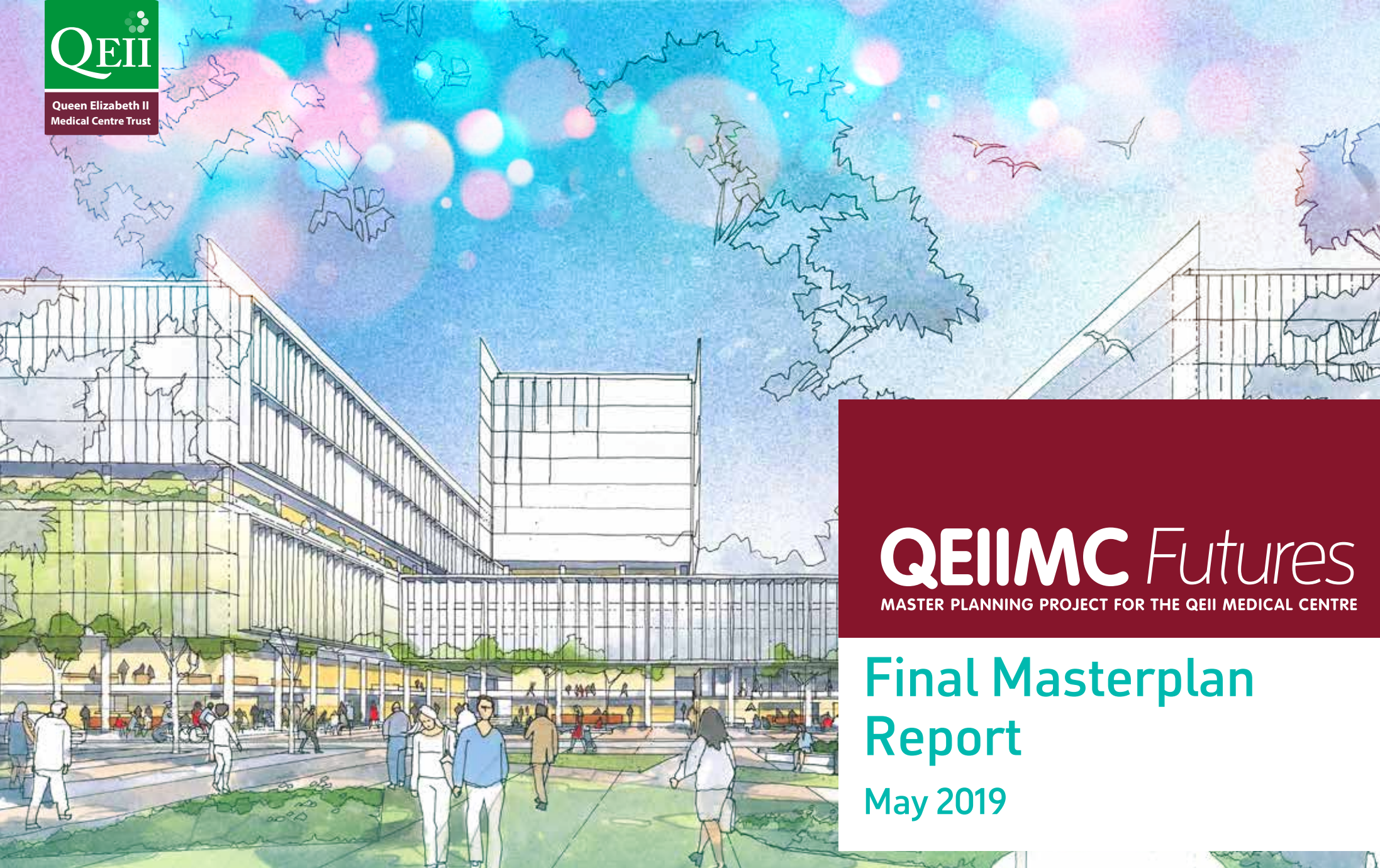




Queen Elizabeth II  
Medical Centre Trust



# QEIMC *Futures*

MASTER PLANNING PROJECT FOR THE QEII MEDICAL CENTRE

## Final Masterplan Report

May 2019

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Revision Letter	Date	Reason for Issue	IN
A	12-04-19	Draft Issue for Review	CM
B	18-04-19	Final Draft	RS
C	13-05-19	Issued to Client Final Masterplan	CM



April 2019

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# ABBREVIATIONS & CURRENT QEIMC MAP

## Abbreviations:

BRT – Bus Rapid Transit

CBD – Central Business District

CEP – Central Energy Plant

DDA – Disability Discrimination Act

DFES - Department of Fire and Emergency Services

DoT – Department of Transport

DPLH – Department of Planning, Lands and Heritage

EOTF - End of Trip Facilities

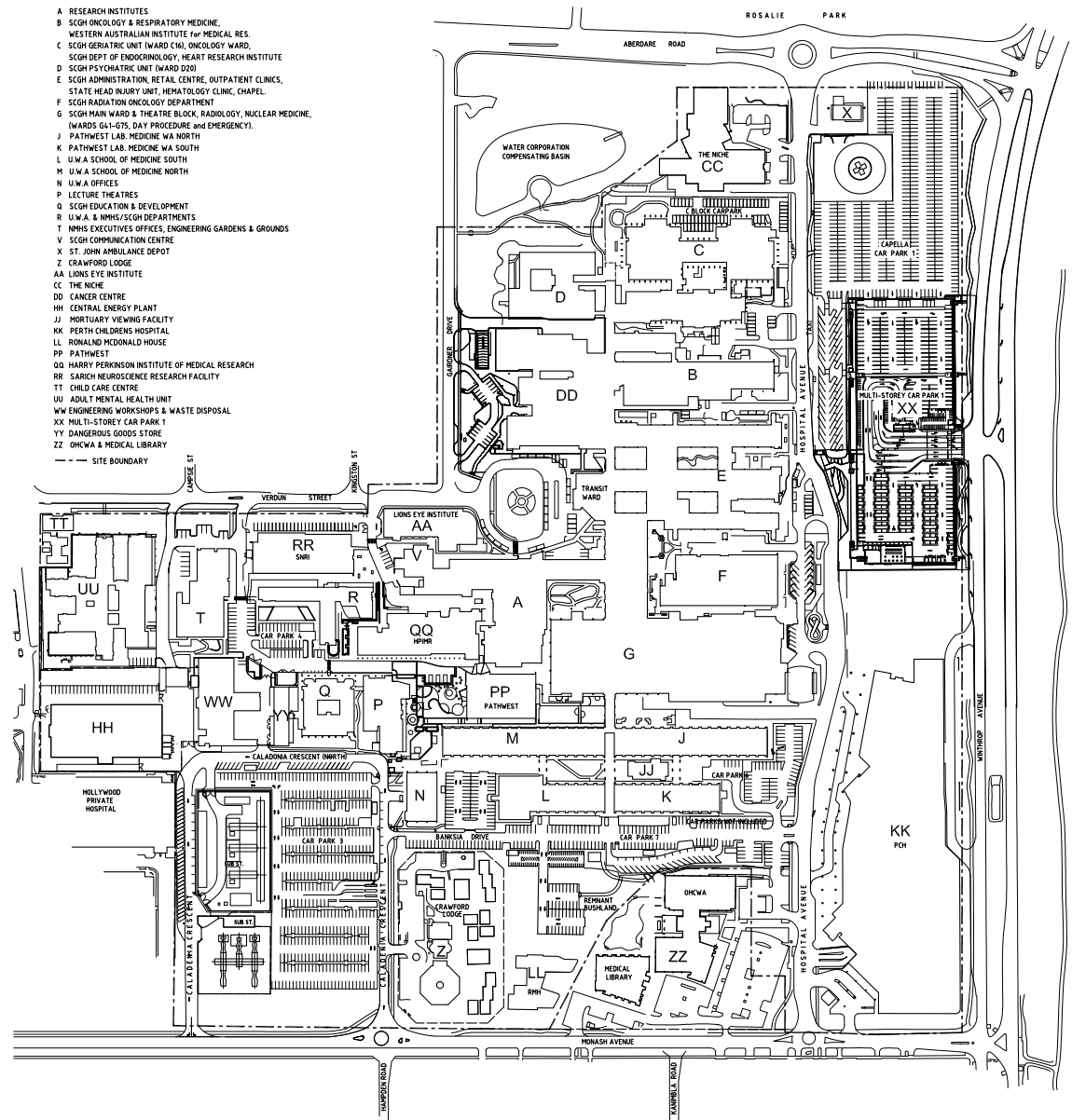
IA – Infrastructure Australia

LRT - Light Rail Transit

MRT – Mass Rapid Transit

QEIMC – Queen Elizabeth II Medical Centre

UWA – The University of Western Australia



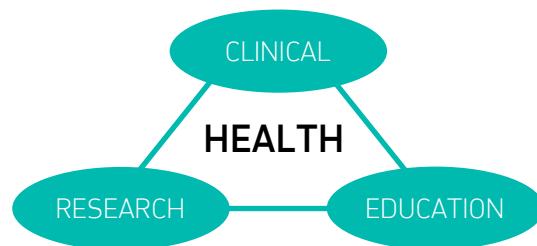
# 1.0 EXECUTIVE SUMMARY

## 1.1 CONTEXT

The Masterplan has been developed with an approach that considers the Queen Elizabeth II Medical Centre (QEIMC) in its context, including constraints specific to the campus. This includes consideration of surrounding landmarks, landscape and vistas to ensure that the Masterplan is appropriate to its location, sympathetic to the surrounding neighbourhood whilst also capitalising on its unique characteristics.

## 1.2 MISSION, OBJECTIVES & PRINCIPLES

The Masterplan was produced with extensive stakeholder engagement conducted throughout the project by building upon the mission for the QEIMC to be “a site of excellence facilitating superior health care, research and educational outcomes”. This engagement included making contact with members of the Whadjuk Working Group. The Masterplan responds to the mission by outlining objectives and principles for the future of the campus under four major quadrants. It seeks to provide a range of built form outcomes and spatial relationships around the dominant three functions of QEIMC. These quadrants include Planning, Design and Infrastructure, Community and Place Activation, Innovation, Enterprise and Translation to Health and Leadership and Governance.



## 1.3 MASTERPLAN FRAMEWORK

A Masterplan Framework for the future of the QEIMC was devised prior to the creation of the proposed Masterplan. This framework provided a defined approach to important considerations for QEIMC, including:

- + Retained Built Form, Infrastructure and Landscape
- + Site Specific Constraints
- + Axial Alignment and Sense of Enclosure
- + Heritage
- + Major Connections and Green Space
- + Minor Connections
- + Movement and Access (Public, Private and Service Vehicles)
- + Active Transport (Walking and Cycling)

Together with this framework, the Masterplan is underpinned by significant background analysis and synthesis including community and stakeholder engagement to inform its preparation. Refer to **Appendix A** for a list outlining the suite of documents that may be consulted and read in conjunction with this report, providing greater detail on the work underlying the Masterplan.

## 1.4 THE MASTERPLAN

The Masterplan provides:

- + An increase in green space and landscaped areas of 17%;
- + A reduced building footprint through increased heights, generating an uplift in gross floor area of 48%;

- + Future building envelopes which will facilitate appropriate integration and relationships between existing and future clinical, research and education facilities.
- + A future KEMH and redevelopment of G Block;
- + Improved potential for increased passenger and frequency of public transport services for mass rapid transport solutions;
- + Broader parking options with reduced impact on the campus environment through use of new multi deck structures;
- + Greater integration with the University of Western Australia;
- + Stronger connections to neighbouring Kings Park;
- + Sensitive interfaces with residential neighbours and Hollywood Hospital; and
- + Visually extending the Hampden Road amenity into the QEIMC via a strong mixed-use zone and active transport initiatives.

## 1.5 LANDSCAPE

The Landscape response to the Masterplan is a vision of a Campus Forest. It is conceived as a network of green spaces that ‘glue’ the campus together now and into the future and enhances the QEIMC identity as a safe, inclusive, inviting and people centric place.

The central tenet of the Campus Forest vision is to promote and support the mission of QEIMC Trust, by enhancing social, environmental, health and economic benefits.

Supporting the Campus Forest vision are six design principles:

- + Amplifying Health and Wellbeing;
- + A Strong Campus Identity;
- + Cooling Campus (reducing the carbon footprint);
- + Extending Green Infrastructure;
- + Refuge, Respite and Active and Passive Places to Meet; and
- + A Highly Legible Public Realm Linking Key Places and Facilities.

These design principles ensure the Campus Forest vision will enhance and significantly improve the public realm at QEII MC reducing its carbon impact whilst connecting to the staff, patients, community and visitors with a diversity of open spaces and experiences.

## 1.6 MOVEMENT & ACCESS

The intention of the movement and access strategy within the Masterplan is to create a framework for movement on and access to the campus. The strategy is founded on measures to minimise the impact of development on surrounding areas, and to facilitate transport, access and parking considerations in preparation for ongoing development. The Masterplan provides the planning and design framework for future development at QEII MC, underpinned by an accessible and integrated campus environment. The Masterplan in general and its movement and access strategy in particular have been developed through a consultative process.

Previous work (both high-level and detailed) undertaken to date with respect to movement and access, has also helped shape the measures developed for the QEII MC – these include the June 2007 WAPC approved Access and Structure Plan, previous traffic modelling underpinning the previous 2010 Masterplan exercise and the Trust's extensive (historic and current) travel planning, staff and visitor utilisation data.

The objectives for movement and access within the Masterplan are both realistic within the short term and aspirational for the longer term 50 year vision, supported by walking, cycling and public transport encouragement strategies. The aspirations can be summarised as follows and have been used to develop the principles set out in Section 7.0:

- + Ensure emergency vehicle access to QEII MC can be maintained and that its efficiency is not hindered;
- + Facilitate and work toward integration of Mass Rapid Transit (MRT) servicing the campus;
- + Promote high quality way-finding, 'to, through and within' the campus;
- + Ensure walking and cycling is facilitated at the heart of the development, through End of Trip Facilities (EOTF) and well planned routes;
- + Develop improved car parking solutions that are well located, planned and implemented when required; and
- + Ensure transport services are appropriately integrated into the wider transport strategy for the City of Perth and Greater Perth metropolitan area.

## 1.7 SERVICES INFRASTRUCTURE

Masterplanning for a campus of this scale has significant impact on the existing utility and energy infrastructure. Key infrastructure decisions have an impact on the:

- + Spatial,
- + Capital Cost and
- + Operational Cost

of the campus over its life span.

The main items for service infrastructure proposed in the Masterplan include:

- + A future additional Central Energy Plant (CEP) to supplement the Existing CEP and provide extra redundancy and resilience to the system / infrastructure.
- + In relation to the additional expected load and condition of the existing ageing infrastructure, a future tunnel arrangement and associated infrastructure to satisfy phasing of the development is proposed.
- + From a technology perspective, and in order to future proof the site, a site based Data Centre is to be considered in order to improve connectivity across the campus for patients, visitors, staff and other users.
- + As well as achieving the principles of Green Star Communities, sustainability will be paramount in the overall development and key items to be included in each of the builds include:
- + Maximising roof PV to reduce building consumption and reliance on site wide infrastructure; and
- + Water harvesting to be coordinated with the Landscape development in order to reduce additional resources from the infrastructure off site.

# 2.0 CONTEXT

## 2.1 LANDMARKS

The Masterplan is founded on creating and supporting a strong sense of identity and place for the QEIIIMC, one which builds upon the local history and acknowledges the significant landmarks and places that form its context.

Notable landmarks in proximity to the QEIIIMC that form significant elements of the local contextual identity are described in this section, with aspects of this setting informing and influencing the Masterplan (refer **Figure 1**).

### Kings Park and Botanic Gardens

Kings Park and Botanic Gardens (Kings Park) is a significant landmark of Perth and directly borders the QEIIIMC campus to the east. It comprises a mixture of grassed parkland, natural bushland and botanical gardens. Approximately two thirds of Kings Park is conserved as native bushland and forms the largest parcel of bushland in the central Perth region.

Kings Park is distinctive for a number of reasons particularly for the retention of pristine bushland and is home to a large number of native flora and fauna. Kings Park is widely recognised as a prime and unique landmark of Perth. The QEIIIMC campus has a strong relationship with it due to its adjacency, natural beauty and the views enjoyed from both KK and G Blocks.

### Karrakatta Cemetery

Located to the West of the QEIIIMC Site, Karrakatta Cemetery first opened in 1899 and has long been associated with the life cycle experience and rituals of dying for the population of the Perth central region. The social and cultural history of Western Australia is contained in the large cemetery and gardens (98.34 Ha) that today can be explored through walking trails with maps outlining the memorials and graves of notable people. Approximately 200,000 burials and the same quantum of cremations have taken place at Karrakatta though the site still has capacity for burial and has a number of war graves.

These serve a memorial function including a well recognised copse of cypress trees which flank the main entrance to the cemetery.

### Perth-Fremantle Train Line

Dating back to 1881, as the first suburban rail line the Perth-Fremantle Train Line is an iconic public transport route. It has been in almost continuous use since its construction - with the exception of a period during the 1970s when the attempt to permanently suspend the line was met with widespread public protests attesting to the vitality of and support for the line. The Fremantle Line was subsequently reopened in 1983 and remains today an important transport route linked to those staff and patients walking/cycling to QEIIIMC via this access corridor.

### Winthrop Avenue and Thomas Street

The QEIIIMC Site is located along one of the most culturally significant axes in Greater Perth. Winthrop Avenue was constructed as an approach to the University of Western Australia (UWA) Hackett Hall Building which represents the early sandstone grandeur of the Crawley Campus. The UWA Campus contains a number of significant landmarks to the south of the QEIIIMC site.

Winthrop Avenue was intentionally built up to a peak from which those driving south along the route descend from a high vantage point drawing attention downwards towards Hackett Hall, creating a grand vista and ceremonial approach.



FIGURE 1 LANDMARKS



## 2.2 SURROUNDING LANDSCAPE

Landscaping and the public realm are critical elements to the enjoyment, legibility and usage of QEIIIMC campus. In recognition of this, the Masterplan supports the creation of a unique landscape identity for the QEIIIMC whilst also strengthening the links to the surrounding vegetation by drawing into the campus the significant adjacent landscape character and parks (refer **Figure 2**).

Important landscape connections include Kings Park and Botanic Gardens to the east, Rosalie Park and Kilgour Park to the north, the classical suburban tree canopies of Shenton Park to the north and Nedlands and the City of Perth to the south.

The approach of extending and drawing in the surrounding landscape character into the QEIIIMC Campus has the benefit of blending the boundaries and edges of the QEIIIMC campus creating a sense of continuity and belonging to the neighbouring environment.



FIGURE 2 SURROUNDING LANDSCAPE



## 2.3 VIEWS

### 2.3.1 VIEWS TO QEII MC

From a macro perspective the QEII MC presents a number of view corridors which have been incorporated into the Masterplan. Additionally, consideration of the views from QEII MC to the surrounding landmarks have been utilised to connect the staff, patients and visitors with the characteristics and uniqueness of the locality (refer **Figure 3-4**).

#### Views from Shenton Park Train Station

Shenton Park Train Station has a high vantage point from which the QEII MC campus can be seen by passengers on the Perth-Fremantle Train Line. This unique perspective is to be preserved and considered as the Masterplan is implemented. The Masterplan builds upon the east-west axial alignment of G Block and the QQ Block and strengthens this by placing built form of a consistent height in alignment along this axis.

#### Views from Perth CBD

The views of the QEII MC from the high rises of the Perth CBD, include major built forms of KK and G Blocks and the multi-deck car park. Viewed from one of the highest points in the Central Business District (CBD), such as the David Malcolm Justice Centre, the QEII MC campus is presented in the context of its native bushland setting with Kings Park in the foreground. The Masterplan has been devised with the intention of reinforcing and supporting this scenic presentation of QEII MC to the CBD, emphasising its scale and significance.

#### Views from Campsie Street

Campsie is a tree lined residential street that bounds the QEII MC to the north. The Masterplan extends this tree lined view deep into the campus providing an improved outlook for existing residences and from QEII MC looking down Campsie Street.

#### Views from the South looking North along Winthrop Avenue

It was previously noted that Winthrop Avenue was profiled to enable a high point in the road adjacent to the QEII MC south eastern boundary to present an advantageous view to those arriving at UWA.

However, the contour profile of the road also presents a steep rise from the south when travelling northward, towards QEII MC thus presenting an advantageous perspective of the Block KK. This building was designed with the intention of presenting a landmark elevation on the south eastern corner of the QEII MC and this is retained in the Masterplan.

#### Views from the North looking South along Winthrop Avenue

At present, the north eastern corner of the campus is unremarkable containing a flat, at-grade car park. The Masterplan creates a strong landmark to the north eastern corner of the site to mirror the presence and status of Block KK to the south eastern corner.

#### Views from Hampden Road, looking North

It is intended that the existing view corridor along Hampden Road commercial precinct be enhanced by extending this perspective into QEII MC. This view is to be elongated through to Block QQ to provide a strong visual end point.

#### Views from Verdun Street and Gairdner Drive

An intention of the Masterplan is to reinforce the importance of A Block as the first of two major buildings constructed on QEII MC. A Block is generally accessed from both Verdun and Gairdner Roads and was the original access point. The intention of the Masterplan is to strengthen this and provide an improved sense of entry in this location, amplifying the importance of A Block and the Rose Garden in the foreground (refer **Figure 3**).



FIGURE 3 VIEWS TO QEII MC

### 2.3.2 VIEWS FROM QEII MC

#### Views to Kilgour Park, looking north

Due to the proximity of Kilgour Park to the north western corner of the QEII MC the Masterplan uses this to its advantage by stepping building heights in this area and offering views to Kilgour Park. To enhance the benefits of proximity the Masterplan blurs the edges of QEII MC by extending the natural flora of the park into the campus, whilst also providing views from major circulation spines and large courtyard spaces opening out onto Kilgour Park.

#### Views to Rosalie Park, looking north

Due to the adjacency of Rosalie Park to the north of QEII MC, the Masterplan has taken advantage of this by providing built form in an east west axial alignment this allows views over Rosalie Park and distant views over the tree lined streets of Subiaco in the distance.

#### Views to Kings Park, looking north east and north west

The Masterplan maintains and improve sightlines from the campus to Kings Park and Botanic Gardens. View corridors have been preserved to the north of the QEII MC campus to provide views from Watling Walk and Hospital Avenue and to maintain the existing view corridor between PCH and the multi deck car park.

By maintaining this visual connection, more views to Kings Park are provided to future occupants of the QEII MC. The Masterplan also provides opportunities for higher level views of Kings Park across Winthrop Avenue. This is anticipated from proposed built form and major raised circulation connections across QEII MC. A number of carefully orientated future buildings are also suggested and will have direct views of Kings Park from a high vantage point.

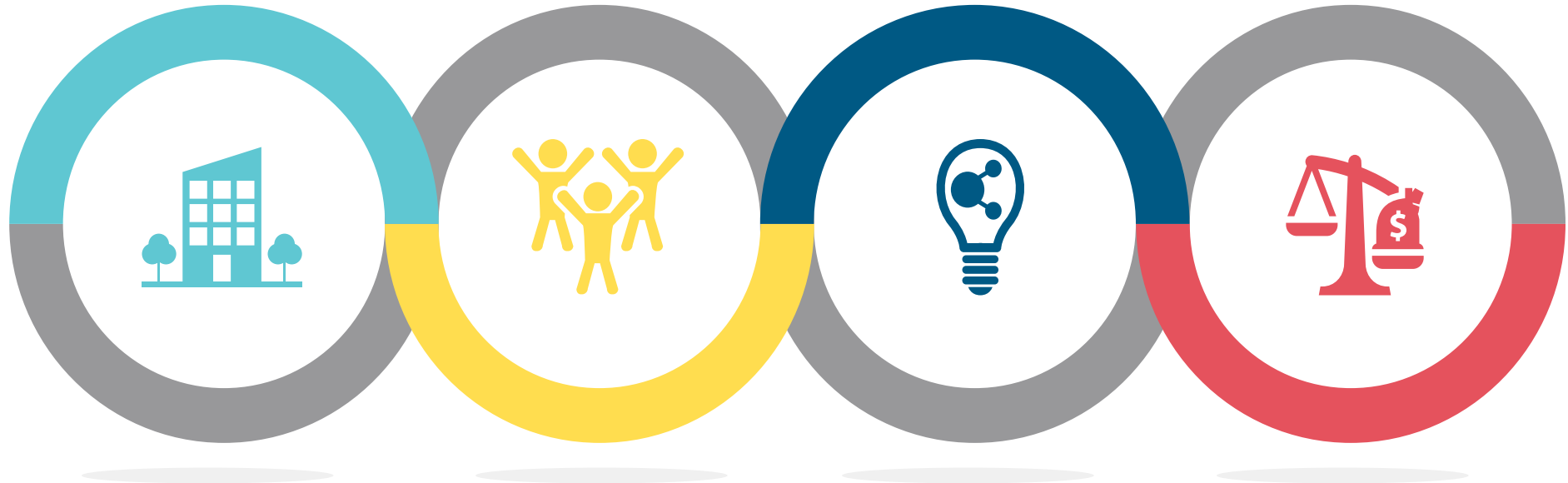


FIGURE 4 VIEWS FROM QEII MC

# 3.0 MISSION, OBJECTIVES + PRINCIPLES

## 3.1 THE MISSION

The direction set by the QEII MC Trust mission generated the Objectives and Principles for the Masterplan. Together they establish a campus wide approach and framework for the future of QEII MC. Ongoing reference to these Objectives and Principles to guide and inform design of QEII MC will result in innovative, sustainable and holistic outcomes.



### OBJECTIVES

#### Planning, Design and Infrastructure

- Critical Development Intensity
- Adaptable for the Future
- Easy Journeys

#### Community and Place Activation

- Support Community Wellbeing
- Nurture a Community
- Unique Sense of Place

#### Innovation, Enterprise and Translation to Health

- Attraction and Identity
- Excellence and Intensity
- Translation of Research to Health Outcomes

#### Leadership and Governance

- 'One Campus' Approach
- Collaboration and Networks
- Communication and Celebration





# Planning, Design & Infrastructure

## OBJECTIVES

### Critical Development Intensity

### Adaptable for the Future

### Easy Journeys

## PRINCIPLES

- + QEIMC achieves a critical development intensity with appropriate supporting infrastructure
- + Development intensity is balanced with the high quality of the public realm and a new scale to the spaces between buildings
- + The Ground/First Floors of all buildings particularly around activity/transit hubs act as foci for clustering, connectivity and integration
- + QEIMC adopts a sustainable approach to the development of buildings and places
- + Tree canopy is increased to balance impacts of increased

- + QEIMC has a robust and site responsive framework
- + Future functionality is enhanced through development of key facilities
- + Buildings are adaptable to future changes of use, operation, culture and technology
- + Infrastructure and services are flexible and adaptable to future needs, changes of use, operation, culture and technology

- + It is easy to find your way into and around the campus and all users experience comfortable and safe journeys
- + A hierarchy of 'publicness' clearly defines places where the visitor is welcomed and private/operational spaces where the visitor is discouraged
- + A QEIMC way-finding strategy is implemented
- + Active and public transport use is promoted through TravelSmart and other campus wide initiatives
- + QEIMC is developed with Universal Access (DDA) principles and a commitment to AS1428.2.



# Community & Place Activation

## OBJECTIVES

### Support Community Wellbeing

#### PRINCIPLES

- + Connection and outlook to attractive outdoor space is essential to a healing environment
- + QEIMC provides excellent opportunities to collaborate, 'bump', exchange ideas and ignite innovation
- + There is a diversity of indoor and outdoor space/places for diverse uses and users
- + Buildings and external spaces support active, healthy lifestyles
- + A Beautiful Campus – Heritage and Character, Botanic Richness, responsive to Indigenous Six Seasons Cycle

### Nuture a Community

- + A considered approach is taken to activation within the QEIMC community and ongoing engagement with neighbouring communities
- + A sense of belonging is fostered for the campus community
- + The campus includes shared spaces and diversity of use
- + QEIMC makes a positive contribution to the surrounding urban fabric/environment
- + A safe campus – pedestrian priority, good lighting and visual porosity

### Unique Sense of Place

- + A clear and coherent sense of purpose and identity for QEIMC is communicated through the design of the physical environment
- + Buildings relate harmoniously to each other and contribute positively to public realm/spaces
- + The campus is considered as part of a broader environmental setting
- + To celebrate and recognise heritage and cultural connections to place, the campus' history and its points of difference are revealed



# Innovation, Enterprise and Translation to Health

## OBJECTIVES

### Attraction and Identity

#### PRINCIPLES

- + Develop a strategy to attract new, world class, health, research, education and commercial investment
- + The attractive location and lifestyle available at QEIIIMC is promoted to attract international researchers, medical staff and their families
- + A Campus environment that portrays innovation in health, research and education to a global audience

### Excellence and Intensity

- + Promote design excellence in buildings and urban design
- + Develop an innovation and entrepreneurship plan for QEIIIMC
- + The campus as a city-supporting intensity and diversity of activity

### Translation of Research and Health outcomes

- + Support the co-location of research facilities in proximity to clinical care to encourage translation into health, research and education outcomes as well as appropriately related commercial opportunities
- + Support an increase in the combined health care, research and educational knowledge and output of QEIIIMC
- + A whole of campus approach to co-location and synergies that supports translation of education and research into better health outcomes.





# Leadership & Governance

## OBJECTIVES

### One Campus Approach

#### PRINCIPLES

- + Governance is put in place to enable achievement of strategic outcomes
- + QEIIIMC has a clear and recognisable identity with a collective vision and values and a cohesive 'brand'
- + A defined and cohesive public realm is valued for its contribution to the energy, connectivity and identity of the QEIIIMC
- + A public campus – campus presentation, and a public edge, supporting campus life and new landscape spaces

### Collaboration & Networks

- + Opportunities for QEIIIMC to be a collaboration partner of choice within the Australia/Asia Pacific region
- + Planning to support systematic collaboration and reinvestment back into the campus
- + Relatively seamless connections between education, research and clinical practice are supported.
- + Infrastructure and facilities are promoted for operational efficiencies and economies of scale

### Communication and Celebration

- + Enhance ongoing communication with all stakeholders and interest groups at QEIIIMC
- + Celebrate and communicate the achievements of individuals and groups to build a QEIIIMC culture of excellence
- + Facilitate connectivity across the QEIIIMC with common messaging, identity and branding

# 4.0 MASTERPLAN FRAMEWORK

## 4.1 WALKABLE CATCHMENT

An important principle of the QEII MC Masterplan is to provide a legible, safe and accessible campus. **Figure 5** indicates that there is potential to access all areas of the campus within a 5 minute walk from the centre, located at Watling Walk.

Watling Walk provides ease of movement along a north-south pedestrian connection through the QEII MC current East-west connections are lacking and, where provided, are challenging for a new visitor to navigate. **Figure 5** represents a movement path that could, in ideal circumstances and for a pedestrian familiar with the site, take 7-8 minutes but would take a new visitor to QEII MC in its current form, much longer to negotiate.

This Masterplan supports movement through the campus via the creation of a system of legible, easy, appropriate, intuitive and permeable pathways. Further it facilitates reinforcing and strengthening the existing effective routes of pedestrian movement.

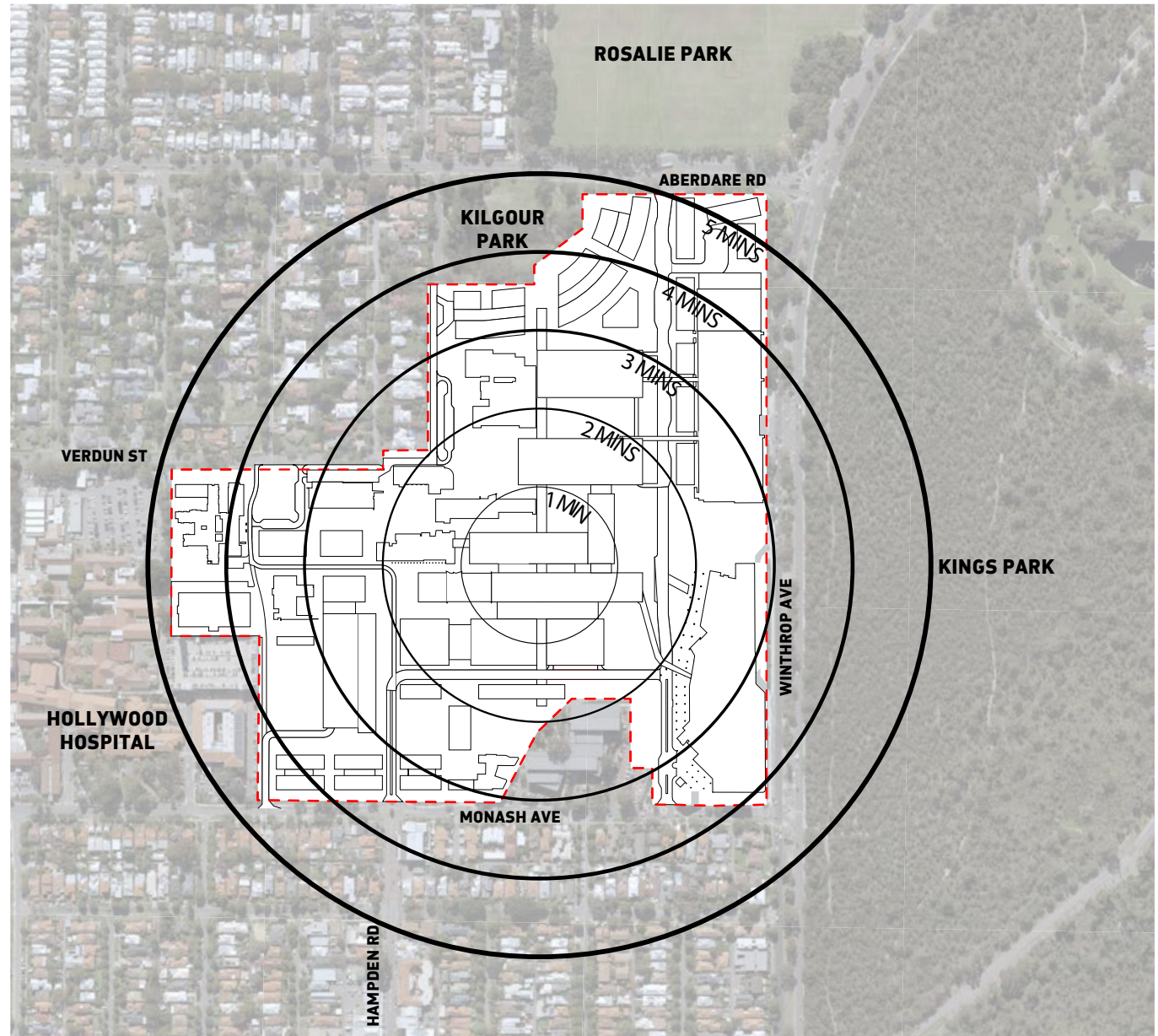


FIGURE 5 WALKABLE CATCHMENT



## 4.2 SITE SPECIFIC CONSTRAINTS

The current Structure Plan shown as an inset in **Figure 6** outlines both the built form envelope, access, boundary setbacks and major green spaces. In relation to the building envelope, the Structure Plan is arranged in a pyramid approach with higher building envelopes located towards the centre of the campus.

The Masterplan proposes an approach to building envelopes that marries good outdoor space with appropriately considered building footprints, thus allowing increases in the building envelopes whilst distributing appropriate outdoor space throughout the QEII MC campus. The green spaces identified in the current Structure Plan, located between Blocks KK and XX, and that located to the north of Block LL are considered for retention as part of the Masterplan.

A future MRT route has been identified by the Department of Transport (DoT) and was provided in the previous Structure Plan in the alignment identified in **Figure 6**. This Masterplan has also considered an alternative route for the MRT to enhance QEII MC accessibility without compromising functionality. It also provides guidance around current risks associated with the MRT transecting the campus.



FIGURE 6 CONSTRAINTS



### 4.3 RETAINED BUILT FORM, INFRASTRUCTURE & LANDSCAPE

The QEII MC is characterised by a mix of recent and aging built forms. The Masterplan prepares for a future including a mix of retained existing buildings and potential built form development actively and carefully planned over the next fifty years. **Figure 7** outlines the built form, above ground infrastructure and landscape that may potentially be retained within the next 50 years. This priority for retention has been determined assessing the age of the building, heritage significance, leasing arrangements and the opportunity within the built form for expansion.

Many of the buildings retained have been constructed in the last ten years and consist of Block DD, Block HH, Block QQ, Block RR, Block KK, Block LL, Block PP, Block WW and Block XX. Additionally, Block AA has been retained due to the long term lease agreement with the Trust whereas Block A has been retained due to its heritage significance.

The landscape canopy coverage on site has been reviewed by the landscape architects for this Masterplan and opportunities for retention identified, as presented in **Figure 7**. Additionally, the Rose Garden which was confirmed by many staff and visitors during the engagement as an important location and enjoyable and relaxing space within QEII MC has also been retained.

In relation to above ground infrastructure, the Western Power Substation in the south western corner of the site has been retained and provision made for future expansion to the south. Below ground, the retention approach has been to maintain service tunnels that meet the characteristics and requirements of the Service Tunnel provided from Block HH to Block KK.



FIGURE 7 RETAINED BUILDING AND LANDSCAPE

## 4.4 AXIAL ALIGNMENT

Viewed at a macro scale from both Shenton Park Train Station and the Perth CBD high rise buildings, the proposed Masterplan has two major urban design responses.

From Shenton Park Train Station, the Masterplan builds upon the east-west axial alignment of Block G and QQ. This axis is strengthened by placing built form in alignment with the spine. As identified in the opposite figure the configuration has been extended from Block UU to the western edge of the campus, culminating in a proposed building extending above the height of Block QQ to a potential thirteen stories. The new east-west pedestrian connection, heights of built form within immediate vicinity and the extension of the Great Court to the west amplifies the importance of this axial arrangement.

Viewed from the highest points in the CBD, such as the David Malcolm Justice Centre, the site is presented in the context of its native bushland foreground setting of Kings Park. The Masterplan has been developed with the intention of reinforcing and supporting this scenic presentation of the campus to the CBD, reinforcing its significance to the inner urban Perth landscape. The prominence, vista and accessibility of the Great Court have been retained and extended to the west of Hospital Avenue.

With the potential redevelopment of G Block this provides for a balanced symmetrical composition with the potential thirteen storey clinical building flanked by both Block XX, KK and the potential ten storey clinical buildings to the north and south. Retaining and extending the Great Court provides and celebrates a sense of enclosure and connectedness to Kings Park from all five major buildings. The north western edge of the site has been provided a potential landmark builtform mirroring PCH to the south and further strengthening Winthrop Avenue.



FIGURE 8 AXIAL ALIGNMENT



## 4.5 MAJOR CONNECTIONS & GREEN SPACES

The Masterplan considers the future extension of Watling Walk to the north and south, culminating in a new courtyard space fronting Kilgour Park to the north and extending south to the remnant bushland located to the north of Block LL.

The Masterplan proposes major courtyard spaces along Watling Walk:

- + Courtyard 1 - Retention of the Rose Garden;
- + Courtyard 2 - Extension of the Great Court between Blocks KK and XX further West; and
- + Courtyard 3 - Located between two future large built forms, creating the opportunity to open up Watling Walk and providing views and connections between each courtyard.

Two major connections east-west have been proposed in the Masterplan. The first is located to the north of Block A and connects the major pedestrian egress and entry point of Block XX to the major entry point into Block RR. This enables a connection also between the extension of the Great Court and also the Rose Garden.

The second east-west connection extends from Kings Park and Botanic Gardens to the east across to Block UU to the West of the QEIMC Site. This provides the major pedestrian movement across the site and allows the engagement with Block QQ and Block PP. This east-west connection also crosses the end point of the extension of Hampden Road.

The Masterplan proposes a visual extension of Hampden Road north culminating at Block QQ with a future Courtyard 4 space. This extension also enables a formal forecourt for the south of the site and also a pedestrian cross connection to Hollywood Hospital to the west. The retained and future dedicated courtyard spaces proposed for the QEIMC increases the outdoor spaces for users over and above what is currently provided (refer **Figure 9**).



FIGURE 9 MAJOR CONNECTIONS

## 4.6 MINOR CONNECTIONS

The proposed minor connections build upon the key desire lines noted previously and ensures links into and from these paths. This approach supports the Masterplan principle of providing a legible, appropriate pedestrian friendly environment. The Masterplan proposes two multi deck car parks, the retention and extension of Block XX to the North and a potential future multi deck structure accessed off Monash Avenue to the east of the retained Western Power Substation. The intention is to locate vehicles to the edge of the campus and provide good connections from these two major multi deck car parks across the site (refer **Figure 10**).

These minor connections extend predominantly on an east west axis. Lift and stair cores to the west of Block XX are provided with a connection in an east-west axis to Watling Walk providing direct axis and movement for staff and visitors. This connection is also provided at high level for staff and visitors crossing Hospital Avenue from a number of existing lift and stair cores on Block XX.

The future multi deck car park to the south provides three east west connections extending to Blocks KK and ZZ to the east. These extend past the retained remnant bushland fronting Block LL.

Fronting Kilgour Park to the north is a connection which extends from Gairdner Drive to the west to Aberdare Road in the north. The intention for this axis is to enable future built form to extend along this connection, providing an appropriate access points for users from the north of QEII MC and to act as an extension of Watling Walk to the north.



FIGURE 10 MINOR CONNECTIONS



# 5.0 THE MASTERPLAN

This Masterplan (refer **Figure 11 - Figure 13**) has been developed through an extensive and rigorous process incorporating detailed technical analysis and planning, community and stakeholder engagement and ongoing reviews and discussions. QEIMC is home to leaders working at the nexus of health care, medical research and health education, capitalising on the advantages of location in the most populated time-zone on earth. Care has been taken in the Masterplan to review and consider current and anticipated needs regarding the location, services and high level planning of future clinical, research and educational buildings.

This section outlines the following elements of the Masterplan:

- + The proposed Masterplan schematic drawings;
- + Campus Precincts – QEIMC has been defined and planned within a framework of eight key precincts (see **Figure 14**), with each precinct aligned to the vision, objectives, principles and masterplan framework. Each precinct is detailed with reference to:
  - + Characteristics
  - + Orientation of built form
  - + Potential uses
  - + Proposed heights
  - + Protected landscape
  - + Additional specific characteristics

This section further identifies key characteristics of the Masterplan including:

- + Current and potential land development ratio;
- + Development density;
- + Entry and articulation at ground level; and
- + Retail opportunities within the Masterplan.



FIGURE 11 MASTERPLAN



FIGURE 13 MASTERPLAN GROUND PLANE

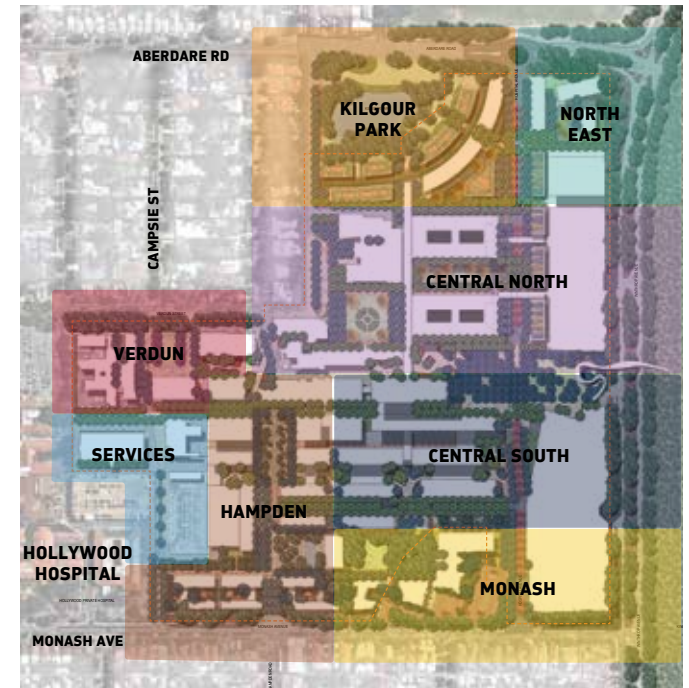


FIGURE 14 THE PRECINCTS



FIGURE 12 MASTERPLAN SECTION

HAMES SHARLEY

## 5.1 THE PRECINCTS - OVERVIEW

The Masterplan for the QEIIIMC campus is framed as a collection of precincts, each with a distinct character, built form and landscape approach. These precincts are defined by character rather than function therefore they are not limited by a specific use, enabling the campus to evolve its functions as necessary.

The distinct character precincts provides patients, staff, students and visitors with a range of places and spaces throughout the campus. The structure seeks to improve legibility through an understanding of the character and content of each area. Additionally, these precincts are all located with some interaction with the fringes of QEIIIMC. Therefore they can respond to their respective external context both visually and in character, where appropriate. An overview of each the precincts is provided below before delving into the future envisaged for each.

### **Kilgour Park Precinct:**

This Precinct is located next to Kilgour Park to the north and extends from Gairdner Drive to the west to Hospital Avenue in the east, Aberdare Road to the north and to the service access to the north of DD block to the south.

### **North East Precinct:**

Located at a future landmark corner to the north-east of the site, this precinct is bounded by Hospital Avenue to the west, Winthrop Avenue to the east, Aberdare Road to the north and the northern face of Block XX to the south.

### **Central North Precinct:**

Signified by its heritage significance which includes Block A and the Rose Garden, this precinct extends from Gairdner Drive to the west to Winthrop Avenue in the east. It provides the service access to Block DD and northern face of Block XX in the north to the Southern face of Block A to the south.

### **Central South Precinct:**

Due to its location and connections, the Central South Precinct has the potential to be predominantly clinical in nature. This precinct extends from the eastern face of Block QQ to the west, Winthrop Avenue to the east, the south of Block A to the north and to the north of Block ZZ to the south.

### **Monash Avenue Precinct:**

Largely built out and with the potential to remain this way into the future, this Precinct is also characterised by one of few remaining areas of bushland on the QEIIIMC campus. The Precinct extends from the retained remnant bushland to the west, Winthrop Avenue and the eastern face of Block KK in the east, the north of Block ZZ to the north and to Monash Avenue in the south.

### **Hampden Road Precinct:**

This precinct extends Hampden Road visually into the QEIIIMC with a reduced traffic load, culminating at Block QQ to the north. The precinct extends from the western boundary, the western edge of the Remnant Bushland to the east, the northern face of Block QQ to the north and Monash Avenue to the south.

### **Verdun Street Precinct:**

Characterised by the retained built form of Block UU and RR and the residential character of this area facing Verdun Street, this Precinct extends north to Campsie and Kingston Streets. The Precinct further extends from the western lot boundary to the western face of Block AA in the east, Verdun Street to the north and the southern edge of Block UU in the south.

### **Services Precinct:**

This precinct will largely remain as it is currently configured in built form due to the recent development of Blocks HH and WW. The Precinct extends from the western lot boundary to the west, the western face of the new multi deck car park in the east, the southern face of Block UU to the north and the southern edge of the existing Western Power Substation to the south.

## 5.1.1 KILGOUR PARK PRECINCT

### Location

- + Located at the northern end of Watling Walk and fronts the boundary to Kilgour Park to the north (refer **Figure 15**).

### Orientation

- + The orientation of buildings in the precinct primarily directed towards Kilgour Park with the longer façade fronting and taking in immediate views of the park and longer views at a high level over Shenton Park to the north.

### Character

- + Characterised by smaller built form within a landscape setting blurring the extent of the QEII MC boundary.

### Potential Uses

- + Potential uses to these buildings may include: Medi Hotels, Short Stay Accommodation, Child Care Facilities, Office Facilities, Research Facilities, Out Patient and Day Surgeries, Community Spaces etc.

### Heights

- + Proposes four storey buildings directly fronting Kilgour Park stepping back to five and seven stories to the south of this precinct enabling distant views to the north.

### Access

- + Pedestrian Access
  - + Located central to the built form on Aberdare Road and Gairdner Drive, visitors enter under a roofed canopy providing rain cover to all buildings
  - + Located to the south at the end of Watling Walk
- + Visitor Drop Off
  - + A visitor drop off area is proposed to be provided from Gairdner Drive with direct access to the major circulation spine.
- + Service Access
  - + Service access is proposed to be provided from Gairdner Drive along the main circulation spine extending to Aberdare Road. Raised bollards are provided at both entry and exit points to mitigate access when required.
  - + Additional access for service vehicles is proposed utilising the existing access to the south of the precinct.

### Protected Landscape

- + Located to the north fronting Kilgour Park.

### Additional Characteristics

- + Potential Roof Gardens proposed to lower built form to provide amenity for overlooking from higher built form.



FIGURE 15 KILGOUR PARK PRECINCT



## 5.1.2 NORTH EAST PRECINCT

### Location

- + Located at the north eastern corner of the QEII MC fronting Aberdare Road and Winthrop Avenue (refer **Figure 16**).

### Orientation

- + The orientation of buildings in the precinct is directed to Rosalie Park, Hospital Avenue and Kings Park to take in immediate views longer views at high level.

### Character

- + Characterised by a major landmark building to the north eastern corner of the QEII MC campus with smaller built form located around a major specifically designed drop off area. The set back locates these buildings in a landscape setting.

### Potential Uses

- + Potential uses to these buildings may include: Medi Hotels, Short Stay Accommodation, Office Facilities, Research Facilities, Out Patient and Day Surgeries, Community Spaces, Visitor and Staff Parking etc.

### Heights

- + Proposed eight storey landmark building at the north eastern boundary, four storey buildings fronting Winthrop and Hospital Avenues and six stories at the entry into Hospital Avenue off Aberdare Road.

### Access

- + Pedestrian Access
  - + Extends north bound from the existing and proposed extension of Block XX on the western side; and
  - + Located at the vehicle entry point into the site connecting into the Kilgour Park precinct and extending over to the public footpath on the eastern boundary of the site.
- + Visitor Drop Off
  - + A visitor drop off area is proposed to be provided from Hospital Avenue with a circular drop off fronting all built form in this precinct.
- + Service Access
  - + Service access is proposed to be provided from Hospital Avenue with the same circular movement of visitors.

### Protected Landscape

- + Located to the northern and eastern lot boundaries.

### Additional Characteristics

- + View to Kings Park to be maintained upon entry into the precinct from Hospital Avenue as this forms one of few vantage points at grade currently provided into Kings Park.



FIGURE 16 NORTH EAST PRECINCT

### 5.1.3 CENTRAL NORTH PRECINCT

#### Location

- + Located at the south of the existing C and D Block and consisting the retained A Block, AA Block, DD Block and XX Block (refer **Figure 17**).

#### Orientation

- + The orientation of buildings in the precinct is on an east-west axis fronting north for major built form with smaller built form fronting Hospital Avenue sleeved to the front of the Block XX.

#### Character

- + Characterised by major clinical buildings with raised connections to Building XX across Hospital Avenue and raised/on-grade Watling Walk extending north-south to Kilgour Park in the north and Central South Precinct to the south. The buildings in this precinct are set back to allow good natural light in winter periods.

#### Potential Uses

- + Potential uses to these buildings may include: Clinical Facilities, Research Facilities, Out Patient and Day Surgeries, Community Spaces, Office Facilities, Emergency Facilities.

#### Heights

- + Major clinical buildings in this precinct are proposed at ten storeys with smaller built form fronting Block XX to be four storeys.

#### Access

- + Pedestrian Access
  - + Extends from the exits of the existing Block XX across Hospital Ave at grade and at level 2 of Block XX;
  - + Located from the Existing Rose Garden Entry;
  - + Located along Watling Walk at grade and Levels 1-2; and
  - + A visitor drop off area is proposed to the eastern frontage into the major clinical buildings provided undercover.
- + Service Access
  - + Service access is proposed to be provided from the existing service access to the north of Block DD.
- + Emergency Access
  - + Emergency access is proposed to be underground entering at the northern edge of the precinct from Hospital Avenue below both major clinical buildings and exiting above ground onto Hospital Avenue at the southern edge of the precinct.

#### Protected Landscape

- + The existing Rose Garden is the major protected landscape area within this precinct.

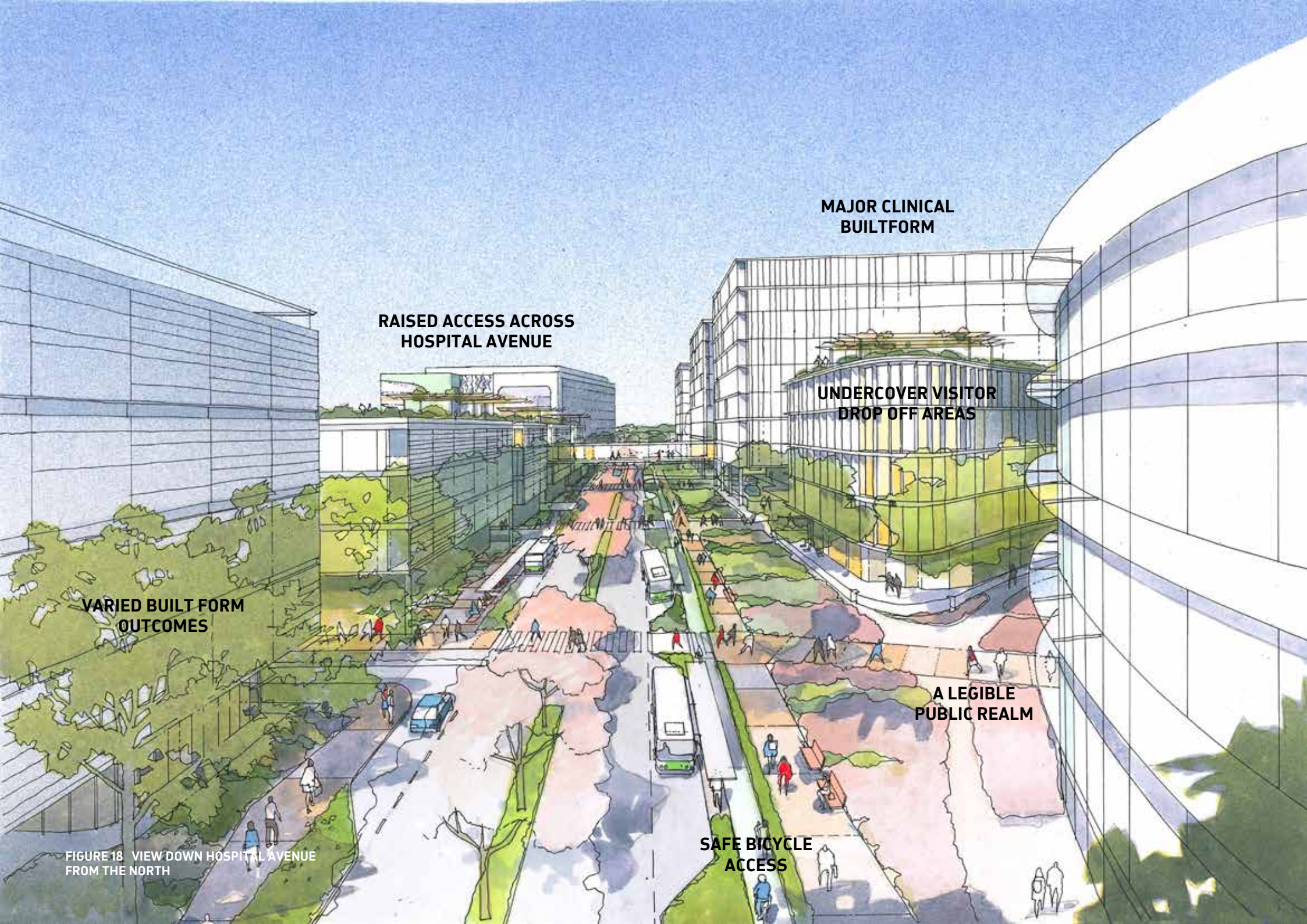
#### Additional Characteristics

- + This precinct retains Block A the first built form on the QEIIIMC campus; and
- + Potential roof gardens proposed to lower built form to provide amenity for overlooking from higher buildings.



FIGURE 17 CENTRAL NORTH PRECINCT





**MAJOR CLINICAL  
BUILTFORM**

**RAISED ACCESS ACROSS  
HOSPITAL AVENUE**

**UNDERCOVER VISITOR  
DROP OFF AREAS**

**VARIED BUILT FORM  
OUTCOMES**

**A LEGIBLE  
PUBLIC REALM**

**SAFE BICYCLE  
ACCESS**

**FIGURE 18 VIEW DOWN HOSPITAL AVENUE  
FROM THE NORTH**



## 5.1.4 CENTRAL SOUTH PRECINCT

### Location

- + Located at the south of the existing Block A and extending south to the face of Block ZZ (refer **Figure 19**).

### Orientation

- + The orientation of buildings in the precinct is on an east-west axis fronting north for major built form. The proposed built form also front the new ring road to the north of Block ZZ.

### Character

- + Characterised by the major public open space extending the existing Great Court between Block XX and Block KK to the west, punctuated by the highest future built form on the QEIIIMC campus fronting the Great Court.

### Potential Uses

- + Potential uses to these buildings may include: Clinical Facilities, Out Patient and Day Surgeries, Community Spaces, Emergency Facilities.

### Heights

- + Major clinical buildings in this precinct are proposed up to thirteen storeys with smaller built form fronting the new ring road at six storeys.

### Access

- + Pedestrian access:
  - + Located to all sides of the Great Court fronting the built form;
  - + Located at potential raised connections into Block QQ and PP;

- + Located at ground level along the new east-west connection at ground level; and
- + Located along Watling Walk at grade and Levels 1-2.
- + Visitor Drop Off
  - + A visitor drop area is proposed to the southern frontage into the major clinical buildings provided undercover and the retained drop off to Block KK.
- + Service Access
  - + Service access is proposed to be provided from the existing driveway located to the south of Block PP and extending east west exiting onto Hospital Avenue.
- + Emergency Access
  - + Emergency access is proposed to be underground extending the proposed emergency located below the two major clinical buildings in Central North Precinct.

### Protected Landscape

- + The existing Great Court located between Block XX and KK to maximise views into Kings Park.

### Additional Characteristics

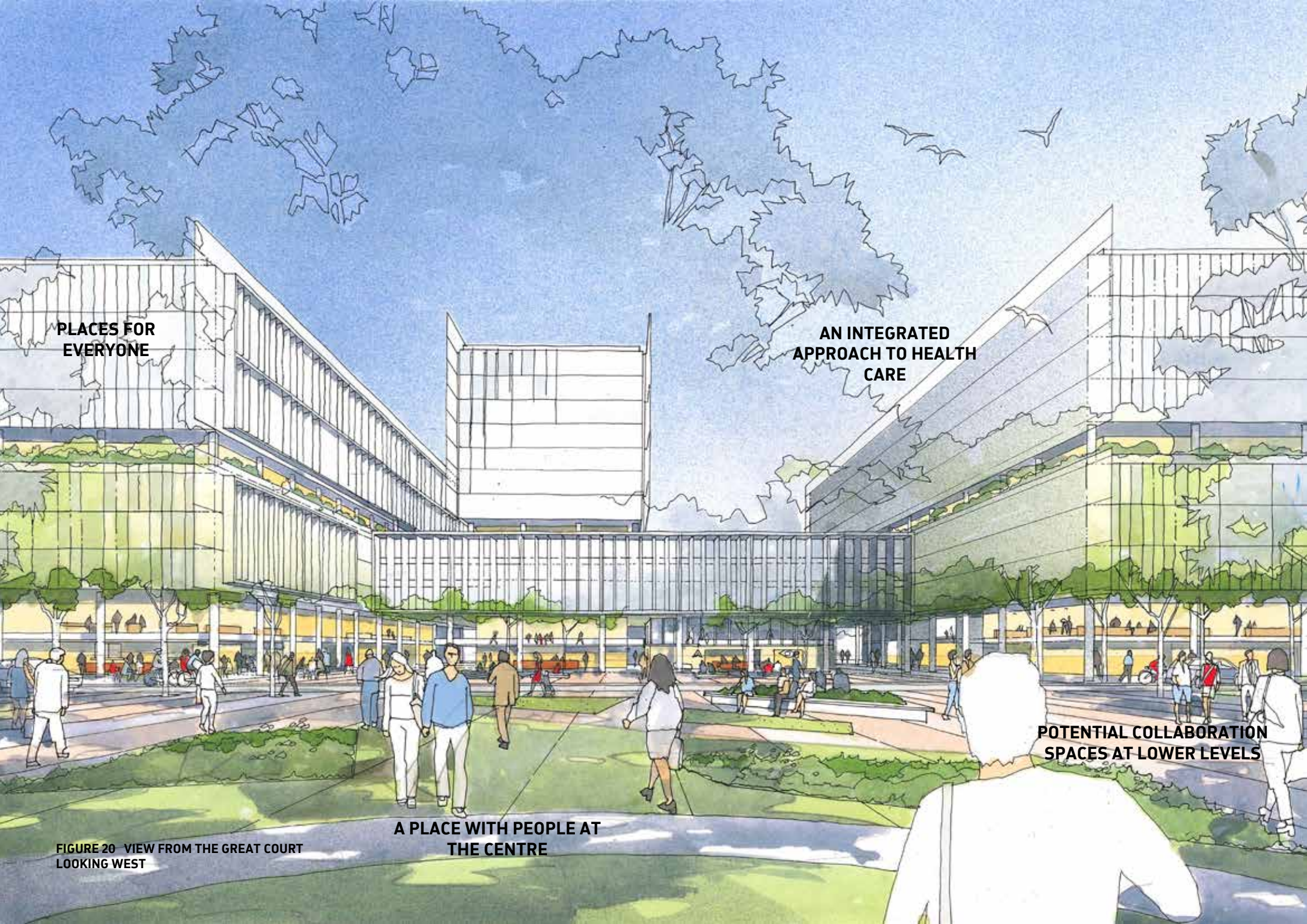
- + This precinct provides the potential for an integrated clinical built form with major connections provided at high level allowing staff and services to coexist where possible; and

- + The future pedestrian link bridge to Kings Park has been contemplated within this Masterplan subject to resolution of a prospective MRT solution to the site. As the Masterplan progresses a future MRT down Winthrop Avenue, a new purpose built station would be required to be located within this precinct allowing east-west connections across Winthrop Avenue into the QEIIIMC campus.



FIGURE 19 CENTRAL SOUTH PRECINCT





**PLACES FOR  
EVERYONE**

**AN INTEGRATED  
APPROACH TO HEALTH  
CARE**

**POTENTIAL COLLABORATION  
SPACES AT LOWER LEVELS**

**A PLACE WITH PEOPLE AT  
THE CENTRE**

**FIGURE 20 VIEW FROM THE GREAT COURT  
LOOKING WEST**



## 5.1.5 VERDUN STREET PRECINCT

### Location

- + Located to the north west of the site fronting Verdun Street and extending south to the northern face of Block HH and is characterised by the retained Block UU and RR (refer **Figure 21**).

### Orientation

- + The orientation of buildings is in an east-west axis fronting north over landscaped areas.

### Character

- + Characterised by the major public open space fronting Verdun with views down Campsie Streer this precinct is sympathetic to the residential character of this street.
- + New built form has been set back in this area to retain the entrances into existing built form and enhance the axial alignment extending to the east.

### Potential Uses

- + Potential uses to these buildings may include: Clinical Facilities, Office Facilities, Research Facilities, Education Facilities.

### Heights

- + Buildings in this area are proposed to be seven storeys fronting the new courtyard space and nine levels to the east.

### Access

- + Pedestrian access
  - + Located to the ground floor fronting the new courtyard space; and
  - + Pedestrian access provided through a gated entry to Hollywood Hospital.
- + Visitor Drop Off
  - + A visitor drop off area is proposed to the northern frontage. This drop off road has a dual purpose by both providing an improved frontage to Block UU and providing the major through access to Block HH and into the Services Precinct to the south. Additional parking is provided at the retained parking area fronting Block RR.
- + Service Access
  - + Service access is via the new ring road extending to the south of the Verdun Precinct as a one way only road.

### Protected Landscape

- + The existing trees fronting Verdun Street are proposed to be retained.



FIGURE 21 VERDUN STREET PRECINCT

## 5.1.6 MONASH AVENUE PRECINCT

### Location

- + Located to the south of Central South Precinct and fronting Monash Avenue and is characterised by the retained Block KK, LL and ZZ (refer **Figure 22**).

### Orientation

- + The orientation of buildings in the precinct is in an east-west axis fronting northwards over landscaped areas.

### Character

- + The character of this area is generally maintained as seen today other than changes to the public realm which will mature over time.

### Potential Uses

- + Potential uses to these buildings may include Education Facilities and Short Stay Accommodation.

### Heights

- + Buildings in this area are proposed to be six storeys fronting the remnant bushland.

### Access

- + Pedestrian Access
  - + Located to the north and south of the new built form extending from Block KK to the west of the site fronting the new multi deck car park in the Hampden Road Precinct;
- + Visitor Drop Off
  - + These drop offs are to be provided by on-street parking along the south of the new east west ring road or the existing drop off area located to the front of Block ZZ.

### Protected Landscape

- + The remnant bushland to the west of Block ZZ and the north of Block LL is proposed to be retained along with the retained vegetation along Monash Avenue.

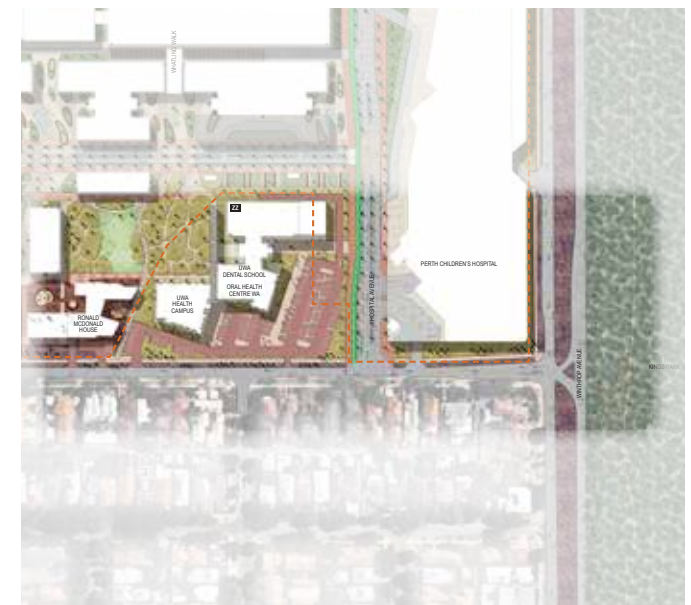


FIGURE 22 MONASH AVENUE PRECINCT

## 5.1.7 HAMPDEN ROAD PRECINCT

### Location

- + Located to the south of Block QQ extending down Caladenia Crescent to Monash Avenue to the south and across to the western boundary of the site fronting Hollywood Hospital. This precinct is characterised by the retained Block QQ and PP (refer **Figure 23**).

### Orientation

- + The orientation of buildings in the precinct is in an east-west with frontages along Caladenia Crescent and the new formal forecourt requiring a north-south orientation.

### Character

- + The character is predominantly proposed around providing a gateway entry to the southern edge of QEIIIMC extending the qualities of Hampden Road into the campus, punctuated by two formal forecourts.

### Potential Uses

- + Potential uses to these buildings may include Education Facilities, Short Stay Accommodation, Research Facilities, Office Facilities, Retail facilities, Multi Deck Car Parking, Community Facilities.

### Heights

- + Buildings in this area are proposed to be six storeys at the entry off Monash Avenue with eight levels for the major formal buildings fronting the first formal forecourt upon entering from the south, with flanking buildings to the north and south six storeys high. The building height extending north into the campus increases with the culmination of Block QQ at ten storeys.

### Access

- + Pedestrian Access
  - + Access to this area is provided by the major east west connection from the Great Court located in the Central North and South Precinct, connections to Hampden Road to the south, the existing footpath along Monash Avenue, the proposed pedestrian connection to Hollywood and the minor proposed pedestrian connections running east west from the Monash Precinct.
- + Visitor Drop Off
  - + Provided by a dedicated multi deck car park accessed off Monash Avenue with additional on street parking located at specific areas around the Precinct.
- + Service Access
  - + Provided by the one-way road connecting into the existing service access fronting the southern side of Block PP.

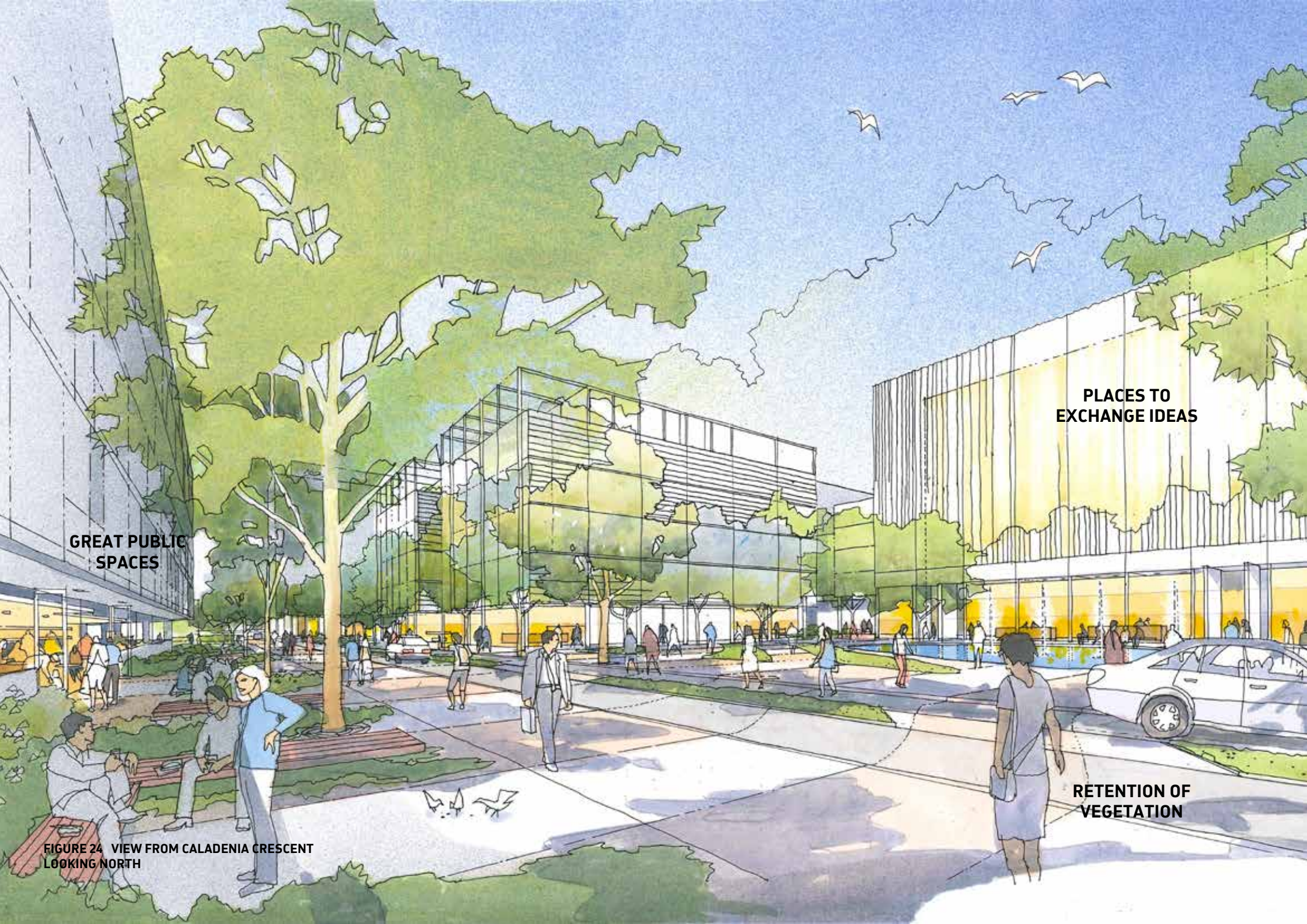
### Protected Landscape

- + The remnant bushland to the west of Block ZZ and the north of Block LL is proposed to be retained along with the vegetation along Monash Avenue.



FIGURE 23 HAMPDEN ROAD PRECINCT





**GREAT PUBLIC  
SPACES**

**PLACES TO  
EXCHANGE IDEAS**

**RETENTION OF  
VEGETATION**

**FIGURE 24 VIEW FROM CALADENIA CRESCENT  
LOOKING NORTH**



### 5.1.8 SERVICES PRECINCT

#### Location

- + Located to the east of the western boundary fronting Hollywood Hospital, this precinct is characterised by the retained Block HH, WW and the Western Power Substation (refer **Figure 25**).

#### Orientation

- + The buildings in this area are largely retained with only one major service orientated building proposed.

#### Character

- + Due to the nature of this area the character is proposed primarily around the function of this precinct as opposed to a considered landscape and architectural approach.

#### Potential Uses

- + Potential uses to these buildings will be maintained in the long term to be engineering, infrastructure and servicing of QEIIIMC. Additional provision has been made in the Western Power Substation for extensions to the south as required.

#### Heights

- + New built form in this area is two storeys.

#### Access

- + Pedestrian Access
  - + Gated secure access only.
- + Visitor Drop Off
  - + Maintained around Block HH
- + Service Access
  - + Provided by the one way road extending south from the Verdun Precinct and exiting at Monash Avenue. Turning circles have been reviewed allowing access and movement by two 18m vehicles simultaneously. Raised bollards at the southern portion of the service area are provided to prohibit vehicles entering from the southern access into the car park.

#### Protected Landscape

- + Nil



FIGURE 25 SERVICES PRECINCT

## 5.2 LAND DEVELOPMENT RATIO

The current QEIIIMC Land Development Ratio as shown in **Figure 26** contains a 16% Landscape and Tree Canopy, 39% On-grade Parking, Roads and Paths and 45% Building Footprints.

The Masterplan has the potential of providing an improvement in the Land Development Ratio (refer **Figure 27**) which equates to 33% Landscape and Tree Canopy, 25% Carparks, Roads and Paths and 41% Building Footprints of which a number of these buildings are proposed to be included with roof gardens.

To put this into perspective, in general the suburbs including Subiaco, Shenton Park and Nedlands vary between 20-29% tree canopy cover as outlined under the 2020 Vision started in 2013 by Nursery and Garden Industry Australia and Horticulture Australia Limited.

As a result of the land development ratio the Masterplan provides an increase of gross floor area to the QEIIIMC campus of up to 48% of the current area.



FIGURE 26 EXISTING PERCENTAGE OF DEVELOPABLE LAND



FIGURE 27 PROPOSED PERCENTAGE OF DEVELOPABLE LAND

### 5.3 DEVELOPMENT DENSITY

The intention behind the Masterplan is to develop the campus with an appropriate response to building density so that where taller built form is proposed, larger areas of open space are provided. This gives the campus a higher gross floor area but also ensures all buildings are afforded good natural daylight (refer **Figure 28**).

The higher points located in the centre of the QEIIIMC campus vary between ten to thirteen storeys site down to six and four stories at the edges. This is also supplemented by greater built form heights throughout locations that can accommodate this or are earmarked. For instance, landmark locations such as the north eastern precinct which fronts Aberdare Road and Winthrop Avenue and the formal forecourt located on Caladenia Crescent to the east.

Where appropriate, the intent is to sleeve the two proposed multi deck car parks on the site with built form so as to mitigate the view of these buildings from the public realm. Additionally, there are several character areas within the QEIIIMC campus where built form is provided with consistent heights throughout punctuated by individual built form on specific formal axes. This includes the northern entry to Hospital Avenue from Aberdare Road and the Hampden Precinct which has an education focus.

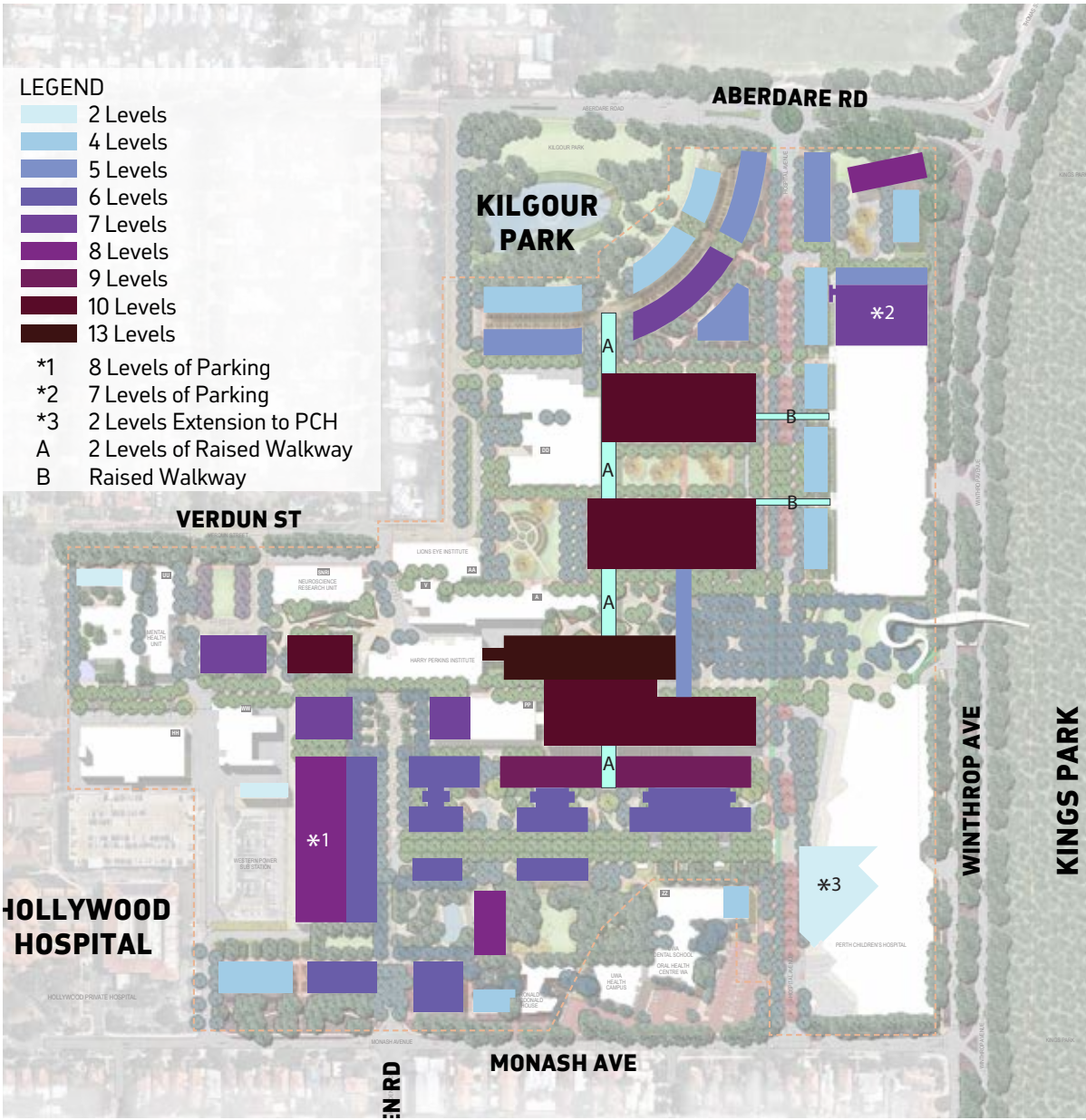


FIGURE 28 DEVELOPMENT DENSITY





## 5.5 RETAIL OPPORTUNITY

Layering upon the existing retail provision in KK, QQ, AA and XX Blocks, the Masterplan proposes areas of potential retail activity to enhance the overall social amenity of the campus. Retail opportunities are encouraged at ground level in a number of strategic locations (refer **Figure 32**). These opportunities include:

- + The Extension of the Great Court to the west of Hospital Avenue

- + This is provided to the three major sides of the Great Court and is proposed to act as a town square with activation on the sides. The intention is this retail is provided primarily with external frontages to ensure the public areas are well used throughout the day. This retail also extends to the west along the major east-west pedestrian connection and has provision for internalised, undercover retail. This location also provides the opportunity for access from Watling Walk.

- + The Hampden Road Precinct

- + This retail is proposed to extend along Caladenia Crescent and act in a similar way as along Hampden Road with retail extending onto Caladenia to the western side opening up with the view over the future potential Formal Forecourt. On the eastern side of Caladenia Crescent the retail is sleeved to the north and south of the major formal proposed building in this area. This approach enhances the formal nature of the forecourt and adds emphasis to it.

- + The Kilgour Park Precinct

- + This retail opportunity is proposed along the major pedestrian spine extending from Gairdner Drive to the west up to Aberdare Road to the north. It is anticipated the retail would be provided with external frontage only. The opportunity here is more public in nature as it allows direct visitor access from the residential areas to the north and west of the campus due to the “front door” nature of the Kilgour Precinct. This retail area acts in a similar way to areas of Queen Street Mall in Brisbane and Cite’ Internationale in Lyon which provides protection from the elements in an open friendly environment.

- + Retained Block XX

- + This potential retail is intended to extend along the western face of the existing Block XX. This is made possible due to the relocation of entry boom gates further north past the existing motor bike bays located in this area. This retail would front the north south footpath fronting the west of Block XX and be front loaded.

- + North East Precinct

- + This retail opportunity could extend along the face of the proposed extension to Block XX. As this area is segregated from the rest of the campus, it was considered appropriate to provide retail in this location, specific to this part of the campus. This retail fronts the northern courtyard and drop off area and is easily viewed upon entry.



FIGURE 33 QUEEN STREET MALL, BRISBANE



FIGURE 31 CITE INTERNATIONALE LYON



FIGURE 32 RETAIL OPPORTUNITY



# 6.0 LANDSCAPE

The landscape and public realm character of the Masterplan is envisioned as a Campus Forest. This Campus Forest theme is founded on six principles, outlined below. Each principle is underpinned by a number of statistical and research based outcomes.

## CAMPUS FOREST VISION

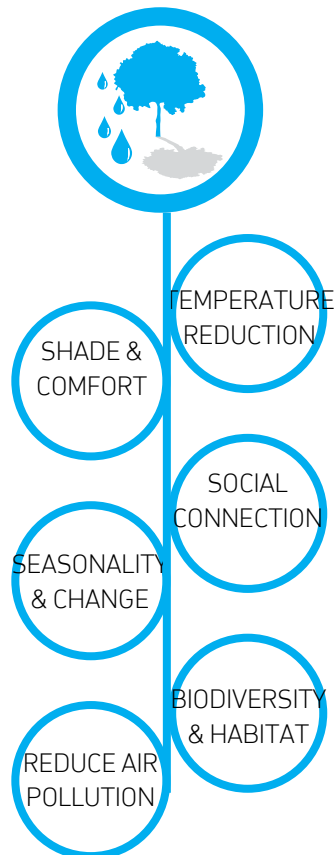
### 1. HEALTH & WELLBEING



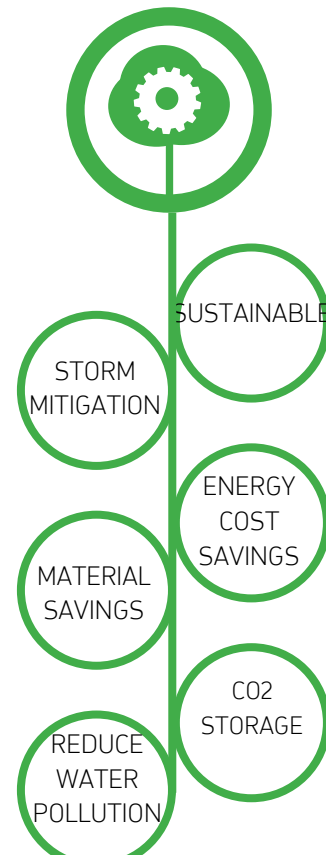
### 2. CAMPUS IDENTITY



### 3. COOLING CAMPUS



### 4. GREEN INFRASTRUCTURE



### 5. REFUGE & RESPITE



### 6. LEGIBLE PUBLIC REALM

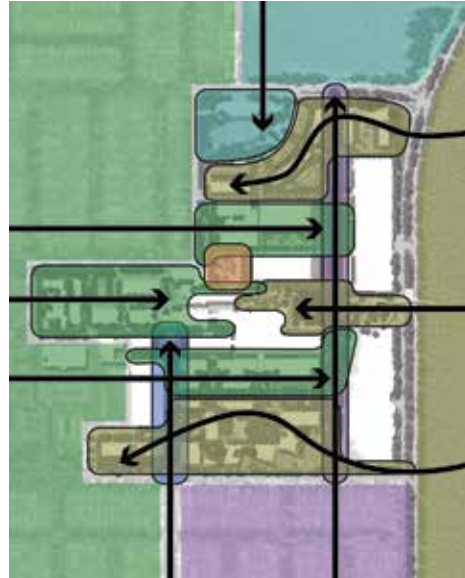


## 6.1 SPATIAL BREAKDOWN



CAMPUS FOREST

The Campus Forest vision is the overarching theme whereby the landscape becomes a means to 'glue' the campus together.



CONTEXT

Drawing and absorbing the vegetation and context from Kings Park, the surrounding Garden suburbs and UWA into the site.



PRECINCTS

Developing distinctive Precincts to inform the future character, whilst linking these together into a cohesive whole.



PUBLIC REALM SPACES

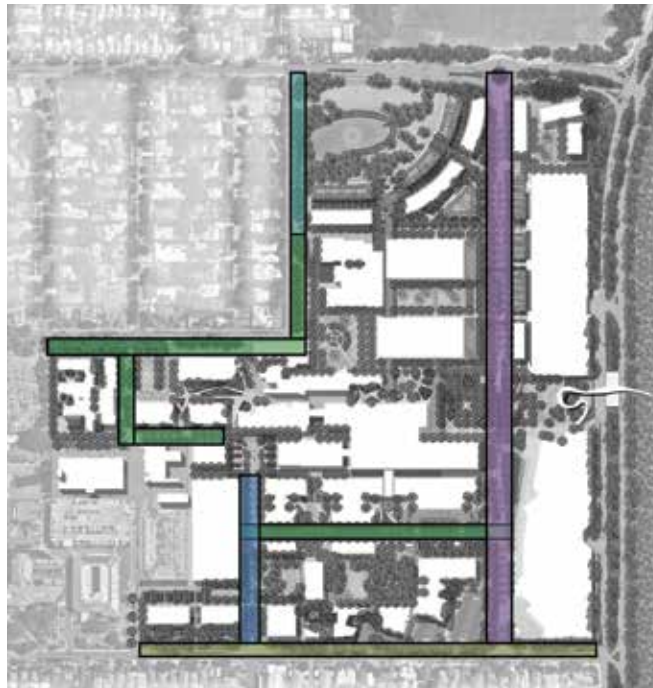
Breaking down the Precincts into key public realm spaces that form the framework for future growth.

## 6.2 STREETSCAPE

Hospital Avenue forms the primary pedestrian connection and central way-finding device of the campus landscape. It becomes the key route for movement throughout the campus, providing access to the broader pedestrian and public realm network of the surrounding neighbourhood.

Whilst the functional requirements of streets within the campus are varied, good street design should also offer the following:

- + Separated and generous cycle and pedestrian pathways;
- + Improved entry and address to the campus;
- + Provide safe, well lit, and Disability Discrimination Act (DDA) compliant access;
- + Investigate opportunities for way-finding at key points along the streetscape; and
- + Maintain vistas into the campus from the street through tall, clear trunked tree species.



STREETSCAPES

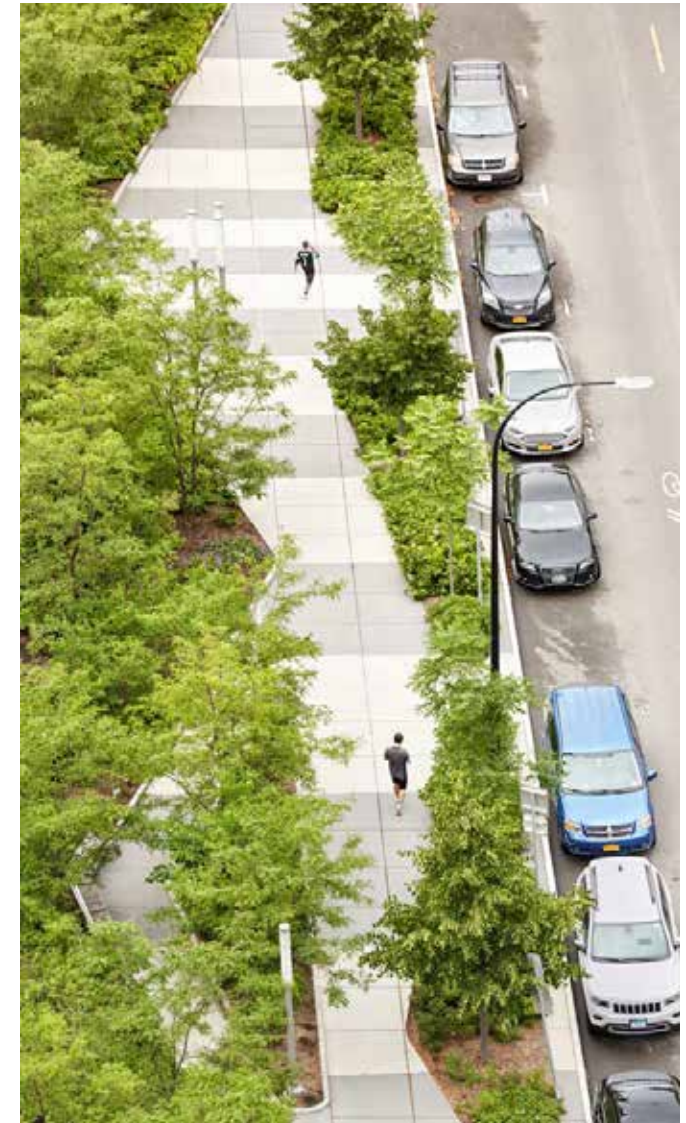


Image 8. Pedestrian friendly streetscapes



## 6.3 INDIGENOUS HERITAGE

- + The QEIIIMC Campus lies on the nexus of two distinct landscape types, with the Spearwood dune system ridge line running north/south through the site. The eastern side of this landscape type reflects the typical Jarrah and Banksia woodland of which Kings Park typifies, with the western side of the site displaying the tall open forest of Tuarts, Marri and Jarrah of which the Hollywood, Shenton, and Underwood Bushland are more representative of. Prior to development the campus may have reflected an open forest with large Tuarts, Jarrah and Marri with an understorey of Banksias
- + Along the eastern side of the ridge is where previously a chain of wetland systems ran north south for many kilometres to the north and to the south to the Swan River. The remaining wetlands that lie on this ridge include Jualbup and Jolimont Lakes. The irrigation lake at Kilgour Park lies on the this north south axis, and whilst we understand this lake was constructed for the purposes of irrigation, its location along this axis may suggest it may have been a smaller ephemeral wetland.
- + The site has a few remaining remnant pockets of bushland and trees which predate the original campus development. These are most notable near the UWA Dental School and the stands of Jarrah trees along Monash Ave near Hollywood private hospital, however there are many large Jarrah and Marri trees across the site see below photo of the remnant Jarrah by Block TT that are between 70 to 150 years old. As such these trees and bushland provide one of the few physical links to the site prior to its development, due consideration should be considered to elevating their importance to that of other heritage spaces and buildings on the QEIIIMC Campus.

- + The following text as noted under the Thematic History & Framework of Subiaco (February 2014) p.4, provides an introduction as to the importance of the area around the QEIIIMC Site.

*"In 1832, the Subiaco area was recorded as forming part of the Mooro territory occupied by Yellagonga's (or Yellowgonga's) group. Like others in Nyungar society, Yellagonga's family lived and moved across their land according to the seasons; utilising their knowledge of the land to travel by well-known pathways from watering holes to campsites and gathering places.*

*The interlinking lakes and wetlands in Perth's north and west, as well as the freshwater springs and sites along the foreshore to Crawley, play an immensely significant role in Nyungar creation stories of the Waakarl or Waugal.*

*In addition to this, the waterways were essential to people's survival; providing freshwater, plenty of crabs, shell fish, frogs, turtle and fowl in the lakes and swamps, bush food such as wild roots and fruits, and edible gum and animals like lizards and snakes. Crawley Bay (Matilda Bay), Dyson's Swamp (Shenton Park Lake, now Lake Jualbup) and Jolimont Swamp (now Mabel Talbot Park) were all hunting and gathering places and some remained camps well into the twentieth century."*



NORTH SOUTH RIDGE LINE



REMNANT BUSHLAND

### 6.3.1 STREETSCAPE TYPICAL SECTION

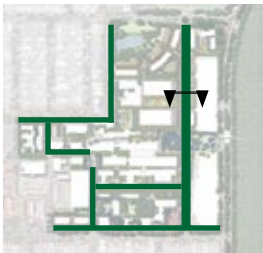


- 01 Caladenia Cres
- 02 Pedestrian passive seating
- 03 Open Thoroughfare
- 04 Planting
- 05 Street Trees
- 06 Sheltered Thoroughfare
- 07 Proposed Building

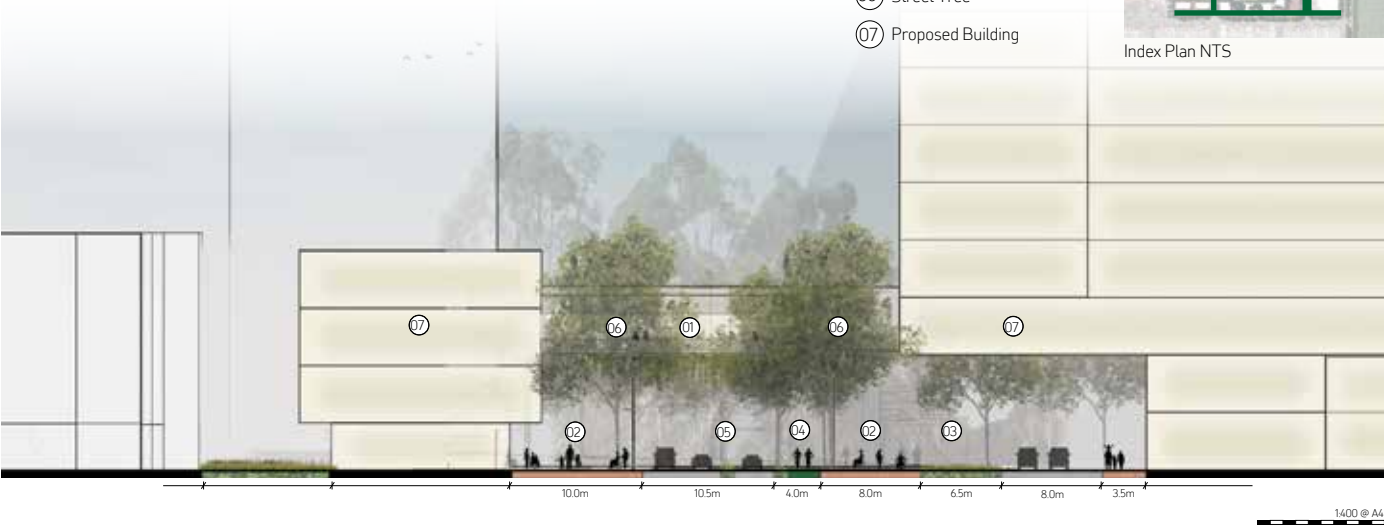


Index Plan NTS

- 01 Pedestrian Overpass
- 02 Pedestrian Thoroughfare
- 03 Planting Edge
- 04 Cycle Path
- 05 Hospital Avenue
- 06 Street Tree
- 07 Proposed Building



Index Plan NTS





## 6.4 LINEAR CONNECTOR SPACES

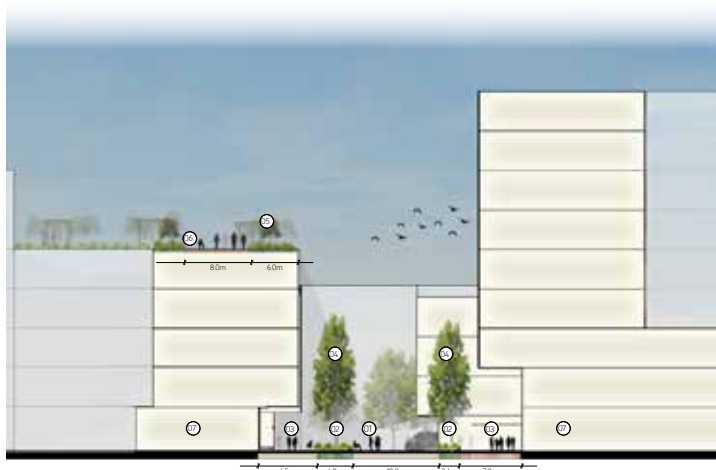
The network of linear, connector spaces which includes paths and pedestrian access, provide a finer grain movement through the campus offering pedestrian access to buildings and landscape spaces. In many instances this finer urban grain contributes to the charm and character of the public realm experience.

Successful linear connector spaces are characterised by:

- + Universal access and DDA compliant paths and spaces;
- + Clear trunked trees to maintain sightlines;
- + Unified treatment of pedestrian appropriate materials and furnishings which are aligned to ensure clear paths of travel; and
- + A coherent landscape treatment of trees and vegetation which reinforces and enhances these spaces with complementary paving, materials, furniture and lighting that tie into the broader landscape precinct themes.



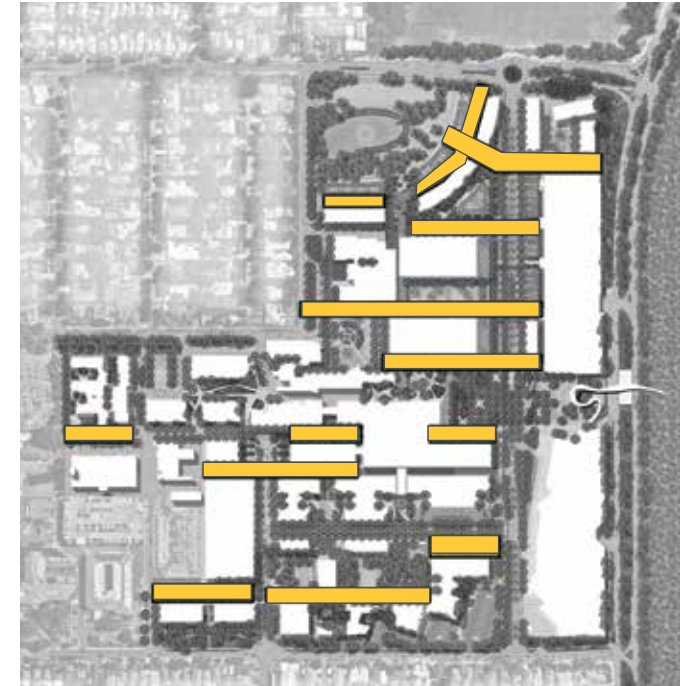
Image 9. Clear way-finding



Index Plan NTS

- ① Pedestrian Central Thoroughfare
- ② Planting Edge
- ③ Pedestrian Sheltered walkway
- ④ Shade Trees
- ⑤ Rooftop Garden
- ⑥ Rooftop Plaza
- ⑦ Proposed Building

1:400 @ A5



Linear Connector Spaces



Image 10. Defined pathways and rest nodes



## 6.5 VISUAL LANDSCAPES

The network of visual landscapes includes roof top gardens and spaces. These spaces potentially offer users a different experience to other areas of the public realm.

Successful visual landscape spaces should consider the following:

- + Universal access and DDA compliant entry, paths and spaces;
- + Shade and wind protection for comfortable, year round use; and
- + A range of spaces to provide areas of solitary sanctuary, as well as for larger groups.

- |  |                       |
|--|-----------------------|
| 01 Garden Bed                            | 07 Existing trees     |
| 02 Building Facade Path                  | 08 Kilgour Lake       |
| 03 Covered Arbour                        | 09 Proposed Buildings |
| 04 Rooftop Garden                        |                       |
| 05 Shade Trees                           |                       |
| 06 Central Pedestrian Plaza/Thoroughfare |                       |



Index Plan NTS



Visual Landscapes

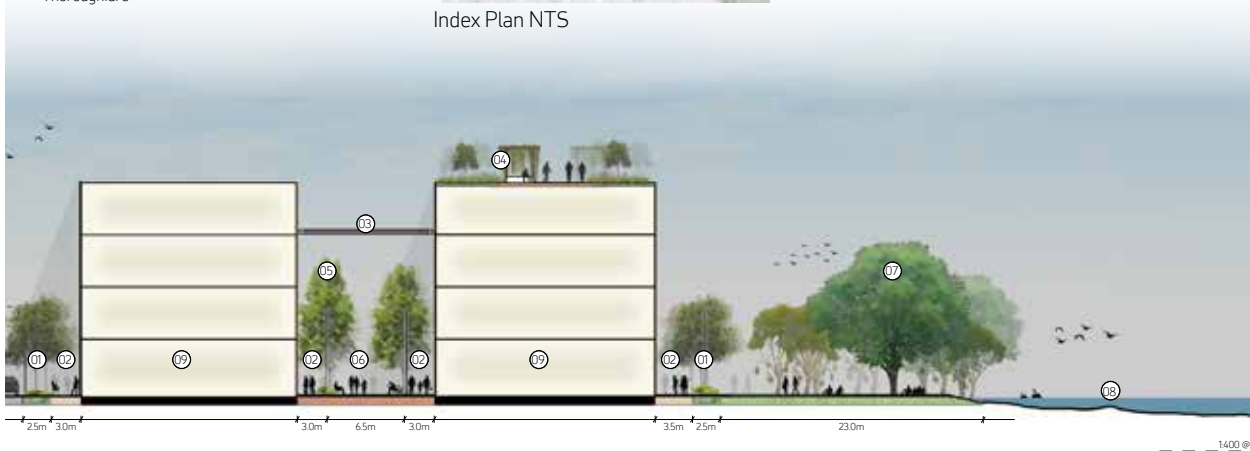


Image 11. Visual Landscapes

## 6.6 DESTINATION & GATHERING SPACES

One of the few remaining landscapes on campus is the Rose Garden, located directly to the north of the A Block. As a significant heritage garden this is characterised by a formal design layout. The following suggestions will help build on and enhance the Rose Garden:

- + Provide opportunities to recognise and enhance the significance of the space through improved spatial design and interpretive signage;
- + Ensure upgrades allow for careful integration with existing elements such as rose beds, trees and building settings; and
- + Consider replacement of significant trees as part of a staged approach.

The proposed destination and gathering spaces will enhance the public realm of QEIMC and provide an opportunity to create new legacy landscape spaces. The following identifies the opportunities to be developed by QEIMC:

- + Create new iconic landscape spaces that enhance campus life and contribute to the future legacy of the QEIMC landscape and gardens;
- + Allow for new open space as opposed to open space between buildings to ensure QEIMC is perceived as in keeping with the 'Campus Forest' approach;
- + Allow these landscape spaces to inform future development; and
- + Create new landscape experiences that drive the Campus Forest at QEIMC.



- Rose Garden
- Existing/Proposed Destination & Gathering Spaces

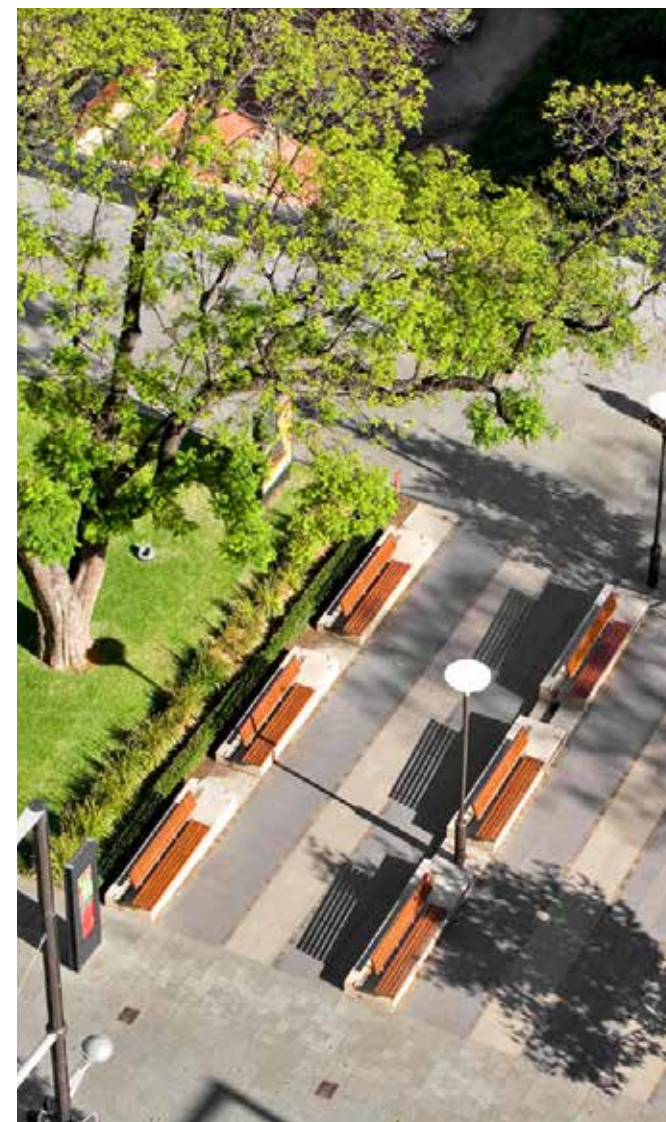
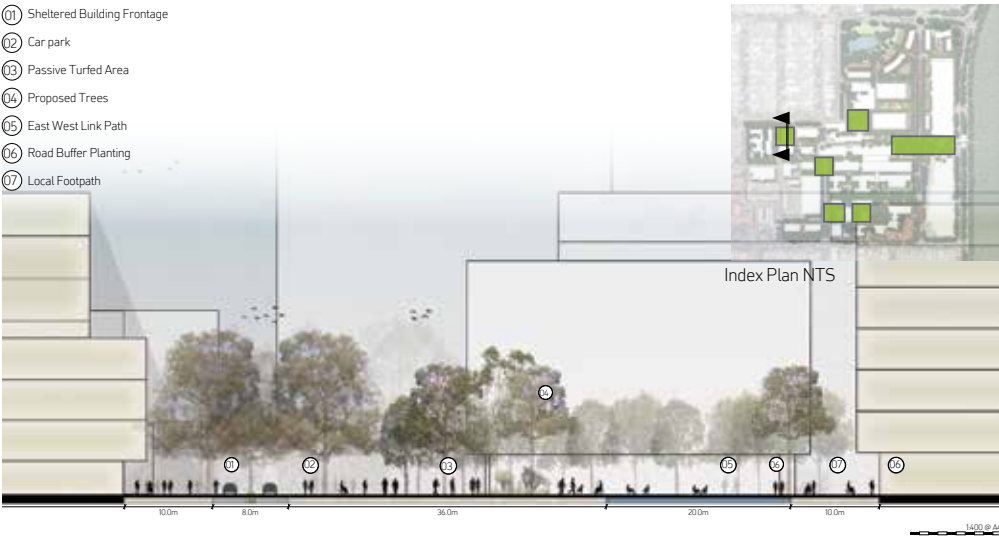


Image 12. Destination Spaces



6.6.1 DESTINATION & GATHERING SPACES TYPICAL SECTION





# 6.7 GARDEN COURTYARDS

The QEIIHC has a history of incorporating garden courtyards within the function and scope of buildings. Future courtyard spaces should be developed in conjunction with any proposed building redevelopment. In doing so, it is essential to consider the solar orientation, overshadowing, views and wind mitigation.

The proposed garden courtyards will enhance the public realm of QEIIHC and provide an opportunity to create a range of smaller, human scaled and intimate spaces, suitable for relaxation and respite, including views to the space.

The following courtyard opportunities are to be developed through the QEIIHC Masterplan:

- + Create a range of garden courtyards of differing scale and functions to enhance the experience for staff, visitors and patients; and
- + Coordination of design of the public realm at the building design stage as a means to incorporate courtyards in a cohesive, efficient and functional manner.

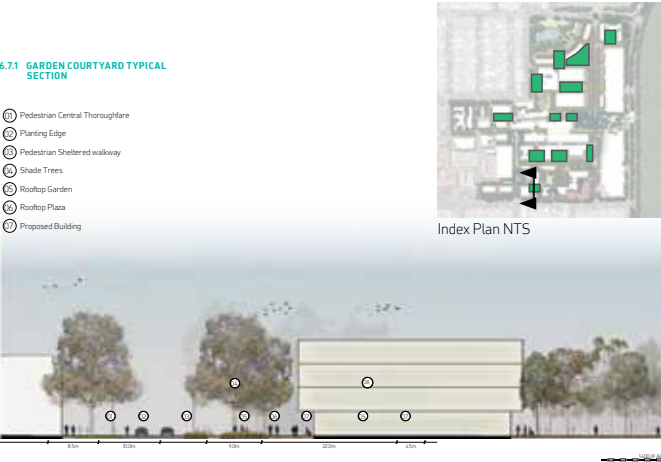
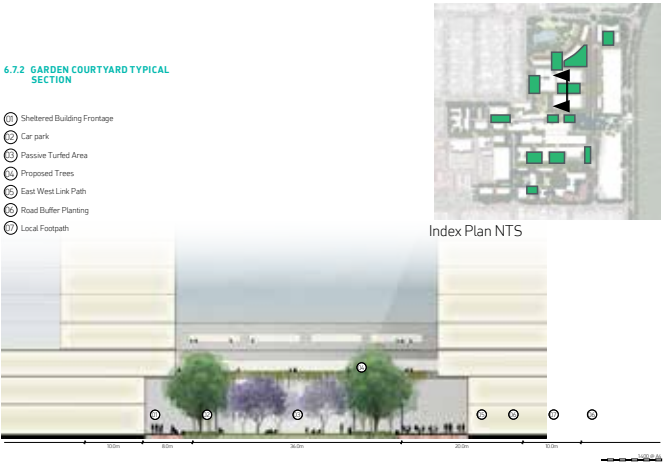


Image 12. Intimate garden courtyard spaces

# 7.0 MOVEMENT & ACCESS

## 7.1 PUBLIC

The proposed public transport network providing access to, from and through the site is illustrated in **Figure 34**.

The WA State Government (through DoT) is currently undertaking planning for a potential future MRT system in Perth which will be subject to a future Infrastructure Australia (IA) business case submission. The MRT route is anticipated to connect the QEIIIMC site (along with the UWA campus) to the CBD and beyond and could take the form of a Bus Rapid Transit (BRT), Light Rail Transit (LRT) or something entirely different, subject to the outcomes of the DoT study.

The Masterplan facilitates this MRT connection, by setting out the Trust's aspirations for the alignment of the corridor and importantly ensuring that the vision is planned around this, but in a flexible manner that reduces future issues around non-integration. The Masterplan assumes an MRT route serving the precinct, along Winthrop Avenue (station located approximately adjacent to landscaped forecourt/pocket park between Block KK and the multi deck carpark on the eastern boundary of the site).

The Winthrop Avenue MRT alignment has challenges in terms of its integration with access to car parking and service yards, as well as movement of people through, within and between the likely station platforms located within the central road reserve. There are also challenges if the route proceeds southwards and not merely stopping at Stirling Highway (and mainly a northerly access connection to UWA), with complexities with navigating the intersection of Winthrop Avenue and Mounts Bay Road/Broadway. **Figure 344** Winthrop Avenue illustrates the proposed MRT network providing access to, from and through the site.

The previously planned MRT alignment (illustrated and accommodated within the previous Masterplan) on Hospital Avenue is theoretically possible. However, such a proposed alignment does create planning challenges for QEIIIMC. This Masterplan illustrates (refer **Figure 35** Hospital Ave) the likely MRT corridor overlayed with the road network, indicating how buildings would require planning around this route, if this alignment is chosen by DoT.

Buses will continue to play a major role in public transport access to and around QEIIIMC, accommodating passengers accessing the campus from surrounding areas from the north (e.g. Shenton Park and Subiaco), west (via Stirling Highway to Fremantle) and south (UWA, Crawley and Nedlands). Hospital Avenue will serve as the major bus corridor, with all buses running and stopping along this road.

The proposed public transport plan requires access for Transperth services in the north-south direction along Hospital Avenue, as well as east-west access along Banksia Drive. Access to the external network shall be via Aberdare Road and Monash Avenue.

Whilst most of buses currently accessing the site are regular 12.5m length buses, the aspiration towards articulated buses to improve people movements need to be accommodated. Therefore, vehicular access has been designed to accommodate articulated buses up to 19.0m in length with movements staying lane correct, at all times.

Dedicated appropriate bus stops including extended covered areas for visitors is proposed within the Masterplan to improve visitors experience of the QEIIIMC campus along with electronic boards notifying visitors of arrival and departure times.

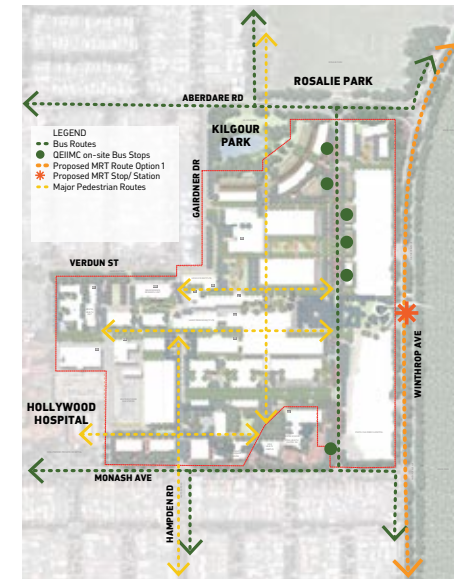


FIGURE 34 PUBLIC TRANSPORT

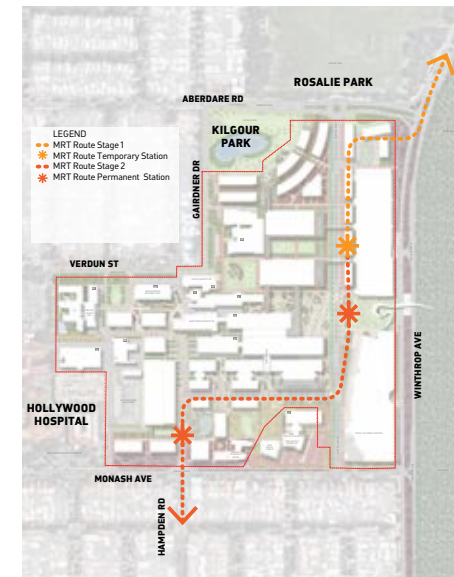


FIGURE 35 MRT DOT PROPOSAL



## 7.2 PRIVATE

The Masterplan envisions private transport continues to be via the main vehicular access routes of Winthrop Avenue, Aberdare Road and Monash Avenue. Access to the large existing multi deck car park will remain as is, via the existing traffic signals on Winthrop Avenue.

A number of intersection arms are close to capacity or have little reserve capacity available. However, if it is considered that many intersections in a city centre location currently operate at worse level of service, it is likely that an opportunity to increase the volume of vehicles through the intersections exists, without significant operational issues. The volume of spare capacity in vehicles numbers at this stage has not been quantified and would be subject to further analysis to support broader future assessments.

Any proposed expansion of the current multi deck car park will require careful consideration, depending on the level of additional parking proposed and in light of current and future parking caps. The masterplan suggests electric charging facilities need to be considered for upward of 20% of the parking provision, to keep pace with the transformational approach to vehicle use and their power supply. This should however be reviewed regularly to ensure that technological advances are considered, both to reduce potential under supply or even over supply of different charging regimes for future vehicles. This will aid with ensuring that infrastructure does not become either obsolete or under provided or require costly retrofitting.

Intersection upgrade measures could be considered in the future, however, the Masterplan seeks to mitigate these potential issues by implementing increased parking within a new multi deck car park proposed on the south-western portion of the campus, accessed via Monash Avenue. With detailed planning, this has the potential to attract traffic away from Winthrop Avenue and the likely future traffic congestion locations. Moreover, the implementation of other modes of transport (other than the private car) is a priority in the delivery of the transport vision for QEIIIMC. Underpinning large development by increasing traffic capacity on the local road network is both contrary to planning principles, but also the era of predict and provide in terms of the road network has long been established as futile.

Various one-way and two-way internal streets are proposed within the Masterplan, not only to curb access to the campus by car where possible, but also channel movement through key routes and away from critical intersections that are currently experiencing traffic congestion. Various figures are provided which depict these movements based on the category of vehicle as well as swept path analysis drawings illustrating routes are accessible to those vehicles requiring access. **Figure 36** depicts the proposed car park access routes, including those which are one-way and two-way traffic routes.

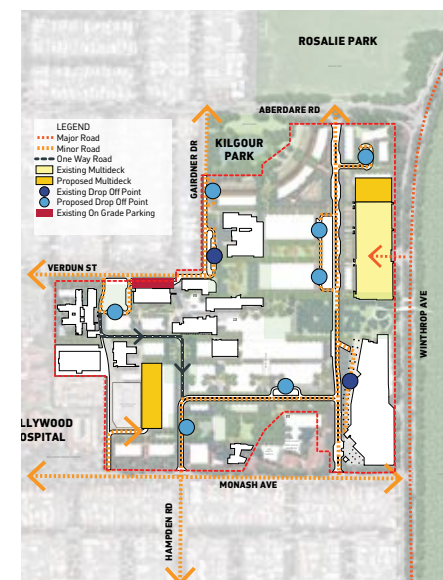


FIGURE 36 VEHICLE



FIGURE 37 SERVICE ACCESS



## 7.3 BICYCLE

**Figure 38** illustrates the proposed Masterplan cycling routes connecting to the existing external cycling network, as well as existing and proposed EOTF. Unlike the proposed pedestrian network, there are no 'continuous' high capacity and speed cycling routes proposed through/across the campus. Lower order cycle routes/shared paths are proposed to provide a better urban environment and promote harmony between walking and cycling as well as various medical related service movements that will occur across the campus. In summary, the approach is to provide EOTF at the edges of the campus interfacing with the external high-speed network and lower order connections to buildings within.

The Masterplan accommodates a coordinated, 'campus-wide' approach be taken for the provision of EOTF around the QEIIIMC. To support the target active transport mode share of +20% (10.5% cycling), an additional ~3,000+ cycle parking spaces could be considered.

The Masterplan contemplates that accessible showers and lockers are provided at EOTF. Progressive standards based on a minimum of two female and two male showers located in separate changing rooms for the first 10 bicycle parking bays should be considered. Additional shower facilities should be provided at a rate of one male and one female shower for every 10 bicycle parking bays thereafter, with one secure locker for each bicycle parking bay.

Under the Masterplan, facilities should be provided and managed to provide current and potential future users with clear information as to the EOTF locations and options available to them. The strategy being to promote QEIIIMC in Perth as a destination supporting walking and cycling and 'easy journeys'.

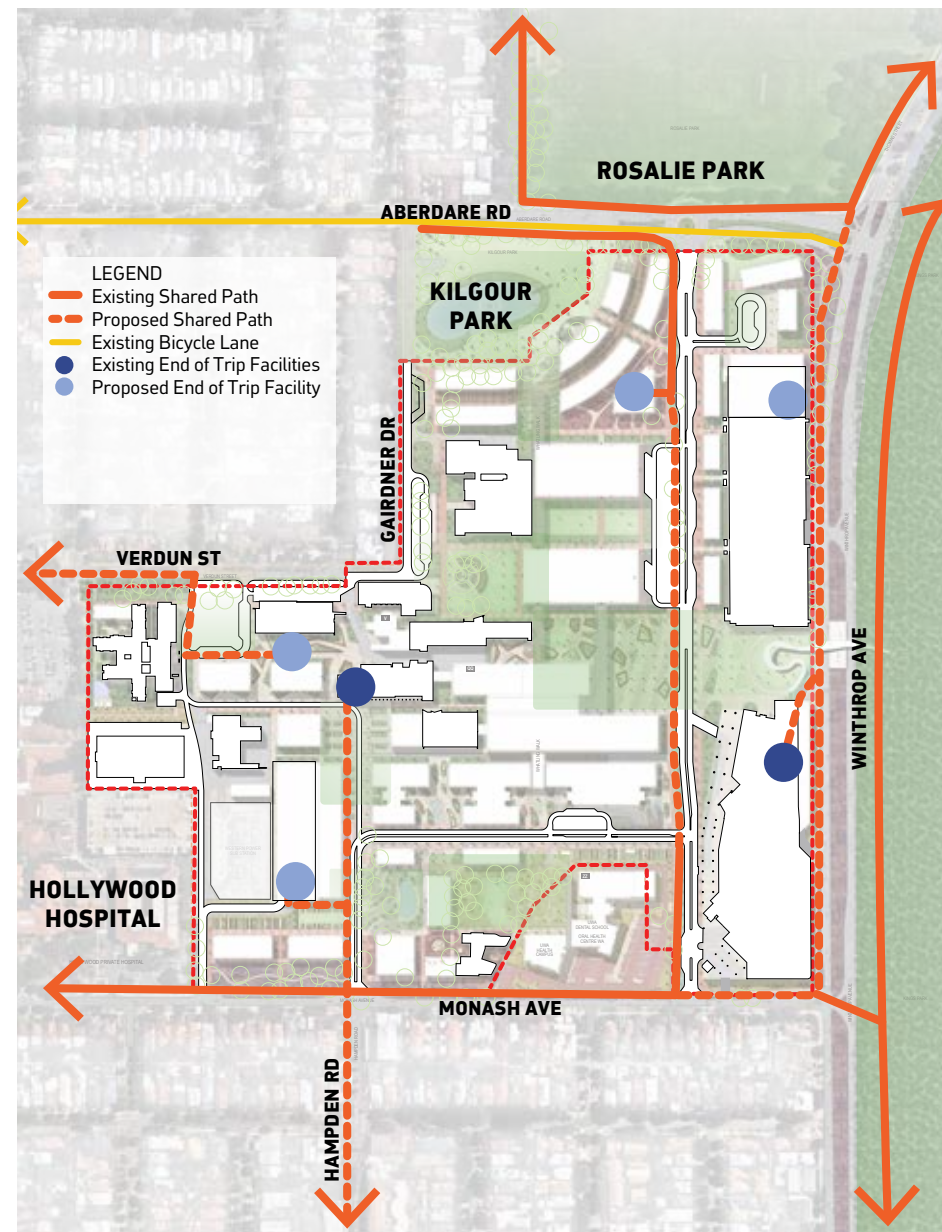


FIGURE 38 BICYCLE

## 7.4 SERVICE

In order to allow for ongoing and future servicing of the campus, including maintenance vehicle and delivery/waste vehicle access, internal road network alignments have been designed to accommodate these larger vehicles to undertake the required movements.

Servicing vehicle requirements have been confirmed and the following vehicles are required to be accommodated within the site and along various internal road network routes:

1. Prime mover and semi-trailer for maintenance of energy centres (19.0m articulated vehicle)

The primary entry point for semi-trailer access is anticipated to be via the north-west corner of the site at the entrance opposite Campsie Street. These vehicles are then required to access the CEP location(s) and ultimately exit the site via either Monash Avenue or Aberdare Road (utilising Hospital Avenue).

It is noted that as these movements are expected to be infrequent (no more than several times per year) and are likely to occur after hours or under managed conditions. Therefore, it has been assumed that these semi-trailers are able to utilise the full width of the roadway and not necessarily stay lane correct when making turning movements.

2. Standard service / delivery vehicle for day to day operations (12.5m rigid vehicle)

All remaining internal road movements which have not been designed for either of the above vehicle movements have been designed to accommodate access for 12.5m rigid service vehicles. These are anticipated to provide access for daily service vehicle movements which facilitate the operation of the grounds, including deliveries and waste removal.

## 7.5 AMBULANCE & FIRE

Based on discussions between the design team and the Department of Fire and Emergency Services (DFES), an agreement in principle was reached on the desired emergency and fire response vehicle access required. The plan for fire response vehicles requires access along all internal distributor roads and for these roads to adequately accommodate the movements of a 12.5m rigid emergency service vehicle, without conflicting with other landscaping elements including on-street parking. In addition to this, emergency vehicle access is required to the Rose Garden area, the Kilgour Park Precinct and the North Eastern Precinct. **Figure 39** and **Figure 40** provides an illustrative route diagram for the proposed emergency vehicle access routes.

Access to the external road network for fire response vehicles is required at multiple points, including:

1. Monash Avenue;
2. Verdun Street;
3. Gairdner Drive; and
4. Aberdare Road.



FIGURE 39 EMERGENCY ACCESS



FIGURE 40 FIRE ACCESS

# 8.0 INFRASTRUCTURE & SERVICES

## 8.1 SUSTAINABLE PRINCIPLES

The Masterplan aligns with the principles of Greenstar Communities rating scheme. This will involve future buildings constructed on the campus being required to meet Environmentally Sustainable Energy targets aligned with the Green Building Council Green Star rating tools. This will improve efficiencies and reduce greenhouse gas emissions year on year, leading eventually to a Carbon Neutral status. This aspiration will require a number of measures to be implemented in building construction and operation, influencing energy and water performance, choice of materials and modes of transport.

While there are a number of separate targets influencing many facets of the proposed development, it is important to recognise that there are some long term commitments that will shape the development more than others.

Building design with consideration to the impact on human health and wellbeing, such as natural daylight, ventilation, visual and acoustic comfort, utilising the Lean (efficiency) Green (renewables) and Clean (low emissions) for options assessment to ensure sustainability should be embedded into the design. Energy conservation measures should be addressed through:

- + Passive design
- + Energy efficiency plant and system design
- + Renewable energy incorporation where applicable and tangible
- + Low emissions energy infrastructure including initial source
- + Followed by carbon offsetting
- + Maximise installation of rainwater harvesting or storm water harvesting for all non-potable purposes, both at a building and campus wide basis

## 8.2 UTILITIES STRATEGY

The Utilities Strategy for the Masterplan is a central enabler for the success of the campus, with the unique opportunity to set the benchmark for innovative, reliable and flexible site infrastructure.

The Utilities Strategy goes beyond base delivery of the power, communications, water, sewer, stormwater, gas and thermal energy to include a wide range of needs and objectives that reflect on the ultimate vision for the campus. These include:

- + Support of a Sustainability Framework
- + Interface with and support of campus level initiatives through the Trust and relevant authorities
- + Enable the staged campus development and future refurbishment through flexibility and adaptability
- + Support operational requirements of the Trust with reflection on reliability and resilience plus reduced operational costs
- + Enable rather than constrain the architectural development framework objectives around amenity and transparency

### Key Principles

The key principles of the engineering infrastructure will include:

- + Resilience;
- + Adaptability;
- + Net zero carbon ready; and
- + Demand management.

### Guiding Principles

The QEIIIMC campus will continue to pursue short-term energy and carbon outcomes with an integrated energy infrastructure, providing a platform for the transition towards a future low or net zero carbon campus.



In order to achieve the demands of the progressive staged implementation of the Masterplan, there will be implications on the current plant and infrastructure capacity and reticulation to meet the overall Masterplan and to cater for its adaptability and flexibility to meet varying built forms and uses.

### 8.3 CENTRAL ENERGY PLANT (CEP)

The Masterplan incorporates a future additional CEP in a strategically located position to service the future load of the entire campus. This will be interfaced with the existing CEP to maintain and supplement the diverse load analysis.

The size will be optimised to suit the overall load and will provide a level of redundancy and resilience across the campus.

The following items have been taken into consideration for creating an Innovation Campus for the inclusion of generation and reticulation to service the site and built form:

- + Visibility - Innovation is showcased, on display and an integral part of the campus identity
- + Diversity - Takes account of mix of usages, size, operational requirements
- + Proximity - Prominent locations to reduce excessive runs from the CEP and access for Facilities team
- + Connectivity - Accessible, connected to traffic network for ease of maintenance
- + Flexibility - Adaptable to changing needs and technologies to suit futureproofing of the site

The Masterplan proposes future reticulation required within the tunnelling system to service the overall requirements of the various phases.

#### Future CEP and Infrastructure

The approach is to have the future additional CEP reasonably central to the site. This would have good transport links for accessibility in and out of the south of the campus as well as proximity to the Existing CEP. This is ideally located to boost the existing load requirements whilst providing resilience and redundancy requirements of the Masterplan. The CEP is proposed to be embedded into the built form of potential builds and would be a prominent addition to the site.

The existing tunnelling and general reticulation of services is varied in its condition and performance. With the proposed additional CEP, a potential purpose built tunnel arrangement should be provided to cater for the increased site demand and age of the existing. This future tunnel would be appropriate for maintenance accessibility and would align with the recent tunnel incorporated to service the Block KK on the site.

A future additional CEP will encourage sharing of resources with adjacent buildings. The potential infrastructure implementation plan provides a proposed location for the CEP. The proposed central location provides greater connectivity to the campus and reticulation.

## 8.4 INCOMING UTILITIES

To achieve the anticipated additional load, future incoming requirements would require to be boosted to support utility and infrastructure requirements including:

### 8.4.1 GAS

As the electrical grid undergoes a low carbon transformation there is need to ensure that the natural gas infrastructure may adapt to changes in campus energy sources. There is potential that the campus natural gas demand may peak driven by the Masterplan vision to achieve net zero carbon and subsequent pursuit of low carbon intensive energy sources and a transition away from fossil fuelled sourced, natural gas.

#### Demand Management

As gas use on site is primarily for heating hot water and domestic hot water, thermal storage offers an effective solution to manage demand, the following may be required to fulfil the overall demand to cater for the Masterplan:

- + Future gas infrastructure provided for proposed CEP arrangement.
- + Additional load from the mains expected although this will be diversified with onsite generation and strategically located distribution systems.

## 8.4.2 WATER INFRASTRUCTURE

Monitoring and tracking of water use can assist in optimising efficiency and effectiveness of demand management. This can be further met by on site storage of non-potable water including rainwater tanks in flushing of WC's and urinals.

Re-use within buildings also reduces runoff volumes to downstream waterways and assists in reducing pollutants discharged from the site.

Given the potential growth in the building areas and potential number of people to use the site, there will be a net increase in water usage over current levels. The water strategy must pursue systems that reduce potable water demand and look at alternative water sources to meet requirements. The water re-use principles are provided below.

- + Water efficiency - adopt appropriate water efficient technologies, appliances and processes through the campus buildings and landscape.
- + Rainwater re-use and recycling - that harvests and stores rainwater within buildings for re-use (e.g. toilet flushing) and offsets potable indoor demand.
- + Water management - monitor and track water use to assist in optimising efficiency and effectiveness.
- + All water storage tanks should be metered and connected to site wide BMS.

Due to load and condition of aging infrastructure over the course of the potential Masterplanning, there would be need for a significant upgrade to the infrastructure.

The Masterplan contemplates the following would need to be upgraded/replaced to achieve the final phasing requirements:

- + Water intake at two points on the north and south perimeter, via 150 mm diameter mains. The present supply is only just coping with site demand.
- + In-ground infrastructure needs replacing.

### Sewer

In conjunction with the above principles the Masterplan also contemplates the sewerage system will need to be redesigned to suit the most economical and sustainable layout for the campus and be suitable for progressive staging of building completions.

## 8.4.3 POWER

The increase in demand will require the development of potential electrical infrastructure which can provide a robust electrical network for the campus. The core principle of the electrical distribution strategy focuses on redundancy and adaptability to ensure power is available in the event of a disruption to any point in the network. All future substations are planned to be located within or adjacent to a cluster of future buildings to complement the development of green spaces throughout the campus.

The intention is to work back from the final phase of the Masterplan to align these key zoning and building clusters. From this future infrastructure and substation zoning could be incorporated to provide a robust and adaptable strategy through the phases.

As a result, the following would be required;

- + Possible reinforcing of the external Western Power network should be explored and coordinated with the authority.
- + A metering strategy should be adopted to efficiently monitor and manage buildings and cluster performance to allow for accuracy in demand management.

## 8.4.4 INFORMATION, COMMUNICATION AND TECHNOLOGY

The Masterplan incorporates development of a smart digital campus with provision of additional infrastructure and a potential stand alone data centre to cater for future data growth both on and off campus enabling future proofed future phases. This includes:

- + Development of a Smart Campus making full use of latest IOT and Analytics technologies;
- + Provision of a Major Data Centre on the site with potential to service both on campus and off-site customers; and
- + Future infrastructure to be served from the Data centre to future built form.

## 8.4.5 INFRASTRUCTURE

Due to the extent of the QEIMC campus and the proposed size and location of the buildings, a potential tunnel system is proposed complete with associated reticulation of all major services to meet the life cycle of the Masterplan.

# 9.0 IMPLEMENTATION STRATEGY

The following section provides an overview of the Implementation Strategy for the QEII MC Trust to facilitate development of the Masterplan. Refer to **Appendix A** for a list outlining the suite of documents that may be consulted to provide greater detail on the background work supporting the Masterplan. The strategy identifies phases over the next 50 years with specific triggers necessitating or driving the changes in each phase.

The Implementation Strategy and phasing aligns with the costs outlined in the Opinion of Probable Cost. Additionally, it provides guidance to the QEII MC Trust on future landscape and infrastructure on the campus both connected with built form and indicated as stand alone projects. This enables the Trust to identify projects prior to growth occurring and nominate potential locations within the campus that are development ready.

The Implementation Strategy has been determined utilising a range of critical information including:

- + Current Leasing Arrangement Timeframes;
- + The Proposed Masterplan Parking Cap;
- + Retention of Parking Numbers on the campus;
- + Building Lifespans;
- + Existing Servicing of QEII MC;
- + Existing Provision of Services; and
- + Retained Built form.

The Implementation Strategy facilitates a sustainable development approach by:

- + Providing a planned and coordinated approach to development
- + Maximising space utilisation across QEII MC;
- + Minimising the need for relocation of services off campus

throughout construction periods e.g. parking or rental of additional floorspace;

- + Providing services and infrastructure in a timely manner prior to development;
- + Allowing areas of QEII MC to be occupied for temporary uses;
- + Providing adequate public spaces connected with built form;
- + Allowing for future construction on QEII MC without impacting functionality;
- + Identifying 'quick wins' and low cost projects in the early phases that demonstrate progression towards the Masterplan vision;
- + Providing growth opportunities and phasing which enables the relocation of existing functions on the campus; and
- + Enabling additional space to be provided for existing tenants on the campus through appropriate phasing and opportunity identification.

The implementation phasing outlined is dependent upon the staged approach taken and does not take into consideration:

- + Changes to the current leasing arrangements;
- + Amendments to the QEII MC Trust Act; and
- + Changes in the approach by State Government to the QEII MC campus.
- + Changes in the approach by existing tenants involvement on the QEII MC Site.

This Implementation Strategy is a guide only and will vary as the Masterplan progresses. It is recommended that as new development progresses on the campus, aspects of this Implementation Strategy are reviewed and amended to suit.



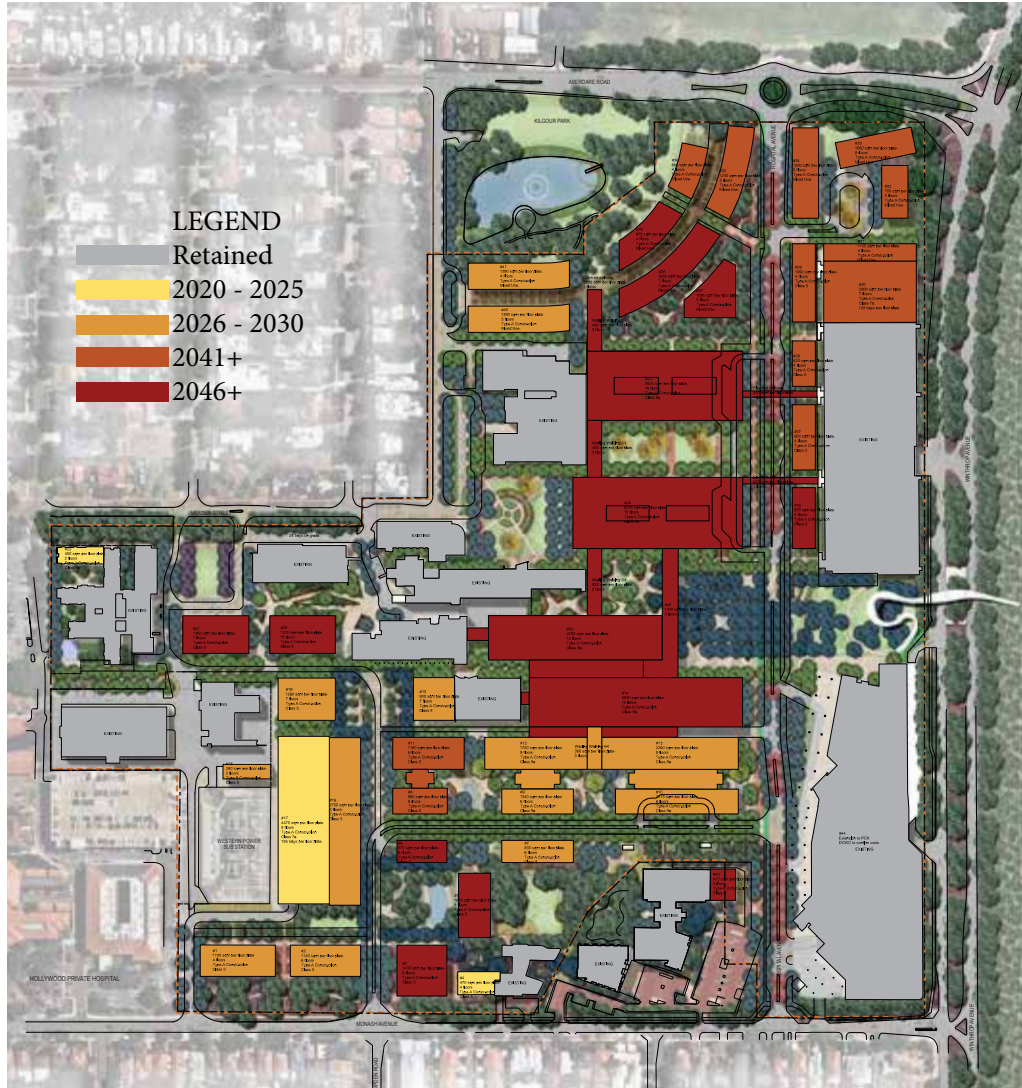


FIGURE 42 POTENTIAL BUILT FORM IMPLEMENTATION STRATEGY

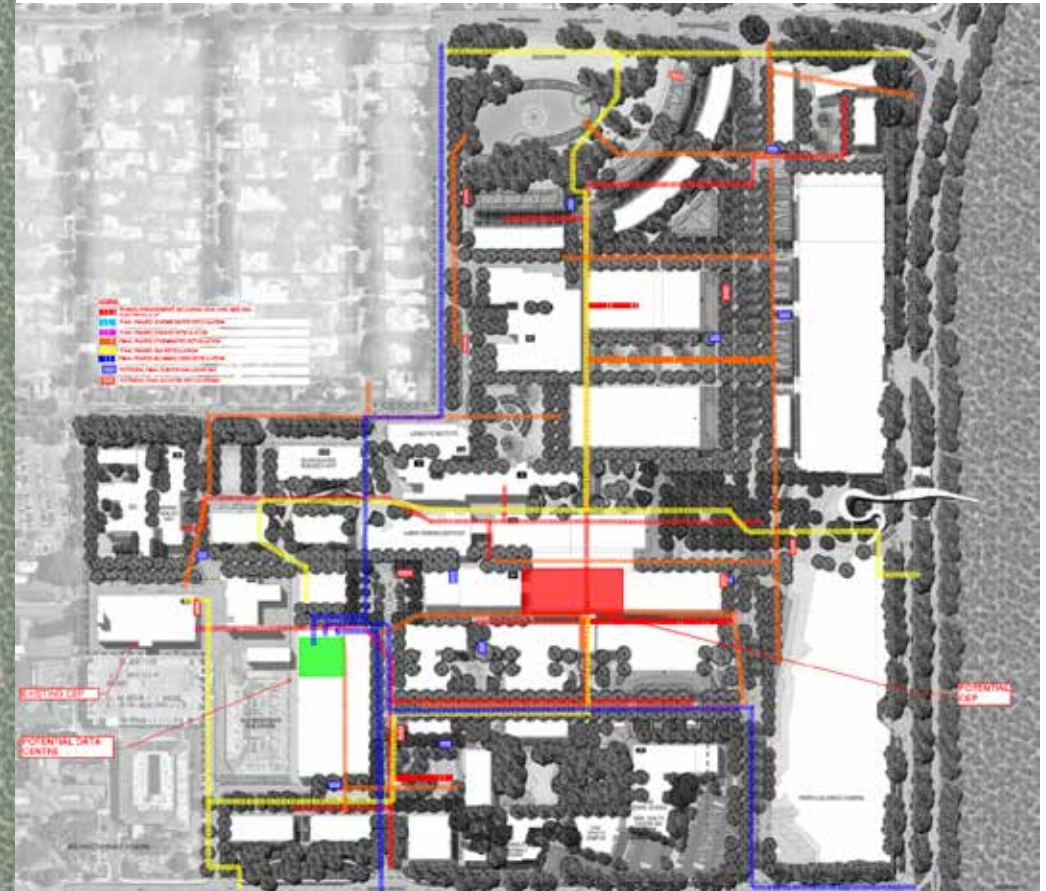


FIGURE 43 POTENTIAL INFRASTRUCTURE IMPLEMENTATION STRATEGY

# 10.0 CRITICAL TRIGGERS FOR DEVELOPMENT

As the Masterplan looks to the future potential of the QEIIIMC campus over a 50 year period. The process of development should be approached with consideration of several key triggers and their associated implications.

Prior to future development occurring, a number of strategies are required to be pursued and investigated and these are outlined in the Further Considerations section 11 of this report. They are matters relating to the planning and approval process of the campus as well as strategies for infrastructure, access, sustainability and brand.

The implementation strategy within this Report (section 9) and the Phase 3 Implementation Strategy Report outline several important triggers required for the development of the QEIIIMC campus.

These key triggers are determined through:

- + Increase in built form on the QEIIIMC campus;
- + Increase in population on the QEIIIMC campus;
- + Areas of the QEIIIMC that are not well serviced; and
- + Areas that are already well serviced but require upgrade, prior to future development.

In summary, the triggers required for future development include:

- + Confirmation and conditions around the location and timing of the MRT. This is because the lack of clarity around this aspect:
  - + Prohibits future development of critical areas on the QEIIIMC campus;
  - + Results in changes to the current movement patterns at QEIIIMC with additional funding required;
  - + Does not provide an appropriate, sustainable solution to access on the QEIIIMC campus; and

- + Impacts surrounding local government authorities. The timing of the MRT for this Masterplan has been proposed within the Phase 3 Implementation Strategy Report and aligns with a minimal increase in population on the QEIIIMC campus.
- + Due to the current extent of at grade parking located on the QEIIIMC campus this impacts the potential of the site in the North Eastern, Monash and Hampden Road Precinct for future development potential. The Masterplan proposes in the early phases a potential multi deck carpark which absorbs most of the current at grade parking whilst also relocating traffic movements to the south western corner of the campus. Providing a multi deck carpark provides the opportunity for large areas of the campus to be open for development, provide the development ratio as outlined earlier and improve pedestrian movement across the campus.
- + Current infrastructure and services to the North Eastern and Hampden Road Precinct is minimal and along with the relocation of ongrade parking, the provision of infrastructure and services to these areas are required to facilitate development.
- + A future additional CEP has been provided within the Masterplan and identified in the Implementation Strategy. The location of this and timing is dependant upon future development on the campus and also upon the increase in future built form;
- + The Masterplan proposes that all tunneling infrastructure meets the requirements of the tunnels provided for PCH. As a result all future built form will require upgrading of tunnel infrastructure to meet these requirements; and

- + As previously outlined, areas of existing below ground infrastructure are not suitably sufficient for the future development on the campus and as such should be replaced or upgraded on a case by case basis or included as part of future major built form.

# 11.0 FURTHER CONSIDERATIONS

- + **Consider developing a Planning Strategy** including approval and review processes including revisions to the current urban design and landscape guidelines based on the changes to the Masterplan;
- + **Consider reviewing and further developing the Way-finding Strategy** for the QEII MC to ensure the approach of legibility, signage, branding and movement is consistent with the outcomes and approaches of the Masterplan.
- + **Consider a Procurement Strategy** to facilitate development of the Masterplan, especially large scale investment on the site.
- + **Initiate where possible the character of the Precincts** within the campus generating a series of accessible, human scaled spaces. Celebrate and improve the relationships between the functions of the built form, transport links and public realm to produce a campus that is unified through similarities and purpose though the uniqueness of each Precinct and its adjacent neighbourhood is retained;.
- + **Encourage the activation and promote ground and first floors of buildings** incorporating complementary retail /service uses that broaden the campus to function as a unique brand and ensure all structures, infrastructure and services are adaptable to future changes of use, operation, culture and technology;
- + **Upgrade technology** such as provision of Wi-Fi across the campus enabling staff to undertake consultations with patients outside of rooms and buildings in the green, healing spaces that the Masterplan encourages. This Wi-Fi access could also be beneficial to patients and visitors during their stay;.
- + **Develop a Sustainability Strategy** in relation to alignment with Greenstar Communities to enable an understanding of the current performance of the QEII MC against future needs.
- + **Promote the Campus as a location of choice** to work and live and QEII MC as a centre of excellence with enviable facilities and environs, for national and international talent (including their families). Implement strategies to attract people to QEII MC based on the strengths of the campus including key areas of clinical, research and educational health delivery;
- + **Continue to liaise with DPLH** regarding the boundary of the Specialised Activity Centre;
- + **Develop a Branding Strategy** through the opportunities of the Masterplan;
- + **Ongoing collaboration with DoT in relation to the MRT** as this may form and require a wider scope of future assessment work to ensure that the alignment can integrate with the Masterplan vision and best serve broader transport needs. The STEM patronage forecasting for the business case is likely to utilise development trajectories from the Masterplan to understand demand.
- + **An Access Strategy** focussing on links between QEII MC and the wider area will be imperative to ensure that on short, medium and longer term transport related infrastructure is available to support movement to and from the site. The current Travel Plan data and Trust utilisation data sets will be key to mapping staff and visitor movements and importantly understanding where this staged infrastructure can best serve the campus.
- Positioning in terms of the Current Parking Cap** and understanding where this could be sustainably increased on site and or locations off site utilised better in conjunction with and in support of local authorities (i.e. park and ride locations).
- + **Continued Travel Planning** in tandem with the TravelSmart team will be imperative to focus on technological advances in transport and ensuring the mode shift tactics are utilised to diminish car use and increase movement to and from the site by sustainable transport.
- + **Full Transport Assessments** and strategic traffic modelling to support development plots as they are proposed and development applications are intended to be submitted .
- + **Ongoing collaboration with the DoT in relation to cycle access** to the QEII MC to aid in the improvement of active modes of access to the QEII MC Site.
- + It is imperative that **the access and transport planning undertaken by UWA as part of their wider masterplanning is integrated and developed in tandem with QEII MC** to ensure a clear approach to planning and aids future discussions with various applicable Government agencies.



# 12.0 CONCLUSION

This Masterplan has been devised via a detailed and highly collaborative process enhancing and updating and revising the previous Masterplan. Care has been taken to review and consider within our planning all current and anticipated needs regarding the location, services and high level planning of future clinical buildings.

This Masterplan represents an opportunity for QEII MC founded on the most recent campus engagement, knowledge and information. The campus is a vibrant and diverse ecosystem with a broad range of users and will continue to evolve over time, shaped by the recommendations of this Masterplan but it will also be impacted by overarching trends, social and urban growth and accompanying cultural and technological changes.

The assumptions underpinning this Masterplan address a number of stages over a prospective 50 year horizon, defined to the best of the project team's understanding and anticipation of future outcomes and possibilities. It is strongly recommended that the QEII MC Masterplan be revisited and refreshed regularly to adjust to the influences that cannot be predicted. This approach will ensure the framework continues to provide current and relevant guidance towards achieving the QEII MC principles and vision and for the future.

# APPENDIX A - SUPPORTING DOCUMENTS

Additional reference documents supporting the Masterplan preparation include:

- + Phase 1 Background Report;
- + Phase 1 Engagement Report;
- + Phase 2 Masterplan Report;
- + Phase 2 Engagement Report;
- + Phase 3 Implementation Report;
- + Benchmarking Report;
- + Opportunities and Constraints Presentation;
- + Scenario Planning Presentation; and
- + The Opinion of Probable Cost Report.





HAMES  
SHARLEY