

4

structure plan

4. STRUCTURE PLAN

4.1 BURSWOOD PENINSULA DISTRICT STRUCTURE PLAN

Under the Western Australian planning system there are two forms of structure plans, statutory and non-statutory.

A statutory structure plan is prepared and approved under a local planning scheme for land within a development zone (or similar) or where there is a general head of power provided in the local planning scheme that requires a structure plan to be prepared prior to development. It applies zoning, land uses and residential densities to the land. Once endorsed by the Western Australian Planning Commission (WAPC) the structure plan has statutory effect. Local structure plans and activity centre structure plans are examples of statutory structure plans.

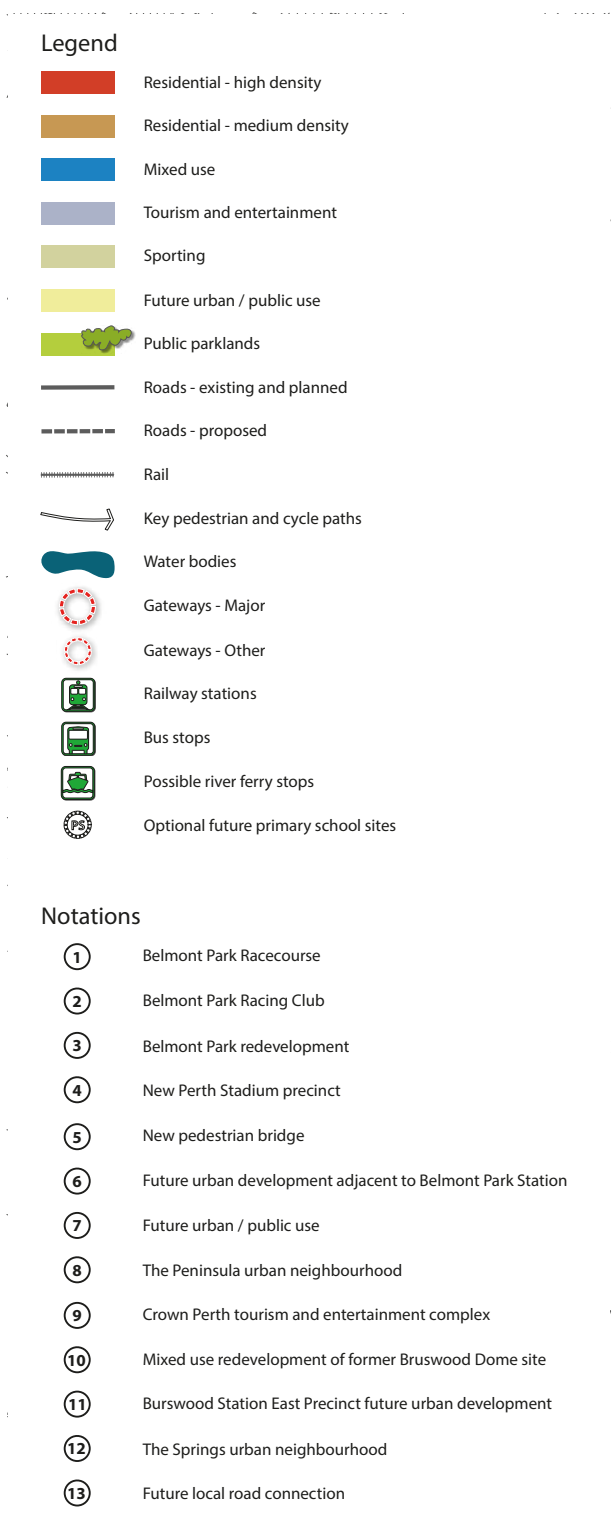
Non-statutory structure plans such as sub-regional structure plans, and district structure plans, are strategic in nature and are generally prepared for large areas of land that:

- are not yet zoned for urban land use and development; or
- require a strategic framework to inform subsequent layers of planning, such as the preparation of local structure plans.

The Burswood Peninsula DSP is a non-statutory structure plan. Its purpose is to establish the future land use and development intent for the Peninsula, and clearly identify areas that require additional detailed planning and investigation before development can proceed. The DSP provides guidance on a range of matters, including:

- population, housing and employment;
- built form;
- open space;
- metropolitan attractors;
- movement and access;
- community facilities;
- services and infrastructure; and
- urban water management.

The Burswood Peninsula DSP is shown on the opposite page.





4. STRUCTURE PLAN

4.2 POPULATION, HOUSING AND EMPLOYMENT

Directions 2031 and Beyond (Directions 2031) estimates that the population of the Perth Metropolitan Region will have grown to 2.2 million within the next 20 years. To mitigate some of the negative impacts of continued urban expansion, *Directions 2031* has set a target to accommodate 47 percent of that new growth as infill development within existing urban areas.

In August 2010, the State Government released the *Central Metropolitan Perth Sub-Regional Strategy* which sets out eight strategic priorities to achieve *Directions 2031* targets. The Sub-regional Strategy covers 19 central metropolitan local government areas and estimates that the sub-region is capable of accommodating an additional 205,000 people in 121,000 new homes. This assumes an average of 1.7 people per household and a reduction in dwelling size from the current Western Australian average of 244 square metres.

Rather than adopting a blanket approach to increased population and housing densities, *Directions 2031* and the sub-regional strategy have targeted growth in key activity centres and activity corridors.

Population and Housing

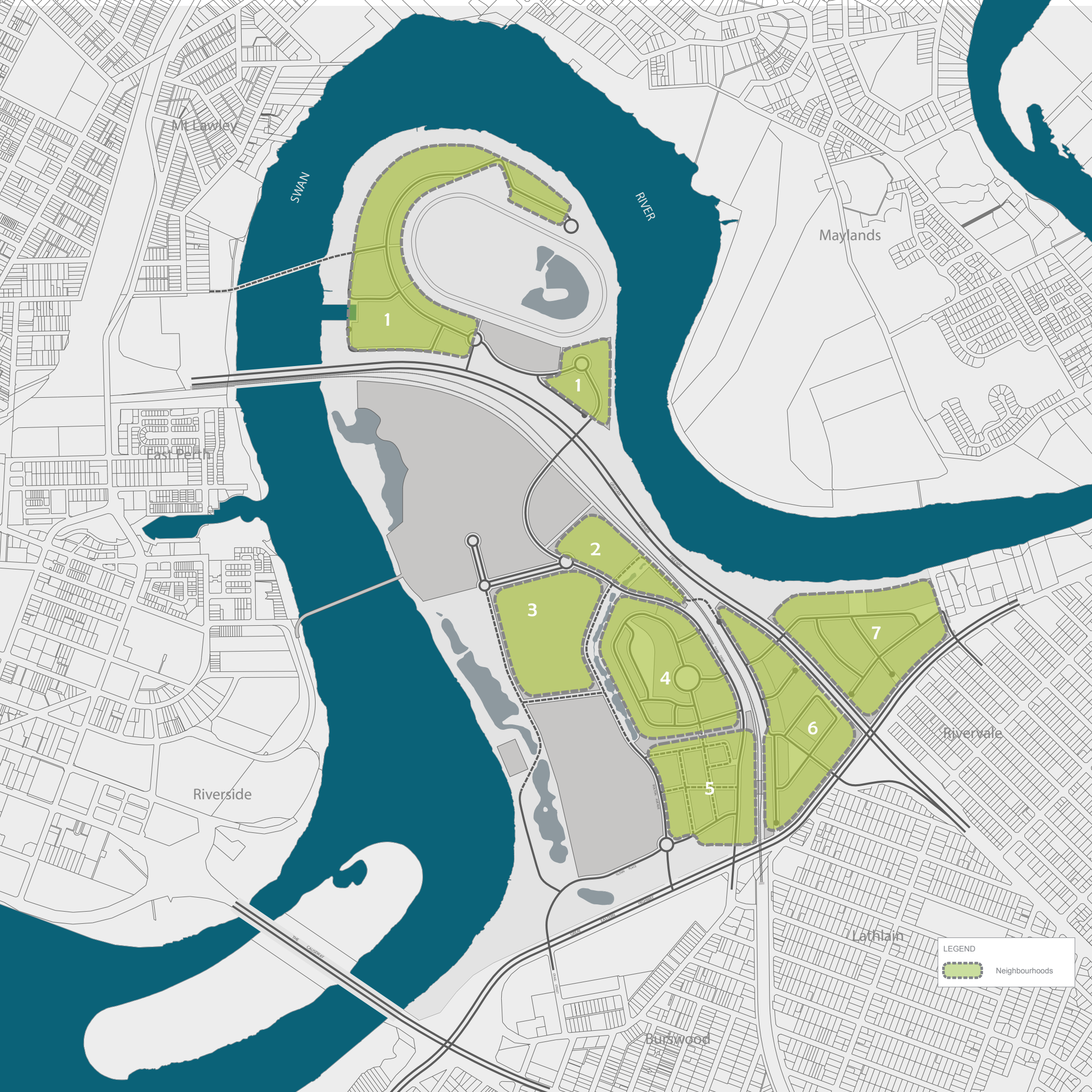
The Sub-regional Strategy has identified Burswood Peninsula as one of the key “Planned Urban Growth Areas” within the sub-region, estimating that the area has the capacity to support 5,400 dwellings housing over 9,000 residents.

Since the release of the Sub-regional Strategy, more detailed planning of the Burswood Peninsula has confirmed that the area has even greater potential to accommodate up to 12,500 dwellings and a population of approximately 20,000 residents. This additional capacity is considered achievable due to the proximity of the area to high order road and rail infrastructure, accessibility to the Perth city centre, the Swan River and substantial public parklands, and the ability to achieve higher residential densities without impacting on existing lower density neighbourhoods. Notwithstanding this, the potential for growth will need to be further assessed and confirmed as part of the detailed planning for proposed new urban development areas.

Neighbourhoods

The Burswood DSP has defined seven residential and mixed-use neighbourhoods, each with its own character and combination of land uses.

- 1. Belmont Park:** A high density residential and commercial redevelopment of the land surrounding the Belmont Racecourse, the area is planned to accommodate up to 4,500 new apartments and townhouses
- 2. Belmont Station South:** This precinct has the potential to be converted to higher density residential use due to its proximity to the upgraded Belmont Park railway station. Any such development would be subject to future relocation or consolidation of the existing tennis use.
- 3. Stadium South:** This precinct has the potential to accommodate a range of public or urban uses. Further detailed planning and investigation will be required to determine the appropriate land use mix for the precinct. In the meantime, the area will continue to be managed as parklands by the Burswood Park Board.
- 4. The Peninsula:** The Peninsula is a predominantly residential neighbourhood that when complete will include more than 1,100 new apartments and townhouses.
- 5. Burswood Station West:** Planned as a comprehensive redevelopment of the land formerly occupied by the Burswood Dome and surrounding carpark, Burswood Station West is envisaged as a mixed residential, commercial and entertainment precinct that stitches together The Peninsula and Crown Perth with an upgraded Burswood Station.
- 6. Burswood Station East:** A planned regeneration of the ageing and underutilised service industrial area immediately east of Burswood Station, into a new residential and mixed use neighbourhood.
- 7. The Springs:** Currently under development, The Springs will be a predominantly residential neighbourhood, with some commercial and retail frontage to Great Eastern Highway. The Springs is planned to accommodate approximately 700 new dwellings.



Maylands

SWAN

RIVER

Maylands

East Perth


Riverside

Rivervale

Lathlain

Burwood

LEGEND

 Neighbourhoods

4. STRUCTURE PLAN

Affordability

One of the key objectives of *Directions 2031* is to plan for a “Liveable” city, that “promotes and increases housing diversity, adaptability, affordability and choice.” By the very nature of planned development, Burswood Peninsula will introduce greater diversity and choice into the Perth metropolitan housing market which, despite a gradual shift to more compact housing forms, remains overwhelmingly dominated by single detached dwellings.

The level of diversity and choice will be further increased with the provision of a range of dwelling sizes and prices, offering a level of “relative” affordability not widely available in the inner city property market. In this regard, it is expected that new housing developments will comply with the Multi Unit Housing Code (MUHC) provisions of *State Planning Policy 3.1 - Residential Design Codes*. The MUHC require developments that contain more than 12 dwellings to provide the following diversity in unit types:

- minimum 20 percent 1 bedroom dwellings, up to a maximum of 50 percent of the development.
- minimum of 40 percent 2 bedroom dwellings

Beyond this, the State Government has an expectation that major urban development and redevelopment initiatives will make a contribution to “real” affordability, in a property market that is becoming increasingly un-affordable for a growing segment of the population.

The Burswood DSP has therefore established a minimum target of 20 percent affordable housing across all new residential developments. It is expected that this target will include dwellings for private purchase or rent, and a component of social housing managed by government or community housing providers.

When considering planning and development proposals, the WAPC will have regard to existing State Government Policy, in particular the Department of Housings ‘Affordable Housing Strategy 2010-2020’.

Employment

Another key objective of *Directions 2031* is to improve the relationship between where people live and work, to reduce commuting time and cost, and the associated impact on transport systems and the environment.

Burswood Peninsula provides an important opportunity to improve employment self-sufficiency in areas outside the Perth Central Business District, and increase contraflow travel on the city’s road and rail network. Crown Perth is already one of the State’s largest private sector employers, with a workforce in excess of 5,000 employees, while the proposed mixed-use neighbourhoods at Belmont Park, Burswood Station West, Burswood Station East and The Springs have the potential to generate additional office, commercial and retail employment.

When combined with the planned intensification and regeneration of the adjacent Causeway precinct, the area has the potential to generate close to half of the employment provided in West Perth, adding significant capacity for commercial and retail growth outside of the Perth Central Area. The existing and future employment areas within Burswood Peninsula are shown on the opposite page, and include:

1. **Belmont Park:** A mixed use precinct offering a proposed 60,000m² of office and commercial space and 31,000m² of retail space.
2. **Crown Perth:** A major tourism precinct offering a mix of entertainment and hospitality uses and employing more than 5,000 workers.
3. **Burswood Station West:** A mixed use precinct offering a proposed 120,000m² of office and commercial space and 20,000m² of retail and hospitality uses.
4. **Burswood Station East:** Proposed employment activity fronting Great Eastern Highway offering an estimated 40,000m² of office and commercial space and 8,000m² of retail space.
5. **The Springs:** Proposed employment activity fronting Great Eastern Highway offering an estimated 35,000m² of office and commercial space and 4,000m² of retail space.



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 Employment

4. STRUCTURE PLAN

4.3 BUILT FORM

The term built form is used to describe the spatial and physical characteristics of buildings; their height and scale, how much land they occupy, how they are designed, and how they relate to the surrounding buildings, streets and public spaces.

Built form across the Perth metropolitan area is typically characterised by low scale, low density housing and retail development, with pockets of higher density housing and large format retail. Perth Central Area remains the primary location for large scale, high density office and commercial development, however over the past 10 years the growth of high density residential development has diversified the built form mix.

The Town of Victoria Park has traditionally embraced high density residential development, with a number of multi-storey apartment buildings constructed in elevated locations around Burswood and Victoria Park during the 1960s and 70s. While more functional in design, they have nonetheless provided an important supply of affordable housing for couples, young families, key workers and students, not typically available in inner city locations.

The Town of Victoria Park recognises the value of built form diversity, and that the area will continue to be a location of choice for housing and employment as the metropolitan area continues to grow. In its *2011-2026 Plan for the Future* the Town identified the need to align the Local Planning Strategy and Town Planning Scheme with *Directions 2031*, and has identified a series of “Special Areas” that can accommodate higher intensity, mixed use development, including Peninsula North (Belmont Park), Peninsula South (Burswood Station) and the Causeway precinct.

These Special Areas, particularly Peninsula North and South, are well suited to high density development due to their proximity to the Perth Central Area, regional road and rail infrastructure, open space and the Swan River. They also provide a relatively unique opportunity in Perth to achieve a more significant scale of development without impacting on established neighbourhoods.

In addition to increased density and diversity, new developments at Burswood Peninsula will be required to deliver high quality urban design and built form outcomes. The commitment to design and built form excellence will need to be demonstrated in local structure plans, development design guidelines, and development applications. In general, the following guiding principles should be observed:

- buildings should be designed to support and reinforce the creation of comfortable, high quality and high amenity public spaces;
- multi-storey development should be designed and proportioned to break up the visual presence of the development and provide a ‘human scale’ of development at street level;
- buildings should be designed and constructed to a high architectural standard and finish;
- buildings should be designed to maximise solar access and minimise the impact of wind on the public realm;
- buildings should be designed to achieve best practice for environmental sustainability through innovative design, construction and management;
- buildings should be designed in accordance with ‘Crime Protection Through Environmental Design’ principles;
- buildings should be designed in accordance with the ‘Liveable Housing Design Guidelines’, to ensure people of all ages and abilities can live in, or visit, the Burswood Peninsula with comfort; and
- buildings must be designed to comply with the flight contours surrounding Perth Airport as set out under the Airports (Protection of Airspace) Regulations 1996 (the regulations)

With regard to the final point the regulations prohibit any activity that infringes the surfaces of the airspace (including permanent and temporary structures) in order to provide a safe, predictable environment for aircraft using Perth Airport. The plan on the opposite page illustrates indicative height restrictions, which will be one of a series of considerations when preparing local structure plans.



4. STRUCTURE PLAN

4.4 OPEN SPACE

One of the defining characteristics of Burswood Peninsula is its open, landscaped appearance. The Burswood parklands developed and managed by the Burswood Park Board make an important contribution to this character, and provide a high level of public access and amenity in the southern and eastern parts of the peninsula. However, there are significant areas of the peninsula that, while contributing to the open, landscaped appearance, are not accessible to the public, including the former Burswood Golf Course and the foreshore reserve surrounding the Belmont Park Racecourse. This condition will change significantly with the completion of the new Perth Stadium and redevelopment of Belmont Park Racecourse.

The new Perth Stadium development will open up a large part of the area to public access previously restricted by the golf course use. The redevelopment of Belmont Park Racecourse will unlock a further 20 hectares of open space by creating a network of riverside parks that extend around the entire northern perimeter of the peninsula, connected by a series of pedestrian pathways and cycleways that link to the surrounding Principal Shared Path network.

While the intensity of development will increase across the Peninsula, the landscape character of the area will be retained and enhanced with the creation of these new publicly accessible parklands.

It is expected that detailed planning and development of the new parklands will balance the need for river edge stabilisation, stormwater management, habitat creation and foreshore restoration (including the rehabilitation of riverine vegetation), with public access and the provision of active and passive recreation uses.

In general, the following guiding principles should be observed when planning and designing new areas of open space:

Amenity - design public space so that it:

- protects and enhances the aboriginal and european heritage, environmental and cultural heritage values of the area;
- builds on the natural attributes of the Swan River;
- is comfortable, safe and welcoming; and
- is well maintained and actively managed.

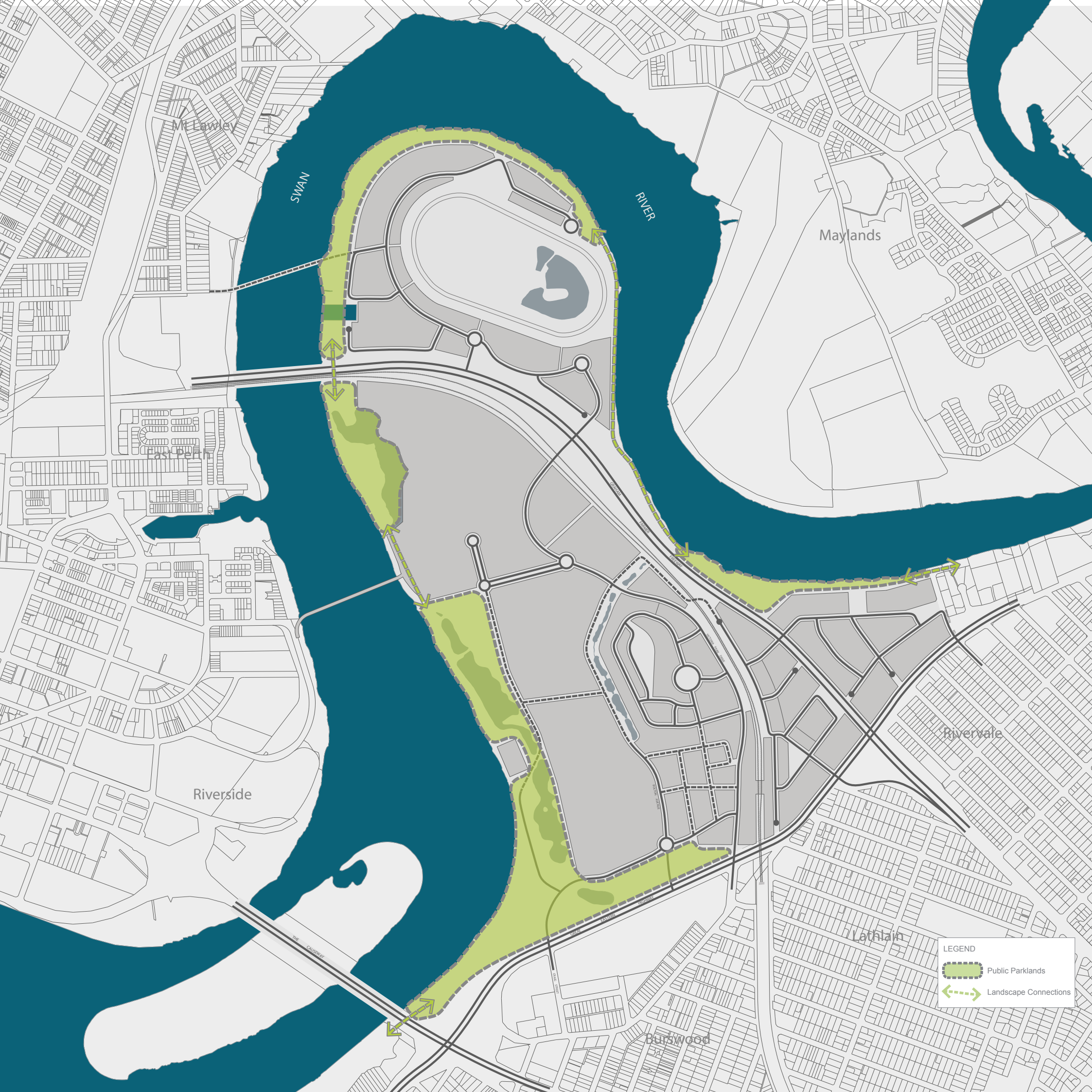
Accessibility - provide open space that is:

- distributed throughout the Peninsula to provide equitable access to residents and users;
- accessible via both private and public transport;
- connected to the regional pedestrian and cycle network with adequate facilities for walkers and cyclists; and
- connected to the wider open space network.

Useability - design open spaces that are:

- of sufficient size and shape to cater for its intended purpose and user groups;
- adaptable for a range of users and types of activities; and
- able to be shared across a range of user groups.

The plan on the opposite page illustrates the extent of riverside parklands that will be opened up to public access, and the key “green links” that will provide important landscape, pedestrian and cycling connections between these areas of open space.



4. STRUCTURE PLAN

4.5 METROPOLITAN ATTRACTORS

Belmont Park

The Belmont Park Redevelopment will transform the northern area of the Peninsula and provide a range of facilities and activities that complement the existing sporting and entertainment uses. The development will include:

- approximately 4500 dwellings;
- up to 31,000m² of retail floor space;
- up to 60,000m² of office floor space; and
- approximately 5,500 jobs.

In addition, the existing racing facility will be retained in its current configuration. Perth Racing which owns the racetrack proposes to upgrade the racecourse and associated facilities, including the construction of a new multi-purpose grandstand, outdoor viewing area, stables, parade ring and car parking to increase the use and patronage of the race course. The retention of the racecourse and its integration into an urban environment will add to and complement the unique mix of attractions across the Peninsula.

New Perth Stadium

The new Perth Stadium is a major initiative that will fundamentally change the character and use of Burswood Peninsula. In July 2011, the State Government announced that Perth's new multi-purpose stadium would be built on the Peninsula, and would be designed to accommodate 60,000 patrons, with the provision for future expansion up to 70,000 (or 80,000 if a sufficient business case is presented). Construction of the new Perth Stadium commenced in mid 2013, with the project due for completion in 2018. The key elements of the new Perth Stadium are:

- a contemporary sporting and entertainment facility that forms part of an integrated sport and recreation precinct;
- upgrade of the Belmont Park railway station to accommodate dedicated event platforms with the capacity to transport up to 60 percent of patrons within the first hour of an event;

- introduction of an event bus service and stadium 'bus hub' to transport patrons to and from areas not serviced by rail;
- upgrades and improvements to the existing Windan Bridge pedestrian connection to facilitate increased pedestrian movements between the stadium and East Perth railway station on event days;
- a new pedestrian and cycle bridge to be constructed across the Swan River between the stadium and East Perth, accommodating up to 16,000 patrons on event days and providing an important contribution to the regional pedestrian/cycle network;
- limited private car-parking to reduce the potential for congestion during major events;
- an external ring road around the stadium to provide essential vehicular access around the sports precinct for emergency, service, delivery and construction vehicles; and
- re-landscaping of the sports precinct incorporating environmental enhancements and improved public access.

Crown Perth

In August 2012, Crown Perth announced its intention to significantly expand its gaming, entertainment and tourism interests at Burswood. Construction of the new facilities, including a 500 room 6-star hotel, 500 new gaming machines, 130 additional gaming tables, conference facilities and a range of retail and restaurants offerings, commenced in mid 2013 and is scheduled for completion in 2016. The new hotel and facilities are located immediately to the north of the existing complex, on 5.8 hectares of land purchased from the State Government.

The expanded Crown Perth precinct is expected to attract up to 10 million visitors per year, which will make it one of Perth's most visited destinations.



Maylands

SWAN

RIVER

Maylands

Belmont Park

East Perth

New Perth Stadium

Riverside

Rivervale

Crown Perth

Lathlain

Burswood

LEGEND

 Metropolitan Attractors

4. STRUCTURE PLAN

4.6 MOVEMENT AND ACCESS

Road - Current Situation

Burswood Peninsula is well connected to the regional road network via the Graham Farmer Freeway, Great Eastern Highway, Canning Highway, Shepperton Road and the Causeway. This network provides good access to the wider metropolitan region, including the Perth central area and the domestic and international airports.

The existing local road network is limited to a handful of key roads required to service the current land uses. These include Glenn Place, Camfield Drive, Bolton Avenue and Victoria Park Drive servicing the western side of the Peninsula, and the 'loop' of Griffiths Street, Goodwood Parade, Riversdale Road and Brighton Road connecting the Burswood East precinct and The Springs to Great Eastern Highway.

Despite having good access to the regional movement network a number of key challenges will need to be addressed to accomodate anticipated levels of development across the Burswood Peninsula. These challenges include:

- increasing congestion on the regional road network;
- the 'divisive' effect of the Graham Farmer Freeway and rail corridor; and
- the limited extent of the local road network.

Road - Future Situation

A detailed assesment of the existing and proposed movement network was undertaken jointly by the Department of Planning, Public Transport Authority, Main Roads WA and Town of Victoria Park to:

- provide a baseline assesment of current road conditions and levels of service, based on current development and exisitng road infrastructure;
- provide an assessment of the potential impacts of proposed development on the exisitng road network; and
- test the efficacy of a range of interventions to the existing road network, including new roads, road widenings, new bridges/underpasses, modifications to traffic light regimes etc.

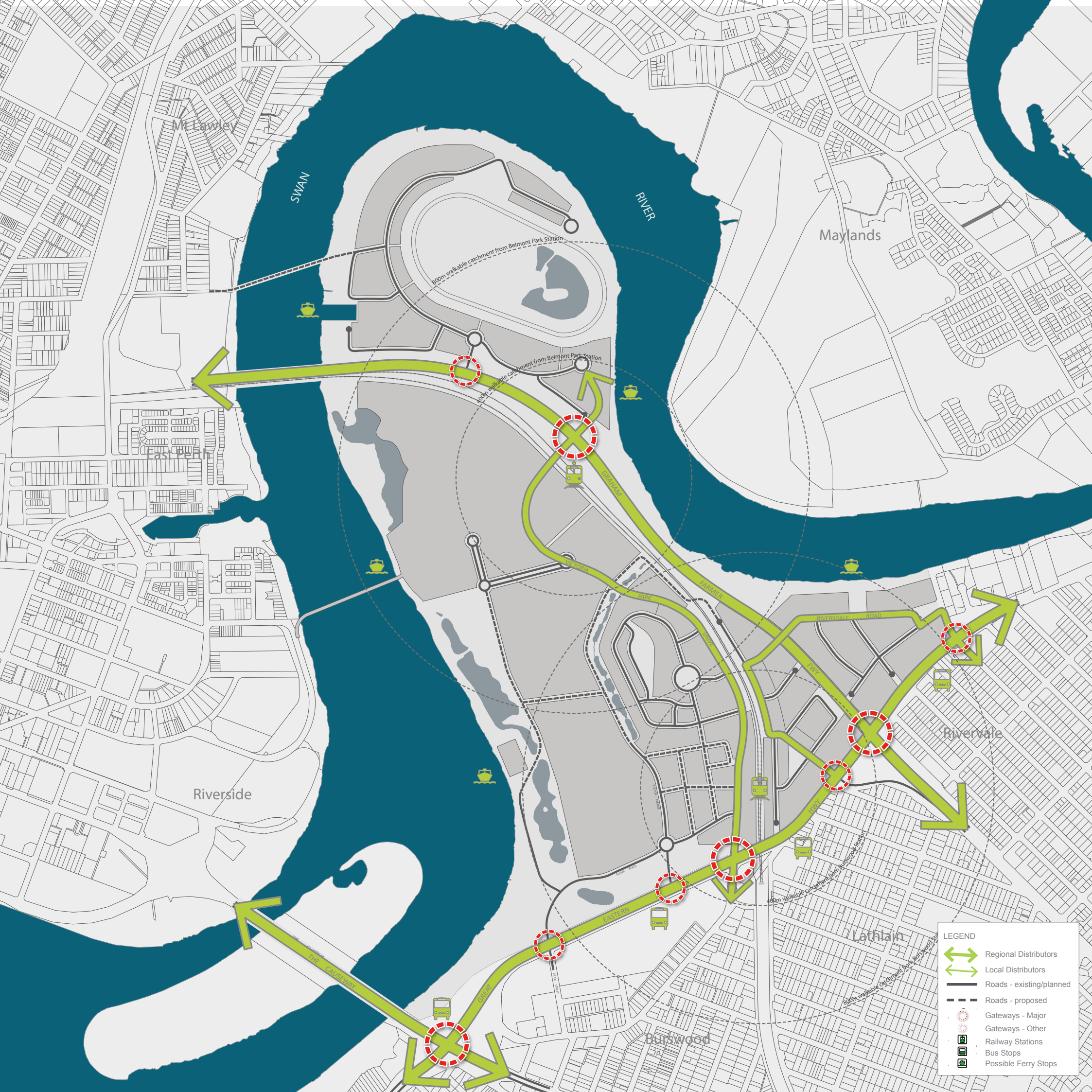
The plan on the opposite page illustrates the key 'gateways' and proposed interventions to ensure that the road network can adequately cater for the increased levels of development planned for Burswood Peninsula. Key interventions include:

- the introduction of a distributed local road network (including the extension of Camfield Drive and Bolton Avenue to service the western side of the peninsula and improve access to the new Perth Stadium, Stadium South precinct and Crown Perth;
- the introduction of signalised intersections (including modifications to turning movements) at Glenn Place/Craig Street/Great Eastern Highway and Victoria Park Drive/Burswood Road/Great Eastern Highway;
- upgrade of the Victoria Park Drive bridge connection over Graham Farmer Freeway to increase its capacity;
- the introduction of a new local road network to service the Belmont Park redevelopment, and the upgrade of associated connections to the regional road network;
- a proposed new local road bridge across the Swan River, connecting the new Belmont Park precinct with Summers Street in East Perth; and
- the introduction of a grade separated road connection from Goodwood Parade to Victoria Park Drive, to improve access between neighbourhoods on the east and west sides of the Peninsula.

Heavy Rail

The Armadale Line of the metropolitan rail system runs through the Burswood Peninsula, providing good access to the wider public transport network. To accomodate increased demand for rail services the following interventions will be required:

- review whether Belmont Park Railway Station will need to be upgraded from an event station to a full service station; and
- consider the upgrade of Burswood Station as part of the integrated redevelopment of the Station East and West precincts.



4. STRUCTURE PLAN

Light Rail

The State Government is scheduled to commence construction of Stage 1 the Metro Area Express (MAX) light rail project in 2019, which will run from Perth to Mirrabooka in the north, QEII Medical Centre in the west and the Victoria Park Bus Transfer Station in the east. As part of Stage 2, the State Government is considering the extension of MAX into Burswood Peninsula. Further planning and design will be undertaken to determine the viability of the route and its ultimate location.

River Ferries

The intensification of nodal development on Perth's waterfront (Elizabeth Quay), the East Perth riverfront (Riverside, Claisebrook Cove, and East Perth Power Station) and Burswood Peninsula (Belmont Park, new Perth Stadium and Crown Perth), provide a compelling case for a first stage expansion of the passenger ferry system. The Department of Planning and Department of Transport are currently investigating the scope and viability of an expanded network, with additional detailed investigation required to determine the ultimate location of ferry stops once the network is agreed.

Parking

Parking is a key element of the movement and access network, and appropriate parking management initiatives will be required to ensure the ongoing efficacy of the network. The current approach to parking supply on the Peninsula is based on accommodating demand for private car access by providing free or heavily subsidised parking to users. This approach assumes unconstrained capacity of the road network to accommodate demand for access by private car; continued availability of land and capital to devote to parking; and a lack of viable alternatives to the private car such as public transport.

This is no longer the case on Burswood Peninsula as there is limited capacity on the road network to cater for additional demand, the majority of land on the peninsula has been identified for higher and better uses than at grade parking and the area has good access to public transport.

It is important that parking is managed to achieve balanced transport outcomes and to ensure that cross regional access and mobility is not compromised by increased demands for private car access to Burswood Peninsula. *State Planning Policy 4.2: Activity Centres for Perth and Peel* (SPP 4.2) promotes shared and reciprocal parking, active management of parking supply to ensure that a wide range of users are catered for, and the development and promotion of viable alternatives to private car access. Project proponents will be expected to demonstrate compliance with SPP 4.2 when preparing parking management strategies for individual projects across the Burswood Peninsula.

Walking and Cycling

The State Government promotes both walking and cycling as alternative transport modes through its Active Transport program. In 2012, Department of Transport released the draft *Western Australian Bicycle Network Plan 2012-2021*, which sets out a series of key recommendations and planned activities to assist in providing a safe and sustainable cycling network connecting key activity and attraction areas.

To support implementation of the Bicycle Network Plan, the existing Principal Shared Path and Recreational Shared Path network will be extended through and around the Peninsula, providing key regional connections for both cyclists and pedestrians. At the local level, a network of shared walking and cycling pathways will be established to connect existing and planned neighbourhoods and activities.

The plan on the opposite page illustrates the proposed Principal and Recreation Shared Path networks at Burswood Peninsula. It is expected that all new developments will contribute to the implementation of the network during both planning and construction.



M. Lawley

SWAN

RIVER

Maylands

East Perth

Riverside

Rivervale

Lathlain

Burswood

LEGEND
Pedestrian and Cycleways

4. STRUCTURE PLAN

4.7 COMMUNITY FACILITIES

The population of Burswood Peninsula is expected to increase significantly over time, resulting in an increased demand for community facilities. An appropriate hierarchy of community facilities should be established to ensure that:

- State level services continue to be located in the Perth CBD;
- regional services continue to be located in Victoria Park, Belmont or Cannington;
- district facilities that rely on higher densities of population should be located in the Town of Victoria Park or City of Belmont; and
- local community facilities relevant to the Burswood Peninsula population should be located on the Peninsula and designed to serve the local community.

Community and social infrastructure requirements include:

- provision of a range of facilities to cater for people of different abilities and cultural backgrounds;
- spaces and places for interaction to promote social inclusion and connection;
- services that provide support for individuals, families and groups;
- services that provide passive and active recreational opportunities for all community sectors;
- facilities that can provide a central location for service provision and/or community initiated activity; and
- visual markers of community identity including public art, streetscape, heritage, landscaping and gardens.

Based on the expected demographic profile and applying relevant benchmarks for provision of services and facilities, the following conclusions have been drawn.

Health Services

Whilst the Town of Victoria Park is currently well provided with market driven health and allied services, the Burswood Peninsula itself has no health facilities of its own, with current residents and workers having to access health services located in surrounding suburbs and the broader region.

As the population increases over time this trend is expected to change, with residents requiring access to a full range of local health services located on the Burswood Peninsula. Local structure planning should provide for the establishment of health facilities where appropriate.

Aged Care

The provision of residential care places in the Town of Victoria Park exceeds the national benchmark, with existing facilities having the capacity to expand to cater for future demand should the need arise. Home and community care services are already provided in the Town, with demand for these services expected to increase as the population of people aged 70 years and older increases.

The proposed neighbourhood centres located around Belmont Park and Burswood train stations will be expected to provide:

- space for a range of activities for an active ageing population;
- space for allied health services provided through the public health system on an outreach basis;
- affordable office accommodation for not for profit organisations that provide support services to the elderly; and
- neighbourhood based respite day care centres, particularly for people with dementia who live at home.

Local structure planning should provide for the establishment of aged care facilities where appropriate.

Schools

Secondary education is typically provided at a regional or district level rather than local or neighbourhood level. Current and future need for secondary education for Burswood Peninsula residents should be adequately provided through schools located in the surrounding suburbs, and specialist high schools and private schools throughout the metropolitan area.

The capacity of government and non government primary schools in the suburbs surrounding the Burswood Peninsula is sufficient to meet current demand, although Victoria Park Primary School, the closest school to Burswood Peninsula, has no capacity to expand. Children of primary school age generally attend school in their local community and primary schools play an important role in community building.

The Department of Education has identified that a primary school will be required in the long term to service the needs of residents of Burswood Peninsula. The location of the primary school is yet to be determined, however it should be located to take advantage of public transport opportunities and be close to existing (or proposed) sporting and recreation facilities, removing the need for the school to develop its own sporting facilities. The Burswood Peninsula DSP identifies two possible locations, one within the Stadium South precinct and another within the Belmont Station South precinct. Consultation with key stakeholders will be required as well as detailed site investigations to inform the ultimate location of the primary school.

Spaces for Children and Young People

Balancing the needs of children and young people with other communities can be a difficult but important task. The Town of Victoria Park's *Youth Needs Study and Youth Action Plan* (Youth Study) recommended a range of strategies to address needs of young people on a district wide basis. At a local neighbourhood level, availability of youth friendly spaces is an important consideration. Issues identified in the Youth Study included that:

- 'public space is vital for young people. Young people use public space differently from other groups. They use public space to meet friends, socialise and interact with other young people and engage in passive leisure activities;
- young people have as much right as all other citizens to access public space; however, they often feel unwelcome, alienated and hassled in public space; and
- there are often negative attitudes to young people in public spaces among shopping centre staff, traders, business and community members.'

It is important that the needs of young people are recognised in the planning of public space at a neighbourhood/local level as well as at district and regional levels.

4. STRUCTURE PLAN

4.8 SERVICES AND INFRASTRUCTURE

Detailed investigations have revealed that there is limited provision of existing infrastructure on the peninsula to service the anticipated levels of development. New service infrastructure will be required to serve any major new development proposals within the Peninsula.

Power

Existing development on the Burswood Peninsula is serviced by Western Power's Rivervale Zone Substation and Belmont Zone Zone Substation. The Rivervale Zone Substation was recently upgraded to a capacity of 22KV via three transformers, and new feeders are being constructed to service The Springs development. The Belmont Racecourse is currently supplied by Belmont Zone Substation, while Crown Perth is separately supplied via its own substation.

Western Power has advised that additional power supply and distribution infrastructure will likely be required to service anticipated demand when the peninsula is fully developed. The combined demand of the new Perth Stadium and the Crown Perth expansion will require most of the existing capacity from the Rivervale substation. The existing East Perth Zone Substation is not considered a suitable alternative supply point as it operates at a different voltage to the Rivervale substation.

Western Power has advised that it will need to assess the detail of any proposed new developments to determine the demand requirements, and the associated need for additional supply and distribution infrastructure. The following key factors will also need to be considered in the planning of new developments:

- A 132kv overhead power transmission line runs centrally through the Peninsula, running from Great Eastern Highway along the eastern side of the railway reserve (through Burswood Station East) and under the Swan River into East Perth. The alignment of the transmission line through the Burswood Station East precinct will impact on the urban design outcome of the precinct. Investigation into the undergrounding of this transmission line (either for its entire length or certain sections) will need be undertaken during preparation of a local structure plan for the area.
- The geotechnical conditions of the Peninsula, in particular the areas subject to differential settlement, will need to be considered when identifying infrastructure corridors, substation locations and ongoing maintenance.

Gas

Reticulated gas is supplied to the Peninsula and there are existing high pressure and medium pressure mains located within the road reserve of Great Eastern Highway. Crown Perth and The Peninsula development receive gas from a main in Bolton Avenue that connects to the pressure main in Great Eastern Highway. The former Golf Course club house and Tennis Centre do not have mains gas connections.

Alinta Gas has advised that additional high pressure gas reticulation and associated distribution infrastructure may be required to service the ultimate development of the Peninsula. This will need to be confirmed as part of the detailed structure planning for identified development areas.

Telecommunication

Telstra has installed a fibre optic main within the road reserve of Graham Farmer Freeway. The existing Telstra network services the former Golf Course club house from Crown Perth and the State Tennis Centre from the east side of the Graham Farmer Freeway.

It is expected that each development within the Peninsula will connect to the National Broadband Network. Developers will be required to cover the costs of trenching and ducting, while NBN Co. will meet the costs of installing the fibre infrastructure.

Water

Water supply to Burswood Peninsula is provided by an existing distribution main located adjacent to Great Eastern Highway. A main service line (which runs along Burswood Road, Orrong Road and Goodwood Parade) currently services the Burswood Station West precinct. The former Golf Course club house and Tennis Centre obtain their potable water from the Water Corporation main at the north end of Bolton Avenue. There is no existing water supply network to the area north of The Peninsula precinct.

The Water Corporation has advised that upgrades to the existing infrastructure, including a potable water connection, will be required to service anticipated levels of development across the Burswood Peninsula. Responsibility for detailed planning and funding of this infrastructure will be the responsibility of project proponents and developers.

Wastewater

Existing developments at Burswood Peninsula are serviced by the following:

- Crown Perth and The Peninsula are served by a 300mm diameter gravity sewer in Bolton Avenue, which connects to the Rivervale Main 720mm sewer south of Great Eastern Highway;
- the Belmont Park Racecourse waste water is pumped to a gravity sewer in Orrong Road; and
- the Tennis Centre and former Golf Course club house waste water is pumped to a sewer at the northern end of Bolton Avenue, via a private rising main along the eastern boundary of the former golf course.

The west and south-west sections of the Burswood Station East precinct are currently not serviced by waste water infrastructure.

A new sewage pump station will be required to service the Peninsula. A site on the western side of Victoria Park Drive opposite the State Tennis Centre has been identified as the preferred location. An odour buffer of 50 metres is generally required between the boundaries of a pump station site and any sensitive land uses (including residential use). Identification of the final pump station site and an assessment of the buffer requirements will be undertaken as part of the detailed planning for the new Perth Stadium.

Any upgrades identified during detailed planning will need to be included in the Water Corporation's future works programme.

4. STRUCTURE PLAN

Development Contributions

In order to service the proposed levels of development across the peninsula a range of infrastructure upgrades are required. The DSP identifies that the proponent of each project will be responsible for provision of all services and infrastructure necessary to support their individual development. The identification, prioritisation and funding of regional infrastructure not associated with individual developments will be the responsibility of the relevant government agency or service provider. The reason for this approach is described below.

In Western Australia, development contributions are typically levied through one of the following methods:

1. Standard conditions of subdivision or strata subdivision.
2. Conditions of development.
3. Voluntary legal agreements.

In the case of methods 1 and 2, financial and/or 'in-kind' contributions can be levied under local town planning schemes through Development Contribution Plans, made in accordance with *State Planning Policy 3.6 – Development Contributions for Infrastructure* (SPP 3.6). SPP 3.6 provides for the levying of contributions towards a range of hard infrastructure and community facilities where certain principles can be demonstrated. Key amongst these is the principle of "need and nexus", where the demand for infrastructure can be demonstrated (need) and the connection between a development and the demand created can be clearly established (nexus).

The application of this principle makes development contribution plans suitable for the levying of contributions towards local infrastructure, but less effective for the co-funding of regional infrastructure (e.g. railway stations) where the benefit accrues to a much wider group than the immediate local community.

At Burswood Peninsula, the application of local development contribution plans is made more complex due to the following:

- almost half of the peninsula falls under the control of the Agreement Act, and is therefore not subject to the normal TPS and MRS provisions (including development contribution provisions);
- the TPS does not contain development contribution provisions, and therefore does not provide a 'head of power' for the making and application of development contribution plans; and
- Crown Perth already pays annual taxes and levies to the State Government as part of its licensing agreement.

It is also important to note that Burswood Peninsula will primarily be developed as a series of major projects, each delivered by a single proponent (as distinct from incremental development across fragmented land ownership). Each project will provide necessary services and infrastructure up front and then recover that cost through land sales (Belmont Park), business operations (Crown Perth) or Government appropriation (new Perth Stadium), thereby removing the need for alternative contribution mechanisms. Given land ownership arrangements, it is likely that future development of the Belmont Station South and Burswood Station West precincts may be delivered in a similar way.

4.9 URBAN WATER MANAGEMENT

Given the advanced stage of major development projects being implemented across the Peninsula, a separate district water management strategy has not been prepared. Notwithstanding this, development proponents are expected to consider impacts on the total water system in the planning of their projects, and address the following key factors:

- protection of the Swan River;
- consideration of the potential impact of climate change on the Burswood Peninsula;
- management of acid sulphate soils;
- ensuring appropriate measures to protect and future proof developments that are located within the Swan River floodplain;
- addressing the potential for groundwater contamination from previous land uses and industrial activities;
- management of groundwater movement due to surcharging of construction sites;
- addressing deficiencies in infrastructure service capacity, including limited existing potable water and wastewater infrastructure; and
- addressing total water availability and its allocation across development precincts.

In order to comprehensively address these issues each development proposal must be supported by a local water management strategy prepared in consultation with the Department of Water and in accordance with relevant policy requirements, including *State Planning Policy 2.9 Water Resources* (Govt of WA 2006), and *Better Urban Water Management* (WAPC, 2008). Local scale investigations will be required to:

- establish accurate water baseline data;
- define the nature and extent of any issues that are identified during the investigation; and
- inform development of appropriate strategies and water quality criteria.

General objectives of water sensitive urban design that should be applied to the preparation of local water management strategies for the Peninsula include :

1. To manage a water regime.
 - Maintain appropriate aquifer levels, recharge and surface water characteristics in accordance with assigned beneficial uses;
 - Manage groundwater recharge sustainably;
 - Prevent flood damage in developed areas; and
 - Prevent excessive erosion of waterways, slopes and banks.
2. To maintain and, where possible, enhance water quality.
 - Minimise waterborne sediment loading;
 - Protect riparian vegetation;
 - Minimise the export of pollutants such as phosphorus and nitrogen to surface or groundwater;
 - Prevent groundwater acidification processes; and
 - Minimise the export and impact of pollution from sewerage.
3. To encourage water conservation.
 - Minimise the import and use of scheme water;
 - Promote the sustainable use of rainwater;
 - Promote the sustainable re-use and recycling of wastewater;
 - Reduce irrigation requirements; and
 - Promote opportunities for localised supply.
4. To maintain and, where possible, enhance water-related environmental values.
5. To enhance water-related recreational and cultural values.

