Croydon Central Development Plan

Prepared for Haben Property Fund Pty Ltd
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Overview

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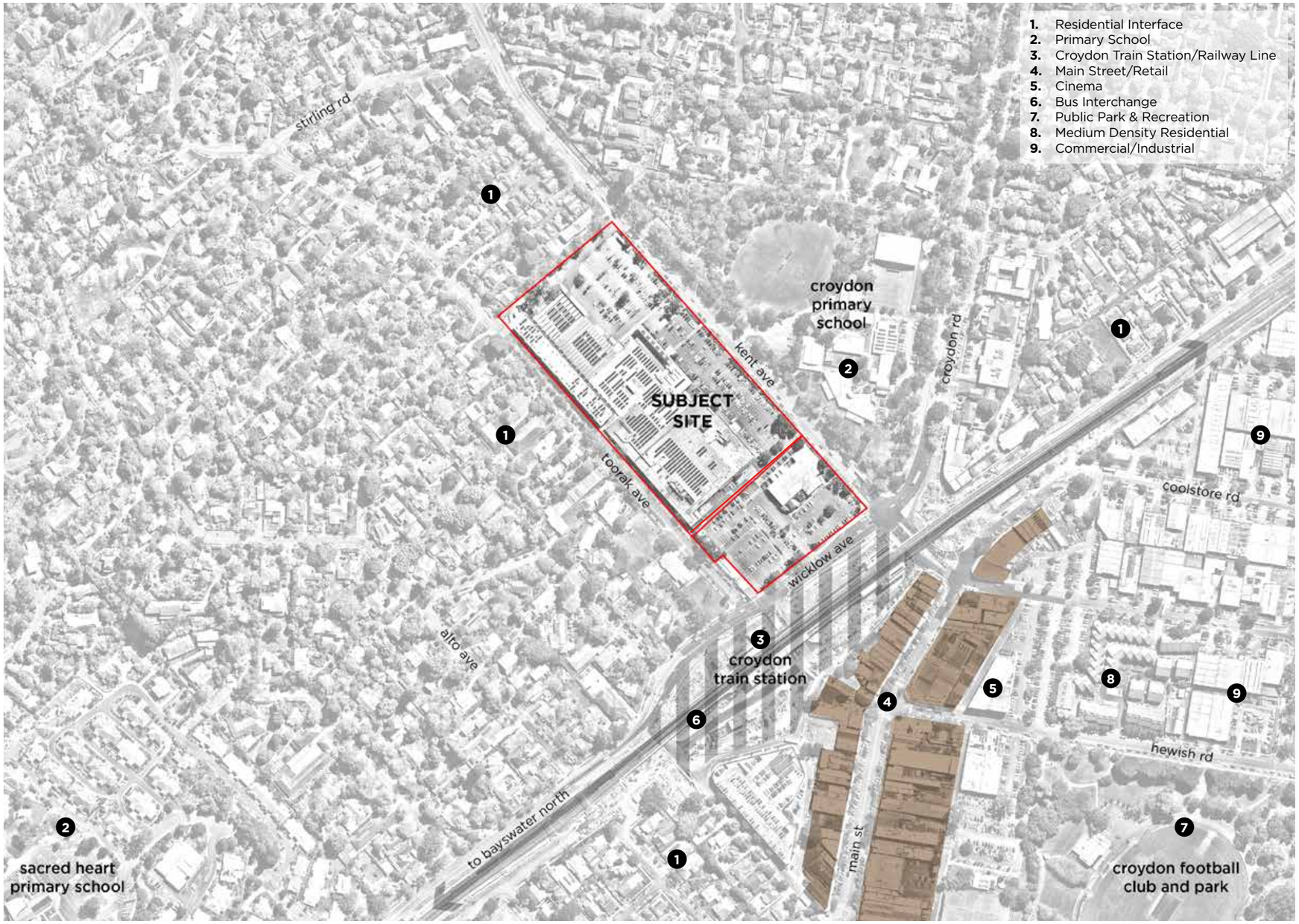
1.1 Introduction

The Croydon Central Shopping Centre Development Plan (the Plan) has been prepared for Haben Property Fund Pty Ltd, in accordance with the requirements of Schedule 6 to the Development Plan Overlay at Clause 43.04 of the Maroondah Planning Scheme. It applies to the land bound by Kent Avenue to the northeast, Wicklow Avenue to the southeast, Toorak Avenue to the southwest and existing residential properties and community facilities to the northwest.

The Plan provides a detailed site and context analysis and a set of principles to guide the future development and use of the site. It incorporates Stages 1 and 2 of the development of the land and shows how the two stages respond to each other, and their surrounding context. It is noted that some development has been completed on the site within the Stage 1 boundary.



1.2 Zones

The site is zoned Commercial 1 Zone (C1Z), which has the following purposes:

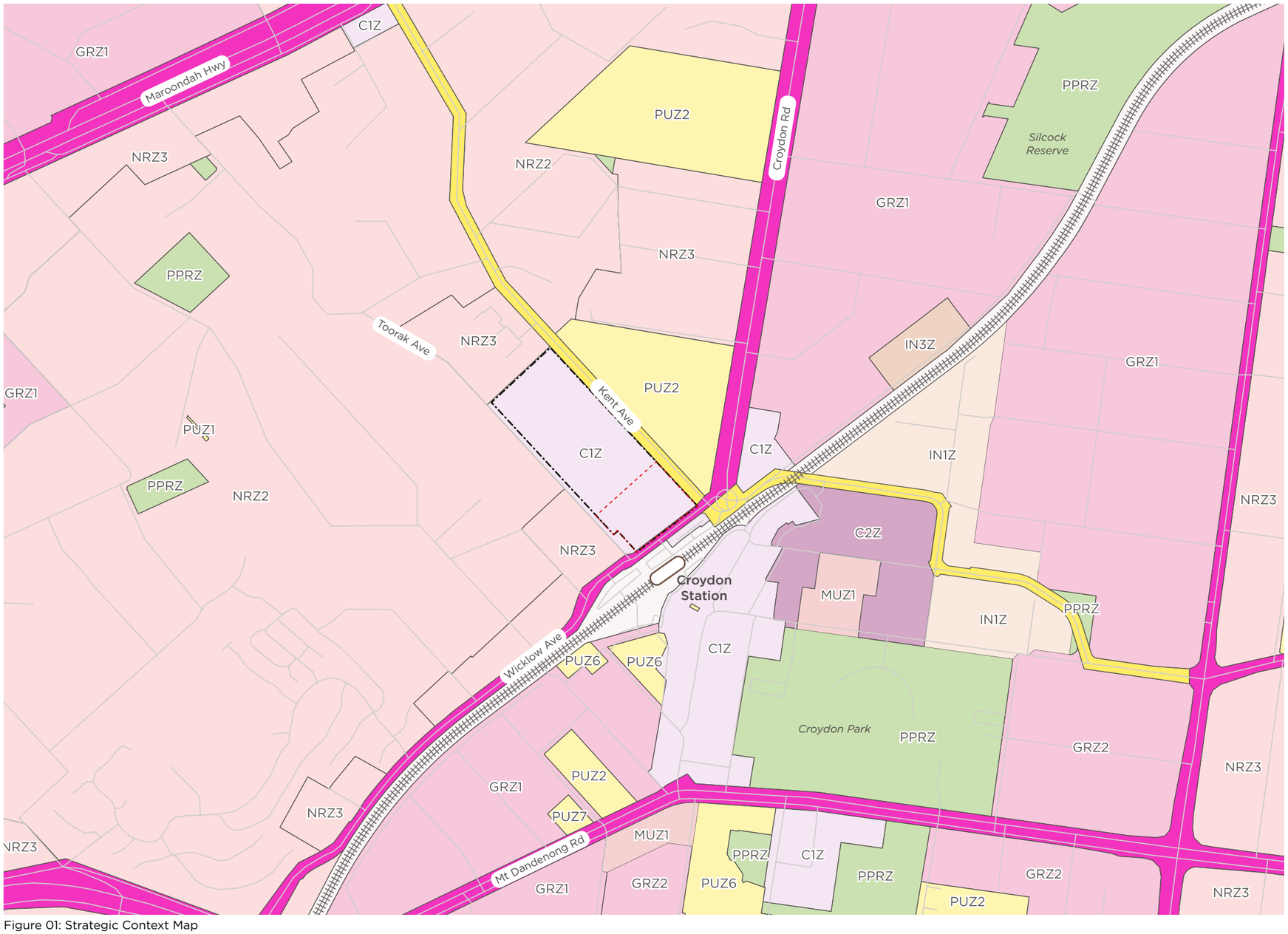
- To create vibrant mixed use commercial centres for retail, office, business, entertainment and community uses.
- To provide for residential uses at densities complementary to the role and scale of the commercial centre.

The schedule to the zone does not specify any changes to the zone's requirements.

Of the relevant surrounding zones, a Neighbourhood Residential Zone – Schedule 2 & 3 (NRZ2 & NRZ3) applies to the abutting properties to the north-west and properties across Toorak Avenue. The main purpose of the zone includes:

- To recognise areas of predominantly single and double storey residential development.
- To manage and ensure that development respects the identified neighbourhood character, heritage, environmental or landscape characteristics.
- To allow educational, recreational, religious, community and a limited range of other non-residential uses to serve local community needs in appropriate locations.

A Public Use Zone – Schedule 2 (PUZ2) applies to Croydon Primary School, across Kent Avenue.



LEGEND

- Subject Site
- Stage 2 Site Boun
- Road
- Train Line
- Train Station
- C1Z
- C2Z
- IN1Z
- IN3Z
- GRZ
- NRZ
- PUZ
- PUZ - Park
- TRZ1
- TRZ2
- TRZ3

Figure 01: Strategic Context Map

1.3 Overlays

The site is covered by a Development Plan Overlay – Schedule 6 (DPO6) triggering the requirement for a development plan. DPO6 includes a "Height and Land Use Plan", with which the development plan must be generally in accordance. Chapter 4 of this Plan describes how regard has been had to the Height and Land Use Plan in its preparation, and how the development it will facilitate is generally in accordance with the Height and Land Use Plan.

DPO6 includes the following purposes:

- To identify areas which require the form and conditions of future use and development to be shown on a development plan before a permit can be granted to use or develop the land.
- To exempt an application from notice and review if a development plan has been prepared to the satisfaction of the responsible authority.

Schedule 6 – Croydon Central Shopping Centre – sets out the following general design objectives:

- To create an attractive and distinct built environment that supports a range of activities in this part of the Croydon activity centre.
- To intensify built form in the centre by filling empty sites, capitalising on key intersection sites and creating improved interfaces.
- To ensure that development acknowledges and responds to the context and physical characteristics of the Croydon Major Activities Area, particularly by reinforcing its unique ridgeline setting.
- To acknowledge the transition from a natural to an urban influenced environment, with building facades that are layered with landscape, articulated facade surfaces and a sophisticated approach to form and massing.
- To limit views of car parking and service areas and to create attractive street interfaces on all frontages.
- To provide for a new active retail interface at street level on Wicklow Avenue, facilitating future repair and connection of the urban fabric in the area between the site and Main Street.
- To foster a connection of the Croydon retail environment foreshadowed in the Croydon Town Centre Structure Plan.
- To create a modern retail environment with a broad range of offerings supported by services and food and drink premises.
- To provide a high quality, weather protected retail environment providing safe pedestrian movement throughout the site.
- To provide a conveniently accessed and appropriately laid out carpark, concealed as far as practicable from the surrounding streets.
- To conceal all service areas such as loading docks, rubbish collection areas and service infrastructure, to minimise conflicting pathways between centre patrons and vehicles servicing the site.

It also sets out several specific design objectives:

Western End of the Subject Site

- The development and proposed uses are to be in accordance with the Height and Land Use Plan.
- The design of the development and proposed uses should seek to minimise impacts to the amenity of adjoining residential areas.

Toorak Avenue Frontage

- Development should provide opportunities for residential development at the western end of the frontage. The development of townhouses facing Toorak Avenue behind a suitable landscaped interface is preferred, allowing for further residential or mixed use development behind this frontage.
- A layered design with tiered patterned facades to buildings may be developed along this frontage, incorporating a new landscape zone that limits views of any service corridor or back-of-house functions along this frontage.
- Building facades may also serve an acoustic function to prevent sound break-out from loading docks and any service areas.
- Development should have regard to the relationship of the subject site with the properties opposite in Toorak Avenue, recognising that the residential properties on the opposite side of Toorak Avenue are significantly higher than the subject site.
- Service areas and road access should be designed to provide protection against visual and acoustic disturbance to 30 Toorak Avenue.
- The preferred outcome for the Toorak Avenue frontage is to allow the creation of a compatible interface, and a passive landscaped interface to the back of any retail facilities facing Toorak Avenue.

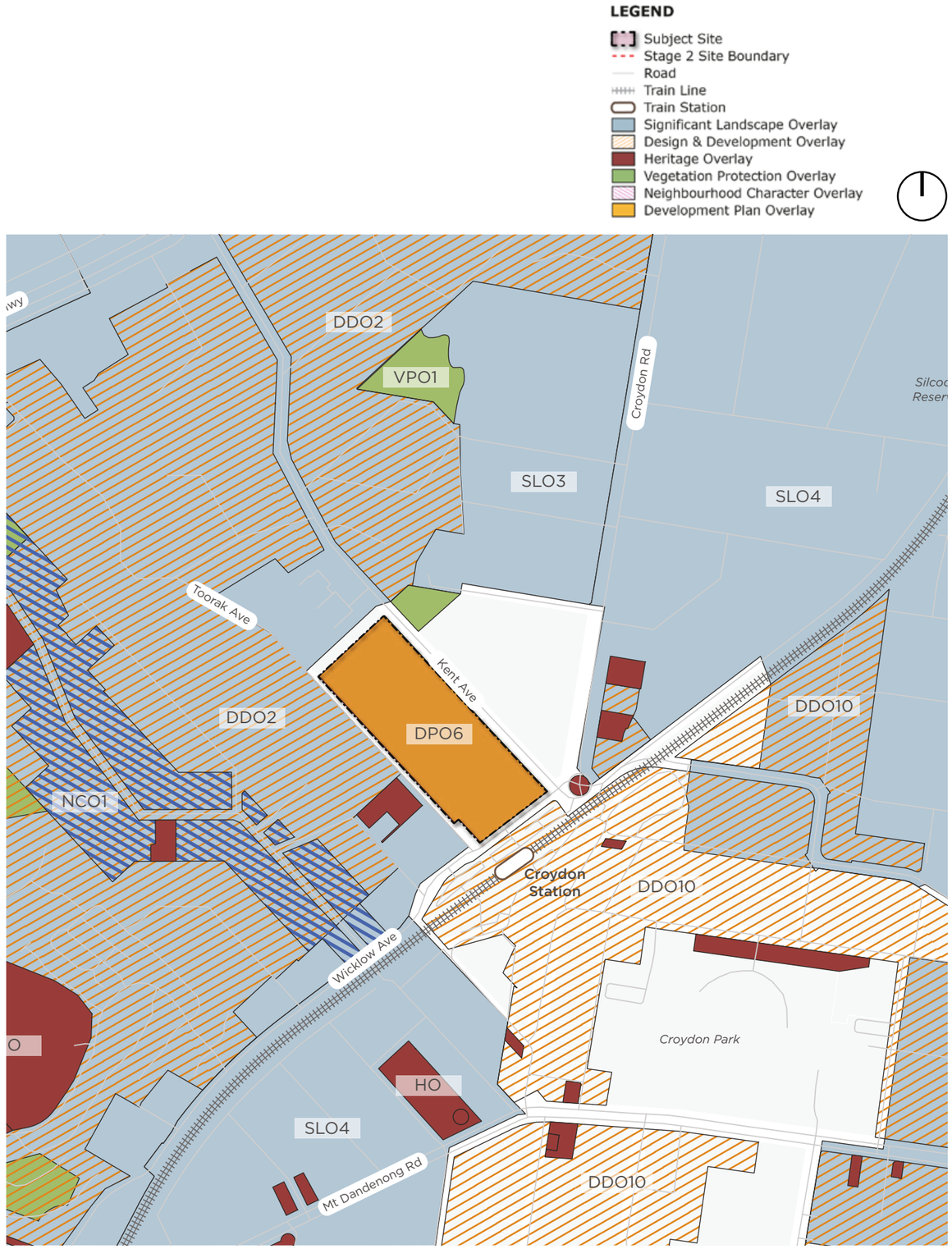


Figure 01: Strategic Context Map

Overview

Wicklow Avenue Frontage

- The building facade treatments to the Wicklow Avenue frontage should be interesting and diverse in their representation. A possible approach would be to create a series of articulated forms at various building levels and provide for active retail frontages to the street.
- The frontage to Wicklow Avenue should allow generous space for the provision of street planting, footpaths and street furniture.
- Lower building facades at street level should be transparent glazing as far as possible providing views into the retail premises. This model of a retail/commercial street interface reflects characteristics of the Croydon Main Street retail environment, and is intended to provide a template for future development of the opposite side of this street.
- The opportunity for a strong urban statement exists on the Wicklow Avenue and Kent Street corner.
- The opportunity for deep upper level balcony areas should be explored at this corner to activate the streetscape and capture long range views over the Town Centre and the Yarra Ranges beyond.
- The preferred outcome for this frontage is to: (1) transform the existing frontage from an open carpark into an active and attractive retail frontage with good quality street level landscape and street furniture; (2) activate the frontage by entry points into the ground level retail tenancies, promoting transparency of the building facades and creating a strong urban statement at this frontage; and (3) to define the Wicklow Avenue and Kent Avenue corner with a strong architectural form.

Kent Avenue Frontage

- The treatment of this frontage should take account of the opportunity for vehicle access to car parks and loading areas whilst respecting the safety and function of Kent Avenue.
- This frontage presents opportunities for entries into the retail centre and activation of the building facades. The creation of a landscaped edge to the subject site is generally preferred along this frontage.
- The opportunity exists for the creation of an elevated outlook from tenancies within the subject site to Kent Avenue and the Yarra Ranges beyond.
- The preferred outcome for this frontage is to carefully treat the frontage in a way that allows for vehicle and pedestrian access opportunities, provide a landscaped condition along the site frontage and present an attractive and where possible, active building facade.

It also sets out several landscape design objectives:

General

- Landscaping of the subject site should be an integral part of the design solution. The landscape is to respond to the particular characteristics of the key site frontages, with a concise planting palette. The extent and species of planting is to be agreed with the Council.
- A full site survey that details all vegetation and their condition should be included in any landscaping plan submitted for approval.
- Any landscaping plan submitted for approval should provide details of fencing (including boundary fences) and acoustic screen fencing.
- If acoustic fencing is proposed, the fence must be in accordance with an Acoustic Report prepared by a suitably qualified practitioner.

North-Western Interface

- The preferred landscape approach is to include canopy tree planting to provide scale and under-canopy planting to provide effective screening between the properties.

Toorak Avenue Interface

- The landscape treatment should have regard for the residential interface along this frontage opposite the subject site.
- The opportunity should be taken to provide for clusters of taller trees with under-canopy planting and ground covers. Any planting could be used to screen the fenceline along this frontage or any acoustic wall or service access and back of house activities should this be required.
- The colouring of plant species should where appropriate complement the colouring of the building facade. Appropriate species which climb over wall frames or walls could be employed to further soften this interface.

Wicklow Avenue Interface

- This frontage is primarily an urban interface where the primary landscape is expected to be provided by street tree planting. The extent and species of planting is to be agreed with the Council.
- Appropriate low ground cover and hedged planting could be employed for use in structure or planters at building entries, in feature locations at street level or otherwise above ground level at the Wicklow/Kent Avenue corner.

Kent Avenue Interface

- A landscape condition along the Kent Avenue frontage is preferred, utilising the variable ground levels to present an attractive interface to the street.
- The opportunity of creating dense, layered planting with ground covers and hedging may be explored to create a green edge. A more urban treatment is preferred near the Wicklow Avenue/ Kent Avenue corner. Opportunities exist for the inclusion of hard landscape features including water features, urban sculpture and feature paving.

Other objectives of DPO6 include:

Environmental Design

- A holistic approach to sustainable building design is encouraged that commits to the integration of sustainability principles in the planning and design of engineering services infrastructure, building envelopes and building engineering services.
- ESD initiatives should be aimed at promoting energy efficiency in construction and ongoing operation of the development on the subject site.

Residential Development Objectives

- Residential development is encouraged at the north-western end of the Toorak Avenue frontage as part of the redevelopment of the subject site. Due to the changing levels over the subject site, the opportunity exists to create a residential edge to the development at this interface at the existing Toorak Avenue ground level so as to provide a transition to the residential areas to the north and west.
- Development along the residential interface should be of a form and scale that respects the existing character of residential properties along this frontage and provide a respectful boundary interface. Higher scale residential development than that which occurs at the edges of the subject site may be acceptable. The residential component of any redevelopment of the subject site should be developed as an integrated component of the overall design. It may be staged and developed in accordance with a staging program agreed with the responsible authority.

Access, Traffic and Parking

- Measures should be adopted to minimise conflict between vehicles and pedestrian movement within the development and on the adjoining street network.
- Measures to improve pedestrian connections are encouraged including access for people with mobility impairment to public areas adjacent to the development, surrounding streets, the railway station and parking areas.
- Consideration for bicycle facilities, taxi zones and customer drop-off opportunities.

Site & Context Analysis

2

2.1 Strategic Context

The site is located in the suburb of Croydon within the City of Maroondah, adjacent to Ringwood and Mooroolbark. Croydon is an established residential suburb along the Lilydale railway line, 28km east of Melbourne CBD. At the 2016 census, Croydon had a population of 26,980. This is forecasted to increase to 36,602 by 2041 (ABS, 2016. Forecast.id, 2019). The site is located within the Croydon Major Activity Centre at Clause 21.02-2 of the Maroondah Planning Scheme (the Planning Scheme) and is nominated by Plan Melbourne as a place to 'provide a suburban focal point for services, employment, housing, public transport and social interaction'. It is expected that much of Croydon's population increase will be accommodated within the Activity Centre's boundary.

The Planning Scheme seeks to:

- Encourage the development of additional dwellings within the Croydon Major Activity Centre (Clause 21.07-2).
- Strengthen the retail, business and employment role of the Croydon Major Activity Centre (Clause 21.09-2).
- Strengthen the industrial role of the Croydon Major Activity Centre (Clause 21.09-2).

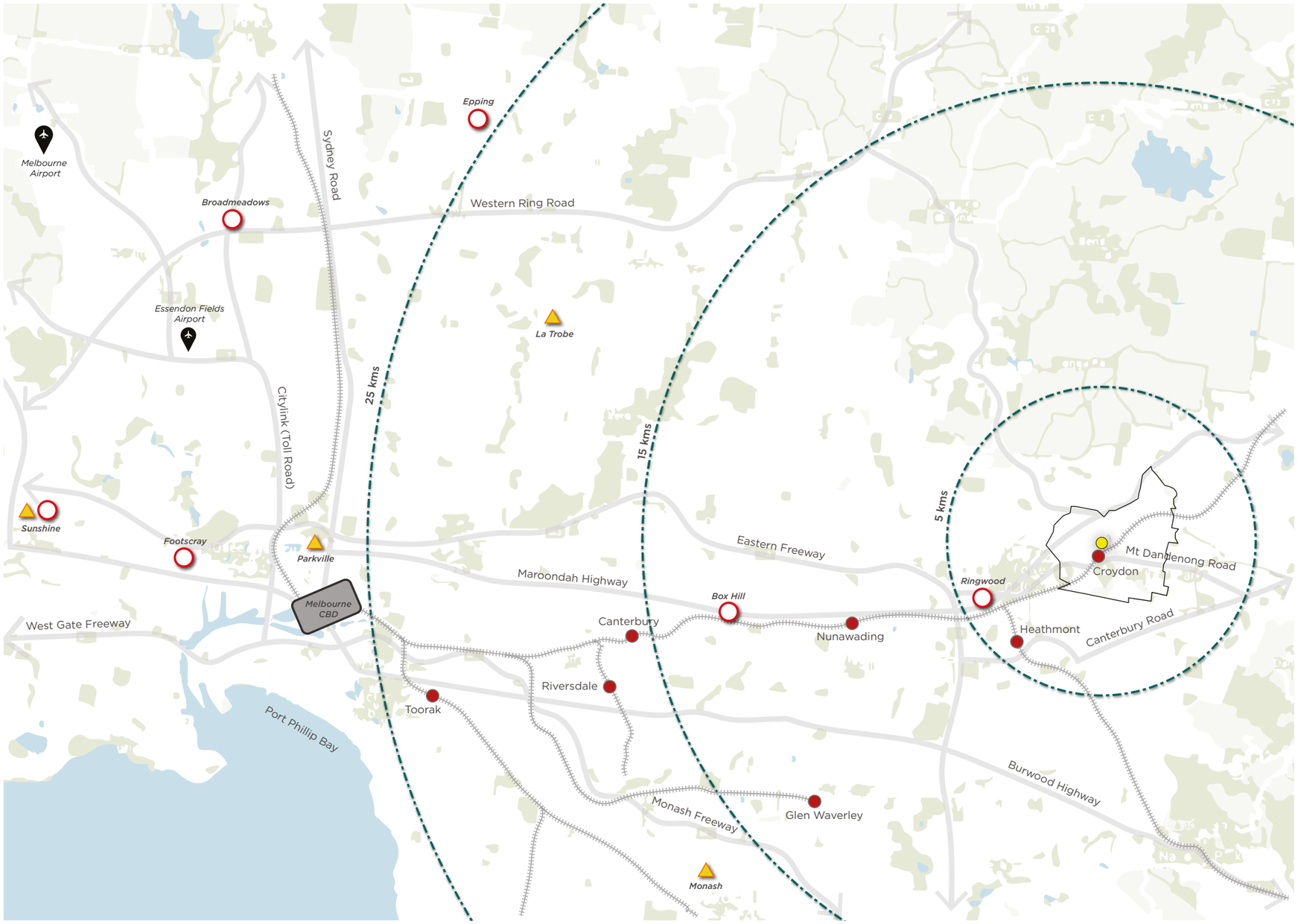


Figure 02: Strategic Context Map

2.2 Movement & Network

The site is located across the road from Croydon Train Station with the Lilydale line providing access to the CBD in approximately 50 minutes. Several bus routes connect the site to locations including Boronia, Glen Waverly, Montrose, Upper Ferntree Gully and Monash University.

At the time of preparing this Plan in 2024, works under the Level Crossing Removal Project (LXRP) to remove the level crossing at Coolstore Road and construct a rail bridge as part of the new elevated Croydon Station are nearly complete. The elevated rail creates an opportunity for increased pedestrian connectivity between Croydon Central and the activity on Main Street. This will allow for the establishment of a series of connected open spaces, from Croydon Park to the Croydon Town Square, on to the potential open space within the station precinct and the opportunity for a forecourt on Croydon Central's interface with Wicklow Avenue.

LEGEND

- Subject Site
- Stage 2 Site Boundary
- Freeway & Highway
- Arterial Road
- Local Road
- Train Line
- Train Station
- Bus Line
- Bus Stop
- Existing Vehicular Crossover
- Existing Loading Entry Point

Figure 03: Movement & Network Map

2.3 Open Space and Amenities

The site is located within walking distance to Croydon Park, which includes an oval, a gridiron pitch and the youth X and Y Spaces. Other public open spaces in the area are outside walking distance due to the steep topography of the area. The site is opposite Croydon Primary School and within walking distance of the shops and services of Croydon's main retail street.

Figure 04: Open Space & Amenities Map

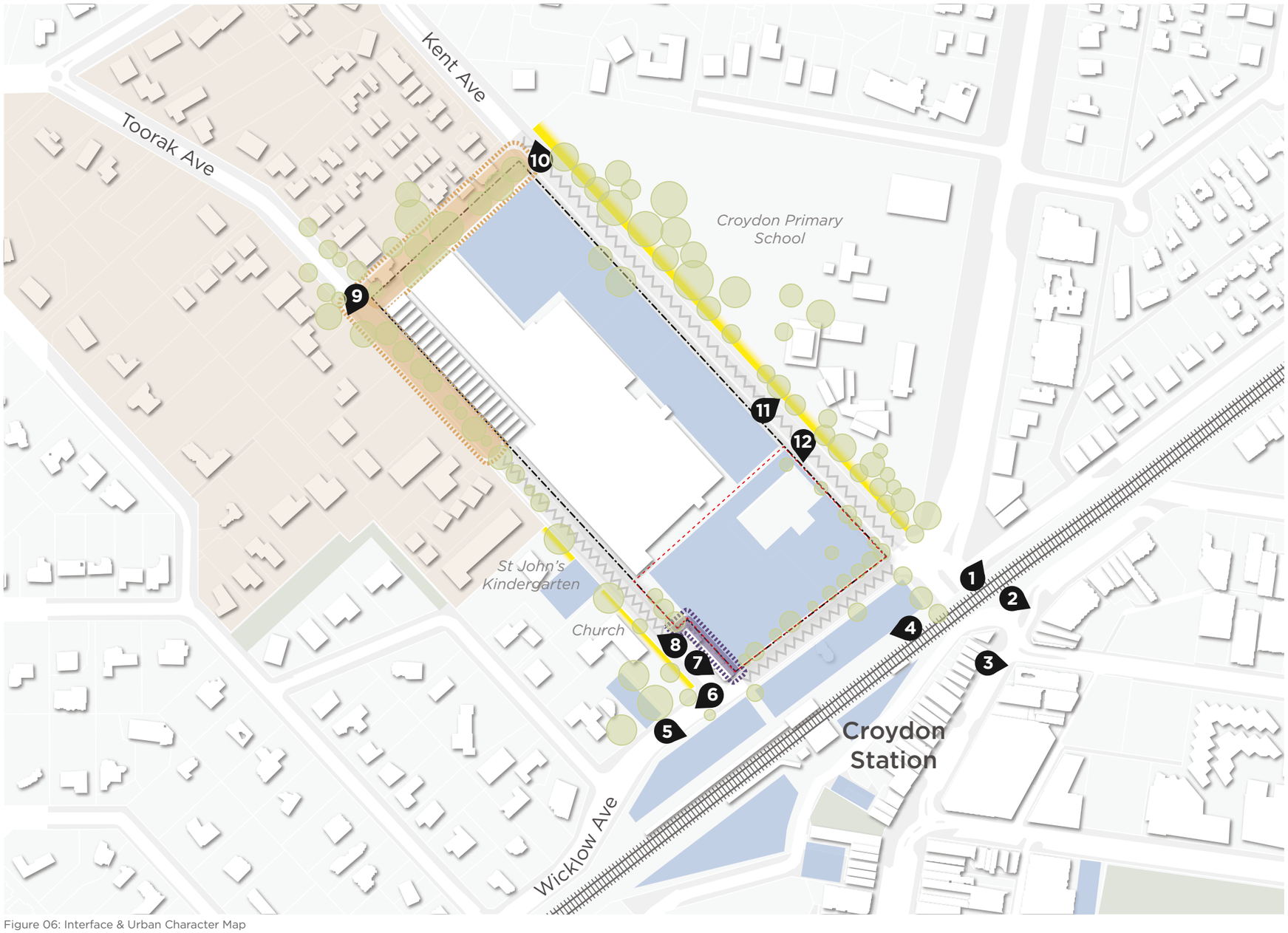
2.4 Built form & Heights

The surrounding built form is predominantly one and two storey detached dwellings. A large portion of the surrounds are covered by a NRZ with the objective of maintaining the detached, one or two storey, leafy character of the area. Pockets of three to five storey buildings can be found within the activity centre's boundary, with most growth expected in areas zoned C1Z, C2Z and MUZ.

Figure 05: Building Heights Map

2.5 Interface Condition & Urban Character

The site has direct interfaces with a residential property and the Croydon Central Scout Group to the northwest, and 3 retail/services properties to the south, on the corner of Wicklow Avenue and Toorak Avenue. It has frontages to Kent Avenue, Wicklow Avenue and Toorak Avenue. The street interface on Kent Avenue is characterised by the leafy open space and recessed built form of Croydon Primary School. On Wicklow Avenue, a single retail/services property is surrounded by carparking for Croydon Station. Finally, the street interface on the northwest of Toorak Avenue is characterised by 1-2 storey detached dwellings and multi-unit blocks that are significantly higher than the site due to the sloping terrain. A childcare centre and a church, which is about 40m set back from Wicklow Avenue, make up the south-eastern end of the Toorak Avenue street interface.



LEGEND

- Subject Site
- Stage 2 Site Boundary
- Open Space
- Road
- Train Line
- Train Station
- Parking
- Direct Residential Interface
- Sensitive Public Use Interface
- Direct Commercial Interface
- Direct Road Interface
- 1-2 Storey Residential Area

Figure 06: Interface & Urban Character Map

2.6 Site Photographs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2.7 Elevated Rail

The Level Crossing Removal Project (LXRP) began consultation for the removal of the Coolstore Road level crossing in 2022. As of 2024, work is almost complete; the new Croydon Station has been constructed and key roads interfacing the station have been realigned, including a new connection under the rail line between Kent Avenue and Lacey Street.

The elevated rail removes the congested and dangerous Coolstore Road roundabout and increases pedestrian connectivity between Croydon Central and the activity on Main Street. This will allow for the establishment of a series of connected open spaces, from Croydon Park to the Croydon Town Square, on to the potential open space within the station precinct and the opportunity for a forecourt on Croydon Central's interface with Wicklow Avenue.

At the time of preparation of this plan, the new Croydon Station has recently opened to passengers, whilst work on the adjacent transport hub infrastructure and remaining new road connections will continue.

The original concept design from 2023 is depicted in Figure 07 below to illustrate the original overall intent for the station precinct.

This Development Plan has been prepared to respond to, and integrate with, this design. If the final design of the level crossing materially changes, it may be necessary to reflect that final design when preparing a planning permit application.

Figure 07: The original proposed deisgn for the Coolstore Rd Level Crossing Removal (2023). Bottom: Concept Plan. Top Right: Artists Impressions. LXRP, https://engage.vic.gov.au/lxrp-coolstore-road Accessed: 21/03/23.

2.8 Opportunities & Constraints

Wider Context

Opportunities

Large site allows for an increase in density to accommodate growing population within the Major Activity Centre whilst limiting associated impacts.

Improvement of pedestrian connection between Croydon Central and activity on Main Street (Town Centre).

Appropriate increase of population on site to increase demand for retail and service offerings in the Croydon Main Street Shopping Precinct, improving its resilience and overall activation.

Creation of an open space network stretching from Croydon Park, through Croydon Town Square and the Station Precinct, arriving at an open space on Croydon Central as a destination.

Establishment of publicly accessible views of the Dandenongs.

Constraints

Existing views from Toorak Avenue/Stirling Road and Kent Avenue/Stirling Road are to be respected.

LEGEND

- Subject Site
- Stage 2 Site Boundary
- Public Open Space
- Restricted Open Space
- Opportunity Connected Open Space
- Opportunity New Open Space
- Opportunity Open Space Connection
- Road
- Train Line
- Train Station
- Future Elevated Rail Precinct
- Contours
- Opportunity Connection to Main Street
- Significant Views

Figure 08: Opportunities & Constraints Map

Immediate Context

Opportunities

Topography allows for basement car parking where there is higher ground and active uses along Wicklow Avenue.

Reduction of pedestrian-vehicle conflicts by consolidating vehicle access away from Wicklow Avenue.

Improvement of pedestrian environment on Wicklow Avenue by creating a street wall with active edges and wider footpath.

Creation of a new forecourt on the Wicklow Avenue interface as a destination and wayfinding element.

Improvement of connection between existing shopping centre entrance and Croydon Station.

Improvement of connection between Kent Avenue, existing shopping centre entrance and Toorak Avenue.

Podium and medium-scale towers to activate Wicklow Avenue and provide passive surveillance to the street and Station Precinct.

Introduction of landscaping as street planting and as an integrated element of the built form.

Improvement of connection between Croydon Central and the Main Street Shopping Precinct.

Established centre and focus of Activity Centre.

Constraints

Although significantly further up-slope than the majority of the site and therefore less susceptible to impacts from redevelopment, the amenity of neighbouring residential properties must be respected.

The railway line acts as a physical barrier between the site and most of the activity centre.

Existing loading areas for the shopping centre should be maintained.

Residential interface (Stage 1).

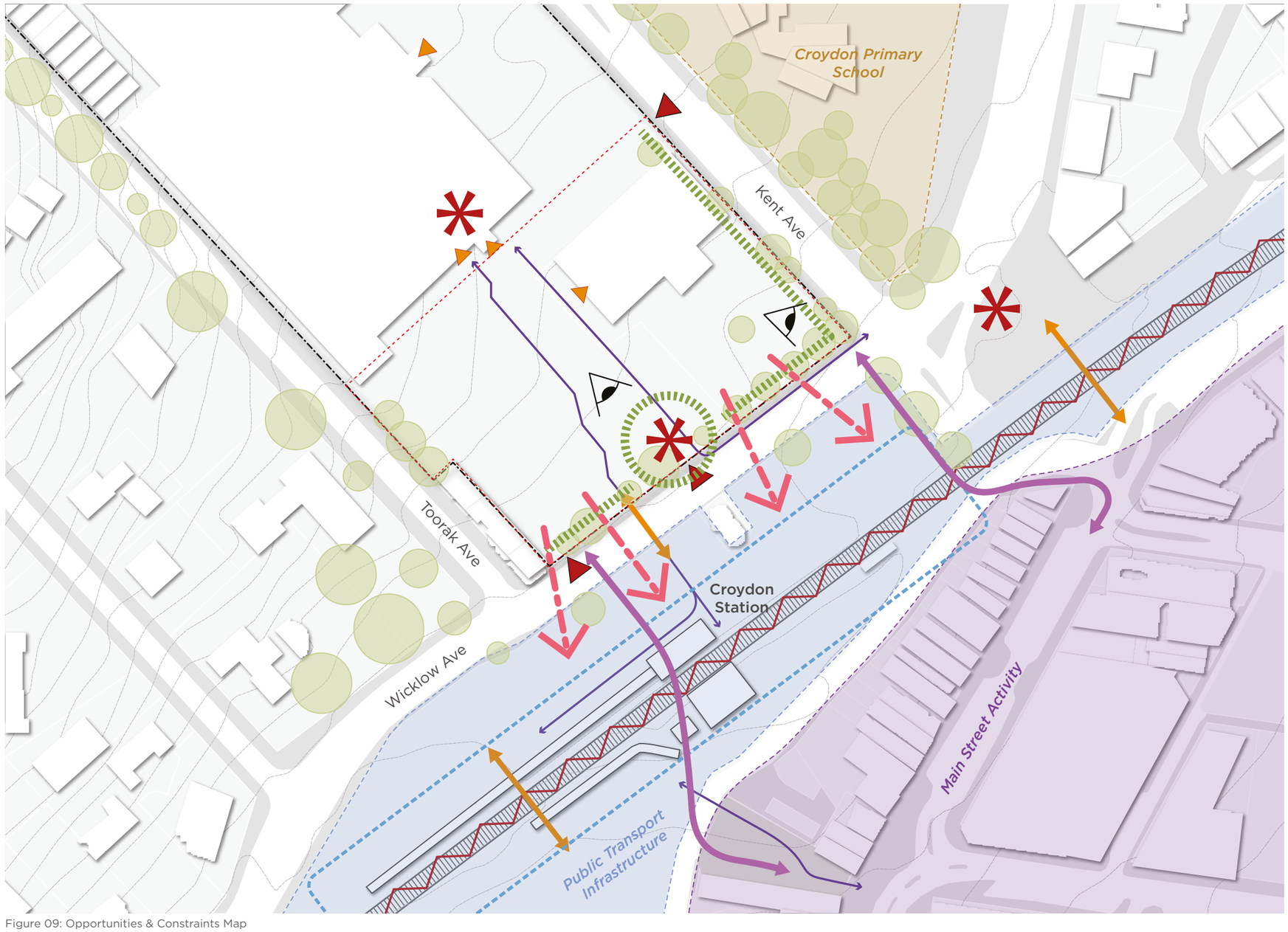

Figure 09: Opportunities & Constraints Map

Urban Design Framework

3

3.1 Urban Design Principles

The vision for Croydon Central aims to develop and enliven the retail centre in keeping with the general design objectives included in DPO6 (outlined in chapter 1). The following urban design principles are proposed to guide the design and development of Croydon Central in line with the relevant provisions of the Planning Scheme, the Maroondah 2040 Community Vision, Plan Melbourne, and best practice Activity Centre outcomes. The principles have then been distilled into strategies to provide further site-specific guidance and then supported by actions outlining a clear path to follow throughout the process.

Further detailed objectives relating to environmentally sustainable design outcomes, access, traffic and parking, waste management, acoustic outcomes and landscape are also included.

Character & Amenity

An area with a strong sense of place that celebrates Croydon's character and strategic importance for the local area with high quality landscape and built form design.

Vibrancy & Diversity

A precinct that offers a wide range of activities, accommodation, services and retail, complementary to Croydon Main Street with safe, lively public spaces.

Connectivity & Integration

A precinct that integrates with the surrounding context and is integrated into the public transport network, providing easy access to the wider region.

Sustainability & Resilience

A precinct that is well integrated with its natural ecosystem, is environmentally and economically sustainable and is well-prepared for the impacts of climate change.

3.2 Strategies

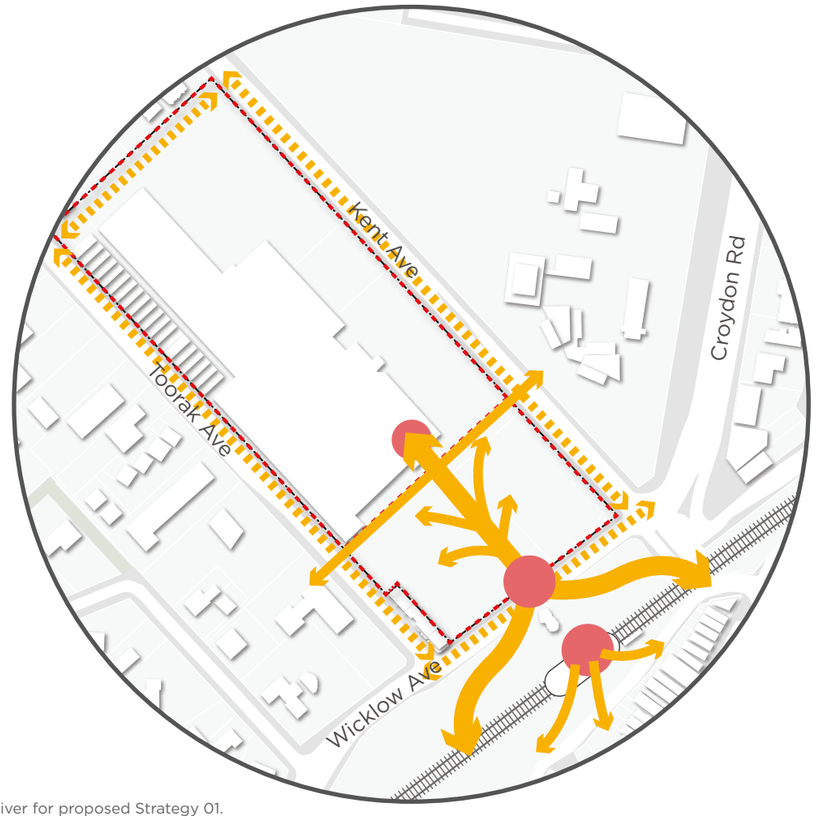

Figure 10: Design driver for proposed Strategy 01.

Strategy 01

Create a simple and legible urban structure that responds to the site's context by providing clear links to the existing transport infrastructure, supports existing and new pedestrian flows with a safe, high amenity movement network and manages the movement of private vehicles, delivery vehicles, and parking to ensure a safe environment for all.

Actions

- Create a publicly accessible open space (forecourt) that acts as a destination and acts as a visible anchor that aids in wayfinding.
- Link the precinct visually with the train station across Wicklow Avenue providing clear lines of site and easy wayfinding into the precinct. Ensure the forecourt is visible from the future station's entrances.
- Integrate the precinct, future built form and forecourt with the future elevated train station.
- Provide limited vehicular access via the existing entry off Kent Street to minimise pedestrian and vehicle conflict.
- Provide limited vehicular access from Wicklow Avenue.
- Provide drop-off and short term stay spaces for couries, ride-share/taxis and people with reduced mobility.

Image 01: Open air pedestrian connection in Barkly Square, Brunswick, VIC.
From: ispt.net.au

Image 02: Public pedestrian passageway through The Ponds Shopping Centre, NSW.
From: commercialrealestate.com.au

Image 03: Linking residential areas to existing activity with clear connections, Rouse Hill, NSW.
From: www.bylettassociates.com.au

Image 04: Open air internal pedestrian network, Rouse Hill, NSW.
From: tripadvisor.com

Figure 11: Design driver for proposed Strategy 02.

Strategy 02

Create a sense of place upon arrival, provide safe and comfortable open spaces and reinforce the wider Activity Centre's character.

Actions

- Ensure the forecourt is publicly accessible, at least 500m² in area (including abutting footpath), creates a sense of arrival and acts as a meeting space and passive recreation.
- Provide adequate seating and landscaping in the forecourt to activate it.
- Ensure direct sunlight on two thirds of the forecourt between 10am and 2pm at the equinox.
- Ensure no additional overshadowing of the proposed footpath on the southeast side of Wicklow Avenue and the existing footpath on the southwest of Toorak Avenue (measured from the kerb line) between 10am and 2pm at the equinox.
- Design built form and landscape elements that complement within Croydon's character.
- Ensure that new and existing buildings have adequate access to sunlight and ventilation.
- Ensure adequate levels of sunlight and shade in public spaces to cater to different activities throughout the year.
- Employ passive surveillance strategies to increase security and create a feeling of safety.
- Provide adequate building separation to avoid screening of balconies.
- Emphasise a high-quality public realm that engages users physically and visually.
- Ensure the link connecting the forecourt and the entrance to the shopping centre acts as a retail street with weather protection.
- Utilise drought tolerant species and species that encourage a rich and diverse ecology.
- Provide street tree planting along all street interfaces that maximise opportunities for Water Sensitive Urban Design, provide increased canopy coverage and create softer edges.

Image 05: Pedestrianised Greville Street with street trees planted in Prahran, VIC.
From: film.vic.gov.au

Image 06: 4 storeys built form enclose the 12m wide street space on Little Collins Street, VIC.
From: sidespace.com.au

Image 07: Hay Street Mall in Perth, WA with 4 storeys built form and street trees.
From: property.jill.com.au

Image 08: Open air internal pedestrian network, Rouse Hill, NSW.
From: tripadvisor.com

Figure 12: Design driver for proposed Strategy 03.

Strategy 03

Celebrate the topography of Croydon and the site including capturing distant views of the Dandenong's to reinforce the distinct sense of place.

Actions

- Ensure taller built forms create an articulated skyline in response to the Dandenong's including allowing for views through the forms to the mountain range beyond.
- Avoid blocking views of the Dandenongs from the top of Toorak Avenue and the intersection of Kent Avenue and Stirling Road.
- Create views from publicly accessible and communal spaces to the Dandenongs.
- Introduce podium landscaping that complements Croydon's connection to the Dandenongs.
- Use the site's slope to provide integrated car parking and back of house solutions to limit impacts on public realm.
- Ensure sloping streetscape interfaces respond to the topography including elements such as stepped canopies and podiums where appropriate, ensuring universal access at all entries.
- Implement Environmentally Sustainable Design strategies to treat water runoff on site, using the site's slope.

Image 09: Public stairs and landscaping, Central Park, Chippendale, NSW.
From: Archive.

Image 10: Underground parking uses the sites slope, South Yarra, VIC.
From: peterelliott.com.au

Image 11: Mount Wellington in background of Hobart Waterfront giving local character, TAS.
From: escape.com.au

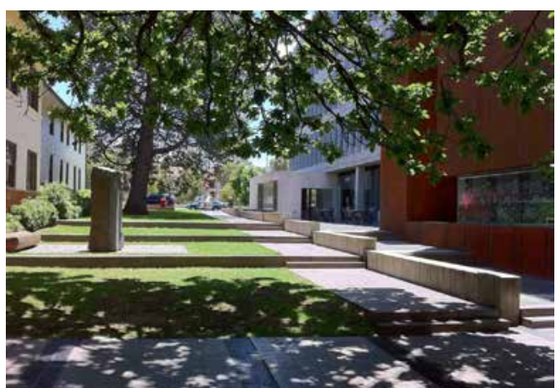

Image 12: Connection that utilises the slope of the land, Canberra, ACT.
From: oculus.info

Figure 13: Design driver for proposed Strategy 04.

Strategy 04

Provide a diverse mix of uses and increase residential density to support the vibrancy of the Activity Centre and provide increased housing choice.

Actions

- Deliver uses that support the Activity Centre users and the residents of the surrounding areas.
- Provide affordable housing to increase the diversity and mix of housing stock.
- Create multi-use spaces that cater to different users and activities at different times of the day, week and year, including a variety of landscape outcomes appropriate to the location and orientation of the space.
- Activate the edges of built form with activity on the ground floor, wrapping car parking with active uses where possible and residential uses where possible.
- Provide retail frontages onto the link from the forecourt to the existing centre to ensure it acts as a retail street and is activated throughout the day.
- Maximise retail/hospitality opportunities on the forecourt and link's edges and allow for the activity to extend onto the open space, ensuring its activation.

Image 13: Mixed use development in Highett, VIC.
From: yourviewholdfast.com

Image 14: 'The Hive' Mixed use development near Richmond Station, Abbotsford, VIC.
From: cpsengineers.com.au

Image 15: Mix use of commercial, retails and hotels in Collins Place, VIC.
From: collinsplace.com.au

Image 16: Commercial Road, Caroline Springs, VIC.
From: commercialview.com.au

3.3 Other Principles & Actions

Environmentally Sustainable Design

The following key environmentally sustainable design principles apply to development on site:

- Minimise greenhouse gas emissions associated with building energy use, energy systems and energy supply.
- Achieve sustainable water cycle management through the efficient use of potable water supplies; recycling and reuse of alternative water sources; and integration of stormwater treatment into the design of the car park.
- Optimise indoor environmental quality in all buildings and structures.
- Reduce the use of material resources during construction and throughout occupancy.
- Provide landscape which amenity and contributes to biodiversity.

Key environmentally sustainable design actions integrated into the proposed development include:

- Energy efficient building design
- Renewable energy and low carbon energy supply
- Energy efficient building systems initiatives
- Water sensitive urban design
- Water conservation
- Rainwater harvesting
- Management of stormwater runoff.

Landscape Design Objectives

- A planting palette must be developed during the town planning stage. It should consist of a mix of low maintenance, drought tolerant, appropriate exotic and native species.
- Overall, the landscape should provide softening, shade, texture and scale to the built form. Entries to the Centre are to be accentuated by areas of feature paving extending into the vehicle zones, raised planters and seating to create a welcoming entry experience. Pedestrian linkages through car parking areas are to be informed by a specific pavement type indicating a line of travel and linking directly to the front door.

North Western Interface

- Retain existing trees where possible and install new canopy/buffer trees.

Toorak Avenue Interface

- Garden beds and street tree planting to soften the edge of the development facing Toorak Avenue. The western end of Toorak Ave will be softened by the existing trees within the median and landscaped courtyards to the townhouses.
- A detailed planting palette must be developed during the town planning stage. It will consider the building façade (texture and colour) and ensure the planting is complimentary in scale, texture and colour.

Wicklow Avenue Interface

- Create an urban edge characterised by street trees plantings and groundcovers to provide an attractive interface to the proposed built form. A strong pedestrian link is to be provided directly between the station and the Centre.

Kent Avenue Interface

- Extensive landscape buffer zones to create a strong ‘green edge’ to the site and screen car parking areas. Where possible, existing trees should be retained and supplemented with additional canopy trees.

Access, Traffic and Parking

- Minimise the interface between vehicle movement and pedestrian movement, particularly with respect to loading vehicles and public/pedestrian areas.
- Loading areas for the majority of tenancies are to be located at the north-western end of the site, with a designated access point provided to segregate loading vehicles from public parking and pedestrian areas.
- Where possible, consolidate vehicle accesses to the site. This consolidation of access points reduces the number of conflict points.
- Improve pedestrian connections to public areas adjacent to the development, surrounding streets, the railway station and parking areas.
- The development must include parking for people with disabilities, and pedestrian paths and pram crossings must be designed to comply with relevant DDA standards as far as practicable.
- External roadworks should include bicycle lanes on both sides of Kent Avenue along the site frontage. Additionally, bicycle parking must be provided on-site for use by customers and staff. Consideration must be given in relation to taxi zones and customer pick up and drop off facilities. Details of these provisions are to be included in the Transport Impact Assessment report that will be submitted with the town planning application.
- Development on the site should respond to and integrate with the final, constructed form of the Coolstore Road level crossing and the future station precinct.
- Integrate and encourage sustainable transport, including bicycles and electric cars, end of trip facilities and car share.

Acoustic

Noise emissions associated with the proposed redevelopment will be considered in accordance with the following assessment criteria:

Commercial Mechanical Plant Noise and Loading Dock Activity Noise

- Must achieve compliance with the requirements of the Environment Protection Act 2017 as amended by the Environment Protection Amendment Act 2018, and more specifically the requirements of EPA Publication 1826.4 'Noise limit and assessment protocol for the control of noise from commercial, industrial and trade premises and entertainment venues'(Noise Protocol) at nearby noise sensitive residential locations;
- Noise Control Recommendations may include where necessary, the following:
  - Selection of equipment capable of achieving the required duty with noise levels toward the lower end of the scale compared with what is available;
  - Designated solid continuous acoustic barriers around the perimeter of the roof mounted plant platforms;
  - Where possible, locate plant platforms centrally on the site, or toward non noise sensitive locations;
  - Limiting of number of trucks using Loading Dock areas during assessment periods;
  - Consideration of unloading techniques for loading docks;
  - Installation of acoustic barriers to shield residences from loading dock activity.

Patron Noise and Music Noise

- (Patron Noise) – In the absence of regulated noise criteria, design to comply with the requirements of EPA Publication 1826.4 'Noise limit and assessment protocol for the control of noise from commercial, industrial and trade premises and entertainment venues' (Noise Protocol) at nearby noise sensitive residential locations.
- (Music Noise) – Designed to comply with the requirements of EPA Publication 1826.4 'Noise limit and assessment protocol for the control of noise from commercial, industrial and trade premises and entertainment venues' (Noise Protocol) at nearby noise sensitive residential locations.
- Noise Control Recommendations may include where necessary, the following:
  - Limiting number of patrons within outdoor areas at any one time;
  - Limiting times at which the outdoor areas can be occupied;
  - Installing screens around the perimeter of the outdoor areas;
  - Installing music noise limiters within venues which include music as part of their entertainment.

Domestic Mechanical Plant

- Designed to comply with the requirements of the Environment Protection Act 2017 as amended by the Environment Protection Amendment Act including guidance within EPA Publication 1973 'Noise Guideline: Assessing noise from residential equipment', 2018.
- Noise Control Recommendations may include where necessary, the following:
  - Selection of equipment capable of achieving the required duty with noise levels toward the lower end of the scale compared with what is available;
  - Units to be installed with speed control;
  - Designated solid continuous acoustic barriers around the perimeter of the roof mounted plant platforms.

The surrounding environment will also impact on the future residential component of the project. Noise impacts associated with the surrounding environment will be considered in accordance with the following:

Traffic Noise

- External façade constructions recommended to achieve internal noise levels consistent with Australian/New Zealand Standard 2107-2016"Acoustics – Recommended design sound levels and reverberation times for building interiors" and where relevant Maroondah City Council Planning Scheme requirements relating to 'noise influence areas'.
- Noise Control Recommendations may include the following:
  - Upgraded façade glazing;
  - Upgraded external façade construction.

Train Noise

- External façade constructions recommended to ensure dwellings achieve:
  - Internal noise levels consistent with requirements of the Maroondah Planning Scheme for dwellings in 'noise influence areas'(LAeq,8h and LAeq,16h); and,
  - Internal instantaneous maximum noise levels of60 dB(A) Lmax for living areas, and 55 dB(A) Lmax for bedrooms.
- Recommendations where necessary may include the following:
  - Upgraded façade glazing;
  - Upgraded external façade construction.

Waste Management

- The following should be achieved:
- Avoid the generation of unnecessary waste.
- Minimise the quantities of wastes generated ending up as landfill.
- Recovering, reusing and recycling waste generated on site where possible.
- Compliance with any codes and policies that may apply to the development.

The design shall consider and incorporate where appropriate the following:

- The location, equipment and systems used for managing waste.
- Sufficient capacity for and adequate access to waste storage areas.
- Noise minimisation initiatives to ensure compliance with BCA, AS2107 acoustic requirements and Victoria EPA Noise Control Guidelines.
- Litter reduction and prevention of stormwater pollution initiatives to avoid dispersion from the site.
- Ventilation, washing and vermin prevention.
- Management and sustainability including:
  - Waste sorting, transfer and collection responsibilities
  - Facility management provisions to maintain and improve the waste system
  - Arrangement for protecting waste equipment from theft and vandalism
  - Arrangement for bin / equipment labelling and adequate user / staff training
  - Sustainability and waste avoidance / reuse / reduction initiatives