



Taylor
Burrell
Barnett



Golden Gateway PUBLIC REALM STRATEGY



DOCUMENT HISTORY AND STATUS

**Golden Gateway
Public Realm Strategy**

**Prepared By:
Taylor Burrell Barnett
Town Planning and Design**

Level 7, 160 St Georges Terrace
PO Box 7130 Cloisters Square
PERTH WA 6850
Phone: 9226 4276
Fax: 9322 7879
admin@tbbplanning.com.au

In association with
EPCAD

Revision	Reviewer	Date Issued
15/100-0	LB	
15/100-1	LB	04.05.18
15/100-2	ST	24.05.18
15/100-3	LB	02.07.18

EXECUTIVE SUMMARY

This Public Realm Strategy has been prepared as part of the suite of detailed strategies and studies supporting the Local Structure Plan (LSP) for the Golden Gateway precinct in Belmont.

The purpose of this Strategy is to develop a clear vision, principles and objectives to inform development of the public realm. The design intent and functional requirements for elements of the public realm as articulated in this overarching framework will inform further detailed planning, design and management. A landscape masterplan has also been developed as a component of this Strategy to outline the underlying public realm design objectives and guide the design and development of an integrated and functional high quality public realm. The graphical representation is indicative only and demonstrates how the three key public space areas may be developed.

The strategy creates an approach to the public realm that will create one very distinctive urban character. The public realm will accommodate pedestrians and vehicles in a safe uncluttered manner and the streets and spaces will be shaded by trees that will form a strong visual landscape framework.

Existing local streetscapes are predominantly reflective of the commercial environment, particularly within the commercial 'triangle'. The standard of verge maintenance ranges from good quality reticulated lawns through to poorly maintained verges damaged by random, uncontrolled, overflow parking.

The extent and quality of the existing pedestrian infrastructure within, and surrounding, the site is of a standard commensurate with the nature of existing development across the subject land (i.e. primarily light industrial/commercial unit style development). Each of the major road corridors running through the precinct (Grandstand Road, Resolution Drive and Stoneham Street) include footpaths along one side of the street. The extent and quality of the existing cycling infrastructure within and surrounding the site is of a high standard, partly as a result of the Great Eastern Highway upgrades.

The Strategy sets out to provide a high quality urban framework that promotes pedestrian circulation, accommodates vehicles in a safe and logical manner and is an environment that presents a desirable destination to live, work and recreate. Placemaking should inform the detailed design of spaces throughout the precinct. The spaces need to be able to facilitate and accommodate diverse uses that may emerge from community social investment.

Places across the site will achieve a successful balance between physical attributes, the vehicle circulation and dynamic social, cultural and economic vitality. Its inherent qualities are strongly related to its proximity to the Swan River and its heritage related to the Ascot Kilns.

It is the intention that distinctive physical spaces will be encouraged to evolve, responding to community, social and commercial opportunities. Spaces will consolidate a strong identity and character that is easily recognised by local users and visitors. In accordance with best practice, the public realm should be designed to maximise universal access for all members of the community. Designs will need to comply with prevailing legislation but should also strive to safely accommodate ease of safe use encouraging full accessibility through all areas.

The strategy for the site comprises a number of different public realm space types ranging from the strong east-west Linear Park ("Greenlink"), boulevard high-use roads to small streets. A cohesive approach across the public realm will consist of an urban landscape that reinforces a fluid and flowing spatial arrangement starting from the river parklands and extending this character throughout the subject land.

The creation of a strong east west aligned central space that links to the Swan River parklands and creates an open space core to the Golden Gateway precinct, is the primary structuring component of this area. The design of this space establishes the urban character that is then extended through the locality by complementary paving designs and tree canopies. Daly Street is structured to encourage and accommodate street commercial opportunities as buildings have trading frontages. This street becomes the "high street".

In terms of implementation, under normal circumstances, the development of the public realm is typically undertaken by a private developer/s as part of their private land subdivision process; however, given that several areas of the public realm already exist in the form of Crown Reserves (e.g. existing road reserves) and the private land is under fragmented ownership, the City of Belmont will need to assume responsibility for implementing the Public Realm Strategy. The cost of this work and any mechanism to recover cost from private landowners through a Developer Contribution Plan or alternative funding mechanism to be determined by the City will require further consideration.

It is not anticipated that the entire landscape masterplan be implemented at once, rather it should be progressively rolled out commensurately with the delivery of other key infrastructure, particularly the various road realignments and subdivision works that are required to create the environment for private redevelopment. Priority should be given to establishing the road network and lots that frame the POS spine and the primary focus should then be the implementation of this public infrastructure to set the stage for the precinct's credentials as a high quality development opportunity.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	1		
1. INTRODUCTION	4		
1.1 PURPOSE	4		
1.2 SITE CONTEXT	6		
2. SITE ANALYSIS	7		
2.1 URBAN FORM	7		
2.2 STREETScape	7		
2.3 MOVEMENT AND ACCESS	9		
2.3.1 VEHICLE MOVEMENT	9		
2.3.2 PEDESTRIAN NETWORK	9		
2.3.3 CYCLING	9		
3. DESIGN OBJECTIVES	10		
3.1 AN URBAN LANDSCAPE	10		
3.2 IDENTIFIABLE CHARACTER	10		
3.3 VALUABLE LANDSCAPES	10		
3.4 ENVIRONMENTAL/SUSTAINABILITY	10		
4. PUBLIC REALM OVERALL APPROACH	12		
5. PARKS 13			
5.1 FORESHORE RESERVE	14		
5.2 LINEAR PARK "GREENLINK"	14		
5.3 EAST PARK	15		
6. ROADS AND STREET TREATMENTS	16		
6.1 GENERAL	16		
6.2 ROAD TREATMENTS	16		
6.3 RESOLUTION DRIVE	17		
6.4 STONEHAM STREET	18		
6.5 DALY STREET	19		
6.6 CENTRAL STREETS	20		
6.7 LOCAL STREETS PRECINCT (NORTH-EAST)	21		
6.8 GATEWAYS	21		
7. INTEGRATED DRAINAGE MANAGEMENT	22		
8. STREET FURNISHING	24		
9. PUBLIC ART	25		
10. GOLDEN GATEWAY TREE SPECIES	26		
10.1 PARK AND CIVIC SPACE SPECIES	26		
10.2 STONEHAM STREET AND RESOLUTION DRIVE	26		
10.3 DALY STREET	26		
10.4 CENTRAL STREETS	27		
10.5 LOCAL STREETS PRECINCT	27		
10.6 HIGHLIGHT SPECIES (GATEWAYS)	27		
11. IMPLEMENTATION	28		
11.1 LANDSCAPE CONSTRUCTION AND MANAGEMENT	28		
11.2 WATER MANAGEMENT	28		
11.3 STAGING	28		

1. INTRODUCTION

1.1 PURPOSE

This Public Realm Strategy has been prepared as part of the suite of detailed strategies and studies supporting the Local Structure Plan (LSP) for the Golden Gateway precinct in Belmont (refer **Figure 1**).

The creation of a high quality and functional public realm, in the streets and open spaces, is a pivotal element in planning for a more intensified urban environment to create a liveable and well connected community.

The Public Realm Strategy has been developed in conjunction with the Golden Gateway Development Concept Plan that ultimately formed the cornerstone of the Golden Gateway LSP. This has meant that the resultant urban form envisaged in the landscape masterplan has been developed around a thoroughly considered framework of public spaces.

This document summarises the main issues/opportunities and design outcomes for the creation of a public realm, similar to the concept of an urban village. The purpose of this report is to inform the LSP and the further design (Design Guidelines) of this area through the planning process. This report is a companion document to the LSP and should be read in conjunction with it.

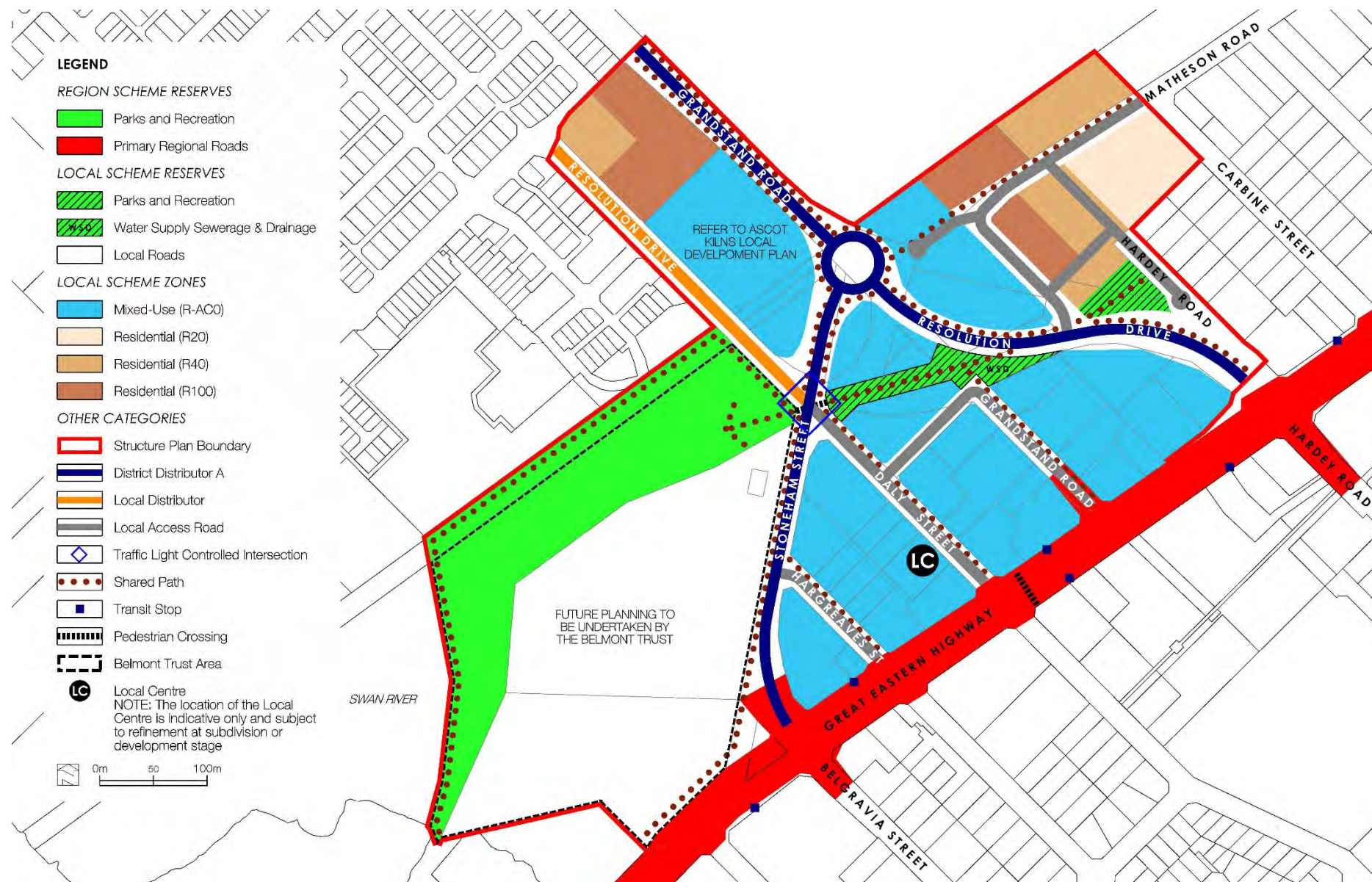


Figure 1 - Local Structure Plan (Plan 1)

1.2 SITE CONTEXT

The subject land is located approximately 5 kilometres (km) north east of the Perth Central Business District (CBD), 3 km north of Belmont Forum and 5 km north east of Victoria Park entertainment precinct (refer **Figure 2**). It is close to the Swan River and Ascot Racecourse and forms a triangular land parcel that is well connected to the regional roads. Further details on the planning context and background can be found in the LSP Part Two, Section 1 Planning Background.



Figure 2 - Site Context Plan

2. SITE ANALYSIS

2.1 URBAN FORM

The existing urban form of the site is very much influenced by its strategic location at the axis of a number of key movement corridors, dominated by Great Eastern Highway, Stoneham Street and Resolution Drive. The 'triangle' of land bounded by these roads contains a mix of office and commercial uses, including some more intensive retail/food and beverage outlets towards the eastern edge at Resolution Drive and Great Eastern Highway.

Outside of the 'triangle', the remainder of the LSP area consists of a number of different sub-precincts with very diverse functions and characteristics. These include a mix of land uses, including the administration headquarters of the WA Turf Club (WATC), the Ascot Kilns, overflow parking for the Ascot Racecourse, a substantial riverfront area held by the Belmont Trust, and a patchwork of residual government landholdings created by the past realignment of Resolution Drive and Stoneham Street.

While the existing urban form is largely unremarkable, the key features that are notable, in terms of future planning, include:

1. The Ascot Kilns, in particular the chimneys, which present an important visual and historical reference point in the precinct (refer **Figure 3**); and
2. The Belmont Trust land, which presents an opportunity for a strong public link to the Swan River, albeit presently isolated by Stoneham Street (refer **Figure 4**).

2.2 STREETSCAPE

Existing local streetscapes are predominantly reflective of the commercial environment, particularly within the commercial 'triangle' (refer **Figure 5**). The existing road reserves are typically 20m wide with wide carriageways to accommodate commercial vehicle movement as well as on-street parking. The standard of verge maintenance ranges from good quality reticulated lawns through to poorly maintained verges damaged by random, uncontrolled, overflow parking.



Figure 3 - The Ascot Kilns Chimneys



Figure 4 - Belmont Trust Land



Figure 5 - Typical 'Commercial' Streetscape

Great Eastern Highway, the most exposed edge of the precinct, has recently been widened/ upgraded to improve regional traffic movement. The result is a heavily engineered, highly efficient arterial road, with four lanes of through-traffic, increasing to 6-7 lanes in places where there are long turning pockets and bus/cycle lanes at the intersections.

The footpath is approximately 3m wide and occupies the whole verge from kerb to boundary, with no street trees or other landscaping, as illustrated in **Figure 6**. This combined with the significant traffic activity immediately adjacent, presents an unappealing environment for pedestrians.

Resolution Drive and Stoneham Street are also heavily engineered arterial roads that offer little attraction to the pedestrian, although the Stoneham Street environment is somewhat softened by its interface with heavy vegetation along the periphery of the Belmont Trust land and the landscaped drainage area to the north.



Figure 6 - Great Eastern Highway

2.3 MOVEMENT AND ACCESS

2.3.1 VEHICLE MOVEMENT

The LSP report provides a detailed analysis of the existing and proposed vehicle movement network. From a public realm perspective the key factors are as follows:

- The regional road system, comprising Great Eastern Highway, Stoneham Street, Resolution Drive and Grandstand Road, offer excellent connections in all directions; however, they also serve to segregate parts of the precinct, and isolate the site from the most attractive existing public realm asset, being the Swan River foreshore.
- The local road system, particularly through the commercial 'triangle', provide a high level of access and permeability for both vehicles and pedestrians, and offers an effective framework for future development of the site; and
- The local road system features wide (20m) road reserves, which, if retained, offer opportunities to design high standard streetscapes, with generous space available to devote to landscaping, pedestrians, street parking etc.
- Local access streets (Hargreaves Street, Daly Street and Grandstand Road (southern section) providing access in a northerly direction from Great Eastern Highway with poor pedestrian amenity and no existing footpaths present.

2.3.2 PEDESTRIAN NETWORK

The extent and quality of the existing pedestrian infrastructure within, and surrounding, the site (with the exception of Great Eastern Highway) is poor and of a standard commensurate with the nature of existing development across the subject land (i.e. primarily light industrial/commercial unit style development).

However, Great Eastern Highway bordering the site to the south features good quality footpaths on both sides of the corridor, although as previously mentioned, it is not a particularly appealing environment for pedestrians.

Within the vicinity of the site, the safe crossing of Great Eastern Highway by pedestrians is facilitated via traffic signal controlled intersections at both Stoneham Street/Belgravia Street and Resolution Drive/Hardey Road intersections with Great Eastern Highway.

Each of the major road corridors running through the precinct (Grandstand Road, Resolution Drive and Stoneham Street) include footpaths along one side of the street – Grandstand Road along the eastern side adjacent to the Ascot Racecourse, Raconteur Drive along the northern side to connect to Grandstand Road, Resolution Drive along the eastern side adjacent to the Ascot Waters development and Stoneham Street along the western side adjacent to the Belmont Trust land.

2.3.3 CYCLING

The extent and quality of the existing cycling infrastructure within and surrounding the site is of a high standard, partly as a result of the Great Eastern Highway upgrades.

A number of existing shared paths and cycling connections are located along primary routes, including Stoneham Street, Raconteur Drive and Grandstand Road providing local connections. There is demand to upgrade facilities on Stoneham Street and Resolution Drive. Protected bicycle lanes and a shared path on Resolution Drive is essential.

A number of shared paths are also located within the Ascot Waters development directly to the north-west of the site. The Graham Farmer Freeway Principal Shared Path (PSP) provides regional cycling connections and can be accessed via the shared path along the southern side of the Swan River.

3. DESIGN OBJECTIVES

3.1 AN URBAN LANDSCAPE

The site forms an important gateway announcing the City of Belmont when approached from the south-west and north-east. The site is traversed with major roads and as discussed, its triangular form presents challenges in vehicular circulation and pedestrian accessibility. This location currently presents as a transient place that is passed through, however the design of the public realm will result in the creation of a cohesive network of spaces enabling the locality to be an identifiable place.

As a busy location, the public realm offers the opportunity to be transformative, linking uses and people to the nearby valued Swan River, its parklands and the heritage and interest of the Ascot Kilns.

The public realm spaces made up of streets and a linear park, combine to be a defining element of this location, that importantly the users, employees and residents will experience and define the qualities of the public realm.

The overall landscape design objectives for the public spaces are set out below:

3.2 IDENTIFIABLE CHARACTER

- Create a contemporary urban environment that promotes safe and easy pedestrian experiences.
- Create new diverse urban landscapes that reflect the subject land's unique characteristics and close links to the river parklands.
- Create spaces that encourage and accommodate local community use and engagement.

- Establish an aesthetic that promotes positive development and investment in the location.
- Celebrate the heritage significance of the Ascot Kilns.
- Respect the social and recreational values of the Ascot Racecourse.
- Establish considered connections to the Ascot Kilns and the Ascot Racecourse in terms of tourism opportunities and amenity.

3.3 VALUABLE LANDSCAPES

- Create a microclimate in public realm spaces and streets which encourages use and enjoyment.
- Provide visual connections to the river park through public open spaces (as shown on **Figure 7**).
- Provide key views and relationships that assist in orientation and legibility.
- Create highly utilised and valued public realm streets and spaces.

3.4 ENVIRONMENTAL/SUSTAINABILITY

- Create a durable urban landscape.
- Reduce urban heat sink characteristics.
- Create urban tree canopy (in compliance with The City of Belmont's Urban Forest Strategy 2014).
- Retain vegetation wherever practical.
- Promote the use of low water demand plants.
- Pursue water harvesting, passive irrigation and integrated urban water management.

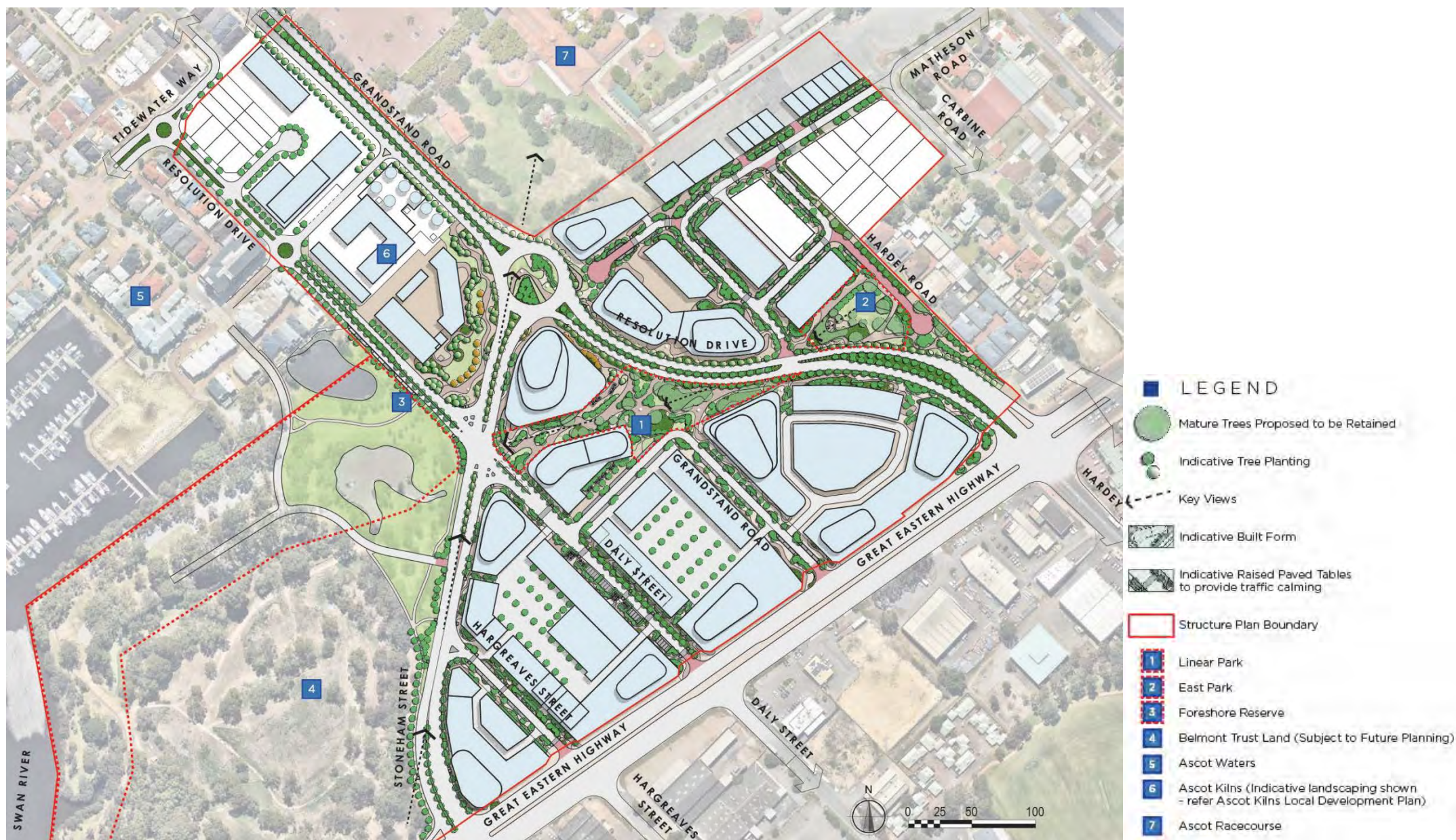


Figure 7 - Landscape Masterplan

4. PUBLIC REALM OVERALL APPROACH

The site comprises a number of different public realm space types ranging from the strong east-west linear park (“Greenlink”), boulevard high-use roads to local streets as detailed on the landscape masterplan (refer **Figure 7**).

A cohesive approach across the public realm will consist of an urban landscape that reinforces a fluid and flowing spatial arrangement starting from the river parklands and extending this character throughout the subject land. The creation of smaller pockets of activity and open space will be defined by street trees, tree groups and sinuous tree lines. Pedestrian spaces will be sheltered by a substantial tree canopy and vehicular routes flanked by boulevard plantings. A unified paving design and materials for pedestrian areas will extend throughout the subject land extending down streets and through the central Linear Park. This will both unify and delineate the different pedestrian and vehicular spaces.

Placemaking should inform the detailed design of spaces throughout the precinct. The spaces need to be able to facilitate and accommodate diverse activities that may emerge from community social investment. The location and development of the public spaces will be achieved through the successful balance between physical attributes, the vehicle circulation and dynamic social, cultural and economic vitality. The site’s inherent qualities are strongly related to its proximity to the Swan River and its heritage related to the Ascot Kilns. It is the intention that distinctive physical spaces will be encouraged to evolve beyond the design, responding to the growing community and social and commercial opportunities. Spaces will consolidate a strong identity and character that is easily recognised by local users and visitors.

In accordance with best practice, the public realm should be designed to maximise universal access for all members of the community. Designs will need to comply with prevailing legislation but should also strive to safely accommodate ease of safe use encouraging full accessibility through all areas.

To reduce maintenance and water consumption, where possible, consideration should be made as to the use of hard surfaces or low water alternatives instead of turf. Water harvesting of hard surfaces is also exploited where possible using swales, channels and ground amendments to reduce the need for overall water consumption.

5. PARKS

Public Open Space (POS) is to be provided generally in accordance with **Figure 8** and should be vested in the Crown and managed by the local government. The development of land included within the Swan River Trust Development Control Area will be subject to the approval of the Department of Biodiversity, Conservation and Attractions (DBCA). The POS is to provide for both informal active and passive recreation uses. These uses will not utilise large spaces for sports but provide activities for the community that may include, children's play areas, health and fitness trails, small scale ball kick-a-bout areas and one-on-one basketball spaces. The POS areas may accommodate stormwater generated from the proposed development of the site and this will be designed in such a manner that its function as local open space is not compromised.



Figure 8 - Public Open Space Provision

5.1 FORESHORE RESERVE

The 'Foreshore Reserve' creates a valued open space adjacent to the Swan River. The nature of the space, its future and development, is controlled largely by the Belmont Trust and is not the subject of this Public Realm Strategy but will be addressed by a separate study.

5.2 LINEAR PARK "GREENLINK"

The Linear Park ("Greenlink") is a valuable community asset which has great potential to be the focus of community use, a meeting place and the primary pedestrian movement corridor linking the subject land with the Swan River and associate parklands to the west (refer **Figure 9**). The linear park is an urban park relying on tree canopies to provide shade and "softness" to the urban space. The size of paved areas should be able to accommodate potentially large numbers of users including cyclists, skaters, and pedestrians all within a network of footpaths linking into the surrounding road network and building entrances. The space will create a seamless and comprehensive character that embraces built form and is unaffected by the rigidity of traditional street infrastructure.

The informality of parklands will envelope development forming a new dynamic setting that is capable of providing informal meeting spaces, alfresco spill-out, community meeting places and potentially facilities such as active recreational spaces, outdoor fitness trail equipment and interactive sculptural elements as public art. The space will facilitate clear passive surveillance from the lower levels of buildings and will be well lit at night. The open and broad nature of spaces providing safe pedestrian circulation and sight lines, lighting and activity will enable the space to accommodate the needs of a growing local population.

Importantly, this space and its robust form diminishes the role of vehicular traffic aesthetically creating a dominance of pedestrian orientated space.

The design of this central linear park will create the setting or venue for community use. The emerging community values and enjoyment of a place for its special social and physical attributes is enhanced when the community can contribute to, and influence, decision-making about that space. Ongoing public and stakeholder engagement in regards to the use of spaces, their evolution and resultant design detail should therefore be an integral part of spatial management and design delivery. As the community grows and matures, places can respond to changing needs and opportunities. Management of this place therefore needs to include stakeholder engagement as well as consider the pragmatics of maintenance. The place may accommodate community or food gardens, established as an urban element within the overall design character. This can provide for activities that may not be possible within multiple dwelling and grouped developments, however such proposals should be derived from further consideration of the evolving community's needs and desires.



Figure 9 - Linear Park Green Link

5.3 EAST PARK

At the eastern-most extent of the POS network, a large simple space of grass is located (refer **Figure 10**). This forms a transitional space between mixed-use and multiple dwelling development and the lower density existing residential and stables area that is located to the east of the site. The park creates a soft, semi-active open space suitable for informal ball games and passive pursuits.



Figure 10 - East Park

6. ROADS AND STREET TREATMENTS

6.1 GENERAL

Road hierarchies and overall legibility of the subject land will be reinforced by the type of tree planting associated with the scale of the road. The paving treatments within all streets and roads will be consistent with the material palette of the Linear Park, reinforcing a distinctive character of this place.

The scale and robust nature of proposed street tree species relate to the potential scale and height of built form. Street trees have an important role in the urban environment, improving microclimate and urban heat sink characteristics, reducing storm runoff rates and contributing to the character and qualities of neighbourhoods. The detailed design of roads will need to ensure the provision of adequate soil volumes within road reserves to ensure sufficient root development for street trees.

6.2 ROAD TREATMENTS

Road hierarchies and overall legibility of the precinct can be enhanced with the use of varied road and footpath paving treatments, in keeping with the material palette of the Linear Park. Consideration should be given to the use of block pavers at road junctions or to create varying precincts within the development. For example, emphasising Daly Street and the extension of Grandstand Road where it forms the edge to the Linear Park.

The selected paving treatments of local streets should emphasise the overall precinct character. All paving detailing at junctions and associated with pedestrian circulation should address both the need to reduce traffic speeds, manage drainage and create a distinctive character. Raised tables can be used to provide traffic calming and to add texture to the urban streetscape reinforcing a character that promotes pedestrian safety.

Cycle lanes throughout the site will be red asphalt except where they are incorporated into areas of feature pedestrian paving where colour differentials will relate to paving patterns, and if necessary, lanes defined by studs. Paving material changes will be used to accentuate areas such as major pedestrian road crossings, civic areas and hazards. Parking bays should be differentiated from the road reserve through the use of alternative paving treatments as shown in **Figure 11**.

The materials used for road pavement can assist with drainage management within the area. This may include the use of permeable paving and/or porous brick paving and/or porous asphalt. These materials can play a significant role in managing drainage in a water sensitive manner and where 'soft' open space is not an extensive feature of this location.

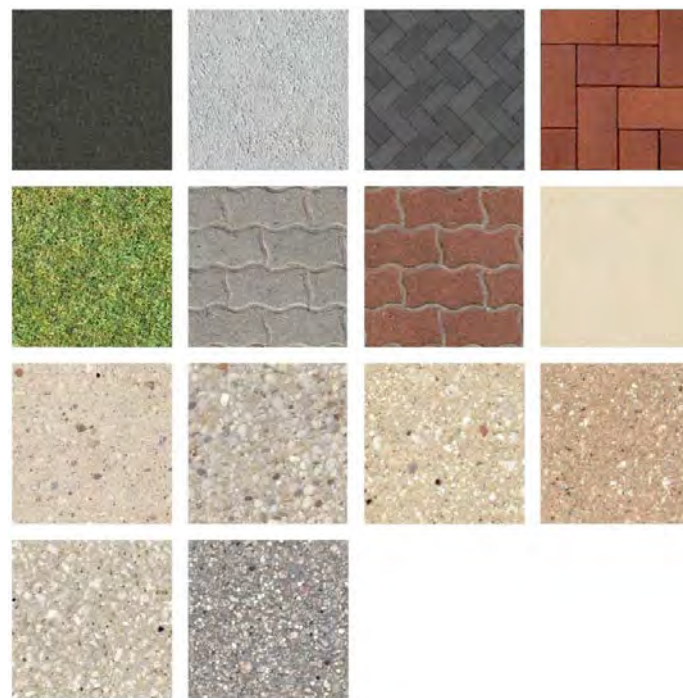


Figure 11 - Material Palette (illustration of indicative paving material palette, colour, type)

6.3 RESOLUTION DRIVE

Whilst Resolution Drive will be largely vehicle dominated, the landscape aesthetic will be dominated by tree planting of larger species, creating a canopy boulevard along its length. Verge and median planting will create a formalised sinuous corridor of canopy trees that are recognisably different to the scale and nature of other landscapes in the area (refer **Figure 12**). Like street trees will be planted to create a boulevard aesthetic the length of the street, aiding in wayfinding (refer to section 10.2 for proposed tree species).

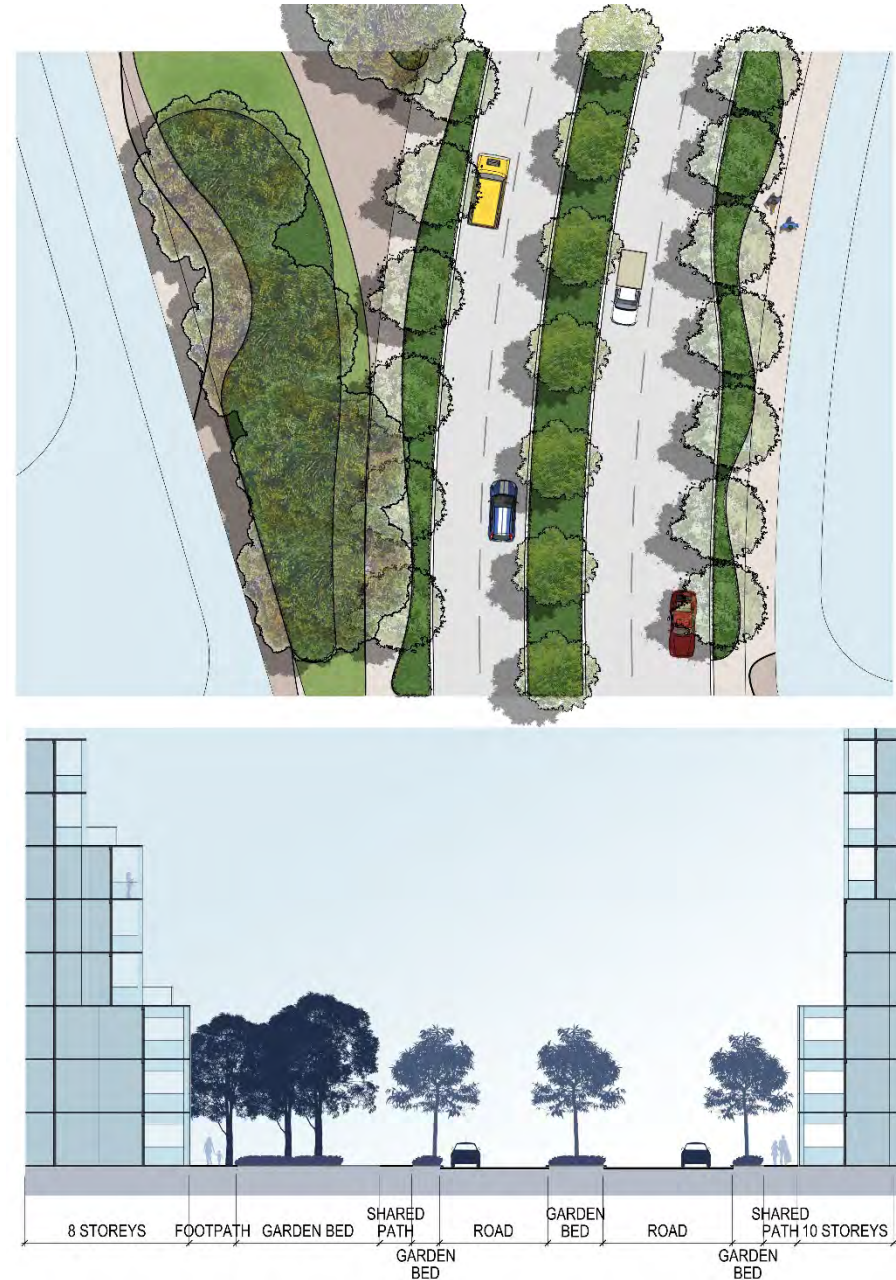


Figure 12 - Resolution Drive (Plan Extract and Indicative Section)

6.4 STONEHAM STREET

Stoneham Street will be identified by a boulevard of planting comprising species related to the adjoining Belmont Trust land such as a mix of natives and introduced species emphasised at junctions and the key pedestrian crossing points (refer **Figure 13**). The boulevard will accommodate a key pedestrian connection that extends through to Matheson Road via the Linear Park. Street trees will be selected to form a large canopied street, adding to the boulevard aesthetic. (Refer to section 10.2 for proposed tree species).



Figure 13 - Stoneham Street (Plan Extract and Indicative Section)

6.5 DALY STREET

Daly Street is proposed to function as the 'main street' and as such, the public realm has been configured to respond to retail uses (refer **Figure 14**). The pedestrian pavement will be configured to minimise clutter and encourage possibilities for alfresco seating. Importantly the paving design character established within the linear park extends through the street extending to the Linear Park. Tree groups will be used and located to define potential smaller public realm areas such as alfresco seating and informal gathering spaces (refer to section 10.3 for proposed tree species). Car parking is configured at right angles to optimise numbers in support of retail and food and beverage uses within the 'main street'.

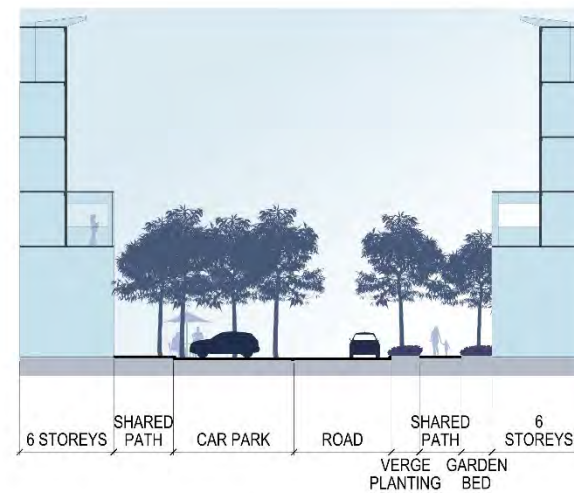


Figure 14 - Daly Street (Plan Extract and Indicative Section)

6.6 CENTRAL STREETS

Hargreaves Street and Grandstand Road will comprise street tree planting that is not a monoculture but uses a mix of street trees (refer **Figure 15**) in varying combinations, to provide a dynamic and varied street tree canopy (refer to section 10.4 for proposed tree species). The mix will create a character that is related to, but distinguished from, Daly Street, emphasising the different nature of the space (refer to section 10.4 for proposed tree species). These streets will extend the overall public realm character established within the Linear Park and central portion of the site but in a simpler manner. Street tree planting is proposed to create a canopied streetscape and to be positioned abutting the parallel parking embayments.

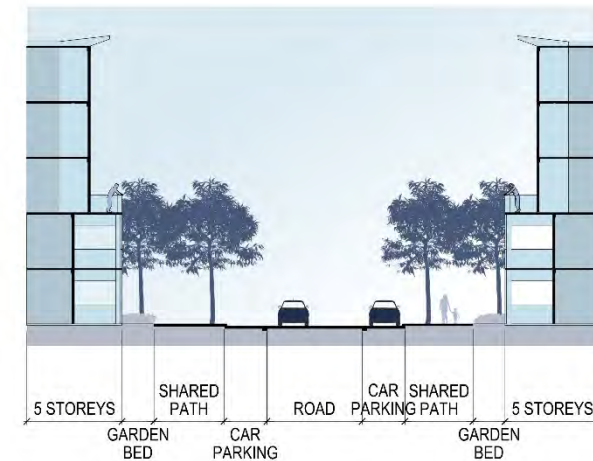


Figure 15 - Central Streets (Plan Extract and Indicative Section)

6.7 LOCAL STREETS PRECINCT (NORTH-EAST)

The streetscapes of the areas to the north and east of Resolution Drive will have a character that is dominated by street tree planting creating a heavy canopy. Street tree planting will consist of a variety of species that attain modest height but develop a broad canopy (refer **Figure 16**).

Raised paved tables can be used to provide traffic calming and to add texture to the urban streetscape reinforcing a character that promotes pedestrian safety. The selected paving treatments of local streets will change the character of streets especially in locations where separated pedestrian access is limited. All paving detail at junctions and associated with pedestrian circulation should address both the need to reduce traffic speeds, manage drainage and create a distinctive character.

6.8 GATEWAYS

In key locations within the streetscape and public realm, highlight tree species will be used to create a visual accent. This can aid in creating distinctive spaces, and provide physical cues within a legible street network. These highlight species will be used to create gateways, focal points or to emphasise uses. Refer to section 10.6 for proposed tree species.



Figure 16 - Local Street (Plan Extract and Indicative Section)

7. INTEGRATED DRAINAGE MANAGEMENT

The use and promotion of Water Sensitive Urban Design (WSUD) techniques and approaches are to be utilised wherever possible throughout the site. The space for nutrient stripping is limited. As the urban area is not producing a nutrient load, the focus is on slowing runoff and reducing hydrocarbons. The use of linear and incidental 'rain gardens' and 'nutrient sinks' as demonstrated below and overleaf can be implemented discretely within paving in streets and areas of open space. These devices should be fully integrated with the road drainage promoting passive irrigation of street tree vegetation and controlling hydrocarbon runoff.

Within the context of a dense inner urban area, the design of these WSUD devices need not be natural in appearance but can be incorporated within the urban public realm infrastructure as a contemporary feature as demonstrated below and overleaf.



It is intended that the east-west linear park, although containing broad pedestrian areas, will contain soft landscape areas that will accommodate local drainage that is managed through swale type structures that infiltrate water and passively irrigate trees and other vegetation used in the public realm. This will be subject to the future Local Water Management Strategy.

The use of permeable pavements and porous asphalt treatments in key locations is recommended, possibly associated with lower level threshold treatments of road junctions, should be incorporated as a component of the approach to integrated drainage management.



Examples of Rain Gardens & Swale Designs in an Urban Context (Jolimont Parkside Walk)



Source: <https://watersensitivecities.org.au/content/evolving-concept-wsud-statutory-land-planning/>



Source: <http://www.water.wa.gov.au/urban-water/urban-development/urban-water-design>



Source: <http://tclf.org/sites/default/files/microsites/landscape-patronage/riverbank-park.html>



Source: <https://landscapeperformance.org/case-study-briefs/randall-childrens-hospital>



Source: <http://www.landezine.com/index.php/2012/10/edinburgh-gardens-raingarden-by-ghd-pty-ltd/edinburgh-gardens-raingarden-by-ghd-pty-ltd-01/>



Source: <http://www.sfestuary.org/projects/detail.php?projectID=41>

Examples of Rain Gardens and Swale Designs in an Urban Context

8. STREET FURNISHING

Street furniture should be a selected single suite of items that are consistent across the site. The furniture should be reflective of the heritage and character of the area and located where it can function as more than a single use. For example, seats and benches should be located in a manner to restrict undesired errant access to protect and guide pedestrians as well as performing their obvious use. All furnishing will be from the same suite so that bicycle storage, seats and bollards are seen as one cohesive design style.



Source : EPCAD image library – Public access way by Hassel



Source : EPCAD image library



Source : EPCAD image library



Source : EPCAD image library – artwork by Marcus Canning and Christian de Vietri



9. PUBLIC ART

Public art enhances spaces, makes places, adds to the community enjoyment of space and has a significant role to play within the Precinct. Public art can be of a scale that in itself is a focal point of interest, defining character and being a reason for space. Public art can also be an intimate smaller installation that relates to people when using areas of rest and repose, such as seating areas. The creation of 'place' can be enhanced through a sense of identity provided by the artworks. The creation of identifiable landmarks that can be observed and experienced as both a pedestrian and vehicle user can aid in legibility of the development. Importantly, in this location, creative installations could interpret the cultural and historic narrative of the area and enable strong connections with its context.



Source: EPCAD image library – Jolimont Parkside Walk



Source : EPCAD image library – Public access way by Hassel



Source : EPCAD image library



Source : EPCAD image library – artwork by Marcus Canning and Christian de Vietri



Source : EPCAD image library

10. GOLDEN GATEWAY TREE SPECIES

10.1 PARK AND CIVIC SPACE SPECIES

Corymbia calophylla: Marri (large fruiting nuts) 30m+H



Eucalyptus sideroxylon "Rosea" : Red Ironbark 15-25m H



Phoenix canariensis: Canary Palm 15m+



Platanus x acerifolia: Spanish or London Plane 20 – 30m



Tipuana tipu: South American Rosewood 7m

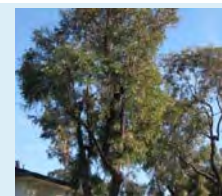


10.2 STONEHAM STREET AND RESOLUTION DRIVE

Angophora costata: Smooth barked apple 15 – 25m high



Eucalyptus sideroxylon "Rosea" : Red Ironbark 15 - 25m H



Corymbia calophylla: Marri (large fruiting nuts) 30m+H



10.3 DALY STREET

American Sweetgum or Liquidambar 12 – 18m high



Eucalyptus torquata:



Corymbia ficifolia: Red flowering Gum 8-15m



10.4 CENTRAL STREETS

Corymbia ficifolia: Red flowering Gum 8-15m



Eucalyptus caesia



Eucalyptus torquata



Jacaranda mimosaeifolia: Jacaranda



Lophostemon confertus: Queensland Box



10.5 LOCAL STREETS PRECINCT

Angophora costata: Smooth barked apple 15 – 25m high



Corymbia ficifolia: Red flowering Gum 8-15m



Eucalyptus torquata



Jacaranda mimosaeifolia: Jacaranda



Lophostemon confertus: Queensland Box



10.6 HIGHLIGHT SPECIES (GATEWAYS)

Phoenix canariensis: Canary Palm 15m+



Platanus x acerifolia: Spanish or London Plane 20 – 30m



Tipuana tipu: South American Rosewood 7m



11. IMPLEMENTATION

11.1 LANDSCAPE CONSTRUCTION AND MANAGEMENT

The public realm areas in the Golden Gateway area, will primarily be in government ownership; consequently, the City of Belmont will need to assume responsibility for implementing the Public Realm Strategy. However, given the significant potential for private redevelopment that is to be generated through the Golden Gateway LSP, it would be possible to recover some or all of the implementation cost from private development through development contributions or other funding mechanisms.

The LSP recommends that the City of Belmont establish an appropriate funding strategy for the LSP Area. As part of the strategy, a Development Contribution Area (DCA) within LPS 15, under which a Development Contribution Plan (DCP) may be implemented to contribute to the funding of the public infrastructure requirements to facilitate development in the LSP Area would be considered.

Infrastructure items that would be eligible to be funded under a DCP should be in accordance with State Planning Policy 3.6 Development Contributions for Infrastructure (SPP 3.6) and may include:

- Land for public open space and community facilities; and
- Landscape treatment for all public realm areas, including local roads.

Furthermore, detailed design of spaces throughout the precinct is encouraged through placemaking opportunities that emerge from community social investment.

11.2 WATER MANAGEMENT

Further to the recommendations of Section 7, in order to deliver wider environmental sustainability objectives, as well as providing attractive places in which residents and visitors can enjoy, consideration should be given to the conservation of water resources and quality of groundwater. The use of water efficiency measures is encouraged and should promote the investigation of best management practices for irrigation of public open space.

The availability and quality of groundwater within the LSP area is limited at this stage. This will affect the ability of the City of Belmont to irrigate the proposed vegetation within the public realm areas. Therefore, due to the limitation of groundwater for irrigation purposes, the future irrigation of vegetation within the POS and public realm areas will need to be supplied by other sources. This may include scheme water, stormwater, irrigation (by agreement) from the Western Australian Turf Club's (now operating as Perth Racing) artesian groundwater licence, a new irrigation lake or other irrigation strategies will need to be investigated in the future. The City may encourage developers to consider the irrigation of abutting verge vegetation and street trees to ensure the high quality natural amenity of the public realm is maintained. Alternatively, non-irrigated (dry) landscape may need to be considered for the public realm areas.

11.3 STAGING

It is not anticipated that the entire landscape masterplan be implemented at once. It is anticipated that the work will be undertaken in stages and progressively rolled out commensurately with the delivery of other key infrastructure, particularly the various road realignments and subdivision works that are required to create the environment for private redevelopment.

These works would create the framework enabling the public realm works to be implemented. Priority should be given to establishing the road network and lots that frame the POS spine and the primary focus should then be the implementation of this public infrastructure to set the stage for the precincts credentials as a high quality development opportunity.

Table 1 outlines the staging triggers proposed in the Golden Gateway LSP. The public realm delivery should work in parallel with this program.

Table 1 Golden Gateway LSP Indicative Staging Strategy

STAGING TRIGGERS	DEVELOPMENT AREAS	COMMENT
1. Planning Framework implementation - Scheme Rezoning, Structure Plan approval, Development Contribution Plan	<ul style="list-style-type: none"> Kilns site and adjoining WATC Admin site Great Eastern Highway land 	No subdivision or development to be approved until the planning framework is in effect.
2. Realignment and upgrades of Grandstand Rd, Resolution Dve and Stoneham St. Create linear POS reserve.	<ul style="list-style-type: none"> All land referred to in 3 and 4 below 	This work is necessary to establish new road alignments and rationalise cadastral boundaries, prior to development of any land requiring access from those roads either directly or indirectly, or impacted by land assembly requirements.
3. Extension of Matheson Rd to connect to Resolution Dve.	<ul style="list-style-type: none"> Land north of Resolution Dve 	
4. Upgrades of Hargreaves, Daly and Grandstand Rd. Landscape works in linear POS.	<ul style="list-style-type: none"> Land fronting the stated roads 	Development may be permitted to occur prior to upgrades subject to contribution towards upgrade works in cash or kind (where appropriate).

A Landscape Management Plan will be prepared at each stage of the infrastructure works. Each Landscape Management Plan will address the landscape design, implementation and ongoing maintenance of landscape elements within the site, and should reflect the public realm principles contained in this Strategy.