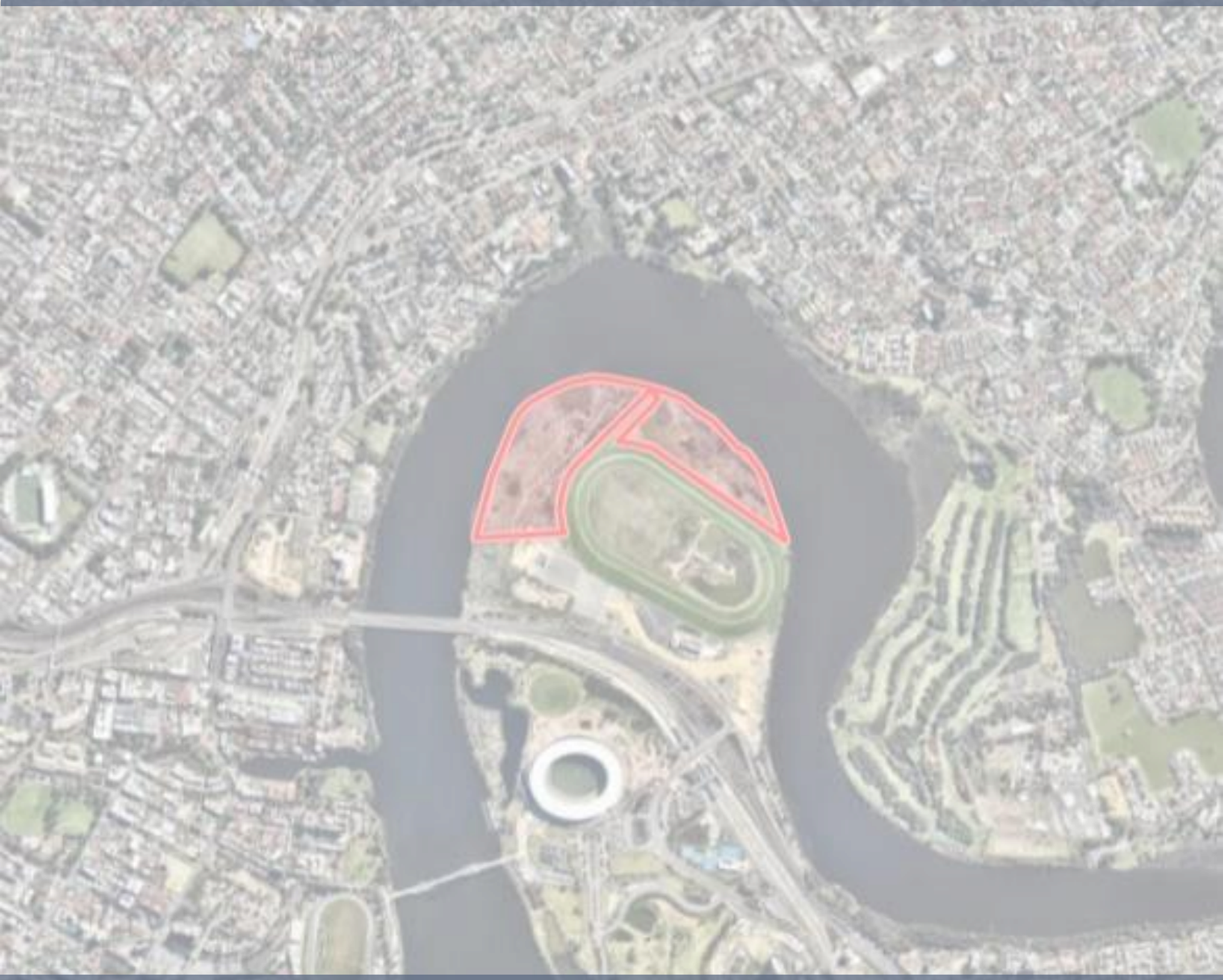
Burswood Peninsula – Precinct A

Local Development Plan - Transport Impact Assessment



Prepared by: Stantec Australia Pty Ltd for Bridge42

on 29/06/22

Reference: 301400758

Issue #: 2

GTAconsultants now Stantec

Burswood Peninsula – Precinct A

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Quality Record

Issue	Date	Description	Prepared By	Checked By	Approved By	Signed
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EXECUTIVE SUMMARY

The Burswood Peninsula – Precinct A Local Development Plan has been prepared to guide the development of Precinct A within the Belmont Park Racecourse Redevelopment project. The Local Development Plan will create a framework for the urbanisation of Precinct A with continuity to Precinct B (still in planning) and Precinct D (for which construction has commenced). It is proposed that there will be four apartment Lots housing 910 dwellings and a total of 203 townhouse Lots.

This Transport Impact Assessment (TIA) Report has been prepared by Stantec in support of the prepared Local Development Plan.

The TIA addresses the transport aspects of land use in line with the following key objectives:

- To integrate Precinct A with the surrounding Precincts, road network and land uses. The Precinct A Local Development Plan is directly adjacent to the Precinct B, and north-west of Precinct D, although with no direct access to Precinct D (currently under construction).
- To assess the proposed internal transport networks with respect to accessibility and safety for all modes: vehicles, public transport, pedestrians, and cyclists.
- To determine the impacts of the traffic generated by the Local Development Plan on the surrounding land uses and transport network – and confirm its alignment with previously prepared traffic assessment reports.
- To provide input to the Parking Management Plan to ensure optimum operation and functionality within and for the connections to the site.

Further to the transport summary details provided in the Conclusion Chapter 7 of this TIA, the Local Development Plan proposed ultimate road network demands, and road hierarchy are reproduced below.

Ultimate Transport Network

The Master Plan identifies an indicative layout with main Neighbourhood Connector streets through the centre, and local access streets into the residential townhouse development lots.

The road network within the Local Development Plan provides continuity and connectivity with the adjacent (Precinct B) road network, and pedestrian and cycle facilities.

- Neighbourhood Connector A and B

  The main street through the centre of the subject site is classified as a Neighbourhood Connector A (within Precinct B) and a Neighbourhood Connector B street (within Precinct A), travelling through the entirety of the site. The main street will provide a central median and crossing opportunities, embayed parking and a footpath on both sides of the road.

- Local Access Streets and Laneways

  The intersecting streets within the Master Plan are all Local Access Streets and Laneways, providing access to the car parking spaces for the townhouse developments. The Local Access Streets will be low volume with low speeds, maintaining safety and direct access to each townhouse.

- Pedestrian and cycle facilities are interwoven through the Local Development Plan design, with the foreshore public open space containing a network of shared paths, and connection through to the Principal Shared Path south of the Burswood Peninsula development.

The high-level determination of this TIA is that the development of the Local Development Plan, under the assumed traffic generation and connections through Precinct B to the wider network will function safely and efficiently. It can be concluded from the information presented in this TIA that the proposed development can be supported by the future traffic network contained within the Belmont Park Local Structure Plan area. Accordingly, the transport characteristics of the Local Development Plan are considered acceptable and in line with the detail provided within the Local Structure Plan.

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Appendices

1. INTRODUCTION

01

1.1. Background & Proposal

Stantec has been engaged to undertake a transport impact assessment of the Burswood Peninsula – Precinct A Local Development Plan. Precinct A is located along the northern portion of the Belmont Park Racecourse Redevelopment area, which is divided into Precinct A (the subject site), Precinct B (south-west of the racecourse), Precinct C (the racecourse), and Precinct D (south-east of the racecourse). A total residential yield of 4,500 dwellings is approved for the Burswood Peninsula development, of which 3,000 are allocated to Precinct A and B.

The Redevelopment area is positioned between Victoria Park Drive and the Swan River, with Precinct A aligning the north and north-western foreshore. The Local Development Plan indicates a proposed yield of 910 apartments within nine (9) buildings across four (4) Lots, and 203 townhouses, with the townhouses along the outer foreshore edge and inset along the northern side of the racecourse. Public open spaces are located centrally within Precinct A, with smaller areas provided sporadically between the townhouse developments, and a foreshore pavilion type structure proposed between Superlots G and H.

The Local Development Plan and subject site location within the wider Redevelopment area are shown in Figure 1.1 and Figure 1.3.

Figure 1.1: Burswood Peninsula – Precinct A Master Plan January 2022

(Image courtesy of DKO Architecture)

Figure 1.2: Burswood Peninsula – North East Precinct January 2022

(Image courtesy of DKO Architecture)

Figure 1.3: Burswood Peninsula Surrounding Area Context

(Image courtesy of Nearmap)

1.2. Purpose of this Report

Volume 2 of the Western Australian Planning Commission Transport Assessment Guidelines (WAPC Guidelines) provides direction on the preparation of a TIA for Planning Schemes and Structure Plans. The WAPC Guidelines identify that a TIA for a Structure Plan (or Master Plan in this case) is to provide a broad-brush assessment.

This TIA details the methodology and findings, which was prepared in line with the guidelines set out in the WAPC Guidelines and takes account of the Town of Victoria Park's planning policies. This TIA considers the integration of the Local Development Plan with the existing and proposed transport networks including walking, cycling, public transport, and vehicular travel and considers the potential impact of the proposed development.

In preparing this TIA, consideration was given to the Belmont Plan Local District Plan and the Structure Plan and Subdivision Plan for Precinct D to ensure consistency and continuity through the entirety of the Burswood Peninsula area. Specifically, these relate to the objectives of the WAPC Guidelines, being:

- to assess the proposed internal transport networks with respect to accessibility and safety for all modes: vehicles, public transport, pedestrians, and cyclists;
- to assess the level of transport integration between the subject site area and the surrounding land uses;
- to determine the impacts of the traffic generated by the Structure Plan area on the surrounding land uses; and
- to determine the impacts of the traffic generated by the proposed development on the surrounding transport networks - noting that the overall traffic generation and yield of the Local Development Plan inclusive of Precincts A to D have been approved.

The information presented in this TIA report supports that the proposed development can be supported by the planned future traffic network, as detailed herein.

1.3. Summary of key findings

From a traffic and transport point of view, the following key provisions are immediately identified for this TIA:

- The Local Development Plan relies of the connection through Precinct B and the proposed upgraded connections with Graham Farmer Freeway.
- The layout of the Local Development Plan and overriding Structure Plan provides the opportunity for excellent walking and cycling within the area, with connections to the surrounding areas.

1.4. References

In preparing this report, reference has been made to the following:

- Town of Victoria Park's Town Planning Scheme No.1 (TPS 17)
- Liveable Neighbourhoods Guidelines
- WAPC Transport Assessment Guidelines for Development, August 2016
- plans for the proposed Local Development plan dated 20 January 2022 and July 2021 prepared by DKO Architecture
- various technical data as referenced in this report and other documents as nominated.

The following reports were also reviewed due to their proximity to this Precinct A Structure Plan:

- Belmont Park Local District Plan
- Precinct D Detailed Area Plan and Structure Plan

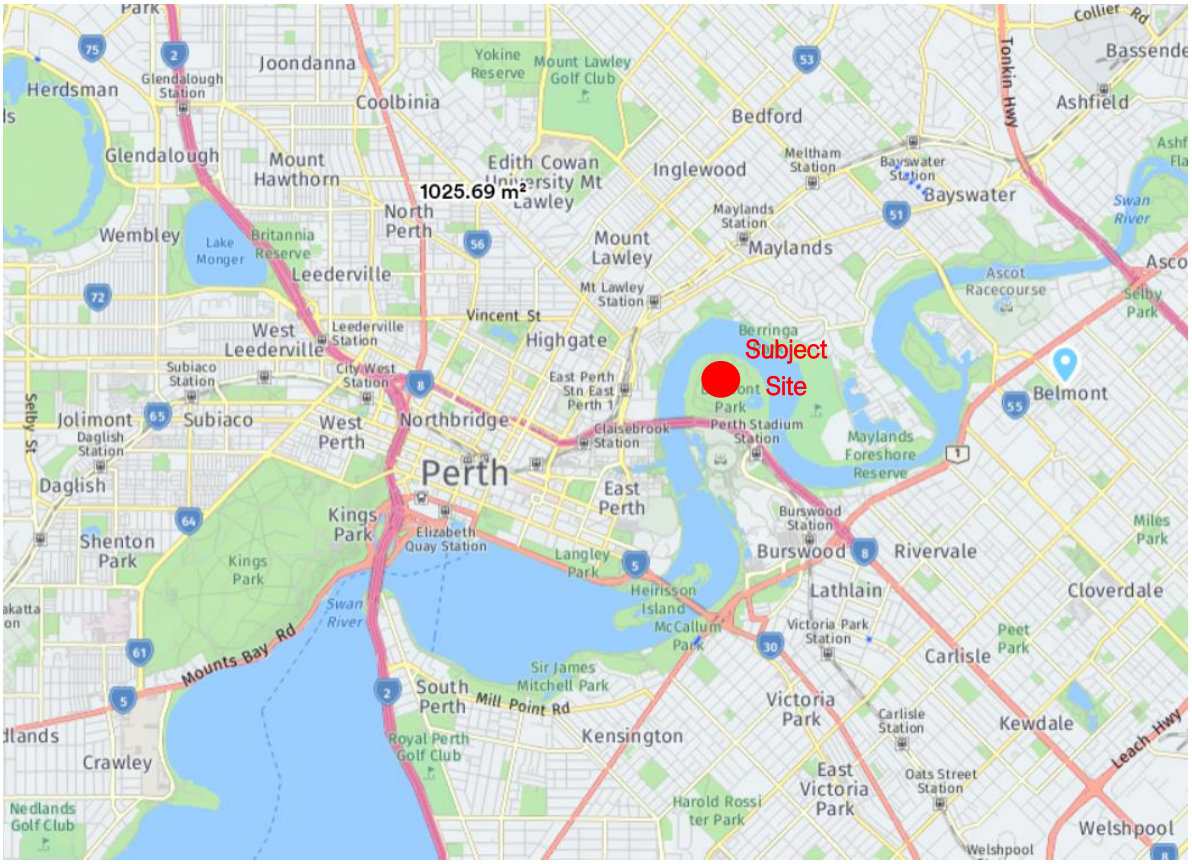
2. STRUCTURE PLAN OUTLINE

02

2.1. Regional Context

The subject site is located in the suburb of Belmont Park, within the Town of Victoria Park. The site surrounds the existing Belmont Park Racecourse, with Precinct A accommodating the north and eastern portion. The site is approximately 2.5km north-east of the Perth CBD, 7.5km west of Perth Airport, 3.6km north of Victoria Park and 4km west of Belmont. Directly south of Belmont Park is Perth Stadium (Optus Stadium) and Perth Stadium Station, Crown Casino and Burswood Station, and the north of the site abuts Swan River.

Figure 2.1: Location Map



(Map courtesy of Nearmap)

2.2. Proposed Land Uses

The Local Development Plan proposes a mix of townhouse residential lots, multistorey apartments, and public open space as shown in Table 2.1.

Table 2.1: Land Uses

Structure Plan	Land Use	Yield
Local Development Plan	Residential Lots	203
	Apartments	910
Public Open Space	9,931m^2	

2.3. Attractors or Generators of Traffic (non-residential)

The Local Development Plan area is unlikely to draw significant non-residential traffic due to the limited attracting facilities within the site. The main attractors or generators of traffic over and above that of the residential uses would be:

- Potential Future Foreshore Centre
- Public Open Space (POS)

There is no information provided on what the Foreshore Centre will include, other than being an open area for access to Swan River. As such, for the purposes of this report the POS includes the foreshore area. The POS will have peak traffic generation typically outside of that relating to the residential uses within the Precinct.

3. EXISTING SITUATION

03

3.1. Subject Site

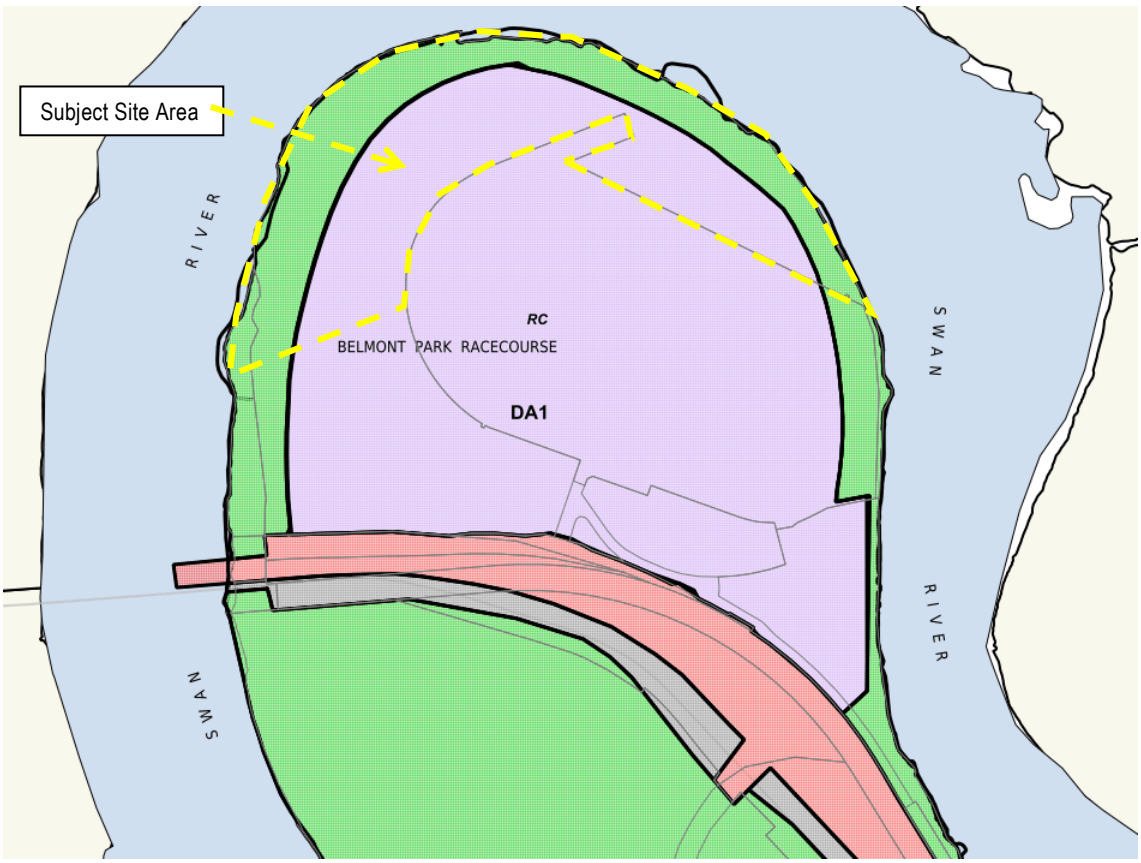
The subject site comprises the area bound by the Belmont Park Racecourse to the south, and Swan River to the north and west. The wider Local District Area Plan has the Burswood Peninsula area split into four precincts, Precinct A – the subject Site, Precinct B to the south-west of the subject site bound by Graham Farmer Freeway, Precinct C being the racecourse, and Precinct D on the south-east of the racecourse (presently under construction).

The site area is currently zoned Parks and Recreation, Special Use under the Town Planning Scheme No.1 Burswood Peninsula Precinct. The location of the subject site and the surrounding environs is shown in Figure 3.1, and the land zoning is shown in Figure 3.2.

Figure 3.1: Subject Site and its Environs

(Map courtesy of Nearmap Pty Ltd)

Figure 3.2: Land Zoning Map



(Reproduced from Town of Victoria Park Intramaps)

3.2. Existing Movement Network

3.2.1. Roads (inc. RAV Networks)

Burswood Peninsula is currently accessed via a road network accessible through connections to the Victoria Park Drive on and off ramp interchange and bridge over Graham Farmer Freeway.

There is currently one main entrance into Burswood Peninsula, the racecourse and all associated car parking areas, being Saintly Entrance from the Graham Farmer Freeway off ramp. A second gated entrance is available via Balbuk Way and Placid Avenue which is inaccessible to public.

With only the racecourse north of the freeway at present, all traffic movements through the existing road connections relate to the use of the racecourse and associated buildings.

Graham Farmer Freeway/Victoria Park Drive

Graham Farmer Freeway is a Primary Distributor travelling north toward Perth City, and south toward Welshpool. Victoria Park Drive is also a Primary Distributor until becoming a Distributor B on the southern side of the Freeway.

The existing road layout sees the single lane off ramp from Graham Farmer Freeway becoming two straight through lanes and a dedicated left turn lane as the road passes the Burswood Peninsula frontage. The two

northbound lanes continue through the traffic signal intersection of Victoria Park Drive until merging at the Graham Farmer Freeway on ramp.

Reviewing the SCATS data for the signalised intersection of the off ramp and Saintly Entrance and considering the through lanes only, the peak traffic volumes on the off-ramp west of the traffic signals are in the order of 433 vehicles per hour (vph) in the AM peak period, and 699 in the PM peak period, with approximately 5,500 vehicles per day (vpd) (Monday to Friday).

Victoria Park Drive

Victoria Park Drive south of the Graham Farmer Freeway off ramp is a Distributor B with two lanes in each direction and turning bay facilities at the traffic signal intersections.

The northbound connection of Victoria Park Drive to the Saintly Entrance traffic signals is also two lanes. These form the south-north connection into the Burswood Peninsula area, crossing over the Graham Farmer off ramp. The northbound lanes of Victoria Park Drive have approximately 60 vehicles per day outside of the days in which events are held at the racecourse.

Reviewing available SCATS data for the intersection of Victoria Park Drive and Marlee Loop, north of the intersection the daily traffic volumes (Monday to Friday) on Victoria Park Drive are approximately 11,000 vpd.

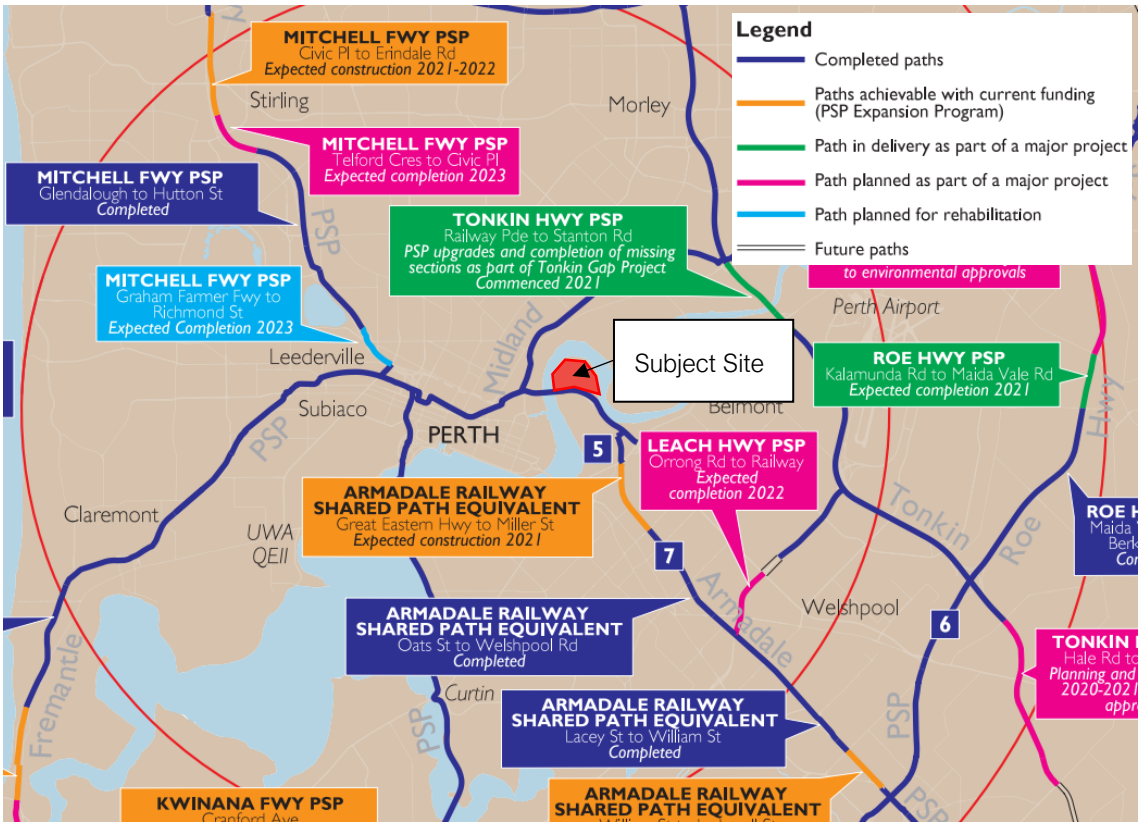
3.2.2. Pedestrian and Cyclist Network

The Graham Farmer Principal Shared Path (PSP) is located alongside the northern side of the freeway, crossing beneath the freeway adjacent to the Swan River foreshore. East of the subject site the PSP continues along the freeway edge until Great Eastern Highway diverting south becoming the Armadale PSP.

Survey information indicates 988 bicycles per day access the PSP on the northern side of the freeway and 186 bicycles per day south of the freeway (Monday to Friday).

There is also a dedicated pedestrian bridge connecting the Belmont Racecourse directly to Perth Stadium Station, and a footpath is also present on the eastern side of the Victoria Park Drive overbridge (part of the PSP).

Figure 3.3: Perth Principal Shared Path Map



3.2.3. Public Transport

As the Local Development Plan area is currently undeveloped in terms of urban development, there are no public transport services or facilities currently operating within the subject site area. Perth Stadium Station is located on the southern side of the freeway and is accessible from the site via a dedicated pedestrian bridge and approximately 560m walkable distance from the main entry point into Burswood Peninsula.

Slightly further at approximately 1km from the main entry point is the Perth Stadium Bus Station and the Marlee Loop bus stop. Bus services are provided within the Perth Stadium area only when major events are occurring. Outside of these occasions, the nearest bus stop is located on Victoria Park Drive near the Burswood Train Station, approximately 2km from the site entrance.

The Burswood train and bus stations provide access to a number of services, as detailed in the following Tables.

Table 3.1: Rail Based Public Transport Provision

Train Line	Route Description	Significant Destinations on Route	Frequency On/Off Peak
Armadale	Armadale to Perth City	Armadale, Kelmscott, Maddington, Cannington, Victoria Park, Perth	15 minutes
Thornlie	Thornlie to Perth City	Thornlie, Beckenham, Victoria Park, Perth	15 minutes

Table 3.2: Road Based Public Transport Provision

Bus Route No	Route Description	Distance to Nearest Stop (m) Significant Destinations on Route	Frequency On/Off Peak
907	Perth Busport to Armadale Station	Armadale, Kelmscott, Gosnells, Maddington, Cannington, Victoria Park, Perth	

3.3. Existing Road Network (Within 2km)

In addition to Victoria Park Drive and Graham Farmer Freeway, there is access to higher order roads via the freeway. The below roads, East Parade and Great Eastern Highway, provide approximate north/east to south/west connections on either side of Swan River.

East Parade

East Parade is located on the western side of the Swan River with an approximate north to south orientation. North of the freeway East Parade is a Primary Distributor and a Distributor A south of the freeway. East Parade provides access to East Perth and Maylands.

Great Eastern Highway

Great Eastern Highway is south-east of the subject site with an approximate north-east to south-west orientation. Great Eastern Highway is a Primary Distributor and provides connectivity as far as Fremantle to the west, and Perth Airport and Guildford to the east.

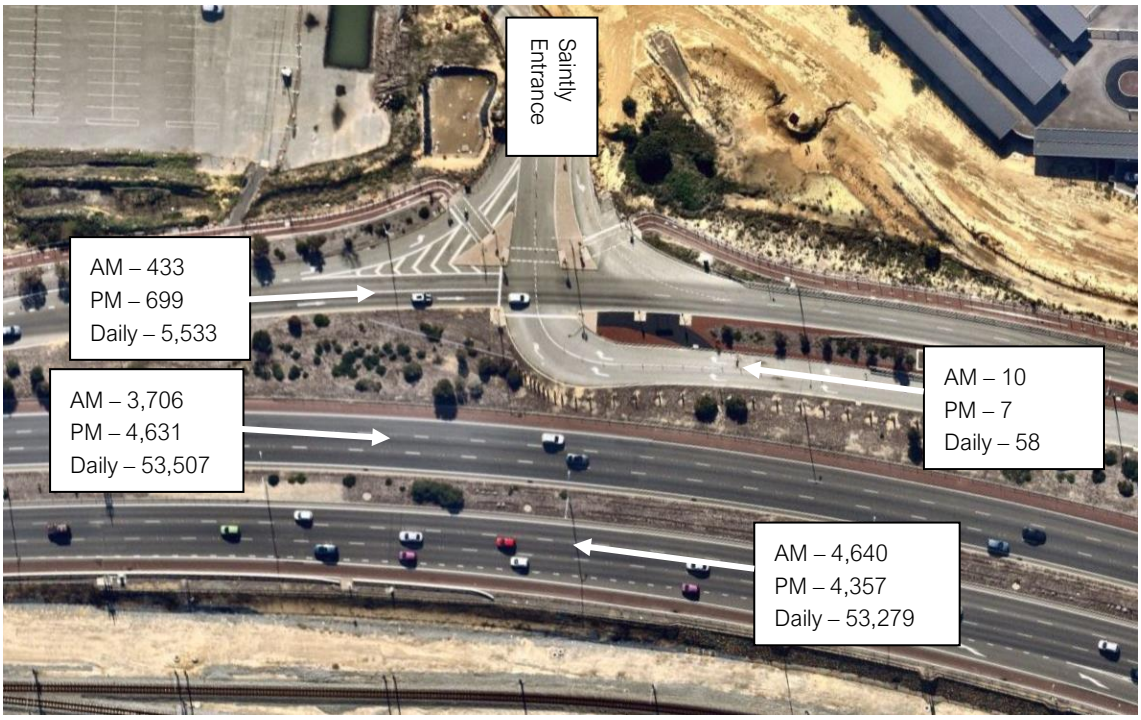
3.4. Traffic Counts

SCATS data available from MRWA was reviewed for the intersection of Graham Farmer Freeway off ramp and Victoria Park Drive/Saintly Entrance. The existing typical traffic volumes are provided in Table 3.3 and demonstrated in Figure 3.4 and Figure 3.5: These volumes are for a typical weekday and exclude those days when events occur at Belmont Racecourse.

Table 3.3: Existing Traffic Volumes

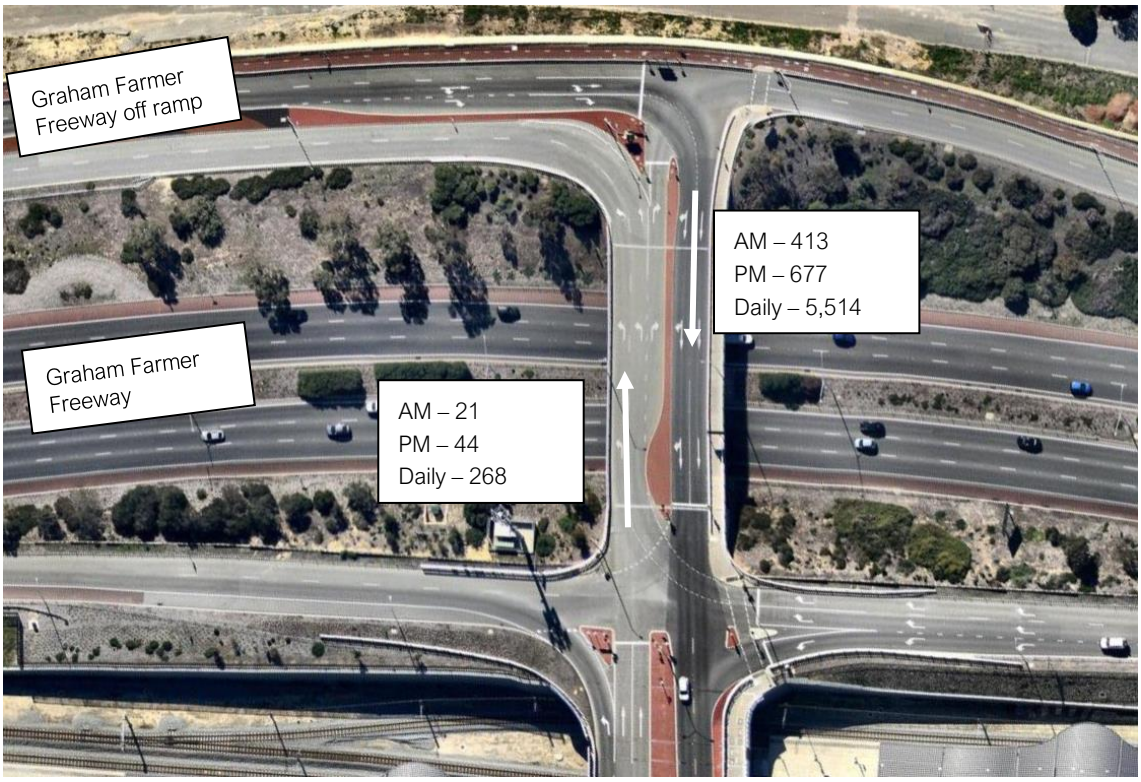
Road Name	Direction	AM Peak	PM Peak	Daily Volumes
Graham Farmer Freeway	EBD	3,706	4,631	53,057
Graham Farmer Freeway	WBD	4,640	4,357	53,279
Graham Farmer Freeway Off Ramp West of Signals	EBD	433	699	5,533
Victoria Park Drive/Saintly Entrance south of Off Ramp	WBD/NBD	10	7	58
Victoria Park Drive	SBD	413	677	5,514
Victoria Park Drive	NBD	21	44	268

Figure 3.4: Existing Traffic Volume Information, Saintly Entrance



(Image Courtesy of Nearmap))

Figure 3.5: Existing Traffic Volume Information, Victoria Park Drive



(Image Courtesy of Nearmap)

4. PROPOSED INTERNAL & EXTERNAL TRANSPORT NETWORKS

04

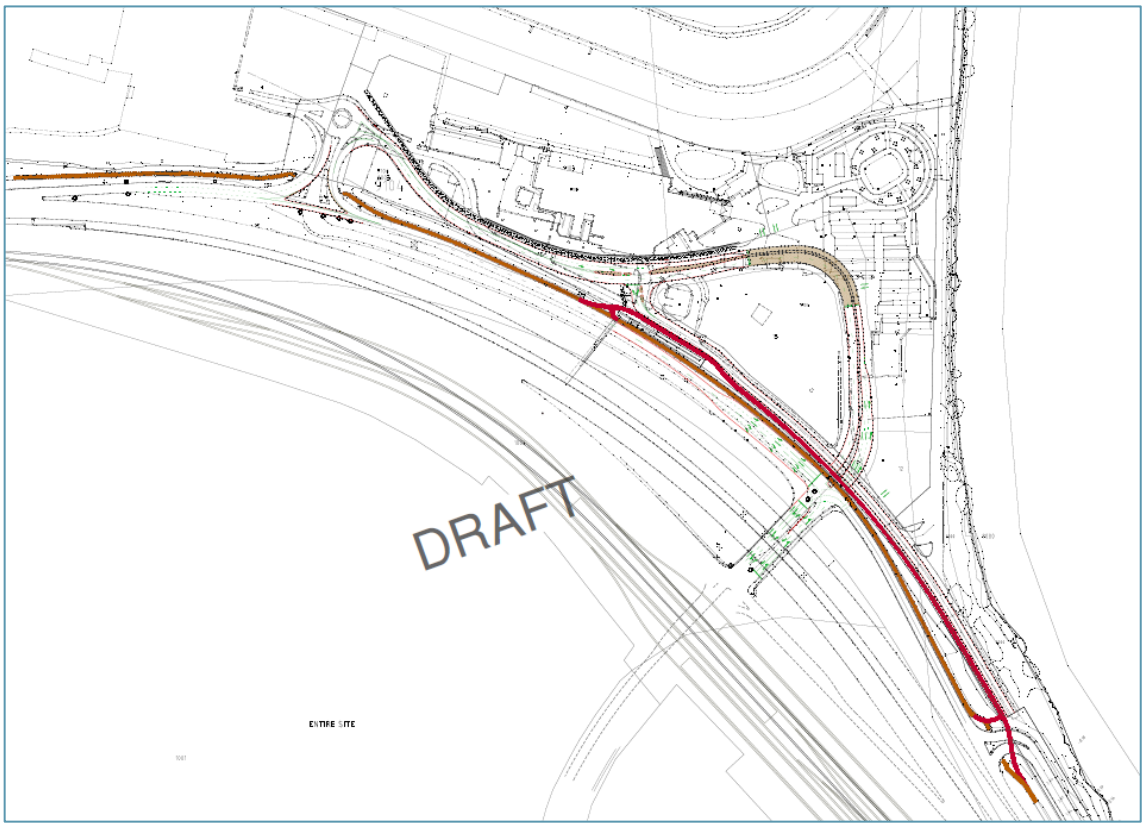
4.1. Changes to Existing Road Network

To provide access to the Burswood Peninsula development adjustments will be made to the external road network including:

- Removal of the traffic signal intersection of the westbound Victoria Park Drive/Saintly Entrance and Graham Farmer Freeway offramp
- Creation of a left in/left out intersection with Saintly Entrance and Graham Farmer Freeway off ramp leading into a single lane roundabout
- Continuation of Victoria Park Drive north of the off ramp toward Precinct D before tying into the proposed roundabout with Saintly Entrance
- Extending Placid Avenue beneath the Victoria Park Drive extension, then intersecting via a T-intersection with Victoria Park Drive.
- Construction of a new pedestrian bridge alongside the Victoria Park Drive extension to tie into the PSP on the northern side of the off ramp.

Stage 1 of the upgrades involves the road connections; future stages include the pedestrian connections. The road upgrades of Stage 1 are currently being investigated further to determine if additional intermediate staging can be implemented, with the completion currently set to be completed prior to the LDP being built.

Figure 4.1: Draft Stage 1 Road Improvements



(Courtesy of N S Group)

4.2. Proposed Road Layout and Access Points

Figure 4.2: Proposed Road Layout

(Courtesy of DKO Architecture Burswood Peninsula Precinct A Local Development Plan)

The Local Development Plan of Precinct A as presented June 2022 indicates the following:

- A main street connection to/through Precinct A travels through the entirety of the site from Precinct B to Superlot K at the far eastern corner of the site. The main street connection has a carriageway width of 18m, including 2.4m – 2.5m footpaths, embayed parking, a central median and a single lane in each direction, reducing to 12.5m within the northern section. The northern section of the main street diverts to align the inset townhouses. The width of 12.5m allows for two-way directional flow, some embayed parking, and a footpath on one side. Access to this area will be by residents and visitors to the townhouses through this section, therefore a footpath aligning one side only is considered satisfactory.
- Access to the foreshore aligned northern townhouses will be via an Access Street that loops from the main street near Superlot H and toward Superlot K with a cross section width of 10.5m. This portion of the road network is proposed as a low-speed environment, with a one-lane entry connection with the main street at the western end. A footpath is provided aligning the eastern side of the road and the road pavement will be differentiated from the main street through use of coloured pavement.
- Between Superlot A and Superlot G there are four (4) key connecting side streets provided between the main street and the foreshore, providing access to the townhouse developments, the public open spaces along the foreshore and the internal residential access streets. The streets can be defined as 'Access Streets 1' and 'Access Streets 2' as detailed in Figure 4.2. 'Shore Lane Major/Minor' streets are assigned as pedestrian only streets.
    - Access Streets 1: provides two-way access to the townhouse lots along the foreshore and access to internal residential access connections.

  - Access Streets 2: provides access from the Access Street 1 street to each townhouse car parking spaces. Local access streets are typically connected across two Superlots, with a left out only connection provided at the main street to assist with waste collection vehicle movements.
  - Shore Lane Major/Minor: provide pedestrian and cyclist access only from the main street through to the public open space and foreshore.
  - Intersection form will be confirmed through the detailed design process, ensuring the design, including approach angle and sight distance requirements, are appropriate for the location.
- Direct access to each garage parking space for Superlot H to Superlot K are provided from the main street. Pedestrian only lanes are provided between each of the Superlots to provide connection between the main street and the public open space along the foreshore.
- On-street visitor car parking areas are provided central to the site area, with a section provided along the proposed loop road and adjacent to Superlot H. This area provides direct access to the foreshore/public open space.
- Turn around areas are provided between Superlot G and Superlot H, as well as near Superlot K at the far eastern end of the site to enable a driver to turn around to travel in the westbound direction. A laneway/access street type extension from the main street is provided within the turnaround area to provide access to the two easternmost townhouse lots.
- The detailed design process will further refine the carriageway and intersection layouts, as well as the placement of bus stops and turning facilities.

4.3. Proposed Road Hierarchy, Road Reserve Widths and Speed Limits

The road hierarchy of the Master Plan has been determined in accordance with Element 2 of *Liveable Neighbourhoods* focusing on the function of the street as well as predicted traffic volumes. As such the Local Development Plan features a single Neighbourhood Connector street, being the main street. Neighbourhood Collector A roads should typically carry up to approximately 7,000 vehicles per day, with parking, pedestrian, and cycle facilities within a shared path and footpath. Neighbourhood Collector B roads should typically carry up to approximately 3,000 vehicles per day with parking and shared path facilities.

Neighbourhood Connectors as described in *Liveable Neighbourhoods 2009* should have an indicative street reverse in the order of 24.4m. The indicative width and corresponding cross section provides 3.5m traffic lanes, 1.5m bicycle lanes in each direction, 2.1m embayed parking, and a 4.1m wide verge inclusive of footpath. Considering the functionality of the main street through the subject site, some leniency can be applied when considering the road cross section, specifically:

- If public transport will access the site in terms of Transperth buses. To accommodate the buses within the road network, the minimum lane width should be 3.5m. Should the site not be accessed by Transperth buses, then the lane width can be reduced to 3.0m.
- As there are significant connectivity of pedestrian and cycle paths within the public open space the inclusion on a separate on road cycle lane is not considered necessary. Further detail on the connection of the paths to Precinct B should be assessed. However, it is considered reasonable that any cyclists within Precinct A can be accommodated for in the existing carriageway lane width riding in the prime position with the traffic flow and/or on the proposed wider shared paths. On road cycle lanes would require a significant increase to the road reserve with. Due to the availability of alternate off road paths, providing on road cycle lanes is considered unnecessary. Any on road cyclists can be accommodated

for within the trafficable lane, with minor delays to motorists through narrow sections (such as past parked vehicles). A cyclist can be accommodated safely within the roadway where the lane width is either narrow so to prevent passing of a car, or wide so to allow for passing of a car. The range in which the risk to a cyclist is increased is between 3.1m and 3.9m lanes. Providing lanes of 3.5m to accommodate the possible presence of Transperth buses will cause the lane width to fall within this undesirable range for on road cycling.

- As discussed above, the connections of paths within the public open space and interwoven through the site via the Shore Lane Major and Shore Lane Minor connections would allow for a reduction in the proposed footpath/verge width adjacent to the site frontages. On the northern side in particular, the footpath does not provide a direct connection to any of the townhouse development lots west of Superlot H.

The minimum road width considered in *Liveable Neighbourhoods 2009* for a main street allows for an 18.2m cross section, as detailed in Figure 4.3 below. The below cross section assumes that wide paths are provided on both sides of the main street and trafficable lanes are 3.0m wide. If a wide path were to be provided on one side only and a slightly narrower path on the other (1.8m minimum), the overall carriageway width could be reduced accordingly to a minimum of 17.5m through the Neighbourhood Connector section.

Figure 4.3: 18.2m Main Street Cross Section

As the traffic volumes reduce through the main street length, the necessary width of the carriageway can be reduced further as the street transitions into a Neighbourhood Connector B. Considering the proposed exclusion of on street embayed parking spaces, *Liveable Neighbourhoods 2009* suggests an indicative width of 16.2m, with the possible further reduction to 15.5m should a wide path be provided on one side only (as previously discussed).

Figure 4.4: 16.2m Main Street Cross Section (*Liveable Neighbourhoods 2009)*

4.3.1. Neighbourhood Connector B

New Main Street – From Precinct B to Superlot G.

The main street travels through the length of the site with a consistent carriageway width of 18m (including footpaths) for the entirety of the length, reducing only as it travels past Superlot K. At the connecting point of Precinct A and Precinct B the traffic volumes on the main street will be in the order of 6,800, accounting for all residential traffic generated from within the Precinct. These traffic volumes are within the theoretical maximum for a Neighbourhood Connector A of 7,000vpd however as this traffic volume will reduce the further you travel within the Precinct, i.e., drivers will leave the main street to access the townhouses and apartments, the total traffic volume will reduce to within the 'acceptable' levels for a Neighbourhood Connector B road of up to 3,000vpd. A speed limit of 40km/h should be considered for this section of road given its residential in nature and where people live and reside. Any speed limit implementation should be discussed with and approved by MRWA Speed Zoning prior to implementation.

To provide a bus lane through the main street between Precinct B and the entry to the northern section, the lanes will need to be widened to 3.5m. An example of how the cross section of the main street may look is shown in Figure 4.5. This is an indicative representation only to show possible reductions in the verge width, alignment of the paths along the property lines, and provision of a shared path on one side only. The below imagery demonstrates an acceptable cross section for the main street, conforming to the requirements of LN2009 and providing lanes for buses. The wider lane width of 3.5m will also provide an increased buffer between the parked vehicles and passing vehicles.

Figure 4.5: Indicative Representation of an 18m Main Street Cross Section (*Streetmix)*

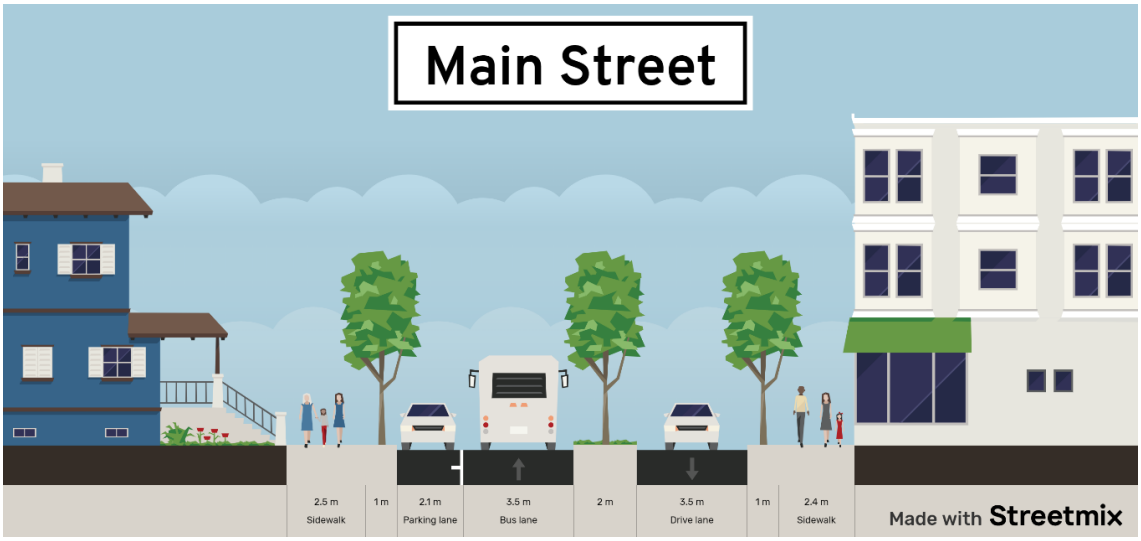
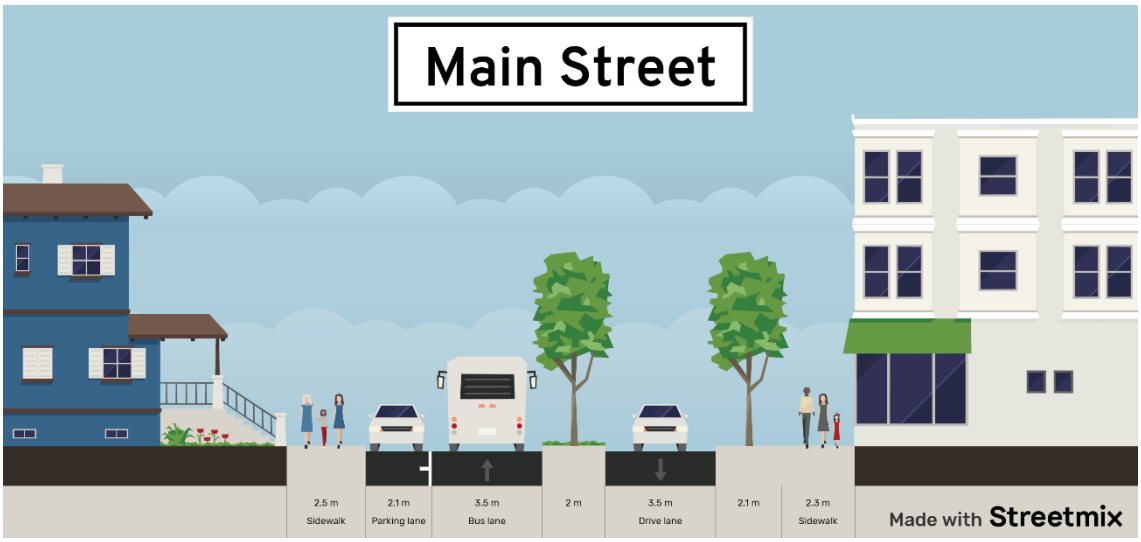


Figure 4.6: Indicative Representation of an 18m Main Street Cross Section (*Streetmix)*



4.3.2. High Order Local Access Street

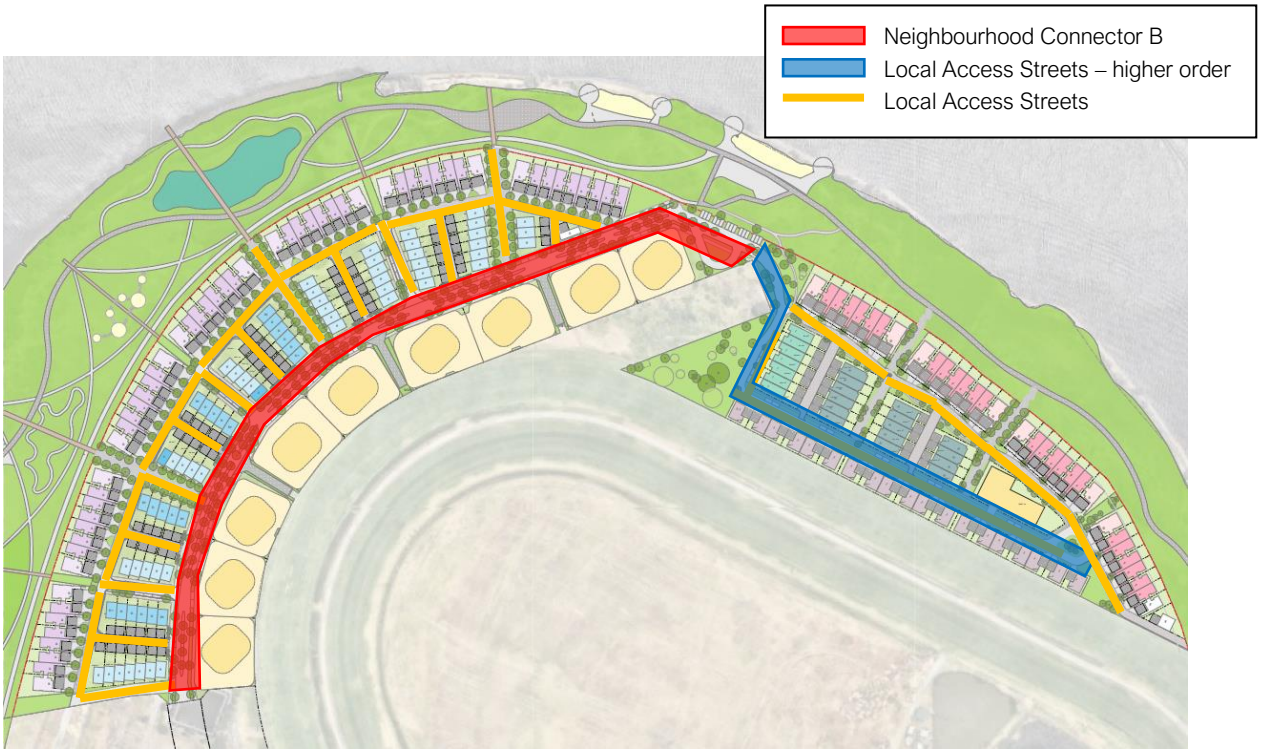
New Main Street – From Superlot G to Superlot K.

Traffic volumes at the far eastern end of the subject site reduce significantly due to approximately 45% of the townhouses and all the apartments being contained within the western half of the Precinct. As such, the classification of the road network through this length can be reduced to Local Access Streets, noting the continuity of the cross section of the road and presence of embayed parking on the southern side (due to presence of driveway crossovers on the north). A default speed limit of 40km/h could also be applied to this section of road. It is proposed that slow points are provided from Superlot H to promote slower speeds, particularly in areas with high pedestrian and parking activity. These may include raised plateaus and/or intersections. Detailed design should ensure waste collection vehicles are able to easily traverse the slow points.

4.3.3. Local Access Streets

The Local Development Plan area will comprise largely of local Access Streets consistent with its residential nature. The local road network is classified as Access Street A, B, C, and D or laneways with 9.5m to 12m reservations, in accordance with *Liveable Neighbourhoods*. The Local Access Streets would have a default speed limit of 50km/h however in actuality due to the short road lengths, numerous dwelling accesses and proposed slow point; the vehicle speeds are expected to be significantly lower and as such could be signed as 30km/h. Detailed design should ensure waste collection vehicles are able to easily traverse the proposed slow points.

Figure 4.7: Road Hierarchy



(Courtesy of DKO Architecture)

4.4. Intersection Controls

Due to the relatively low traffic volumes expected in the Local Development Plan approaching the main street, all internal intersections will be priority-controlled T-intersections.

The main street continues into Precinct B with intersection controls within the adjacent Precinct yet to be established.

4.5. Pedestrian/Cycle Networks and Crossing Facilities

The Local Development Plan area has been designed in accordance with *Liveable Neighbourhoods* to achieve walkable catchments and a high cycling and pedestrian amenity. The proposed network of roads with associated paths will provide an excellent level of accessibility and permeability for pedestrians and cyclists.

The Local Development Plan at its current high-level review indicates an interwoven network of paths between the public open spaces, residential townhouses and apartment complexes, and the adjacent Precincts.

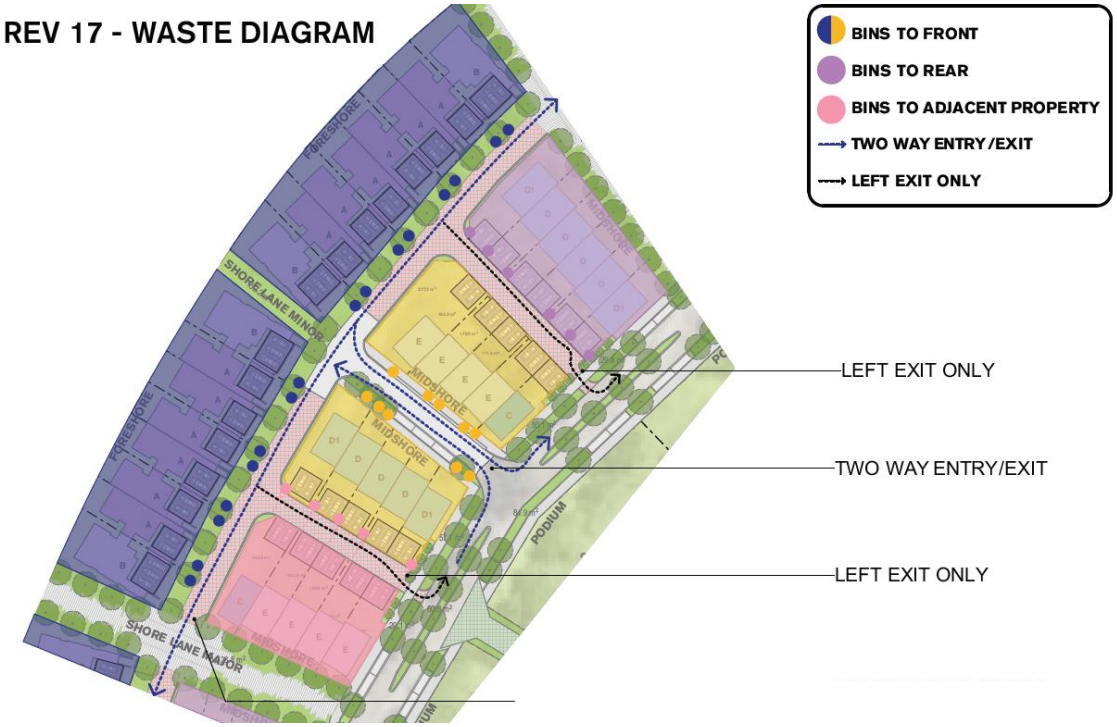
Footpaths will be provided in accordance with Town of Victoria Park standards and will consist of a path on both sides of the main street and crossing points at appropriate locations (not yet confirmed within the provided Local Development Plan).

Final connections of the pedestrian and cycle facilities to the PSP provided alongside Graham Farmer Freeway off ramp will be confirmed through the continued planning of Precinct B.

4.6. Waste Collection

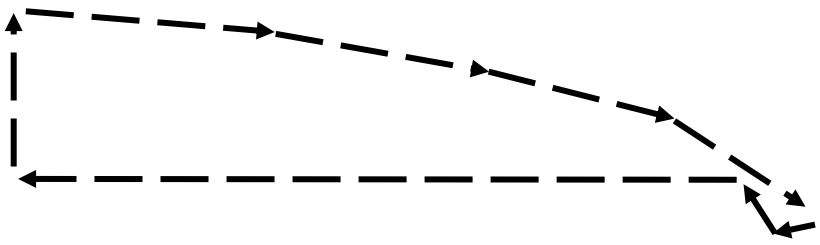
Waste collection requirements of the site have been considered in the design with movements of the waste collection vehicles considered. An example of the proposed waste collection vehicle travel path is provided in Figure 4.8. Waste collection of the townhouses along the northern edge will be achieved with the collection vehicle utilising the loop road. Turning of the waste vehicle at the cul-de-sac will need to be further considered through the detailed design. Refer Figure 4.9.

Figure 4.8: Waste Collection Vehicle Travel Path Detail



(Courtesy of DKO Architecture Burswood Peninsula Precinct A Master Plan)

Figure 4.9: Master Plan January 2022 Update – Waste Collection Opportunities



(Courtesy of DKO Architecture Burswood Peninsula Precinct A Master Plan June 2022)

4.7. Public Transport Routes

It is proposed that the carriageway lane form be such that Transperth buses can be accommodated within the Local Development Plan area. This will assist residents in accessing other nearby public transport facilities, such as the train station, as the adjacent Precinct areas.

No further details on the operation of the bus service are available. Location and design of all bus stops will be determined through the detailed design process in liaison with PTA.

5. INTEGRATION WITH SURROUNDING AREA

05

5.1. Surrounding Attractors

Future major trip attractors for residents of the Local Development Plan area will include those associated with the wider Burswood Peninsula area, within Precinct B and D. The major trip attractors for the residents of the Local Development Plan prior to the development of Precinct B will likely be farther away than 2km. These trip attractors include the following:

- Education and Employment
- Public Transport (Perth Stadium Station or Burswood Station)
- Shopping Centres (Perth, Cannington)

The proposed attractors within the Local Development Plan area are limited to the public open spaces. The expected externally generated traffic is low, and the proposed road form will comfortably accommodate the vehicle movements.

5.2. Proposed Changes to Land Uses within 800m

The land surrounding Precinct A is approved for residential and commercial development, as detailed in the Belmont Park Local Structure Plan. Burswood Peninsula has been divided into four (4) Precincts as previously detailed in Section 3.1.

The Local Structure Plan describes the following inclusions for each Precinct:

- Precinct A: Residential and public open space
- Precinct B: Residential, commercial, office, retail, leisure, cultural and entertainment land uses, and food and drink outlets. Precinct B will include an Activity Centre
- Precinct C: The Belmont Racecourse and associated facilities
- Precinct D: Residential, office, tourism, commercial, retail, and food and drink outlets

6. ANALYSIS OF INTERNAL AND EXTERNAL TRANSPORT NETWORKS

06

6.1. Assessment Year(s) and Time Period(s)

Implementation of the Belmont Park Local Structure Plan commenced around 2019 with Precinct D as Stage 1 of the development, and is assumed to be fully developed by 2031, or in approximately 12 years for the purposes of the following traffic assessment and in line with the time horizon for the traffic modelling and assessment of the wider Belmont Park Local Structure Plan. Precinct A will form Stage 2 of the Local Structure Plan implementation.

With no major intersections or connections from Precinct A to the wider road network, no assessment is required of road operation other than that provided within the content of this report. The overriding impact of the Local Structure Plan through the connections of Victoria Park Drive and Graham Farmer Freeway has been assessed through the traffic review of the Local Structure Plan (prepared by Transcore) and subsequently updated in 2017 (prepared by ARUP). The overall yield of the Belmont Park Local Structure Plan area has been approved with 4,500 dwellings, or which 1,500 are allocated to Precinct D and 3,000 to Precincts A and B.

Precinct A yields fall within the permissible overall yield limit contained within the Local Structure Plan, with the increase in the dwelling numbers within Precinct A being countered by a reduction in the dwelling yield of the other Precincts. Previous traffic assessments undertaken within the Transcore, and ARUP report targeted this upper yield limit and the associated traffic impact. With no changes to the total yield of the Local Structure Plan, and the proposed form of Precinct B still being considered, no updated assessment of the connections of the site with Victoria Park Drive and Graham Farmer Freeway has been undertaken. The previously undertaken assessment is still considered valid and applicable at this time, noting the variance between the traffic impact of an 'apartment' versus a 'townhouse' in the ITE Manual is minimal. Additionally, the internal make up of Precinct B is still being considered and will have a significant bearing on the traffic impact of Belmont Park as a whole.

6.2. Local Development Plan Generated Traffic

6.2.1. Trip Generation Rate

The trip generation rates used for this Local Development Plan were taken from the *WAPC Transport Assessment Guidelines* and the *ITE Trip Generation Rates 9th Edition*. The trip generation rates for the proposed structure plan are in Table 6.1. The generation rates for the Apartments were based on work undertaken by ARUP in 2017.

The Transcore report has separated the residential trips into three categories, being work, education, and other, and applied a series of discounts to the rates, as detailed below:

- Work: 30% public transport mode share
- Education: 50% public transport mode share
- Other: 10% public transport mode share

Similarly, ARUP have applied reductions to the different land uses with the Transcore report the basis of their assessment. It is noted in the ARUP report that Precinct A was to accommodate 950 apartment dwellings and 400m^2 of speciality retail. Reductions have been applied for land uses that are seen to be ancillary to the residential use. Within Precinct A the only relevant reduction (at that time of the report) was 80% applied to

speciality retail use. No specific rates or reduction percentages are provided in the report for residential traffic, with only a broad-brush comment that reductions of between 10% and 30% are applied to account for vehicle mode share.

Table 6.1: Adopted Trip Generation Rates

Land use	Daily Generation Rate	Source
Apartments	5.3 vehicle trips per dwelling	2017 ARUP modelling[1]
Townhouses	8 vehicle trips per dwelling	WAPC Guidelines
City Park (411)	39.5 vehicle trips per hectare (Sunday)	ITE Manual 9th Edition

6.2.2. Trip Generation of Site

Based on the trip generation rates in Table 6.1 the total daily in/out traffic generation have been calculated and presented below in Table 6.2, with the AM and PM peak period generation detailed in Table 6.3.

Table 6.2: Daily Traffic Generation

Land use	Yield	Trips
Apartments	910	4,825 vehicles per day
Townhouses	203	1,625 vehicles per day
City Park	9,931m^2	40 vehicles per day

Table 6.3: Peak Period Traffic Generation

Land use	AM Peak	PM Peak
Apartments	482 vehicle trips	482 vehicle trips
Residential	162 vehicle trips	162 vehicle trips
City Park	11 vehicle trips	9 vehicle trips

6.3. Traffic Distribution

The traffic distribution of Precinct A will filter through Precinct B and onto Victoria Park Drive and Graham Farmer Freeway. Based on the existing traffic volumes present on Graham Farmer and Victoria Park Drive, it is expected to promote a fairly even split in the north/west and south/east directions once exiting the Belmont Park Local Structure Plan area.

Assessment of the operation of Belmont Park Local Structure Plan area in its entirety has been undertaken as part of the previously prepared Transcore in November 2013 and updated by ARUP in 2017, provided in Appendix C.

[1] Raw data provided by ARUP

6.4. Extraneous (Through) Traffic

It is not expected that there will be any extraneous (through) traffic travelling through the site as there are no interconnecting roads from the internal Local Development Plan area to surrounding areas, other than Precinct B.

6.5. Design Traffic Flows (i.e., Total Traffic)

Entry to the area is only provided through the main street from Precinct B. The traffic will diminish as it travels through the length of the Master Plan area, distributing to the residential lots and apartment buildings.

Figure 6.1: Internal Traffic Flows

Table 6.4: Internal Traffic Flow by Area

Area	Daily Traffic Volumes	Cumulative Traffic Volumes
A	1,870vpd	6,290vpd
B	1,330vpd	4,410vpd
C	1,350vpd	3,090vpd
D	1,150vpd	1,740vpd
E	625vpd	6,325vpd
Total	6,325vpd	

(Figures have been rounded to the nearest 10)

6.6. Access Strategy

Access to the subject site area is via the connecting main street through to Precinct B. No additional access points are proposed or to be provided due to the restriction imposed by the presence of the Swan River to the north and west and racecourse to the south and east. The main street access is proposed to be a continuation of the road travelling from Saintly Entrance through Precinct B.

6.7. Car Parking Provision

The car parking space requirement for residents and visitors of Precinct A is discussed within the *Parking Management Plan (PMP)*, which is to be read in conjunction with this report. Refer Appendix E.

The car parking space arrangement for the townhouses provides a minimum of two spaces per dwelling, with visitor spaces to be accommodated on-street within the main street, with additional spaces provided in the central car parking areas central to the Precinct area.

It is proposed that all residential parking associated with the apartments will be provided within the apartment Lot footprint. Visitor parking demand associated with all uses, including the public open spaces will be accommodated in the on-site car parking area

As discussed in the PMP, the overall car parking space provision within Precinct A is appropriate and will accommodate the indicative parking demand of the area.

Figure 6.2: Proposed Access Point

(Courtesy of the Belmont Park Local Structure Plan)

6.8. Pedestrian / Cycle Networks

The main street through the Local Development Plan area is a two-lane *Neighbourhood Connector* street with a central median and footpaths on both sides. Pedestrian access to the townhouses can be gained via the Shore Lanes, and pedestrian areas are provided between the proposed apartment buildings. Through the design process it should be ensured that assisted pedestrian facilities/crossing points are provided via cut outs in the central median and/or kerb build outs. It is expected that pedestrians will be able to cross the main street safely utilising the appropriately placed road infrastructure.

Along the foreshore within the public open space are a network of shared paths, connecting through to the PSP located on the southern side of Precinct B.

The detailed design of the road carriageway, including median islands and path connections, should incorporate the desire lines of pedestrians and cyclists from the residential apartment developments south of the main street to the public open space on the foreshore, connecting the pedestrian zones of the apartment developments to the proposed lanes between the Superlots.

Precinct A connects to the higher order roads and the Principal Shared Path external to the Local Development Plan through Precinct B. The detailed design of Precinct B should ensure the continuation of the pedestrian and cycling facilities through to the proposed Activity Centre and beyond.

6.9. Access to Public Transport

The WAPC Transport Impact Assessment Guidelines suggest undertaking this assessment based on a straight-line distance to a bus route. A bus service provided on the nominated Neighbourhood Connector road will ensure all areas of the Local Development Plan are within a few metres of a 'bus route'.

It is proposed that PTA Transperth buses travel through the site to assist the movement of residents of the Local Development Plan area between Burswood Peninsula and nearby public transport services. The location and design of the bus stops requires further investigation and discussion with PTA.

It is expected that the bus service will travel as far at Superlot G, utilising the turning facility provided at this location.

6.10. Assessment of Intersections

There are no main intersections within or bordering the Precinct A area. Internal intersections can accommodate the traffic associated with the residential dwellings only, with low volume turning movements from the residential dwellings.

The main street is only expected to exceed the typical maximum daily flow threshold at the border of Precinct A and Precinct B, with the traffic volumes diminishing the further within the Precinct the road travels.

An assessment of the continuation of main street through Precinct B has been undertaken to ensure sufficient capacity will be maintained from Precinct A through Precinct B to the connection with Saintly Entrance.

With no significant internal intersections within Precinct A, no assessment of operation has been undertaken. This assessment may be necessary for the intersections within Precinct B, and the connection with *Saintly Entrance but this will be undertaken as part of the Local Development Plan for Precinct B*.

The commonly used measure of intersection performance is referred to as the *Degree of Saturation (DoS)*. The DOS represents the flow-to-capacity ratio for the most critical movement on each leg of the intersection. For signalised intersections, a DoS of around 0.95 has been typically considered the 'ideal' limit, beyond which queues and delays increase disproportionately. For unsignalised intersections and roundabouts, this value of DoS is 0.90. [2]

Other level of service concepts are discussed below to assist the reader in understanding the following outputs from the analysis.

The level of service concept describes the quality of traffic service in terms of six levels, designated A to F, with level of service A (LOS A) representing the best operating condition (i.e., at or close to free flow), and level of service F (LOS F) the worst (i.e., forced flow). More specifically:

[2] SIDRA INTERSECTION adopts the following criteria for Level of Service assessment:

Level of Service		Intersection Degree of Saturation (DoS)	
		Unsignalised Intersection	Signalised Intersection
A	Excellent	<=0.50	<=0.60
B	Very Good	0.50-0.70	0.60-0.75
C	Good	0.70-0.80	0.75-0.90
D	Acceptable	0.80-0.90	0.90-0.95
E	Poor	0.90-1.00	0.95-1.00
F	Very Poor	>=1.0	>=1.0

- *LOS A (DOS < 0.50 for unsignalised, <0.60 for signalised intersections)*: Primarily free flow operations at average travel speeds, usually about 90% of the FFS (free flow speed) for the given street class. Vehicles are completely unimpeded in their ability to manoeuvre within the traffic stream. Control delay at signalised intersections is less than 10 seconds. At non-signalised movements at intersections the average control delay is less than 10 seconds;
- *LOS B (DoS 0.50-0.70/0.60-0.75)*: Reasonably unimpeded operations at average travel speeds, usually about 70% of the FFS for the street class. The ability to manoeuvre within the traffic stream is only slightly restricted, and control delays at signalised intersections are between 10 and 20 seconds. At non-signalised movements at intersections the average control delay is between 10 and 15 seconds;
- *LOS C (DoS 0.70-0.80/0.75-0.90)*: Stable operations; however, ability to manoeuvre and change lanes in mid-block locations may be more restricted than at LOS B, and longer queues, adverse signal coordination, or both may contribute to lower average travel speeds of about 50% of the FFS for the street class. Signalised intersection delays are between 20 and 35 seconds. At non-signalised movements at intersections the average control delay is between 15 and 25 seconds;
- *LOS D (DoS 0.80-0.90/0.90-0.95)*: A range in which small increases in flow may cause substantial increases in delay and decreases in travel speed. LOS D may be due to adverse signal progression, inappropriate signal timing, high volumes, or a combination of these factors. Average travel speeds are about 40% of FFS. Signalised intersection delays are between 35 and 55 seconds. At non-signalised movements at intersections the average control delay is between 25 and 35 seconds;
- *LOS E (DoS 0.90-1.00/0.95-1.00):* Characterised by significant delays and average travel speeds of 33% of the FFS or less. Such operations are caused by a combination of adverse progression, high signal density, high volumes, extensive delays at critical intersections (between 55 and 80 seconds), and inappropriate signal timing. At non-signalised movements at intersections the average control delay is between 35 and 50 seconds; and,
- *LOS F (DoS >1.00)*: Characterised by urban street flow at extremely low speeds, typically 25% to 33% of the FFS. Intersection congestion is likely at critical signalised locations, with high delays (in excess of 80 seconds), high volumes, and extensive queuing. At non-signalised movements at intersections the average control delay is greater than 50 seconds.

The assessment of the performance of the intersections within the Local Development Plan area focussed on the intersection of Superlot A/B intersection with the main street near the southern end of the site, prior to entering Precinct B. This is due to this intersection being the “worst case” scenario within the site, for which the majority of the internal Precinct traffic will needs to travel past to enter and exit the Precinct.

At this location in the AM peak there is expected to be approximately 15-20 cars exiting the superlots to turn right onto the main street. This represents the worst case scenario for the traffic impact at this location. Traffic flows on the main street are expected to be approximately 140 vehicles in the same peak hour.

Based on the layout of the intersection and these traffic flows, when assessed using SIDRA Intersection software, the intersection is expected to operate at a LOS of A (based on an average delay of 6 seconds) with DoS for the critical right turn from the superlots being 0.02.

This very good LOS and very low DoS indicates that this busiest intersection is expected to operate well within acceptable levels. As the other superlots will have less flows on sections of the main street with also lower traffic flows, it is inferred that these intersections will also operate no worse than this busiest intersection.

7. CONCLUSION

07

CONCLUSION

Based on the analysis and discussions presented within this report, the following conclusions are made:

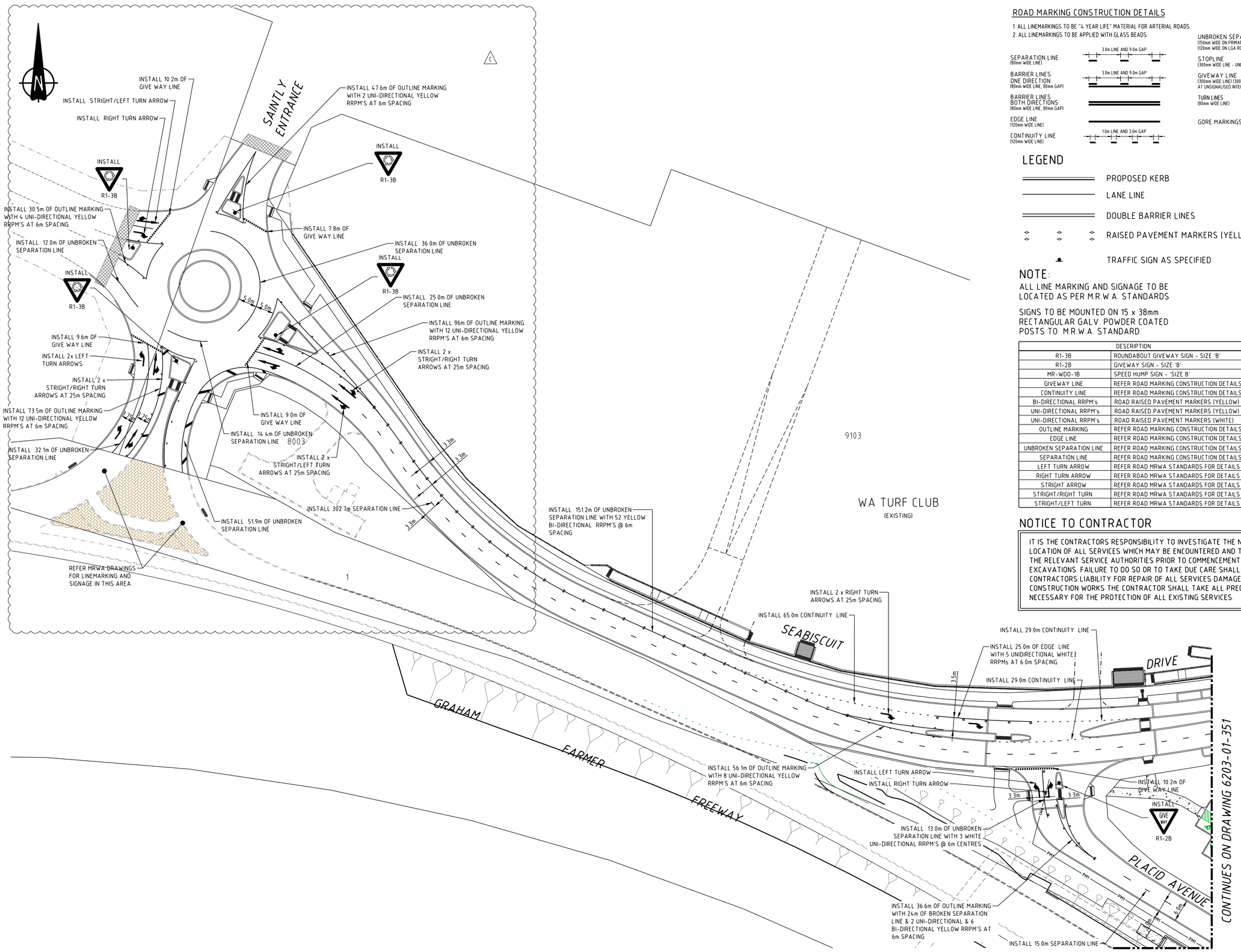
- The proposed site area covers the north and western portion of the Belmont Park Racecourse Redevelopment area, entitled Precinct A of a four (4) Precinct development.
- The overriding Belmont Park Structure Plan encompasses the area bound by Swan River to the north and Graham Farmer Freeway to the south. Within the development are Precinct A, the subject site, Precinct B, south-west of the racecourse, Precinct C, the racecourse, and Precinct D, south-east of the racecourse.
- A total residential yield of 4,500 dwellings is approved for the Burswood Peninsula development, of which 3,000 are allocated to Precinct A and B.
- It is proposed that Precinct A will house a total of 1,113 dwellings, of which 203 are townhouse Lots and 900 are apartments within 10 buildings contained within four (5) Lots.
- The Local Development Plan area will be developed in accordance with the requirements of *Liveable Neighbourhoods,* specifically in regard to the provision of pedestrian and cycle paths and connections.
- Vehicular access to the Local Development Plan area is only via the main street connection through Precinct B.
- The Local Development Plan is expected to generate some 6,300 vehicle trips per day at the connection of Precinct B. This traffic volume will diminish through the length of the main street as it approaches the easternmost end of the site.
- The road network hierarchy within the Local Development Plan has been determined based on daily flows and in accordance with *Liveable Neighbourhoods*. The main street will be allocated as a Neighbourhood Connector B road, with all residential access streets allocated as Local Access Streets.
- The overall yield of the redevelopment area has been assessed in terms of traffic generation and operation of the connections at Victoria Park Drive and Graham Farmer Freeway off ramp. *No internal intersections are proposed within Precinct A that warrant additional assessment and the expected traffic generation of the subject site is already accounted for in the previous assessments.*
- It is proposed that a Transperth bus service be provided through the Precinct.
- There is a vast network of pedestrian and cycle facilities within the subject stie area connecting through Precinct B to the surrounding Principal Shared Path network and beyond.

The high-level determination of this TIA is that the development of the Local Development Plan, under the assumed traffic generation and connections through Precinct B to the wider network will function safely and efficiently. It can be concluded from the information presented in this TIA that the proposed development can be supported by the future traffic network contained within the Belmont Park Local Structure Plan area. Accordingly, the transport characteristics of the Local Development Plan are considered acceptable and in line with the detail provided within the Local Structure Plan.

The WAPC checklist for Structure Plans is included at Appendix D.

A. PROPOSED LOCAL DEVELOPMENT PLAN

A



ROAD MARKING CONSTRUCTION DETAILS

1. ALL LINEMARKINGS TO BE "4 YEAR LIFE" MATERIAL FOR ARTERIAL ROADS.
2. ALL LINEMARKINGS TO BE APPLIED WITH GLASS BEADS.

SEPARATION LINE (80mm WIDE LINE) — 3.0m LINE AND 9.0m GAP

BARRIER LINES ONE DIRECTION (80mm WIDE LINE, 80mm GAP) — 3.0m LINE AND 9.0m GAP

BARRIER LINES BOTH DIRECTIONS (80mm WIDE LINE, 80mm GAP)

EDGE LINE (120mm WIDE LINE)

CONTINUITY LINE (120mm WIDE LINE) — 1.0m LINE AND 3.0m GAP

UNBROKEN SEPARATION LINE (150mm WIDE ON PRIMARY & DDA ROADS) (120mm WIDE ON LGA ROADS)

STOPLINE (300mm WIDE LINE - UNLESS OTHERWISE SPECIFIED)

GIVEWAY LINE (300mm WIDE LINE) (300mm WIDE AT UNSIGNALISED INTERSECTIONS) — 0.6m LINE AND GAP

TURN LINES (80mm WIDE LINE) — 0.6m LINE AND GAP

GORE MARKINGS — 0.12m, 4.0m, 90°, 0.5m, 0.75m

LEGEND

- PROPOSED KERB
- LANE LINE
- DOUBLE BARRIER LINES
- RAISED PAVEMENT MARKERS (YELLOW)
- TRAFFIC SIGN AS SPECIFIED

NOTE:

ALL LINE MARKING AND SIGNAGE TO BE LOCATED AS PER M.R.W.A. STANDARDS

SIGNS TO BE MOUNTED ON 15 x 38mm RECTANGULAR GALV. POWDER COATED POSTS TO M.R.W.A. STANDARD.

DESCRIPTION		QTY
R1-3B	ROUNDABOUT GIVEWAY SIGN - SIZE 'B'	4
R1-2B	GIVEWAY SIGN - SIZE 'B'	1
MR-WD0-1B	SPEED HUMP SIGN - 'SIZE B'	2
GIVEWAY LINE	REFER ROAD MARKING CONSTRUCTION DETAILS TABLE	46.2
CONTINUITY LINE	REFER ROAD MARKING CONSTRUCTION DETAILS TABLE	237.0
BI-DIRECTIONAL RRPM's	ROAD RAISED PAVEMENT MARKERS (YELLOW)	60
UNI-DIRECTIONAL RRPM's	ROAD RAISED PAVEMENT MARKERS (YELLOW)	37
UNI-DIRECTIONAL RRPM's	ROAD RAISED PAVEMENT MARKERS (WHITE)	8
OUTLINE MARKING	REFER ROAD MARKING CONSTRUCTION DETAILS TABLE	308.0
EDGE LINE	REFER ROAD MARKING CONSTRUCTION DETAILS TABLE	25.0
UNBROKEN SEPARATION LINE	REFER ROAD MARKING CONSTRUCTION DETAILS TABLE	337.5
SEPARATION LINE	REFER ROAD MARKING CONSTRUCTION DETAILS TABLE	429.4
LEFT TURN ARROW	REFER ROAD MRWA STANDARDS FOR DETAILS	3
RIGHT TURN ARROW	REFER ROAD MRWA STANDARDS FOR DETAILS	4
STRIGHT ARROW	REFER ROAD MRWA STANDARDS FOR DETAILS	3
STRIGHT/RIGHT TURN	REFER ROAD MRWA STANDARDS FOR DETAILS	4
STRIGHT/LEFT TURN	REFER ROAD MRWA STANDARDS FOR DETAILS	5

NOTICE TO CONTRACTOR

IT IS THE CONTRACTORS RESPONSIBILITY TO INVESTIGATE THE NATURE AND LOCATION OF ALL SERVICES WHICH MAY BE ENCOUNTERED AND TO CONSULT WITH THE RELEVANT SERVICE AUTHORITIES PRIOR TO COMMENCEMENT OF EXCAVATIONS. FAILURE TO DO SO OR TO TAKE DUE CARE SHALL NOT LIMIT THE CONTRACTORS LIABILITY FOR REPAIR OF ALL SERVICES DAMAGED BY HIM DURING CONSTRUCTION WORKS THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY FOR THE PROTECTION OF ALL EXISTING SERVICES.

DIAL BEFORE YOU DIG www.1100.com.au

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REV	DATE	DRN	CKD	APP	AMENDMENT
C	12.10.18	MI	SL		ROUNDABOUT GEOMETRY AMENDED TO SUIT STALLS ENTRANCE
B	09.07.18	MH	MB	M. BOSISTO	RE-ISSUED FOR TENDER
A	28.02.18	DP	SL	C. HANSEN	ISSUED FOR APPROVAL

Cossill & Webley CONSULTING ENGINEERS
Mailing Address: PO Box 680, Subiaco WA 6904
Street Address: B12 (Level 2) 431 Roberts Road, Subiaco WA 6008
T (08) 9422 5800 F (08) 9422 5801 E admin@cosweb.com.au

CLIENT: GOLDEN RIVER DEVELOPMENTS (WA) PTY LTD

PROJECT: BELMONT 'TOD' PRECINCT - STAGE 1

TITLE: LINEMARKING AND SIGNAGE PLAN SHEET 1

APPROVED: CRAIG HANSEN

DESIGNED: DP

SCALE: 1:500

WAPC No.: 155402

DRAWING No.: 6203-01-350

REVISION: C

ORIGINAL SIZE: A1

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B. BELMONT PARK LOCAL STRUCTURE PLAN

BELMONT PARK RACECOURSE REDEVELOPMENT

Structure Plan
April 2013

VERSION	COMMENT	PREPARED BY	REVIEWED BY	APPROVED BY	ISSUE DATE
Issue Revision 8 (v11)		KB	KB	CM	08.04.13

PREFACE

The Belmont Park Racecourse site, on the Burswood Peninsula within the Town of Victoria Park, represents a major riverside development opportunity only a stone's throw from the heart of the State capital. It is arguably the largest redevelopment project in Australia.

The site is not only suitable but ideal for a significant, mixed use transit oriented development of which all Western Australians can be proud. More than this, however, it represents a unique and precious opportunity to contribute to Perth's development as a dynamic, liveable city, and to articulate the social, cultural and environmental values of our generation.

The site's exceptional connectivity with the city and broader metropolitan area, underpinned by the State Government's recent proposal to locate an AFL stadium nearby, provides unparalleled opportunities for the incorporation of civic spaces, family-friendly leisure facilities, events programming and edutainment initiatives. A new, managed town centre will accord with international best practice, and will be fully integrated with existing development in the area.

The Belmont Park Racecourse Redevelopment can be seen as one important piece of a bigger picture for the Capital City and Swan River. It can also be seen as an expression of Capital City Planning Framework principles:

[O]ur sense of place is primarily derived from the harmonious meeting of nature and human activity. This central concept, and most of the themes from which it is derived, can be seen to be physically embodied in the arrangement of Central Perth in its natural riverine and park setting. Enhancing the quality of this juxtaposition and reconceiving the setting's various parts as an integrated whole has the potential to build on our sense of place.

At the very heart of planning for the Belmont Park Racecourse Redevelopment is our recognition that Perth's sense of identity is inextricably linked with the Swan River. Put simply, the river is the thread that connects Perth's prehistory with its history and its future.

The Belmont Park Racecourse Redevelopment will provide our city with a major new riverside asset. It will be a celebration of 'the Swan', providing world-class views and amenities to be enjoyed by future generations of Perth people and visitors. At the same time, the redevelopment will set new standards in areas such as riverine wetland regeneration, the development of sensitive interfaces between natural and built environment, and the celebration of Nyoongar heritage.

Two words sum up the Belmont Park Racecourse Redevelopment proposal, world class. Central Perth aspires to be a world class liveable central city; green, vibrant, compact and accessible with a unique sense of place. This proposal serves that aspiration, and will bestow on Western Australians places of the kind they have always most appreciated.

The Belmont Park Racecourse Redevelopment proposal is an opportunity like no other, outlining a special vision for a very special place.

PREPARED BY
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Development Planning Strategies

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APPENDICES

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Appendix 3	Belmont Park- Foreshore Management Strategy, Emerge Associates, September 2012
Appendix 4	Belmont Racecourse Redevelopment – Servicing Report, JDSi Consulting Engineers, October 2011
Appendix 5	Transportation Noise Assessment, Herring Storer Acoustics, September 2011
Appendix 6	Belmont Park Redevelopment – LSP Inputs, MP Rogers and Associates, August 2011
Appendix 7	Concept Masterplan, Foster and Partners, September 2011
Appendix 8	Belmont Park Racecourse Redevelopment Sizing and Impact, MacroPlan, 20 January 2012
Appendix 9	Residential, Retail and Office Assessment Peer Review, Essential Economics, October 2011
Appendix 10	Belmont Racecourse Community Development Plan 2011, Creating Communities, August 2010
Appendix 11	Belmont Park Redevelopment Concept Masterplan Transport Assessment, Transcore, November 2012
Appendix 12	Belmont Park Racecourse Redevelopment Local Water Management Strategy, Emerge Associates, November 2012
Appendix 13	Landscape Strategy, Emerge Associates, November 2011
Appendix 14	Belmont Structure Plan Sustainability Statement, Foster and Partners, September 2011
Appendix 15	Horse Racing Track Lighting, 3E Consulting Engineers, November 2011
Appendix 16	Belmont Racecourse Review of Potential for Malodour Impacts, The Odour Unit, October 2011
Appendix 17	Project Modelling Report, Transcore, November 2012

ABBREVIATIONS

ABGR - Australian Building Greenhouse Rating
AHD - Australian Height Datum
AASS – Actual Acid Sulfate Soils
ASS – Acid Sulfate Soils
AS – Australian Standard
CASA – Civil Aviation Safety Authority
CBD – Central Business District
CPTED – Crime Prevention Through Environmental Design
DA – Development Area
DAP – Detailed Area Plan
DCA – Development Control Area
DCP – Development Control Policy
DEC – Department of Environment and Conservation
DIA – Department of indigenous Affairs
DoP-Department of Planning
DoW – Department of Water
EPA – Environmental Protection Authority
ESD - Environmentally Sustainable Development
FMP – Foreshore Management Plan
Ha - Hectare
HV - High Voltage
km - kilometer
kV - kilovolt
LWMS – Local Water Management Strategy
MHHW – Mean Higher High Water
MLLW – Mean Lower Low Water
MRS – Metropolitan Region Scheme
MSL – Mean Sea Level
MVA – Megavolt ampere
NatHERS – Nationwide House Energy Rating Scheme
NFA – net floor area
OLS – Obstacle Limitation Surfaces
PANS-OPS – Procedures for Air Navigation Services – Aircraft Operations
POS – Public Open Space
PSP – Primary Shared Path
R -AC Code - Residential Activity Centre Code
RWWA – Racing and Wagering Western Australia
RL- Reduced Level
TMP – Traffic Management Plan
TOD - Transit Oriented Development
TPS – Town Planning Scheme
ToVP – Town of Victoria Park
UWMP – Urban Water Management Plan
WAC – Western Airport Corporation
WACA – Western Australian Cricket Association
WATC – Western Australian Turf Club
WC – Water Corporation
WAPC – Western Australian Planning Commission
WAWA – Water Authority of Western Australia
WSUD – Water Sensitive Urban Design
ZS – Zone Substation

EXECUTIVE SUMMARY

The Belmont Park Racecourse Redevelopment Structure Plan (the Structure Plan) has been prepared to provide an overarching planning framework to guide and facilitate the subdivision and development of some 73 ha of land at the northern end of the Burswood Peninsula, for urban purposes. It has been prepared in accordance with the provisions of the Town of Victoria Park Town Planning Scheme No 1.

PROJECT TEAM

The Structure Plan has been formulated, on behalf of the development consortium, by the following multidisciplinary specialist consultant team:

Pure Investment Holdings Pty Ltd.
- Development Managers

Development Planning Strategies
- Town Planning/ Urban Design

Foster + Partners
- Architecture / Master Planning / Sustainability

Hames Sharley
- Architecture

JDSI
- Civil Engineering

Emerge Associates
- Environmental & Landscape Architecture

McMullen Nolan & Partners
- Surveying

Transcore Pty Ltd.
- Traffic Engineering

MP Rogers and Associates
- Shoreline Stability

MacroPlan Australia
- Market Research

3E Consulting Engineers
- Lighting

Soil & Rock Engineering Pty Ltd.
- Geotechnical (pre 2011)

Golder Associates
- Geotechnical, Foundations & Piling

Indigenous Economic Solutions Pty Ltd.
- Aboriginal Heritage

Creating Communities Pty Ltd.
- Community Consultation

Mallesons
- Legal

Herring Storer Acoustics Pty Ltd.
- Noise & Vibration

Aecom
- Environmental Audit

PROJECT OVERVIEW

The project comprises a redevelopment proposal, involving transformation of the Belmont Park Racecourse, to facilitate development of Perth's focal Activity Centre, housing a world class racecourse, residential, commercial and retail, entertainment and civic spaces.

The site is located within the Town of Victoria Park and is bound by the Swan River on its northern, eastern and western boundaries and the Graham Farmer Freeway on its southern boundary. It is situated at the northern end of the Burswood Peninsula, in a strategic location close to the CBD and with direct access to major transport routes.

The site is ideally located to provide medium and high-density housing, employment and retail, being a unique riverside inner-city location close to the CBD with direct access to the passenger rail network and the arterial highway system.

The Structure Plan for the site is designed to facilitate and manage it's ultimate redevelopment. It will show the following principal components:

- Retention and upgrading of current thoroughbred racing facilities
- High rise and medium density housing with some 4500 residential dwellings
- A significant Activity Centre comprising mixed use, retail and commercial uses, office, tourism and festive retail
- Riverfront Parks and Recreation

Proposals for this site will provide a catalyst for the further transformation of the Burswood Peninsula into a major tourist, recreation, entertainment, high density residential and Activity Centre, building on the Burswood Resort and Casino and developments including the Peninsula Project, the Springs redevelopment and Perth's new multi-purpose stadium proposal to be built on the Burswood Peninsula and scheduled for completion in 2018.

The new Perth Stadium is planned to have the third-biggest capacity in Australia and will be the second largest AFL home stadium. It will have a capacity of 60,000 seats with provision for future expansion to 70,000 seats in the style of Melbourne's Etihad Stadium, with similar views, amenities and comfort.

The Belmont Park Racecourse redevelopment project will make a significant contribution towards the revitalisation of the eastern gateway to the City of Perth.

SUSTAINABILITY

A sustainable vision for this site has been based around three themes:

- Sustainable site
- Sustainable density, and
- Sustainable living

To achieve this vision, a number of strategies have been defined focusing on the following priority elements:

- Transport
- Water cycle sustainable water strategy
- Energy, and
- Landscape

DESIGN APPROACH

The design approach has been a rigorous multidisciplinary process with continual reflection upon the three key guiding design principles for this site:

- The variation of building scale and density to suit the different opportunities across the site
- The creation of precincts with different characteristics, and
- The creation of a sustainable community

PART ONE

REGULATORY SECTION

1 STRUCTURE PLAN AREA

This Structure Plan shall apply to:

- Lot 102 on Deposited Plan (DP) 72026 and being the land contained in Certificate of Title Volume 2776 Folio 542;
- Lot 9000 on DP 72026 and being contained in Certificate of Title Volume 2776 Folio 543;
- Part of Crown Reserve 39361;
- Lot 1 on DP 46306, Volume 2659 Folio 443, and
- Lot 3 on DP 46306 Volume 2659 Folio 444.

being the land contained within the inner edge of the line denoting the Structure Plan boundary on the Structure Plan Map (Plan 1).

2 STRUCTURE PLAN CONTENT

This Structure Plan comprises the:

a) Regulatory Section (Part One);
b) Explanatory Section (Part Two);and
c) Appendices - Technical Reports.

Part Two of the Structure Plan sets out the development intent for development in the Structure Plan Area. Development shall be guided by that development intent, and a planning authority determining an application for development approval within the Structure Plan Area shall have due regard to the development intent indicated in Part Two.

3 INTERPRETATIONS

Unless otherwise specified in this part, the words and expressions used in this Structure Plan shall have the respective meanings given to them in the Town of Victoria Park Town Planning Scheme No. 1 (the Scheme).

Club: means premises used for the purpose of club premises by an incorporated club or incorporated association or other body of persons united by a common interest (whether those premises be licensed under the provisions of the *Liquor Act* 1970 as amended or re-enacted or not) and which premises are not otherwise classified under the provisions of the Scheme.

Marina: means premises at which berths or pens, and services, including fuelling, servicing, storage and other facilities for boats are provided, with or without the sale of boating gear and equipment, and includes all jetties, piers, embankments, quays and moorings appurtenant thereto and all offices and storerooms used in connection therewith and includes a ferry terminal.

Market: means premises used for the display and / or sale of goods from stalls by independent vendors.

Private recreation: means land used for parks, gardens, playgrounds, sports arenas or other grounds for recreation which are not usually open to the public without charge.

Reception Centre: means premises which may include catering facilities used for functions on a formal or ceremonial occasions but are but for unhosted use for general entertainment purposes.

Health studio: means land and buildings designed and equipped for physical exercise, recreation and sporting activities including outdoor recreation.

Stable: means any building in which a horse is stabled or kept and includes any shed, loose box, stall or shelter used for the keeping, stabling, feeding, watering, grooming, sheltering, showing or veterinary treatment of a horse and other associated incidental activities.

4 OPERATION DATE

This Structure Plan shall come into operation on the day on which it is adopted by the local government under clause 29 AB (9) (a) of the Scheme and endorsed by the Western Australian Planning Commission pursuant to clause 29 AB (10) (b) of the Scheme.

5 RELATIONSHIP TO THE LOCAL PLANNING SCHEME

a) The provisions, standards and requirements specified under Part One of this Structure Plan shall have the same force and effect as if it were a provision, standard or requirement of the Scheme.

b) Any other provision, standard or requirement of Part One of this Structure Plan, that is not otherwise contained in the Scheme, shall apply to the land as though it is incorporated into the Scheme, and shall be binding and enforceable to the same extent as if part of the Scheme; and

6 STATEMENT OF INTENT

The intent of the Structure Plan is to establish a statutory framework to guide the planning and design of this site, to facilitate development proposals that will comprise a mix of land uses including retention and upgrading of the current racing facility, high and medium density residential, a significant Activity Centre and riverfront Parks and Recreation and will:

- Create an exciting addition to Perth
- Respond to district and regional context
- Establish a point of difference
- Encourage and facilitate innovation and excellence in built form design
- Build flexibility and robustness into the built form design
- Create a fully functional and sustainable community
- Create a vibrant hub
- Enable people to live and work in the same place
- Celebrate the site's location on the river

7 OVERARCHING OBJECTIVES

Underpinning the Structure Plan Statement of Intent is a series of overarching objectives for the site to help achieve statements of intent. These are as follows:

- Integrate the new development with Town of Victoria Park, the CBD and the surrounding districts.
- Optimise public access to the site.
- Accommodate the primary function and operations of racing.
- Create sustainable communities, based on multifaceted aspects of sustainability.
- Deliver high density residential development, responding to the site's strategic location.
- Respond to the site's access to public transport (Belmont Park Railway Station) by delivering Transit Oriented Development.
- Create employment on site, attracting local population and outside workforce.
- Anchor and support the diverse local community and visitors with a vibrant Activity Centre.
- Attract high level of community amenity to the area through appropriate design of the public realm.
- Create amenity for residents and visitors through appropriate design of built form.
- Encourage accessibility to the race track, the river foreshore and the river.
- Deliver a balance of restored riverine environment and parkland.
- Exercise sensitivity when considering and planning for the riverine environment.

8 OVERARCHING DESIGN PRINCIPLES

The following key urban design principles are intended to inform and guide the detailed planning process. Developments are to:

- Address WAPC Crime Prevention Through Environmental Design (CPTED) principles.
- Achieve a high level of safety, and passive street and public spaces surveillance.
- Provide prominent entry to residential towers on Primary roads.
- Promote access to major open space areas including the foreshore reserve.
- Encourage views and visual accessibility from the public realm to the race track, the river foreshore and the river.
- The height of blank walls facing any street should not exceed 1.2 metres.
- Where possible, screen car parking structures from view.
- Locate built form to allow cooling breezes to permeate through the site to assist in cooling during summer months and reduction in energy consumption.
- Distribute building mass to act as a barrier from noise and pollution from the Graham Farmer Freeway.
- Detailed Area Plans to implement the recommendations of the technical appendices to the Structure Plan.
- Detailed Area Plans to identify a mix of dwelling types.
- Built form design is to:
  - Provide activation at the pedestrian level.
  - Create pedestrian scale where towers are proposed.
  - Address the primary street and have an active façade to the street.
  - Provide clearly identifiable vehicular and pedestrian access to buildings.
  - Provide weather protection for pedestrians in commercial areas.
  - Address solar access principles.
- Where lots are directly abutting Public Open Space and/or the foreshore reserve, orientate built form to front that POS and/or foreshore reserve and construct open style fencing along that boundary.
- Comply with maximum height restrictions associated with Obstacle Limitation Surfaces (OLS) and Procedures for Air Navigation Services – Aircraft Operations (PANS-OPS) pursuant to the *Airports Act* 1996.
- Provide for car parking nodes within the foreshore.
- Optimise environmental outcomes associated with the project throughout the development's life cycle (construction, operation, occupancy and eventual redevelopment) by incorporating passive and active measures which:
  - minimise greenhouse emissions
  - minimise water consumption
  - minimise material use
  - minimise waste and other emissions which have an adverse environmental effects
  - enhance indoor and outdoor environment
  - reduce reliance of occupants and visitors on private vehicle use
  - contribute positively to the physical and mental wellbeing of occupants and visitors to the site

9 GENERAL SUBDIVISION AND DEVELOPMENT REQUIREMENTS

a) The Structure Plan Map (Plan 1) and Tables A-E form part of the regulatory provisions of this Structure Plan and prescribe the land use permissibility, standards, requirements and prerequisites for subdivision and development in the corresponding Precincts designated on the Structure Plan Map:

Plan 1	Structure Plan Map
Table A	Planning Requirements for Precinct A
Table B	Planning Requirements for Precinct B
Table C	Planning Requirements for Precinct C
Table D	Planning Requirements for Precinct D
Table E	Retail / Office Floor Space Allocation

b) The local government will not consider recommending subdivision or approving development within the Structure Plan area, unless a Structure Plan and a Detailed Area Plan (DAP) for a Precinct or part of a Precinct have been prepared and adopted pursuant to clause 29AB of the Scheme.

c) Notwithstanding clause 9(b) local government may recommend subdivision or approve the development of land within the Structure Plan area prior to a structure plan and / or DAP coming into effect in relation to that land, if the local government is satisfied that this will not prejudice the specific purposes and requirements of the Structure Plan area, the design of the Structure Plan Area or the development of the surrounding area.

d) Development of land shall be generally in accordance with the Structure Plan Map (Plan 1).

e) Residential density shall be in accordance with the Residential Density Code shown on Plan 1, the Structure Plan Map. Residential development shall comply with the Residential Design Codes except for the variations specified in this Structure Plan.

f) A maximum dwelling yield of 4500 dwellings for the Structure Plan area. Any increase in dwelling numbers would require a modification to the Structure Plan supported by new traffic modelling to demonstrate the capapcity of the road network to accommodate additional dwellings.

g) Public Open Space (POS) shall be distributed generally in accordance with Plan 1 with an updated public open space schedule to be provided at the time of subdivision for determination by the WAPC, upon the advice of the Town of Victoria Park.

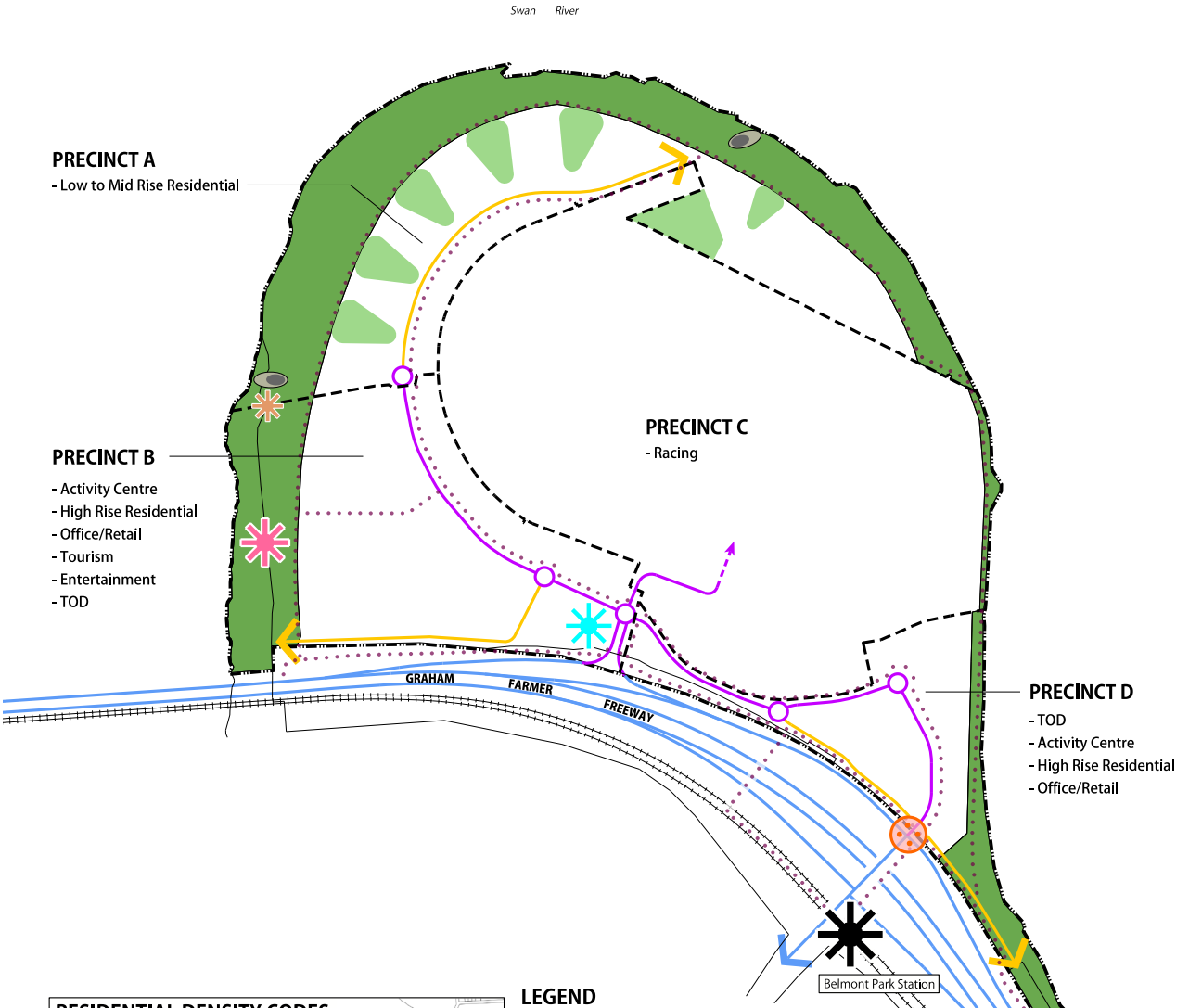
h) A minimum of ten percent of the gross subdivisible area shall be provided as POS in accordance with the WAPC's Liveable Neighbourhoods for the development of POS in the Structure Plan area, subject to WAPC approval.

i) Maximum height of any development shall comply with the restrictions associated with Obstacle Limitation Surfaces (OLS) and Procedures for Air Navigation Services – Aircraft Operations (PANS-OPS) pursuant to the *Airports Act* 1996.

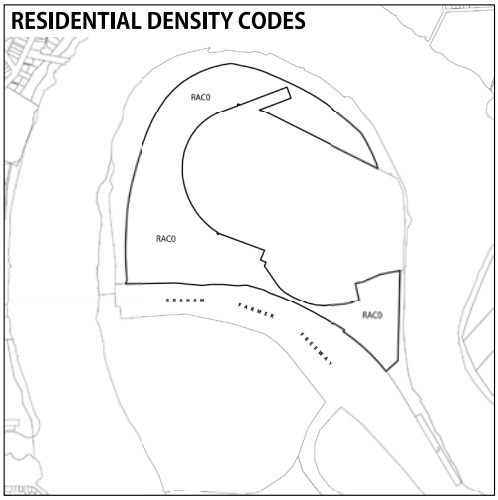
j) Development shall not compromise the primary function and operations of the racecourse.

k) Services and infrastructure need to be provided in an appropriately staged manner as development proceeds. Staging of the development needs to be linked to the provision of vehicular and pedestrian access, adequate provision of infrastructure services and access to the foreshore.

10 PLAN 1 STRUCTURE PLAN MAP



RESIDENTIAL DENSITY CODES



LEGEND

- Structure Plan Boundary
- Primary Distributor
- Integrator B
- Neighbourhood Connector
- Strategic Open Space
- Foreshore
- Precinct Boundary
- Key Pedestrian/Cyclist Link
- Boatshed
- Existing Railway Station
- Possible Inlet (indicative only, subject to Detailed Area Planning and receipt of environmental and planning approvals from State and Local Government)
- Landmark Building (Indicative Location)
- Existing Light Controlled Intersection
- Potential Future Summer Street Bridge Landing (Indicative only, subject to justification being provided to the satisfaction of the WAPC for the need to provide a bridge and all relevant approvals being obtained.)

11 TABLE A - PLANNING REQUIREMENT FOR PRECINCT A

PRECINCT OBJECTIVES

The objective for Precinct A is to create a diverse residential community, set within a landscaped setting with a strong physical and visual connection with the racecourse, foreshore and importantly the river itself.

The Precinct is to incorporate a mix of residential developments at a scale, density and location that respond to the opportunities afforded by its location adjacent to the river and the racecourse. It will provide for 'water front' and 'racecourse front' living through mid rise residential apartments and low rise attached, single residential dwellings.

Non residential uses including retail up to a total of 500m^2 NLA may be acceptable at a small scale to service the local resident population.

The objective of the strategic local public open space is to extend the river and foreshore landscape into the residential areas, maximise connectivity with the river and provide views to the site from the river.

The objectives for the foreshore are to:

- Retain and enhance vegetation and fauna habitat within an access controlled area.
- Manage recreation opportunities and maximise retention of vegetation.
- Provide for open spaces for passive and active recreation and revegetation of the fringing vegetation.
- Create functioning and useable open spaces for the enjoyment of the entire community and local residents.
- Provide for public access through a series of boardwalks.
- Allow for passive recreational activities such as recreational canoeing or kayaking along the foreshore.
- Establish a maximum of two (2) activity nodes, comprising boatsheds, swimming beaches and facilities for the local residents, to limit areas of public activity within the Precinct and protect riverine habitat.
- Establish opportunities for recreational fishing in harmony with the natural riverine habitat.
- Acknowledge and celebrate the Indigenous connection to the Swan River.

LAND USE PERMISSIBILITY

Land Use	Permissibility
Single House	P
Grouped dwelling	P
Multiple dwelling	P
Day Care Centre	AA
Consulting Rooms	AA
Convenience store	AA
Service station	X
Educational establishment	AA
Place of worship	AA
Home occupation	AA
Home office	P
Hospital	X
Nursing home	AA
Residential building	AA
Hotel	X
Motel	X
Tavern	X

LAND USE PERMISSIBILITY

Serviced apartment	AA
Massage rooms	X
Nightclub	X
Office	X
Restricted premises	X
Single bedroom dwelling	P
Shop	AA
Showroom	X
Aged or Dependent Persons Dwelling	P
Family Day Care	AA
Fast Food Outlet	X
Restaurant	AA
Marina	X
Private Recreation	X
Stables	X
Veterinary Hospital	X
Recreation and Sports Centre	X
Club	X
Market	AA
General Industry	X
Transport Depot	X
Light Industry	X
Hazardous Industry	X
Noxious Industry	X
Motor Vehicle and Marine Sales Premises	X
Open Air Sales and Display	X
Warehouse	X

The symbols used in the Land Use Table have the following meanings:

"P" means that the use is permitted by the Scheme.

"AA" means that the use is not permitted unless the Council has granted planning approval.

"X" means a use that is not permitted by the Scheme.

If the use of land for a particular purpose is not specifically listed in the structure plan and cannot reasonably be determined as falling within the interpretation of one of the listed uses, the Council may determine if the use is permitted consistent with Clause 16 of the Scheme.

PRECINCT SPECIFIC GUIDING DESIGN PRINCIPLES

The following additional guiding design principles apply to developments within Precinct A:

- Detailed Area Plans to identify a mix of dwelling types.
- Low-rise built form (up to 3 storeys) is to be located generally in closest proximity to the foreshore.
- Mid-rise built form (4-13 storeys) is to be located generally adjacent to the race track.
- Design and locate appropriate mid-rise built form massing to reveal the geometry of the racecourse and to reinforce the unique sense of place.
- River and foreshore landscape is to be extended into the residential environment in public open spaces to provide a balance between public and private realm.
- Design and orientation of built form is to take account of the river and the race track, to optimise views over open parkland to the Swan River whilst also providing views (where possible) from the river towards the racetrack.

RESIDENTIAL DENSITY

R AC 0

SITE REQUIREMENTS

R Code	Dwelling Type	Min Site Area per dwelling (m^2)	Minimum lot area/ rear battleaxe (m^2)	Minimum frontage (m)	Open Space		Minimum setbacks (m)
					Min total (% of site)	Min o/door living (m^2)	Primary street
R-AC 0	Single house	150	250	6	30	16	2
R-AC 0	Grouped dwelling	150	250	-	30	16	2

SITE REQUIREMENTS

MULTIPLE DWELLINGS

R Code	Dwelling Type	Max plot ratio	Min open space (% of site)	Min private open space on podium deck (m^2 per dwelling)	Min primary street boundary setback (m)	Secondary street setback (m)	Other / Rear/ Foreshore
R-AC 0	Multiple dwelling	5	40	12	Nil	Nil	Nil

*Secondary street includes communal street, private street

MINIMUM RESIDENTIAL DWELLING NUMBERS

- 664

CAR PARKING REQUIREMENTS

Parking for the residential component to be provided as per the R Codes.

For non residential land uses the parking provisions within Town Planning Scheme No. 1 will apply.

DETAILED AREA PLAN	In addition to any general matters required to be included within a DAP under clause 29AB (15)(b) of the Scheme, DAPs for whole or part of Precinct A shall incorporate provisions and design elements addressing the following: • Precinct Objectives • Integration with adjacent existing or planned development • Analyse and determine appropriate setbacks from the foreshore reserve in consultation with the Swan River Trust • The recommendations of the technical appendices to the Structure Plan • Land use and location • Open Space; Public Open Space • Streetscape - Lighting - Paving - Vegetation - Paths - Street furniture - Public art • CPTED principles (report to be provided prior to approval of DAP in accordance with WAPC Designing out Crime Planning Guidelines) • Built Form - Mix of dwelling types - Setbacks - Building heights - Building envelopes - Location of towers - Design guidelines - Solar access to the public and private realm - Transport and Access - Parking - Plot Ratio - Communal open space • Urban Water Management Plan (UWMP) • Resource Efficiency • Servicing • Affordable Housing • Implementation of DAP

12 TABLE B - PLANNING REQUIREMENTS FOR PRECINCT B

PRECINCT OBJECTIVES

Precinct B objectives are to incorporate high density living and working environments, supported by onsite amenities, leisure facilities and retail. It is to comprise a small public Marina, a mix of high density and high rise residential, commercial, office, retail, leisure, tourism, cultural and entertainment land uses in the form of a vibrant Activity Centre.

The Precinct is part of a wider Burswood Peninsula Activity Centre. It is to provide for local employment and a destination for employees and visitors. It is to provide for a mix of uses at a scale, density and location responding to the opportunities offered by its location adjacent to the river foreshore and the Freeway.

The Precinct is to provide a mix of land uses appropriate for a Transit Oriented Development (TOD), pedestrian link to the rail station and activation of transit route.

The objectives for the foreshore are to:

- Create a small public Marina providing a focal point, activity hub and high quality amenity area for residents and visitors.
- Focus on public usable spaces incorporating some open space turf areas and formal landscaping.
- Maximise recreation opportunities.
- Provide for open spaces for passive and active recreation and revegetation of the fringing vegetation.
- Create functioning and useable open spaces for the enjoyment of the entire community and local residents.
- Provide for public access for pedestrians and cyclists.
- Allow for passive recreational activities such as recreational canoeing or kayaking along the foreshore.
- Establish activity nodes, comprising boatsheds, swimming beaches and facilities for the local residents and visitors.
- Acknowledge and celebrate the Indigenous connection to the Swan River.

LAND USE PERMISSIBILITY

Land Use	Permissibility
Single house	X
Grouped dwelling	X
Multiple dwelling	P
Day Care Centre	P
Consulting Rooms	P
Convenience store	P
Service station	X
Educational establishment	AA
Place of worship	AA
Home occupation	AA
Home office	P
Hospital	AA
Nursing home	AA
Residential building	AA
Hotel	AA
Motel	AA
Tavern	AA
Serviced apartment	AA

LAND USE PERMISSIBILITY

Massage rooms	X
Nightclub	AA
Office	P
Restricted premises	X
Single bedroom dwelling	P
Shop	P
Showroom	AA
Aged or Dependent Persons Dwelling	P
Family Day Care	AA
Fast Food Outlet	AA
Restaurant	P
Marina	AA
Private Recreation	AA
Stables	X
Veterinary Hospital	X
Recreation and Sports Centre	AA
Club	AA
Market	AA
General Industry	X
Transport Depot	X
Light Industry	X
Hazardous Industry	X
Noxious Industry	X
Motor Vehicle and Marine Sales Premises	X
Open Air Sales and Display	AA
Warehouse	X

The symbols used in the Land Use Table have the following meanings:

"P" means that the use is permitted by the Scheme.

"AA" means that the use is not permitted unless the Council has granted planning approval.

"X" means a use that is not permitted by the Scheme.

If the use of land for a particular purpose is not specifically listed in the structure plan and cannot reasonably be determined as falling within the interpretation of one of the listed uses, the Council may determine if the use is permitted consistent with Clause 16 of the Scheme.

PRECINCT SPECIFIC GUIDING DESIGN PRINCIPLES

The following additional guiding design principles apply to developments within Precinct B

- Detailed Area Plans to identify a mix of dwelling types.
- Landmark buildings should be developed at the main entries into the Precinct.
- Mid rise (4-13 storeys) and high rise (up to 53 storeys) residential built form to be located generally adjacent to the race track.
- Development on land abutting the race track is to be undertaken in a manner that respects the geometry and function of the race track.
- The bulk of office, retail, commercial built form to be located generally in the western part of the Precinct, surrounding the Marina, and adjacent to the Freeway, to take advantage of the site's exposure to passing traffic.
- Building mass should be distributed to act as a barrier from noise and pollution from the Graham Farmer Freeway
- Where possible, separation of mid and high rise residential blocks from each other should be encouraged, to create views, cooling breezes, daylight penetration and ventilation opportunities, and to minimise privacy concerns.
- Developments should provide a high quality building interface and level of surveillance to the foreshore, streets and podium decks.
- Provide connectivity to the station and activation of the transit route.
- A separate Detailed Area Plan is to be prepared for the proposed Inlet for endorsement by the Local Government and Western Australian Planning Commission.

RESIDENTIAL DENSITY

R AC 0

SITE REQUIREMENTS

MULTIPLE DWELLINGS

R Code	Dwelling Type	Max plot ratio	Min open space (% of site)	Min private open space on podium deck (m^2 per dwelling)	Min primary street boundary setback (m)	Secondary street setback (m)	Other / Rear/ Foreshore
R-AC0	Multiple dwelling	12	Nil	6	Nil	Nil	Nil

*Secondary street includes communal street, private street

MINIMUM RESIDENTIAL DWELLING NUMBERS

1359

CAR PARKING REQUIREMENTS

Parking for the residential component to be provided as per the R Codes.

For non residential land uses the parking provisions within Town Planning Scheme No. 1 will apply with the following exceptions:

- Office parking to be provided at a rate of 1 bay per 57m^2 of net floor area (NFA), which is consistent with the transit-oriented focus of the proposed office development.
- Retail parking to be provided at a rate of 5 bays per 100m^2 NFA.
- The hotel component to be provided parking at a rate of one bay per 5 rooms.

DETAILED AREA PLANS	In addition to any general matters required to be included within a DAP under clause 29AB (15)(b) of the Scheme, DAPs for whole or part of Precinct B shall incorporate provisions and design elements addressing the following: • Precinct Objectives • Integration with adjacent existing or planned development • Analyse and determine appropriate setbacks from the foreshore reserve in consultation with the Swan River Trust • The recommendations of the technical appendices to the Structure Plan • Land use and location • Open Space; Public Open Space • Streetscape - Lighting - Paving - Vegetation - Paths - Street furniture - Public art • CPTED principles (report to be provided prior to approval of DAP in accordance with WAPC Designing out Crime Planning Guidelines) • Built Form - Mix of dwelling types - Setbacks - Building heights - Building envelopes - Location of towers - Design guidelines - Solar access to the public and private realm - Transport and Access - Parking - Plot Ratio - Communal open space • UWMP • Resource Efficiency • Servicing • Affordable Housing • Implementation of DAP.

13 TABLE C - PLANNING REQUIREMENTS FOR PRECINCT C

PRECINCT OBJECTIVES

The objective for Precinct C is to accommodate the primary function and operations of racing. It is to incorporate a race track, Grandstand, stables and other racing associated facilities and infrastructure. The existing Grandstand is proposed to be redeveloped into a new iconic building that will also incorporate sports club amenities for use by the public. Small retail component may be acceptable up to 500m^2 NLA.

Opportunities for public use of the centre of the track on a limited basis will be explored, subject to approval from Racing and Wagering Western Australia.

The Precinct is to provide a pedestrian link to the rail station and activation of transit route.

The objectives for the foreshore are to:

- Create a stable and manageable river's edge.
- Delineate the race track from the stabilised foreshore edge.
- Allow for continuous and emergency public access between the Precincts
- Create safe pedestrian access with passive surveylance along the river's edge.

LAND USE PERMISSIBILITY

Land Use	Permissibility
Single house	X
Grouped dwelling	X
Multiple dwelling	X
Day Care Centre	AA
Consulting Rooms	AA
Convenience store	X
Service station	X
Educational establishment	AA
Place of worship	AA
Home occupation	X
Home office	X
Hospital	X
Nursing home	X
Residential building	X
Hotel	X
Motel	X
Tavern	AA
Serviced apartment	X
Massage rooms	X
Nightclub	AA
Office	AA
Restricted premises	X
Single bedroom dwelling	X
Shop	AA
Showroom	X
Aged or Dependent Persons Dwelling	X
Family Day Care	X

LAND USE PERMISSIBILITY

Fast Food Outlet	AA
Restaurant	AA
Marina	X
Private Recreation	P
Stables	P
Veterinary Hospital	P
Recreation and Sports Centre	AA
Club	AA
Market	AA
General Industry	X
Transport Depot	X
Light Industry	X
Hazardous Industry	X
Noxious Industry	X
Motor Vehicle and Marine Sales Premises	X
Open Air Sales and Display	AA
Warehouse	X

The symbols used in the Land Use Table have the following meanings:

"P" means that the use is permitted by the Scheme.

"AA" means that the use is not permitted unless the Council has granted planning approval.

"X" means a use that is not permitted by the Scheme.

If the use of land for a particular purpose is not specifically listed in the structure plan and cannot reasonably be determined as falling within the interpretation of one of the listed uses, the Council may determine if the use is permitted consistent with Clause 16 of the Scheme.

PRECINCT SPECIFIC GUIDING DESIGN PRINCIPLES

The following additional guiding design principles apply to developments within Precinct C:

- Provide activation of the pedestrian route to the railway station.
- Developments to optimise potential for physical accessibility to racing amenity without compromising the security of its primary function.
- Optimize the size, location and function of the Grandstand and amenities.
- Provide an optimum amount of commercial/retail to the ground level of the Grandstand building.
- Provide public uses in the centre of the track and create an accessible and safe pedestrian underpass.
- Provide for pedestrian traffic through the precinct to the river and the adjacent precincts.
- Stables are to comply with the Town of Victoria Park Health Local Law 2003, the EPA Guidance Statement No. 3 and *Belmont Racecourse Review of Potential for Malodour Impacts Report* (Appendix 16).

CAR PARKING REQUIREMENTS

Parking requirement for the racing component is to include a minimum of 140 car bays and 31 trailer parking bays. In addition, a 1200 bay at-grade parking area is to be provided in the middle of the racecourse, accessed via a new road to be constructed under the race track itself, for race day event parking

DETAILED AREA PLANS	In addition to any general matters required to be included within a DAP under clause 29AB (15)(b) of the Scheme, DAPs for whole or part of Precinct A shall incorporate provisions and design elements addressing the following: • Precinct Objectives • Integration with adjacent existing or planned development • Analyse and determine appropriate setbacks from the foreshore reserve in consultation with the Swan River Trust • The recommendations of the technical appendices to the Structure Plan • Land use and location • Open Space • Streetscape - Lighting - Paving - Vegetation - Paths - Street furniture - Public art • CPTED principles (report to be provided prior to approval of DAP in accordance with WAPC Designing out Crime Planning Guidelines) • Built Form - Design Guidelines - Setbacks - Building heights - Building envelopes - Solar access to the public and private realm - Transport and Access - Parking • UWMP • Resource Efficiency • Servicing • Implementation of DAP.

14 TABLE D – PLANNING REQUIREMENTS FOR PRECINCT D

PRECINCT OBJECTIVES

Precinct D objectives are to provide a mix of land uses appropriate for a Transit Oriented Development (TOD), including high density residential, office, commercial and retail, restaurants, a piazza, pedestrian thoroughfares and shared spaces for vehicles and pedestrians.

Sensitive land uses as defined by Department of Environment and Conservation (DEC) are to be located away from stables in accordance with the EPA Guidance Statement No. 3 and *Belmont Racecourse Review of Potential for Malodour Impacts Report* (Appendix 16).

Precinct D is to:

- Optimise the land use efficiency responding to the site's strategic location within Perth, excellent transport connections and vast land resource in a dense urban centre.
- Allocate land uses to take advantage of the site's exposure to passing traffic (to and from the CBD) by road or rail
- Encourage access to community facilities (gardens, swimming pools and leisure facilities) to underline the shared benefits of city living.

The objectives for the foreshore are to:

- Stabilise foreshore areas to allow for a continued heavy recreation use.
- Provide public access.
- Maximise recreation opportunities.
- Acknowledge and celebrate the Indigenous connection to the Swan River.

LAND USE PERMISSIBILITY

Land Use	Permissibility
Single house	X
Grouped dwelling	X
Multiple dwelling	P
Day Care Centre	P
Consulting Rooms	P
Convenience store	P
Service station	X
Educational establishment	AA
Place of worship	AA
Home occupation	X
Home office	P
Hospital	AA
Nursing home	AA
Residential building	AA
Hotel	AA
Motel	AA
Tavern	AA
Serviced apartment	AA
Massage rooms	X
Nightclub	AA
Office	P
Restricted premises	X
Single bedroom dwelling	P
Shop	P
Showroom	AA
Aged or Dependent Persons Dwelling	P

LAND USE PERMISSIBILITY

Family Day Care	AA
Fast Food Outlet	AA
Restaurant	P
Marina	X
Private Recreation	AA
Stables	X
Veterinary Hospital	X
Recreation and Sports Centre	AA
Club	AA
Market	AA
General Industry	X
Transport Depot	X
Light Industry	X
Hazardous Industry	X
Noxious Industry	X
Motor Vehicle and Marine Sales Premises	X
Open Air Sales and Display	AA
Warehouse	X

The symbols used in the Land Use Table have the following meanings:

"P" means that the use is permitted by the Scheme.

"AA" means that the use is not permitted unless the Council has granted planning approval.

"X" means a use that is not permitted by the Scheme.

If the use of land for a particular purpose is not specifically listed in the structure plan and cannot reasonably be determined as falling within the interpretation of one of the listed uses, the Council may determine if the use is permitted consistent with Clause 16 of the Scheme.

PRECINCT SPECIFIC GUIDING DESIGN PRINCIPLES

The following additional guiding design principles apply to developments within Precinct D:

- Detailed Area Plans to identify a mix of dwelling types.
- The majority of the office spaces are to be located in closest proximity to Belmont Park Station, to encourage use of public transport, and along the southern boundary of the site, adjacent to the Freeway.
- The built form along the Freeway boundary should act as an acoustic barrier, protecting spaces to the north of these buildings.
- Mid-rise residential buildings (4-13 storeys) and high rise residential towers (up to 42 storeys) are to be located generally on the eastern edge of the Precinct facing the Swan River, to take advantage of views to the river and the race track.
- Development is to provide activation of the pedestrian route to the railway station.
- Development on land abutting the race track is to be undertaken in a manner that respects the geometry and function of the race track.
- Developments are to provide high quality building interface and level of surveillance to the foreshore, streets and podium decks.
- A boardwalk/pedestrian and cyclist access path is to be provided at the eastern edge of the site where the racecourse is located hard against the river's edge, to connect to Precinct A.

RESIDENTIAL DENSITY

R AC 0

SITE REQUIREMENTS

MULTIPLE DWELLINGS

R Code	Dwelling Type	Max plot ratio	Min open space (% of site)	Min private openn space on podium deck (m^2 per dwelling)	Min primary street boundary setback (m)	Secondary street setback (m)	Other /Rear/ Fore-shore
	Multiple dwelling	12	Nil	6	Nil	Nil	Nil

*Secondary street includes communal street, private street

MINIMUM RESIDENTIAL DWELLING NUMBERS

977

CAR PARKING REQUIREMENTS

Parking for the residential component to be provided as per the R Codes.

For non residential land uses the parking provisions of Twon Planning Scheme No. 1 will apply, with the following exceptions:

- Office parking to be provided at a rate of 1 bay per 57m^2 of net floor area (NFA), which is consistent with the transit-oriented focus of the proposed office development.
- Retail parking to be provided at a rate of 5 bays per 100m^2 NFA.

DETAILED AREA PLANS

In addition to any general matters required to be included within a DAP under clause 29AB (15)(b) of the Scheme, DAPs for whole or part of Precinct D shall incorporate provisions and design elements addressing the following:

- Precinct Objectives
- Integration with adjacent existing or planned development
- Design Focussed Development Application Process
- Analyse and determine appropriate setbacks from the foreshore reserve in consultation with the Swan River Trust
- The recommendations of the technical appendices to the Structure Plan
- Land use and location
- Open Space; Public Open Space
- Streetscape
  - Lighting
  - Paving
  - Vegetation
  - Paths
  - Street furniture
  - Public art
- CPTED principles (report to be provided prior to approval of DAP in accordance with WAPC Designing out Crime Planning Guidelines)
- Built Form
  - Mix of dwelling types
  - Setbacks
  - Building heights
  - Building envelopes
  - Location of towers
  - Design guidelines
  - Solar access to the public and private realm
  - Transport and Access
  - Parking
  - Plot Ratio
  - Communal open space

DETAILED AREA PLANS	• UWMP • Resource Efficiency • Servicing • Affordable Housing • Implementation of DAP.

15 TABLE E - RETAIL / OFFICE FLOOR SPACE ALLOCATION

	MAXIMUM NET LETTABLE AREA (NLA)*
Office	60,000m^2
Retail	31,000m^2

*The maximum NLA included in Table C may be exceeded through a Detailed Area Plan for the entire centre where the requirements of State Planning Policy 4.2 *Activity Centres for Perth and Peel* are met to the satisfaction of the WAPC and Town of Victoria Park.

16 OPERATION AND IMPLEMENTATION

The project will emerge over a number of years. The following items, responsibilities and triggers are to be undertaken at various stages of the project:

Item	Scope	Implementation/Timing	Implementation	Clearing Authority
1. CEDE FORESHORE RESERVE	Cede Foreshore to the State	Developer progressively undertakes foreshore "management elements" aligned with the development of the specific BPRR Precincts. Developer retains management and maintenance responsibility for all infrastructure and other elements within the public realm of the foreshore reserve within the said precinct until two years after the sale of the last dwelling unit within the precinct. At the time of handover the developer is to provide to the Town a 20 Year Service and Asset Management Plan, developed in accordance with the Town's Asset Management Strategy,for all Parks, Buildings, Roads and Drainage and associated infrastructure within the relevant precinct of that part of the Foreshore Reserve. *Note: This will not include the portion of foreshore reserve that is currently occupied by the racetrack within Lot 101.*	Developer	DoP
2. FORESHORE WORKS	Foreshore Management Strategy Guidance for landscape zones and rehabilitation works. Plan for the pedestrian, cyclist and maintenance vehicle and emergency access network. Will include the staged delivery of a 3.0m wide DUP (separate from raised boardwalks) within the foreshore reserve.	Local Structure Plan condition. The Foreshore Management Strategy (refer Emerge Associates document dated November 2011), forms part of the LSP and is incorporated in Part 1 of the LSP. A Foreshore Management Plan is required for each Precinct adjacent to the Foreshore Reserve, at the time of Detailed Area Plan, and must be consistent in-principle with the approved Foreshore Management Strategy. The Foreshore Management Plan is to be provided prior to the approval of the first Detailed Area Plan and is to include future tenure arrangements for the jetty/café and indigenous centre.	Developer	ToVP
	Foreshore Management Plan – to be implemented by precincts. 1. Park North Precinct 2. Park West Precinct 3. TOD Precinct 4. Adjacent to Racecourse 5. Marina Precinct	Detailed subdivision condition "A Foreshore Management Plan must be prepared in accordance with the approved Foreshore Management Strategy"	Developer	

3. OPEN SPACE	Open Space Management Strategy	An Open Space Management Strategy is to be prepared prior to approval of each DAP	Developer	ToVP
	Open Space Management Plan	An Open Space Management Plan is to be prepared prior to approval of each DAP	Developer	ToVP
4. SITE ACCESS	Road modification works and/ or associated developer contributions	Provision of a new pedestrian bridge, adjacent to the existing Victoria Park Drive overpass bridge, between the western direction GFF onramp to VPD Bridge, and the eastern onramp to the GFF.	Developer	ToVP, Department of Transport & Main Roads
		Proportionate contribution to a new pedestrian/cycle lane (to merge with the existing pedestrian cycle lane) from the western direction GFF onramp to Victoria Park Drive bridge.		
		Revisions to existing carriageway at Belmont Park road entry, to integrate into the GFF off ramps.		
		Revisions to the existing carriageway at the intersection of the eastern onramp and Victoria Park Drive, including left in left out entry to Precinct D.		
		Revisions to the Principal Shared Path (PSP), to provide grade separated PSP and to construct a tunnel for the PSP at the key point of entry into Belmont Park. PSP to be revised to run at ground level adjacent to Precinct D and then to connect up through to existing Bulbuck Way PSP.		
		Construction of a second western bound GFF onramp lane (as indicated on figure 36, Part 2), using the breakdown lane, and providing a guard rail around the existing pedestrian overbridge pylon, but excluding any new carriageways plans for "ramp metered" onramp lanes, that may be constructed by MRWA in the future.		
		Provision of all regulatory devices (eg. Traffic signals, pavement markings and signs) required as part of the network modifications.		
		In order to minimise disruption to traffic, the works will be coordinated with MRWA works.		
		Provision of signage strategy for the left turn from the first east bound Graham Farmer Freeway off Ramp to address access point if the car park is full.	Developer	ToVP, MRD, DoT
		Undertake a Road Safety Audit for the Left turn from the second eastbound Graham Farmer Freeway off Ramp onto Victoria Park Drive.	Developer	ToVP, MRD, DoT
		Removal of the breakdown lane from Victoria Park Drive to a point just west of the overpass. Provide pier protection to relevant standards off westbound on ramp from Victoria Park Drive onto Graham Farmer Freeway.	Developer	MRD, DoT

Undertake a Road Safety Audit covering all aspects of the project. The audit team to consist of members that are agreeable to the Transport Portfolio and Transcore (on behalf of developer). The audit team will need to include a member with transport modelling experience and also one with freeway design experience. The audit will cover all road works associated with the development, and safety issues raised will need to be addressed during the design process.	Developer	ToVP, MRD, DoT
Timing of the works that are within the Graham Farmer Freeway and Victoria Park Drive road reserves will need to be closely aligned with the timings of the works required for the transport aspects of the Major Stadium project. The construction program for the Major Stadium will also need to be considered. As such all roadworks within the Graham Farmer Freeway and Victoria Park Drive road reserves will need to be completed before the stadium is operational. GRD and the PTA/Main Roads will be required to work together to develop a staging and procurement plan for the roadworks that tie in within this timeframe and deliver minimum disruption to traffic.	Developer, PTA, MRD	ToVP, MRD, DoT
Proportionate Funding Contributions to: 1. All PSP relocation/tie in works including grade separation at the first access point and at Victoria Park Drive. 2. All works associated with the revised eastbound off ramps from Graham Farmer Freeway to the development and Victoria Park Drive. 3. All works associated with the widening of the westbound on ramp from Victoria Park Drive to Graham Farmer Freeway (this does not include any work associated with the proposed future ramp-metering widening and works on this ramp). 4. Modifications to (link up to) Bulbuk Way to the extent of the Belmont Park site boundary (culminating in a cul-de-sac way at the site's boundary). 5. The modifications to the Victoria Park Drive bridge over Graham Farmer Freeway, including a replacement pedestrian/cycling bridge. 6. A contribution towards the Victoria Park Drive modifications from the westbound off ramp to the tie in point to the south of the rail line. 7. The cost of all regulatory devices associated with points 1-6.	Developer	ToVP, MRD
Design Standards - the design standards for the Graham Farmer Freeway aspects of the roadworks will be required to meet with Main Roads standards.	Developer	ToVP, MRD
Western Power Underground Transmission Line Relocation - the PTA and developer to plan and implement the relocation of the line from the western side of Graham Farmer Freeway to the Balbuk Way road reserve (to the boundary of Belmont Park site).	Western Power	Western Power

		Emergency Access Points - the developer is to provide emergency access points that meet with Fire and Emergency Services requirements	Developer	ToVP
		Works on Graham Farmer Freeway - Main Roads 'Works by Others' processes will apply to all works within the Graham Farmer Freeway road reserve.	Developer	ToVP. MRD, DoT
5. PARKING	Parking Management Strategy	A Parking Management Strategy to be prepared (prior to first DAP approval) for the Structure Plan to the satisfaction of the Local Government and upon advice from the Western Australian Planning Commission.	Developer	ToVP, DoP
	Parking Management Plans	Parking Management Plans to be prepared and implemented for individual development sites or as part of the Detailed Area Plans for individual Precincts to the satisfaction of the Local Government and in particular the Parking Management Plan for the Race Track Precinct shall stipulate that the racetrack parking is only available for activities associated with the use of the Race Track Precinct.	WATC	ToVP
6. SERVICES INFRASTRUC-TURE TO SITE	Site services strategy detailing layout of all service infrastructure, including backbone infrastructure	Part of the Local Structure Plan application, refer JDSi Consulting Engineers, Servicing Report, dated October 2011 *Services easement requirements, and road verge corridors to be provided throughout the project, including access to service corridor across the existing racetrack.*	Developer	ToVP
	Handover Strategy	Prior to approval of the first DAP to include the specification of a defects period *Note: Condition may be cleared by a legal agreement & bonding with appropriate authority. A detailed Implementation plan will need to be prepared to support the legal Agreement.*	Developer	ToVP & Respective Service Authorities.
7. SITE WORKS TO PRECINCTS	Earthworks and Pre-loading Strategy Earthworks and pre-loading plan	To be lodged with the first Detailed Area Plan for the development. This needs to include a traffic management plan.A Detailed Earthworks and Preloading Plan needs to be lodged with each subdivision application	Developer	DEC & SRT

8. MAINTENANCE	Outline Maintenance Strategy	The Maintenance Strategy for the foreshore reserve needs to be prepared prior to lodgement of the first Detailed Area Plan and the Maintenance Strategy for the other public open areas prior to each Detailed Area Plan. The Maintenance Strategy is to include the minimum standard of maintenance to be provided by the Town following handover	Developer	ToVP & SRT
	Prepare a detailed Maintenance Plan for open space, and foreshore reserve.	Lot subdivision clearance condition.	Developer	ToVP
	Carry out Maintenance in accordance with the Maintenance Strategy.	Post Construction	Developer	N/A
9. BOARD WALK & PROMENADE ADJACENT TO TOD PRECINCT	Concept design to outline a "holistic" approach to the boardwalk & promenade, in accordance with Foreshore Management Plan	Prior to the Detailed Area Plan for Precinct D	Developer	ToVP
	Detailed Design Construct 6m boardwalk plus 8m wide paved (& landscaped) promenade	Detailed subdivision clearance condition for Precinct D.	Developer	ToVP
10. PEDESTRIAN BOARDWALK ADJACENT TO THE TRACK	Preliminary concept design to outline a "holistic" approach to the boardwalk, tying it into the boardwalk and promenade to the South.	Prior to the Detailed Area Plan for Precinct 1 to ensure safe pedestrian connectivity along the racecourse.	Developer	ToVP
	Detailed design and Construction of pedestrian boardwalk along the race track edge to allow for pedestrian access.	Subdivisdion clearance for Precinct D . *Note: Timing of Implementation is part of first phase of the TOD precinct.*	Developer	ToVP
11. LOCAL WATER MANAGEMENT STRATEGY (LWMS)	Prepare LWMS in accordance with guidelines for approval by DOW.	LWMS prepared by Emerge Associaites, submitted to DoW, and lodged as attachment to Local Structure Plan. *Note: it is anticipated that the LWMS will remain valid for the lot subdivision approvals for each phase. A UWMP will not be required until detailed subdivision of each lot.*	Developer	DoW
12. URBAN WATER MANAGE-MENT PLAN (UWMP)	Prepare UWMP in accordance with guidelines for approval by DoW.	Detailed subdivision clearance condition. *Note: to be implemented in accordance with the Better Urban* Water Management Document, October 2008.	Developer	DoW

13. ACID SULPHATE SOILS (ASS)	Determine ASS management requirements and prepare a management plan for implementation during construction works	Subdivision approval condition Preliminary ASS Investigations were completed by Emerge Associates and findings are contained in Environmental Assessment and Justification Report dated November 2011, which forms an attachment to the LSP. Complete Detailed ASS Investigation prior to Subdivision DA to determine extent of ASS disturbance Develop ASS Management Plan for implementation during construction works	Developer	DEC
14. ADVANCED PRELOADING & GROUND PRETREATMENT	Construction of site works outside of existing race tracks including excavation and removal of unsuitable fill materials, import clean fill and preload alluvial soils.	Timeframe is aligned to development phases and market demand Handling, relocation, re-use and /or otherwise any management of existing site soils to be undertaken in accordance with a Site Management Plan (if required) to be prepared as part of the contaminated sites investigation Preloading of alluvial soils and recovery of bore water should be undertaken in accordance with an appropriate ASS management strategy & CEMP.	Developer	
15. GRANDSTAND SPORTING/ RECREATION CENTRE	Completion and Timing of additions to existing Belmont Park Grandstand to create Sporting and Recreation Centre	The Developer commits to commence construction, and complete in a continuous construction contract thereafter, the additions to the existing Belmont Park grandstand building, (as illustrated in Foster + Partners Concept Plan Report), at the latest, when 50% of the planned residential component of the Project is sold. The upgrading of the existing Grandstand Building footprint, is the separate responsibility of W.A.T.C.	Developer, W.A.T.C.	ToVP

PART TWO

EXPLANATORY SECTION

1 BACKGROUND

In 2006 the Western Australian Planning Commission (WAPC) initiated an Amendment to the Metropolitan Region Scheme (MRS Amendment 1131/41) to rezone the Belmont Park Racecourse site and surrounding land from Private Recreation to Urban, updating the Parks and Recreation reservation boundaries and revising the Primary Regional Road reservation to reflect the current ultimate alignment of the Graham Farmer Freeway.

The Amendment was supported by a Structure Plan which was lodged with the Town of Victoria Park in December 2005 and had been the subject of extensive public consultation. The Town of Victoria Park also consulted with various Government agencies, including WAPC, Swan River Trust, Main Roads WA, Public Transport Authority, Department of Education and Training, Department of Health, Department of Indigenous Affairs and Housing Commission of WA.

The Structure Plan was supported by the Commission subject to any modifications which may be required arising from the MRS Amendment and resolution of a number of detailed planning issues. Following the referral of Amendment 1131/41 to the Environmental Protection Authority (EPA), advice was received that the Amendment was to be formally assessed. Concerns raised by the EPA related to the potential impact on the Swan River from large scale development, reduced size of the proposed foreshore reserve, treatment of acid sulfate soils and fly ash potential contamination.

As a consequence, Western Australian Turf Club opted to abandon the original concept which was the basis for MRS Amendment 1131/41 and requested WAPC to withdraw the Amendment. A revised amendment proposal (1159/41) was subsequently prepared in consultation with the Swan River Trust (SRT) and the Department of Environment and Conservation (DEC).The revised Amendment (which also formed the basis of this Structure Plan) left the racing precinct in its current location and did not propose significant variation to the Parks and Recreation Reserve.

MRS Amendment 1159/41 to rezone the site from Private Recreation to Urban was gazetted in 2009.

2 LOCATION

The subject site is located approximately 4 km east of the Perth Central Business District on the northern end of the Burswood Peninsula, within the Town of Victoria Park. It is surrounded by the Swan River on its western, northern and eastern boundary and Graham Farmer Freeway to the south.

3 TITLE DESCRIPTION AND LAND OWNERSHIP

The land the subject of the proposed Structure Plan comprises:

- Lot 102 comprising 32.406 ha in the ownership of the Chairman of the Western Australian Turf Club
- Lot 9000 comprising 38.638 ha in the ownership of the Chairman of the Western Australian Turf Club
- Part of Crown Reserve 39361 comprising 1.5265 ha vested in the Burswood Park Board
- Lots 1 comprising 0.5709 ha in the ownership of the Commissioner of Main Roads, and
- Lot 3 comprising 0.5227 ha in the ownership of the Commissioner of Main Roads.

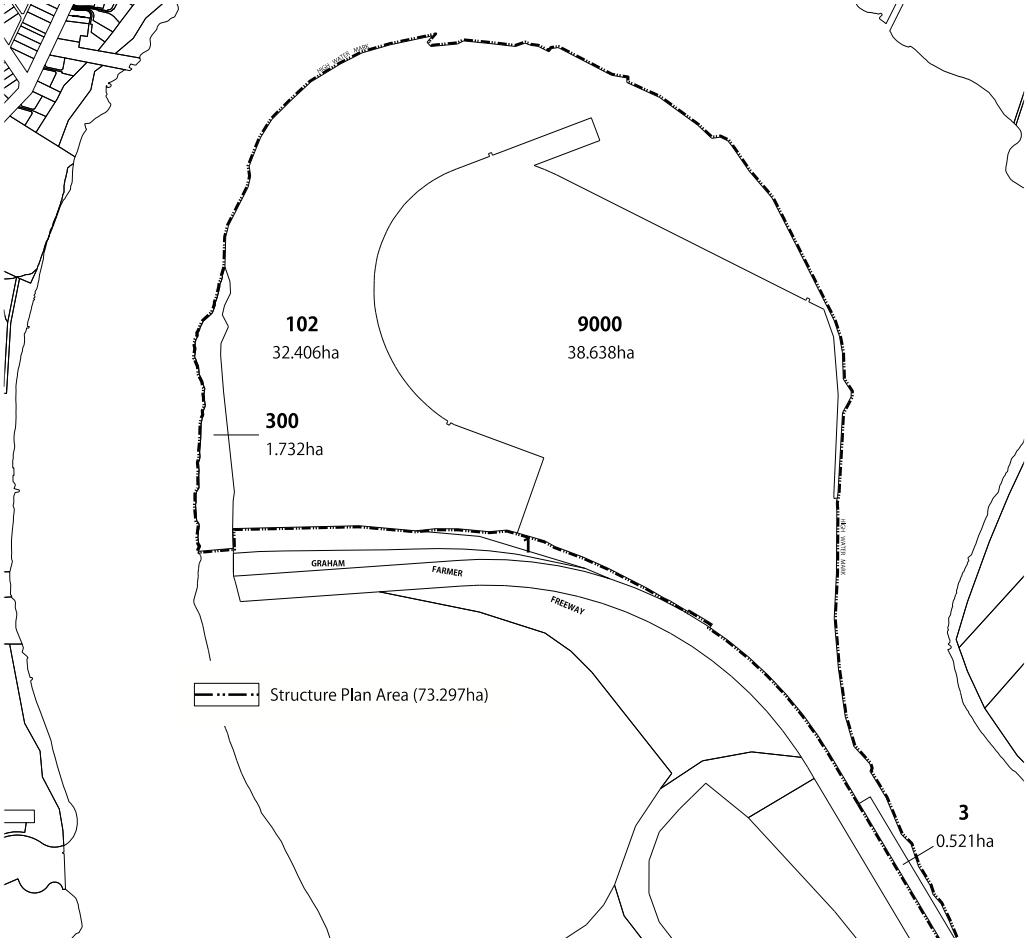


FIGURE 1: STRUCTURE PLAN AREA

4 EXISTING AND HISTORIC LAND USE

The site has been in the ownership of the Western Australian Turf Club since 1944 and has been used as a race track since 1899. It includes a race track, grandstand, parking areas, horse stables for race day and a number of outbuildings associated with the racing/track activities. The balance of the land is not being used and includes some areas of dredged fill, land fill and primarily self colonised, exotic vegetation.

The Club now uses the facility as a winter race track.

FIGURE 2: ORTHOPHOTO

5 STATUTORY, STRATEGIC AND POLICY CONSIDERATIONS

5.1 Metropolitan Region Scheme Zoning

Pursuant to the Metropolitan Region Scheme, majority of the subject land is zoned Urban. The land abutting the Swan River is reserved for Parks and Recreation or sits outside the Metropolitan Region Scheme under a Redevelopment Scheme/Act Area. A small portion of the site near the southern boundary is reserved for Primary Regional Roads.

The Burswood Resort Complex, located directly to the south of the Belmont Park Racecourse, is subject to the *Casino (Burswood Island) Agreement Act,* 1985. The Burswood Park Board was established under the Act and is responsible for the control, development and management of Burswood Park.

A portion of land in the subject site and proposed Structure Plan area on the western boundary is affected by this legislation and is managed by the Burswood Parks Board. The land is the subject of Section 7 of the *Casino (Burswood Island) Agreement Act,* and therefore excluded from the operations of the Metropolitan Region Scheme and Town of Victoria Park Town Planning Scheme No 1 by Clause 4 of the Scheme and Section 7 of the Agreement Act.

Notwithstanding this, the Structure Plan deals with the whole of the land including the Agreement Act land, providing a complete planning framework for the site's redevelopment.

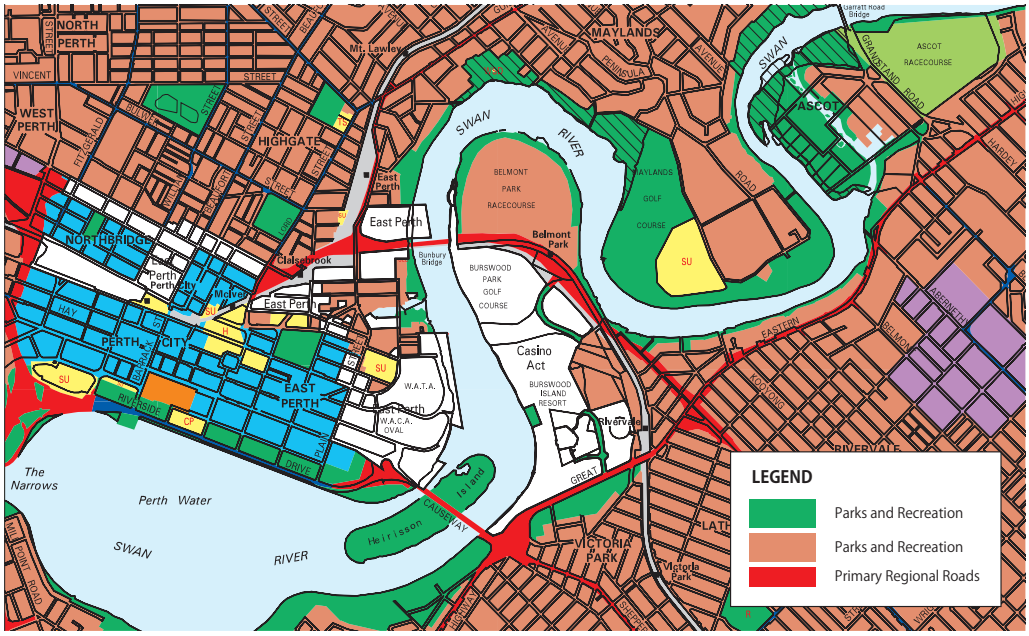


FIGURE 3: METROPOLITAN REGION SCHEME ZONINGS AND RESERVATIONS

5.2 State Government Strategies and Policies

The following State Government strategies and policies are relevant to the Structure Plan:

- *Directions 2031 and Beyond*, August 2010
- *Central Metropolitan Perth Sub-Regional Strategy*, August 2010
- *Liveable Neighbourhoods*, 2007
- *Capital City Planning Framework* (draft for public comment), June 2011.

State Planning Policies (SPPs) are prepared and adopted by the WAPC under statutory procedures set out in part 3 of the *Planning and Development Act*, 2005.

The WAPC and local governments must have 'due regard' to the provisions of state planning policies when preparing or amending local planning schemes and when making decisions on planning matters.

SPPs relevant to the Structure Plan proposals are:

- SPP1 *State Planning Framework Policy* (variation 2), February 2006
- SPP2.10 *Swan –Canning River System*, December 2006
- SPP 3 *Urban Growth and Settlement*, March 2006
- SPP3.1 *Residential Design Codes*, November 2010
- SPP4.2 *Activity Centres for Perth and Peel*, August 2010
- SPP 5.4 *Road and Rail Transport Noise and Freight Considerations in Land Use Planning*, September 2009
- SPP 2.9 Water Resources, December 2006

The following is a list of other relevant WAPC policies:

- Development Control Policy (DCP) 1.6 – *Planning to Support Transit use and Transit Oriented Development*, January 2006
- DCP 1.1 *Subdivision of Land – General Principles*, June 2004
- DCP 1.2 *Development Control – General Principles*, August 2004
- DCP 1.4 *Functional Road Classification*, June 1998
- DCP 1.5 *Bicycle Planning*, July 1998
- DCP 1.8 *Canal Estates and Other Artificial Waterway Developments*, February 1999
- DCP 2.2 *Residential Subdivision*, July 2003
- DCP 2.3 *Public Open Space in Residential Areas*, May 2002

- DCP 2.4 *School Sites*, October 2008
- DCP 2.6 *Residential Road Planning*, June 1998
- DCP 5.3 *Use of Land Reserved for Parks and Recreation*, December 1999

Burswood Peninsula District Structure Plan - Department of Planning is currently preparing a District Structure Plan for the Burswood Peninsula. At the time of preparing the Structure Plan, the DSP was not complete.

5.3 Town Planning Scheme No. 1 Zoning

Pursuant to the Town of Victoria Park Town Planning Scheme No. 1 (TPS No. 1) the majority of the site is zoned Special Use – Racecourse and is subject to the provisions of Precinct Plan P1-Sheet A, which applies to the Belmont Park Racecourse part of the Burswood Peninsula. The Precinct Plan sets out the planning objectives for the Belmont Park Racecourse and land use and development standards which apply under the Scheme.

In addition to the zoning, the site is included in Special Control Area DA1 which requires the preparation and approval of a structure plan prior to subdivision and development of the land (with the exception of development or use associated with the current racecourse activities).

An amendment to the Town of Victoria Park TPS No. 1 is being pursued to further refine the zoning and provisions of Council's Scheme for this site, to be consistent with the MRS and to facilitate the proposed inner city development, framed around the existing Belmont Park racing facility.

Figure 4: Current Local Government Zoning

5.4 Local Government Policies

The following is a list of Council policies, strategies and studies that are relevant to the Structure Plan:

- *Town of Victoria Park Local Commercial Centres Strategy*, September 2003
- *Town of Victoria Park Urban Design Study*, 2000
- Town Plannning Scheme No 1 - Policy 3.1 - *Climate Control*, 1998
- Town Plannning Scheme No 1 - Policy 3.5 - *Non-Residential Uses in or Adjacent to Residential Areas*
- Town Plannning Scheme No 1 - Policy 3.6 - *Residential Uses in Non-Residential Areas*

- Town Plannning Scheme No 1 - Policy 3.7 - *Mixed Residential/Commercial Development*
- Town Plannning Scheme No 1 - Policy 4.12 - *Design Guidelines for Developments with Buildings above 3 Storeys*
- Town Plannning Scheme No 1 - Policy 5.1- *Parking Policy*

5.5 Casino (Burswood Island) Agreement Act 1985

The Burswood Resort Complex, located directly to the south of the Belmont Park Racecourse, is subject to the *Casino (Burswood Island) Agreement Act,* 1985. The Burswood Park Board was established under the Act and is responsible for the control, development and management of Burswood Park.

A portion of land in the Structure Plan area on the western boundary is affected by this legislation and is managed by the Burswood Parks Board.

The land is the subject of Section 7 of the *Casino (Burswood Island) Agreement Act,* and therefore excluded from the operation of TPS No 1 by Clause 4 of the Scheme and section 7 of the Agreement Act. Notwithstanding this, the Structure Plan deals with the whole of the land including Agreement Act land, providing a complete planning framework for the redevelopment.

5.6 Swan River Foreshore

A number of statutory provisions, policies and Swan River Trust departmental guidelines govern developments which impact on the Swan River and its surroundings. These include:

Swan and Canning Rivers Management Act 2006

The *Swan and Canning Rivers Management Act,* 2006 establishes (amongst other things) Development Control Areas. The Trust DCA was previously called the Swan River Trust Management Area. It includes the waters of the Swan and Canning rivers and adjoining land reserved for Parks and Recreation under the Metropolitan Region Scheme (MRS). The DCA boundaries are to coincide with the MRS Parks and Recreation reserves.

A review of the Swan River Trust Development Control Area (DCA) boundaries is currently being undertaken by the Swan River Trust to address some existing anomalies and, where possible, to align the DCA boundary with the MRS Parks and Recreation reserves, cadastral boundaries or the identified floodway. The review includes the DCA boundary on the subject land to make it consistent with the boundary of the current MRS reserve.

Swan River Trust Policies

The Swan River Trust has developed a set of policies to ensure land use planning and development in the Development Control Area protects and enhances the ecological health and amenity of the Swan Canning Riverpark. These policies provide a reference for the Trust and explain what information the Trust considers when assessing the application.

The Structure Plan proposes variations to the SRT's policy outlined setback requirements. These are outlined in Part One, Section 11, 12, and 14 - Planning Requirements for Precinct A, B and D.

5.7 Environmental Approvals

A Metropolitan Region Scheme Amendment (MRS Amendment M51/49) for the site was referred to the Environmental Protection Authority (EPA).

In 2008 following an extensive consultation process with the various regulatory authorities (including the Swan River Trust). EPA determined that the amendment did not require a formal assessment. The EPA provided advice, under Section 48A(1)(a), on a number of environmental issues including:

Foreshore reserve

The EPA requested that an appropriate foreshore reserve be defined and vested in the Crown under the *Planning and Development Act* 2005. Preparation of a foreshore management plan, to the satisfaction of the WAPC, Town of Victoria Park and the Swan River Trust, would be required prior to approval of a Detailed Area Plan.

Contamination

The EPA noted there was the potential for contaminated sources within the site. A Detailed Site Investigation is in progress with any necessary remediation/management plans, required as a condition

of subdivision, undertaken in accordance with the Department of Environment and Conservation (DEC) *Contaminated Site Management Series* and to the satisfaction of the DEC's Land and Water Quality Branch, prior to ground disturbing activities commencing.

Acid sulfate soils

The EPA acknowledged that the site has undergone a Preliminary Site Investigation and the extent and severity of the risk of ASS will be determined in accordance with the DEC's *Acid Sulfate Soil Guidelines Series* (2003) and to the satisfaction of the DEC's Land and Water Quality Branch, prior to ground disturbing activities commencing.

Management of water quality and quantity

The EPA expects the treatment and disposal of stormwater to be in accordance with the Department of Water (DoW) *Stormwater Management Manual for Western Australia* (2004-2007). It suggested that drainage and nutrient management plan should be prepared to incorporate water sensitive urban design principles and best management practice and monitoring requirements.

Odour and buffers between incompatible land uses.

The EPA recommended that due to the use of horses within the site, odour specific studies or at least predictions be carried out, prior to subdivision to determine the odour levels on the subject site, the extent of odour-affected area and management measures. Future residential development will need to be separated from the incompatible land uses by adequate buffers as described in EPA Guidance Statement No. 3 – *Separation Distances between Industrial and Sensitive Land Uses* and as recommended by the odour study prepared for the site (Appendix 16 refers).

Noise

The Graham Farmer Freeway, Railway and racetrack create the potential for noise, vibration and light spill, with the potential to impact upon future residential development. The EPA recommended that a notification be placed on titles advising of the existence of hazard or another factor in accordance with Section 165 of the *Planning and Development Act* 2005.

All of these issues have been addressed by the Structure Plan. Any amendment to the local scheme (TPS No 1) will also be referred to the EPA under Section 48A of the EP Act.

6 SITE ANALYSIS

6.1 Key Environmental Findings

An assessment of the environmental attributes and values present within the site (Appendix 1 refers), informed the preparation of the Structure Plan. It concluded:

- Alluvial sediments make up a significant portion of the western half of the site, while the eastern and southern portions of the site are underlain by the Guildford formation consisting of silt and sand layers.
- The site has been historically filled, beginning in the late 1800s for the race track and has been used as a race track for over 100 years. This use will continue into the foreseeable future.
- Due to the alluvial nature of the soils over the site and presence of dredge spoil, the site is likely to contain Potential Acid Sulfate Soils (PASS) and Actual Acid Sulfate Soils (AASS).
- The site is bound by the Swan River on three sides and the 1 in a 100 year flood level for the Swan River extends into the site.
- There is limited native vegetation present over the site, with the majority confined to the river foreshore including fringing riparian vegetation. No Declared Rare Flora, Priority Flora or Threatened or Priority Ecological Communities have been identified on the site.
- The Swan River although not part of the site, is listed as a Conservation Category Wetland (Estuary) and as such, a portion of the site (within the wetland buffer area for the Swan River) is listed as an Environmentally Sensitive Area (ESA) under the *Environmental Protection (Clearing of Native Vegetation) Regulations* 2004.
- The artificial water body within the race track is recognised as a Multiple Use artificial lake within the *Geomorphic Wetlands of the Swan Coastal* Plain dataset.
- Historically, the site has been subject to a number of potential contaminating activities including previous land management practices through use as a race track, disposal of fly ash from the East Perth Power Station, filling with material dredged from the Swan River and uncontrolled filling

with construction and demolition rubble. The site is classified as Potentially Contaminated – Investigation Required pursuant to the *Contaminated Sites Act*, 2003.

- The previous preliminary Site Investigation indicates that there is no significant health risk to the environment from known contamination sources and that with regard to the Structure Plan, the presence of potential contamination does not initiate any spatial or land use responses.
- It is unlikely that there will be any significant odour issues arise as there are no existing permanent horse stables and none are proposed.

The Belmont Park redevelopment site has limited environmental values, with the values identified being related primarily to the Swan River Foreshore. The above and other matters are further elaborated on in the following sections.

6.2 Climate

The site experiences a warm Mediterranean climate characterised by hot dry summers and mild wet winters. On most summer afternoons a sea breeze, also known as 'The Fremantle Doctor' blows from the south-west providing relief from the hot north-easterly winds.

Perth is a particularly sunny city for a Mediterranean climate, receiving between 2800 and 3000 hours of annual sunshine. Winters are relatively cool and wet, with most of Perth's annual rainfall falling between May and September.

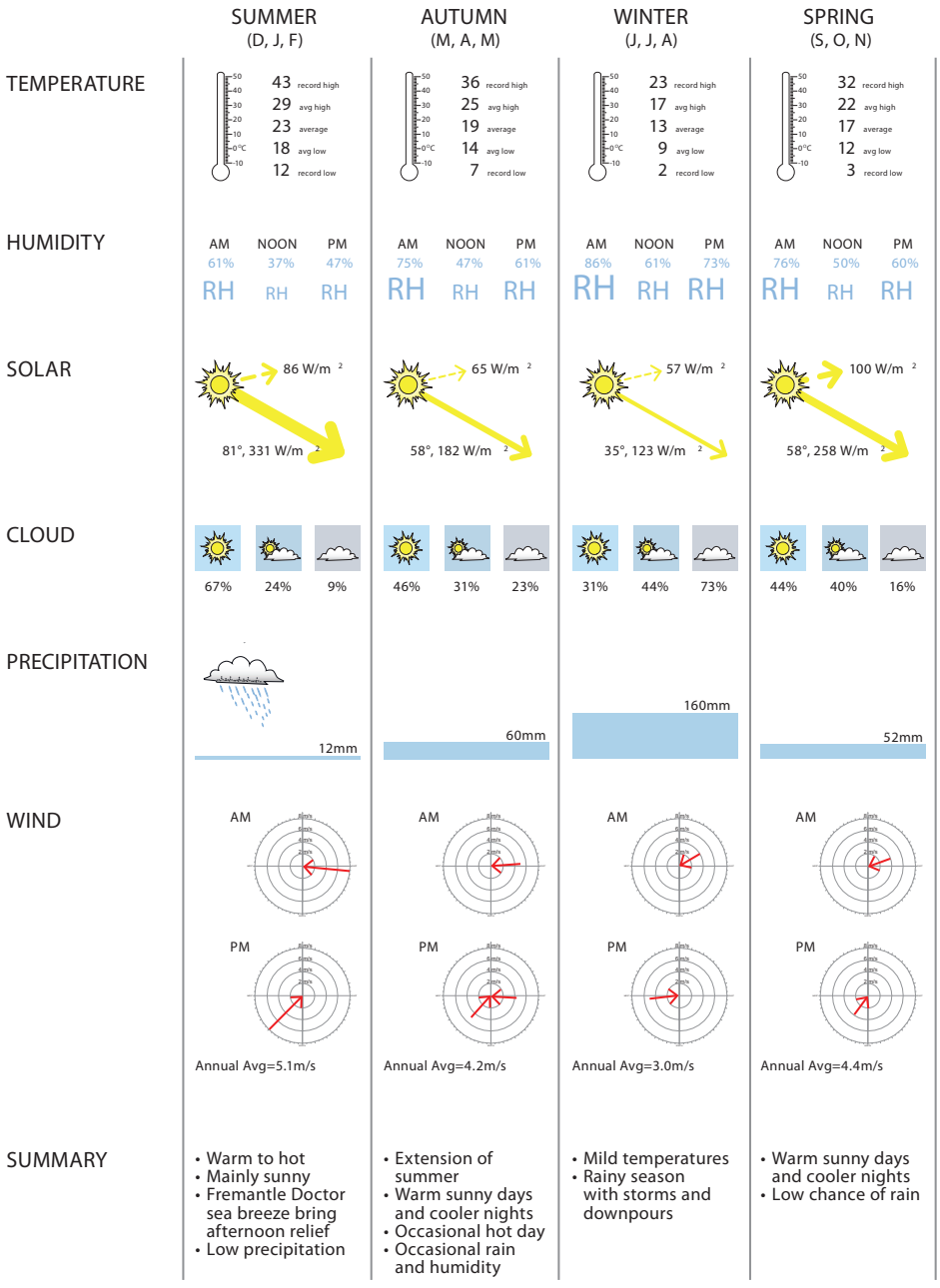


FIGURE 5: PERTH CLIMATE SUMMARY

6.3 Landform, Topography

The site is located on the Swan Coastal Plain, which forms the central portion of the Perth basin. It is low-lying, ranging in elevation from 0.1 to 4.5 m AHD. The lowest lying portions of the site include the river terraces and some internal depressions at approximately 0.1 to 1.0 m AHD. The highest points across the site coincide with the racetrack and grandstand areas, ranging from 2.0 to 4.5 m AHD.

Drainage channels have been cut across the site to drain water from the racecourse. The site has been built up and bunds have been built to reduce water flooding.

6.4 Soils and Geology

The site is situated on the inside of a bend of the Swan River, to the east of the Perth CBD. Geologically, it is located on the Perth Coastal Plain.

The current surface geology comprises interbedded stiff clays and medium dense sands of the Guildford Formation in the eastern half, and soft silts and clays of the Swan River alluvium in the western half. Fill has been placed over most the site, at different times in the last 150 years and from different sources, varying between approximately 1m and 4m thick.

The top surface of the Guildford Formation decreases from east to west beneath the Swan River Alluvium, from approximately RL 0m AHD near the centre of the site to a level of approximately RL - 20mAHD near the western edge of the site. As a result, the Swan River Alluvium increases in thickness from 0m near the centre of the site to approximately 20m thick near the western edge of the site.

Underlying the Guildford Formation, below a level of approximately RL-25m AHD, are the dense sands, sandstones and shales of the Mullaloo Sandstone and Kings Park Formation. The Mullaloo Sandstone and Kings Park Formation are the strata closest to the surface that may be considered rock strength.

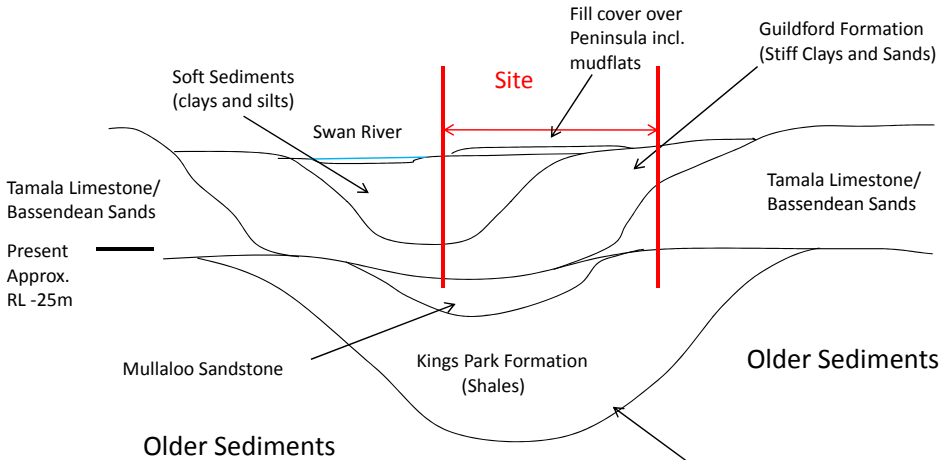


FIGURE 6: CONCEPTUAL GEOLOGICAL CROSS-SECTION

6.5 Hydrogeological Conditions

The site is underlain by the superficial aquifer comprising Swan River alluvial sediments and the Guildford Formation, which is approximately 25 m thick. Groundwater at the site is influenced by tides and seasonal variation of the Swan River as well as rainfall recharge occurring predominantly in the wet season, which leads to local fluctuations in flow directions and groundwater levels.

Groundwater levels across the site generally range from 2.5 m Below Ground Level (BGL) in the south to 0 m BGL at the perimeter of the peninsula. This corresponds to groundwater levels ranging from approximately RL 0.5 to 2.5 m AHD across the site. The low permeability sub-soil strata and high groundwater levels result in some lower lying areas being inundated during the winter, which generally dries up during the summer. The low permeability sub-soil strata can also cause localised perching conditions over the site.

Regional groundwater in the vicinity of Burswood flows in a north-westerly direction towards the Swan River. Investigations at the site suggest that groundwater generally flows radially from the southern and central part of the site towards the Swan River.

A man made irrigation lake in the centre of the race track is not lined and therefore believed to be hydraulically connected to the superficial aquifer, forming a localised groundwater mound in this area of the site. Groundwater flow rates across the site are expected to be low due to the low hydraulic conductivity of the soils and the gentle hydraulic gradient.

The surface hydrology of the site is dominated by the Swan River. During summer the influence of the river is limited to the riverine fringe of the site, while in winter levels rise and can extend into the site. The 1 in 100 year flood level extends across much of the Burswood Peninsula.

The flat topography, together with the presence of low permeability fill materials on the site, results in ponding of surface water from winter rainfall in a number of areas. This ponding can be up to depths of around 0.5m in winter but are typically dry in summer. Surface water runoff rates are low due to the flat topography, vegetation and the presence of bunding/artificial banks to the north and west of the site. Most site drainage water discharges directly to the Swan River through surface drains to the south west and north of the site.

There is a system of underground piped and open surface drains on the site, constructed to maintain the racetrack in a serviceable condition during winter. Stormwater associated with the racecourse grandstand, buildings and parking areas, and wash water from the stables is discharged to the artificial lake located within the centre of the race course. Stormwater discharged to the artificial lake from the stable wash area has nutrient concentrations. Overflow from the lake discharges directly to the Swan River or slowly infiltrates to groundwater.

Groundwater quality across the site is poor, indicated by elevated levels of contaminants including pesticides and trace metals. Given the low groundwater flow and comparatively high recharge influence from the artificial lake, shallow groundwater conditions are considered to be more reflective of shallow soil and surface water conditions than they are of the underlying superficial aquifer.

6.6 Contamination

Historically, the site has been subject to a number of potentially contaminating activities including use of the race track and associated buildings, disposal of fly ash from the East Perth Power Station, filling with material dredged from the Swan River and uncontrolled filling which has included construction and demolition rubble.

The filling has typically occurred to the north, west and south west of the race track. The south east corner of the site is also likely to have been filled to some degree although the nature of the fill has not been assessed. The fill varies in depth but has been identified up to 2.0 m below the surface, in the north west corner of the site. With the exception of the race track and associated facilities, the potential contaminant issues are predominantly associated with the nature and quality of the various types of fill that have been identified.

With regard to contamination from sources outside the site, as the site is bound by the Swan River to the north, east and west. Potentially contaminated sites on the northern bank of the Swan River do not have a direct influence on the site. Two lots to the south east of the site have been classified as Remediated for Restricted Use within the Contaminated Sites database. Regional groundwater flow is predicted to be in a north westerly direction, however the nature of the contamination identified at these two lots is not associated with leaching and mobilisation in groundwater and therefore is not likely to have a significant influence upon the proposed development of the site.

The site is classified by the Department of Environment and Conservation pursuant to the *Contaminated Sites Act*, 2003 as Possibly Contaminated, Investigation Required. With this classification, there is a requirement for planning authorities to seek and take into account input from the Department of Environment and Conservation. Unless addressed in a satisfactory manner prior to application for subdivision, the classification will result in a condition of subdivision requiring contamination to be investigated and assessed to demonstrate the suitability of the proposed land use. This process is managed under the audit provisions of the *Contaminated Sites Act* 2003.

A Preliminary Site Investigation for contamination completed in 2003 and a subsequent Ecological Risk Assessment completed in 2009 suggests that levels of contaminants present at the site do not pose a risk to human health and/or the environment. The previous investigations did not identify any potential contamination issues that could not be managed during the subdivision process or that would prevent the site from being suitable for the proposed development.

Further assessment will be undertaken via a Detailed Site Investigation, to identify the location of any hotspots that may require management. This process will be undertaken in accordance with the Contaminated sites Management Series and where appropriate the audit provisions of the *Contaminated Sites Act* 2003.

6.7 Acid Sulfate Soils

The site and the remainder of the Burswood Peninsula has been classified as having a Class 1 Acid Sulfate Soils (ASS) risk level by the DEC which indicates a high to moderate risk of ASS being present within 3.0 m of the natural surface.

Potential ASS is likely to be encountered where excavations extend below the natural surface soils and Actual ASS may be present in the dredge fill areas. As a result, a Preliminary Acid Sulfate Soil investigation is currently being undertaken and the management measures to address Potential or Actual ASS will be addressed at the detailed subdivision stage.

6.8 Flora, Vegetation and Fauna

Through the historic and ongoing use of the site, the site has been extensively cleared of native vegetation multiple times, mainly through the action of filling. Currently, only a small amount of native vegetation remains within the site, fringing the Swan-River. This native vegetation, considering the sites fill history, has regrown or recolonised after disturbance.

The vegetation is mostly degraded and usually associated with introduced species. The current assemblage of species on site does not represent the assemblage and/or structure of species that would have occurred naturally.

The current native vegetation consists of fringing reed beds of Juncus kraussii growing within the river itself. Samphire species (Tecticornia and Sarcocornia) grow in association with Juncus kraussii, fringing the estuary and surrounding the ponded water in the site interior. This vegetation is generally in a 'Good' to 'Degraded' condition. Scattered native tree species, namely Casuarina obesa, Melaleuca rhaphiophylla, Melaleuca cuticularis and Eucalyptus rudis, fringe the estuary, but also appear further from the edge in some places.

The north-western side of the site has the most extensive and most intact area of Juncus kraussii reed beds and salt marsh vegetation of Tecticornia and Sarcocornia. Scattered and small stands of Casuarina obesa was also recorded in this area. This patch of vegetation is in 'Very Good' condition. A small patch of Eucalyptus rudis occurs just back from the river itself, on its north-eastern side. A number of Casuarina obesa, Melaleuca rhaphiophylla, Melaleuca cuticularis and Eucalyptus rudis trees fringe the estuary on the western side of the site near the Windan Bridge.

Most of the site supports introduced plant species, including introduced grasses (such as couch) and woody weeds (such as pampas grass and Athel pine). Given the absence of native vegetation over the majority of the site, the fauna habitat value of the site is fairly limited. The most significant fauna habitat exists around the fringing vegetation and there are two small groups of water birds that likely rely directly on the fringing vegetation on the site. The first group includes rails, crakes, waterhens, warblers and grassbirds. They nest in the dense stands of sedges and rushes, where they find a range of food from plants to seeds to aquatic invertebrates. The second group involves herons, egrets, and ibis. They feed on the mud flats along the river, but are also found in the fringing vegetation.

Opportunistic observations of water birds within the site include cormorants, egrets, white-faced heron, peregrine falcon and osprey. Bush birds observed include red-capped robin, brown honey eater, black shouldered kite, Australasian crow, black-faced cuckoo shrike, magpie, mudlark and Australian groundlark.

6.9 Wetlands

The site is bound by the Swan River on three sides. This waterway is recognised as a "Conservation Category Wetland" (estuary waterbody) within the Department of Environment and Conservation (DEC) *Geomorphic Wetlands of the Swan Coastal Plain* dataset.

Within the racetrack, there is an artificial waterbody, which is recognised as a Multiple Use artificial lake within the *Geomorphic Wetlands of the Swan Coastal Plain* dataset. This lake is supplied by groundwater and provides irrigation water for the racetrack.

6.10 Swan River Aquatic Environment

The site is located on a bend on the Swan River, approximately 2 kilometres north of the Causeway at Heirisson Island. The Swan River Estuary extends for about 60 kilometres from Fremantle to the junction with Ellen Brook. The lower reaches and some of the upper reaches of the Swan River Estuary are shown in Figure 7.

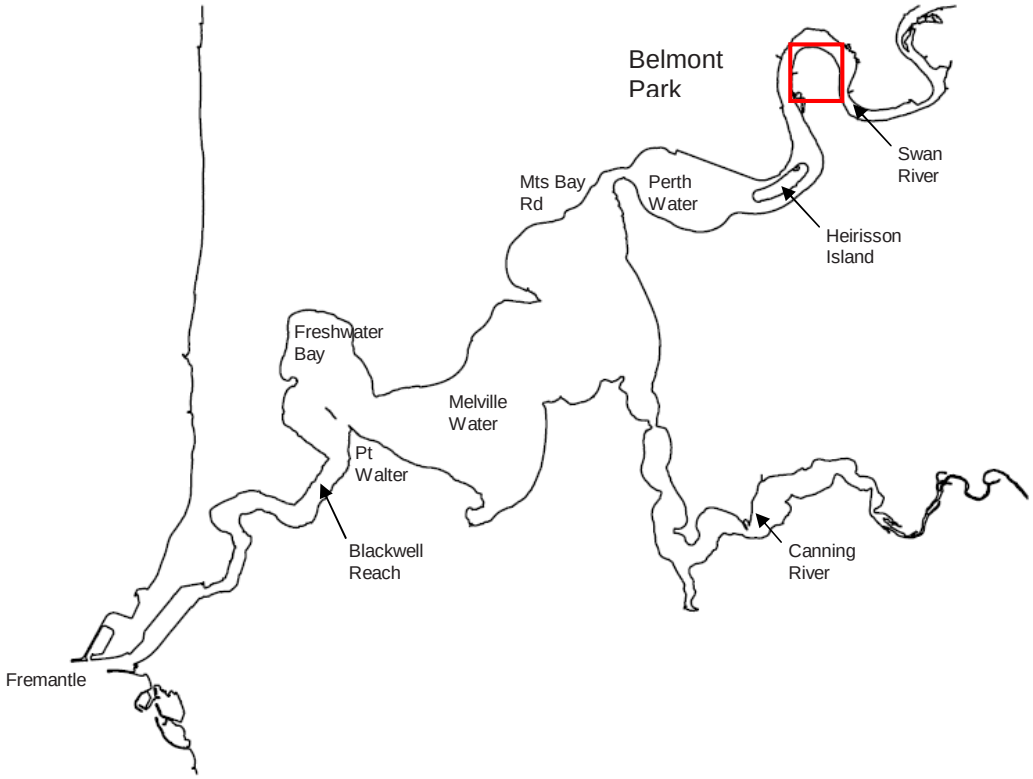


FIGURE 7– SWAN RIVER ESTUARY

The Estuary is fed by two major river systems; the Canning River and the Swan River, which flow from the Darling Scarp across the Swan Coastal Plain. The estuarine nature of the Swan River means the water level at Belmont Park will be influenced by both riverine and ocean drivers.

The Swan River Estuary is subject to flooding when flows in the Swan and/or Canning Rivers are greatly increased. Flood levels have been recorded along the Swan River from the mid 19th Century. There has not been a significant flooding event on the Swan River since 1983. Rainfall and flooding in winter months are predicted to decrease as a result of climate change, reducing the potential for riverine flooding along the Swan River Estuary. Neither global climate models nor regional, high-resolution models are able to capture thunderstorms. Hence, it is difficult to infer the impact of climate change on summer extreme rainfalls and subsequent runoff using a modelling approach.

The water levels will also be influenced by the tides, as the Swan River Estuary is hydraulically connected to the ocean. These tidal levels will be attenuated slightly by the estuary, resulting in smaller water level fluctuations compared to the open ocean.

The tides along the Perth metropolitan coastline are predominantly diurnal, namely one tidal cycle each day, and relatively limited in range. The range of the tides generally varies over about a 4 week cycle in line with the moon. Spring tides occur when the moon is new or full, resulting in a relatively large tidal range for a number of days. Neap tides occur during the moon's first and third quarter phases, resulting in smaller tidal range for a number of days.

At Barrack Street Jetty, approximately 5 kilometres downstream from Belmont Park, the daily range is typically about 0.4 m during spring tides and around 0.1 m during neap tides. Other tidal characteristics at Barrack Street Jetty are listed in Table 1. Belmont Park is expected to have similar but slightly smaller tidal ranges than those noted in Table 1.

TABLE 1: TIDAL CHARACTERISTICS AT BARRACK STREET JETTY

	Chart Datum (m)	mAHD
Mean Higher High Water (MHHW)	0.95	0.19
Mean Sea Level (MSL)	0.73	-0.03
Mean Lower Low Water (MLLW)	0.54	-0.19

Seasonal shifts in the sea level occur due to meteorological effects and the action of the Leeuwin Current. Typically, the mean sea level rises 0.1 metre during winter and falls 0.1 m during summer. These seasonal fluctuations in water level will also influence water levels at Belmont Park. The lower water levels during summer can be a significant constraint to boating in the Perth Water area with some South Perth ferry routes cancelled during the lowest water level periods.

The Swan River Estuary is also influenced by the extreme ocean water levels as the two water bodies are hydraulically linked. In extreme storms the surge can exceed 1 metre above the astronomical tide level. The highest water level recorded at Barrack Street to 2006 was 1.16 m above MSL (1.92 m above Chart Datum) in May 2003, associated with the passing of a winter cold front.

Flood Levels

In 1985 the Water Authority of Western Australia (WAWA) completed a review of the flooding of the Swan River including the area from the Causeway to Middle Swan Road. Subsequently, the then Waters & Rivers Commission and now the Department of Water have taken the lead state government role with respect to river flooding issues. The 1985 WAWA study is the most up-to-date information to be used in planning development along the banks of the Swan River.

Since the 1985 flood study, the state government has released a position paper on potential future sea level rise in Western Australia (WAPC 2010). This position paper predicts a 0.9 m rise in sea levels over the coming century. This sea level rise needs to be accounted for when assessing potential flood levels adjacent to the Belmont Park redevelopment, as the Swan River Estuary is hydraulically linked to the ocean and is likely to experience a similar rise in water levels. This has been addressed in the STP.

Finished Floor Levels

The DoW permits development in the flood plain and on the flood fringe areas. The minimum finished floor levels should be 0.5 metres above the calculated 100 year ARI flood levels. The preliminary finished floor levels have been discussed with the DoW, with the following outcomes:

- Finished floor level = +3.0 mAHD adjacent to the Bunbury (Windan) Bridge.
- Finished floor level = +3.7 mAHD for the eastern foreshore.

These finished floor levels account for a 0.9 m sea level rise to 2100 but do not account for the potential changes in rainfall due to climate change.

Bathymetry and Navigation

The water depth adjacent to the proposed Belmont Park site is relatively shallow with depths of around -1.5 m to -4.5 m at mean tides, as shown in Figure 8. This area was dredged by the Public Works Department in 1968, to create deeper water for yachting.

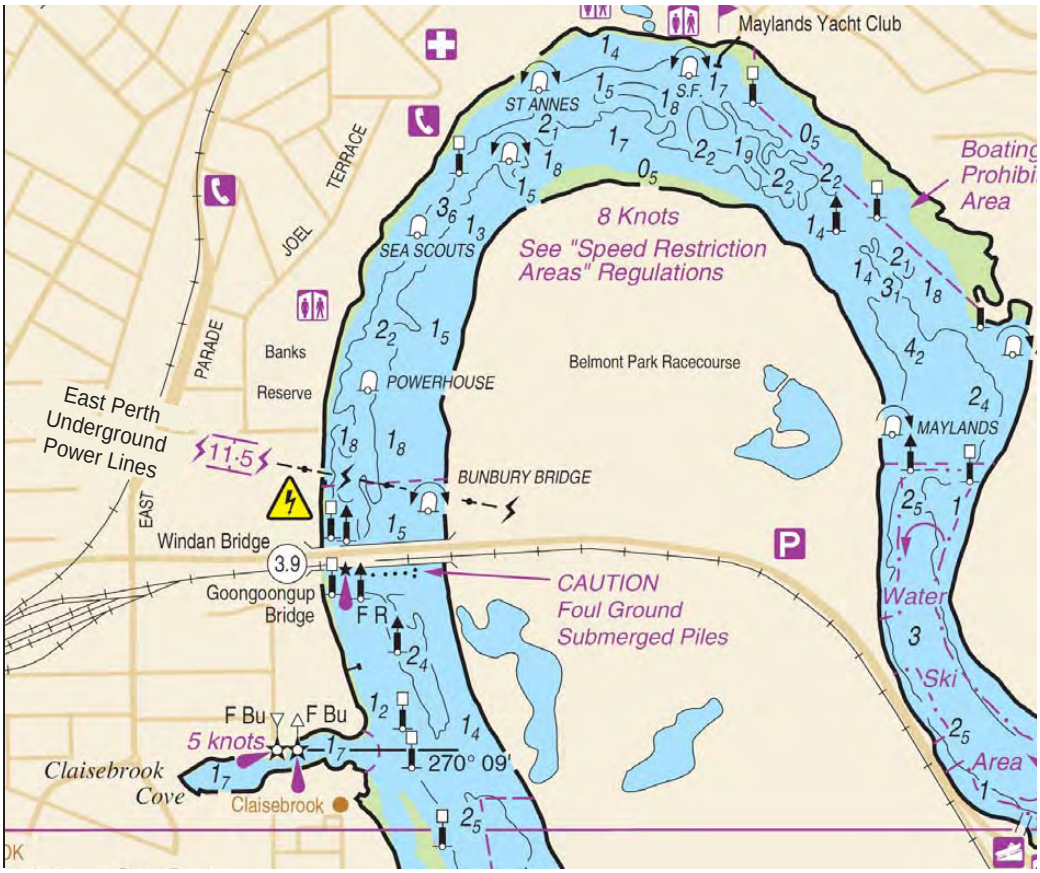


FIGURE 8 POINTS OF INTEREST WITH RESPECT TO NAVIGATION IN THE AREA:

- Claisebrook Cove inlet is located less than 1 kilometre downstream of the proposed Belmont Park redevelopment. This has navigation markers associated with its entrance.
- A water ski area is located adjacent to the south-east corner of the Belmont Park redevelopment foreshore. This area has no vessel speed limits. Vessel speeds are restricted to 8 knots for the remainder of the foreshore.

6.11 Shoreline Stability

Shorelines on both sides of the proposed Belmont Park redevelopment were highly modified by past dredging and filling. The shoreline stability is likely to be influenced by two main drivers; river hydraulics and wave action.

River Hydraulics

Basic river hydraulics tend to cause erosive forces on the outside of bends and a general tendency for accretion on the inside of river bends. The Belmont Park Peninsula is the southern boundary of a river bend that is aligned basically north / south. The northern tip of the peninsula is on the inside of the bend and in simple and general terms would probably tend to have a slight accretionary tendency. The hydrographic surveys show extensive shoals near the northern shoreline.

Wave Action

The western and eastern flanks of the peninsula are in straight sections of the river and the movement of the shoreline would tend to be governed more by wind waves and boat wake rather than basic river hydraulics.

The eastern and western foreshores of the site are exposed to wind fetches from different directions. These fetches are relatively short in length, typically less than 1 kilometre. Wind waves generated over these fetches are likely to be less than 0.5m during strong winds due to the limited fetch lengths.

Waves created by the movement of boats are the second wave type likely to influence the site. The resultant wave field from a vessel is largely dependent on the vessels shape, speed and the water depth in the area. Boats are limited to 8 knots for the majority of the foreshore. Consequently, wave heights up to approximately 0.4 m may occur when a large commercial vessel travels close to the

foreshore in these areas.

A water ski area is also located in close proximity to the south-eastern foreshore area. This high traffic area is likely to contribute to shoreline erosion of this foreshore, particularly with the popularity of wake boarding, whose vessels are designed to produce large wake.

The action of boat wash and wind waves at high river levels could contribute to erosion of the higher portions of the river banks. Such erosion is common along the Swan River. On the eastern side of the peninsula, there is significant fill close to the river. This fill may be eroded by the action of waves during periods of high water levels. There may be flattening of the bank and slumping of the fill.

Setback Distance

A preliminary analysis of the site's shoreline stability was undertaken by MP Rodgers and Associates in 2003. This review included an analysis of historical aerial photographs of the Belmont Park area, which suggested that generally, there has been little movement of the shoreline over the last few decades. Analysis of the data combined with engineering judgment suggests that a setback for buildings of about 10 to 30 metres from the High Water Mark will be appropriate to cater for the likely fluctuations in the position of the natural shoreline in the coming century. This setback does not account for any areas within the floodway which cannot readily be developed or in filled. Further analysis of the floodway areas and proposed setback distances is required to further define the development boundary at Belmont Park. A 10 to 30 metre foreshore reserve would also provide a valuable area for recreation and access to the river. The setback distance to buildings could be reduced or eliminated where an engineered edge wall is used to eliminate the erosion potential of the river. This has been taken into account in the design of the structure plan.

6.12 Insects and Midges

Insects with aquatic larvae that may impact on surrounding human populations include mosquitos and non-biting midges. Mosquitos and midge populations were found to be present on the site during inspections in winter 2003 due to ponding of surface water over the site. The Town of Victoria Park currently undertakes mosquito control (spraying) of roadside gullies, stormwater drains and other areas in an effort to reduce mosquito populations during the mosquito breeding season.

Landscape strategy for the site should address minmisation of insects and midges.

6.13 Transportation Noise Assessment

An acoustic report has been prepared (Appendix 5) to assess noise received within the future development from both vehicles travelling along Graham Farmer Freeway and passenger trains travelling along the adjacent railway line to the south and, if the stated criteria were to be exceeded, to establish the required attenuation measures to control noise intrusion to acceptable levels.

The traffic noise assessment has been carried out in accordance with WAPC SPP 5.4 – *Road and Rail Transportation Noise and Freight Consideration in Land Use Planning.*

Modelling and analysis indicate that noise received from passing passenger trains would comply with the 'Noise Target' levels and noise received within the development would be dominated by vehicles travelling along Graham Farmer Freeway.

Initial modelling (in the absence of any development) indicates that without any noise amelioration, noise emissions from the Graham Farmer Freeway would comply with the Noise Target acoustic criteria at approximately 400m from the edge of the Freeway. However, it is noted that the buildings proposed to be constructed adjacent to the Freeway, will act as an acoustic barrier for the majority of the buildings located behind.

Some exceptions would apply and in those areas, where noise received would exceed the acoustic criteria, 'Quiet House' design would be required, by way of improved glazing performance, to ensure compliance with the accepted internal criteria.

The acoustic report recommended that an acoustic assessment be undertaken for individual building developments during the design process.

As noise received within the proposed development would exceed the 'Noise Target', notification on titles is required (pursuant to SPP 5.4) for those residences exposed to transportation noise.

6.14 Racetrack Lighting

Preliminary assessment of the lighting aspects associated with the proposed development has been carried out, including consideration of possible (but not currently planned) future twilight thoroughbred horse racing (Appendix 15 refers). Specifically, investigations have been undertaken as to the potential to illuminate the track to levels appropriate for colour television broadcast whilst not impacting unreasonably on the amenity of nearby residential properties.

General principles for Sports Lighting are defined by Australian Standard AS 2560.1-2002; however these do not include specific recommendations for lighting for horse racing.

The preliminary assessment confirmed that it would be feasible to illuminate the horse racing facility at Belmont Park to the very high levels of up to 1000 lux, generally requested by Australian television broadcasters, whilst satisfying accepted limits pertaining to spill light and glare at proposed residential accommodation within non-curfew hours by, in the worst case, setting the inside running rail at 10m into the training track.

It should be noted that racing at Belmont Park would be in the winter months starting late afternoon and finishing before say 9.00pm. Therefore the number of actual races requiring illumination over this twilight period will be limited to just a few. The irritation of obtrusive light, if any, is expected to be of minimal impact to the nearest residents.

6.15 Perth Airport Airspace Restrictions

The regulation of airspace is determined by the *Airports Act*, 1996, legislation administered by the Australian Department of Infrastructure, Transport, Regional Development and Local Government in partnership with the Westralia Airport Corporation (WAC).

Airspace restrictions are designed to provide a safe and predictable airspace free from obstacles for aircraft to access Perth Airport. Based on national and international safety standards, two criteria are used to determine protected airspace. These are Obstacle Limitation Surfaces (OLS) and Procedures for Air Navigation Services – Aircraft Operations (PANS-OPS).

Obstacle Limitation Surfaces (OLS) defines the airspace which should ideally be kept free of obstacles. These surfaces only relate to visual operations or the visual stages of an instrument flight. The purpose of the OLS is not to restrict or prohibit all obstacles but to ensure that existing or potential obstacles are examined for their impact on aircraft operations and that their presence is properly taken into account. Buildings penetrating into the recommended OLS level may be required to be lit or marked in accordance with Civil Aviation Safety Authority (CASA) guidelines.

Procedures for Air Navigation Services - Aircraft Operations (PANS-OPS) defines the airspace related to aircraft operations that are reliant on instrument navigation. The PANS-OPS surfaces are not to be permanently infringed in any circumstance. Temporary intrusion can be approved on application to the airport. Both are generally measured in R.L. AHD. Figure 9 identifies the height restrictions associated with Perth airport which affect the subject site

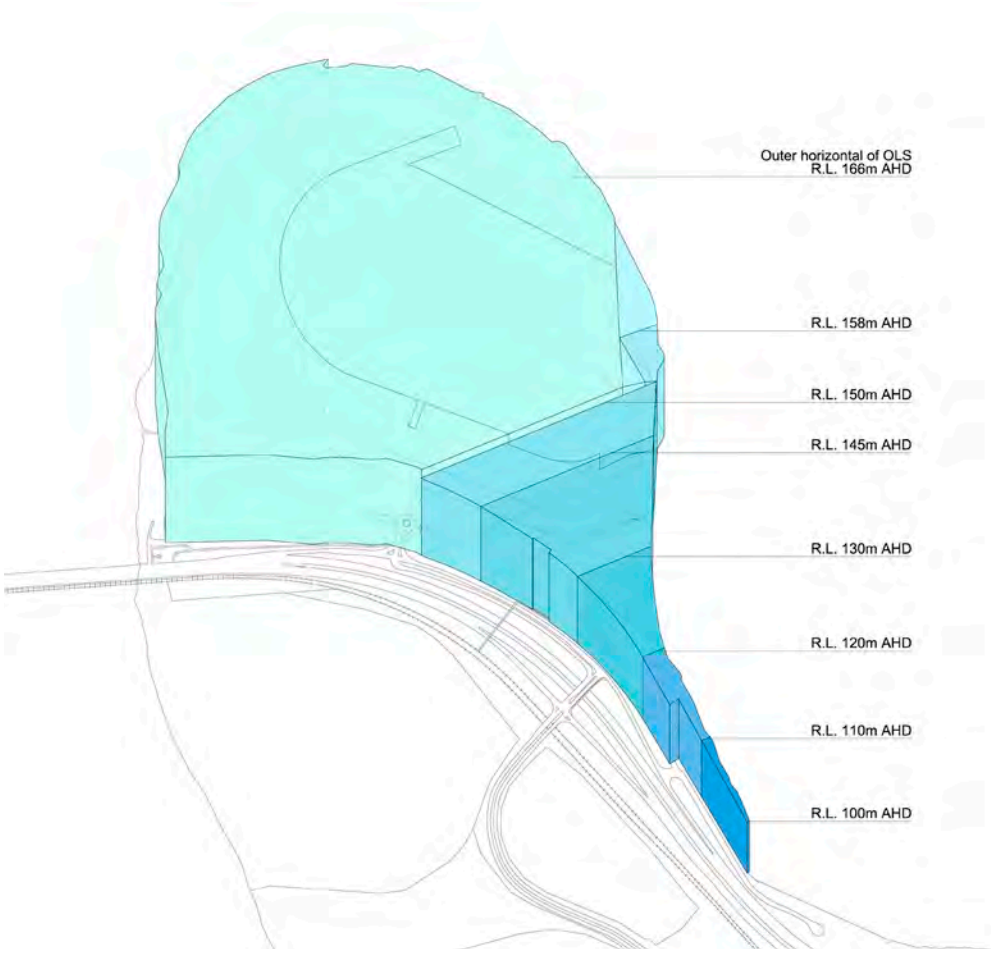


FIGURE 9: AIRSPACE RESTRICTIONS ASSOCIATED WITH PERTH AIRPORT. (SOURCE: FOSTER+PARTNERS)

6.16 Sites and Features of Noongar Aboriginal Heritage Value

The Belmont Park Racecourse has been the subject of extensive Aboriginal Heritage assessment. In 2006, Fisher Research was commissioned to carry out a heritage survey report for the previously proposed development of Belmont Park, resulting in consent to develop under Section 18 of the *Aboriginal Heritage Act 1972*.

In 2011, Indigenous Economic Solutions undertook an Aboriginal Heritage assessment of the proposed Belmont Park Racecourse Redevelopment Structure Plan to satisfy Section 18 Notice of the *Aboriginal Heritage Act 1927* consent to use the land. The survey involved a Desktop Study, including a search of the DIA Library Resources and an impact assessment of the archaeological survey submitted by Fisher Research in 2006,. The search revealed that there are four registered Aboriginal sites related to the Belmont Park site:

- Registered Site ID 3536 Swan River;
- Registered Site ID 15914 Burswood Island Burial;
- Registered Site ID 15915 Burswood Island Camp; and
- Registered Site ID 15916 Burswood Island.

Each of these sites is registered on the Permanent Register of Aboriginal Sites and has an open status. However three of the Aboriginal sites related to the subject land, to date, have not been located.

An ethnographic survey was also undertaken in relation to heritage values of the Belmont Park site in order to verify the findings of the initial Desktop Study. It was conducted in the following stages:

- Preliminary consultations with Aboriginal informants from the Perth area whom are thought to hold knowledge of the Aboriginal Heritage of the Burswood Peninsular at Belmont Park.
- Mail and Telephone correspondence with relevant Aboriginal informants
- Meetings with Aboriginal informants

- On site meetings with Aboriginal informants
- Recording of comments from Aboriginal informants

The ethnographic consultation did not result in any further ethnographic or archaeological sites being identified on Belmont Park.

A large number of Aboriginal people were consulted during the past 8 months as part of the consultation process for the Aboriginal Heritage Survey. Given that the on ground archaeological survey in 2006 did not locate three of the Aboriginal sites related to the project area and none of the informants consulted during the ethnographic consultations conducted could likewise located the sites, it is unlikely that further on ground archaeological surveys would find the exact locating of the three registered Aboriginal sites.

Based on the outcomes of the survey, the following recommendations were made;

- Golden River, the Western Australian Turf Club and the Minister for State Lands (via delegated authority to the Town of Victoria Park) submit a Notice under Section 18 of the *Aboriginal Heritage Act 1972* for approval to develop Belmont Park on the Burswood Peninsular as the development may disturb registered Aboriginal site ID's 3536 (Swan River), 15914 (Burswood Island Burial), 15915 (Burswood Island Camp) and 15916 (Burswood Island).
- Approval be granted on condition that Aboriginal heritage monitoring take place during all excavation works due to the significance to Aboriginal people of these sites and the possibility of locating other Aboriginal sites or materials and a Stop Work Procedure should be a condition of consent if any sub-surface skeletal material or other cultural material be uncovered during future ground disturbing activity:
    - Should any sub-surface skeletal material (or any other cultural material) be uncovered during excavation work associated with the proposed construction, contractors are to cease all work immediately and the area be cordoned off;
    - Contractors are to formally notify the Perth Detectives (in the case of skeletal material), the South West Aboriginal Land and Sea Council and the Department of Indigenous Affairs;
    - Golden River Developments Pty Ltd, the Western Australian Turf Club and the Minister for State Lands appoints a Bio-Archaeologist to document and record the skeletal material (or any other cultural material); and
    - Further mitigation strategies and consultation with the South West Aboriginal Land and Sea Council and DIA will need to be instigated by Golden River Developments Pty Ltd, the Western Australian Turf Club and the Minister for State Lands in response to this Stop Work Procedure should materials be found.

7 SITE CONTEXT

7.1 Setting – Capital City Context

In recent years the State Government has announced several major inner city redevelopment projects to transform the city centre into a vibrant place for people to live work and recreate, whilst also accommodating the Perth's rapidly growing population. The projects seek to intensify land uses in and around the central city in order to capitalise on existing infrastructure, achieve infill housing, revitalise underutilised spaces and fulfil the aims of *Directions 2031*.

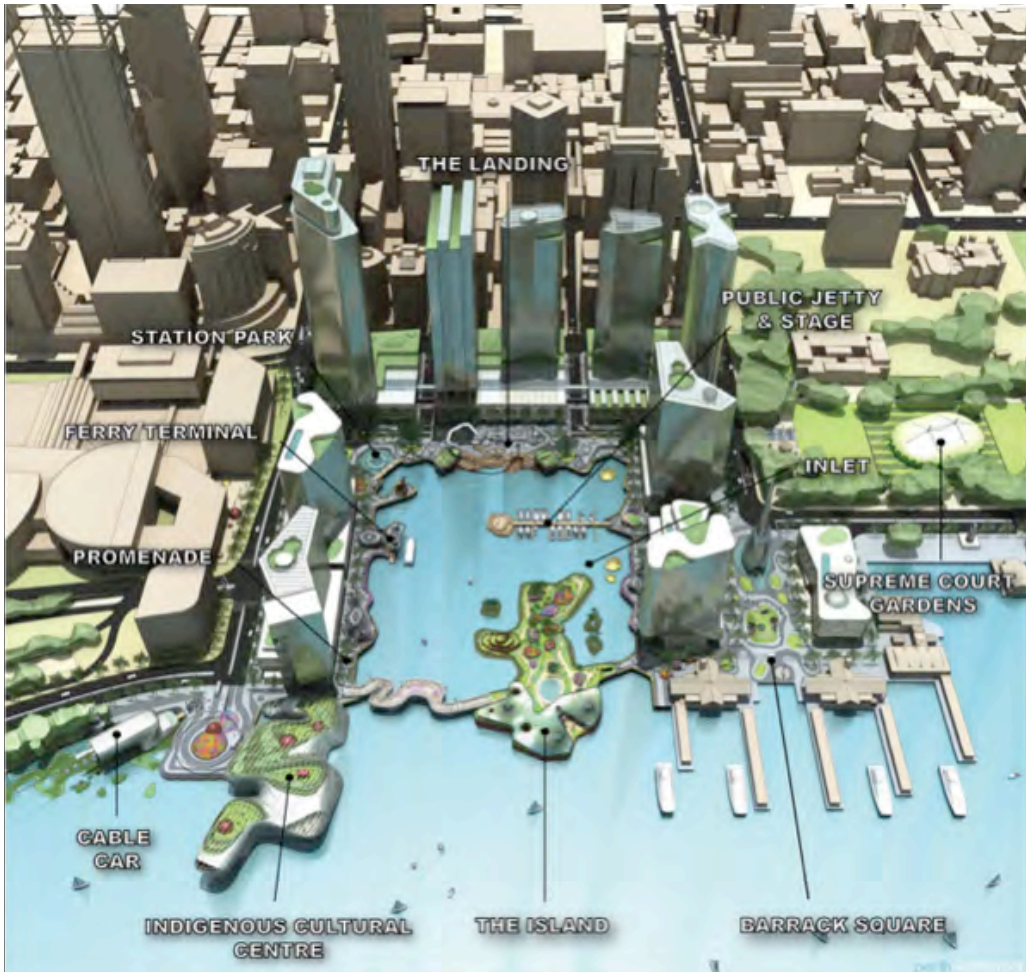


FIGURE 10: PERTH WATERFRONT (SOURCE: WAPC)

The following major projects frame central Perth (between Kings Park and Ascot) and provide a context for the development of the Belmont Park Structure Plan area.

Perth Waterfront -expected to be Perth City's flagship development project over the next ten years. Located immediately west of the Supreme Court Gardens on the current site of Alf Curlewis gardens, the project aims to reconnect the City with the Swan River, extending the street grid towards the river. With the creation of a new 2.7 ha inlet, it will bring the Swan River to the City. The project is expected to deliver new public spaces, and a mix of office, commercial, residential, retail, tourism and cultural land uses. It is expected to accommodate a mixture of potentially 50,000 m^2 office, 36,000 m^2 retail, 9,000 m^2, Indigenous Cultural Centre, 220 rooms hotel and short stay accommodation and 1,700 new dwellings

According to State Government media releases, construction of initial stages is due to be completed by mid-2014. The final stages of construction are due for completion by 2022.

Perth City Link and Perth Arena- located along Wellington Street and Roe Street between the Mitchell Freeway and the Perth Railway Station. The project involves sinking the Perth-Fremantle railway line for the section and creating a new underground bus station. Above ground, the project area will be developed for a range of uses including residential, office, commercial, civic and public spaces.

Key elements of the Perth City Link project are high quality public transport options and interchanges and the construction of new connections (vehicle and pedestrian) between Northbridge and the City centre, enabled through the sinking of the railway line and the bus station.

A key development underway at the western end of the project area is Perth Arena, a major indoor sports and entertainment centre with a seating capacity of 14,500 and is due to be completed by late 2012.

The Link will incorporate approximately 1650 new dwellings and 220,000 m^2 of commercial, 24,000 m^2 of retail and entertainment space.

Riverside Precinct - located in East Perth between Adelaide Terrace, Plain Street, Waterloo Crescent and Nile Street. It incorporates Glouster Park, the Western Australian Cricket Association (WACA), Trinity College and the WA Police buildings.

Preliminary concepts for the area include the Riverside Precinct incorporating Waterfront development, office and residential towers, and the creation of new public spaces embracing the water's edge. It will incorporate approximately 3400 new dwellings and 81,000m^2 of retail and commercial space.

The Springs development -located in Rivervale between the Great Eastern Highway, Graham Farmer Freeway and the Swan River, it comprises a 14ha site and will incorporate medium and high density residential living (up to 2000 residents)as well as commercial and office uses.

Burswood Peninsula-the urban transformation of the Burswood Peninsula began in the mid 1980's with the construction of the Burswood Resort and Casino complex. With the introduction of the Graham Farmer Freeway and the Perth-Armadale Railway line, the Burswood Peninsula became highly connected to the Perth Central City Area and to Victoria Park. In the last 10 years, the residential project at 'The Peninsula' saw the beginning of residential intensification with, higher density residential towers, lower rise apartments and detached cottage houses.

Recently announced new Perth Stadium, to replace Subiaco Oval, will be located on the Burswood Peninsula. It is due for completion in 2018 and will accommodate major sporting and entertainment events, with a seating capacity of 60,000. The new stadium foreshadows a vibrant entertainment and retail precinct.

7.2 Urban Fabric

Belmont Park Racecourse Redevelopment project presents a significant opportunity to create an area of inner-city urban fabric, from scratch. Consistent with the site's historical use as a horse racing facility, it currently exhibits a limited number of internal roads and an undeveloped urban fabric. The existing roads that surround the built form are generally bound by public parking areas to the north and Graham Farmer Freeway to the south.

The surrounding suburbs on the western, northern and eastern side of the Swan River are East Perth and Maylands. These areas are primarily single residential, detached housing, medium density following a traditional grid street network, with recreation focused on the Swan River and cafe strips such as Beaufort Street.

Significantly, in recent years, areas of degraded industrial and low density residential land use have become increasingly replaced by mixed use and high density housing. There are several high rise developments visible from the subject site. On the northern side within the suburb of Maylands are two residential towers and Mercy Hospital. To the south, 5 residential towers at Burswood Peninsula site, Burswood Resort Hotel and Casino Complex.

7.3 Education and Healthcare

Public schools in proximity to the site include Victoria Park, Mount Lawley, Cloverdale, Maylands Peninsula and North Perth. There is a wealth of private school alternatives in close proximity, with Sacred Heart, Trinity, Mercedes, Perth, Chisholm and Wesley College all located within a 4 kilometre radius. In addition, numerous language schools are found in Perth CBD, within 3 kilometres of Belmont Park. Preliminary consultation undertaken with the Department of Education and Training confirmed that given the target age profile for the development and low student yield, it is unlikely that a new primary school site would be required on site and the additional students could be accommodated at existing public and private schools.

Several universities and TAFEs including Edith Cowan, and Curtin's city campus offer an expanding range of nearby tertiary institutions. The site's proximity to the regional road network and Armadale rail line means that future residents will be able to access the wider variety of universities across the metropolitan region, including Curtin University and the University of Western Australia.

The site is located in close proximity to several healthcare facilities, including major hospitals. Mercy Hospital, Royal Perth Hospital, Mount Lawley Private Hospital and Princess Margaret Hospital are all located within 4 km. Figure 11 indicates the wealth of educational and healthcare facilities found locally.

FIGURE 11: LOCAL EDUCATIONAL AND HEALTH FACILITIES

7.4 Sporting Facilities

The site is surrounded by wide range of existing sporting facilities of varying size, ranging from local playing fields catering for local residents, to sporting infrastructure of State, national and international significance:

- Western Australian Cricket Association Ground (WACA), 2 kilometres to the south-west, which hosts interstate, international test, one day, and 20-twenty matches
- A range of football codes fields and stadiums, located within 4 kilometres of the site, including Subiaco Oval (home to the West Coastal Eagles) with a crowd capacity of 43000, Lathlain Park (home to Perth Demons football club), and nib Stadium (home to the Perth Glory and the Western Force).
- The State Tennis Centre, approximately 1 kilometre to the south (home to professional tennis development in the State)
- Burswood Entertainment Centre which hosts the annual Hopman Cup tennis event, numerous concerts and special events, located 2 kilometres south, and
- Golf Courses in close proximity including Burswood, Maylands Peninsula, and City of Perth.
- Glouster Park, Ascot as well as Belmont Park Racecourse, the premier racing venue in Western Australia, all play host to regular horse racing and trotting events

In addition, the State Government has recently announced that the State's new stadium offering seating capacity of 60,000 will be located on the Burswood Peninsula, less than a kilometre from Belmont Park.

7.5 Activity Centres - Office, Retail and Employment Sectors

The Structure Plan area is located in close proximity to an existing hierarchy of Activity Centres. Major existing retail precincts within a 5 kilometre radius include Perth, South Perth, Victoria Park, Belmont Forum, and Mount Lawley (Beaufort Street). Major office locations include Perth, South Perth, and West Perth.

Over the next ten years, Perth Central City area is expected to generate an increase of 26,000 white collar employees based on the continued expansion of the Western Australian economy. This will equate to an increase of up to 450,000 m^2 of office floorspace. With its close proximity to the CBD, public transport, iconic Swan River and Perth Airport, Belmont Park Racecourse redevelopment site is uniquely placed to accommodate some of this expected growth. Retail growth is expected to keep pace with infill opportunities and increased residential densities in and around Belmont Park, providing a major opportunity to develop new retail land use to cater for an expanding population. There are also a number of key tourist locations near the Structure Plan area such as the Burswood Casino and Entertainment Precinct, WACA, Perth Zoo, Perth Cultural Centre, Kings Park and the Racecourse.

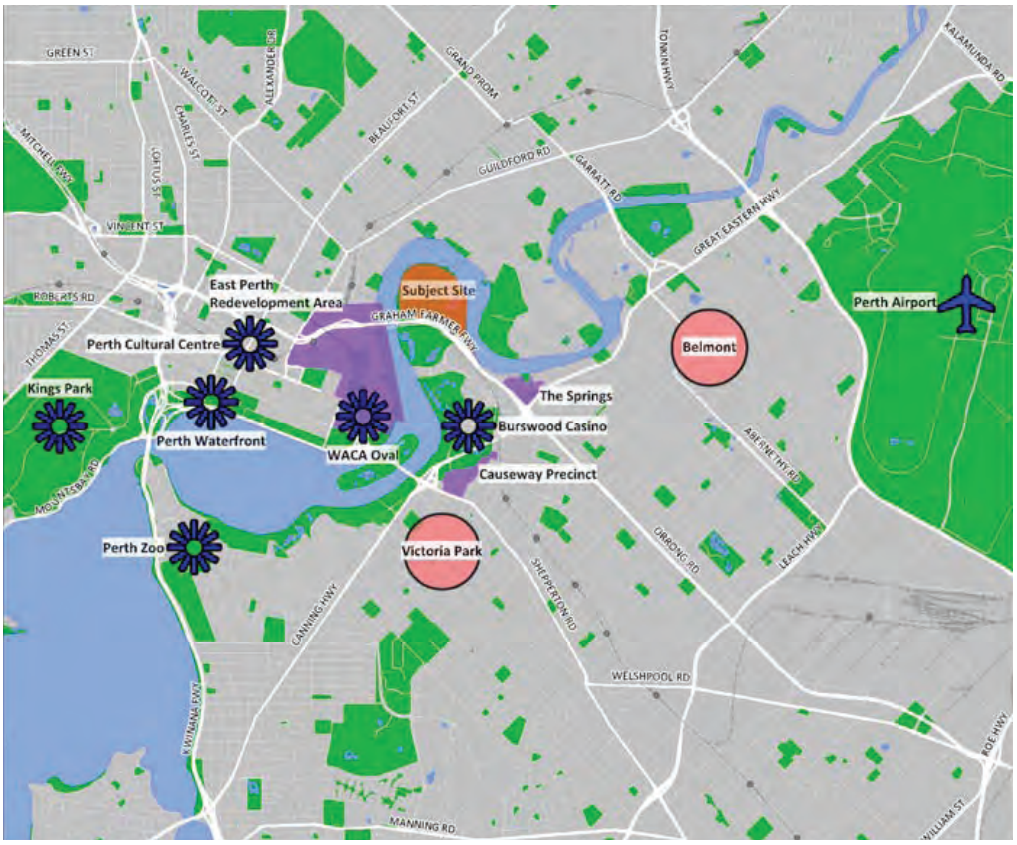


FIGURE 12: ACTIVITY CENTRES - CONTEXT PLAN

7.6 Swan River Edge Conditions

The Swan River is an iconic feature in Perth and it's most prominent landscape feature. The Swan River provides the site with its primary physical identity, with the Burswood Peninsula surrounded by the Swan to the west, north and east. While the majority of the site boundary is currently y characterised by the 'natural' edge of the Swan River, it should be noted that the 'natural' boundary has been gradually and significantly modified over the history of the site.

The eastern boundary of the site, near the racing facilities is 'hard edged' where development of the racetrack and associated facilities has altered the edge conditions significantly. As indicated by Figure 13, the majority of the Swan River's edge conditions further afield are 'natural', where development is generally set back from the riverfront. Notable exceptions include the East Perth promenade and the Barrack Street Square where development has been encouraged within close proximity to the Swan River.

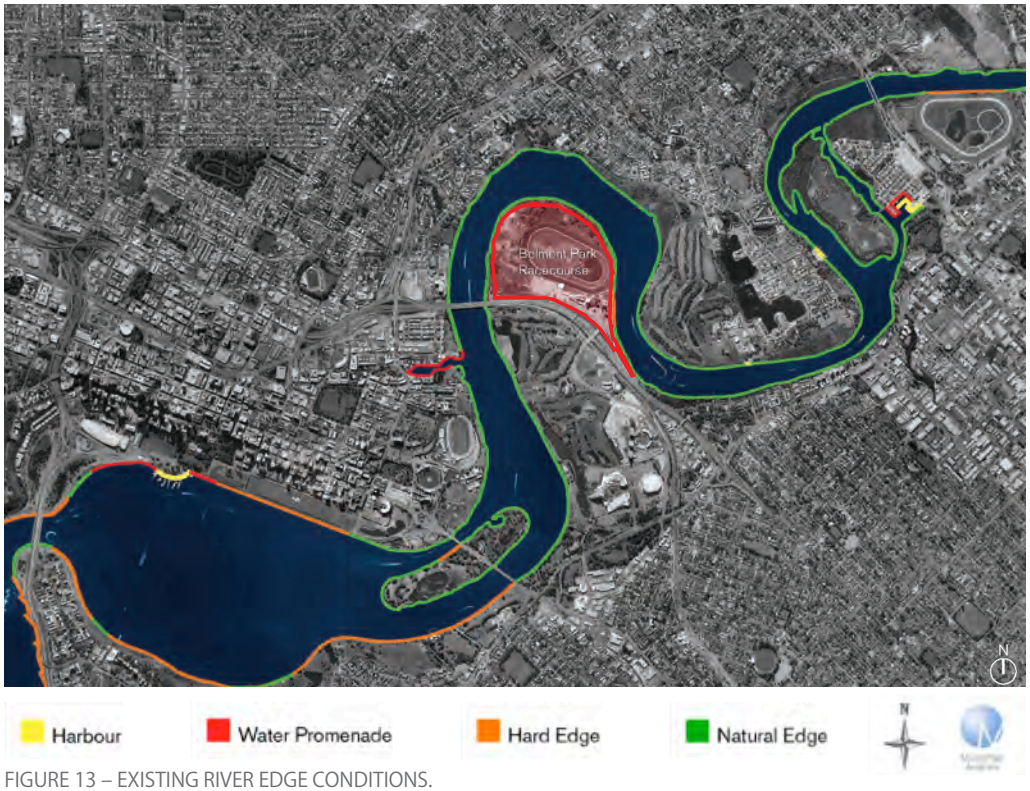


FIGURE 13 – EXISTING RIVER EDGE CONDITIONS.

The river foreshore provides an important recreation and community space around Perth. Near the site there are many publically accessed foreshore areas including Bardon Park, Banks Reserve, Claisebrook Cove, Berringa Reserve, Burswood Park Golf Course, Heirisson Island, as well as a network of walking and cycling trails.

These sites vary in condition from highly natural foreshore areas with native vegetation down to the river edge through to highly modified parklands and active open space areas with river walling and constructed edges. There are passive and active recreation areas, cafes, carparks inlets and jetties within the foreshore reserves around the Swan River.

Currently, the site is one of the few remaining areas of the Swan River foreshore within the central Perth area that is not accessible or useable by the public. The creation of a publicly accessible foreshore reserve through the site will be a key legacy of the development.

7.7 Vehicular Access

Victoria Park Drive and Graham Farmer Freeway off-ramp form the two existing vehicle access points to the site. Currently, the only access available to the site is from Graham Farmer Freeway which forms the southern boundary of the site. There are no reservations in place to provide alternative access to the site.

Catering for over 65,000 vehicles per day, the Graham Farmer Freeway provides direct east-west access to Perth CBD, and the arterial freeway system of greater Perth. Other major roads which provide access to the site include Guildford Road, East Parade and Great Eastern Highway located 2 kilometres north, west and 3 kilometres south-east respectively.

Victoria Park Drive overpass is located on the south-east boundary of the site provides supplementary north-south access to Burswood Resort, the State Tennis Centre, and Casino complex. In terms of internal access to the site, Goodwood Parade runs parallel to Graham Farmer Freeway providing access to existing car parking, service areas, horse stables and race facilities.

FIGURE 14: EXISTING VEHICLE ACCESS

FIGURE 15: EXISTING LOCAL VEHICLE ACCESS

7.8 Public Transport Access

Belmont Park is currently a 'special events' train station on the Armadale train line, located directly south of the Structure Plan area, furnishing the site with strong transport links to the Perth CBD and regional centres. As a 'special events' station, train services currently stop at the station for race day events with the service to the Perth station taking approximately 5 minutes.

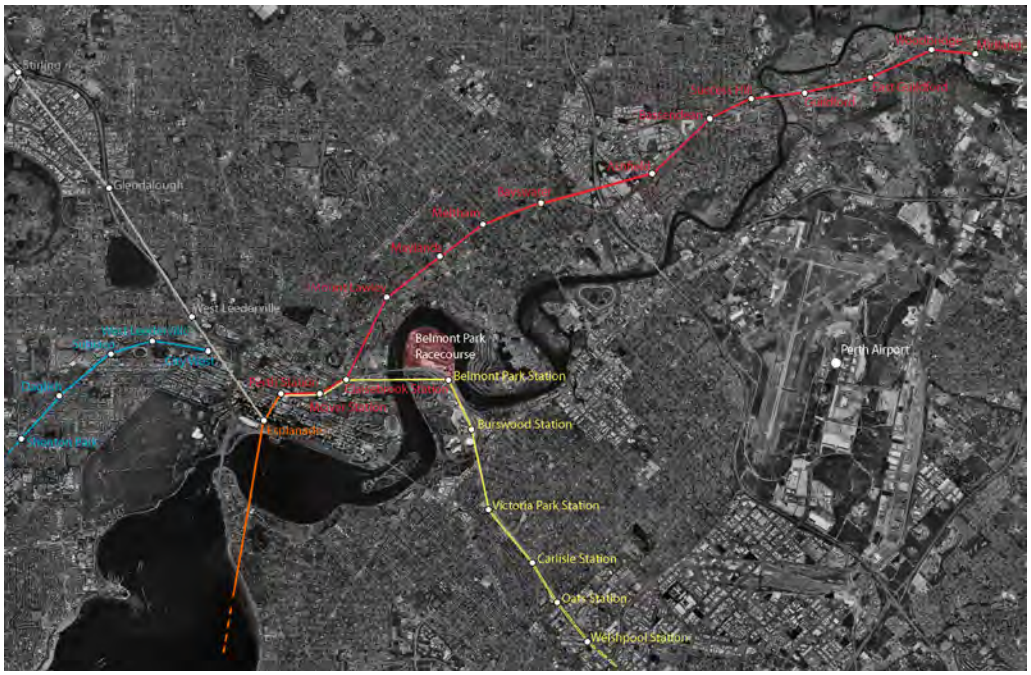


FIGURE 16: PROXIMITY OF SITE TO EXISTING RAIL SERVICE AND ITS STRONG CONNECTIVITY TO PERTH CBD.

There are currently no public bus services operating within close vicinity of the site, as there are no existing residential or business premises to serve. Several existing bus routes operate on Great Eastern Highway approximately 2 kilometres south, which provide direct access to the CBD and greater Perth. Alternative bus access is provided by the supplementary routes along Guildford Road and Beaufort Street located 0.7 kilometres and 1.5 kilometres north-west respectively. Figure 17 indicates the high frequency bus routes which operate in proximity to Belmont Park.

FIGURE 17: EXISTING BUS ACCESSIBILITY

7.9 Cycle and Pedestrian Access

Existing cyclist and pedestrian facilities are limited to the southern portion of the site. A major dual use path is located within the Graham Farmer Freeway road reverse, connecting the site to Perth CBD via the Causeway, with a second major dual use path runs parallel to Victoria Park Avenue, providing both

east west and north south pedestrian access to the site .

Pedestrian access to the site is primarily gained from the pedestrian bridge over the Graham Farmer Freeway, which links nearby Belmont Park train station and greater Perth to the site.

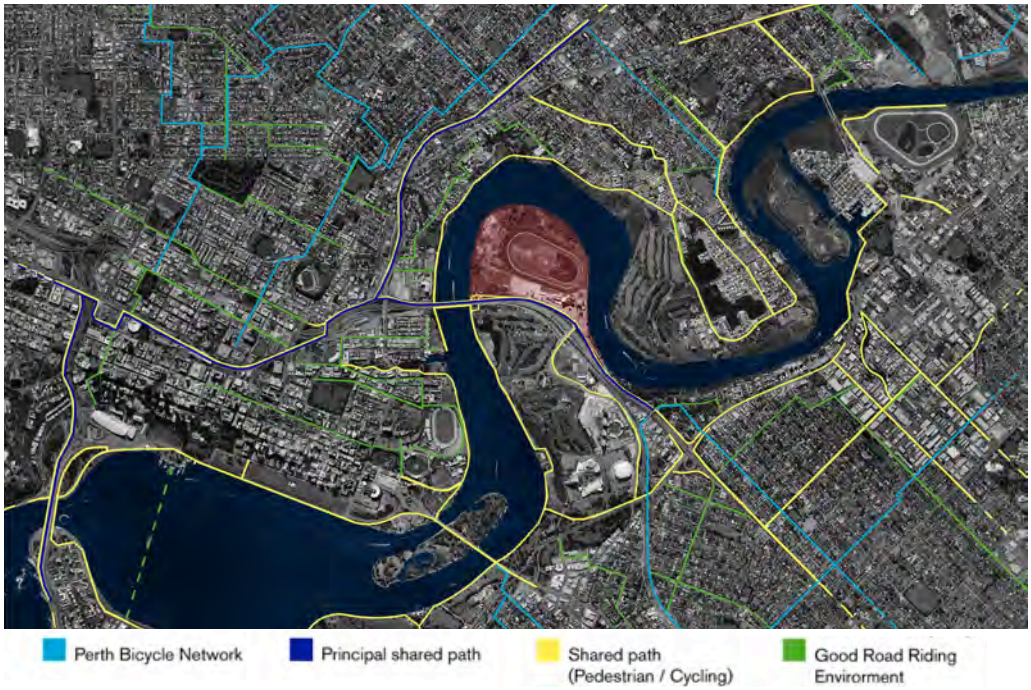


FIGURE 18: EXISTING CYCLIST AND PEDESTRIAN ACCESS TO THE SITE

7.10 Local Context

7.10.1 Site Surrounds

The site is one of four key compositional elements in the city's layout, the others being Kings Park to the west, the CBD itself and Perth Water and the meandering Swan River.

The Peninsula also forms a key gateway to Perth from the east, where both the international and domestic airports terminals are located, providing the springing point for the Windan Bridge which crosses the river to connect with East Perth.

FIGURE 19: BURSWOOD PENINSULA IN THE CONTEXT OF PERTH

Burswood Peninsula has developed as a leisure precinct accommodating the Burswood Entertainment Complex, consisting of a hotel, restaurants, bars, casino, convention centre, golf course, State Tennis Centre and a residential component, in addition to Belmont Park Racecourse. The precinct's identity will be further reinforced by the development of the new major sporting stadium on the Peninsula.

The redevelopment of Belmont Park Racecourse will enhance the Peninsula's underlying identity of health, leisure and recreation by providing sport club amenities as a focal point to the development around the existing Grandstand structure, as well as enlarging upon the local walking and cycling network and providing extensive public recreation areas. Residential, retail and office floor space will complement the health and recreation facilities to provide a truly mixed use development and a complementary counterpoint to the successful Main Street retail of Albany Highway, at the core of Town of Victoria Park.

FIGURE 20: BURSWOOD PENINSULA IN THE CONTEXT OF TOWN OF VICTORIA PARK

7.10.2 View Corridors

Opportunities exist for mid to high rise structures to explore views to Perth CBD and further west towards Fremantle and the Indian Ocean, and eastwards along the Swan River valley towards the Darling Ranges. Panoramic views of the Swan River will also be afforded from the site.

FIGURE 21: VIEWS

The Graham Farmer Freeway bounds the site to the south. Extensive views into the site are offered from the Windan Bridge, exiting Perth, heading east.

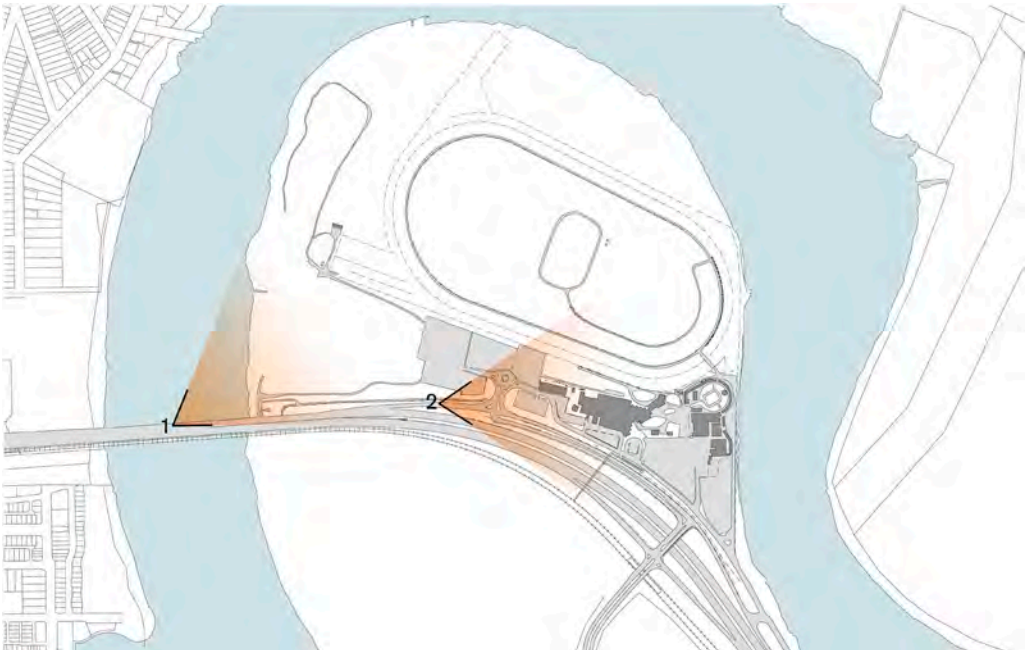


FIGURE 22: SITE APPROACH

FIGURE 23: SITE APPROACH, MAIN VIEW OF THE SITE FROM WINDAN BRIDGE

FIGURE 24: SITE APPROACH, VIEW FROM GRAHAM FARMER FREEWAY, ENTERING SITE

Views to the site from the suburbs to the north (Banks Reserve and Joel Terrace, Mt Lawley) are obstructed by dense mature tree line.

PHOTOS: VIEWS TO THE SITE FROM THE NORTH OBSTRUCTED BY VEGETATION

7.10.3 Pedestrian Walking Distances

A footbridge currently provides access to the site from the 'special events' railway station at Belmont Park, with approximately 400m walk over the bridge to the arrival point on site. Figure 25 maps the area of the site located within a 400m radius of this arrival point.

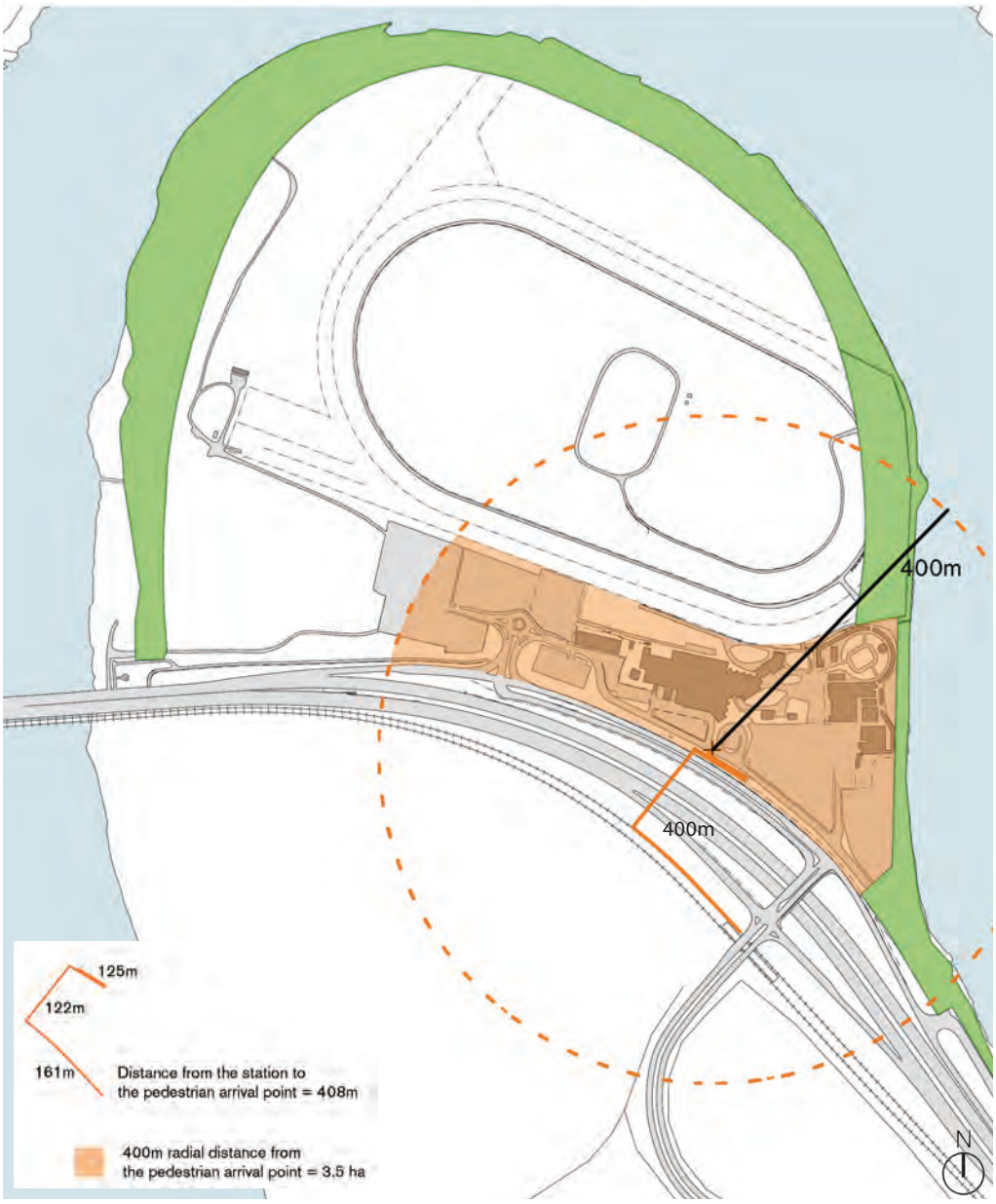


FIGURE25: DISTANCE FROM THE STATION TO PEDESTRIAN ARRIVAL POINT

There is a clear opportunity to make the 'special events' station fully operational, to promote the site as a Transit Oriented Development (TOD) to encourage a sustainable mixture of office, retail and high density residential development. This would complement the planned 60,000 seat AFL stadium, anticipated to open for the 2018 football season.

Transit Oriented Development (TOD) neighbourhood is typically defined as a relatively high density development within a radius of 400 – 800m from a transit stop. Approximately 3.5ha of the site is located within an area that can be characterised as a TOD with a fully operational Belmont Park station.

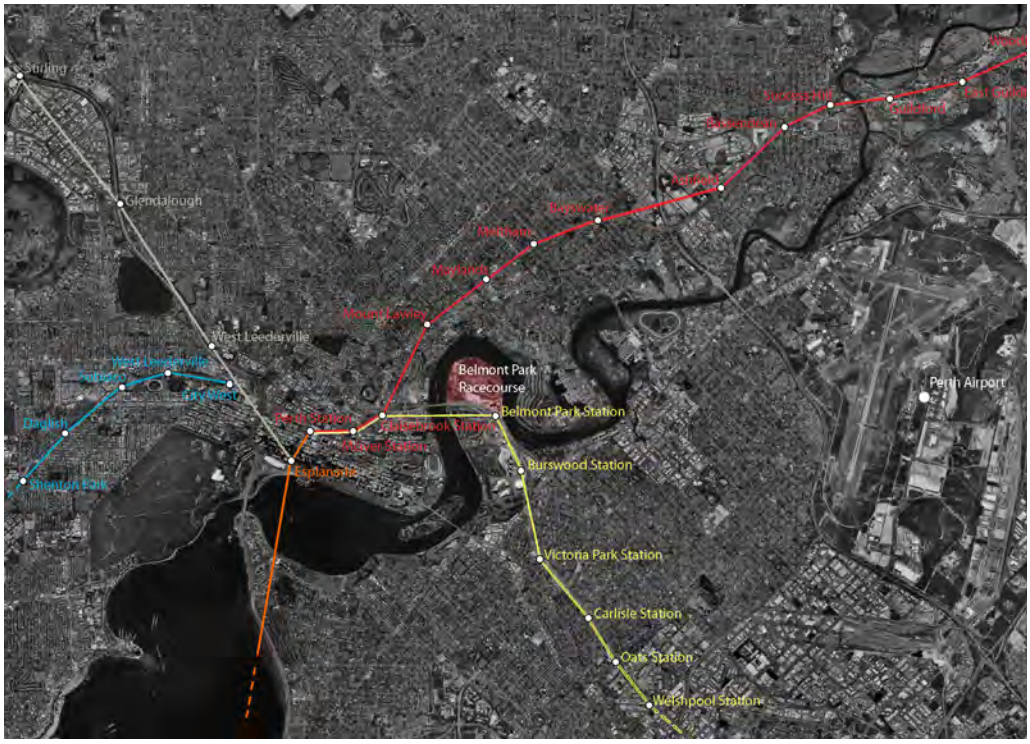


FIGURE 26: PUBLIC TRANSPORT CONTEXT

7.10.4 Existing Infrastructure

Water

The site is currently served by an existing water main which traverses across the Graham Farmer Freeway and terminates at the boundary of the site within Balbuk Way. It services the Grandstand and stables only. There are no other connections from this main.

Wastewater

The existing Belmont Racecourse is not currently serviced with gravity sewer. There is an existing private pump station which services the Grandstand only. The pressure main from the private pump station traverses the site and heads east towards Balbuk Way, crosses the Graham Farmer Freeway and heads along Goodwood Parade until it discharges into an access chamber located in Vivian Street. This is within the existing industrial area south east of the Belmont Park Race Course site. The main is located under the Graham Farmer Freeway.

Power

The development is situated in an area that is currently supplied by Belmont Zone Substation (located on Alexander Road, 6.4km from the Belmont Racecourse Transformer) via the BEL 514 22kV HV feeder. This feeder extends to the development via 22kV underground cable. One 22kV circuit is 240sqmm Cu cable and the other is 185sqmm Al cable. Note that while there are two separate cables running to the transformer on the development site, they are both connected to the same HV feeder line at the Belmont Zone Substation. This means that the cumulative capacity of both 22kV circuit lines is the same as the maximum capacity for a single high voltage feeder line (typically 10MVA).

Gas

The site is currently serviced via a medium pressure main located within Balbuk Way, approximately 1.5m from the road reserve boundary, on the foreshore side. The main changes direction, once it enters the site, running along the Graham Farmer Freeway boundary. It is located at the base of the large retaining wall and terminates prior to a local service connection heading towards the grandstand.

Telstra

Telstra has existing services located within the Graham Farmer Freeway and Balbuk Way. There is a fibre optic main which traverses the boundary line of the site along its frontage of the Graham Farmer Freeway. The site is connected to a std copper service located within Balbuk Way which terminates at the boundary of the site.

7.11 Site Opportunities and Challenges

7.11.1 Site Opportunities

- The site provides a significant contribution towards meeting policy objectives espoused by Directions 2031 of delivering approximately 150,000 dwellings in the Central Metropolitan Perth region by 2031. Development of the site as proposed complies with and fully supports the objectives of Directions 2031 framework, being:
  - highly accessible
  - high amenity
  - utilisation of public transport
  - generates wider economic benefits
  - saves government costs associated with the delivery of new infrastructure to accommodate growth
  - alleviates CBD congestion pressure
  - increased diversity – recreation, tourism, housing, employment Directions 2031
- Future development proposals in the vicinity of the site support density and the creation of transit oriented developments that meet the needs of residents for day to day services
- Proposed stadium development to the south of the site with associated facilities creates greater demand for public transit connections
- Inner city redevelopment site with direct access to the Swan River
- Views to the CBD, the racecourse, the river, and to the horizon
- Exposure to cooling breezes – morning wind from the hills to the east, cooling afternoon sea breezes – "the Fremantle doctor" from the south west
- Tall buildings will require connections to major road and rail infrastructure and cycling network
- Existing foreshore habitat is not in a good condition but represents a significant opportunity for rehabilitation
- Aboriginal heritage – the relationship of the site to the Swan River offers opportunity to re-establish the involvement of the Noongar people of Perth with the Swan River, through the new landscape and with cultural and business ventures.

7.11.2 Site Challenges

- Managing flood risk, stormwater, and water demand.
- Foreshore protection –the river is sacred to the Noongar people.
- Exposure to noise and pollution from the Graham Farmer Freeway.
- The Racecourse presents a barrier to vehicular circulation within .the site
- Soils with variable ability to support tall buildings (will require deep piling and extensive foundations).
- Parking regulations in a car dependent culture lead to suburban parking levels- location outside CBD and low public transport coverage leads to car dependency.
- Airport Airspace restrictions limit height of tall buildings across the site

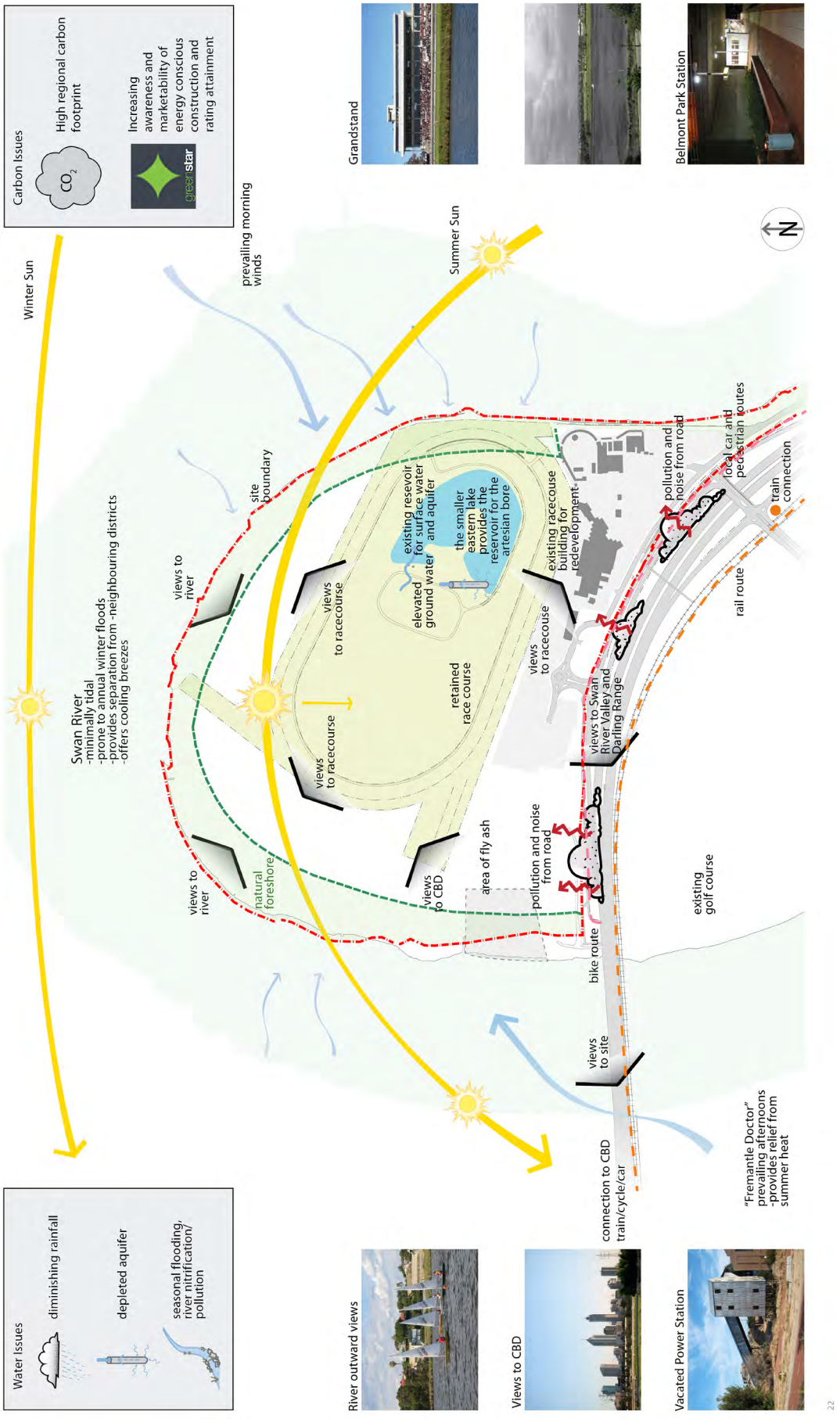


FIGURE 27: OPPORTUNITIES AND CHALLENGES PLAN

8 THE STRUCTURE PLAN

The Structure Plan represents a design and land use response to the principles and objectives of State and Local Government policy, master planning studies and collaborative planning workshops undertaken for the site.

The collaborative process of preparing the Structure Plan engaged the development consortium, international consultant team, representatives drawn from the local community, stake holder groups and local and state government to develop a strategy for the site. The Structure Plan addresses economic, social and environmental priorities for this key site and is the basis for all development on the site.

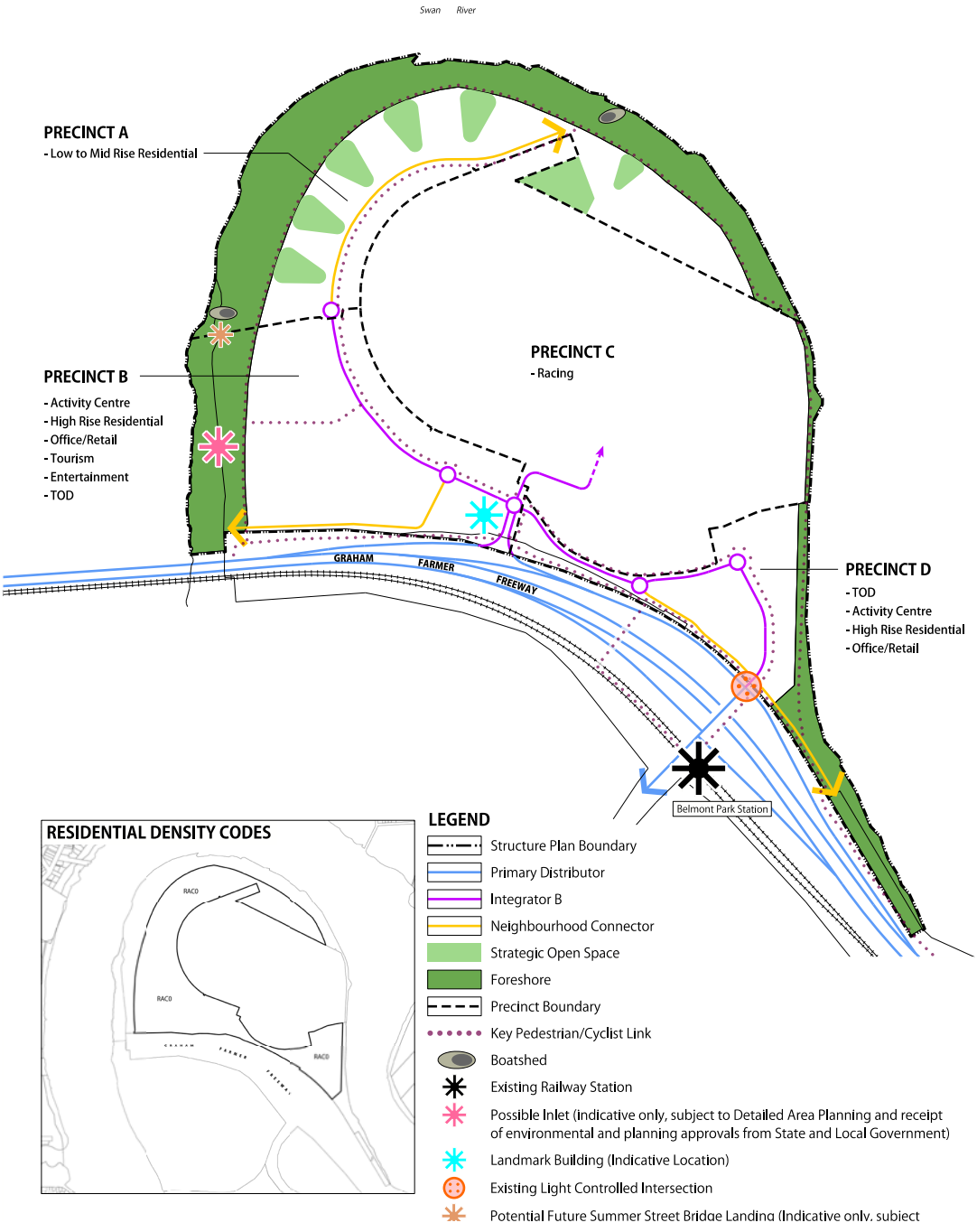


FIGURE 28: THE STRUCTURE PLAN.

Complimenting the Structure Plan, an indicative built form Master Plan has been prepared to illustrate the concepts and articulate in greater detail possible development scenarios.

FIGURE 29: INDICATIVE BUILT FORM MASTER PLAN

8.1 Statement of Intent

The redevelopment of Belmont Park Racecourse is the realisation of an exciting opportunity for Perth and the Town of Victoria Park.

This key site is viewed by the stakeholders as part of a much broader context of the surrounding Burswood Peninsula, Capital City and beyond. This rapidly changing part of the city is soon to become a central player in the Burswood entertainment and leisure precinct, which will be further enhanced by the recently announced new AFL stadium.

The intent of the Structure Plan is to establish a statutory framework to guide the planning and design of this site, to facilitate development proposals that will comprise a mix of land uses including retention and upgrading of the current racing facility, high and medium density residential, a significant Activity Centre and riverfront Parks and Recreation and will:

- Create an exciting addition to Perth
- Respond to district and regional context
- Establish a point of difference
- Encourage and facilitate innovation and excellence in built form design
- Build flexibility and robustness into the built form design
- Create a fully functional and sustainable community
- Create a vibrant hub
- Enable people to live and work in the same place
- Celebrate the site's location on the river

8.2 Overarching Objectives

Underpinning the Structure Plan Statement of Intent is a series of overarching objectives for the site. These are as follows:

- Integrate the new development with Town of Victoria Park, the CBD and the surrounding districts.
- Optimise public access to the site.
- Accommodate the primary function and operations of racing.
- Create sustainable communities, based on multifaceted aspects of sustainability.
- Deliver high density residential development, responding to the site's strategic location.
- Respond to the site's access to public transport (Belmont Park Railway Station) by delivering Transit Oriented Development.
- Create employment on site, attracting local population and outside workforce.
- Anchor and support the diverse local community and visitors with a vibrant Activity Centre.
- Attract high level of community amenity to the area through appropriate design of the public realm.
- Create amenity for residents and visitors through appropriate design of built form.
- Encourage accessibility to the race track, the river foreshore and the river.
- Deliver a balance of restored riverine environment and parkland.
- Exercise sensitivity when considering and planning for the riverine environment.

8.3 Objectives, Design Principles

The following key urban design principles are intended to inform and guide the detailed planning process. Developments are to:

- Address WAPC Crime Prevention Through Environmental Design (CPTED) principles.
- Achieve a high level of safety, and passive street and public spaces surveillance.
- Provide prominent entry to residential towers on Primary roads.
- Promote access to major open space areas including the foreshore reserve.
- Encourage views and visual accessibility from the public realm to the race track, the river foreshore and the river.
- The height of blank walls facing any street should not exceed 1.2 metres.
- Where possible, screen car parking structures from view.
- Locate built form to allow cooling breezes to permeate through the site to assist in cooling during summer months and reduction in energy consumption.
- Distribute building mass to act as a barrier from noise and pollution from the Graham Farmer Freeway.
- Built form design is to:
  - Provide activation at the pedestrian level.
  - Create pedestrian scale where towers are proposed.
  - Address the primary street and have an active façade to the street.
  - Provide clearly identifiable vehicular and pedestrian access to buildings.
  - Provide weather protection for pedestrians in commercial areas.
  - Address solar access principles.
- Where lots are directly abutting Public Open Space and/or the foreshore reserve, orientate built form to front that POS and/or foreshore reserve and construct open style fencing along that boundary.
- Comply with maximum height restrictions associated with Obstacle Limitation Surfaces (OLS) and Procedures for Air Navigation Services – Aircraft Operations (PANS-OPS) pursuant to the *Airports Act* 1996.
- Provide for car parking nodes within the foreshore.
- Optimise environmental outcomes associated with the project throughout the development's life cycle (construction, operation, occupancy and eventual redevelopment) by incorporating passive

and active measures which:

- minimise greenhouse emissions
- minimise water consumption
- minimise material use
- minimise waste and other emissions which have an adverse environmental effects
- enhance indoor and outdoor environment
- reduce reliance of occupants and visitors on private vehicle use
- contribute positively to the physical and mental wellbeing of occupants and visitors to the site.

• Address the followig targets for the minimisation of energy over the project area, incorporating where possible renewable energy resources and providing energy awareness and performance monitoring:

Multi- residential Uses :

- All multi-unit residential to achieve min. 6 star NatHERS rating. Current requirements for residential in WA is to achieve 5 star NatHERS rating.
- Internal meters for monitoring individual apartment energy consumption shall be installed, to further influence energy minimising activity.

Single Lot residential Uses

- All single lot residential to achieve min. 6 star NatHERS rating. Current requirements for residential in WA is to achieve 5 star NatHERS rating.
- Internal meters for monitoring individual apartment energy consumption shall be installed, to further influence energy minimising activity.
- Installation of solar or five star gas hot water systems
- Installation of minimum 1kW photovoltaic panels or alternative renewable energy technology to enable 30% of the dwellings energy demand to be provide by renewable energy supply

Commercial Uses

- All office commercial buildings to achieve a minimum 4.5 star ABGR rating, but will encourage future staging of office buildings to achieve a min 5 star ABGR. As statutory requirements for Office building sustainability rating increase in WA, through new technologies becoming available, this will supersede the current requirements.
- Commercial buildings shall incorporate additional passive and active design features such as;
- Commercial lighting levels reduced to 13 kW/sqm/ year
- Variable speed drives on all pumps and fans
- Low Emissivity Glazing
- Exhaust air heat recovery to wet areas.
- All buildings to provide integrated building management systems to optimise the use of energy in all instances and providing constant monitoring
- High efficiency mechanical fluid coolers and high efficiency heat pumps.

Retail

- All retail buildings to achieve a minimum 4.5 star Green Star rating. As statutory requirements for retail sustainability rating increase in WA, through new technologies becoming available, this will supersede the current requirements.

8.4 Land Use Summary and Rationale

The Structure Plan defines the land use composition for the site. It proposes a diverse mix of land uses ranging from retail and commercial to entertainment, cultural, tourism and civic land uses and high density residential developments. The intent of the land use mix is to facilitate a vibrant, diverse, interactive and safe neigbourhoods.

The broad land use categories are:

- Racing
- Retail
- Commercial
- Residential
- Public Open Space
- Regional Open Space, and
- Roads

8.4.1 Racing

The site is a sports destination in its own right being the home of Perth winter racing season, bringing people to Belmont Park Racecourse on a seasonal and weekend basis.

It is the aim of Perth Racing to upgrade the racecourse and associated facilities, including a multipurpose Grandstand, outdoor viewing areas, stables, parade ring, car parking, maintenance and equipment facilities and quarantine / veterinary facility, to significantly increase the use of the racecourse and the attendance. The track has the potential to operate all year round, with the possibility of twilight racing meetings being introduced at some time in the future.

8.4.2 Retail and Commercial

The Structure Plan proposes that the south eastern area of the site focus on transit orientated development such as high density residential and employment generating land uses whilst the south western area of the site incorporate the focus of retail in the form of a shopping centre.

Retail sustainability assessment undertaken by MacroPlan (Appendix 8) has identified the potential for approximately 31,000m^2 of retail and approximately 60,000m^2 of commercial/office land uses over the site. This level of retail and commercial equates to a district level activity centre.

Any further increase in NLA, to that specified in the Structure Plan, will need to be supported through compliance with relevant requirements of SPP 4.2.

The south eastern portion of the site is more constrained in size (than the western areas) and therefore limited in its ability to accommodate large scale retail and commercial development. In addition, the south eastern part of the site is closer to the existing Belmont Park Railway Station, and therefore suitable for high density residential development and 'large floor plan format' office/employment generating development.

FIGURE 30: SOUTH EASTERN PORTION OF THE SITE - TOD, OFFICE

The south western portion, where the site is proportionately larger, is more capable of facilitating a 'horizontal' district shopping centre, low-rise 'large floor plan format' office and high-rise residential towers. This part of the site has the greatest distance from the Swan River and the racecourse and is therefore is the most logical position for a retail centre and associated car parking structures. Positioning the vast majority of the site retail in this location allows for the best vehicle access whilst minimising the impact of retail traffic on the remainder of the site.

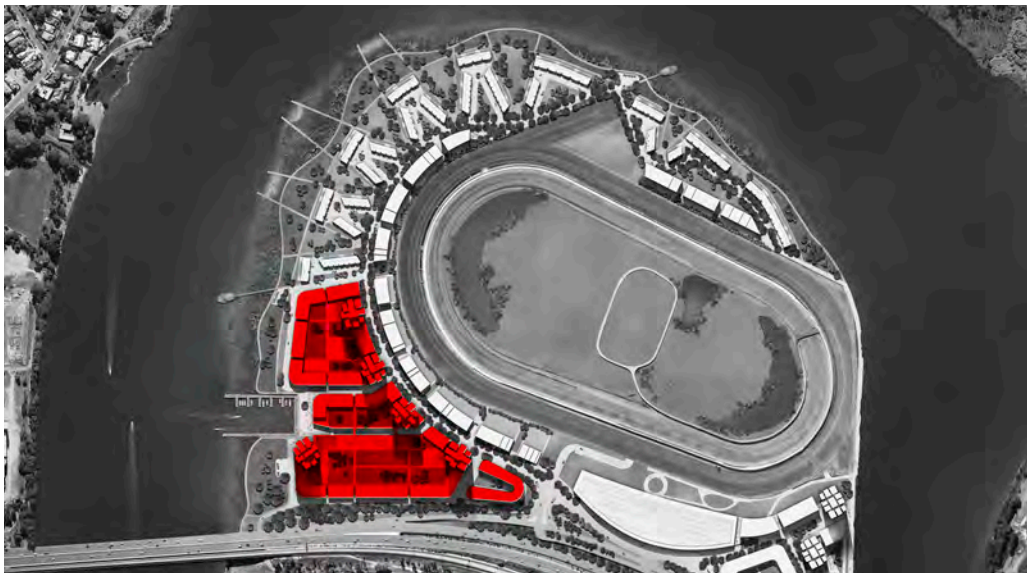


FIGURE 31: SOUTH WESTERN PORTION OF THE SITE - HUB OF ACTIVITY CENTRE

8.4.3 State Planning Policy 4.2 – *Activity Centres for Perth and Peel* Response

State Planning Policy 4.2 – *Activity Centres for Perth and Peel* establishes a hierarchy of existing and planned activity centres over the Perth and Peel regions. The SPP identifies a planned/future District Activity Centre at Burswood, located in the general vicinity of the Burswood Railway Station, south of the Graham Farmer Freeway and the Belmont Park site. The proposed Activity Centre at Belmont Park site is an extension of the planned district centre pursuant to SPP 4.2 in terms of the centre's specific location.

Retail sustainability assessment for the proposed Activity Centre tested the demand and sustainability impact on other centres. The conclusions of the assessment were that there is little likelihood of the proposed centre having measurable impact on retail in the Victoria Park area and Albany Highway retail in particular. It will perform a complementary function to existing retail and commercial uses elsewhere in Victoria Park.

The development of the Activity Centre at Belmont Park will not have any adverse impact on the orderly and proper provision of activity centres in the district. It should be considered as part of the Burswood District Activity Centre currently shown in SPP 4.2. Rather than the proposed development having an impact, it will likely benefit the current uses in Victoria Park. The following are relevant in this regard:

- The proposed Activity Centre will provide a complementary function to existing commercial areas elsewhere in Victoria Park, including office and retail
- The critical mass on site will enable the community to be self- sufficient in its own right and provide a greater catchment for the entire area of Victoria Park. This will allow Victoria Park and Albany Highway retail in particular to continue to provide a unique, diverse range of small and family owned retail, service and food services
- The proposed Activity Centre will reduce competition for retail tenancies in Victoria Park and along Albany Highway. This will allow current businesses to remain viable as the reduced level of competition will not place upward pressure on rental levels
- It will offer employment and business opportunities for broader Victoria Park area
- It will enhance the offerings in the area, support the proposed new sports arena stadium and reinforce Victoria Park as Perth's primary entertainment precinct
- It will enhance the necessity for better public transport, road linkages and rail networks in the entertainment precinct

- It will offer businesses a cheaper alternative to traditional precincts such as the CBD, West Perth ad Subiaco for both high end retail and office space users

The future developments planned for the Burswood Peninsula will ensure more efficient land use and increases in public transport patronage. A more comprehensive network of local bus services, potentially light rail, better access and connectivity to the existing Perth CBD, and a CAT bus would become viable. Given the sites proximity to the Swan River as well as an increase of other developments located along the river, the site could contribute towards the feasibility of creating new ferry routes along the Swan River.

The site has many locational and geographical advantages that will facilitate the creation of a vibrant, prosperous, diverse and 24 hour Activity Centre. The site has excellent exposure, is highly accessible for vehicles and public transport and is located on the water's edge. The more traditional activity centre land uses will be integrated with the TOD area, whilst the waterfront public Marina, and the Grandstand will contain other cultural, tourism and entertainment developments. This will create a point of difference from other activity centres. High amenity and location advantages will further add to the vibrancy of the Activity Centre.

Implementation Process

Section 6 of the Activity Centres Policy provides some guidance as to the requirements for the preparation of Activity Centre structure plans. The policy does not clearly articulate how the structure plan is to proceed to approval.

Belmont Park Activity Centre forms part of the broader Structure Plan for the site and will be processed through assessment in accordance with the Town of Victoria Park Town Planning Scheme No 1 – Clause 29AB *Development Areas and Structure Plans.* The Town is currently reviewing its *Commercial Centres Strategy*. The proposed Activity Centre will be considered as part of this strategy review.

Collaboration

The Activity Centres Policy seeks collaboration between major stakeholders in preparation and implementation of activity centre structure plans.

The major stakeholders in the Belmont Park Activity Centre Structure Plan are:

- Golden River Developments as part of the development consortium
- Town of Victoria Park
- State government agencies

The Structure Plan has been prepared in consultation with the major stakeholders and other relevant authorities. The stakeholders will have shared responsibility for implementation of the plan and continuing collaboration will be essential to ensure appropriate outcomes.

Development Staging

This Structure Plan has been prepared to assist and guide development of the Activity Centre for the next 10 – 12 years. Staging of development will be dependent on market driven demand for services and housing.

8.4.4 Employment

The proposed land use mix highlights the site's potential as an employment hub. The employment intensive land uses have been located in the closest proximity to the railway station within the Transit Oriented Development area. The mixture of land uses on the site would generate approximately the following number of jobs:

- Retail and Food/Beverage – approximately 1300 workplaces
- Office – approximately 4000 workplaces
- Recreation – approximately 20 workplaces
- Thoroughbred Racing – 30 workplaces (non racing) to 150 workplaces (racing days)

The total estimated employment opportunities generated by the Structure Plan is between 5350 - 5470 workplaces which equates to approximately 310 workplaces per gross hectare.

8.4.5 Residential

A significant residential development is proposed over the site, ranging from medium to high densities.

Density

Residential Density Code R-AC 0 is proposed over all of the Structure Plan area, with the exception of the Foreshore Reserve. On this basis, the density, site requirements and development standards to be applied to the site are set by Part One of this Structure Plan.

Estimated Number of Dwellings

The following table provides a summary of the estimated dwelling yields:

Table 2: Estimated Dwelling Yields

Precinct	Dwelling Yield
Precinct A	950
Precinct B	2050
Precinct C	0
Precinct D	1500
TOTAL	**4500**

The dwelling yields are indicative only and are subject to future response to market demands.

Population Projections

Using the maximum number of dwellings forecast by the Structure Plan, future population at full development will be approximately 6,680 people. The site will also support a significant visitor and worker populations.

Given the range of proposed housing types, the community profile is likely to be similar to that present in East Perth.

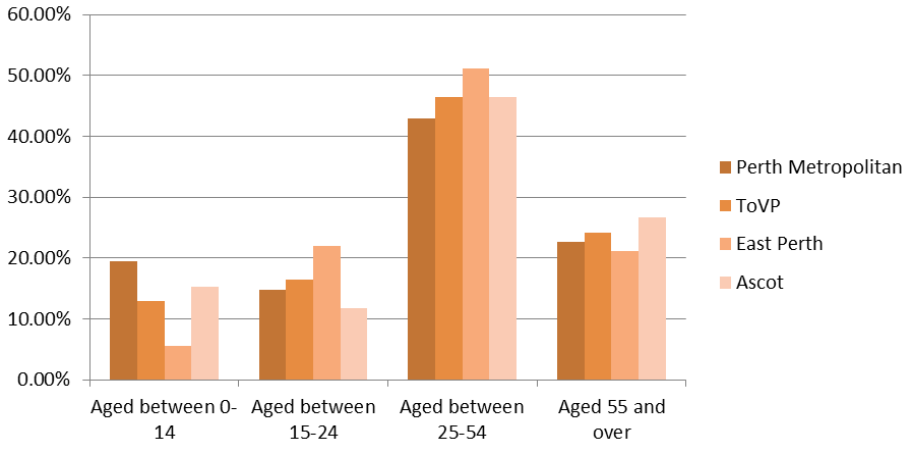


FIGURE 32: FUTURE COMMUNITY PROFILE (CREATING COMMUNITIES AUSTRALIA PTY LTD)

Examination of local and regional demographic aging population trend indicates that the type of community likely attracted to live here include:

- Singles and couples with no children in the 25-54 age group
- Empty nesters and generally those who are aged 55 years and over
- Professional workers who earn a higher than average weekly median income
- Local and overseas people currently undertaking university or tertiary education
- People who choose to live in medium to high density environments with a range of housing options available.

8.5 Height and Massing Rationale

The Structure Plan proposes three groupings of built form height: high, mid and low-rise. The built form and heights have been strategically designed and positioned to suit the different characteristics of the respective parts of the site.

The development enjoys a unique and distinctive address at the tip of the Burswood Peninsula, surrounded by the Swan River. Low rise built form in the north and western part of the site capitalizes on the qualities and opportunities presented by the riverside site.

Mid rise residential built form is located generally adjacent to the race track responding to the need for development on land abutting the race track to be undertaken in a manner that respects its geometry and function. The general massing of mid rise built form in this location affords views to the track.

Taller buildings are located alongside and close to the southern edge of the site, bounded by the Graham Farmer Freeway. The height and massing of the built form adjacent to the Graham Farmer Freeway will create an acoustic barrier to the road, with uses that benefit from a highly visible frontage. This offers shelter from both noise and pollution associated with the Graham Farmer Freeway.

High rise residential towers are strategically positioned to take advantage of views to the river, the CBD and the racecourse

FIGURE 33: BUILT FORM HEIGHT

The Indicative Master Plan for the site builds on the Urban Design Framework elements defined by the City of Perth in its publication *An Urban Design Framework – A Vision for Perth 2029* (published on 27 January 2010), and in the recently announced Water Bank Project adjacent to the Causeway. The City in its document describes three height and density nodes, namely William Street, Victoria Avenue and Plain Street. Building heights in these nodes vary from 50 storeys to 20 storeys. The Water Bank Project now features a 40 storey building immediately next to the Causeway.

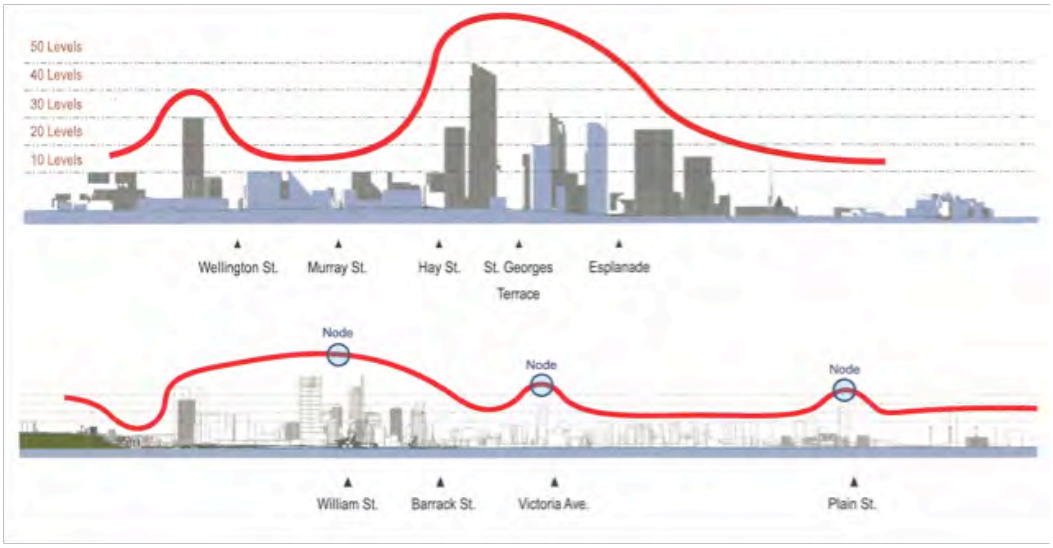


FIGURE 34: SOURCE: AN URBAN DESIGN FRAMEWORK – A VISION FOR PERTH 2029, CITY OF PERTH, 27 JANUARY 2010),

The heights proposed at Belmont Park reflect similar heights, continuing the nodal theme as reflected in the City of Perth's Vision for 2029. Furthermore, the Indicative Master Plan for the site reinforces the City of Perth's concept of dense nodal development within a 500 meter radius of a train station.

FIGURE 35: TRAIN LINE, TRAIN STATIONS AND 500M WALKING RADIUS. SOURCE: AN URBAN DESIGN FRAMEWORK – A VISION FOR PERTH 2029, CITY OF PERTH, 27 JANUARY 2010).

8.6 Built Form Typologies

The indicative built form Master Plan shows a configuration of built form which articulates the following principles:

- Responds to the geometry of the existing race track
- Maximises panoramic views and privacy

- Responds to with the Swan River
- Provides activation at street level (the urban form will facilitate street based activity); and
- Promotes the optimal use of land based on its locational and geographical advantages

Three principal residential built form typologies informing the development: are as follows:

Podium deck structures punctuated by tower structures.

The podiums accommodate parking and retail and provide landscaped open space at roof level, forming shared outdoor amenity for the residents. High rise residential towers are located at podium periphery to ensure a connection with the ground plane. Towers are arranged to feature views to the Perth CBD and to the Darling Range, whilst also orientated to avoid overlooking.

The podiums will range in height from 4 – 13 storeys whilst the towers will range in height from 38 – 53 storeys

Mid-rise residential blocks

The layout and form of the mid-rise residential blocks is generated by the geometry of the race track and have been located and designed to form the spine of the main crescent traversing the site, linking all areas to the main site entrance and the retail and commercial land uses. The building heights will range from 4 to 13 storeys. The height allowance allows views to the race track and over the single houses to the river and foreshore reserve.

Low rise single residential dwellings

The low rise single residential dwellings (maximum of 3 storeys) have been located and designed in order that they can gain unobstructed views over the parkland, foreshore and the river. The small scale of the built form in this area also importantly minimises its impact on the views from the river into the site.

Office

There are 2 sites proposed for office development within the Belmont Park redevelopment area. Both sites are located adjacent to Graham Farmer Freeway.

Parking associated with the office built form is to cater for parking at an above ground level and should be designed to screen from the foyer component of the office and other ancillary retail spaces. The roof of the car parks will be used as a central private open space/courtyard, offering the workforce population an outdoor breakout space. The built form generally wraps around the perimeter of the site with strategic breaks in between buildings to secure long views to the Perth CBD, the Swan River and/or the existing golf course/future 60,000+ seat stadium.

Retail

The retail component within the Belmont Park redevelopment is envisaged to be located primarily within a single level. Located underneath the residential towers and podium, the retail shops are configured to connect the Central Spine Road to the Swan River and its foreshore environment. The built form typology for retail, as part of the mixed-use development, envisages built form vertically connecting to the residential components. Parking can be accommodated within a single floor below the retail shops. Servicing and delivery can be consolidated to the southern section of the shopping complex. It is envisaged that boutique bulky goods retail can be located above the general retail while still maintaining visual and physical connectivity. Smaller retail shops, offices and food/beverage outlets are designed around the perimeter to activate the surrounding streets as well as to optimise on the benefits of the passing trade.

Grandstand

The renovated and extended Grandstand building will become a multi-purpose structure under a single roof. The building will keep the existing seating structures for the general public and Perth Racing members. In addition, it will include:

- Upgraded function rooms and bars
- Food and beverage outlets
- New bookmakers ring
- Covered parking for the horse floats and trailers

- Race day stalls
- Racing and Wagering Western Australia facilities
- Parking and
- Members gym and spa facilities

The renovated grandstand can also connect to the existing pedestrian footbridge to the Belmont Park railway station.

Built Form - Design Excellence

Great architecture is not only beautiful; it is thoughtful, inspiring, stimulating and innovative.

The Structure Plan sets out a robust strategy for the site, understanding and articulating the elements that give Perth a unique sense of place. It also creates a regulatory planning framework that encourages and facilitates innovation and excellence in built form design, aiming to create a point of difference and a world class iconic site. More detailed phases of design and planning for this site will follow, providing design solutions that respond to the site's individual unique characteristics as well as the broader built environment of the Capital City and beyond. The aim of the Structure Plan is to encourage and stimulate excellence in built form design such that the project achieves international fame.

8.7 Movement Network

8.7.1 Access

The Structure Plan proposes two main access points to the site:

- The existing access to Belmont Park from the eastbound off-ramp of Graham Farmer Freeway; and
- A new connection from the northern intersection on the Victoria Park Drive bridge.

A road link is also proposed to be constructed to the boundary of the Belmont Park site in the south eastern corner, for future connection to Balbuk Way (if/when required).

The road network improvements proposed to provide access to the site (refer Appendix 11) are shown below:

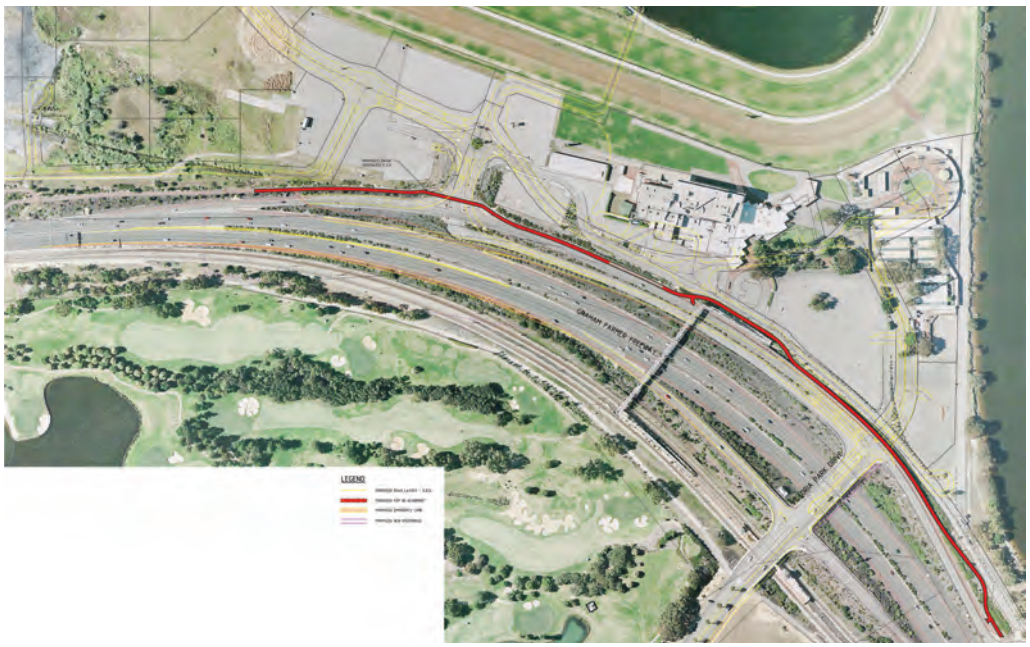


FIGURE 36: ROAD NETWORK CHANGES REQUIRED FOR BELMONT PARK REDEVELOPMENT

Due to the location of the site on the tip of Burswood Peninsula access is limited to Graham Farmer Freeway. The location of the racetrack on the eastern portion of the site limits access even further and the northern parts of the development can only be accessed from the western site.

As a result, emergency access will be provided in the following locations:

- On the eastern edge of the site, via a 3m wide cycleway ad pedestrian boardwalk (suitable for light vehicles) and emergency access across the racetrack (Figure 37).

  The 3m wide cycle and pedestrian path would accommodate emergency vehicles such as a fire truck except for the section on the eastern side which is immediately adjacent to the race track. In that portion, it is envisaged that the emergency vehicles will have to travel inside the 6m in the existing race track (eastern edge).

  Gate access is already in place at both points on the race track located adjacent to the 1600m starting area and the 1400m starting area with keys/or wireless/punch key access board arrangements proposed for emergency vehicles.

- On the western side of the site under the Windan Bridge (Figure 38).

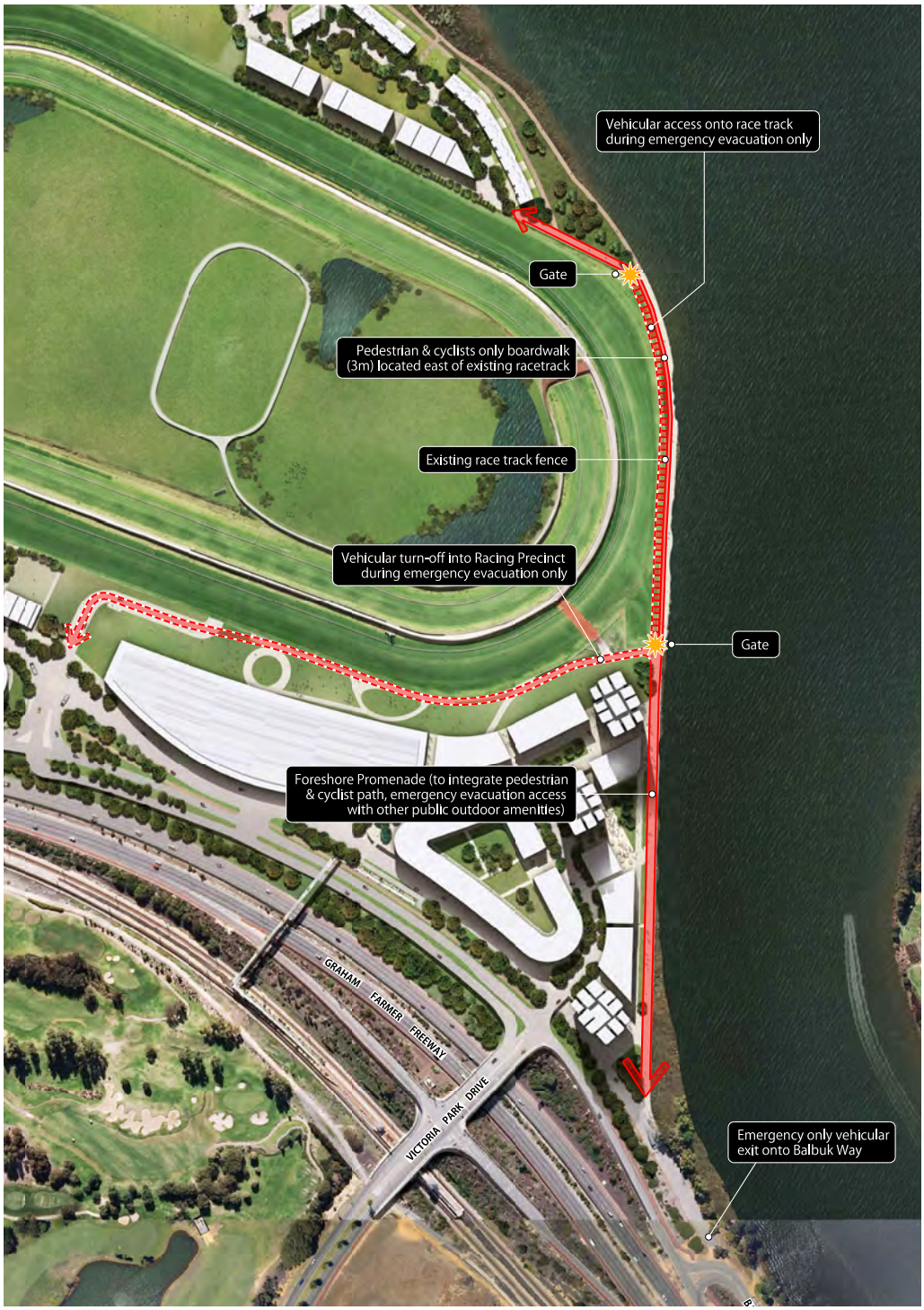


FIGURE 37 EMERGENCY ACCESS (EAST)

FIGURE 38 EMERGENCY ACCESS (WEST)

8.7.2 Road Network

The proposed road hierarchy within the Structure Plan area is illustrated in Figure 39. It is based on the hierarchy of roads set out in the Western Australian Planning Commission's *Liveable Neighbourhoods* policy guidelines and takes into consideration the modelled traffic volumes and the function of each road.

The Structure Plan design incorporates a well connected, integrated and fine grained street network that facilitates excellent lower order public transport, walking and cycling opportunities to and from and within the site for the future residents and visitors. Roads will be designed to ensure greater sharing of the road space between different modes of movement, lower traffic speeds, numerous pedestrian and cyclist crossing locations and specific measures that provide greater priority to pedestrians, cyclists and public transport.

The 'access loop road' within the south western part of the site provides permeability from within the site to the river and foreshore. This minor thoroughfare plays an important role in facilitating activity at a street level as well as the provision of connectivity to the river and foreshore.

The Structure Plan shows a potential future bridge landing across from Summers Street (indicative only). Should justification be provided to the satisfaction of the WAPC for the need to provide a bridge from Summers Street to the development, the a proposed landing point will be provided within the Structure Plan to the north of the Marina, subject to all relevant approvals being obtained.

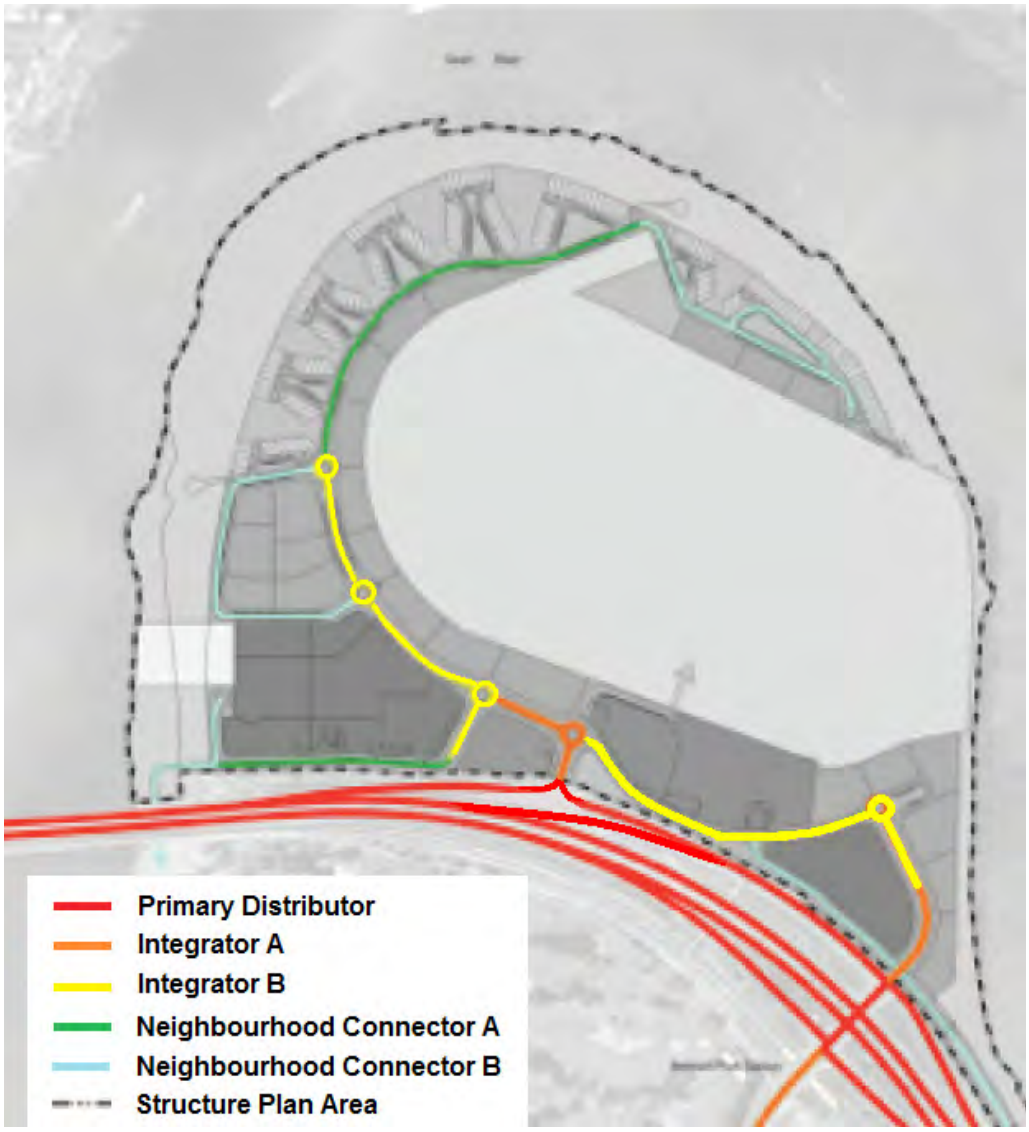


FIGURE 39: ROAD HIERARCHY

8.7.3 Pedestrians and Cyclist

The Structure Plan proposes to enhance the existing comprehensive regional network of pedestrian and cycling paths along the Swan and Canning Rivers (linking Perth to Fremantle). It will open up public access to the Swan River and the immediate foreshore via shared paths as well as pedestrian footpaths.

End-of-trip facilities are to be provided based on the Department of Transport guidelines current at the time of the development approval.

The existing principle shared path alongside Graham Farmer Freeway will be relocated to ground level adjacent to Precinct D so that it can pass under the new road access into Belmont Park at Victoria Park Drive bridge. The PSP is to be grade separated or to be constructed to an alternative accepted PSP standard. At the existing access to Belmont Park a tunnel is to be constructed to carry the PSP below the road to eliminate potential conflict between bicycles and motor vehicles.

The existing foreshore shared path system, which currently exists south of the site will be continued around the west, north and east sides of the site to extend this excellent recreational facility for the benefit of future residents and the wider community.

Additional footpaths will also be provided throughout the foreshore area around the site to facilitate leisure and recreational access to these areas from all parts of the site.

Intersection improvements at the Victoria Park Drive bridges will remove the existing footpaths on the eastern side of those bridges. The path would need to be replaced by construction of a new footbridge on the eastern side of these traffic bridges. This would maintain existing pedestrian and cyclist access to the shared path along Victoria Park Drive, so the external connections to the surrounding pedestrian

and cyclist network will be maintained. This is being planned in consultation with the Perth Stadium project team designing the new Belmont Park railway station, to ensure that high standard access is also provided between Belmont Park and the new railway station.

The proposed pedestrian and bicycle network within the Belmont Park site is illustrated in Figure 40.

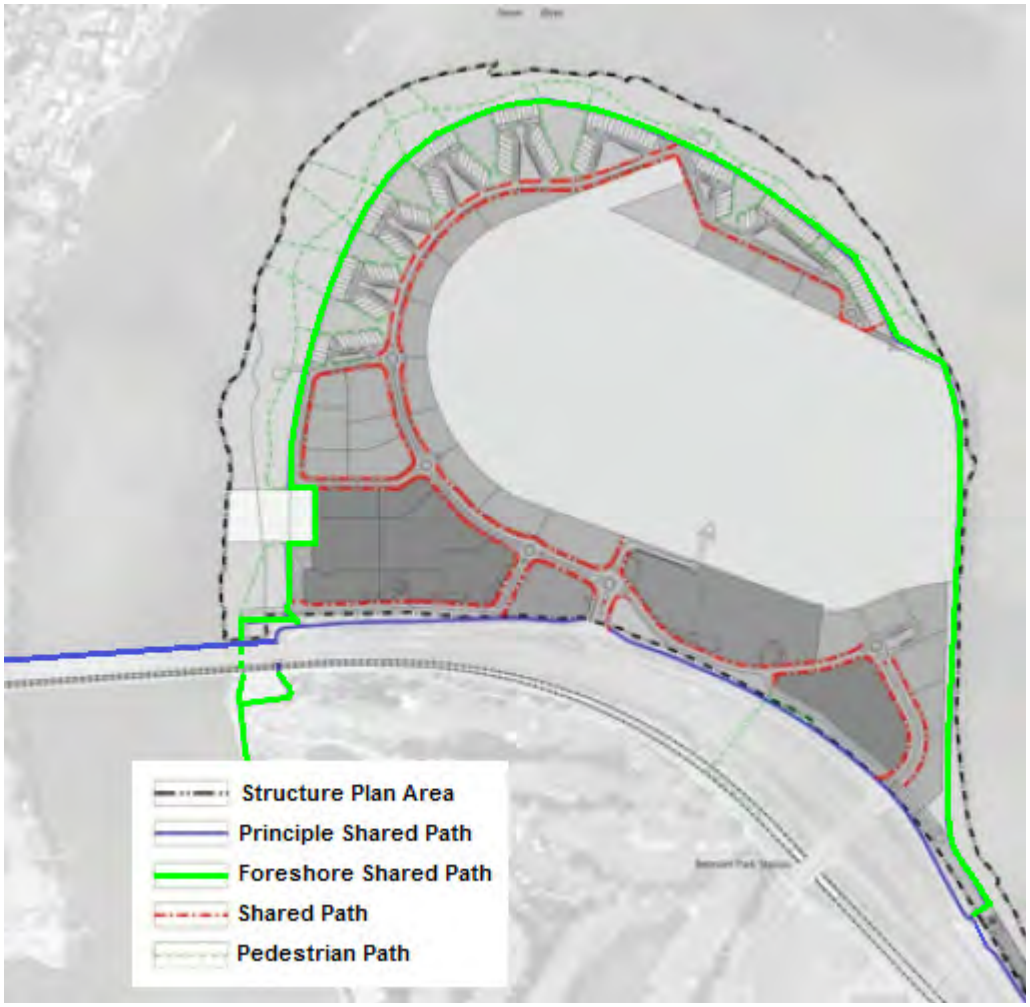


FIGURE 40: PROPOSED PEDESTRIAN AND BICYCLE NETWORK

8.7.4 Traffic Management

Management of vehicular/pedestrian traffic on race days and potential requirement for a formal traffic management plan (TMP) for the within Belmont Park structure plan area during race days and, in particular, during main events, will depend on the final adopted and approved road network plan for the Structure Plan area.

If the need for a TMP is established through liaison with Town of Victoria Park and the WA Turf Club then, at more detailed planning stages, an appropriate traffic management plan will be prepared in accordance with Main Roads WA guidelines and implemented during appropriate race meetings.

8.7.5 Public Transport

The site has convenient railway access being located immediately adjacent to the Belmont Park train station. Securing frequent train services to meet the travel demands of the future population is essential. The Structure Plan envisages conversion of the Belmont Park train station from a special events station to full time operation to service the future residential and commercial development in this area.

The proposed future development of a 60,000-seat football stadium on Burswood Peninsula south of Graham Farmer Freeway would also need to be served primarily by public transport with a substantial upgrading of Belmont Park station being anticipated to support the new stadium development.

The final location for the revised and enlarged Railway Station or future plans for PTA to provide a

bus service to the site have not as yet been confirmed. Ultimately, these will serve both Belmont Park redevelopment and the AFL Stadium.

When the first phase of residential at Belmont Park is completed, and until such time as the PTA provides a regular bus service on site, GRD, the proponent, will survey all future residents, commencing with the completion of stage 1 residences, to better understand their needs in terms of accessing transport to either the Railway Station or nearest bus stop. Based on that feedback, GRD will provide a private commercial shuttle bus service, at daily agreed times. It is envisaged that residents would pay a commercial fee to access transport to agreed locations, based on the cost of that service, and such fees would be levied through a differential rating structure, agreed to by the Developer and ToVP.

8.7.6 Car Parking

Car parking requirements for residential component are to be provided in accordance with the R Codes.

The Structure Plan proposes variations to existing Town of Victoria Park Policy No. 5.1 parking requirements for non-residential land uses for the office, retail and hotel components. The site is subject to the parking requirements of both the Town of Victoria Park's Parking and Access Policy and State Planning Policy 4.2 Activity Centres for Perth and Peel (SPP 4.2).

Office

For the office component, the Structure Plan proposes to reduce the minimum parking requirement to 1 bay per 57m2. Currently, the Town of Victoria Park has a parking requirement of 1 bay per 40m2 NLA office space. SPP 4.2 indicates a target of 2 bays per 100m2 (assuming that it is NLA) therefore equating to 1 bay per 50m2 NLA. This equates to a reduction of 25% from that of Town of Victoria Park's requirement.

The Structure Plan proposes a further 5% reduction in the parking requirement for the office component from both the Town of Victoria Park's standards and the targets of SPP 4.2, based on the following rationale:

- The Structure Plan is achieving a higher residential density within a 'District Activity Centre'. SPP 4.2 has a desirable density of 30 dwellings per gross hectare whereas the TOD precinct within the Structure Plan is achieving 276 dwellings per gross hectare.
- The MarcoPlan report indicates that 40% of the projected future residence in the Structure Plan area will be single professionals who will be employed in the Belmont Park area and the Perth CBD.

It is anticipated the higher residential densities proposed in the Belmont Park Structure Plan area combined with the projected future workforce residence will reduce the demand for office car parking in the area. The Structure Plan area will achieve strong employment self sufficiency and the car parking requirement has been designed to reflect this. As such an extra 5% reduction from the Town of Victoria Park's requirements is being sought for the office component.

Retail

The Belmont Park Structure Plan proposes to reduce the minimum parking requirement for the retail component by 50% to 5 bays per 100m2 NFA. The Town of Victoria Park's Policy stipulates 1 parking bay for every 10m2 of retail floor area (assuming that it is NFA) therefore equating to 10 bays per 100m2 NFA. The proposed reduction in the minimum parking requirement is in accordance with SPP 4.2 which allows 4-5 bays per 100m2 NFA. The reduction from the Town of Victoria Park's requirement is based on the same rationale above for the office component.

Hotel

The Belmont Park Structure Plan proposes to reduce the minimum parking requirement for the hotel component to 1 bay for every 5 rooms. Currently, the Town of Victoria Park's Policy requires 1 bay for every bedroom or 1 bay for every 3 beds whichever is greater. Based on current Perth trends, the majority of patrons to short stay accommodation are business orientated rather than tourism, and as such following the delivery of the permanent train station, reliance on public transport to the Perth CBD will increase and demand for hotel patron parking may be reduced.

Parking Management Principles

The following principles will apply to management of parking in the Structure Plan Area:

All parking associated with various components of the development would be accommodated off public roads except on-street public parking.

The parking details of each component of the development would be addressed as part of the Development Application process.

It is intended that a separate Development Application would be submitted with each component or

stage of the development.

As part of each Development Application, the Parking Management Plan (PMP) will be developed which will address the use and management of each car park facility proposed.

It is intended that each off-street parking facility will have effective management and control systems in place to prohibit parking by patrons from outside Belmont Park area such as patrons of the proposed stadium.

The visitor parking component of each development will be accommodated on site and an appropriate management system such as "ticket validation" will be implemented to prohibit people who are not visiting the development from parking within the visitor parking area of the development.

Appropriate time restrictions will be applied to all on-street parking within the retail and commercial areas as well as the Transit Oriented Development (TOD) precinct to prohibit the use of on-street parking for non-intended purposes.

Appropriate management measures such as "time restrictions" or "resident permits" will be implemented within the low to mid-rise residential precincts to prohibit the use of on-street parking for non-intended purposes.

A detailed Parking Management Plan is to be prepared with each Detailed Area Plan addressing the above parking management principles and

- Sets a maximum cap for retail and office parking;
- Identifies who is responsible for the plan's implementation, ongoing operation and review;
- Identifies what data and performance measures they are going to use to measure performance and adherence to the planning approvals;
- Identifies how the landowners & managers will demonstrate to the responsible planning authority that they are in conformity with their planning approval; and
- Outlines the management strategies that will be used to ensure that the requirements of the planning approval are met.

8.8 Precincts

The Structure Plan area has been separated into 4 Precincts (A,B,C and D) as shown on Figure 41:

FIGURE 41: STRUCTURE PLAN PRECINCTS

The structure plan is supported by a number of Appendicies. The 4 precincts are, from time to time, referred to in the various Appendicies as:

- Precinct A - North and West Park Precinct
- Precinct B - Marina Precinct
- Precinct C - Racetrack
- Precinct D - Transit Oriented Development (TOD)

8.8.1 Precinct A

Precinct A is located on the north western and northern edges of the Peninsula. It enjoys a unique and distinctive address at the tip of the Burswood Peninsula surrounded by the Swan River, the open space and visual activity of the racecourse

FIGURE 42: PRECINCT A

The Precinct will incorporate a mix of residential developments at a scale, density and location that respond to the opportunities afforded by its location. It will provide for 'waterfront' and 'racecourse-front' living through medium rise residential apartments and low rise attached single residential dwellings. Innovative residential typologies will be employed to respond to the site and its opportunities.

The urban nature of the precincts will be complemented by the natural aesthetics of the Swan River and its rehabilitated foreshore. The community will have access to a range of recreational experiences via canoes/kayaks, pedestrian and cyclist paths and parkland spaces.

The objective of the local public open spaces in Precinct A is to extend the river and foreshore landscape into the residential areas, maximise connectivity with the river and provide views to the site from the river.

Foreshore

The northern part of the foreshore in Precinct A contains remnant vegetation in very good condition. The focus of this part of the foreshore is on retaining and enhancing vegetation and fauna habitat within an accessed controlled area. Recreation opportunities will be managed to maximise retention of vegetation. Public access will be restricted to pedestrian boardwalks only.

The western part of the foreshore in Precinct A is the largest section of foreshore reserve that will front more traditional areas of residential development. This area is intended to provide for open spaces for passive and active recreation and revegetation of the fringing vegetation. The residential area will be separated and delineated from the foreshore reserve by a 3.5m wide cycle/pedestrian pathway.

The focus of this area will be on creating functional and useable open spaces for the enjoyment of the

entire community and local residents. It is intended to establish activity nodes, comprising boatsheds, swimming beaches and facilities for the local residents, to allow for passive recreational activities such as recreational canoeing or kayaking along the foreshore, as well as establish opportunities for recreational fishing in harmony with the natural riverine habitat.

Land Use Permissibility

The land uses within Precinct A will be predominantly residential ranging from single houses to multiple dwellings. The other significant land uses will be public open space and foreshore reserve. Refer to clause 11 of Part One of this Structure Plan for the land use permissibility for Precinct A.

It is anticipated that over time appropriate non-residential land uses will develop within the Precinct and this has been allowed for by the Structure Plan provisions. Such uses may include home businesses, restaurants, small retail shops and child care facilities and other uses compatible within a predominantly residential area. It is anticipated that many of the non-residential land uses will occur on the ground floor of the mid rise residential blocks and will contribute significantly to the activation of the street.

Residential Density

The R-AC 0 Residential Density Code applies to this Precinct. On this basis site requirements and development standards are set by Part One of this Structure Plan.

Built Form Typologies, Massing & Height

Two distinct built form typologies are intended in Precinct A:

- Low rise (3 storey) single dwellings(attached) ; and
- Mid –rise residential blocks (multiple dwellings) ranging between 4 – 13 storeys.

Low Rise Single Residential

The low rise single residential dwellings (maximum of 3 storeys) have been located to gain views over the parkland, foreshore and the river. The small scale of the built form in the context of this area minimises its impact on the views of the river from the residential apartments.

Dwellings will be sited slightly higher than the public open space areas, providing desirable views to the foreshore and the river, protecting their privacy, separating public and private spaces and encouraging passive surveillance of the public open space. The unique characteristic of this area will be highlighted by views of the rehabilitated foreshore reserve landscape and the presence of the Swan River.

FIGURE 43: BUILT FORM TYPOLOGY – LOW RISE SINGLE HOUSES

Mid-rise residential blocks

The mid-rise residential blocks are located directly opposite the race track, offering a unique

lifestyle opportunity. The form and layout of these is inspired by the geometry of the race track and forming the spine of the crescent which links Precinct A to the main site entrance and the Activity Centre core. The building heights will range from 4 to 13 storeys, allowing views to the race track and over the single houses to the river and foreshore reserve. To the west, the mid-rise residential apartments benefit from unobstructed views of the river through the V-shaped open spaces flanked by the green title blocks, whilst the northern blocks have pleasant views to the race track.

Residential apartments will be located above car parking podiums. To break the building mass, it is intended that there will be gaps between the residential blocks (above car parking podiums). The gaps will also create breeze corridors helping to control the micro-climate and allow additional daylight and ventilation into the residential blocks. Elevated private open spaces at the top of the podiums will overlook the racecourse. It is intended that these spaces will be landscaped to create communal outdoor amenity for the residents.

Precinct Specific Guiding Design Principles

Refer to Clause 11 of Part One of this Structure Plan for the Precinct Specific Guiding Design Principles for Precinct A.

Reflecting upon the objective of Precinct A, to create a community, set within a landscaped setting with a strong physical and visual connection with the racecourse, foreshore and the river, the key design principles are to locate appropriate built form massing to reveal the geometry of the racecourse and to extend the river and foreshore landscape into the residential environment through public open spaces. This approach aims to reinforce the unique sense of place and to provide a balance between public and private realm.

Views will beoptimised views over open parkland to the Swan River and (where possible) from the river towards the racetrack The design and orientation of built form should take account of the river and the race track. Furthermore, the design should promote natural breezes permeating through the site, to assist in cooling during summer months and reduction in energy consumption.

To achieve a high level of safety and passive surveillance, developments need to address WAPC Crime Prevention Through Environmental Design (CPTED) principles. Buildings should address the primary street and have an active façade to the street, to achieve a high level of safety and passive street surveillance. Of particular importance is the interface of dwellings on lots directly abutting Public Open Space and/or the foreshore reserve, to encourage public surveillance of the public realm. Dwellings should be oriented to front that POS and/or foreshore reserve and open style fencing should be constructed along that boundary.

Site Requirements

As the Precinct is coded R-AC 0, the Residential Design Codes allow for the Structure Plan to set the site requirements that apply to residential subdivision and development in the precinct. Refer to Clause 11 of Part One of this Structure Plan for the site requirements for Precinct A.

Car Parking

Parking for the residential component to be provided as per the R Codes. For non residential land uses the parking provisions within Town Planning Scheme No. 1 will apply.

Where possible, car parking areas/podiums/structures are to be integrated into the built form, should not dominate the streetscape and should be screened from view.

8.8.2 Precinct B

Precinct B comprises the south western portion of the Structure Plan area. It will incorporate a mix of uses at a scale, density and location responding to the opportunities offered by its location adjacent to the river foreshore and the Freeway, to take advantage of the site's exposure to passing traffic. .

FIGURE 44: PRECINCT B

The Precinct is to comprise a small public Marina, a mix of high density and high rise living, commercial, office, retail, leisure, tourism, cultural and entertainment land uses in the form of a vibrant Activity Centre. The urban structure will create a 'town centre', suitable for a Discount Department Store,

supermarket, a range of speciality stores, boutique bulky goods stores, office space and food and beverage outlets. It will also accommodate residential towers.

It is intended that there will be a vertical and horizontal mix of compatible uses. Active uses will be placed at ground level to activate the public realm. The public Marina and retail core is to be based on a layout of strong, legible public streets and public spaces that connect key uses to each other and to the surrounding community. View lines to the river and other significant open spaces will be created and protected through the urban form.

A hotel is also proposed for this Precinct, positioned as a signature, land mark tower facing the public Marina. It will provide a focal point for the development, because of its visual prominence from the City and the Windan Bridge (for eastbound traffic). The hotel lobby itself will enliven activity at the street level.

The Marina is proposed as a small, public day use Marina that will possibly be open for ferry access at some point in the future. It will provide a social and public focal point for the site and the wider district and region. It will create a new daytime and night time destination incorporating waterfront restaurants within a Marina plaza environment. The interface between the Marina and the river edge will be of an urban nature and incorporate formal landscaping, boardwalks, development up to the water's edge with direct connection to and engagement with the water's edge.

Outside of the Marina, the relationship between this area and the foreshore/river edge is proposed to be a soft, gentle transitioning from natural to urban environment. The softer foreshore treatments proposed for the areas immediately north and south of the Marina will however be more intense urban treatment than that proposed for the foreshore within Precinct A. A number of river beaches are anticipated within Precinct B.

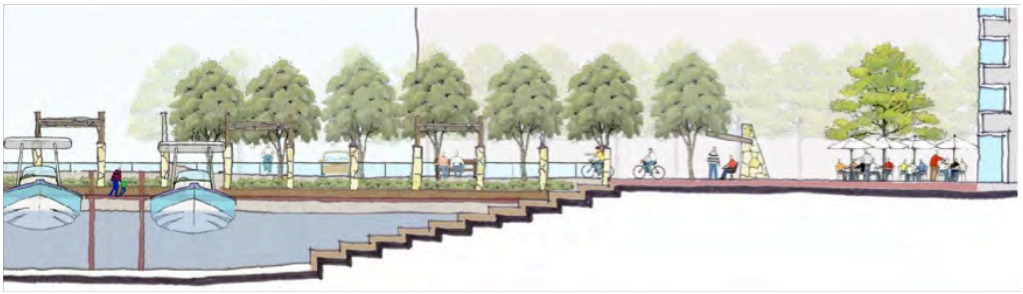


FIGURE 45: WESTERN EDGE OF PRECINCT B AND INTERFACE WITH PUBLIC MARINA / SWAN RIVER.

Foreshore

The objectives for the foreshore in this Precinct are to provide a focal point, an activity hub and high quality amenity area for residents and visitors in the form of a small public Marina and functional and useable open spaces. It is intended to maximise recreation opportunities, establish activity nodes for the enjoyment of the entire community and local residents. The focus of the foreshore in this Precinct is on public usable spaces incorporating some open space turfed areas and formal landscaping. Public access will be provided for both pedestrians and cyclists.

Land Use Permissibility

The range of land uses proposed for Precinct B reinforces its role as a vibrant Activity Centre for the site and surrounds. Some of these include residential, commercial, retail, office, leisure, tourism, and cultural and entertainment land uses. The other significant land uses will be public open space, foreshore reserve and the proposed Marina. Refer to clause 12 of Part One of this Structure Plan for the land use permissibility for Precinct B.

Residential Density

The R-AC 0 Residential Density Code applies to this Precinct. On this basis site requirements and development standards are set by Part One of this Structure plan.

Built Form Typologies and Height

The following built form typologies are intended in Precinct B:

- Podium deck structure punctuated by tower structures arranged to the edge; and
- Office and retail buildings (8-10 storeys).

FIGURE 46: PRECINCT B BUILT FORM TYPOLOGIES AND HEIGHT

Podium deck structure punctuated by tower structures arranged to the edge

Residential land uses are proposed to be accommodated within four high rise towers that decrease in height in response to their position along the crescent aligned with the race track. The towers will provide clear views across to the Darling Scarp and to the CBD, Fremantle and the ocean beyond. They will have activated and landscaped decks incorporating leisure activities such as tennis and swimming pools. Car parking facilities will be clustered into efficient multi-storey structures at the base of the towers.

Rather than being exposed, they are proposed to be wrapped in mid-rise developments that form the street frontage. The car parking massing can also be used to create large landscaped garden terrace areas for the benefit of residents, able to be accessed from the residential towers.

Office and retail buildings

It is intended that retail and office buildings will be located along the southern boundary of the Precinct, abutting the Graham Farmer Freeway. This will maximise exposure to passing traffic.

The location of significant non-residential buildings along the southern edge of the area adjacent to the Graham Farmer Freeway will protect other more sensitive land uses and residential buildings from noise and air pollution emanating from the Graham Farmer Freeway.

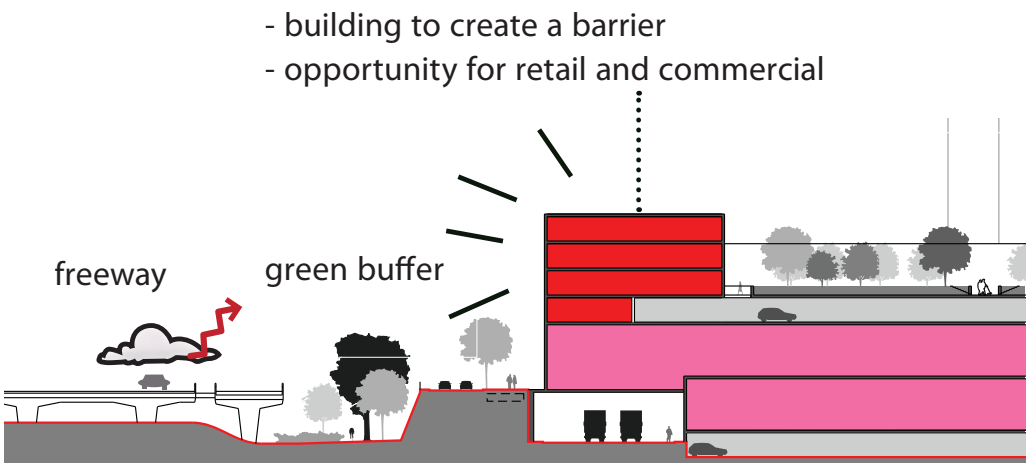


FIGURE 47: BUILT FORM BARRIER ADJACENT TO GRAHAM FARMER FREEWAY

Precinct Specific Guiding Design Principles

Refer to Clause 12 of Part One of this Structure Plan for the Precinct Specific Guiding Design Principles for Precinct B.

Precinct B will be the hub of activity around the clock. This is the place that will enliven the development at any time day or night. The key design principles for this area focus on appropriate location of various land uses, responding to the opportunities offered by the Precinct's location adjacent to the Graham Farmer Freeway, the river and the race track. Given the 'focal point' nature of this Precinct, landmark buildings should be developed at the main entries into the precinct. Development design should encourage views and visual accessibility to the race track, the river foreshore and the river.

The intent of design principles for this area is also to create a lively urban street life through high quality streetscape amenity. To achieve a high level of safety and passive surveillance, developments need to address WAPC Crime Prevention Through Environmental Design (CPTED) principles. Developments should provide a high quality building interface and level of surveillance to the streets, podium decks and the foreshore.

Site Requirements

As the precinct is coded R-AC 0, the Residential Design Codes allow for the Structure Plan to set the site requirements that apply to residential subdivision and development in the precinct. Refer to Clause 12 of Part One of this Structure Plan for the site requirements for Precinct B.

Car Parking

Parking for the residential component to be provided as per the R Codes.

For non residential land uses the parking provisions within Town Planning Scheme No. 1 will apply with the following exceptions:

- Office parking to be provided at a rate of 1 bay per 57m^2 of net floor area (NFA), which is consistent with the transit-oriented focus of the proposed office development.
- Retail parking to be provided at a rate of 5 bays per 100m^2 NFA.
- The hotel component to be provided parking at a rate of one bay per 5 room

Car parking areas/podiums/structures should be integrated into the built form, should not dominate the streetscape and should be screened from view.

8.8.3 Precinct C

Precinct C is located along the southern edge of the site incorporating the race track, Grandstand, stables and other racing associated facilities and infrastructure.

FIGURE 48: PRECINCT C

The grandstand and its associated facilities and infrastructure are proposed to be redeveloped into a new iconic building that will become the natural front door to the site. It is envisaged that the refurbished grandstand will also incorporate new sports club amenities for use by the public and provide a hub of activity at the site.

The race track has provided the geometry upon which the general built form massing over the site has been based on. In addition, it will provide many advantages and opportunities supporting the proposed form of development; including daylight and ventilation, views of open space and breeze corridors to assist with the control of microclimates.

The safety and operational requirements of the race track dictate very limited public interactions and as a result it is confined to the Grandstand. Along the balance perimeter of the race track, structural walls with limited to no major openings are the most desirable interface to the race track edge. This in turn ensures that the activated portions of the built form are located on the opposite side, adjacent to the street.

Foreshore

The foreshore reserve adjacent to the race track is very narrow and heavily eroded in places. The interface with the river will adopt a more structural engineered solution to create a stable and manageable river.

The foreshore will be stabilised to allow for a continued public access around the foreshore reserve and provide a link between precincts. A 3m wide cycle and pedestrian accessway will delineate the racetrack from the stabilised foreshore edge. This 3m accessway will also provide for maintenance and emergency access. It will extend for approximately 270 metres.

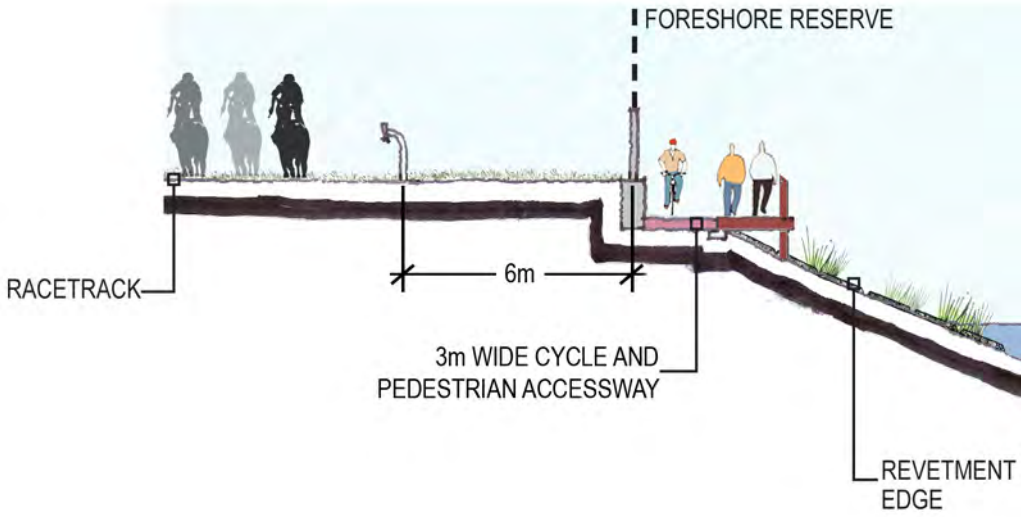


FIGURE 49: TYPICAL SECTION THROUGH BEACH COVE.

Land Use Permissibility

The land uses proposed reflect the focus on racing activities within Precinct C, including uses such as stables, veterinary hospital and private recreation. The other significant land uses will be public open space and foreshore reserve. Refer to clause 13 of Part One of this Structure Plan for the Land Use Permissibility for Precinct C.

Built form typologies, massing and height

Grandstand

The redeveloped Grandstand will become a multi-purpose structure under a single roof. The design of the building and its position adjacent to the race track will afford excellent views to the track and its surrounds. The renovated grandstand will also connect to the existing pedestrian footbridge to the Belmont Park railway station, promoting a high level of accessibility to the racing activities.

Precinct Specific Guiding Design Principles

Refer to Clause 13 of Part One of this Structure Plan for the Guiding Design Principles for Precinct C.

The intent of design principles for Precinct C is to ensure development does not compromise the primary function and operations of the racecourse. Developments need to optimise potential for physical accessibility to racing amenity without compromising its primary function. Appropriate security points need to be provided to racing facility. The size, location and function of the Grandstand and amenities needs to be optimised.

The Precinct is part of a TOD area and therefore of particular importance is the provision of activation of the pedestrian route to the railway station. A high level of safety and passive street and public spaces surveillance needs to be achieved in the design of the Grandstand and associated parking facilities for racing. The Grandstand should provide an optimum amount of commercial/retail to ground level to achieve a high level of safety and passive surveillance. Development needs to address WAPC Crime Prevention Through Environmental Design (CPTED) principles.

Car Parking

Parking requirements for the racing component include a minimum of 140 car bays and 31 float and trailer parking bays. In addition, the existing at-grade parking areas near the main entrance intersection will be replaced by a 1200 bay at-grade parking area in the middle of the racecourse, accessed via a new road to be constructed under the race track itself, for race day event parking. It is anticipated that this would only be full on Saturday special event days such as the annual Italian Day event. The biggest

WA racing events are not held during the winter season and are therefore are not held at Belmont Park.

8.8.4 Precinct D

Precinct D is located in the south eastern portion of the site offering close proximity to the Belmont Park railway station. This Precinct will provide a mix of land uses appropriate for a Transit Oriented Development (TOD), including high density residential, office, commercial and retail, a piazza, restaurants, pedestrian thoroughfares and shared spaces for vehicles and pedestrians.

FIGURE 50: PRECINCT D

This part of the site is relatively compact, due to its position between the freeway, river and racecourse. Precinct D will seek to optimise the land use efficiency responding to the site's strategic location within Perth, excellent transport connections and vast land resource in a dense urban centre. The mix of land uses proposed for the site will be allocated to take advantages of the site's exposure to passing traffic by road or rail.

Building mass will be distributed to minimise noise and pollution from the adjacent Graham Farmer Freeway. The benefits of city living will be maximised by access to a range of community facilities enhancing the Precinct's role as a sustainable mixed use development.

Foreshore

The foreshore reserve in this Precinct is narrow and has historically experienced significant erosion. Similarly to Precinct C, a structural and engineered edge will be required. In general terms the river's edge and foreshore environment in the eastern area of Precinct D will be of a more urban nature and will incorporate harder edges and narrow foreshore reserves in some areas in accordance with reservation under the MRS. However, the continuous pedestrian and cyclist path network generally following the river's edge will be incorporated.

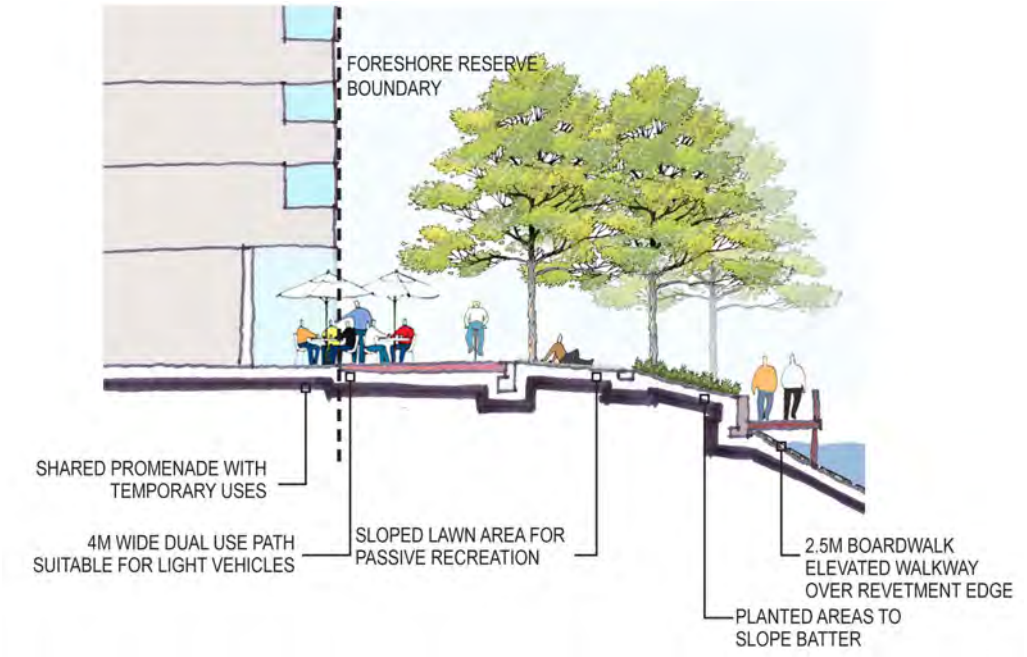


FIGURE 51: EASTERN EDGE OF PRECINCT D AND ITS INTERFACE WITH THE DUAL USE PATH AND THE SWAN RIVER

The south eastern portion of the foreshore in Precinct D, connects this area to Balbuck Way, a known local and regional community destination and water ski area. The main focus for this area is to stabilise the foreshore using a mixture of rock revetments, bio-engineering and re-vegetation to allow for a continued heavy recreation use.

Land Use Permissibility

A mix of land uses are proposed within Precinct D to maximise the potential for a vibrant Transit Oriented Development over the Precinct. A range of appropriate land uses are proposed, including residential, commercial, retail and entertainment. The other significant land uses will be public open space and foreshore reserve. Refer to clause 14 of Part One of this Structure Plan for the Land Use Permissibility for Precinct D.

Residential Density

The R-AC 0 Residential Density code applies to this Precinct. On this basis, site requirements and development Standards are set by Part One of this Structure Plan

Built form typologies, massing and height

The following built form typologies are intended in Precinct D:

- Mid-rise residential
- High rise residential towers
- Office and retail buildings

Mid-rise residential

Mid-rise residential buildings are to be located on the eastern edge of the area facing the Swan River. A series of raised plaza spaces should step down past the mid-rise residential buildings to the Swan River. A waterfront piazza is to be located, to take advantage of the close proximity to the River and the beneficial east-facing orientation that maximises early morning sunshine.

The river's edge in this area will require slope stabilisation balanced between the use of natural vegetation and urban solutions such as retaining walls which can also function as informal seating opportunities.

High rise residential towers

Three residential towers are to be strategically positioned in the eastern area of the Precinct to take advantage of views to the river and also the race track.

Car parking will be located beneath the buildings and entirely hidden by their strategic massing. The car parking levels can be used advantageously to align with the new precinct entry road and the existing entry/exit ramps that connect to the Graham Farmer Freeway.

Office and retail buildings

The majority of the office spaces are to be located in closest proximity to Belmont Park Station, encouraging use of public transport, along the southern boundary of the site, facing the Freeway. The built form will act as an acoustic barrier protecting spaces to the north of these buildings. The main area of office buildings is to be designed to create a central square within, eliciting the feel of an office 'campus'.

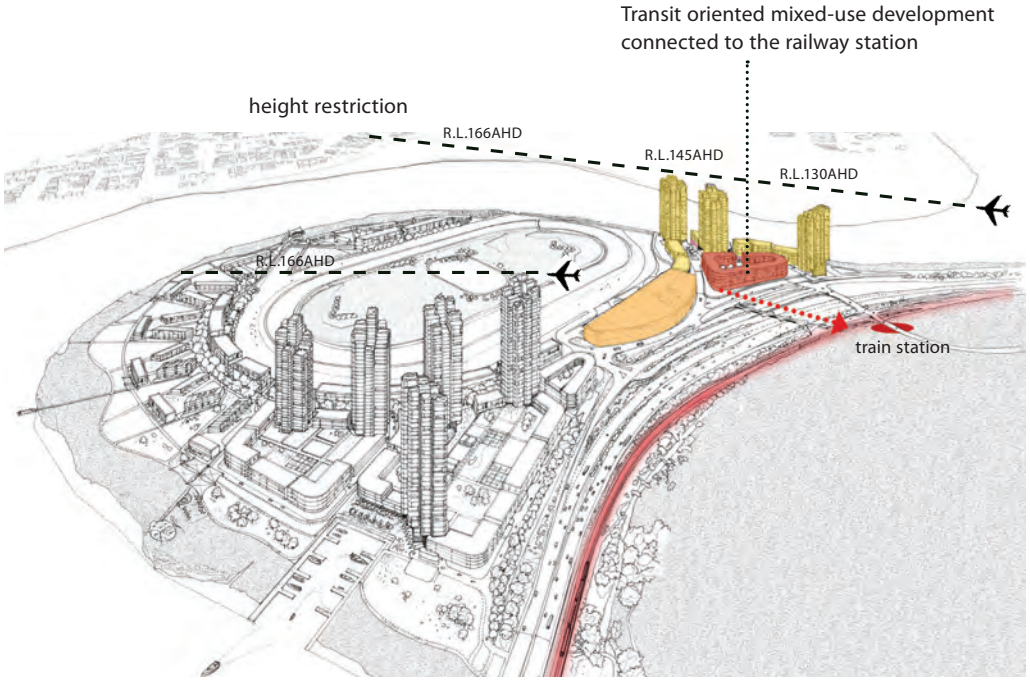


FIGURE 52: BUILT FORM - PRECINCT D

Precinct Specific Guiding Design Principles

Refer to Clause 14 of Part One of this Structure Plan for the Precinct Specifiec Guiding Design Principles for Precinct D.

The key design principles for this Precinct reflect its function as a TOD area. Of particular importance is the provision of activation of the pedestrian route to the railway station. A high level of safety and passive street and public spaces surveillance needs to be achieved. Developments need to address WAPC Crime Prevention Through Environmental Design (CPTED) principles. Developments are to provide high quality building interface and level of surveillance to the foreshore, streets and podium decks.

The location of various land uses and associated built form typologies needs encourage the use of public transport, act as an acoustic barrier protecting spaces to the north of Graham Farmer Freeway and to encourage views and visual accessibility to the race track and the river foreshore. The Precinct's proximity to the racing facilities requires development on land abutting the race track is to be undertaken in a manner that respects primary function of the race track.

Site Requirements

As the precinct is coded R-AC 0, the Residential Design Codes allow for the Structure Plan to set the site requirements that apply to residential subdivision and development in the precinct. Refer to Clause 14 of Part One of this Structure Plan for the site requirements for Precinct D.

Car Parking

Parking for the residential component to be provided as per the R Codes.

For non residential land uses the parking provisions of Twon Planning Scheme No. 1 will apply, with the following exceptions:

- Office parking to be provided at a rate of 1 bay per 57m^2 of net floor area (NFA), which is consistent with the transit-oriented focus of the proposed office development.
- Retail parking to be provided at a rate of 5 bays per 100m^2 NFA.

8.9 Open Spaces

The Structure Plan identifies the following hierarchy of open spaces:

- Foreshore Reserve (Recreation Space , Riverside Rehabilitation)
- Public Open Space
- Private Open Space

Each of the open space categories provides an independent function to meet the needs of the new community and visitors to the site. The following details the purpose and function of each open space category. Streetscapes also form an integral part of the open spaces strategy.

8.9.1 River Foreshore

The river foreshore will be a significant focus for the community providing opportunities to engage with, retain and celebrate the distinct riverine habitat. The majority of the foreshore is currently in the ownership of WA Turf Club and there is no public access. It will be made accessible to the public for its entire length of approximately 3km through the use of paths and boardwalks in a manner that is consistent with environmental protection as well as landscape design objectives.

The river foreshore will feature a mosaic of spaces and a complexity of activities answering to the various needs and lifestyles of the residents. Internal paths for pedestrians and cyclists will be provided to ensure safe and efficient access to the river edge system.

The foreshore, including continuous pathways all around the site will be progressively developed as detailed subdivision and development of the site occurs.

Each of the 4 Precincts in the proposed development will have a unique relationship with the foreshore area, afforded by the location of the site on the Burswood Peninsula. For Precinct A the river foreshore will provide spaces for passive and active recreation while respecting the sensitivity of the site. A careful balance of design and restoration is proposed to allow for the river foreshore to be accessible and appreciated by the community.

Precinct B focuses on celebrating the location of the development on the river and will create vibrant and functional areas with high environmental amenity in the foreshore. The community will be encouraged to use and enjoy the foreshore within this Precinct in a sensitively planned way.

The focus for Precinct C is to create a stable and manageable river's edge to allow for racing activities to continue on the site. The river foreshore in this Precinct will also operate as an important emergency access way between Precincts A and D. Stabilisation of the foreshore in Precinct D is important to allow for the racing activities to continue on the site. The foreshore area will form an integral part of the open space in this Precinct, maximising recreation opportunities and providing a place for the community to access and enjoy the Swan River.

As part of the future development of the site, it is important that the foreshore area is planned for and managed in a way that reflects the iconic status of the Swan River and maximizes it's environmental, Indigenous, recreational, and community values.

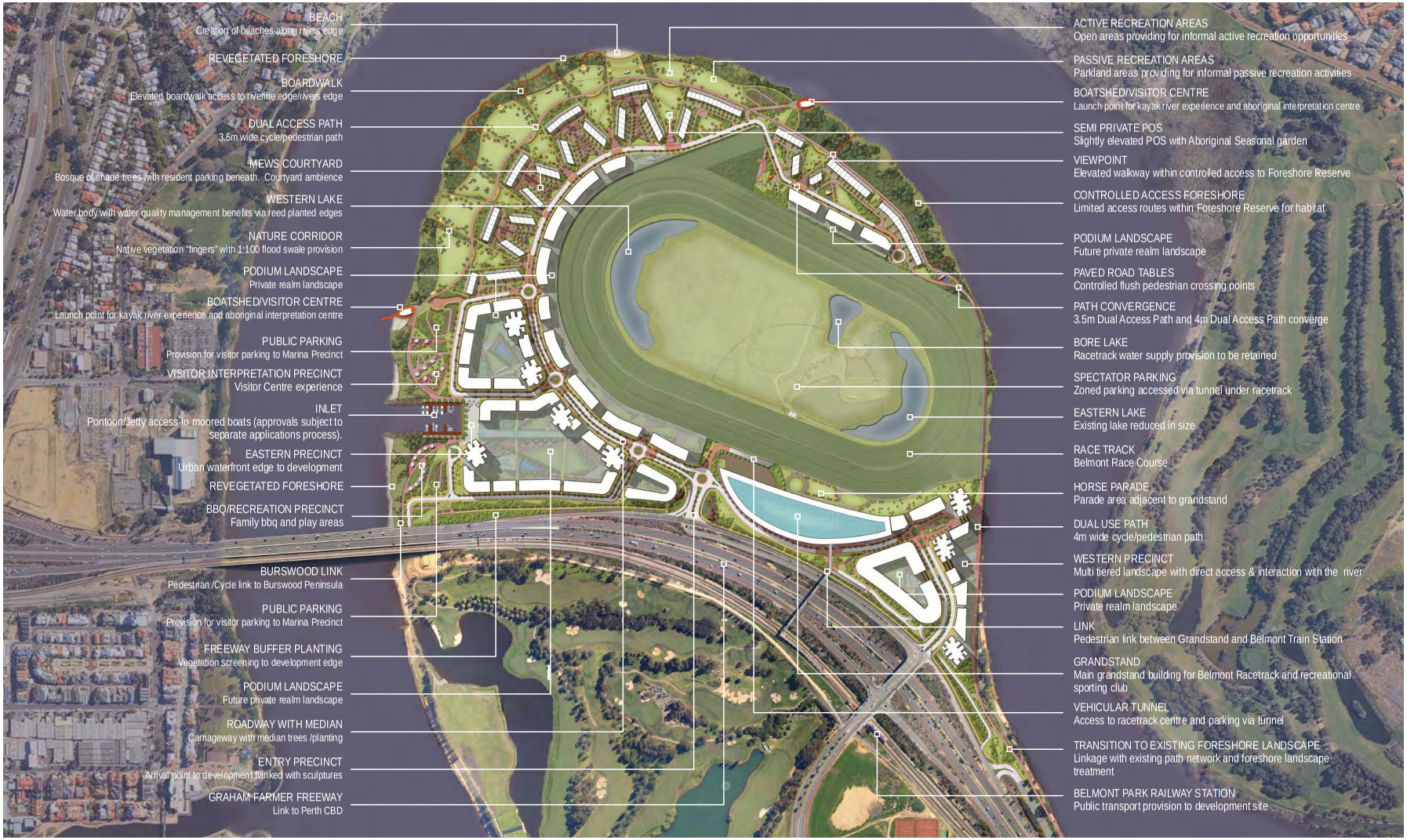
A Foreshore Management Strategy (FMS) has been prepared (Appendix 3) to support the Structure Plan. It articulates the strategic vision and objectives for the development and restoration of the river foreshore in order to enhance its currently degraded environmental values and provide connection and strategic access to the Swan River for recreation and other pursuits. The overall objectives of the FMS are to ensure that future development within the Structure Plan area:

- Is oriented to retain and enhance natural elements of the foreshore that remain over the site, such as remnant foreshore vegetation.
- Accommodates the rehabilitation of degraded areas of foreshore through soil/landform modification, weed control and planting of endemic foreshore species.
- Acknowledges and celebrates the Indigenous connection to the Swan River.
- Creates functioning and useable open space for the enjoyment of the entire community and local residents.
- The FMS will guide the preparation of Foreshore Management Plans (FMPs) that will be required as a condition of subdivision approval of land adjacent to the foreshore reserve and detail implementation of works and ultimately the handover of foreshore reserve areas to the Town of Victoria Park.

FIGURE 53: FORESHORE MANAGEMENT STRATEGY

GOLDEN RIVER PTY LTD
BELMONT, WA

Belmont Park Racecourse Redevelopment



NORTH

SCALE BAR 0 100m 200m 300m

Dwg.No: BEL-01-DWG-002 Rev.1

Figure 27: Landscape Masterplan

LANDSCAPE MASTERPLAN

October 2011

THIS PLAN MAY BE SUBJECT TO CHANGE WITHOUT NOTIFICATION AND IS INDICATIVE ONLY

emerge ASSOCIATES

8.9.2 Public Open Spaces

The Structure Plan provides well located and easily accessible public open spaces. The following table provides an indicative outline of the public open space (POS) provided within the Structure Plan area. The calculations demonstrate that approximately 13.8% of the gross subdivisible area is being provided as POS. This percentage is indicative only and will be subject to further refinement at the detailed subdivision stage.

TABLE 3: INDICATIVE PUBLIC OPEN SPACE SCHEDULE

	Area (ha)
Total Site	73.82
Deductions :	
• Foreshore	12.27
• Racetrack	28.58
• Grandstand	2.6
• Lot 300 (Burswood Board Land)	1.73
• Lot 1	0.57
• Lot 3	0.52
Total Deductions	46.27
Gross Subdivisible Area	27.55
POS provided	3.8ha (13.8%)

TABLE 4: INDICATIVE PUBLIC OPEN SPACE PROVISION

Precinct	**Area**	**Total Gross Area (m^2)**	**1:1 ARI URBAN**	**POS Credit**
D	1	1966	0	1966
B	2	2380	0	2380
A	3	374	0	374
	4	3424	50	3455
	5	588	0	668
	6	2579	0	2685
	7	714	38	754
	8	3414	0	3506
	9	1097	51	1130
	10	3847	0	3896
	11	1175	55	1128
	12	4582	0	4582
	13	1639	19	1620
	14	222	0	222
	15	302	0	302
	16	5795	0	5770
	17	2237	0	2305
	18	1405	0	1780
	19	513	0	513
	Total	**39253**	**213**	**38040**

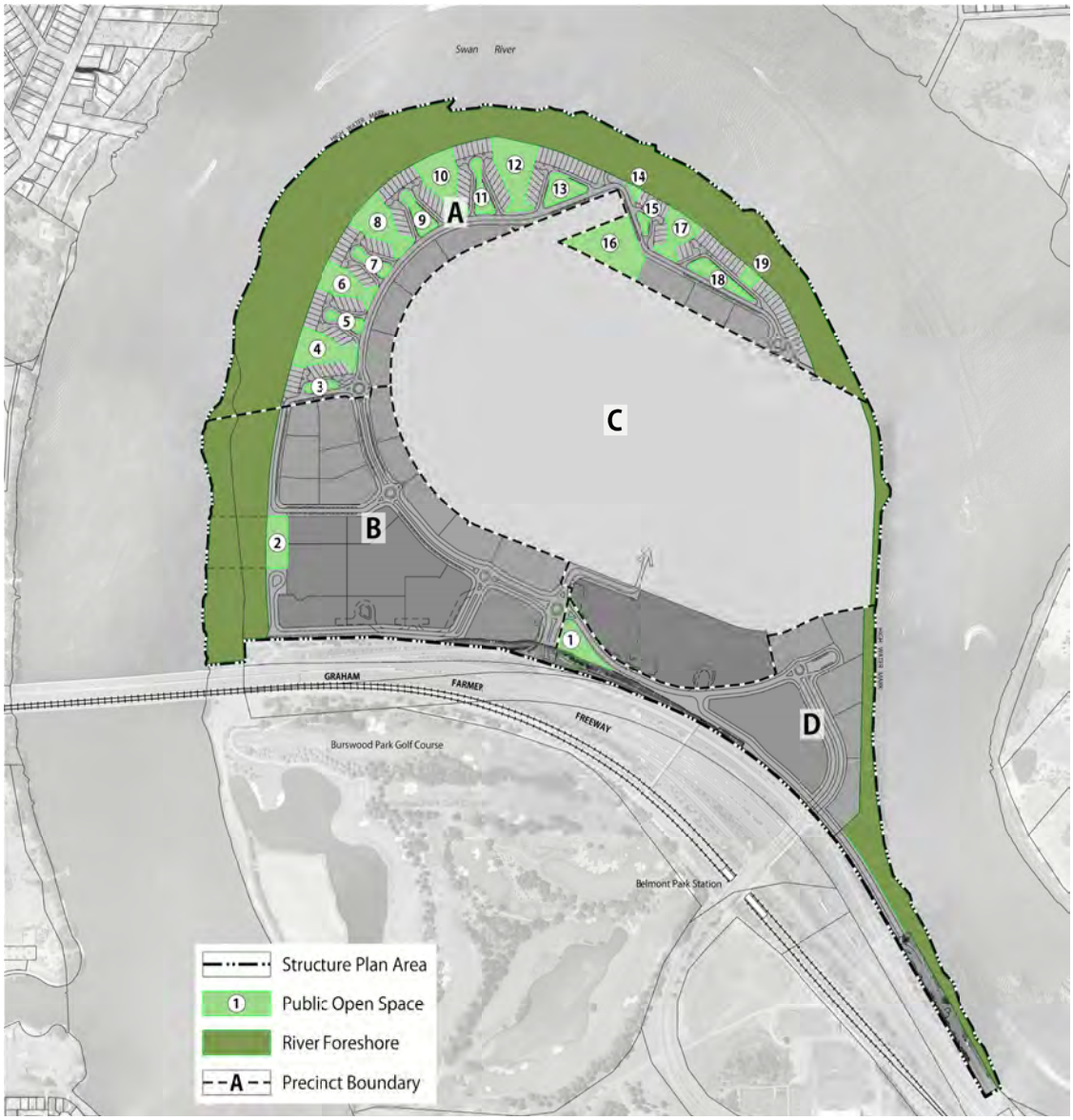


FIGURE 54 INDICATIVE POS PROVISION

8.9.3 Private Open Spaces

The development also offers landscaped private open spaces in accordance with the Residential Design Codes (R Codes). These will apply to private open spaces for multiple dwellings, in the form of above the podium decks. The podium decks will be designed as a leisure and health living hub, provided with pools, sport activities and thematic gardens with fruit trees.

FIGURE 55: PRIVATE OPEN SPACES (INDICATIVE ONLY)

8.10 Landscape Strategy

A guiding principle underpinning the landscape strategy (Appendix 13) is to improve ecological function and manage a foreshore interface between new development and the Swan River whilst contributing to the creation of a vibrant new place. This will be achieved through a strategically designed network of linked open spaces that will envelop the site and allow for public access and permeability.

The Strategy consists of various levels of landscape intensity and a range of public and private facilities catering for a wide spectrum of demographics. Landscaped areas will also cater for functional and environmental needs including habitat, revegetation, water management, stabilisation and education. A Foreshore Management Plan will be prepared as a condition of subdivision approval, outlining in detail the landscape approach to the site.

Key landscape elements have been identified according to their primary typology:

- Open spaces within the foreshore reserve
- Dedicated local public open spaces
- Open space within the infield of the racetrack
- Private (communal) open spaces
- Streetscapes

These various landscape typologies will contribute to the character and local identity of the area while providing an integrated landscape solution within the wider site context.

Swan River Foreshore

The river foreshore will be a significant focus and an integral part of this project. The relationship of the development to the Swan River will be all encompassing and will engage the visitors or residents alike. A careful balance of design and revegetation is proposed, providing for increased accessibility opportunities to the Swan River, wherever possible.

A segment of the foreshore reserve will be designated to allow for an interactive visitor attraction. This will form part of a larger strategic tourism framework for the site and will also tie in with the site's Aboriginal Heritage and storytelling process. The Visitor Interpretation Precinct shall encompass a visitor centre which will be the main hub for this precinct, allowing water borne activities to be undertaken

FIGURE 56: KAYAKING CENTRE AS PART OF VISITOR INTERPRETATION PRECINCT (INDICATIVE ONLY)

The majority of the riverine edge and the foreshore reserve will have a process of revegetation and remediation techniques applied. This will improve the interface between the development and the Swan River. Delineated access routes within and across this area of boardwalks and footpaths will provide directed access to certain areas whilst allowing for the rehabilitation process to occur in the encouragement of native vegetation to re-establish.

FIGURE 57: CONCEPT FOR AREAS OF NATIVE RIVERINE VEGETATION (NORTH EAST PART OF THE SITE) WITH APPROPRIATE MEASURES TAKEN SUCH AS CONSTRUCTION OF DOG FENCES TO PROTECT THE VEGETATIVE AREAS.

Defined areas of the foreshore reserve and adjacent public open space will be landscaped as a parkland setting. This will include retention of suitable existing trees, planting of new native clear trunked trees to allow open views and clear access underneath. The ground plane will consist of irrigated turf and areas of native shrub planting.

Crime Prevention through Environmental Design (CPTED) principles will be applied at the detail design stage to promote safety. The use of suitable lighting, clear and open sightlines, selective planting and thoughtful design will encourage both daytime and evening uses.

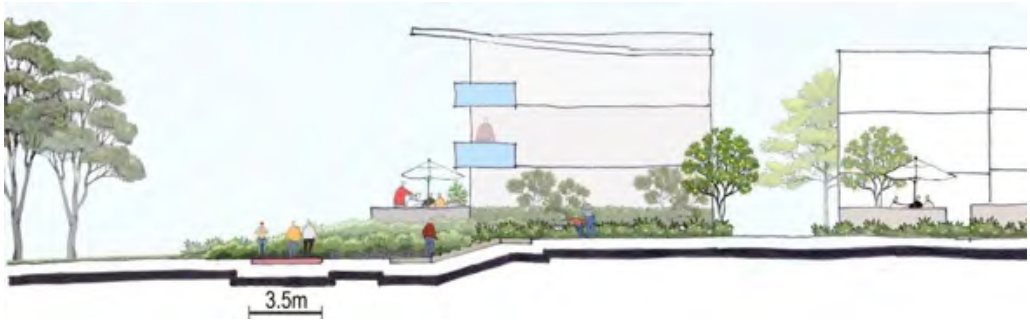


FIGURE 58: SECTION THROUGH VILLA INTERFACE TO PUBLIC OPEN SPACE AND TYPICAL PARKLAND LANDSCAPE

Dedicated local public open spaces

Local public open space will be provided across the entire site area and will, for the majority, adjoin the Swan River Foreshore. The main open space provision in one sense follows the form of the Swan River Foreshore Reserve which in turn is shaped by the course of the Swan River.

There will also be public open space that extends in triangular shaped wedges away from the Swan River into the voids created by the residential villas fronting the Foreshore Reserve. This space, whilst part of the greater public open space network is delineated by a level change which also acts in giving a separation to the perceived end uses and activities. It will transition from a more active recreational space to passive recreational open space. The triangular wedges will facilitate a mews/courtyard type setting which will be enhanced with a closely planted grid of trees

Open space within the infield of the racetrack

The centre of the track while under ownership of WATC is controlled and managed by Racing and Wagering Western Australia (RWWA). A Government Agency, RWWA will monitor, maintain and control this area in terms of access, presentation and content to best suit the racing industry and the projects common requirements and needs. This area will be used to provide overflow parking on race days. Opportunities for use of this area by general public (on limited basis) will be explored, subject to RWWA approval.

The existing large lake is proposed to be reduced and split into two smaller water bodies. The water bodies will be oriented to maximise water views from adjacent built form. The water bodies will provide a water quality management benefit via reed planted edges suitable for nutrient uptake from the race track.

Private (communal) open spaces

Private open space will consist of landscape treatments located on raised rooftop podiums above new built form. Within the proposed development are a number of podium landscaped areas distributed across the site, each varying in size and context. These elevated landscape precincts are separated from their public landscape counterparts. Access is only achievable by residents of the surrounding residential buildings and associated podium buildings. These Private Open Spaces are anticipated to contain a variety of facilities for the sole use of adjacent residents or guests.

Streetscapes

Streets and right of way access points throughout the Structure Plan area are critical elements in promoting access and the project's design character. A range of streets are proposed each with differing finishes and landscape treatments.

Major roads will typically involve groundcover planting between parking and pedestrian areas. Planting will be concentrated around the base of shade trees set in avenues. Screen planting will occur in some locations to limit views to car parking, service areas or the blank rear sides of proposed buildings. Medians will typically be mass planted and may in some situations be suitable for stormwater detention and treatment.

Residential streets will include street trees and street lighting set into planted and grass verge areas. Pockets of dense tree and shrub planting will occur periodically adjacent the sides of housing to control views, promote privacy where needed and to provide shade, softening and screening as required.

The villa areas of the scheme are centred on a courtyard and mews type setting. These residential streets will include street trees with street and bollard lighting. The courtyards and mews will have closely centred groups of trees planted allowing for parking and seating opportunities between.

The Graham Farmer freeway interface will be characterised by mass planting to screen views from certain areas to and from the freeway and to provide privacy and softening to the edge of the development. Mass planting will typically consist of native species extending east from the Windan Bridge.

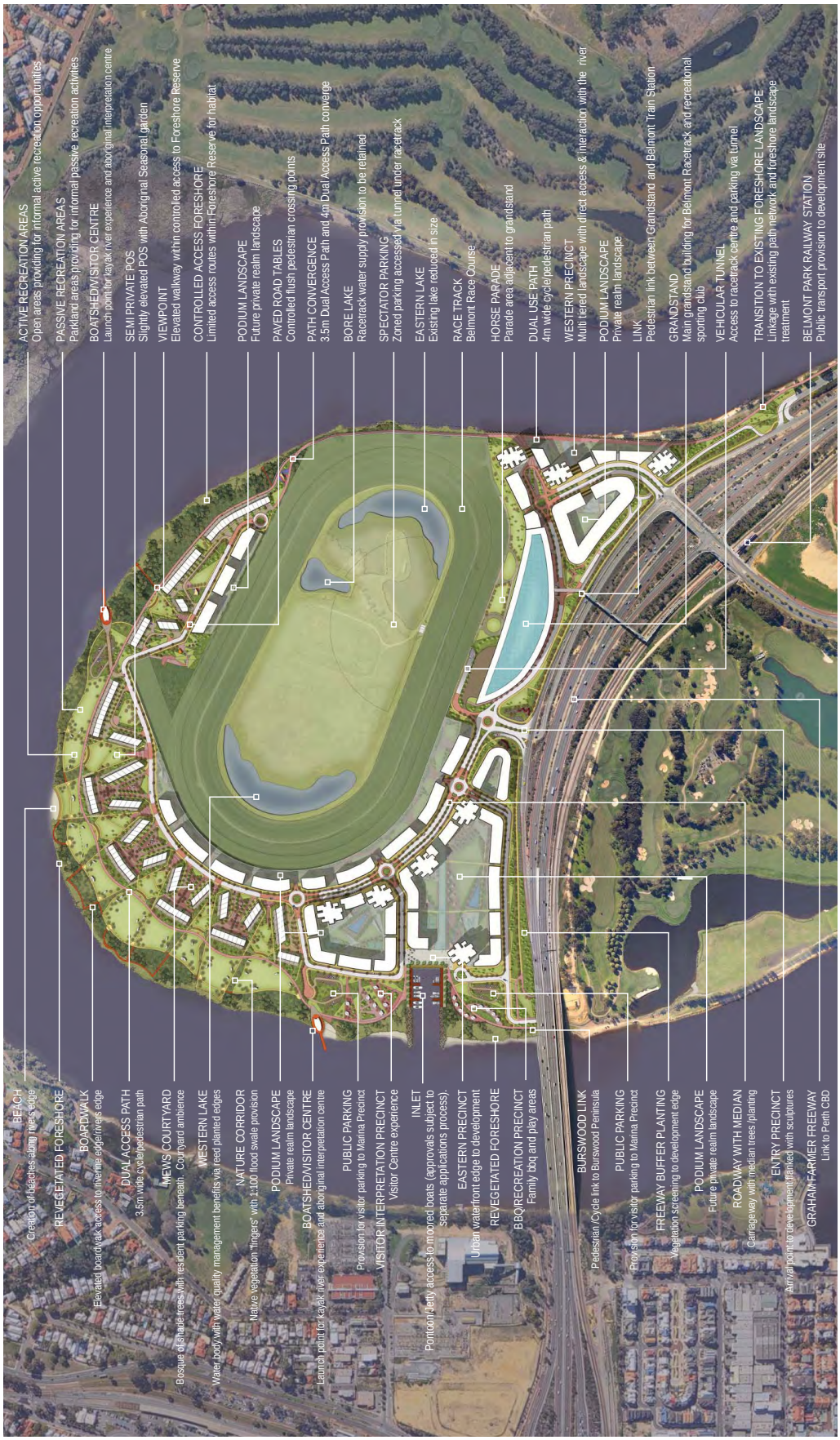


FIGURE 59: INDICATIVE LANDSCAPE MASTERPLAN

8.11 Community Development

Community development is facilitated through the formation of active and healthy communities, well connected to each other, natural environment, and built on distinctive local identities, offering a broad range of lifestyles.

Critical to community activation is leveraging and connecting with existing programs, activities and events. The site is in a key position on the Burswood Peninsula to enhance the functionality of what is quickly becoming a significant sport, leisure and entertainment destination for Perth. There is potential for the site to link many local and metropolitan events given its strategic location.

The Guiding Principles for the site underpin the following strategic themes and initiatives in approach to community activation.

Leisure

- The leisure hub of the Burswood leisure precinct
- A racing experience for all ages
- Unsurpassed leisure amenity

Inner City Innovations

- Bringing international best practice to Perth
- Environmental / sustainable design
- Inner city convenience
- Town centre management

Hub

- Connectivity to the Perth Metro Area
- Places to work, meet and mix
- Managed community activities and events
- Support for local clubs and associations

City River Park

- Premier waterfront amenity
- A new Perth Swan River asset
- High quality public open space and landscaping

Edutainment

- Managed tourist experience
- Swan River riverside walk
- Racing (Racing Hall of Fame)
- Aboriginal heritage interpretation

Aboriginal Partnership

- Indigenous heritage of the site celebrated
- Interpretation of heritage
- Training and employment opportunities (planning, construction and maintenance)
- Economic generation (social enterprise and small business opportunities)

8.11.1 Community Facilities

In order to ascertain the needs for community facilities within the Structure Plan area, an audit was undertaken of facilities within the surrounding locality. This was supported by a demographic assessment of the existing suburbs and profiling of the future planned community. The projected demographic profile of the community is:

- Couples with no children in the 24-54 age group
- Those who are aged 55 years and over

- Professional workers who earn a higher than average weekly median income
- People currently undertaking university or tertiary education
- People who choose to live in medium to high density environments with a wide range of housing options.

The research provided the basis of the Community Development Plan, prepared for the site. Appendix 10. The research provided a clear indication that existing district level facilities have capacity to meet the needs of the new community.

At a local level there is existing under provision of some facilities in the Town of Victoria Park. Of particular importance is access to recreation facilities, community meeting and activity spaces, and areas designed to encourage young professionals and those over the age of 55. Local community facilities recommended include the following facilities:

- Local active open space, incorporating multi use 'kick about' areas and passive open space.
- Multipurpose community facility incorporating sporting pavilion requirements
- Walking, cycle and skate paths

Belmont Park Redevelopment will provide an amenity base for the residential and future office and retail second to none in Perth. The planned overall community facilities are very comprehensive and will include the Sporting Club /Recreation building in the Grandstand, the upper level recreation decks of the Marina and TOD riverfront residential precincts (comprising over 1.5ha of upper level recreation space and facilities).

Staging of the residential phases will be largely driven by market demand. The development of the TOD area (Precinct D), including initial sporting/recreation club construction, could potentially precede the development of the northern part of the site (Precinct A), thus bringing facilities on site early on.

In the event that residential development precedes the development of the community facilities as part of the planned Grandstand Redevelopment, temporary space will be made available by the developer in the initial residential phase of the project, to accommodate community facility needs of residents until such time as the planned sporting /recreational club facilities are built. This will include facilities such as children's crèche and meeting rooms,

Community facilities needs will be further assessed at a Detailed Area Plan stage for the various Precincts.

8.11.2 Noongar Aboriginal Partnership

Indigenous Economic Solutions (IES) has been engaged to guide and promote Indigenous participation in the project in two (2) major ways:

- Aboriginal Employment in the project
- Aboriginal Business Development

There are numerous employment and potential business development opportunities relevant to the site to ensure the partnership is maximised. Opportunities for Noongar Aboriginal employment will be during construction and via ongoing management of the site, commercial/retail and landscape. A significant opportunity for Noongar Aboriginal employment is the potential for adoption of an integrated tourism and recreation business approach that connects the site with other sites along the Swan River. For example, river tours that connect the site with the Perth Waterfront Development and other significant stopping points along the Swan River will enable the development of a Noongar Aboriginal Cultural Tourism product of world best practice standard.

8.12 Response to Environmental Values and Attributes

The environmental attributes and values identified in environmental studies undertaken have informed and guided preparation of the Structure Plan.

The responses embodied in the Structure Plan along with future environmental management considerations are summarised below:

- Detailed ASS investigations will be carried out and appropriate ASS Management Plans be prepared prior to development, to ensure any disturbance to ASS through site works is appropriately managed.
- A Local Water Management Strategy (LWMS) has been prepared in line with water sensitive design principles, flood storage requirements and appropriate water conservation strategies,

outlining how water will be managed over the site, conforming to the requirements of the Swan and Canning Water Quality Improvement Plan (Swan River Trust 2009).

Specifically the LWMS and Structure Plan responses have focused on:

- Retaining the 1 year, 1 hour ARI event on the lot or within road reserve storage, therefore keeping the most frequently generated (and most polluted) stormwater runoff away from the Swan River and the Foreshore Reserve.
- Utilising large rainwater storage areas provided in residential towers (within the TOD and Marina precincts) to supply irrigation water for private open space(such as landscaped podium areas for residential towers) and potentially for some in-house use.
- Using stormwater to replenish existing lakes in the center of the race track thereby reducing reliance on groundwater.
- Allowing larger stormwater flows (for the 100 year event) to be treated and slowed down, through wide shallow flood corridors prior to discharge to the Swan River.

The Structure Plan and the proposed Environmental Management Framework (Refer table 5) respond to the LWMS requirements, including:

- Detailed Urban Water Management Plans will be prepared to support subdivision in accordance with the requirements of the LWMS.
- A Foreshore Management Strategy (FMS) has been prepared outlining the strategic vision for the development and restoration and revitalisation of its river foreshore .
- Detailed investigations for contamination will be undertaken in accordance with DEC requirements pertaining to the *Contaminated Sites Act* 2003, along with appropriate remediation and validation responses where required.
- Responding to the Transport Noise Assessment, where buildings are proposed immediately adjacent to the Graham Farmer Freeway, "Quiet Home' design principles will form part of the design criteria, to ensure compliance with accepted internal noise criteria, (primarily through improved glazing performance).
- A detailed acoustic assessment will be undertaken for individual buildings in these locations at the time development of these buildings is proposed. The Transport Noise Assessment noted that the placement of high rise buildings as proposed in the Structure Plan would act as an acoustic noise barrier and would reduce noise penetration through the site.

8.13 Environmental Management Framework

The environmental assessment report concluded that implementation of the Structure Plan as proposed, will not have any significant impact on the identified limited environmental values of the site. Further, that the implementation of the Structure Plan will actually improve the environmental values of the site through restoration of theSwan River foreshore and the management of potential environmental and contamination issues.

Table 5 below details the broad Environmental Management Framework proposed at the key structure planning, subdivision and development phases, and highlights the detailed investigations and management responses required at each of these phases.

TABLE 5: ENVIRONMENTAL MANAGEMENT FRAMEWORK

Environmental values and attributes	**Management Framework**		
	Local structure plan	**Subdivision**	**Construction**
Foreshore Reserve	Foreshore Management Strategy	Foreshore Management Plan	Implementation of Management Plan and handover of Foreshore Reserve to Local Government

Noise	Transportation Noise Assessment (Appendix 5)	Detailed Acoustic Assessment (where required)	Construction Standards Memorials on Title
Acid Sulfate Soils	Preliminary Acid Sulfate Soils Investigation (Appendix 2)	Detailed Acid Sulfate Soils Investigation and Management Plan	Implementation of Management Plan.
Management of water quality and quantity	Local Water Management Strategy	Urban Water Management Plan	Implementation of Urban Water Management Plan and handover of assets to Local Government
Contamination (managed under the *Contaminated Sites Act* 2003)	Preliminary Site Investigation	Detailed Site Investigation (if required)	Remediation, Validation and Monitoring (if required)
Aboriginal Heritage (managed under the *Aboriginal Heritage Act* 1975)			Section 18 consent required before ground disturbing works
Marina (separate environmental approvals process)	Part of Structure Plan	Prior to subdivision a marina would require: Approval under the *Environmental Protection Act* 1986. Approval under the *Swan and Canning Rivers Management Act* 2006.	Compliance with any conditions of approval

8.14 Total Water Cycle Management

The State Water Strategy (Government of WA 2003) endorses the promotion of total water cycle management and application of Water Sensitive Urban Design (WSUD) principles to provide improvements in the management of stormwater, and to increase the efficient use of other existing water supplies.

Total water cycle management addresses not only physical and environmental aspects of water resource use and planning, but also integrates other social and economic concerns. Stormwater management design objectives should therefore seek to deliver better outcomes in terms of:

- Potable water consumption.
- Flood mitigation.
- Stormwater quality management.
- Groundwater management.

The first step in applying total water cycle management for the Structure Plan area site was to establish the environmental values and characteristics for the site. A key element of this was the adjacent Swan River and the foreshore reserve area. Guidance regarding environmental values and criteria is provided by a number of National and State policies and guidelines and by the significant body of site-specific studies that have been undertaken in and around the site. The characterisation of environmental values has been further clarified in the LWMS such that an accurate representation of the pre-development foreshore environment and hydrology has been developed.

This provides the basis for design objectives within the LWMS.

The overall objective for preparing a total water cycle management plan for the site is to mimic the pre-development hydrology, such that the foreshore revegetation works are able to complement the existing natural areas along the Swan River in close proximity to the site. It is also important to manage any potential pollution to the Swan River ecosystem and to maintain an appropriate water balance. These objectives are central to the LWMS which has been prepared to support the Structure Plan.

The LWMS provides a water management strategy that spatially reconciles the Structure Plan with the stormwater management objectives, and which re-establishes the pre-development hydrology of the site. The LWMS also provides for the treatment of surface runoff by either harvesting minor events from roof areas or by treating minor runoff from the remainder of the site within dedicated bio-retention areas. Runoff from major events will be directed through revegetated areas within the foreshore reserve which approximate the pre-development hydrology and ecological processes. The approach taken for water management incorporates peak flow mitigation, water conservation and runoff treatment, thereby addressing the key objectives for water management at the site.

8.15 Sustainability

A sustainable vision for the site is based around three themes:

Sustainable Site

- Safeguard and enhance habitats for future generations – restore foreshore habitats, planting of native species
- Hierarchy within the landscape – from protected waterfront through to the racecourse
- Work with natural systems to manage water and nutrients – creation of a new lake within the racecourse, landscape design to minimise irrigation
- Enhance microclimate using natural mechanisms – shade from trees, breeze corridors between plots
- Shelter site from noise and pollution – using building form to create a barrier and using vegetation as a natural filter
- Set aside ecological corridors connecting the racecourse to the foreshore
- Create assets from site rehabilitation needs – creation of a marina

Sustainable Density

- Relate accessibility to low carbon transport to density–with transit oriented mixed use development connected to the railway station to the east of the site, with a retail, hotel and residential quarter around a marina to the west
- Distribution of uses – creation of an acoustic barrier to the road with uses that benefit from highly visible frontage
- A masterplan that can be effectively phased and delivered over time

Sustainable Living Health and Wellbeing – contact with nature, exercise within the public realm, facilities within racecourse building and promotion of walking and cycling

- Outdoor living – communal spaces in public realm, BBQs, marina, communal gardens with sports and childcare, facilities for recreation within the landscape, creation of new public beaches
- Sustainable transport – alternatives to the car, access to local amenities, public transport system now and in the future, bus access to rail station and beyond, connection to high speed bike corridors and pedestrian routes within and beyond the site. Bike hire within landscape. Microclimate enhancement to extend the distance that can be walked in comfort, green corridor of trees that links the neighbourhoods. Electric car charging points
- Low carbon living – low energy buildings, plan for renewable
- Gardens and micro-allotments at roof level

FIGURE 60: SUSTAINABILITY (SOURCE: FOSTER+PARTNETS).

To achieve this vision, a number of sustainable strategies have been defined (Appendix 14 refers) focusing on the following priority elements:

- Transport
- Water cycle
- Sustainable water strategy
- Energy
- Landscape

Transport

- Creation of a TOD precinct (density concentration) within the 400 metre radius from the pedestrian entry point to the site and an 800 metre total walking distance from the railway station
- Commercial density has been provided along the southern boundary to provide a buffer to noise and pollution for residential and open space areas
- TOD precinct will offer a sustainable mix of office, retail and high density residential development;
- Construction of a raised ground plane in the TOD precinct affords the opportunity for a direct vehicle connection from Victoria Park Drive and a left hand entry from Graham Farmer Freeway on ramps.
- Vehicular exits via Balbuck Way will be explored as will a connection under the Windan Bridge
- Street network centres on Integrator Arterial B route providing a connective spine to all precincts
- Neighbourhood connectors provide a third tier of vehicular access within the precinct
- Secure the conversion of the Belmont Park Railway Station to a fully operational station
- Pedestrian access to the railway station is directly connected to the site's pedestrian network
- Future bus connections and a ferry connection will be explored

Water Cycle

- Develop and implement integrated water management strategies including fresh and waste water management
- Reducing demand through diversification of supply (i.e. using rainwater) and reduction in fitting demands
- Reduce water consumption through landscape design and rainwater reuse
- Metre potable water use to educate users, identify leaks and facilitate efficiency measures
- Development of site infrastructure and lot design standards to meet objectives of the Water Corporation's 50 year plan.

Surface Water Strategy

- Develop and implement integrated water management strategies
- Utilise rainwater runoff for irrigation
- Develop and implement a hierarchy of surface water management strategies to respond to various rainfall event types, as described in the Sustainability Statement.

Energy

- Reducing primary energy demand through passive design, efficient systems and sustainable management and operation
- Developing and implementing design strategies for:
  - Day lighting of internal spaces and reducing dependence on artificial lighting
  - Natural ventilation
  - Solar shading
  - Passive solar heating
- Landscape microclimate treatment to encourage walking and cycling
- Diversify energy supply to low and zero carbon technologies, including combined heat and power and tri-generation, facilitated by the structure plan and infrastructure design
- Energy managemnt strategies for the project are based on the combined strategies of energy conservation and renewable energy use through sustainable and cost efective action, without compromising the quality of living and work conditions. Targets for minimasing energy over the project area are outlined in section 8.3 incorporating, where possible, renewable energy resources and providing energy awareness and performance monitoring.

Landscape

- Conserving and enhancing existing biodiversity, habitat, resources and landscape potential to create a range of landscape types to respond to the varied needs of the site, its users and flora and fauna
- Creation of a patchwork landscape through the foreshore reserve
- Encouraging responsible use and education and awareness of native landscapes and the foreshore reserve
- Using the landscape to mitigate climate impacts through shading, microclimatic cooling, encouraging breezes and maintaining views through to the river, racecourse and activity zones
- Creating POS with active and recreational functions
- Using landscaping and streetscape design to enhance and activate the public realm and encourage walking and cycling
- Creation of artificial landscape types within semi-private roof decks to create outdoor space for apartment residents
- Facilitate use of the foreshore for aboriginal cultural events and features
- Use landscaping to provide visual amenity
- Use landscaping along the southern boundary to form a noise buffer and separate the site from the freeway
- Enhance the racecourse through landscaping to improves it's visual amenity and create biodiversity opportunities

These have informed and guided the Structure Plan preparation.

9 IMPLEMENTATION

9.1 Site Works

The proposed finished earthworks levels for the site will need to take into account a number of factors, including;

- Finished floor levels are at least 0.5m above the 1 in 100 year Swan River flood levels.
- The possible rise in sea levels over the next 100 years will need to be considered. This has been estimated to be approximately 900mm above the current 1 in 100 year flood levels and
- 1.2m separation above the groundwater levels.

The existing surface within the site will require a topsoil stripping and proof rolled, prior to clean filling with sand. This will occur mainly within the eastern portion of the site. Areas which contain uncontrolled fill but are not subject to preloading requirements, will need to undergo either dynamic compaction or the material will need to be removed and replaced with compacted sand. These methods will primarily be required within the 3 story green titles lot precincts.

The western portion of the site will also need to be stripped of topsoil prior to sand filling for control of ongoing settlements within the alluvial silts formation. The area will need to undergo preloading with fill for extended periods with vertical / wick drains prior to earthworking to final levels. Preloading of the site is required to ensure no roads, services or dwellings are subject to settlement of the alluvial silts. It is proposed that the ongoing settlement creep of the site will be suitable to Australian standards over the coming century. This is a maximum of 50mm over the next 100 years.

The flyash deposits encountered on site will need to be either removed and replaced with sand or, if approved, left in place and covered over during the preload phase to ensure the flyash material is at a safe depth below the existing surface to cause pollution to the environment. This is an approved environmental methodology to remediate this material. Details of the depth will need to be further investigated for its suitability for this site.

It is assumed that a majority of the larger building on site will require piled foundations to support their loads. The depth and number of piles required will be subject to further geotechnical investigations.

9.2 Infrastructure Provision

9.2.1 Wastewater

The site is located inside the current Water Corporation scheme planning boundary but to date no allowances have been made for this area to be serviced. The development is proposed to be serviced internally via gravity sewers which would be connected to a sewer pump station of sufficient size to cater for the development. Initial discussions with the WC have identified that the site can discharge via a pressure main into the existing gravity sewer network located within Griffiths Street.

9.2.2 Water Supply

The site is located inside the current Water Corporation scheme planning boundary but to date no allowances have been made allowances for this area to be serviced. Connection for this development will be via a new watermain connection from the Water Corporation's existing distribution watermain located within the Great Eastern Highway, near the Causeway. It may be possible to service the initial stages of development via an existing watermain that current services The Peninsula development in Burswood.

Water supply to each lot will be via a system of reticulated pipes located within road reserves. Additional pressures to service the medium to high rise development would need to be provided via on site storage tanks and pumps installed as part of each building.

9.2.3 Power Supply

As planning progresses, discussions will be required with Western Power to confirm if any upgrades are deemed necessary to the existing HV feeder network. It is likely additional 22kV feeders to the existing 22kV network will be required to service the entire development area, albeit in a staged approach.

The planned upgrades in power supply to the Springs development directly southeast of the Structure Plan area will affect the power network surrounding the Belmont development area. The design plans for the Springs development project indicate that 2 new feeders will be run from the Rivervale Zone Substation (ZS), and significant additional load will be added to the feeder which currently also supplies Belmont Racecourse.

Based on The Springs overall high voltage project plan, it indicates that the effective upgrade in power for this development will need to accommodate approximately 13MVA. This may provide some least 7MVA of the total 20MVA maximum capacity for the two new feeders available. It will take time before the Springs power demand is realised. As such it is anticipated that Belmont Racecourse could connect to these 22kV feeders to allow further headworks to be staged in the future. Ultimately, the Belmont Racecourse development may require a new feeder from Rivervale ZS, together with the existing 22kV HV feeder to supply its estimated 12 to 15MVA load demand. A preliminary analysis of the Rivervale ZS indicates that after the two new feeders installed as part of The Springs development have been connected there may still be at least one remaining ZS connection available for a new HV feeder.

9.2.4 Gas Supply

The internal gas network will be installed within the common trench at no cost to the developer. The extension required to connect to the nearest high pressure gas main means the developer will be required to pay for the trenching to the gas main as a headworks cost.

9.2.5 Telecommuncations

It is assumed the connection to the development will be via a fibre optic main owned by Telstra, located within the road reserve of the Graham Farmer Freeway.

9.2.6 Roads and Traffic

The internal roads are proposed to be to the approval of the Town of Victoria Park. It is currently proposed to have one way roads within some areas adjacent to the green title lots. These will comprise of a minimum 4.5m pavement in a minimum 10m wide road reserve for local residential roads. The design vehicle for intersections and sweeps / corners is proposed to be a single rigid vehicle i.e. Council rubbish truck or service vehicle.

The main distributor road within the development will vary in width from 2 or 3 lanes in both directions to a standard 6.0m wide pavement in a 13.0m wide road reserve. The final configuration of the roads will be determined on the number of vehicles per day utilizing the different parts of the site.

The subdivision roads within the development area will need to be constructed in accordance with the IPWEA Subdivision Guidelines and read in conjunction with the Town of Victoria Park's subdivisional "Guidelines and Standards". All internal roads are owned and maintained by the Town of Victoria Park. Further detailed traffic analysis will be completed during the next phase of the planning process.

9.2.7 Drainage

Stormwater drainage management is a major component of an overall UWM strategy for which achievement of the principals of the plan may be facilitated through the application of Water Sensitive Urban Design (WSUD) techniques during planning, design and construction of urban development projects. Objectives of WSUD include:-

- Detention of stormwater rather than rapid conveyance;
- Use of stormwater to conserve potable water;
- Use of vegetation for filtering purposes; and
- Water efficient landscaping.

At a District Structure Planning level the Western Australian Planning Commission's objectives for UWM are defined in its *Statement of Planning Policy No. 2.9 Water Resources, 2006*. These comprise the development of broad stormwater management strategies for major flood control and guidelines for water quality management at a district scale. This assumes that more detailed implementation plans will be prepared as a part of the ongoing subdivision planning when the local level land use pattern is being defined. The broad objectives of the policy include; to protect,

conserve and enhance water resources that are identified as having significant, social, cultural and or environmental values; assist in ensuring the availability of suitable water resources to maintain essential requirements for human and all other biological life with attention to maintaining or improving quality and quantity of water resources; and to promote and assist in the management and sustainable use of water resources.

Stormwater Management

The maximisation of stormwater recharge to the shallow aquifer, through the adoption of 'Best Management Practices', which promotes the dispersion and infiltration of runoff, are an important part of stormwater management. These include the diversion of runoff into road medians and road-side swales, linear drainage soakage units to infiltrate runoff from building roofs and private open space areas and the disposal of road runoff into infiltration basins within POS areas.

Water Quality Management

The maximisation of the quality of recharge water through the adoption of 'Best Management Practices' which promote the disposal of runoff via water pollution control facilities (including vegetated swales and basins, detention storages and gross pollutant traps) and the implementation of non-structural source controls (including urban design, street sweeping, community education, low fertiliser landscaping regimes, etc).

The District Water Management Strategy (DWMS) prepared for the area outlines the district level UWM strategies and the Local Water Management Strategy (LWMS) for the Study Area. The LWMS provides the detail to support the Structure Plan.

Stormwater Collection, Treatment and Disposal

The site has varied ground conditions where some areas will have generally free draining soils with adequate separation to ground water and other areas where the clayey soil are at the surface and infiltration of water may be more difficult.

Drainage from public roads will be collected via side entry pits, combination gullies or open swales depending on the nature of the adjacent land uses, the extent of traffic and pedestrian activity, etc. At source infiltration will be promoted for short recurrence interval events.

The Swan River traverses a large part of the proposed development boundary. Direct discharge of stormwater is not possible as it may potentially cause algae blooms and pollution of the Swan River.

An infiltration basin within the Racetrack precinct will be sized for the 100 year event. All other precincts will be designed to retain the 1 year 1 hour event within bio-retention areas or sub-surface storage and then match pre-development flows to the Swan River with flow rates reduced prior to discharge through the use of wide vegetated swales (Section 7 of the LWMS refers). The minor pipe network will generally be sized to convey the 1 in 5 year event with all other events being conveyed via surface flow (ie. in road network until it reaches POS and Swales).

In all cases roads and POS will be designed to cater for the surface overflow for more severe storms with building pad levels set at least 500mm above the 1 in 100 year flood or storage level at any location.

Treatment (ie. nutrient removal) will occur within vegetated swales and bio-retention areas sized to treat 1 year 1 hour storm events.

Preliminary flood modelling of the Swan River has been undertaken and has confirmed a minimum fill level of RL 3.0m on the eastern side of the development and a minimum fill level of RL 3.7m on the north western portion of the site. This includes the 500mm min freeboard to habitable floor levels and a 900mm increase in sea levels over the coming century. This reporting will be included within the DWMS and LWMS strategies developed for the site.

9.3 Marina Approvals Process

From an environmental point of view, the proposed public Marina will be the subject of separate environmental approvals process, likely to be section 38 referral of the proposal by the proponent pursuant to the *EPA Act* 1986.

As far as planning and other legislation is concerned, the land subject to the proposed Marina is:

- Partly within Crown Reserve 39361, which is vested in the Burswood Park Board, and is subject to specific land use and development controls under the *Casino (Burswood Island) Agreement Act,* 1985;

- Partly a Parks and Recreation Reserve under the Metropolitan Region Scheme
- Partly within the Swan River Trust Development Control Area pursuant to *Swan and Canning Rivers Management Act*, 2006
- Partly zoned Urban under the Metropolitan Region Scheme
- The process for obtaining approval for the proposed Marina development will be as follows.
- The proposed Marina is located on land:
  - partly zoned Urban under the MRS
  - partly reserved for Parks and Recreation under MRS
  - partly zoned 'Special Use (Racecourse)' in the Town of Victoria Park Town Planning Scheme No. I (TPS 1)
  - partly subject to specific land use controls under the *Casino (Burswood Island) Agreement Act* 1985
  - partly within the Swan River Trust Control Area
- The function of Burswood Park Board, in regard to the application for planning approval, will be to consent to the application as the effective owner of the land, but not otherwise to give a planning approval.
- The Swan River Trust has a role in regard to planning approval. However as the Marina is not wholly within the Swan and Canning Rivers Development Control Area, neither the Minister responsible for the Swan River Trust, nor the Swan River Trust, is the determining authority for a development application on the land.
- As the development is partly within the Swan River Trust Control Area, the application for planning approval, under the provisions of cl.29 of the MRS, will need to be referred to the W APC tor determination. The WAPC will be required to refer the matter to the Swan River Trust for recommendation.
- If the WAPC disagrees with the Trust's advice the matter is to be determined jointly by the Minister for Planning and the Minister for the Environment.
- Part of the Marina extends into the land zoned Urban under the MRS, and zoned Special Use under the Town's TPS I. The approval of the Town of Victoria Park may also be required.
- Planning approval of the WAPC is required under the provisions of the MRS, c1.28 of the MRS provides that the necessary application is to be lodged with the responsible local government but immediately referred to the WAPC.

9.4 Town of Victoria Park Local Scheme Rezoning

An amendment to the Town of Victoria Park TPS No. 1 is being pursued to further refine the zoning and provisions of Council's Scheme for this site, to be consistent with the MRS and to facilitate the development of the proposed inner city development, framed around the existing Belmont Park racing facility.

9.5 Staging

Following approval of the Structure Plan and finalization of the ToVP rezoning of the site, estimated during 2012, development will be implemented in stages over a period of time the duration of which will be dependent on the market demand. An indicative staging envisaged for the site is as follows.

Initial infrastructure and road works will be delivered to the northern part of the site, and stabilized earthworks will be completed to deliver the initial development area for the green title villas. Phase 1 and 2 will involve the pre-sale and construction of all three -storey green title villas situated in Precinct A over an estimated 30 month period, with completion 2015, followed by the initial phase of mid-rise apartments.

Development will be linked to the provision of infrastructure, services and community facilities in an appropriately staged manner as development proceeds. Each subsequent phase will involve ceding and rehabilitation of the adjacent portion of the foreshore reserve land, and provision of cyclist and pedestrian access (dual use path/bike ways), and the internal public open space.

Initial residents will use the internal road and pathway system to gain vehicular access to Graham Farmer Freeway, and pedestrian access to the existing race day train platform. Dependent of timing of delivery of added rail services, by West Australian Government, to enable the present railway platform to be a full operating station, residents will initially either have limited rail access, or normal scheduled rail.

Bicycle access through the internal road verge cycle network, to the existing bikeway network that gives access to East Perth, and under the Windan Bridge, to the Burswood Casino, South Perth, the City, and out to the Western suburbs, will be an early objective of the Developer.

Based on success of ongoing pre-sales, and the economy, the phasing of the subsequent stages of development will be a continuous programme, until the project is completed. It is currently envisaged that the first riverfront tower of the eastern high - rise residential phase, adjacent to the Swan River and existing Racecourse grandstand, will be developed during phase 3 of the project commencing in 2015, with completion in 2017. It is envisaged between domestic, and global sales, that total residential product, initially pre sold, then developed will average 400 units a year.

The marina precinct with retail, and residential, is programmed to commence in year 6 of the project, and will be thereafter phased based on annual demand. The office components will be commenced, based on pre-letting, and will be built to suit tenant specifications. The 300 - room hotel element of the signature tower, within the marina precinct, will be developed in the later phases of the project.

Community facilities will be commenced consistent with the build up of residents, so that the construction programme is continuous, and deliverables match demand. It is envisaged the extension of the existing grandstand building will commence when the community approximates 1,200 residents, with the final deliverable being a world class sporting and community centre, linked internally to the upgraded horse- racing grandstand.

Current planning indicates the project will be completed by year 15.

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C. TRAFFIC REPORTS

C

BELMONT PARK RACECOURSE REDEVELOPMENT

APPENDIX 11 - Belmont Park Redevelopment Concept Masterplan Transport Assessment, Transcore, November 2012

BELMONT PARK
RACECOURSE REDEVELOPMENT
STRUCTURE PLAN

TRANSPORT ASSESSMENT
(REVISED NOVEMBER 2012)

transport planning • traffic engineering • project management

Belmont Park
Racecourse Redevelopment
Structure Plan

Transport Assessment

Prepared for:
Golden River Developments Pty Ltd
C/- Pure Investment Holdings Pty Ltd

Revised November 2012

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C/- Pure Investment Holdings Pty Ltd

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Table of Contents

1 SUMMARY

This Transport Assessment addresses a proposed redevelopment structure plan for the Belmont Park racecourse site on the Burswood Peninsula, which would see residential and commercial land use development around the Belmont Park racecourse. Access will be from Graham Farmer Freeway via the Victoria Park Drive interchange and would expand upon existing access arrangements for Belmont Park from this interchange.

Considerable progress has been made in discussions with state and local authorities to agree the future access arrangements for this proposed redevelopment, although the developer would still prefer to further improve access and this Transport Assessment is based on minor modifications to the access arrangements generally agreed to date.

This proposal also envisages conversion of Belmont Park train station from a special events station to full time operation to service the future residential and commercial development in this area. The structure plan includes a transit-oriented development precinct close to this station to encourage and facilitate use of public transport.

2 INTRODUCTION

This Transport Assessment has been prepared by Transcore on behalf of Golden River Developments Pty Ltd. The subject of this report is the proposed Belmont Park Racecourse Redevelopment Structure Plan.

Source: Foster + Partners

Figure 1. Site location

3 PROPOSED DEVELOPMENT CONCEPT

The Belmont Park Racecourse Redevelopment Structure Plan proposes development of residential and commercial land uses to surround three sides of the existing Belmont Park racecourse. An indicative layout of the site is presented in Figure 2.

Figure 2. Belmont Park redevelopment concept plan

The proposed floor space of the redevelopment is summarised in Table 1.

Table 1. Proposed Land Uses

Land Use	Precinct A	Precinct B	Precinct C	Precinct D	Total
Dwellings	937 units	2083 units		1480 units	4500 units
Hotel (rooms)		300 rooms			300 rooms
Office		30,000m^2 GFA		50,300m^2 GFA	80,300m^2 GFA
Retail	500m^2 GFA	40,000m^2 GFA		1,900m^2 GFA	42,400m^2 GFA
Race Club			22,600m^2 GFA		22,600m^2 GFA

Access will be from Graham Farmer Freeway via the Victoria Park Drive interchange and would expand upon existing access arrangements for Belmont Park from this interchange as shown in the road access concept plan at Appendix A. The existing access to Belmont Park from the eastbound off-ramp would be modified and an additional access point would be created from the northeast end of the existing Victoria Park Drive bridge over the freeway.

The proposed development would be able to accommodate a new road link under the Windan Bridge (the Graham Farmer Freeway Bridge across Swan River) to connect to future development south of the freeway, as was envisaged in previous structure planning for the Burswood Peninsula, but this future link is not included in the current proposal. Current advice from state government authorities does not favour this potential road link. Instead, the existing shared path on the foreshore under Windan Bridge is to be upgraded to allow for emergency vehicle access.

There is also potential for an additional road connection from the Belmont Park site to an existing left-in-left-out intersection (Balbuk Way) on the eastbound on-ramp to Graham Farmer Freeway. This potential connection has not been included in the analysis in this report but could be considered at a later date if required.

The Belmont Park Racecourse Redevelopment Structure Plan also envisages conversion of Belmont Park train station from a special events station to full time operation to service the future residential and commercial development in this area. The transit-oriented development precinct (Precinct D) included in the structure plan close to this station is intended to encourage and facilitate use of public transport.

The structure plan also includes a comprehensive path network for pedestrians and cyclists within the site and connecting to existing pedestrian and cycling networks in the surrounding area.

4 Existing Situation

4.1 Land Use

The site is currently occupied only by the Belmont Park racecourse with the grandstand, stables, parking and other facilities located in the southeast corner of the site between the race course and the Graham Farmer Freeway, as shown in Figure 3.

Figure 3. Existing land use

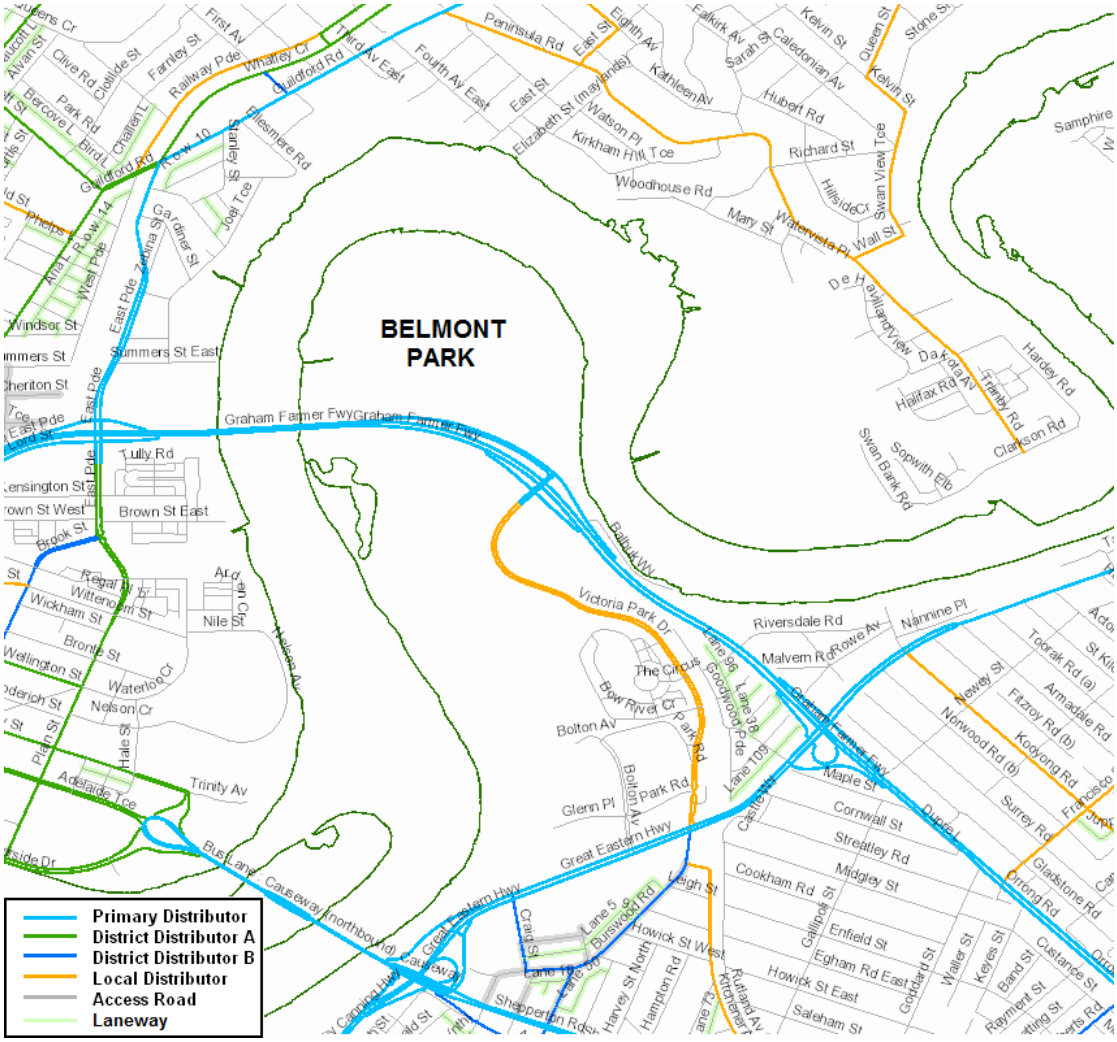
The racecourse is only in use during the winter racing season (about 4 months); for the rest of the year races are held at Ascot racecourse. Race meetings are generally held on Saturdays and on Wednesday afternoons during this winter season.

Other land uses nearby include Burswood Park Public Golf Course south of Graham Farmer Freeway (GFF), then the State Tennis Centre (south east of GFF/ Victoria Park Drive interchange, then some medium- and high-rise residential development along Victoria Park Drive before reaching the Burswood Entertainment Complex (hotel, casino, convention centre, etc.). To the west the Graham Farmer Freeway connects to East Perth and the Perth CBD.

4.2 Existing Road Network

The existing road network in the vicinity of the site consists of the Graham Farmer Freeway (GFF) along the southern boundary of the site and the GFF / Victoria Park Drive interchange, as can be seen in Figure 3.

The current road hierarchy, as defined by Main Roads WA, in the surrounding area is illustrated in Figure 4.



Source: Main Roads WA Road Information Mapping System

Figure 4. Road hierarchy

Graham Farmer Freeway is classified as a Primary Distributor road and is covered by a Primary Regional Roads reservation in the Metropolitan Region Scheme. It is constructed as a dual carriageway road with 3 lanes in each direction and a posted speed limit of 80km/h in this area.

At Windan Bridge (the Graham Farmer Freeway bridge across the Swan River) the average weekday traffic flows were 72,110 vehicles per day (vpd) in 2003/04, which is the most recent count available from MRWA at this location. To give an indication of likely growth since then, the traffic count on GFF at East Parade bridge (not including traffic on the on- and off-ramps) was 50,730 vpd in 2003/04 and had increased to 67,360 vpd in July 2010. Therefore traffic flows on Graham Farmer Freeway at Windan Bridge may currently be in the order of 95,000 vpd if the same percentage increase has occurred at this location[1].

[1] Some of this Graham Farmer Freeway traffic increase may be due to extensive road works in progress in 2010 in the Perth CBD, which reduced parallel sections of Wellington Street and St Georges Terrace to two lanes and caused significant delays for east west traffic flows through the CBD. Traffic counts in the Graham Farmer Freeway tunnel suggest higher than normal rates of traffic increase during this period, so this rate of growth should not be used to estimate future traffic growth on Graham Farmer Freeway.

Victoria Park Drive is currently classified as a Local Distributor road. It is constructed as a dual carriageway road with 2 lanes in each direction and a posted speed limit of 60km/h in this area. Average weekday traffic flows on Victoria Park Drive south of the GFF interchange were 11,350 vpd in 2008/09. Most of this traffic flows to and from the west on Graham Farmer Freeway; traffic flows to and from the east on GFF from Victoria Park Drive are comparatively low.

The GFF / Victoria Park Drive interchange and the existing access to Belmont Park racecourse from the eastbound off-ramp are illustrated in Figure 5. The Belmont Park access is about 440m west of Victoria Park Drive.

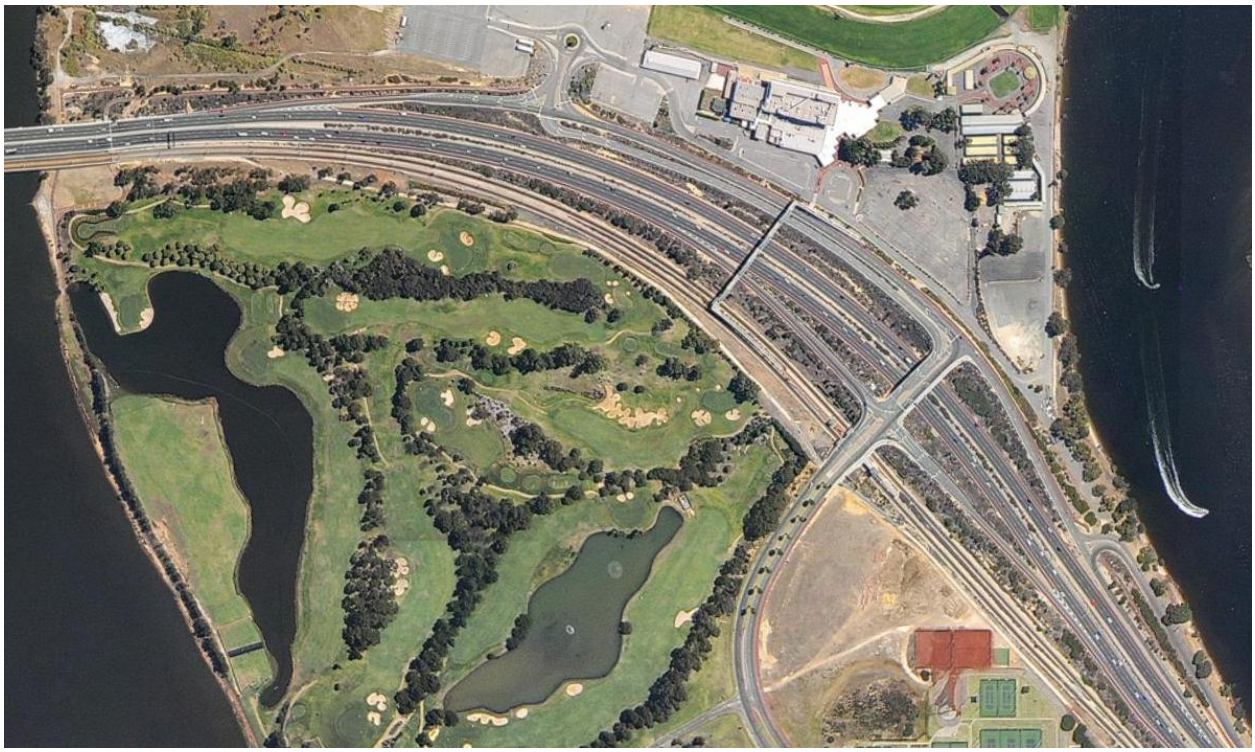


Figure 5. Existing Graham Farmer Freeway / Victoria Park Drive interchange

The on- and off-ramps are single lane ramps where they merge with and diverge from through traffic lanes on GFF but are widened to two lanes or more near the Victoria Park Drive bridge. The eastbound off-ramp, which has the access to Belmont Park on it, is two lanes eastbound and two lanes westbound between the Belmont Park access and the Victoria Park Drive bridge. The two intersections on the bridge and the Belmont Park access intersection on the eastbound off-ramp are controlled by traffic lights. The speed limits on the ramps and bridge are 60km/h apart from the transition to 80km/h on approach to and exit from the GFF.

It should be noted that there is also a left-in/left-out access on the eastbound on-ramp to GFF at Balbuk Way, which provides access to a boat ramp on the Swan River.

4.3 Road Safety

Information available on the Main Roads WA website indicates a total of 40 crashes at intersections within the Graham Farmer Freeway / Victoria Park Drive interchange during the five-year period from 2006 to 2010. These crashes were at the following intersections:

- 18 crashes at Victoria Park Drive bridge / GFF westbound ramps intersection
- 15 crashes at Victoria Park Drive bridge / GFF eastbound ramps intersection
- 6 crashes at Belmont Park access / GFF eastbound off-ramp intersection
- 1 crash at GFF westbound off-ramp to Victoria Park Drive

19 of these crashes were in wet conditions, 18 occurred at night and 8 crashes involved casualties. Two of these crashes involved cyclists; one of these was at Victoria Park Drive bridge / GFF westbound ramps intersection and the other at Belmont Park access / GFF eastbound off-ramp intersection.

It should be noted that none of the categories of crashes at these locations have been flagged by MRWA as higher than expected results. Therefore there is no indication of particular road safety problems in this immediate area around the Belmont Park site.

The 4 locations involved rank from 1199th to 7657th in the state in terms of crash frequency and from 1465th to 4932nd in the state in terms of cost.

4.4 Public Transport

Belmont Park is currently a special events railway station on the Armadale line, which provides a good public transport alternative for travel to and from the racecourse on race days.

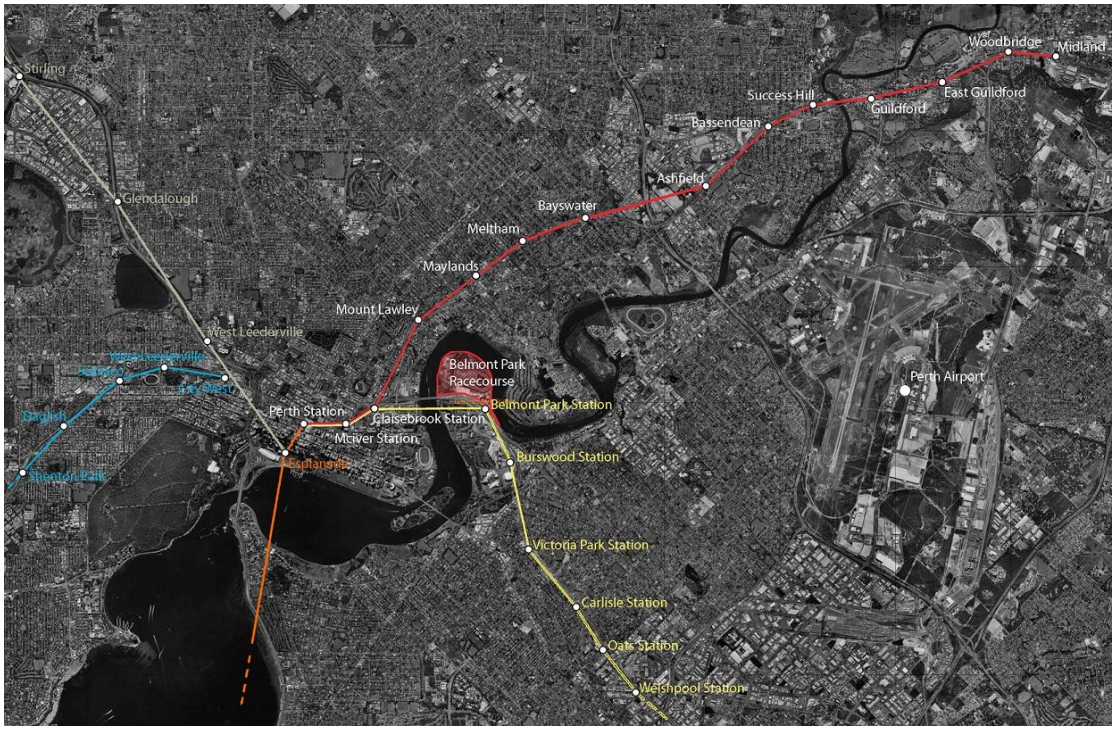


Image source: Foster + Partners

Figure 6. Railway lines

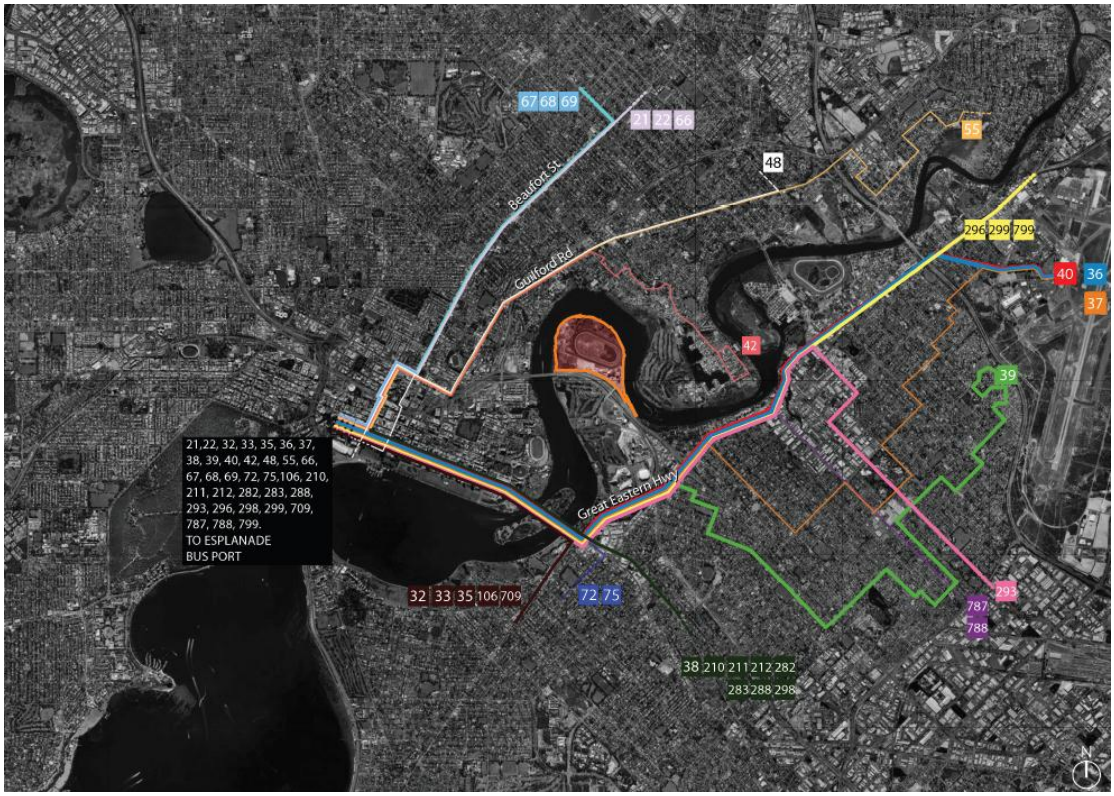


Image source: Foster + Partners

Figure 7. Bus routes

There are no existing public bus services to Belmont Park.

4.5 *Pedestrian and Cyclist Facilities*

The Perth Bike Maps extract presented in Figure 8 shows the network of shared paths that provides very good access to Belmont Park for pedestrians and cyclists. This includes the 3m wide principal shared path along the northern side of Graham Farmer Freeway, including a path built into Windan Bridge across the Swan River. There are also shared paths along the river foreshore (excluding the Belmont Park site itself, at present) and on the eastern side of Victoria Park Drive (including on the eastern side of the bridge over the Graham Farmer Freeway).

Source: Perth Bike Maps, Department of Transport

Figure 8. Pedestrian and cyclist facilities

The principle shared path along Graham Farmer Freeway crosses the Belmont Park access road at grade (i.e. at ground level) but this is facilitated by the traffic signal phasing at this intersection.

There is also a footbridge across Graham Farmer Freeway from the train station to Belmont Park. This bridge is located approximately 200m west of the Victoria Park Drive bridge. As this is a special events station the footbridge is normally closed off when the station is not in use. Pedestrian access to the station from Victoria Park Drive is also closed off when the station is not in use.

4.6 Changes to Surrounding Transport Networks

There are a number of road network upgrades planned in the surrounding area that may have some effect on traffic patterns in the vicinity of this site.

- The Great Eastern Highway is being upgraded from 4 lanes to 6 lanes from Kooyong Rd (about 400m east of Graham Farmer Freeway) to Tonkin Highway, with construction expected to be complete by the end of 2013.
- Main Roads WA has completed a review of Orrong Road, which is the extension of Graham Farmer Freeway east of Great Eastern Highway. A number of intersection road safety improvements have been identified for short to medium term implementation, subject to funding.
- The Graham Farmer Freeway tunnel is currently configured as two traffic lanes each way and a breakdown lane. The tunnel was designed to accommodate three lanes each way (without breakdown lanes) and it is understood that Main Roads WA are planning to implement this ultimate configuration soon. It will also involve some reconfiguration of the connection to Mitchell Freeway to improve the capacity of this interchange.

The proposed future development of a 60,000-seat football stadium on Burswood Peninsula south of Graham Farmer Freeway would also need to be accompanied by changes to the road network to provide access from Victoria Park Drive. It is understood that this facility would be served primarily by public transport with a substantial upgrading of Belmont Park station being anticipated. The new Perth Stadium development will be subject to separate detailed transport assessment by state government authorities.

5 TRAFFIC ASSESSMENT

5.1 Assessment Period

The peak periods for traffic flow on Graham Farmer Freeway are the weekday AM and PM peak periods.

The Belmont Park redevelopment concept involves residential and commercial land uses as well as the existing racecourse activities. The inclusion of a

significant retail component results in the weekday PM peak period traffic generation of the site being heavier than the weekday AM peak. In this report trip generation will be evaluated for both weekday AM and PM peak hours and will also include the typical traffic generation associated with a Wednesday afternoon race meeting. At the request of Main Roads WA the transport modelling undertaken for this project has been extended to two-hour AM and PM peak periods to take into consideration the potential for peak spreading as overall traffic volumes on the regional road network increase in future. Therefore the traffic figures in this report are also based on these two-hour peak periods. The two-hour peak periods evaluated are 7-9AM and 5-7PM.

The Belmont Park redevelopment is anticipated to take around ten years to be fully developed. Transport Assessment guidelines recommend that assessment be undertaken for traffic flows ten years after completion of development. The year 2031 has therefore been adopted as the assessment year for this transport assessment. 2031 is also a convenient assessment year because it coincides with the time horizon of regional traffic modelling undertaken by Main Roads WA.

5.2 Trip Generation and Distribution

The traffic volume likely to be generated by the proposed development has been estimated using trip generation rates derived primarily from the Roads and Traffic Authority of New South Wales *Guide to Traffic Generating Developments* (2002). Two other references have been used to supplement this source where required, the South Australian *Land Use Traffic Generation Guidelines* (1987) and the Institute of Transportation Engineers *Trip Generation* (2003).

The standard traffic generation rate used for office is taken from the NSW guide and is based on surveys that reported an average car driver proportion of 52%, with the remaining trips being by other modes (car passenger, public transport, walking, cycling, etc.). This is considered appropriate for the future scenario for Belmont Park and is anticipated to equate to a public transport share of about 30% of office-related trips.

The trip rate for the retail component is based on shopping centre traffic generation rates. Allowance has been made for the effects of extended retail trading hours in this future scenario, reducing PM peak traffic demand.

The majority of the residential development is proposed to be in the form of high-rise and medium-rise residential apartments. The traffic generation rates used are based on medium density residential flats.

Two-hour peak period traffic generation rates have been evaluated for each land use component. By definition the secondary hour is slightly lower than the peak hour in these periods. In each case the ratio of the secondary hour compared to the peak hour has been identified from available information on hourly traffic flows and parking accumulation for various land uses. For commercial land uses this has primarily been based on information in the ITE *Trip Generation* and

Parking Generation publications. For home-based trips and shopping trips appropriate ratios have been derived from the Perth and Regions Travel Survey (2006).

Home-based trips to and from the residential component have been separated into three categories; work, education and other. Each has been assessed separately. External work trips assume a 30% public transport mode share, external education trips assume 50% public transport and other external trips assume a 10% public transport share.

Informal advice from Main Roads WA indicates that the Department of Planning's Strategic Transport Evaluation Model indicates a car driver mode share of 52% for trips to and from this zone in 2031 modelling, which further supports the assumptions adopted in this transport assessment.

The mix of land uses within the development will result in a reasonable amount of internal trips. It is anticipated that all education trips will be external, 10% of home-based work trips will be internal and 30% of other home-based trips will be internal.

The distribution of the external trips has been based on the distribution of trips to and from this zone in traffic model results from the Main Roads WA regional operational model (ROM) that have been provided for this project.

The resultant AM and PM weekday two-hour peak period traffic generation of the proposed development and distribution on the external road network is summarised in Table 2.

Table 2. Traffic generation and distribution of the proposed development

Trip Distribution	AM 2-Hour Peak			PM 2-Hour Peak		
	In	Out	Total	In	Out	Total
Internal			532			778
GFF west of Belmont Park	*1610*	*1120*	*2730*	*1574*	*1772*	*3346*
GFF east of Belmont Park	*852*	*910*	*1762*	*826*	*1446*	*2272*
Vic Park Drive	*254*	*60*	*314*	*248*	*98*	*346*
Subtotal (external)	2716	2090	4806	2648	3316	*5964*
Total trips			**5338**			**6742**

5.3 Nearby Developments and Transport Proposals

The State Government has announced that it proposes to develop a 60,000-seat AFL football stadium on Burswood Peninsula south of Graham Farmer Freeway. It would also need to be accompanied by changes to the road network to provide access from Victoria Park Drive. It is understood that this new Perth Stadium would be served primarily by public transport with a substantial upgrading of Belmont Park station being anticipated. The new Perth Stadium development will

be subject to separate detailed transport assessment by state government authorities.

The new Perth Stadium Master Plan is illustrated in Figure 9.

Figure 9. The new Perth Stadium Master Plan

There are understood to be various other development proposals in southern parts of the Burswood Peninsula and in Victoria Park and potential for further development in future. Future developments proposed in the Burswood Peninsula area include high density developments in the Burswood Casino Precinct, Burswood East and The Springs developments. Other major developments nearby include the Perth Waterfront (Elizabeth Quay) redevelopment proposal and potential future redevelopment of the East Perth power station site. The Elizabeth Quay redevelopment proposal will reroute and downgrade Riverside Drive (adjacent to the Perth CBD), potentially increasing traffic demand on the Graham Farmer Freeway tunnel in future.

Main Roads WA have obtained estimates of future land uses associated with these developments and have factored them into a future development scenario in their regional operational traffic model (ROM) to assist analysis of this and

other projects. That modelling suggests that future daily traffic flow demand on Graham Farmer Freeway at Windan Bridge may be as high as 160-170,000 vpd under this future full development scenario. Information from this ROM model scenario has been provided to Transcore by Main Roads WA to allow this future scope of development to be taken into consideration in this transport assessment.

5.4 Background Traffic Flows

The information provided from the MRWA ROM traffic model for the future 2031 'full development' scenario was provided in the form of weekday traffic flows in each direction on major road links in the study area. Modelled traffic flows for the Belmont Park site alone were also provided so it was possible to calculate the forecast background traffic flows on the road network excluding Belmont Park traffic.

Initial transport modelling for this project only encompassed the site itself and the adjacent section of Graham Farmer Freeway including the Victoria Park Drive interchange. At Main Roads' request this modelled study area was extended to include the GFF/East Parade interchange to the west and GFF/Great Eastern Highway interchange.

Corresponding AM and PM two-hour peak traffic flows have been calculated from these 2031 forecasts by applying the existing ratio of peak period to daily traffic from available traffic counts on Graham Farmer Freeway (at East Parade bridge) and Victoria Park Drive (south of GFF). The resulting two-hour peak period background traffic volume demand in this future scenario is summarised in Table 3.

Table 3. Modelled 2031 background traffic flows

Road	2031 AM 2-hour peak		2031 PM 2-hour peak	
	Westbound	Eastbound	Westbound	Eastbound
Graham Farmer Fwy west	10219	8640	7780	9433
Graham Farmer Fwy east	9314	7783	6759	8295
Victoria Park Drive south	926	878	1084	1201
	Northbound	Southbound	Northbound	Southbound

5.5 Total Traffic Flows

Traffic flows for the Belmont Park redevelopment concept have been modelled using Paramics micro-simulation traffic modelling software (see Appendix B).

Four traffic scenarios have been assessed as discussed at section 5.1. These are:

- 2031 AM peak period
- 2031 PM peak period
- 2031 PM peak period with typical Belmont Park Wednesday event traffic
- 2031 PM peak period with 60,000-seat football stadium event traffic

The resultant total traffic flows on the modelled road network are illustrated in Figures 10a, 10b, 10c and 10d.

The major road links of the internal road network proposed for the redevelopment of Belmont Park are modelled in detail but the minor road links shown within the site are indicative only for the purpose of modelling. For example, an internal link is shown parallel to GFF within the car parks of the Marina Precinct (southwest quadrant of the site), which represents a basement-level connection between car parks in the Marina Precinct (Precinct B) south of the main spine road through this precinct.

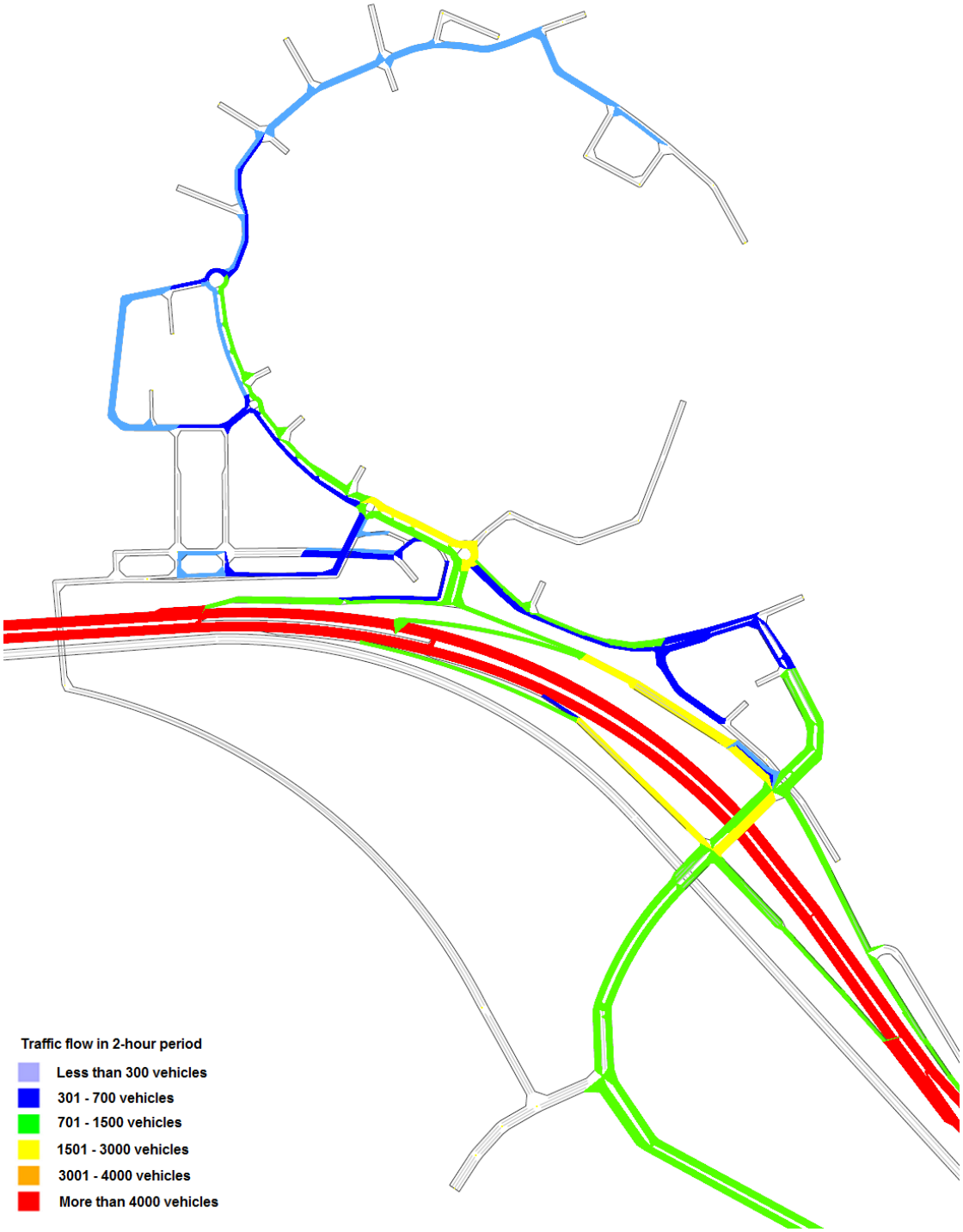


Figure 10a. 2031 AM peak period traffic flows with development

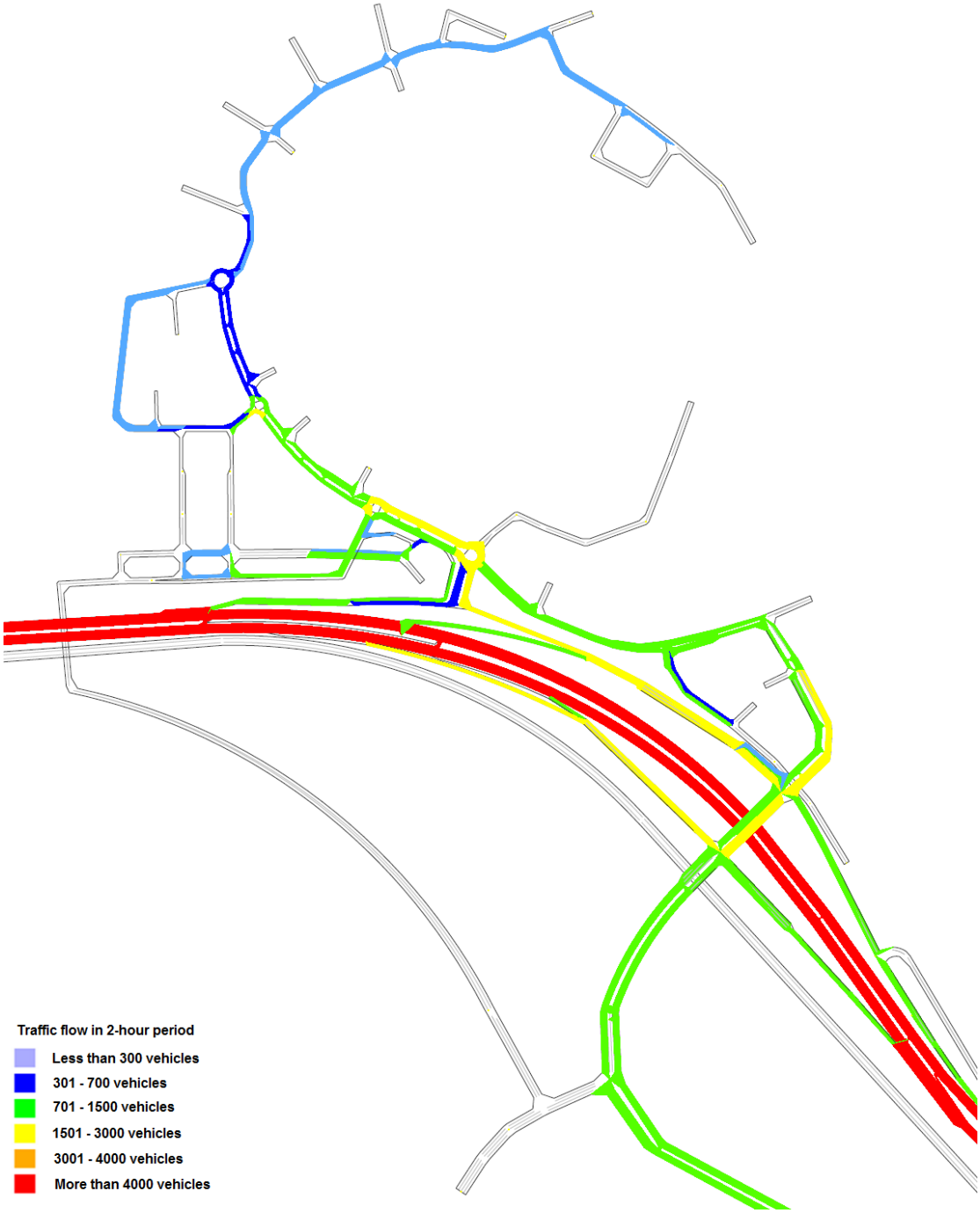


Figure 10b. 2031 PM peak period traffic flows with development

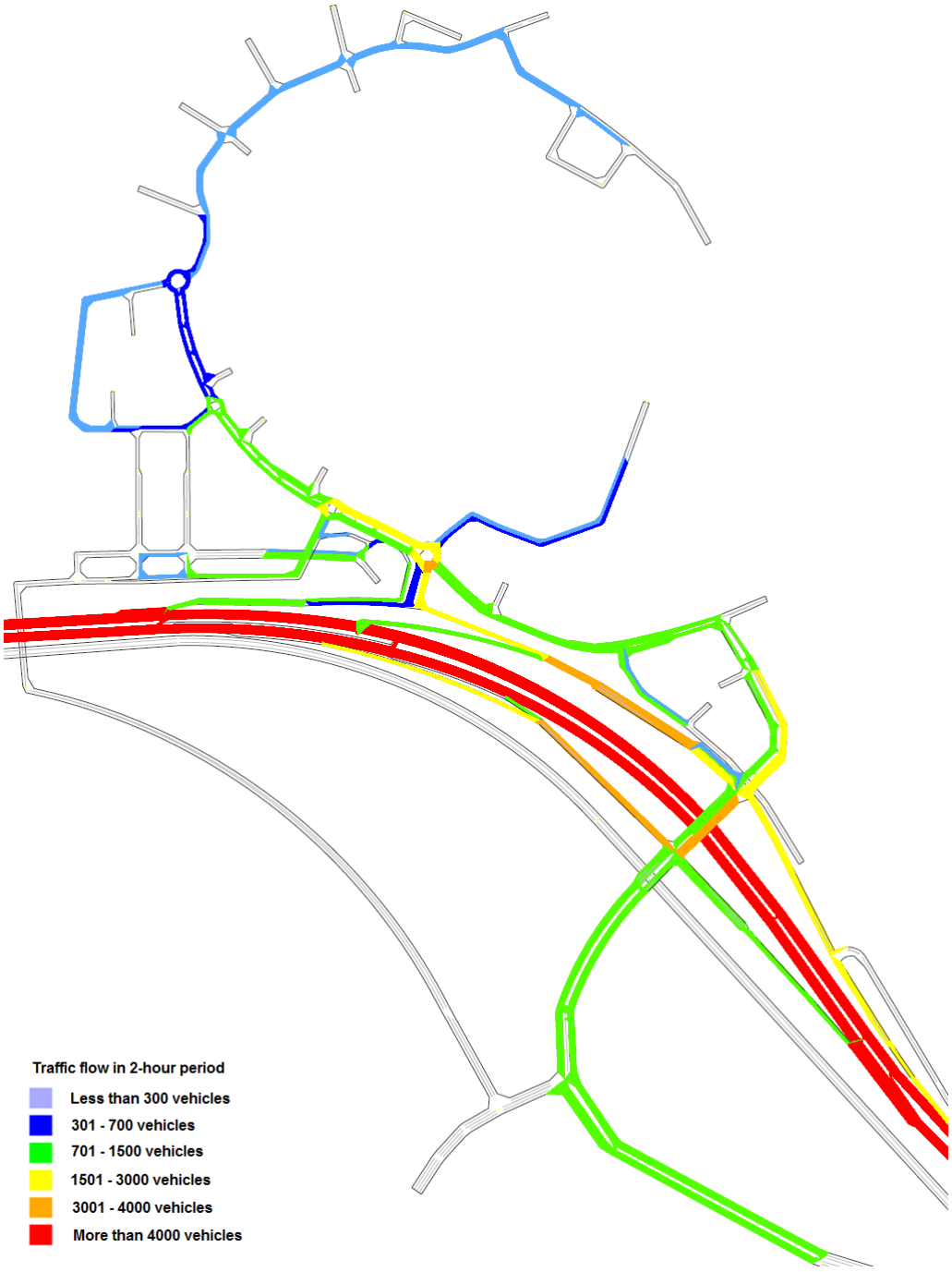


Figure 10c. 2031 PM peak period traffic flows with development, with typical Wednesday event traffic flows

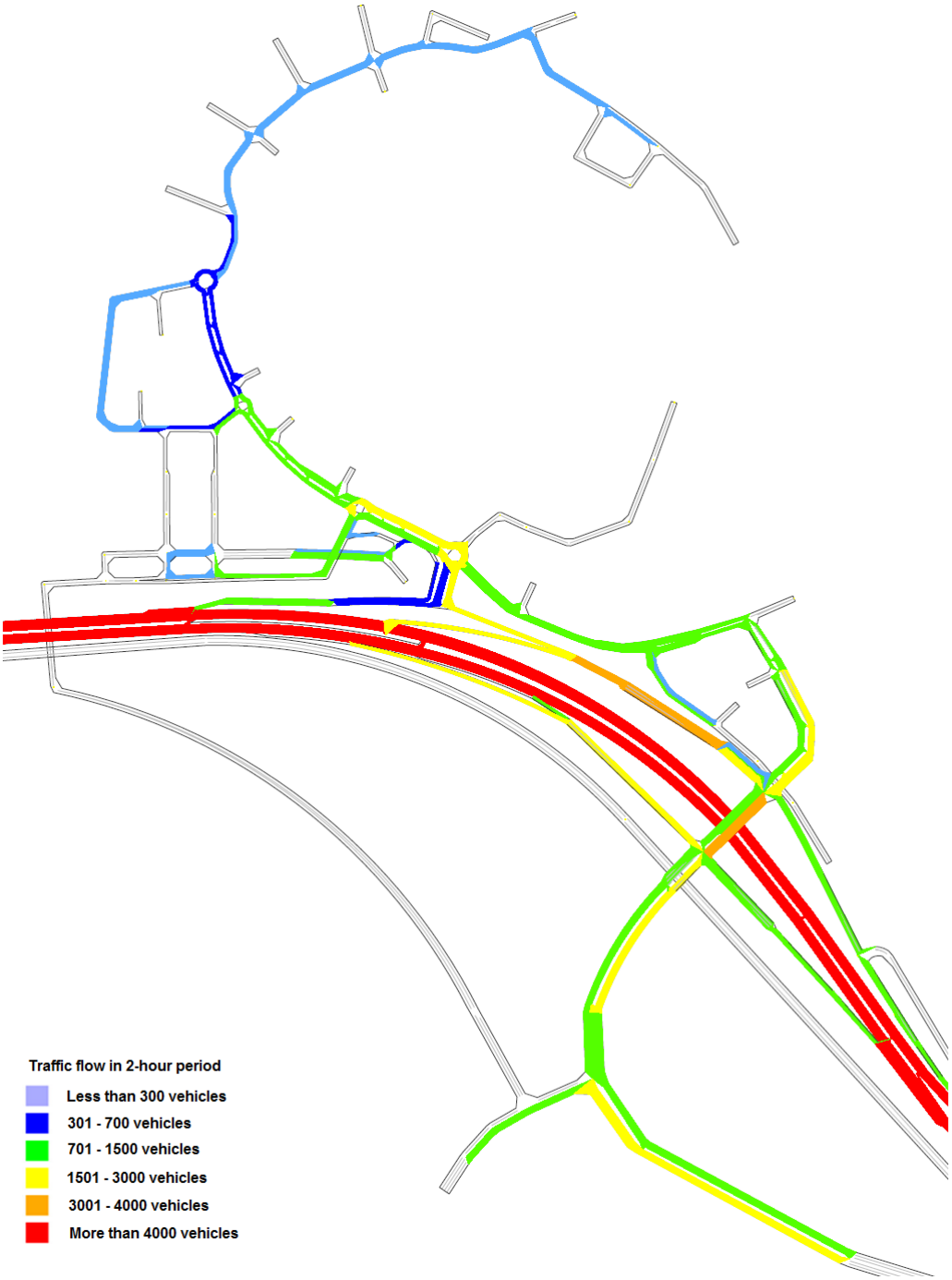


Figure 10d. 2031 PM peak period traffic flows with development, with Stadium event traffic flows

It should be noted on these traffic flow diagrams that the Paramics model does include the potential road link under Windan Bridge to Victoria Park Drive. However, all vehicle movements have been banned on this link in the current model. Hence these diagrams show no traffic flows using this link. The Belmont Park redevelopment project keeps this option open but does not rely upon this potential future link for vehicular access.

The traffic flows modelled for the Perth Stadium event in the PM peak period scenario in Figure 10d have been obtained from the modelling undertaken by the stadium project team's modelling consultants to ensure that the same number of car and bus movements have been modelled in this scenario.

The proportion of future total traffic flows that is associated with the proposed Belmont Park redevelopment on several key road links adjacent to the site is summarised in Table 4.

Table 4. Composition of future 2-hour peak traffic flows

Road	2031 AM 2 Hour Peak							
	Westbound				Eastbound			
	Base traffic	Belmont Park	Total	%	Base traffic	Belmont Park	Total	%
GFF west of Belmont Park	10219	1120	11339	10%	8640	1610	10250	16%
GFF western ramps	923	1120	2043	55%	860	1610	2470	65%
GFF east of Belmont Park	9314	852	10166	8%	7783	910	8693	10%
Victoria Park Drive bridge	3	1106	1109	100%	860	1180	2040	58%
Victoria Park Drive south	926	254	1180	22%	878	60	938	6%
	Northbound				Southbound			

Road	2031 PM 2 Hour Peak							
	Westbound				Eastbound			
	Base traffic	Belmont Park	Total	%	Base traffic	Belmont Park	Total	%
GFF west of Belmont Park	7780	1772	9552	19%	9433	1574	11007	14%
GFF western ramps	1068	1772	2840	62%	1154	1574	2728	58%
GFF east of Belmont Park	6759	826	7585	11%	8295	1446	9741	15%
Victoria Park Drive bridge	16	1074	1090	99%	1154	1870	3024	62%
Victoria Park Drive south	1084	248	1332	19%	1201	98	1299	8%
	Northbound				Southbound			

Road	2031 PM 2 Hour Peak with Perth Stadium event							
	Westbound				Eastbound			
	Base traffic	Belmont Park	Total	%	Base traffic	Belmont Park	Total	%
GFF west of Belmont Park	7780	1772	9552	19%	10145	1574	11719	13%
GFF western ramps	1068	1772	2840	62%	1866	1574	3440	46%
GFF east of Belmont Park	7313	826	8139	10%	8295	1446	9741	15%
Victoria Park Drive bridge	16	1074	1090	99%	1866	1870	3736	50%
Victoria Park Drive south	1252	248	1500	17%	1201	98	1299	8%
	Northbound				Southbound			

Results for the Victoria Park Drive bridge over GFF can be considered as one specific example of the proportion of traffic flows represented by Belmont Park traffic. In the 2031 AM 2-hour peak period Belmont Park traffic on the bridge will be 2286 vehicles out of 3149 vehicles total, which is 73% of the total two-way traffic on the bridge. In the normal 2031 PM 2-hour peak period Belmont Park traffic on the bridge will be 2944 (72%) of 4114 vehicles total but if there is also a Perth Stadium event during the PM 2-hour peak then Belmont Park traffic on the bridge will be 2944 (61%) of 4826 vehicles total two-way traffic on the bridge. The latter scenario is the highest volume scenario and therefore is the one that has greatest impact on the required road network improvements in this area.

5.6 Road Hierarchy

The proposed road hierarchy within the Belmont Park site is illustrated in Figure 11. This is based on the hierarchy of roads set out in the Western Australian Planning Commission's *Liveable Neighbourhoods* policy guidelines and takes into consideration the modelled traffic volumes and the function of each road.

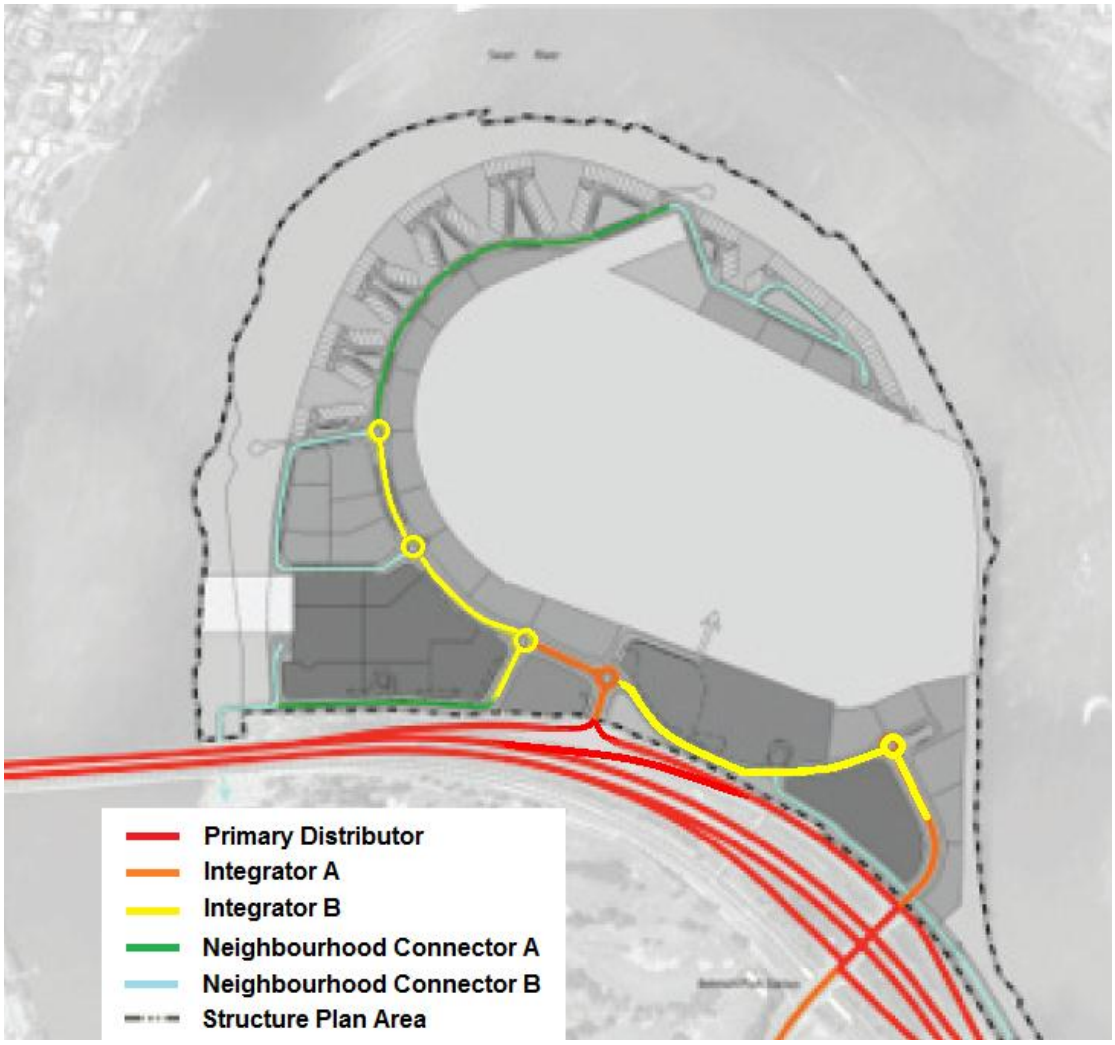


Figure 11. Belmont Park road hierarchy

5.7 Analysis of Development Accesses and Intersections

There are two main access points proposed to the Belmont Park redevelopment. These are the existing access from the eastbound off-ramp of Graham Farmer Freeway and a new connection from the northern intersection on the Victoria Park Drive bridge.

At the existing access the eastbound off-ramp currently widens from one lane at the freeway exit to three lanes on the approach to this access intersection; one lane to turn left into Belmont Park and two lanes to continue eastwards toward Victoria Park Drive.

At the request of Main Roads WA the option of removing the existing westbound lanes from this eastbound off-ramp has been considered and adopted in the structure plan. This means there will no longer be right turn access into the existing Belmont Park access and the traffic signals at this intersection will no longer be required. This intersection is therefore proposed to be reconfigured as left in / left out only.

In consultation with Main Roads WA it has been determined that a second eastbound off-ramp should be constructed parallel to the existing off-ramp. The existing eastbound off-ramp will terminate at the existing Belmont Park access point and will serve traffic travelling into Belmont Park. The second eastbound off-ramp will connect to the existing northern signalised intersection at Victoria Park Drive bridge and will be primarily for traffic travelling to Burswood, the Stadium and other parts of the Burswood Peninsula. The existing Belmont Park access point will become left in / left out only, with the left turn out movement to merge with the new second eastbound off-ramp as shown in the road access concept plan at Appendix A.

The Paramics model indicates no traffic queues back onto the freeway in the four scenarios modelled.

The Paramics model does show that traffic queues may occasionally extend between pairs of roundabouts on the main spine road west of this access but these queues tend to clear quickly and the modelled network does not become gridlocked.

At the Victoria Park Drive bridge access into the TOD Precinct the proposed access road will change the existing 3-way signalised intersection to 4-way. The new northern link will also be on a bridge above a ground-level access road parallel to GFF. The new northern link is proposed to be two lanes northbound and two lanes southbound, plus a left turn slip lane from north to east. This 4-lane configuration is anticipated to extend northward only until it reaches a car park entrance on the western side. Further north this TOD Precinct access road would be reduced to one lane each way with substantially lower traffic flows and therefore a more pedestrian-friendly environment through the rest of the TOD Precinct.

The Paramics model indicates that this northern intersection will operate well in all four scenarios modelled. Queues do occasionally build up on all approaches but they clear quickly.

On the Victoria Park Drive bridge itself there are currently two lanes southbound and two lanes northbound plus a right turn pocket for the movement from south to east. The bridge also has a 2m median island and a 2.5m path on the eastern side. It is proposed to create a third southbound traffic lane on the bridge to increase capacity at the intersection at the southern end of the bridge. This will be achieved by removing the path and narrowing the median on this bridge. This will then require a similar treatment on the Victoria Park Drive railway bridge so that the southbound traffic lanes are able to line up through the intersection. The path on both bridges would need to be replaced by construction of a new footbridge on the eastern side of these traffic bridges but this would be a much lighter and less expensive structure than the existing traffic bridges. (At the rail bridge the state government project team working on the Perth Stadium project and associated Belmont Park train station is understood to be considering whether this path should be deviated southwards to cross the railway at the proposed train station concourse. Either way will result in a new pedestrian and cyclist facility crossing the railway on the south side of Victoria Park Drive.)

The signalised intersection at the southern end of the Victoria Park Drive bridge is proposed to be improved by adding one more southbound approach lane on the bridge as described above, which will increase capacity at this intersection to accommodate traffic from the Belmont Park redevelopment. Paramics modelling indicates that this intersection may become congested in the AM peak period in particular. The problem is mainly related to the capacity of the single lane westbound on-ramp to GFF, which sometimes queues back from the GFF merge lanes to this intersection in the modelled AM peak scenario. This may result in lengthy queues on all approaches and it is therefore recommended that the westbound on-ramp to GFF should be upgraded to a two-lane on-ramp to GFF. Main Roads WA has provided a preliminary concept plan for the design of this two-lane on-ramp which confirms that this upgrade is feasible. This upgraded westbound on-ramp has therefore been included in the Paramics model for the proposed 2031 full development scenario modelled.

The road network improvements proposed to provide access to the Belmont Park redevelopment are shown in Figure 12.

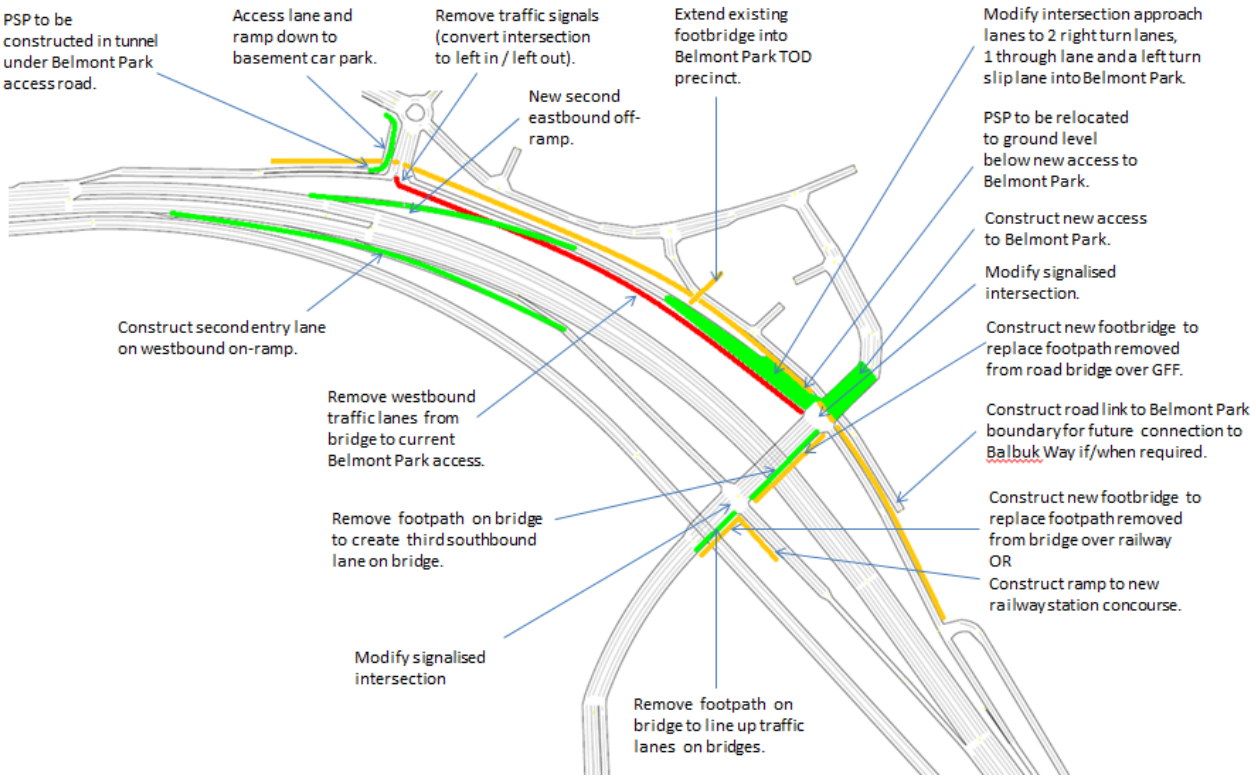


Figure 12. Proposed road network changes

The proposed road network changes shown in Figure 12 generally reflect the configuration that has gained a level of support from state government authorities to date. The access lane and ramp down to basement car park leading from the existing Belmont Park access is an internal development design detail that has not been discussed directly yet and will be resolved at detailed design and development application stage.

The proposed left turn slip lane into the Belmont Park TOD precinct and the adjacent west-to-east through lane through this intersection were not originally part of the second eastbound off-ramp concept but both these traffic movements are strongly desired by the developer (GRD) to reduce traffic flows through the heart of the TOD precinct.

The developer, supported by the Town of Victoria Park, would like to preserve the TOD precinct as a place that encourages a high level of pedestrian activity, a high street (like Rokeby Road, for example), where residents, visitors and office workers, can safely and comfortably shop both sides of the street. GRD intend that this precinct will develop sound place-making concepts, which encourage people-activity and related safety of place, over an extended daily time period.

These left turn and through traffic lanes have been incorporated in the Paramics model and the modelling shows that they will both work satisfactorily.

5.8 Impact on Surrounding Roads

Essentially, in the 2031 full development scenario modelled by Main Roads WA the Graham Farmer Freeway is close to capacity in the peak direction during morning and evening peak periods. Although information about future traffic flows on other bridges across the Swan River has not been provided it is highly likely that all of the bridges near the centre of Perth are close to capacity in this modelled scenario because the traffic model tends to balance out travel times and delays across all available routes.

The consequences of these high traffic levels will be a combination of travel demand suppression, peak spreading and mode shift. Some of this travel demand will be suppressed, which means that some non-essential trips simply won't happen. Some trips will be made earlier or later, which will result in the peak period becoming longer. And some people will choose to use other modes of transport because congestion makes car travel less attractive in this scenario. These phenomena are well-known in other, larger cities and are an inevitable consequence of Perth's rapid growth.

However, the traffic volumes documented in Table 4 indicate that the forecast two-hour peak period traffic flows are within the capacity of GFF in 2031 (3 lanes each way X 2000vph/lane X 2 hours = 12,000 capacity each way). There is potential for congestion to occur during some parts of these peak periods but overall there is sufficient capacity to accommodate the forecast traffic flows.

5.9 Traffic Noise and Vibration

It generally requires a doubling of traffic volumes on a road to produce a perceptible 3dB(A) increase in road noise. Traffic volumes on the surrounding network are high enough that the proposed Belmont Park redevelopment will not increase traffic volumes or noise on surrounding roads to this level.

An acoustic analysis has been undertaken for this development by Herring Storer Acoustics and is documented in a separate report. It indicates that road noise from Graham Farmer Freeway is an issue for noise-sensitive land uses such as residential in the TOD and Marina Precincts. Noise attenuation measures are recommended for noise-sensitive land uses in these areas and appropriate notification about this consideration for future buyers of affected properties.

5.10 Road Safety

As noted in section 4.3 there are four separate intersection locations within the Graham Farmer Freeway / Victoria Park Drive interchange that recorded crashes in the five year period analysed. The 4 locations involved rank from 1199th to 7657th in the state in terms of crash frequency.

As traffic flows at these locations increases in future there would naturally be potential for the number of crashes at these locations to increase in future.

It is therefore recommended that road safety audits be undertaken at detailed design stage for the proposed improvements at the following locations:

- Existing Belmont Park access / GFF eastbound off-ramp intersection;
- Future Belmont Park access / Victoria Park Drive bridge / GFF eastbound ramps intersection; and
- Victoria Park Drive bridge / GFF westbound ramps intersection.

6 PARKING

The Belmont Park Racecourse Redevelopment Structure Plan report includes tables detailing the floor space of each proposed land use component and gross floor area of parking areas associated with each land use. The parking floor area is understood to have been calculated at an average rate of 35m^2 per parking bay (including parking aisles, circulation lanes, etc.) for parking in structure.

The floor space of each land use is also summarised in Table 1 (see Section 3) of this transport assessment report.

Proposed parking provision for the residential components varies according to the number of bedrooms. Single-bedroom units vary from 0.75 to 1.0 spaces per unit (minimum 0.75), two-bedroom units vary from 1.25 to 1.5 spaces per unit (minimum 1.0) and three or four-bedroom units are allocated 2 spaces per unit (minimum 1.25). (Parking in the TOD precinct tends toward the lower end of these ranges.) An additional 10% of this number of spaces is provided for residential visitor parking. These parking ratios are higher than the minimum requirements of the R-Codes but reflect the car ownership characteristics of anticipated future residents in this development.

Office parking is provided at a rate of 1 bay per 57m^2 of net floor area (NFA), which is consistent with the transit-oriented focus of the proposed office development. Retail parking is provided at a rate of 5 bays per 100m^2 NFA, which is a typical rate that has been applied at many shopping centres around the Metropolitan Region in recent years. The hotel component is provided parking at a rate of one bay per 5 rooms.

This parking provision is anticipated to be sufficient to meet the needs of the proposed development on site.

The parking facilities for the TOD (Precinct D) and Marina Precinct (Precinct B) are planned as multi-level structures beneath or sleeved behind commercial and residential buildings in each precinct.

Parking requirements for the race club have been established as 140 car bays and 31 trailer parking bays. In addition, the existing at-grade parking areas near the main entrance intersection will be replaced by a 1200 bay at-grade parking area in the middle of the racecourse, accessed via a new road to be constructed under the race track itself, for race day event parking. It is anticipated that this would only be full on Saturday special event days such as the annual Italian Day event. The biggest WA racing events are not held during the winter season and are therefore not held at Belmont Park.

The proposed 60,000-seat new Perth Stadium south of this site may potentially create parking demand issues within the Belmont Park site because it is anticipated there will be relatively little parking supplied for the stadium itself. This will need to be taken into consideration in the planning of both developments and a suitable parking management strategy put in place for

events at the stadium, although planning for the stadium is not sufficiently advanced to allow this to be done yet. It would be appropriate for this to be considered further at detailed design stage for the development in the TOD and Marina Precincts.

The following parking management principles are proposed for the Belmont Park redevelopment:

- All parking associated with various components of the development would be accommodated off public roads except on-street public parking.
- The parking details of each component of the development would be addressed as part of the Development Application process.
- It is intended that a separate Development Application would be submitted with each component or stage of the development.
- As part of each Development Application, the Parking Management Plan (PMP) will be developed which will address the use and management of each car park facility proposed.
- It is intended that each off-street parking facility will have effective management and control systems in place to prohibit parking by patrons from outside Belmont Park area such as patrons of the proposed stadium.
- The visitor parking component of each development will be accommodated on site and an appropriate management system such as "ticket validation" will be implemented to prohibit people who are not visiting the development from parking within the visitor parking area of the development.
- Appropriate time restrictions will be applied to all on-street parking within the retail and commercial areas as well as the Transit Oriented Development (TOD) precinct to prohibit the use of on-street parking for non-intended purposes.
- Appropriate management measures such as "time restrictions" or "resident permits" will be implemented within the low to mid-rise residential precincts to prohibit the use of on-street parking for non-intended purposes.

7 PUBLIC TRANSPORT

The Belmont Park special events railway station currently provides good public transport access to the site on race days. With the high level of car traffic forecast on the regional road network in this area in future it is considered essential that this becomes a full-time station to provide public transport access for the proposed Belmont Park redevelopment in future.

Discussions with Public Transport Authority officers indicate that they do not favour servicing this site with buses, largely because buses between Belmont Park and the city centre would be delayed by peak period congestion on Graham Farmer Freeway in future.

The Belmont Park railway station currently involves about a 400m walk via the existing footbridge to reach the Belmont Park site. The proposed TOD Precinct is therefore within 800m (10 minute) walk of this railway station, which is commonly accepted as the appropriate walking distance threshold from a railway station. Walking distances from the station are illustrated in Figure 13. A direct connection from this footbridge to the office component of the TOD Precinct will be included as part of the detailed design process, to reduce walk distances associated with the existing footbridge ramps.

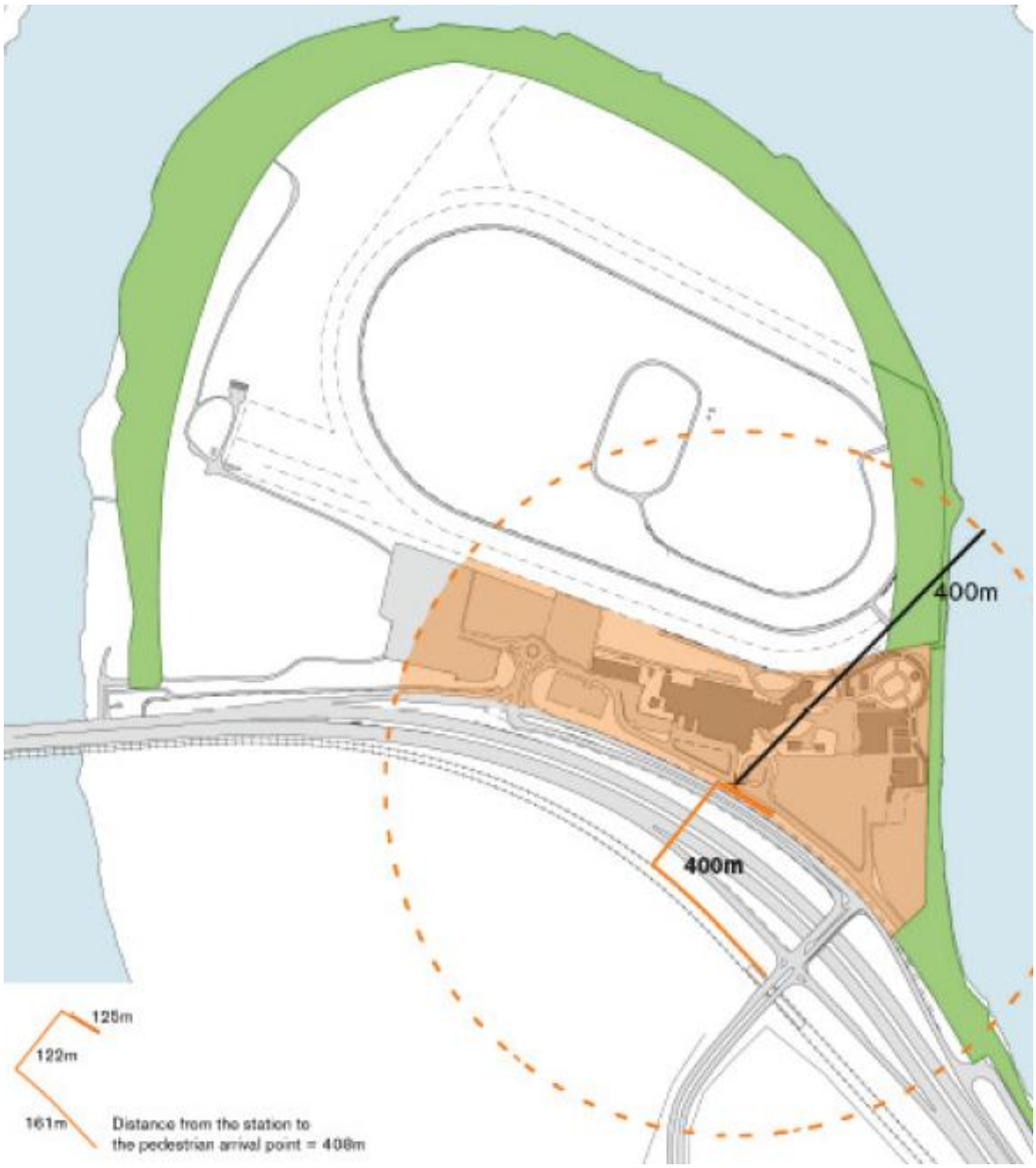


Figure 13. Walk distance from Belmont Park station

The proponent has advised that they will provide an internal shuttle bus service, to service resident needs to access public transport (train and bus). Service frequency is to be based on a survey of residents needs once residential development of Belmont Park has been completed and residents are residing.

8 PEDESTRIANS AND CYCLISTS

The proposed pedestrian and bicycle network within the Belmont Park site is illustrated in Figure 14.

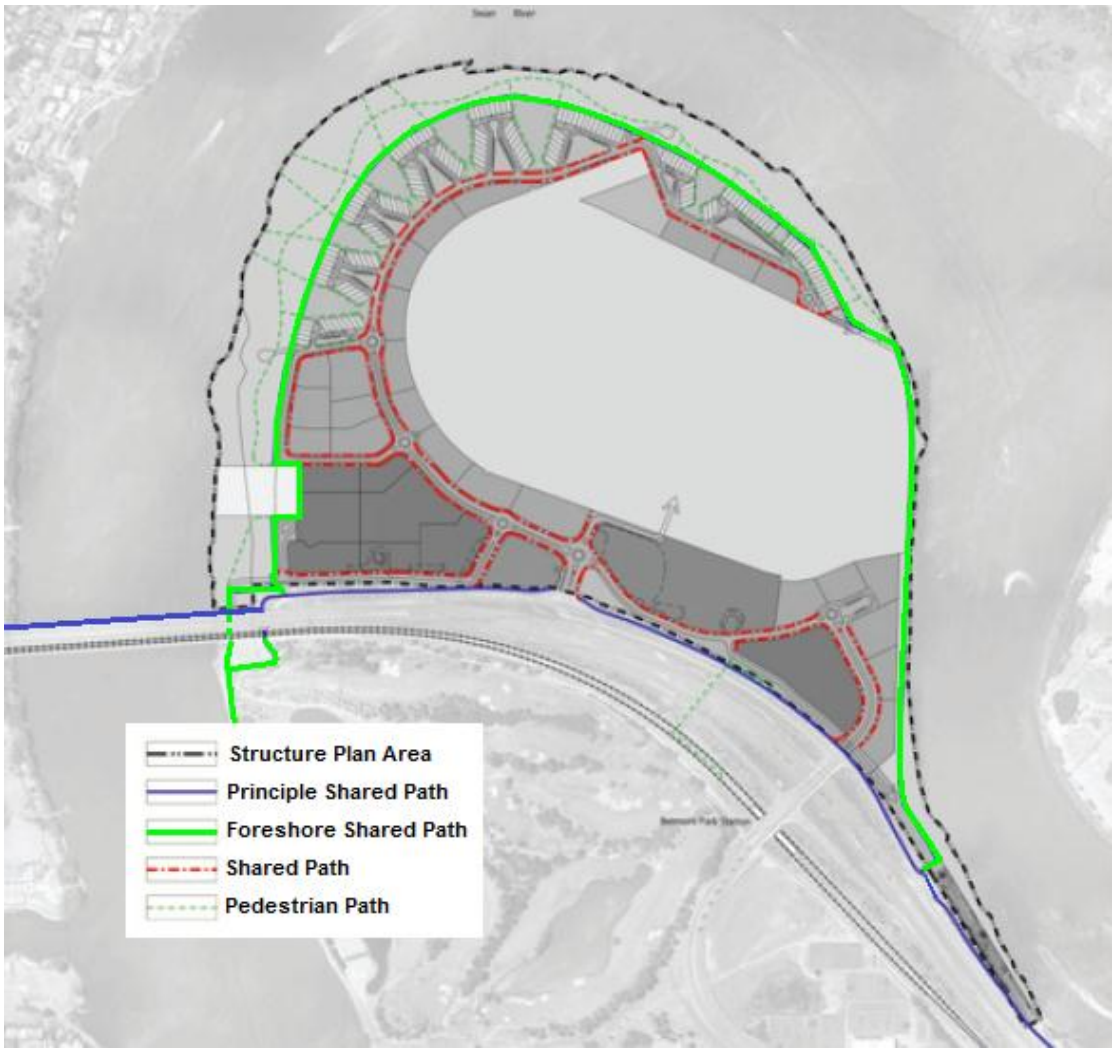


Figure 14. Proposed pedestrian and bicycle network

The existing principle shared path alongside Graham Farmer Freeway will be relocated to ground level adjacent to the TOD precinct (Precinct D) so that it can pass under the new road access into Belmont Park at Victoria Park Drive bridge. At the existing access to Belmont Park a tunnel is to be constructed to carry the PSP below the road to eliminate potential conflict between bicycles and motor vehicles.

The existing foreshore shared path system, which currently exists south of the site as shown in Figure 8 (see Section 4.5), will be continued around the west, north and east sides of the site to extend this excellent recreational facility for the benefit of future residents and the wider community. Note that this foreshore shared path system will be a higher standard (eg. 3m wide) than ordinary shared paths (typically 2.0 – 2.5m width) such as the network of shared paths included

along the integrator arterial and neighbourhood connector road network within the site in Figure 14.

Additional footpaths will also be provided throughout the foreshore area around the site to facilitate leisure and recreational access to these areas from all parts of the site.

As noted in Section 5.7, intersection improvements at the Victoria Park Drive bridges will remove the existing footpaths on the eastern side of those bridges, meaning the path would need to be replaced by construction of a new footbridge on the eastern side of these traffic bridges. This would maintain existing pedestrian and cyclist access to the shared path along Victoria Park Drive, so the external connections to the surrounding pedestrian and cyclist network will be maintained. This is being planned in consultation with the Perth Stadium project team designing the new Belmont Park railway station, to ensure that high standard access is also provided between Belmont Park and the new railway station.

Appropriate end-of-trip facilities for cyclists will be included in each part of the development at detailed design and development approval stages.

9 CONCLUSIONS

This Transport Assessment addresses a proposed redevelopment concept structure plan for the Belmont Park racecourse site on the Burswood Peninsula, which proposes residential and commercial land use development around the Belmont Park racecourse. Access will be from Graham Farmer Freeway via the Victoria Park Drive interchange and would modify and expand upon existing access arrangements for Belmont Park from this interchange.

This proposal also envisages conversion of Belmont Park train station from a special events station to full time operation to service the future residential and commercial development in this area. The structure plan includes a transit-oriented development precinct close to this station to encourage and facilitate use of public transport.

The site has good access by the existing footpaths and bicycle routes in this area and the proposed development will incorporate a comprehensive network of pedestrian and cyclist facilities on the site.

The proposed development is anticipated to generate over 5300 vehicle trips in the weekday AM 2-hour peak period and over 6700 in the PM 2-hour peak period, with about 10% of these trips being internal within the site.

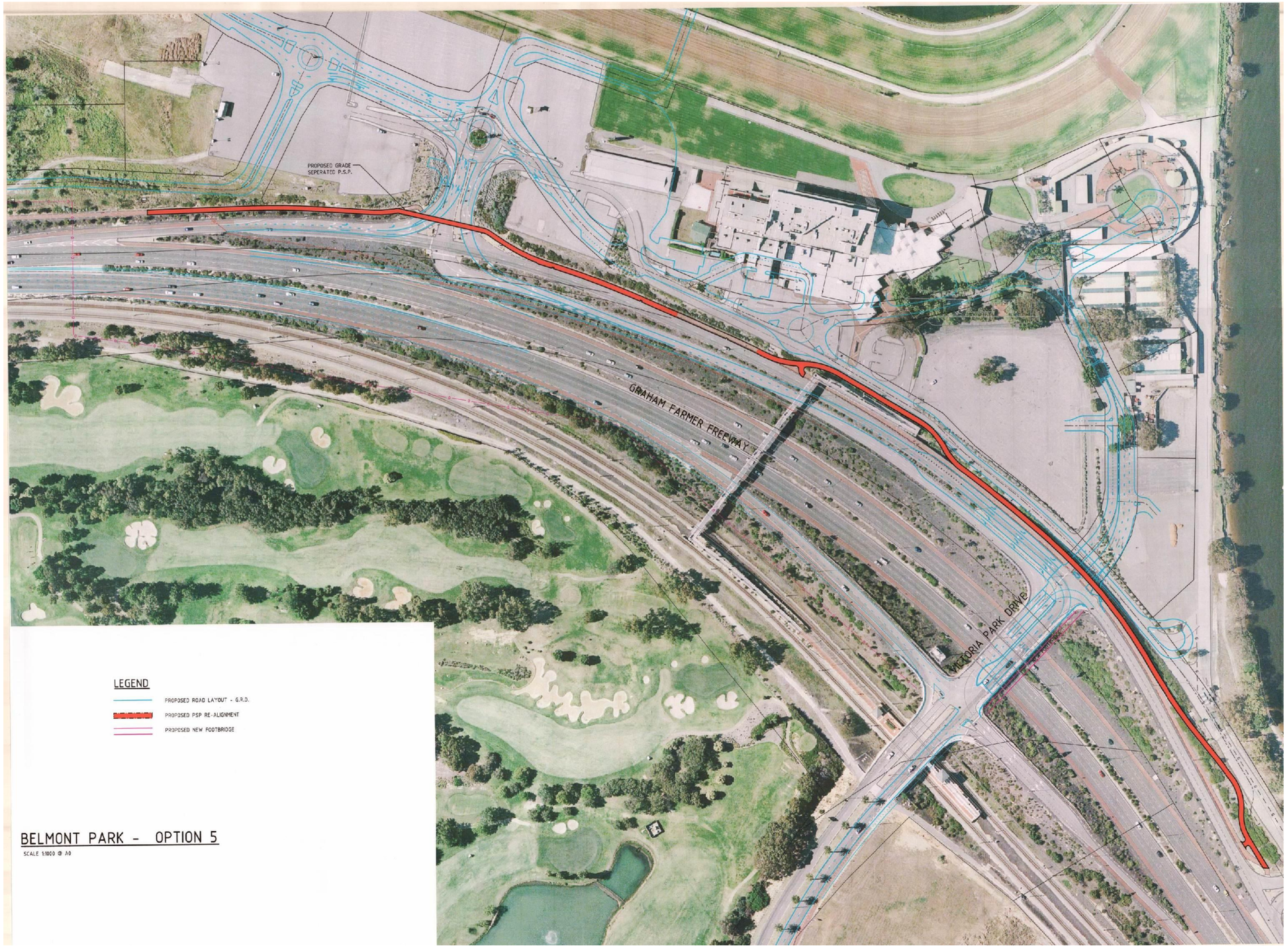
The operation of the proposed road network within the site and connections to Graham Farmer Freeway and Victoria Park Drive have been modelled in a Paramics micro-simulation traffic model as part of this study. The two main access intersections serving the proposed development are considered to operate satisfactorily in the 2031 AM and PM peak period scenarios modelled.

Traffic modelling undertaken by Main Roads WA, taking into consideration the full range of development proposals being considered in this part of the Metropolitan Region, indicates that Graham Farmer Freeway itself will be close to capacity in the peak directions during peak hours in this full development 2031 scenario.

This emphasises the importance of the Belmont Park train station becoming a full-time station to provide a public transport alternative for travel to and from the proposed Belmont Park redevelopment.

Appendix A

Road Access Concept Plan


PROPOSED GRADE SEPERATED P.S.P.
GRAHAM FARMER FREEWAY
VICTORIA PARK DRIVE
LEGEND
PROPOSED ROAD LAYOUT - G.R.D.
PROPOSED PSP RE-ALIGNMENT
PROPOSED NEW FOOTBRIDGE
BELMONT PARK - OPTION 5
SCALE 1:1000 @ A0

Appendix B

Summary of Paramics Microsimulation Traffic Model

Summary of Paramics Microsimulation Traffic Model

B1. Introduction

Transcore has undertaken Paramics microsimulation modelling for the proposed redevelopment of Belmont Park Race Course, abutting Graham Farmer Freeway near Victoria Park Drive in Burswood, WA.

The Paramics microsimulation model is a powerful visual tool which enables the assessment of existing access and circulation issues and investigation and testing the impact of various access, road network and land use scenarios. It is used to simulate the behaviour of individual vehicles within a predefined road network and to predict the likely impact of changes in traffic patterns resulting from changes to traffic flow or from changes to the physical environment.

The modelling was undertaken to investigate the existing traffic movements adjacent to the Belmont Park Racecourse and to assess the traffic implications of the proposed redevelopment of the racecourse. A model of the existing road network and traffic was prepared and calibrated against existing traffic counts. Once calibrated a model of the proposed development was prepared for 2031.

This summary presents a limited amount of information about the methodology and calibration of the Paramics model and modelling scenarios. A more detailed Model Calibration Report has been prepared but is not reproduced in full in this appendix.

B2. Model Study Area and Zone System

The subject site is located on the Burswood Peninsula adjacent to the Graham Farmer Freeway, as shown in Figure 1 of the Transport Assessment report.

A base case road network model was developed and calibrated in Paramics. This network was modelled to establish the existing traffic conditions at the subject site for comparison with simulated traffic conditions of the proposed development.

As shown in Figure A1 the extent of the modelled existing road network included the Graham Farmer Freeway, Orrong Road up to (but not including Fransisco Street), Great Eastern Highway (from Brighton Road to just after Grifiths Street), Victoria Park Drive (from the interchange to just after Roger Mackay Drive) and East Parade (from Summers Street to Kensington Street). Additionally the Victoria Park Drive, Great Eastern Highway and East Parade interchanges with Graham Farmer Freeway were also included in the model.

The model was developed and calibrated for the period up to February 2012 which was when traffic surveys were undertaken and data collected for the development of a suitable traffic matrix and model calibration.

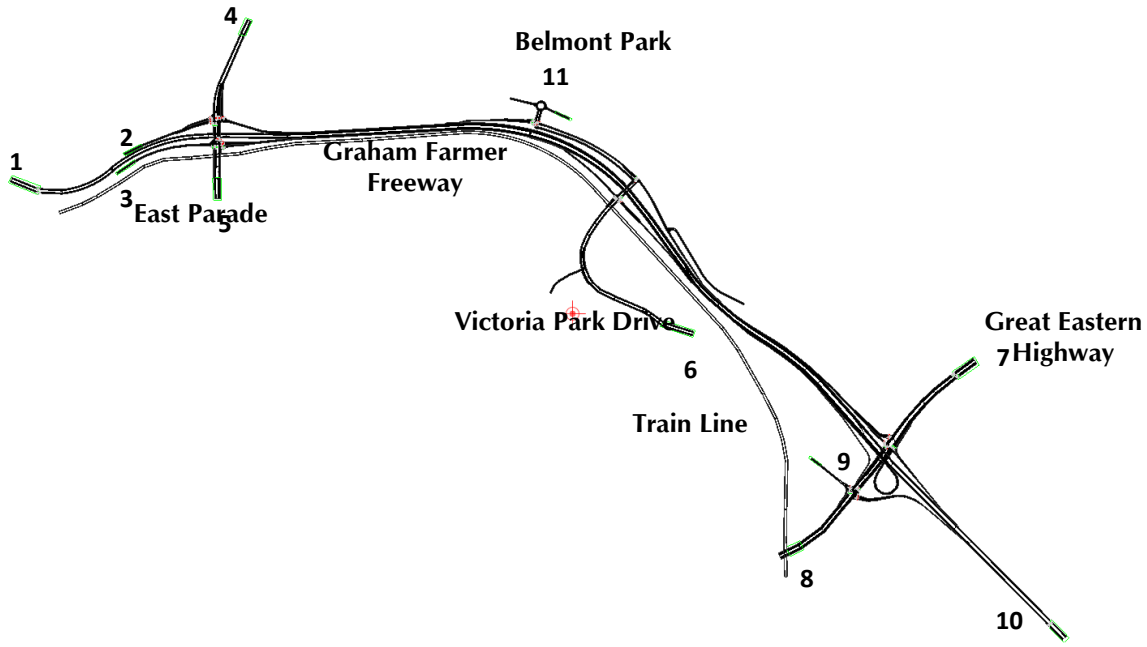


Figure B1. Existing Road Network and Zones – as modelled in Paramics

B3. Base Year Development and Calibration

Transcore undertook a traffic survey of the subject site on Thursday 23rd February 2012, during which traffic turn volumes, percentage lane utilisation; highest queue lengths per 5 minutes and general driver behaviour were recorded at the interchanges of Graham Farmer Freeway with East Parade, Victoria Park Drive and Great Eastern Highway. Sufficient traffic data was collected for the preparation of a full, existing origin-destination traffic matrix covering all the zones in Figure B1.

SCATS intersection traffic data was also obtained from Main Roads Western Australia along with the latest available mid-block freeway traffic counts in the vicinity of Victoria Park Drive.

The period of analysis adopted for calibration of the base year Paramics model spanned two, one-hour peaks on a typical weekday:

- Period 1 – 8:00am to 9:00am
- Period 2 – 5:00pm to 6:00pm

Once the existing Paramics road network was created and the existing traffic matrix developed and inserted, the model was run and traffic volumes analysed. An iterative process of model calibration was then undertaken. Modelled traffic volumes for selected turning movements were compared to actual traffic counts using the GEH statistical analysis method. The GEH Statistic is a formula used in traffic engineering, traffic forecasting, and traffic modelling to compare two sets of traffic volumes (the modelled traffic flows versus the actual counts).

For traffic modelling work in the existing scenario, a GEH of less than 5.0 is considered a good match between the modelled and observed *hourly* volumes.

85% of the volumes in a traffic model should have a GEH of less than 5.0. GEHs in the range of 5.0 to 10.0 may warrant investigation. If the GEH is greater than 10.0, there may be issues with either the travel demand model or the data.

In this base case Paramics model all movements achieved a GEH of less than 5. The model is therefore considered to be successfully calibrated.

We can see below that the model performs very well in terms of reproducing the observed volumes. Considering that these statistics are based on a sample of every turning movement in the modelled network, this measure is highly reliable and includes the largest possible turn flow sample size.

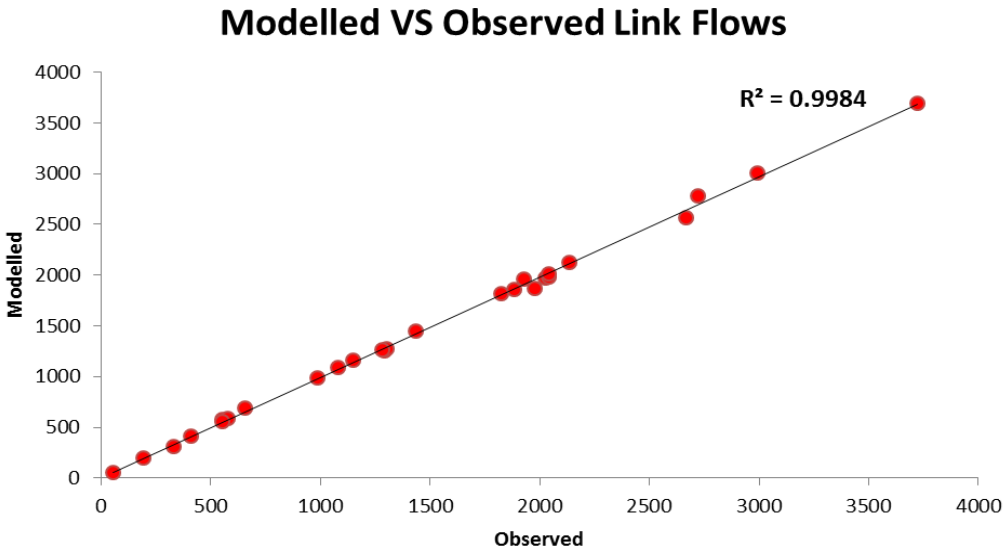


Figure B2. Observed Vs Modelled PM Link Flows All Vehicles

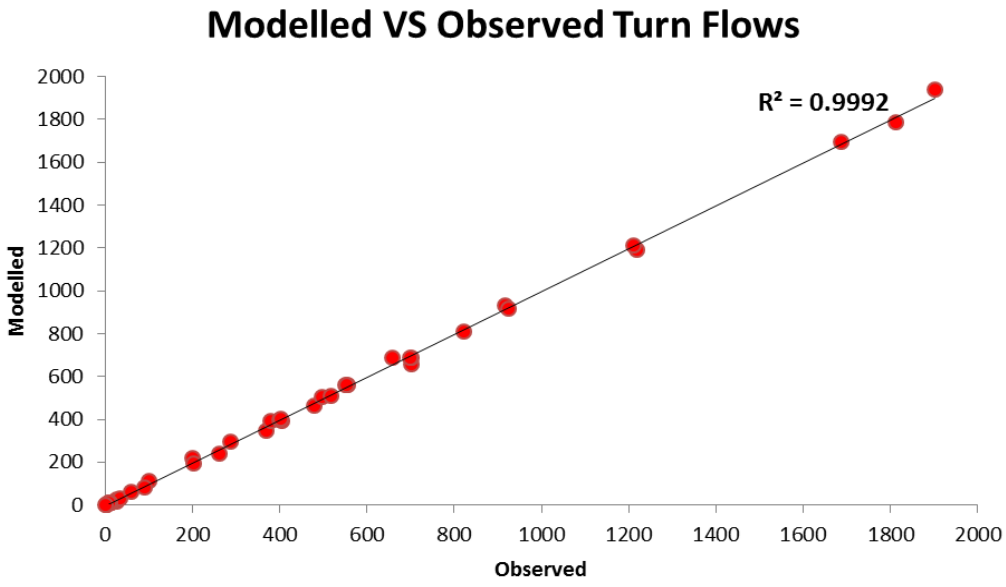


Figure B3. Observed Vs Modelled PM Turn Flows All Vehicles

In summary, the model is producing results that are well aligned to observed values and the model is suitable to undertake modelling of the project case.

B4. Modelling of Future Year Scenarios

The future situation in the year 2031 has been modelled as described in section 5 of the Transport Assessment report. As mentioned there the modelled period was increased to two-hour weekday AM and PM peak periods (7-9AM and 5-7PM) to take into consideration future peak spreading as Perth's road network becomes more congested over time.

The modelled road network and zones in the 2031 future scenarios, with full development of the Belmont Park redevelopment site, are illustrated in Figure B4.

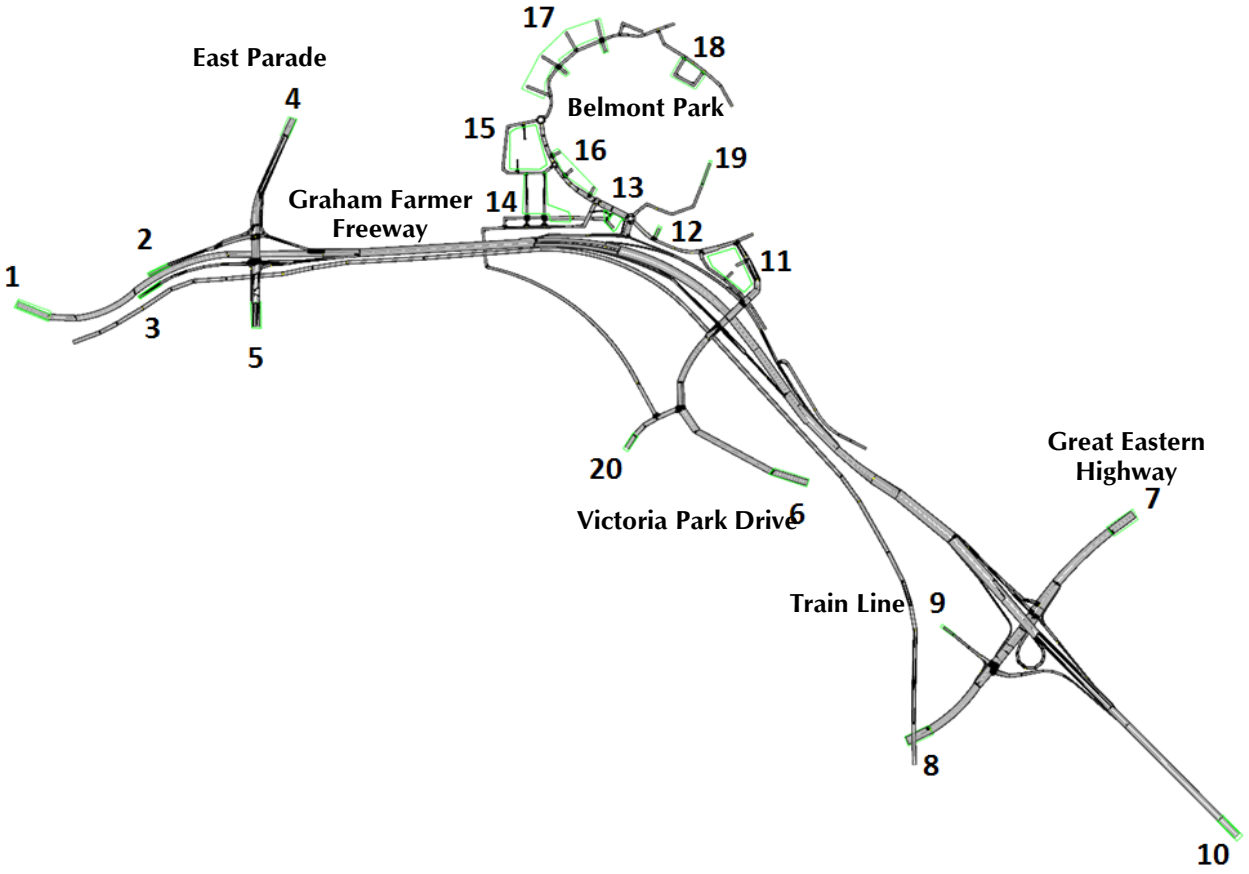


Figure B4. Future Road Network and Zones – as modelled in Paramics

Future base traffic flows have been derived from Main Roads WA ROM traffic model projections as discussed in section 5.4 of the Transport Assessment report and traffic generation of the proposed Belmont Park redevelopment has been determined as discussed in section 5.2. The resultant total 2-hour peak period traffic flows at each zone are summarised in Table B1. However, it should be noted that the volumes shown for zones 11-19 in Table B1 include internal trips between these Belmont Park zones. For traffic flows into and out from Belmont Park refer to Table 2 in the Transport Assessment report.

Table B1. Future 2-hour peak traffic flows at zones

Zone	2-hour AM peak		2-hour PM peak	
	vehicles out from zone	vehicles into zone	vehicles out from zone	vehicles into zone
1	7298	7932	7592	6313
2	4412	0	4457	0
3	0	4182	0	3427
4	5072	2848	2751	4471
5	1811	4720	3033	2168
6	1180	938	1332	1299
7	5844	4435	4810	5013
8	3970	6046	4473	5588
9	278	464	392	398
10	7854	5529	5475	6307
11 - 19	2622	3248	4094	3426

The proportion of future total traffic flows that is associated with the proposed Belmont Park redevelopment on several key road links adjacent to the site is summarised in Table 4 of the Transport Assessment report.

D. WAPC GUIDELINES CHECKLIST

D

APPENDIX: WAPC GUIDELINES CHECKLIST

Item	Provided	Comments/Proposals
Summary	✓	
Introduction/Background	✓	
Structure plan proposal	✓	
regional context	✓	
proposed land uses	✓	
table of land uses and quantities	✓	
major attractors/generators	✓	
specific issues	✓	
Existing situation	✓	
existing land uses within structure plan	✓	
existing land uses within 800 metres of structure plan area	✓	
existing road network within structure plan area	✓	
existing pedestrian/cycle networks within structure plan area	✓	
existing public transport services within structure plan area	✓	
existing road network within 2 (or 5) km of structure plan area	✓	
traffic flows on roads within structure plan area (PM and/or AM peak hours)	✓	
traffic flows on roads within 2 (or 5) km of structure plan area (AM and/ or PM peak hours)	✓	
existing pedestrian/cycle networks within 800m of structure plan area	✓	
existing public transport services within 800m of structure plan area	✓	
Proposed internal transport networks	✓	
changes/additions to existing road network or proposed new road network	✓	
road reservation widths	✓	
road cross-sections & speed limits	✓	
intersection controls	✓	
pedestrian/cycle networks and crossing facilities	✓	
public transport routes	✓	
Changes to external transport networks	✓	
road network	✓	
intersection controls	✓	

APPENDIX: WAPC GUIDELINES CHECKLIST

pedestrian/cycle networks and crossing facilities	✓	
public transport services	✓	
Integration with surrounding area	✓	
trip attractors/generators within 800 metres	✓	
proposed changes to land uses within 800 metres	✓	
travel desire lines from structure plan to these attractors/generators	✓	
adequacy of external transport networks	✓	
deficiencies in external transport networks	✓	
remedial measures to address deficiencies	✓	
Analysis of internal transport networks	✓	
assessment year(s) and time period(s)	✓	
structure plan generated traffic	✓	
extraneous (through) traffic	✓	
design traffic flows (that is, total traffic)	✓	
road cross-sections	✓	
intersection controls	✓	
access strategy	✓	
pedestrian/cycle networks	✓	
safe routes to schools	✓	
pedestrian permeability & efficiency	✓	
access to public transport	✓	
Analysis of external transport networks	✓	
extent of analysis	✓	
base flows for assessment year(s)	✓	
total traffic flows	✓	
road cross-sections	✓	
intersection layouts & controls	✓	
pedestrian/cycle networks	✓	
Conclusions	✓	

Proponent's Name: Luke Oliver

Company: CLE Town Planning + Design Date: 17/06/2021

Transport Assessor's Name: Sonja Hayes

Company: GTA Consultants now Stantec Date: 17/06/2021

E. PARKING MANAGEMENT PLAN

E

E

Burswood Peninsula – Precinct A

Parking Management Plan

Prepared by: Stantec Australia Pty Ltd for Bridge42

on 29/06/2022

Reference: 301400758

Issue #: 2

GTAconsultants now Stantec

Burswood Peninsula – Precinct A

Parking Management Plan

Client: Bridge42

on 29/06/2022

Reference: 301400758

Issue #: 2

Quality Record

Issue	Date	Description	Prepared By	Checked By	Approved By	Signed
A-Dr	04/08/2021	Draft	SH	AO	TJ	
0	27/08/2021	Final	SH	AO	TJ	
1	03//02/2022	Amended Final	SH	RD	TJ	
2	23/06/2022	Updated Final	SH	AM		

GTA consultants now Stantec

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1. INTRODUCTION

1.1. Background and Proposal

Stantec has been engaged to prepare a Parking Management Plan (PMP) for the area within Burswood Peninsula – referred to as Precinct A. Precinct A is the northern portion of the Belmont Park Racecourse Redevelopment area, which in its entirety is divided into:

- Precinct A (the subject of this PMP),
- Precinct B (south-west of the racecourse)
- Precinct C (the racecourse), and
- Precinct D (south-east of the racecourse).

The Redevelopment area is positioned between Victoria Park Drive and the Swan River, with Precinct A aligning the north and north-western foreshore. The Master Plan indicates a proposed yield of 910 apartments within four (4) Lots, and 203 townhouses with the townhouses along the outer foreshore edge and the apartments inset along the racecourse. Public open spaces are located centrally within Precinct A, with smaller areas provided sporadically between the townhouse developments, and a foreshore centre style structure proposed between Superlots G and H. Each Superlot encompasses between 13 and 21 individual townhouse lots.

On-street car parking is provided along the main street, with a public car park area also provided centrally to the Master Plan area near the foreshore centre. The Master Plan and subject site location within the wider Redevelopment area is shown in Figure 1.1.

Figure 1.1: Burswood Peninsula – Precinct A Master Plan January 2022

Source: DLE Burswood Peninsula Precinct A Master Plan

1.2. Purpose of the Report

This PMP is prepared in accordance with the structure presented in the Town of Victoria Park Parking Management Plan using the five-step process outlined in the Parking Management Framework document. This report determines the residential and visitor parking space requirements of Precinct A and intended application and management of the provided parking spaces.

The Parking Management Framework document provides the following steps in preparing a PMP:

1. Current Parking Environment
2. Investigation
3. Recommend Solutions
4. Make the Change
5. Review and Monitor

2. CURRENT PARKING MANAGEMENT ENVIRONMENT

With no existing infrastructure development within the Precinct A area, there is no onsite parking demand or supply issues at present. Staging of the Belmont Park Redevelopment project sees Precinct D, on the south-eastern corner of the site being developed as part of Stage 1 (currently under construction), followed by Precinct B. Parking demand associated with the surrounding development is unlikely to impact on Precinct A due to the proximity and connectivity of the subject site.

2.1. Stakeholders

Precinct A includes residential dwellings within townhouse and apartment developments as well as a large public open space area provided along the Swan River foreshore. Given the proximity to the racecourse and future commercial development in Precinct B and associated Activity Centre, some cross over of parking demand may occur between the neighbouring land uses, however use of the parking spaces within the site area will be predominantly by residents, visitors of residents, and visitors to the public open spaces and managed to ensure this priority of user is maintained Transport Modes

A Transperth bus service is proposed to access the Precinct A area, however detail of this service, such as timing, frequency and stop location, has yet to be decided. Currently the Belmont Park Train Station is only activated as a stop for events. With the development of Belmont Park this train station may be converted to a commuter station, potentially attracting long term commuter parking.

A possible active travel bridge between Burswood Peninsula and East Perth has been identified by the State Government to provide pedestrians and cyclist a direct connection to the northern side of the river.

2.2. Existing Issues or Concerns

Considering the proximity of the subject site to the external public transport and the provision of a Transperth bus service there is potential that the subject site car parking spaces will be used by commuters and visitors to adjacent land uses (namely the stadium and racecourse) and reduce the availability of spaces for genuine visitors to and residents of the Precinct.

3. INVESTIGATION

3.1. Parking Space Requirements

The parking space requirements of Precinct A can be determined by reviewing the proposed townhouse and apartment yields. The parking space requirements for different land uses is provided in the Town of Victoria Park Local Planning Policy 23 – Parking Policy which refers to the Residential Design Codes. The Institute of Transportation Engineers (ITE) Parking Generation Manual Version 5 has been referred to for the foreshore related visitor parking. The following minimum car parking rates are applicable to Precinct A:

Townhouses (Residential Design Codes Volume 1):

- 1.5 car parking spaces per dwelling, plus
- 0.25 visitor car parking spaces per dwelling

This equates to a car parking space requirement of 1.75 spaces per dwelling.

Apartments (Residential Design Codes Volume 2)

- 1.25 car parking spaces per dwelling, plus
- 1 space per four dwellings for the first 12 dwellings and then 1 space per 8 dwellings for the 13th and above.

Public Open Space (City Park 411)

- 4.2 spaces per acre, or 10.4 spaces per hectare

Each townhouse lot provides a minimum of 2 on-site residential car parking spaces with visitor car parking to be accommodated for within the street network. With 203 townhouses proposed, a total of 51 (50.75 rounded up) visitor spaces are to be provided for the entire precinct. These visitor parking bays are to be distributed throughout the precinct along the main street, and within the proposed visitor car parking areas central to the precinct area (see Figure 1.1).

Each apartment building is to provide 1.25 car parking spaces per apartment for residents and additional parking for visitors as detailed above, with all residential and visitor parking to be provided internally within the apartment building parking areas.

The foreshore centre has been assessed as a 'City Park' as per the rates provided in the ITE Parking Generation Manual. This equates to a requirement of 11 (10.3 rounded up) spaces for the public open space area of 9,931m^2.

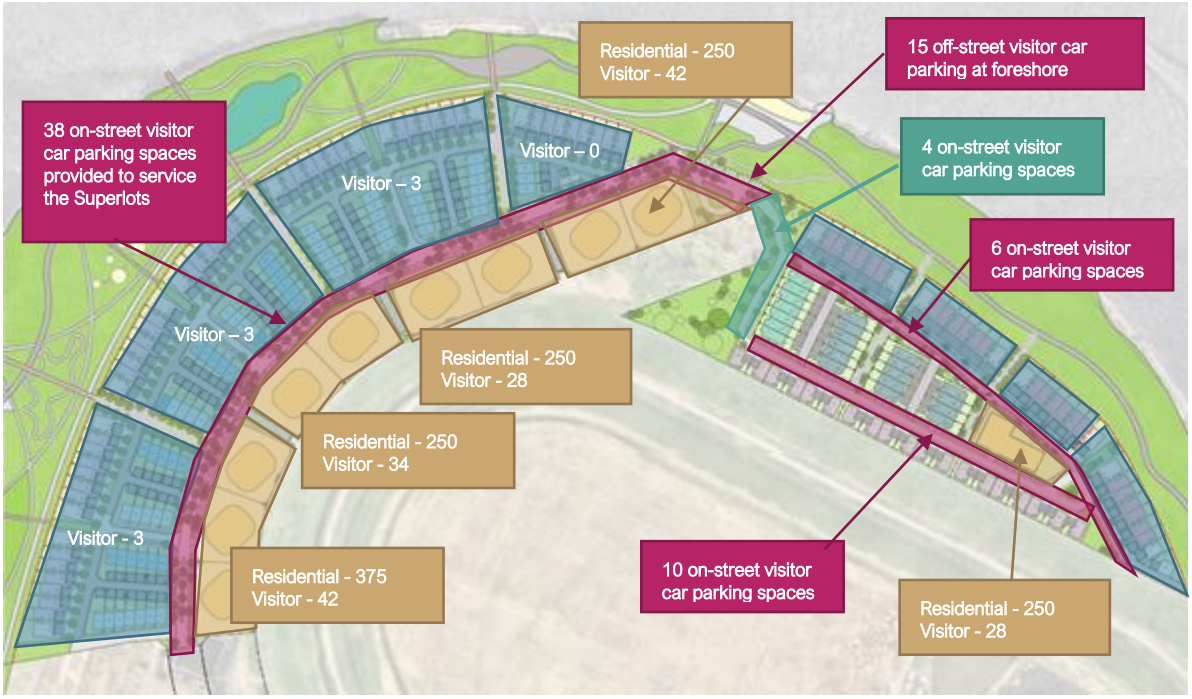
A breakdown of the car parking space requirement and proposed provision is provided in Table 3.1 and presented in Figure 3.1.

Table 3.1: Car Parking Space Requirement and Provision

Use	Yield	Residential Parking Requirement	Residential Parking Provision	Visitor Parking Requirement	Visitor Parking Provision
Townhouses	203	1.5/dwelling = 305 spaces	2/dwelling minimum = >406	0.25/dwelling = 51 spaces	67 spaces

Apartments	910 (100 per building across 9 buildings, plus 10 in northern section)	1.25/dwelling = 1,138 spaces	1,138	1/4 dwellings for first 12 dwellings + 1 /8 dwellings for 13th and above = 129 spaces	129 spaces
City Park (ITE Code 411)	9,931m^2			10.4/hectare	11 spaces

Figure 3.1: Car Parking Space Provision



The on-street visitor car parking space provision associated with the townhouse developments of Precinct A is 67 spaces (within the blue and magenta areas), exceeding the minimum requirements set out in the Parking Policy which requires 51 spaces. There are 38 on-street spaces proposed to be provided on the main street between the connection with Precinct B and Superlot H, and 20 spaces within the northern portion, distributing the parking spaces through the length of the Precinct. An additional 15 car parking spaces are proposed within a central car parking space area for any additional visitor parking space requirements of the townhouses, and parking associated with use of the public open space by external visitors – which requires 10 car parking spaces

3.1.1. ACROD Parking

ACROD parking should be provided as required by Australian Standard 1428.1 Part 1: Design for access and mobility and AS/NZS 2890.6 Parking facilities Part 6: Off-street parking for people with disabilities as a minimum.

There is no specific requirement to provide ACROD parking where the parking area is for use of individual separate dwellings, however it is recommended that ACROD parking at a rate of 1 space per 100 car parking spaces minimum be implemented within the apartments, and for the on-street resident and visitor parking spaces. A minimum of one ACROD space should be provided within the public parking area alongside the foreshore.

3.1.2. Loading Areas

Loading areas should be provided within each apartment building, to be confirmed through the detailed design process. Deliveries to the townhouses will require temporary accommodation of available visitor parking spaces. These are expected to be infrequent with small delivery vehicles such as Vans.

3.2. Bicycle/Motorcycle Parking

Bicycle and motorcycle parking should be provided in accordance with the Town of Victoria Park Planning and Building Policy Manual Policy No. 7.7.1 Non-Residential Development Parking Requirements, as well as the State Planning Policy 3.1 Residential Design Codes Volume 2 Apartments. Bicycle parking for the townhouses will be accommodated within the individual lot.

The parking rates associated with the subject site uses are as follows:

Apartments (Residential Design Codes Volume 2)

- 0.5 bicycle parking spaces per dwelling for residents, plus
- 1 bicycle parking space per 10 dwellings
- Motorcycle Parking: Developments exceeding 20 dwellings, provide 1 motorcycle/scooter space per every 10 car bays

Public Open Space

- No specific rate is provided within the Planning Policy. Noting the connections to the cycle facilities within the public open spaces, it is expected that the area will be used frequently by cyclists. A bicycle parking area near the foreshore centre would be beneficial. It is suggested that a ratio or 1 bicycle parking space per 1,000m2 be provided, equating to approximately 10 bicycle spaces.
- Motorcycle Parking: 1 motorcycle/scooter bay per 20 car parking bays,

Considering the full apartment yield of 910 dwellings, the total bicycle parking space requirement for the apartments is 455 resident spaces, and 91 visitor spaces spread across the apartment buildings. With 1,138 car parking spaces within the apartments, there is a requirement to provide 114 (113.8 rounded up) motorcycle spaces across all the apartment buildings.

With 9,931m2 of public open space, there is a requirement to provide a minimum of 10 bicycle spaces and 1 motorcycle space. As there is vast area available within the public open space, providing additional parking for bicycles and motorcycles would be advantageous.

4. RECOMMENDED PARKING MANAGEMENT

4.1. Management Tools

With no external trip attractors within Precinct A itself aside from a small amount of Public Open Space, it is not expected that significant parking issues will occur due to land uses contained within the area. However, with the proposal for a Transperth bus service within the site, there is potential for commuters to utilise the parking areas within the site.

A number of potential management measures could be considered and implemented should they become necessary:

- Resident bus pass, to encourage use of public transport by Precinct A residents
- Resident/visitor parking permits
- Timed and/or paid parking restrictions
    - Foreshore parking
- 'No Parking' parking restrictions.

4.1.1. Resident Bus Passes

To encourage the use of the proposed public transport services accessing the area and reduce the reliance on residential vehicle trips, bus passes could be allocated to each residential dwelling within Precinct A.

4.1.2. Visitor Parking Permits

As all residential parking requirements are allocated to the townhouse or apartment lots with some dwellings providing up to double the residential space requirement, on-street long term residential parking should *not* occur. However, visitor parking permits could be provided to each residence should availability of on-street spaces for visitor parking becomes a problem.

4.1.3. Timed Restrictions/Paid Parking Restrictions

Alongside the abovementioned management measures, should visitor (commuter or otherwise) parking demand and/or occupancy become excessive, timed and/or paid parking restrictions could be considered. This is particularly applicable to the parking spaces nearer Superlot A due to the proximity of Precinct B in which commercial and retail uses will be present and may attract external traffic. Similarly, this applies if an increase in parking demand occurs during events being held at Belmont Racecourse and the Perth Stadium.

If timed restrictions are considered appropriate, further investigation should be undertaken through parking occupancy surveys to determine the appropriate length of time restriction for each area (or any other parking management approach to encourage turnover), e.g., the central parking area may be able to accommodate the long-term parking associated with Belmont Racecourse event parking without the need for timed

restrictions. But this may need to be coupled with other measures such as wayfinding and the implementation of high-quality active travel path networks to and from key destinations within the wider Belmont Park area.

Foreshore Parking

Parking alongside the foreshore centre should be managed in a similar manner to the residential visitor parking, however the timed restrictions made appropriate to the use. With the available connection to the network of pedestrian and cycle paths, longer term parking in this area will promote the use of the foreshore for recreational purposes.

4.1.4. Parking Restrictions

To ensure that all travel paths are unobstructed, and accessibility maintained to all car parking spaces, parking restrictions in the form of 'No Parking' may be required within the Local Access Streets and on the main street from Superlot H to the far eastern edge of the site. Such areas may need to be monitored and parking restrictions enforced at times of high demand from the Racecourse or the Stadium. This may also be required to ensure service and waste collection vehicles can access all roads when required.

4.1.5. Wayfinding Signage

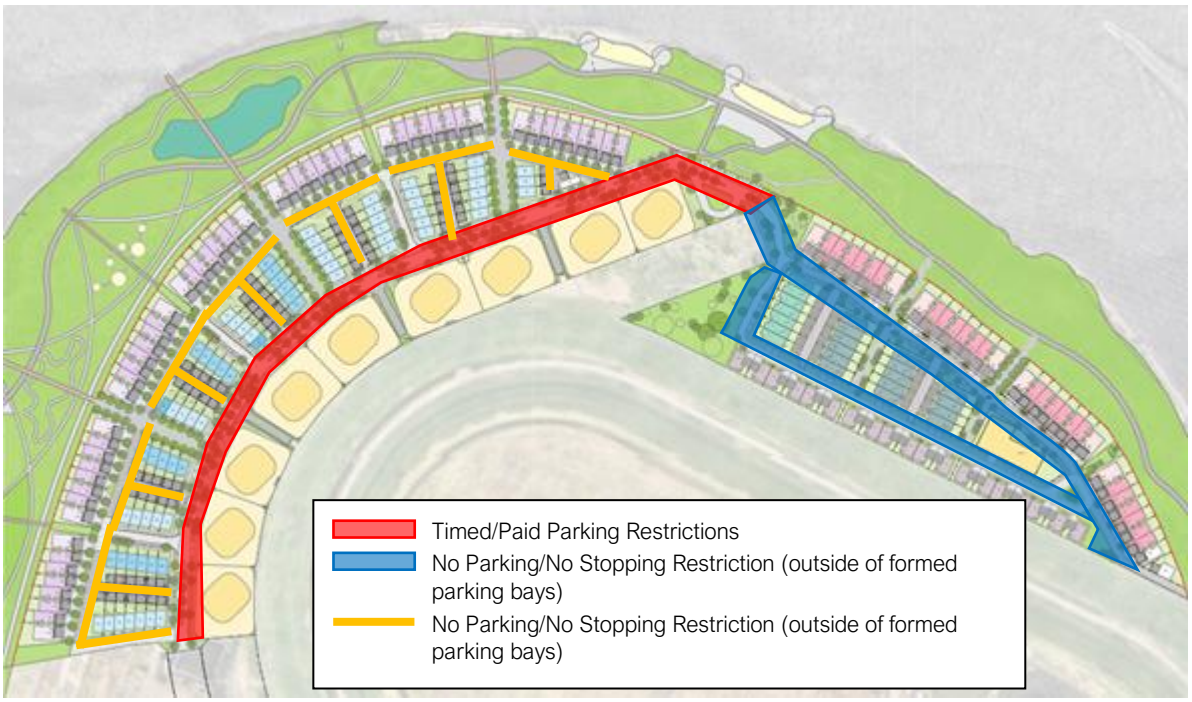
Signage to assist the movements of people through the site, particularly those intending to utilise the central car parking area or access the public open space and foreshore. The signage should be provided at the entry to Precinct A from Precinct B and repeated through the length of the main street. Directional signage should be considered at the central parking area to guide visitors on entry and exit to the area. Wayfinding will reduce the potential for unnecessary movements and potential parking related issues within the Local Access Streets.

4.2. Application

Each of the above tools should be considered on a case-by-case basis if and when parking related issues arise, most likely determined by parking occupancy surveys. Based on the subject site location, lack of internal traffic attractors (other than public open spaces), it is not expected that significant long term parking issues will occur as a result of the internal land uses, however it is important to mitigate against parking overspill into the area from outer Precincts, and monitoring of parking behaviour during high profile external events should take place soon after a significant amount of development of Precinct A has been constructed.

An overview of the potential parking management of the site is shown in Figure 4.1, nothing that the Trigger Points detailed in Section 5 Implementation Plan will determine whether the tools shown are warranted and should be implemented. The image is provided as a guide only.

Figure 4.1: Summary of Parking Management Plan



5. IMPLEMENTATION PLAN

5.1. Trigger Points

As detailed in Section 4.2, implementation of the identified parking management tools *should only take place as and when deemed necessary* as a result of observed parking issues and survey findings.

Implementation should follow the guidelines below to determine when changes to parking management measures may be required:

- *Commuter parking, visitors accessing public transport*: this may trigger the use of resident bus passes and/or parking permits, or if commuters are utilising available pedestrian and cycle paths to the nearby stations and bus stops, possible implementation of timed parking restrictions.
- *Event parking for the racecourse or stadium:* this may trigger the implementation of timed and/or paid parking restrictions along residential dwellings, as well as application of lengths where parking is prohibited in areas where visitor parking becomes problematic, i.e., within Local Access Streets. Wayfinding to the central parking area should be provided.
- *Inadequate supply of visitor parking due to Precinct B activity:* this may trigger the implementation of timed parking restrictions and/or visitor parking permits, particularly near the connection with Precinct B.
- *Restriction of movements through the Local Access Streets, obstruction of residential parking spaces:* this may trigger the need to implement parking restrictions or lengths where parking is prohibited within sections of the Local Access Streets or along the main street east of Superlot H.
- *Obstruction of travel path for service and waste collection vehicles:* as above, this may trigger the need to implement parking restrictions within the Local Access Streets and the main street east of Superlot H.
- *Design of parking areas to be in accordance with the relative Australian Standards:* to be undertaken through the detailed design process

The above trigger points can be measured through:

- Parking surveys
- Parking infringement data
- Records of resident complaints
- Council records relating to access issues for waste and/or service vehicles.

5.2. Impact Assessment

Prior to implementation of *any* of the above management tools, consideration should be given to the possible impact, be that positive or negative, on the stakeholders and users of the Precinct A road network and associated parking areas. Additionally, likely compliance and required enforcement of the proposed management tools should be considered.

Table 5.1: Assessment of Management Impacts

User	Impact to be assessed/considered
Residents	• Ensure consistent availability of on-street visitor parking spaces for all applicable residential properties within the site area. • Relocation/spill over of parking to other unrestricted areas within the site resulting from parking management implementation taking away parking provision of visitors to residential properties. • Visitors impacted by times and paid parking restrictions and enforcement.
Visitors of residents	• Ensure adequate availability of short- and long-term parking for visitors to all residential dwellings within acceptable walking distance • Visitors of residents impacted by times and paid parking restrictions and enforcement. • Relocation/spill over of parking to other unrestricted areas within the site taking away parking availability from genuine visitors. • Availability of visitor parking impacted by residents parking on-street instead of using their designated on-site bays
Visitors of public open spaces and foreshore	• Ensure adequate availability of car parking spaces for visitors to the area within acceptable walking distance to connections with the public open space areas. • Displacement of visitor parking occurring as a result of spill over of residential use
Commuters	• Availability of alternative parking areas and arrangements • Knowledge of nearby parking areas for commuters, i.e., information on nearby parking areas made available for commuters
Eventgoers	• Availability of alternative parking areas and arrangements • Knowledge of nearby parking areas for eventgoers, i.e., information on nearby parking areas made available for eventgoers

6. MONITOR AND REVIEW

Prior to the implementation of the abovementioned parking management tools, on-site observations and surveys of any perceived or actual parking issues should be undertaken. This will ensure an accurate understanding of the issues and the best possible outcome following the application of any of the management tools.

6.1. Monitoring Process and Reporting

Monitoring of the on-site parking conditions, prior to and after implementation of any parking management tools should be undertaken. Successful implementation can be determined by considering the following:

Table 6.1: Monitoring the Success of the Application

	Before Implementation	After Implementation
Resident Bus Passes	Parking demand of commuter traffic utilising bus services Availability of bus services for residents Boarding numbers	Parking demand of commuter traffic utilising bus services. Availability of bus services for residents Boarding numbers
Visitor Parking Permits	Long term parking space occupancy Overspill by residents to adjacent parking areas	Availability of parking adjacent to dwellings
Timed/Paid Parking Restrictions	Parking demand near attractors such as Precinct B Parking occupancy	Parking occupancy Compliance and enforcement requirements/number of fines issued Overspill to adjacent parking areas
Parking Restrictions	Parking demand near attractors such as Precinct B and the foreshore centre Parking demand (occupancy) within Local Access Streets Restriction of movements in Local Access Streets Obstruction of service and waste collection vehicles	Parking occupancy Compliance and enforcement requirements/number of fines issued Overspill to adjacent parking areas

Figure 6.1: Summary of Parking Management Plan