

City of Ryde Urban Design Guide

Ivanhoe Estate Redevelopment

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1.0 INTRODUCTION

1.1 Purpose

This document has been prepared to provide a consistent urban design framework to guide the redevelopment of the Ivanhoe Estate. It provides an outline of the desired open space, community facilities, transport infrastructure, built form, and private and public domain treatment desired to support growth.

1.2 Land to which these Guidelines Apply

These Guidelines apply to the Ivanhoe Estate land as identified (outlined in red) in Figure 1.2.1.

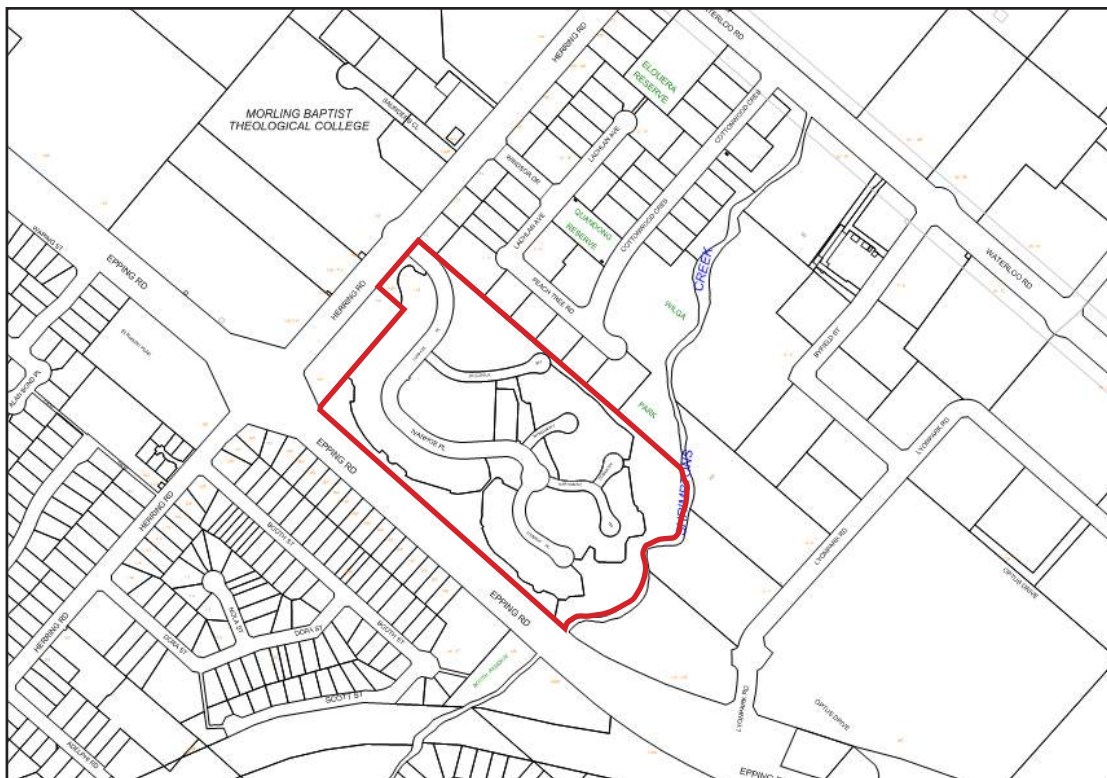


Figure 1.2.1 Subject site - Ivanhoe Estate land, Macquarie Park

1.3 Objectives

These Guidelines aim to achieve the following objectives:

- Ensure that the future development within the Ivanhoe Estate will result in the revitalisation of the site and its surrounds by establishing an urban design framework that promotes excellence in community-based placemaking and architectural and urban design;
- Promote a variation in built form characteristics that responds to the site's unique landscape attributes;
- Protect the existing natural characteristics of the site by promoting the revitalisation of Shrimptons Creek and the protection of significant trees along Epping Road;
- Create an inclusive and vibrant integrated community by providing well-designed places that encourage social gatherings, social enterprises, and provide opportunities for small businesses;
- Guide the delivery of integrated and interconnected community facilities and public open spaces that cater for all age groups;
- Promote a legible and integrated urban structure focused on providing access throughout the site and connecting public spaces and other areas of interest; and
- Foster the delivery of social infrastructure and community facilities that address the social needs of future residents and the City.

1.4 Relationship to Planning Controls and Other Documents

These Guidelines should be read in conjunction with the Ryde Local Environmental Plan (LEP) 2014, Part 4.5 Macquarie Park Corridor Development Control Plan (DCP) 2014, and other relevant State Environmental Planning Policies (SEPPs).

If there is any inconsistency between these draft Guidelines and existing SEPPs, LEPs, or adopted DCPs, the SEPP, LEP, and/or DCP will prevail.

2.0 CHARACTER AND IDENTITY

Existing Character

The Ivanhoe Estate site is characterised by its unique natural landscape character being bordered by Shrimptons Creek to the east and Epping Road with significant mature trees to the south.

The Ivanhoe Estate is an integral asset in the NSW Social Housing system, which has served as an affordable place of refuge and safety since its establishment in 1990.

Desired Future Character

The Ivanhoe Estate is envisioned to be a vibrant and inclusive integrated community that defines a new approach to the delivery of social housing supported by excellent community-based placemaking and architectural and urban design. The desired future character for the redevelopment of the site responds to the unique context of the site while maintaining the Estate's contribution to the City's social fabric through the seamless integration of private, affordable, and social housing across the development with access to opportunities for small business, high-quality community facilities and support social infrastructure, transport infrastructure, and interconnected active and passive recreation areas that encourage social gathering and cohesion.



****An inclusive community that seamlessly integrates private, affordable, and social housing supported by world class placemaking and high-quality community facilities, transport infrastructure, and open spaces**



****Art that are seamlessly incorporated into the public and private domains**



****Balance between high-density living and residential amenity**

3.0 DESIGN PRINCIPLES

Promoting a balance between high-density living and residential amenity by promoting excellence in building design and the public domain and increasing opportunities for social interaction and cohesion for the new community is central to the desired outcomes for the redevelopment of the Ivanhoe Estate.

The following key principles guide the design and development of the site, including the delivery of adequate social infrastructure, open space, and transport infrastructure:

Liveability

- Create an urban environment that provide a desirable setting and backdrop to live and work
- Encourage social interaction to establish a community that is cohesive, vibrant, and inclusive
- Provide a range of housing types, sizes, and prices (it is encouraged to exceed the targets indicated in the *City of Ryde Affordable Housing Policy 2016-2031*)
- Provide opportunities for small business to support an integrated community and promote place activation and safety
- Maintain a connection to the rich history of the social housing estate through public art and social enterprises and initiatives to create a sense of community for all residents

Urban Structure and Public Domain

- Provide unified streetscapes that are high-quality, durable, timeless in design, and that complements the landscape heritage and surrounding public domain elements within the locality
- Create public artworks that provide visual interest, aid legibility, and define a sense of place and identity
- Integrate tree and landscape treatments to reduce the extent of hard surfaces and ensure that all streets within the development site have adequate shade and amenity
- Ensure a consistent public domain treatment for the whole development site and overcome level changes to promote a desirable urban environment for future residents and workers
- Enhance and expand the public domain to provide safe, attractive, and well-lit pathways that connect public open spaces that support passive and active recreation and active transport

Open Space

- Ensure the provision of adequate public open space that cater to all age groups
- Co-locate and integrate public active and passive recreation areas with community facilities to enable activation
- Facilitate green corridors and linkages that link public and private open spaces
- Deliver public open spaces and public domain elements commensurate with the level of development (desirably early in the timeline of the development) and maintain linkages to existing open space areas throughout the development of the site

Social Infrastructure

- Ensure the provision of adequate and multi-purpose community facilities that cater to the needs of all future residents
- Co-locate and integrate community facilities with public active and passive recreation areas to enable formal and informal opportunities for social interaction
- Facilitate the delivery of adequate social infrastructure and community facilities that is commensurate with the development of the site (desirably early in the timeline of the development) to address the needs of future residents and the greater Ryde community

3.0 DESIGN PRINCIPLES (continuation)

Building Design

- Ensure a built form that is sensitive to the unique characteristics of the site and its surrounding context
- Promote architecture that respects human scale at the street level and public domain interface
- Create architectural interest through the built form by providing building articulation and utilising a variety of durable, timeless, and aesthetically interesting materials
- Encourage innovative, creative, and high-quality building design that positively contributes to the public domain and enables a strong definition of streets and public places
- Achieve a high-level of sustainable development baseline targets for buildings within the development site

Active Transport and Connectivity

- Promote permeability and pedestrian connectivity by providing through site links, pedestrian ways, and shared user paths that link public open spaces, community facilities, and other areas of interest within the site and its surrounding locality
- Develop a safe and pleasant streetscape that enables equitable access for people of all ages and abilities (refer to the *Macquarie Park Public Domain Technical Manual*)
- Deliver a legible street grid network to ensure that pedestrian, cycle, and vehicular conflicts are minimised and to reduce car dependency
- Provide amenities such as seats, shelter, and bicycle racks to support pedestrian activity and bicycle use
- Encourage pedestrian friendly street design (design of footpaths, buildings close to street; tree-lined streets; on street parking; underground parking; hidden garage entries, slow speed streets)

4.0 DESIGN GUIDELINES

4.1 Urban Structure and Public Domain

Design Guidance

- Revitalise Shrimptons Creek as a safe and activated place for recreation and social gathering. This could be achieved by potentially co-locating public open spaces, community facilities, and neighbourhood shops for social enterprises around the Shrimptons Creek Parklands.
- Incorporate a variety of neighbourhood shops (e.g. cafes, takeaway shops, small restaurants, etc.) towards public open spaces to facilitate its activation and contribute to the creation of an active and vibrant community.
- Promote housing choice and diversity by providing a range of housing typologies. The development should explore the provision of opportunities for small businesses and have a unit mix that gives consideration to the demographic trend of the area.



****Revitalise Shrimptons Creek as an activated place for recreation and social gathering**



****Integration and co-location of community facilities, open space, and neighbourhood shops for social enterprises**

4.1 Urban Structure and Public Domain (continuation)

Design Guidance

- Provide tree planting and landscaping to complement existing character of surrounding area and maintain the site's landscape character by protecting the significant mature trees along Epping Road. Refer to *Part 3.4 Access Network – Street Trees* and *Part 4.0 Open Space Network of the Macquarie Park Public Domain Technical Manual*.
- Expand the public domain by providing footpath widths and additional public open space and connections.
- Deliver a consistent public domain treatment (paving, street lighting, street tree planting, etc.) in accordance with the provisions of the *Macquarie Park Public Domain Technical Manual*.
- Encourage public art that is seamlessly incorporated with the public domain and open space to create a distinct identity for the development site and acknowledge Ivanhoe's history and the site's landscape heritage. Refer to *Part 5.0 Art in Public Spaces of the Macquarie Park Public Domain Technical Manual*.

Note: All public domain works (including the provision of new streets, open space, and community facilities) should be delivered commensurate to the level of development on the site (desirably early in the project timeline).



**Mature Trees along Epping Road



**Activated public spaces

4.2 Public Open Space

Design Guidance

- Increase the provision of public open space from approximately 11,000 square metres to a minimum of approximately 18,500 square metres, which should include, but is not limited to the following:
 - Approximately 6,300 square metres for the natural corridor, which includes the Shrimptons Creek Core Riparian Corridor (20 metres from the side of the creek) and a natural buffer (approximately 10 metres) for the protection of the riparian corridor and to reduce nutrient loads entering the creek;
 - Approximately 4,500 square metres for the extension of the Shrimptons Creek Park (Lot 9 DP 861433), based on the quantum recommended in the *Finalisation Report for the Macquarie University Station Urban Activation Precinct*;
 - Informal play areas and fitness stations (two approximately 100-square metre areas); and
 - Retention of the protected mature trees (Sydney Turpentine Ironbark Forest) along Epping Road (approximately 7,500 square metres).
- Revitalise Shrimptons Creek by delivering Shrimptons Creek Park (refer to Figure 4.4.2.2 for indicative measurements) and restoring the Shrimptons Creek Core Riparian Corridor. The Shrimptons Creek Park is envisioned to be a linear park for informal active and passive recreation designed in consultation with Council's Open Space and Development section and complement the Shrimptons Creek concept design prepared by Council.
- Provide adequate lighting and upgrade the existing Epping Road pedestrian underpass.
- Expand and activate the Shrimptons Creek Parklands by co-locating public meeting spaces, social infrastructure, active and passive recreation areas to promote safety and enable social gatherings, high-pedestrian activity, and interface with Shrimptons Creek.
- Provide a range of public open spaces with adequate furnishings (preferably with wireless internet access) that cater to all age groups (e.g. passive and active open spaces such as basketball courts, outdoor youth spaces, etc.).
- Increase the provision for a dedicated outdoor youth recreation space to address the deficiency identified in the *City of Ryde Integrated Open Space Plan 2012*. This could be achieved through the delivery of an outdoor youth recreation space and an integrated skate facility designed in consultation with Council's Open Space and Development Section.

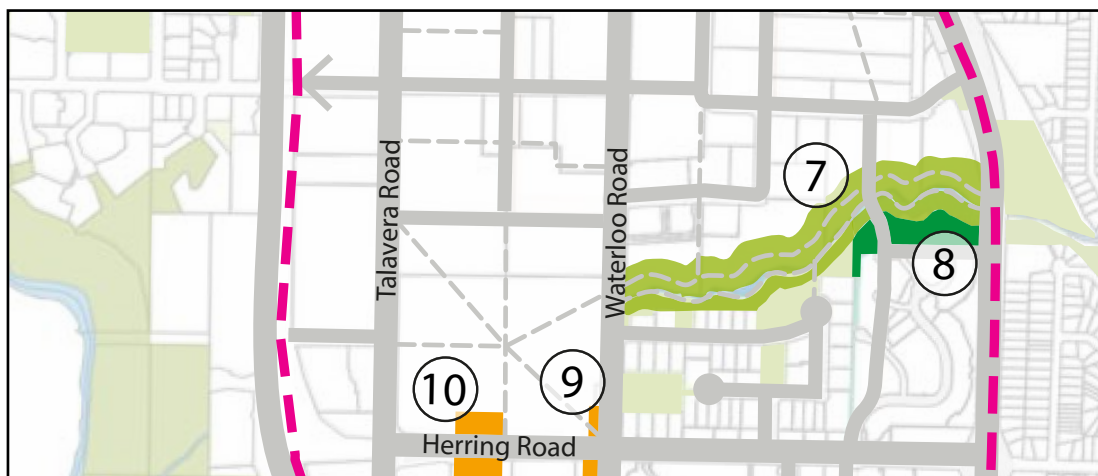


Figure 4.2.1 Shrimptons Creek Core Riparian Corridor (7) and Shrimptons Creek Park (8).

Note: Reference should be made to *Part 4.0 Open Space Network of the Macquarie Park Public Domain Technical Manual*.

4.3 Social Infrastructure

Design Guidance

- Co-locate community facilities with public open spaces to support place activation (e.g. community facilities may be co-located near the Shrimptons Creek parklands to promote safety and activation of the area).
- Provide commercial spaces for cafes and/or neighbourhood shops around public open spaces that could be utilised for social enterprises to provide local employment for residents and encourage community involvement and social responsibility.
- Provide a multi-purpose community space (up to 500 square metres) preferably with wireless internet access and adequate furnishings, which include, but are not limited to:
 - community hall
 - meeting and office spaces
- Explore the continuation of child care facilities within the development site
- Consider the provision of transitional housing as part of the overall strategy in delivering the social housing component of the development through flexible design and floor plan layouts.



****Revitalise Shrimptons Creek by potentially locating neighbourhood shops for social enterprises to encourage place activation, social cohesion and interaction, and promote safety.**

4.4 Built Form

Design Guidance

4.4.1 Site Planning

- Maximise direct solar access to adjoining properties.
- Locate height to take advantage of views and open space proximity.
- Create low scale definition at street frontage and orientate taller components at street corners to define street edge and address the public domain.
- Orientate taller elements north-south and manage the height of east-west buildings to allow to minimise overshadowing.
- For development near Shrimptons Creek, orientate building entries towards the creek to encourage activation and passive surveillance.
- Building separations are to be consistent with *Part 2F of the Apartment Design Guide* to ensure residential amenity including natural ventilation, solar access, and visual and acoustic privacy and to provide suitable areas for communal open spaces, deep soil zones, and landscaping.
- Provide variation in built form and heights to ensure appropriate interface with adjacent development sites (e.g. Cottonwood Crescent/Peachtree Road and 137-143 Herring Road)

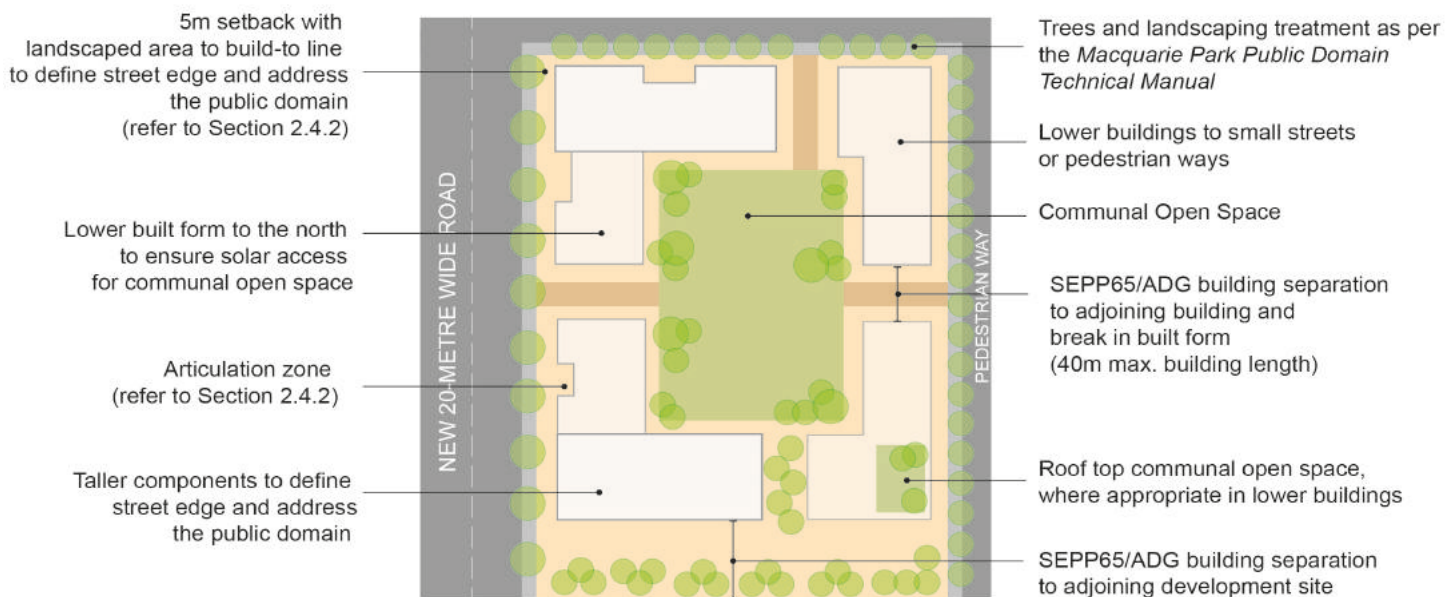


Figure 4.4.1.1 Indicative Typical Block Layout

4.4 Built Form (continuation)

Design Guidance

4.4.2 Building Design

- Use changes in scale and built form to create architectural interest and diversity and enhance relationship with the public domain.
- Façade treatment should create variety and interest while contributing to the continuity of the streetscape. Fenestration and entries are to be integrated in the façade design, if located on the street frontage of the development.
- Create slender building forms by ensuring that the maximum building length is ideally 40 metres and that the maximum building depths are consistent with Part 2E of the *Apartment Design Guide*.
- Articulate building facades in plan and elevation to reduce the appearance of building bulk at the street level. The maximum wall length without articulation should be 25 metres to avoid unrelieved walls that are susceptible to vandalism and to create visual interest in the streetscape.
- Define street edge through the built form by addressing the public domain at street corners and perimeter of blocks.
- Driveways should not be located along the primary street frontage and should not constitute more than 20 per cent (maximum 8 metres) of the secondary street frontage.
- Avoid blank facades and car parking vents that are visible from the street level, particularly on primary street frontage.
- Where possible, provide landscaped communal open space at the rooftop level of lower buildings to improve amenity and contribute towards the provision of useable spaces for residents.

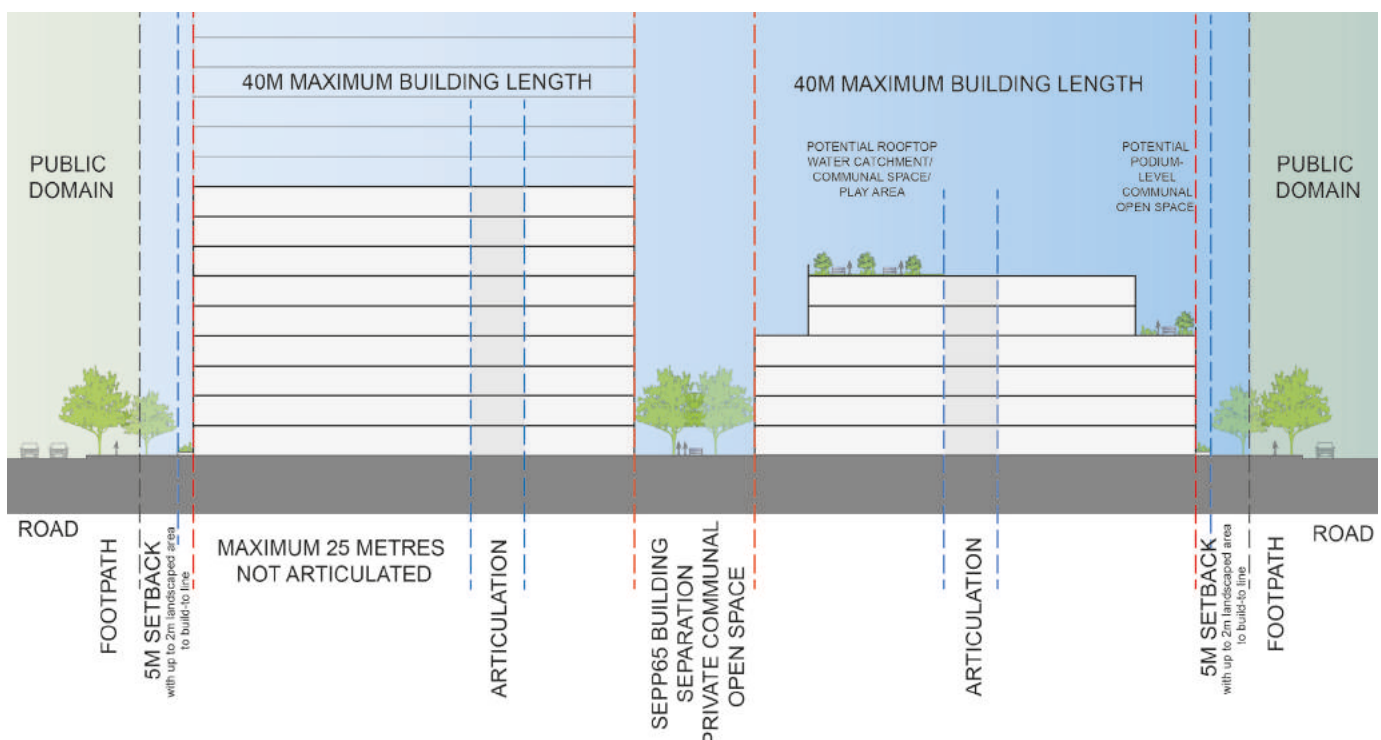


Figure 4.4.2.1 Section Illustration - Building Design Guidelines

4.4 Built Form (continuation)

Design Guidance

4.4.2 Building Design (continuation)

- Establish a built form edge to Shrimptons Creek Parklands to provide opportunities for outdoor dining, public domain treatment, and ensure that the public open space has adequate solar access between 10am to 3pm mid-winter. This could be achieved by establishing a transition zone with lower buildings (10 metres) that could potentially accommodate community facilities and/or social enterprises and contribute to the activation of the public domain.
- Built form above the transition zone is to be setback to minimise overshadowing impacts to the public domain and public open space.

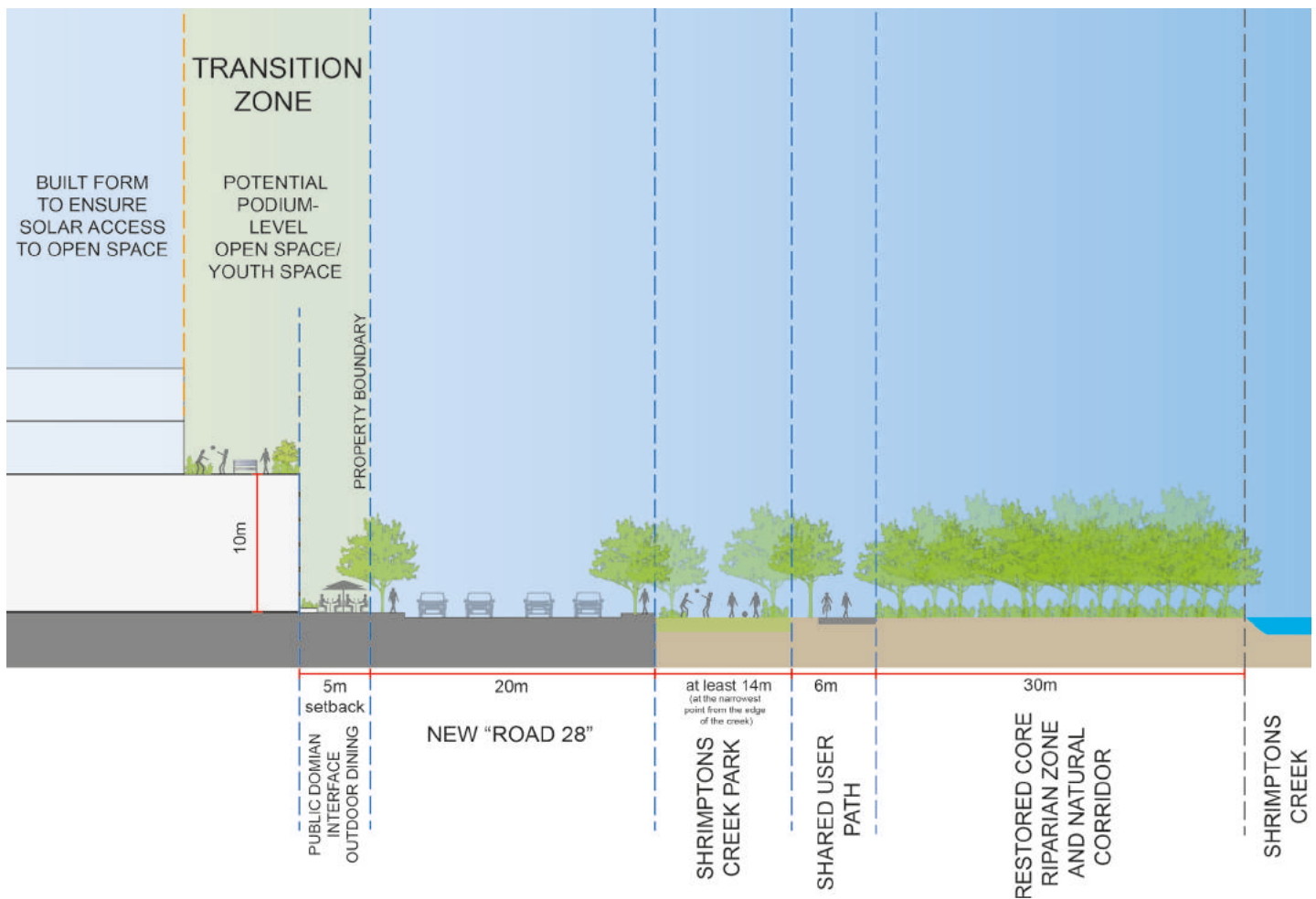


Figure 4.4.2.2 Indicative Section - Shrimptons Creek Interface

4.4 Built Form (continuation)

Design Guidance

4.4.2 Building Design (continuation)

- Establish a 5-metre street frontage setback to allow for street planting and where required, a widened footpath (minimum 2.5-metre wide footpath).
- Establish a consistent building façade line with landscape treatment to the street frontage (up to 2m within the front setback).
- Provide tree planting (within 1.5 metres of the front setback) to establish a green tree-lined streetscape. Refer to the Tree Selection Palette in *Part 3.4 Access Network – Street Trees of the Macquarie Park Public Domain Manual*.

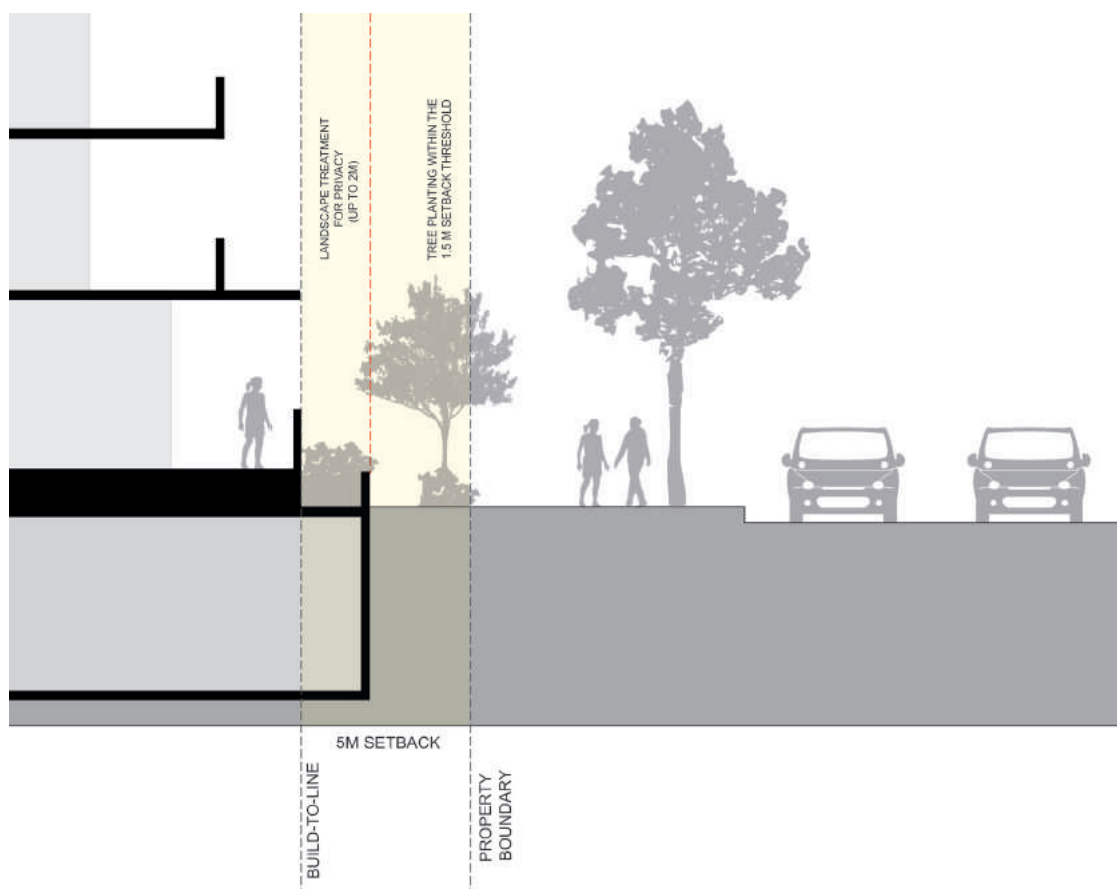


Figure 4.4.2.3 Build-to Line and Front Setback Treatment

4.4.3 Safer by Design

- Provide primary street addresses that are oriented to the public domain to encourage street activation and provide passive surveillance to the public domain and open spaces.
- Building designs should avoid elements that provide opportunities for concealment and that create natural ladders to minimise the risk of trespassing and unwanted entry.
- Provide adequate street lighting and clear sightlines in the public domain (refer to the *Macquarie Park Public Domain Technical Manual*).

4.4.4 Water Sensitive Urban Design

- Incorporate Water Sensitive Urban Design principles, in accordance with Part 8.2 of the *Ryde Development Control Plan 2014* and the City of Ryde's *Water Sensitive Urban Design Guidelines*.

4.5 Transport

Design Guidance

- Ensure permeability by providing new public roads and pedestrian connections to connect the development site to its surrounds and improve accessibility within the site, in accordance with the Part 4.5 Macquarie Park Corridor of the RDCP and *Public Domain Technical Manual* (refer to Figure 4.5.1). This will involve the delivery of:
 - a. “Road 3” (20-metre wide road), which includes a vehicular bridge over Shrimptons Creek to link Herring Road and Lyonpark Road (the intersection of Herring Road and Road 28 is to be upgraded to a signalised intersection);
 - b. “Road 28” (20-metre wide road) to link Road 3 to Epping Road; and
 - c. Pedestrian/bicycle connection along Shrimptons Creek.

Note: New Roads “3” and “28” are to be dedicated to Council upon completion through a Planning Agreement under Section 93F of the EP&A Act and in accordance with Part 4.5 Macquarie Park of the RDCP and *Part 3.0 Access Network of the Macquarie Park Public Domain Technical Manual*.

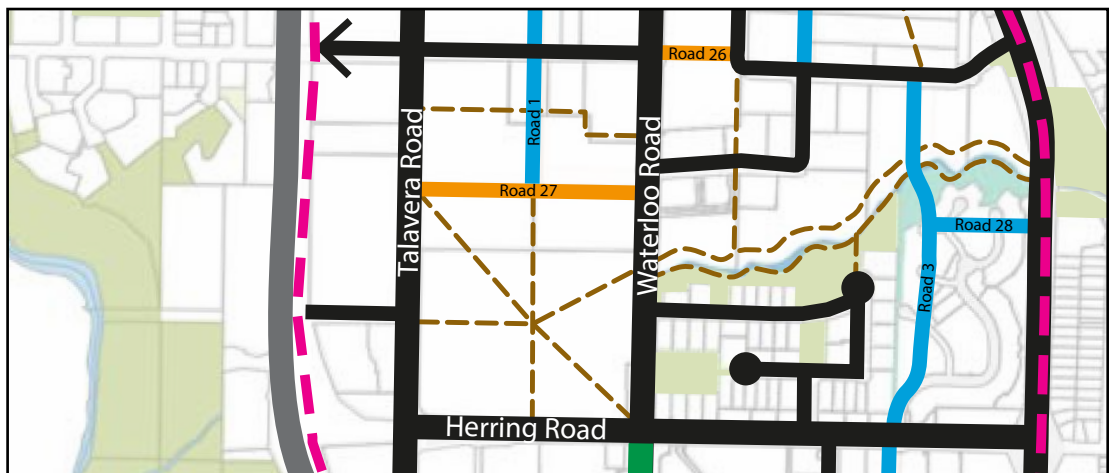


Figure 4.5.1 Excerpt from the Macquarie Park Public Domain Technical Manual showing New 20-metre wide roads (blue) within the development site and pedestrian ways (dashed brown) along Shrimptons Creek

- Variations to the Access Structure Plan must demonstrate adequate levels of pedestrian amenity and accessibility and must be done in consultation with City of Ryde and Roads and Maritime Services. Please refer to Section 8.1 of the Macquarie Park DCP.

4.5 Transport (continuation)

Design Guidance

- Address existing traffic issues and contribute towards alleviating existing infrastructure deficiencies (e.g upgrade the Herring Road/"Road 3" intersection to a signalised intersection, contribute towards the upgrade and installation of traffic lights at the Epping Road/Lyonpark Road intersection, etc.);
- Provide a legible access network with sufficient pedestrian ways, bicycle paths, and shared user paths to promote active transport. This will involve:
 - a. The completion of the following shared user path connections to ensure the seamless integration of new connections to Council's Shared User Path Network:
 - Shared user path from the subject site to the points marked 'A' in Figure 4.5.2 below
 - Continuation of the shared user path from Shrimptons Creek along the Epping Road property boundary of the subject site (refer to Figure 4.5.2 below)
 - Link the new shared user path through the subject site to the existing shared user path adjoining Lyonpark Road (refer to Figure 4.5.2 below);
 - b. As indicated in Part 4.2 of this document, upgrade existing Epping Road pedestrian underpass and provide adequate lighting to improve access from Shrimptons Creek to Booth Reserve;
 - c. The delivery of the shared bicycle and pedestrian pathway along Shrimptons Creek in accordance with the provisions of Part 4.2.1 of the Macquarie Park DCP and the *Public Domain Technical Manual*.
- A Traffic Needs Assessment, which may involve a mesoscopic traffic model for the Macquarie Park Precinct, should be undertaken to confirm any gaps and address the deficiencies in the transport network within the locality and on a regional scale. The assessment should also adopt the recommendations identified in this document as part of the future base case.

Note: The scope of the Traffic Needs Assessment is subject to RMS and Council's satisfaction (refer to Appendix 1).

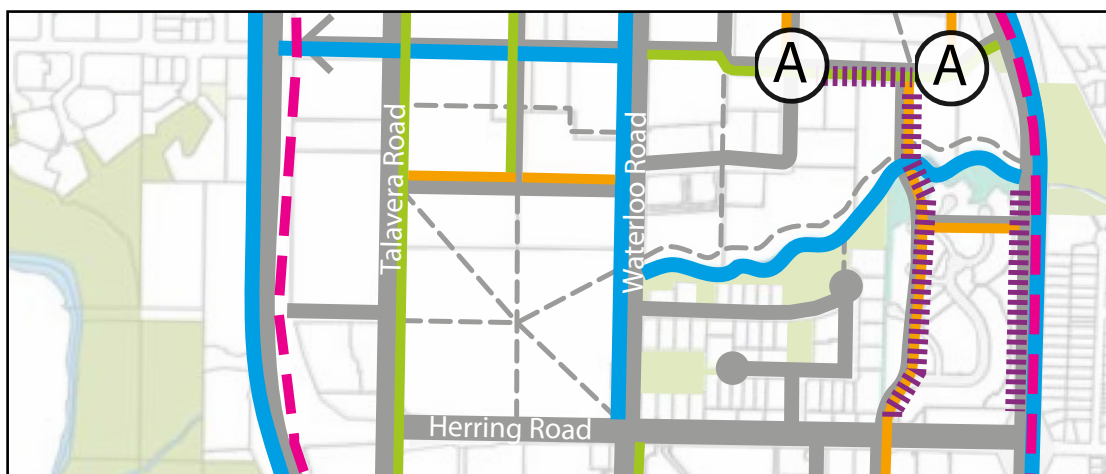


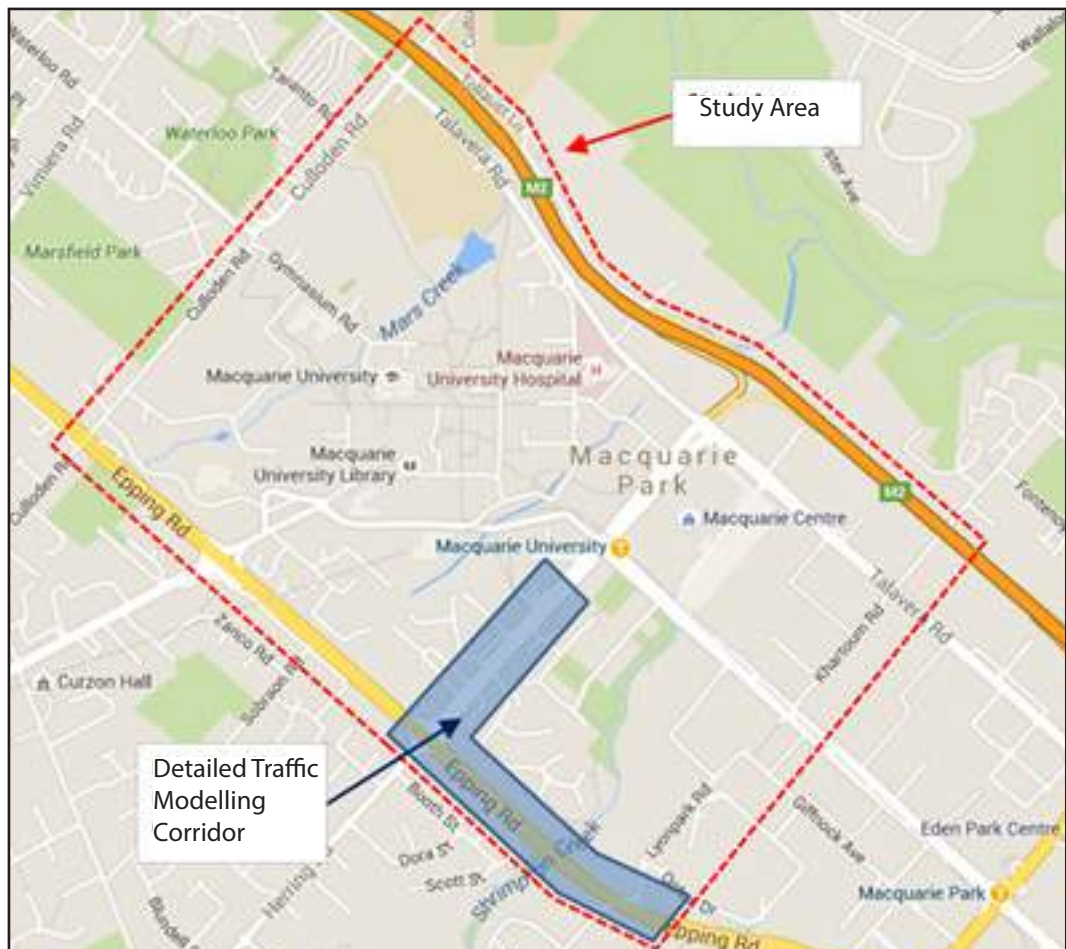
Figure 4.5.2 Excerpt from the Macquarie Park Public Domain Technical Manual showing Regional (blue) and Local Bicycle links (orange) within the subject site with additional recommended shared user path connections (dashed purple line)

APPENDIX 1: Indicative Scope for Transport Needs Assessment

Indicative draft Terms of Reference and Scope

1. Determine study area boundary. It is recommended the assessment be bounded by Khartoum Road to the east, the M2 to the north, Culloden Road to the west and Epping Road to the south. This area would be for assessing public transport, pedestrian and cycling accessibility.

This area shown in blue (see below) would be for calculation of traffic generation and distribution for the various scenarios to input volumes into the detail traffic corridor models.



2. Develop a corridor model which includes traffic and buses and calibrate/validate it to current conditions. Council's preferred model is using Linsig to obtain optimum signal timings and using SIDRA for intersection assessment.
3. Develop and quantify strategies to minimise private vehicle usage including parking provision strategies, car share strategies, green travel plans etc. depending on the nature of the development.
4. Determine the development's modal split, trip generation and traffic distribution. This should be based on strategic models (i.e. PTPM, Public Transport Project Model), which can be obtained from TfNSW.

APPENDIX 1: Indicative Scope for Transport Needs Assessment

Indicative draft Terms of Reference and Scope (continuation)

- Determine (and model) the 2031 base case peak period traffic and transport conditions under the following scenarios. There is likely to be a need to develop a broader model/calculations to estimate future Herring Road corridor demands under these scenarios as there will be influences outside the corridor that affect corridor volumes:

Future Base Case Scenario ID	Demand				Infrastructure	
	Macquarie Park developed to likely LEP take-up*	Macquarie Centre expansion	Macquarie University student targets realisation	Herring Road UAP realisation	Macquarie Interchange Underground Bus Station	Waterloo Road Bus Boulevard
1. Demand and Infrastructure Maximum	Yes	Yes	Yes	Yes	Yes	Yes
2. Demand Minimum	Yes	No	No	No	Yes	Yes
3. Infrastructure Minimum	Yes	Yes	Yes	Yes	No	No
4. Infrastructure and Demand Minimum	Yes	No	No	No	No	No

* to be advised by Council

Note: It is expected as a minimum, Future Base Case Scenarios 1 and 3 (i.e. Demand and Infrastructure Maximum and Infrastructure Minimum) should be tested. Further discussion with Council would be required to determine the future baseline scenario(s).

- Model/assess the development's traffic impact on top of each of the above base case scenarios and determine what traffic upgrades are required in the corridor for each scenario. Consider the potential for local road links to mitigate impacts on the major road system.
- In particular, identify controlled intersection upgrade needs for the "Road 28"/Epping Road intersection.
- Run a "year of opening" model scenario to determine immediate impacts and needs.
- Develop a traffic infrastructure upgrade, including policy and service improvement strategies for each scenario and highlight differences, trigger points and responsibilities in close consultation with the project reference group. This will also need to take into consideration the Top 10 Transport Infrastructure Priority Projects as prepared by Bitzios as part of Council's Integrated Transport Strategy. In particular, the applicant will need to include the at grade signalisation of the Lyonpark Road/Epping Road intersection and the Herring Road/Epping Road grade separation.
- Identify the potential for bus routes and stops through the development in consultation with TfNSW, should local road connections be provided. Also the impact of the proposed Bus Boulevard along Waterloo Road shall be taken into consideration in regards to modal split, trip generation and traffic distribution.
- Determine a pedestrian management strategy to facilitate the movement of pedestrians to/from the Macquarie Interchange, Macquarie Centre, and Macquarie University.
- Develop a cycling management strategy to facilitate connections to Herring Road, Epping Road, and Lyonpark Road and to provide on-site bicycle storage facilities.
- Prepare a detailed Traffic and Transport Impact Assessment report detailing the above and articulating exactly what the development will do to manage its traffic and transport impacts and when (i.e. in an implementation schedule).



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