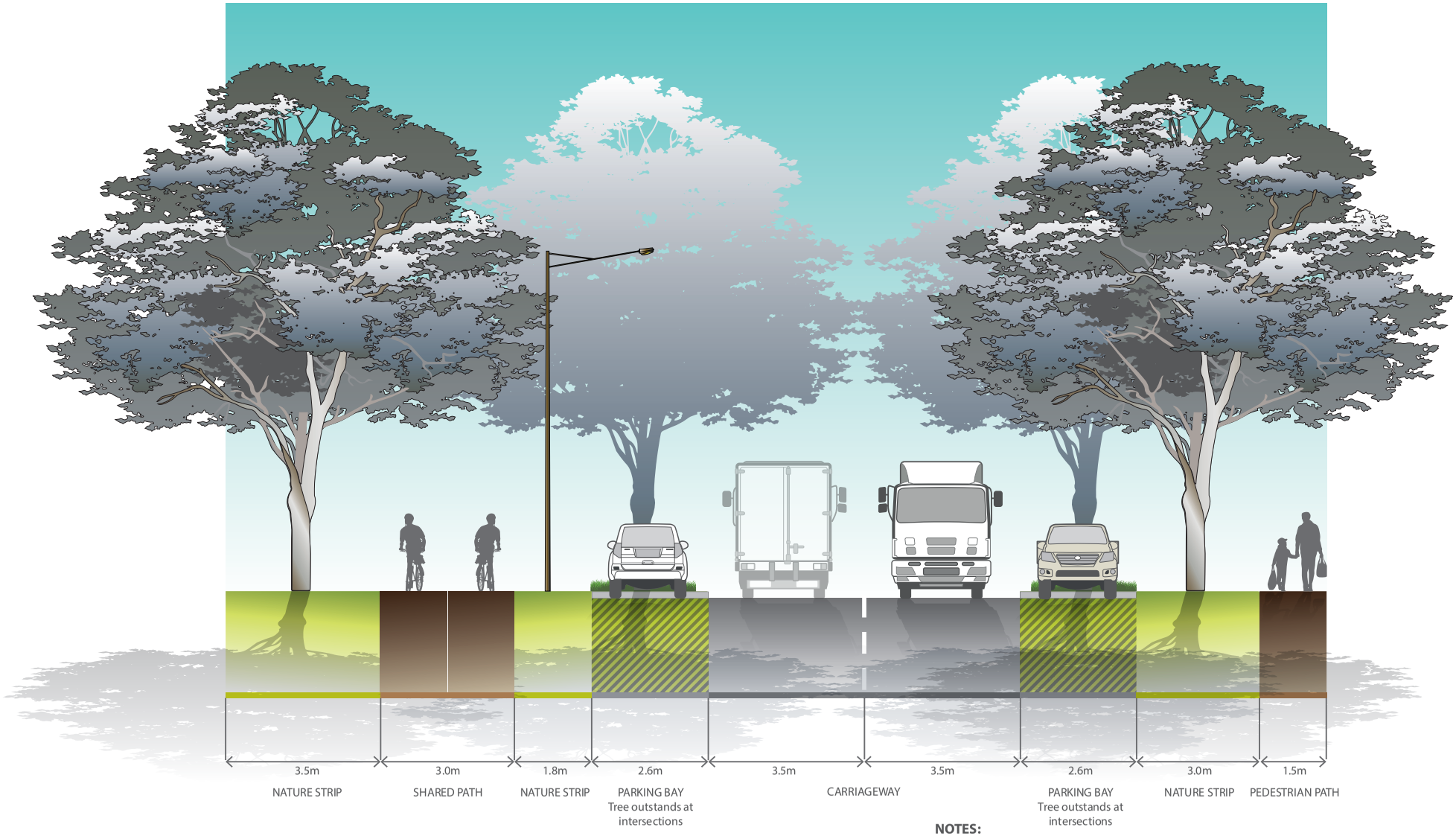


NOTES:

- Includes typical residential interface both sides
- Minimum street tree mature height 15 metres
- Kerbs for arterial carriageways are to be SM2 Semi-Mountable Kerb, and local frontage roads are to be B2 Barrier Kerb as per Figure 008 in Engineering Design and Construction Manual for Subdivision in Growth Areas (April 2011)
- Frontage road widths may vary subject to detailed design

Secondary Arterial Road 4 lane (34.0m) 60km/h

MPA METROPOLITAN PLANNING AUTHORITY

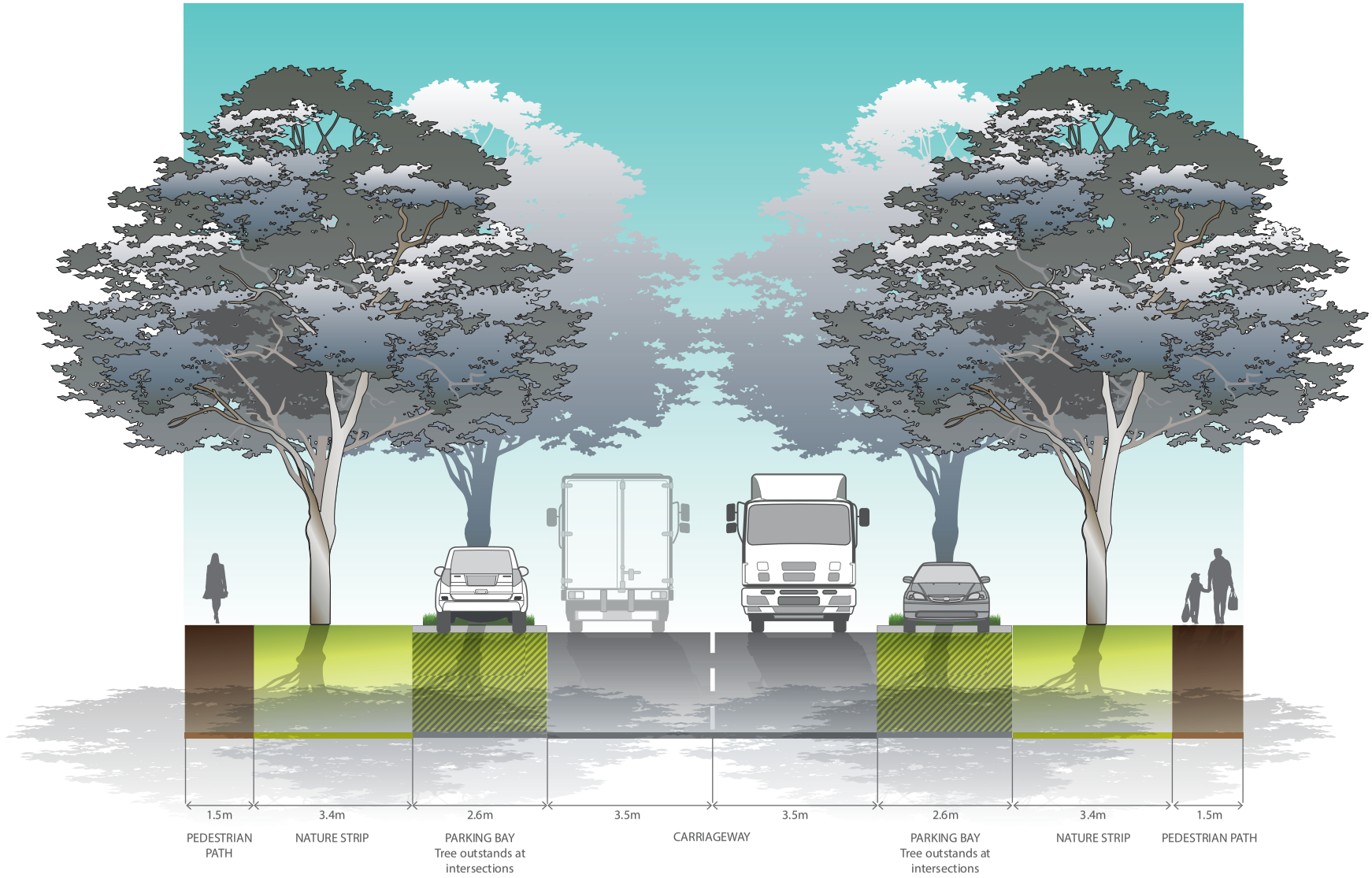


NOTES:

- Minimum street tree mature height 12 metres
- All kerbs are to be B2 Barrier Kerb as per Figure 008 in Engineering Design and Construction Manual for Subdivision in Growth Areas (April 2011)
- Where roads abut school drop-off zone and thoroughfares, grassed nature strip should be replaced with pavement. Canopy tree planting must be incorporated inot any additional pavement.
- Verge widths may be reduced where roads abut open space with the consent of the responsible authority.

Figure 2b Industrial Connector Street (25.0m)

MPA METROPOLITAN PLANNING AUTHORITY



Industrial Access Street (22m)

MPA METROPOLITAN PLANNING AUTHORITY

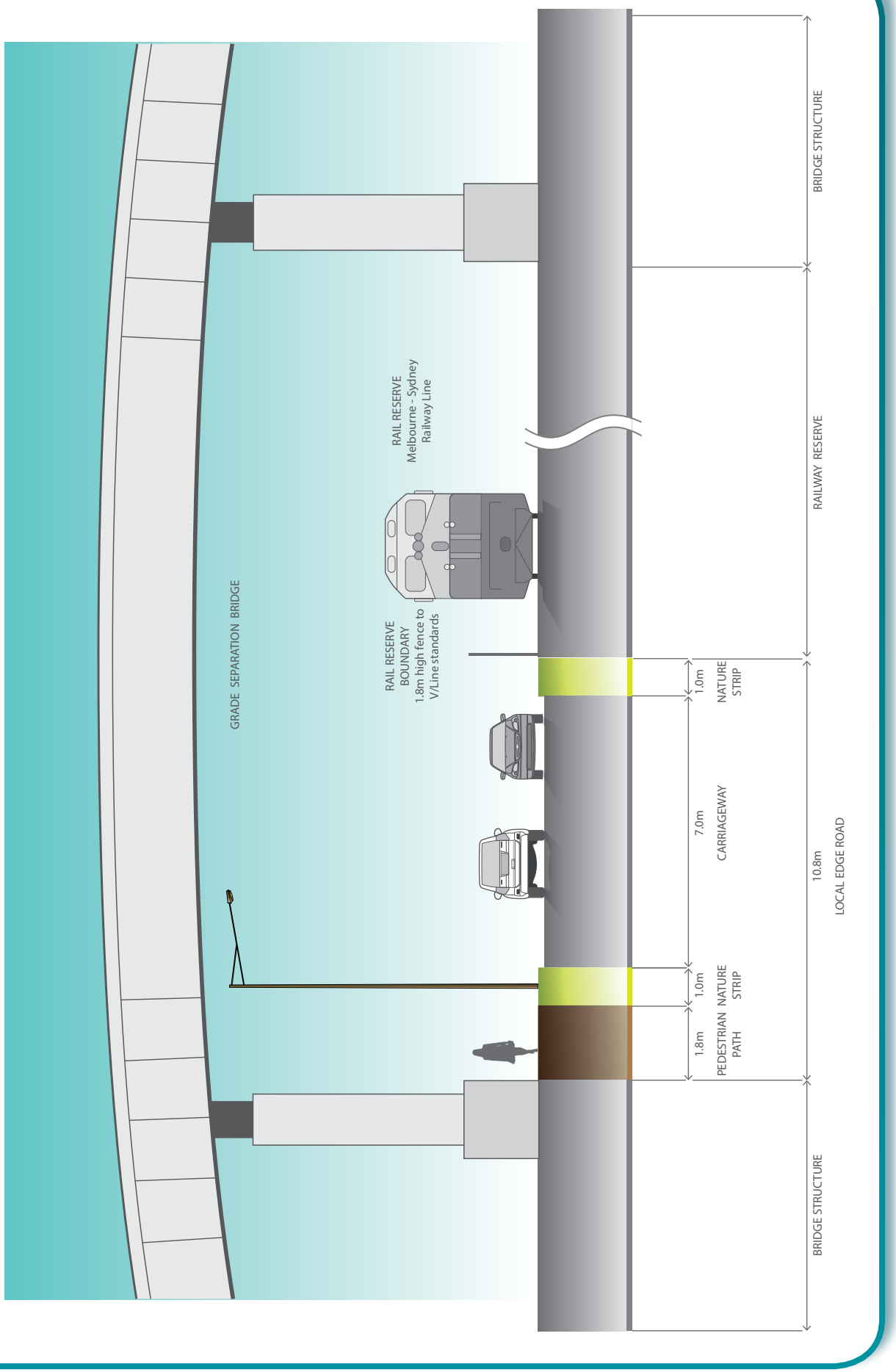


Figure 6 Railway Interface- Underpass Cross Section

4.5 Service Placement Guidelines

STANDARD ROAD CROSS SECTIONS

Figures 003 and 004 in the *Engineering Design and Construction Manual for Subdivision in Growth Areas (April 2011)* outline placement of services for a typical residential street environment. This approach is appropriate for the majority of the 'standard' road cross sections outlined in Appendix C containing grassed nature strips, footpaths and road pavements.

NON-STANDARD ROAD CROSS SECTIONS

To achieve greater diversity of streetscape outcomes in Melbourne's growth areas, which enhances character and amenity of these new urban areas, non-standard road cross sections are required. Non-standard road cross sections will also be necessary to address local needs, such as fully sealed verges for high pedestrian traffic areas in town centres and opposite schools. This PSP contains suggested non-standard 'variation' road cross sections, however other non-standard outcomes are encouraged.

For non-standard road cross sections where service placement guidance outlined in Figure 003 and 004 in the *Engineering Design and Construction Manual for Subdivision in Growth Areas (April 2011)* is not applicable, the following service placement guidelines will apply.

	UNDER PEDESTRIAN PAVEMENT	UNDER NATURE STRIPS	DIRECTLY UNDER TREES[1]	UNDER KERB	UNDER ROAD PAVEMENT	WITHIN ALLOTMENTS	NOTES
SEWER	Preferred	Possible	Possible	No	Possible	Possible[3]	
POTABLE WATER	Possible[4]	Preferred	Preferred	No	No	No	Can be placed in combined trench with gas
RECYCLED WATER	Possible[4]	Preferred	Preferred	No	No	No	
GAS	Possible[4]	Preferred	Preferred	No	No	No	Can be placed in combined trench with potable water
ELECTRICITY	Preferred[4]	Possible	Possible	No	No	No	Pits to be placed either fully in footpath or nature strip
FTTH/TELCO	Preferred[4]	Possible	Possible	No	No	No	Pits to be placed either fully in footpath or nature strip
DRAINAGE	Possible	Possible	Possible	Preferred	Preferred	Possible[3]	
TRUNK SERVICES	Possible	Possible	Possible	Possible	Preferred	No	

PLEAST NOTE: Drainage within City of Hume should be placed behind back of kerb, not under kerb. Drainage should only be placed under road pavement if unavoidable.

NOTES

1 Trees are not to be placed directly over property service connections

2 Placement of services under road pavement is to be considered when service cannot be accommodated elsewhere in road reserve. Placement of services beneath edge of road pavement/parking bays is preferable to within traffic lanes

3 Where allotment size/frontage width allows adequate room to access and work on a pipe

4 Where connections to properties are within a pit in the pedestrian pavement/footpath

GENERAL PRINCIPLES FOR SERVICE PLACEMENT

- Place gas and water on one side of road, electricity on the opposite side
- Place water supply on the high side of road
- Place services that need connection to adjacent properties closer to these properties
- Place trunk services further away from adjacent properties
- Place services that relate to the road carriageway (eg. drainage, street light electricity supply) closer to the road carriageway
- Maintain appropriate services clearances and overlap these clearances wherever possible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