

Knutsford Street East Local Structure Plan



**As
amended**

Adopted Sept 2017

This structure plan is prepared under the provisions of the City of Fremantle Local Planning Scheme No. 4.

IT IS CERTIFIED THAT THIS STRUCTURE PLAN WAS APPROVED BY RESOLUTION OF THE WESTERN AUSTRALIAN PLANNING COMMISSION ON:

September 2015

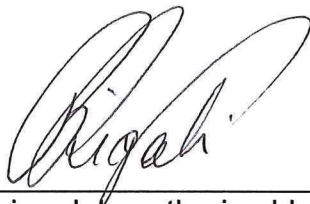
In accordance with Schedule 2, Part 4, Clause 28 (2) and refer to Part 1, 2. (b) of the *Planning and Development (Local Planning Schemes) Regulations 2015*.

Date of Expiry: 19 October 2025

IT IS CERTIFIED THAT AMENDMENT NO. 1 TO KNUTSFORD STREET
EAST LOCAL STRUCTURE PLAN WAS APPROVED BY RESOLUTION
OF THE WESTERN AUSTRALIAN PLANNING COMMISSION ON:

9 April 2018

Signed for and on behalf of the Western Australian Planning Commission



an officer of the Commission duly authorised by the Commission pursuant
to Section 16 of *the Planning and Development Act 2005* for that purpose.

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EXECUTIVE SUMMARY

The Knutsford Street East Local Structure Plan has been prepared for the historic Industrial Area at the eastern end of Knutsford Street, between Amherst and Montreal Streets. The opportunity and impetus for redevelopment has been created with the deletion of the Fremantle Eastern Bypass Reservation and zoning of the area for development under the City of Fremantle's Local Planning Scheme No.4.

The Development zone requires preparation of a structure plan as the first step towards redevelopment and this structure plan has been prepared to fulfil that obligation. It provides an assessment of the subject land, the basis and vision for its future development and an implementation process responding to the complicated nature of the site, particularly co-ordination of redevelopment across the multiple ownerships.

Opportunities inherent in the subject land supporting redevelopment include its zoning, the aging nature of many of the improvements within the land, the removal of the Fremantle Eastern Bypass Reservation, the presence of significant Government landholdings, the redevelopment process currently underway on adjoining land as part of the Swanbourne Street Structure Plan area, the proximity to facilities and services present within the Fremantle City area and the proximity of the subject area to major recreational facilities, such as the Golf Course, Booyeembarra Park and Stevens Reserve.

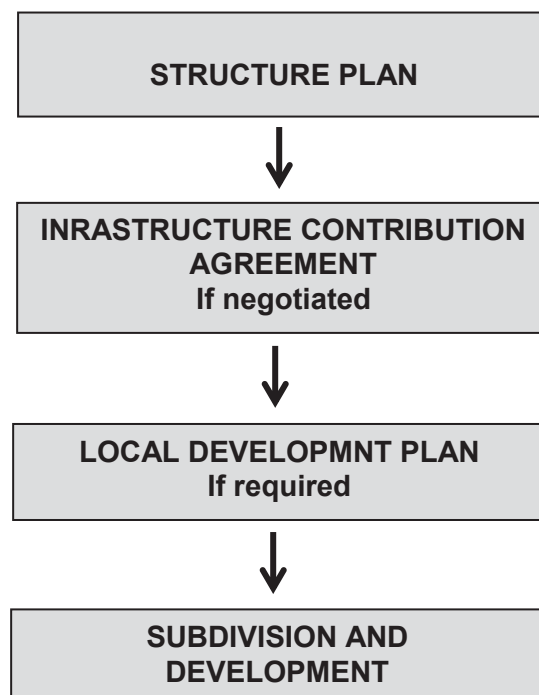
Some possible constraints identified include possible historic site contamination, a number of dramatic level shifts, the need for additional servicing requirements and the multiple land ownership. While identified constraints will need to be addressed, there has been no 'fatal flaw' identified which would preclude redevelopment for residential and mixed use purposes proceeding.

A vision to redevelop the aging, underused industrial area into an exemplary residential and mixed use area supported by local shops and integrated with the existing surrounding community has long been identified by the City of Fremantle. This structure plan is intended to establish the first stage in a number of steps towards redevelopment of the land. It is intended as a generically based document, outlining general principles for redevelopment of the subject area which will need to be applied in further, more detailed planning for the site. These principles establish the preferred land uses, density of development, form and standard of development, infrastructure improvements to accommodate the future residential and commercial developments and the process for implementation of the structure plan and further detailed planning.

Redevelopment of the site will be based upon the general principles as established under the structure plan which may then be applied to detailed planning, subdivision and in the

preparation of local development plans (if required) within the structure plan area. This approach enables individual owners to proceed with redevelopment in accordance with their desired programme while ensuring necessary planning requirements and objectives are suitably addressed.

The implementation process establishes up to four stages, being the structure plan, infrastructure contribution agreements (if negotiated), preparation of local development plans (if required) and, finally, subdivision and/or development applications and approvals. This process provides for coordination between landowners, where necessary, while also providing for maximum flexibility for individual landowners in determining and proceeding with their own developments within the wider context of the coordinated vision and need to address the multiple ownership aspect.



The structure plan will have a significant role in the revitalisation of this area, providing opportunities for the combination of living and work opportunities and the creation of a vibrant new sustainable community on the fringe of the city centre, surrounded by parks and with good access to local and regional roads for public and private transport. It represents a more efficient use of land through the provision of a mix of land uses which allow new businesses to be created alongside of new residents who can support and benefit from the services they have to offer. It is these important elements of the structure plan that will see the vision for the Knutsford Street East locality realised.

INTRODUCTION

The Fremantle industrial area south of High Street has been identified as a prime redevelopment site by the City of Fremantle as part of its town planning scheme review. This has been coupled with a push for change from some of the landowners who have long recognised the opportunity for a broader range of uses to be accommodated and who have supported the shift from an industrial focus towards residential and commercial activities.

The 'Development Area' zoning of the land, introduced in Local Planning Scheme No. 4 ('LPS 4'), provides the opportunity for the revitalisation of this area and its redevelopment for a range of urban purposes, including residential, community, mixed business, commercial activities and limited light and cottage industries.

In order to facilitate the coordinated urban development of this land, a Local Structure Plan ('LSP') has been prepared for consideration and adoption by the Council.

The LSP has been prepared, under the instruction of the Knutsford Street East Local Structure Plan Steering Committee ('The Steering Committee'). The Steering Committee is a group of landowners, both private and government, within the LSP area, who have funded preparation of the LSP.

The outcome of this local structure planning exercise is the preparation of a report and accompanying plans which justify and explain the process whereby a wider range of land uses are introduced into this area including residential, commercial, mixed use and community, for the purpose of establishing a vibrant sustainable community which comprises residents, workers and business owners.

The LSP comprises three parts, Part 1 – Context, Part 2 – The Structure Plan, and Part 3 – Implementation.

Part 1 provides the context for the structure plan, outlining the existing characteristics of the subject site, its surrounding area of influence and relevant planning considerations, including proximity to employment centres, local and regional roads, public transport, schools, parks and other community facilities.

Part 2 outlines the vision and objectives of the structure plan and recommendations for land use change which are consistent with the vision and objectives and which can be supported within the context of the site's physical and location characteristics. The philosophy behind the structure plan is explained and supporting information is provided to justify the recommended land uses, including environmental, servicing and traffic information.

Part 3 details the strategy for implementing the structure plan. This section also discusses alternative mechanisms for ensuring the coordinated subdivision of the land and outlines models which could facilitate the efficient servicing and development of the land and the equitable distribution of associated costs.

1.0 CONTEXT

1.1 SITE DESCRIPTION

1.1.1 Location

The subject land is located 15km south west of the Perth CBD and 1km east of the Fremantle City Centre (refer Figure 1 – Location Plan). It is bounded by Blinco Street to the north, Montreal Street to the east, Stack Street to the south and Amherst Street to the west, and comprises an area of approximately 12ha (refer Figure 2 – Subject Land).

1.1.2 Existing Land Uses

The subject land has historically been utilised for industrial purposes in accordance with the previous zoning of the land under the City's former Town Planning Scheme No. 3 (TPS 3). The current industrial uses are permitted to continue in accordance with the non-conforming use rights prescribed in LPS 4, regardless of the zoning and the proposals contained within the LSP.

The range of industrial and commercial activities currently undertaken include warehousing, storage, manufacturing (furniture, air conditioning), automotive repair, boat building, plumbing and gas services, sheet metal pressing, plant nursery, City Council depot and caretaker/residential.

As part of the detailed planning stage, consideration will need to be given to the continuation of any industrial activities and their impact on the amenity of new residents or businesses in this area. This may mean that redevelopment is delayed or staged or adapted so as to accommodate existing industrial activities. While some industrial activities are compatible and will be permitted to continue their operations (in accordance with any approvals) others may be encouraged to relocate or modify their operations to facilitate the redevelopment of this area in accordance with the vision.

The existing building stock can be classified as old and run down. Only two buildings (10 and 12 Stack Street) have been identified as possibly having some heritage significance and have been listed for inclusion in the City of Fremantle's Municipal Heritage Inventory. However, there may be an opportunity to preserve some of the buildings and re-use them for residential or commercial/mixed use. The offering of incentives in the form of building density and plot ratio in order to retain existing building stock may assist in the maintenance of the identity of this area as a former industrial estate.

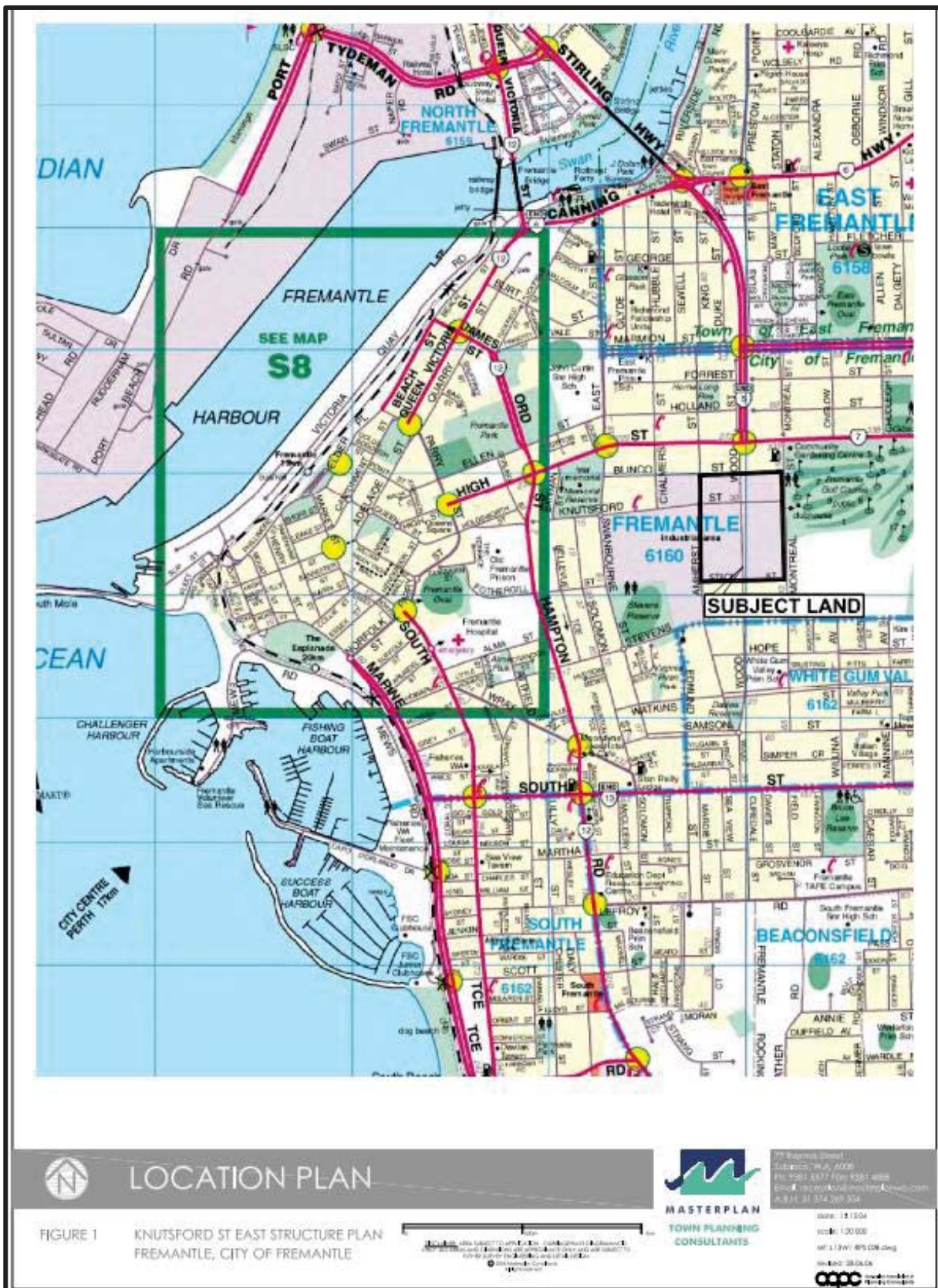


Figure 1 - Location Plan



Figure 2 – Subject Land

Due to the historic use of the subject land for industrial purposes, dating back to the 1950s, there is the possibility that some contamination of the soils and groundwater has taken place. A Detailed Site Investigation to the standards prescribed by the Department of Water and Environmental Regulation (DWER) will be required as a precursor to development within any of the Structure Plan area in accordance with the LSP. This will be the responsibility of the individual landowner and is most appropriately undertaken prior to detailed site planning or subdivision, to ensure that site contamination and remedial works do not impact upon the end development form.

1.1.3 Existing Access

The subject land is immediately accessible from High Street to the north, via Montreal Street or Amherst Street although this may change depending on future road works to improve port access.. Access to the area can also be obtained from South Street to the south, via Wood Street, and indirectly from Hampton Road to the west, via Stevens Street through the established residential areas of Fremantle and White Gum Valley.

There is no direct access to or from the subject land and High Street via Wood Street. Furthermore, access to Amherst Street from High Street is limited to left in and left out only. These restrictions on access from High Street, the major route to Fremantle and Perth from the subject land, serve to channel most traffic to the area along Montreal Street, Amherst Street and nearby Chalmers Street although this may change depending on future road works to improve Port access.

Amherst Street, Montreal Street, Stack Street, Wood Street, Knutsford Street and Blinco Street, within and adjoining the subject land, are classified as local roads, although, as discussed above, Montreal and Wood Street in particular, do function as local collector roads. Access may need to be reassessed depending on future road works to improve Port access.

1.1.4 Site Analysis

The subject area is bordered by both long-established residential and other historic industrial land uses. Land to the north of Blinco Street and to the south of Stack Street comprises predominately single residential development, with some grouped dwellings, characterised by 30-50 year old buildings in fair to good condition. The City's Municipal Heritage Inventory lists Nos. 10 and 12 Stack Street as having some heritage significance and additional buildings are also worth further consideration in this regard.

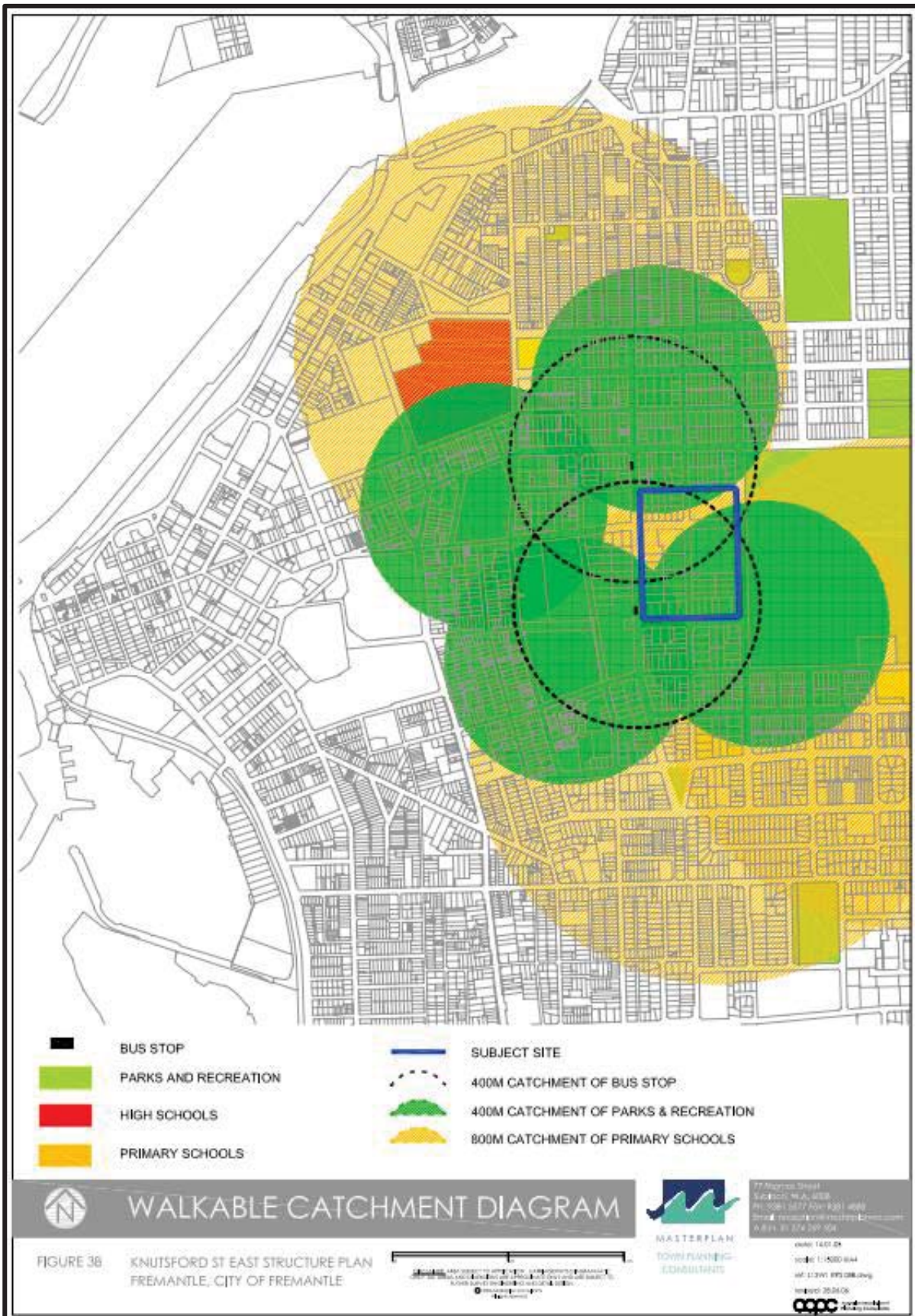


Figure 3 – Walkable Catchment Diagram

Residential lot sizes are generally 900m² to 1800m². The current zoning of the land provides the opportunity for development at a higher density than is presently taken advantage of in this area, with a minimum lot size of 300m² permitted under the R25 coding. This opportunity for higher density development coupled with an aging housing stock may lead to the redevelopment of this neighbouring residential area to a standard not dissimilar to that proposed in the LSP area.

The subject land, by virtue of its proximity to the city centre, is accessible to the full range of services and amenities available in and around the city centre, including shopping, commercial, community, medical, entertainment and recreation activities. (refer Figure 3 – Walkable Catchments).

The Fremantle Public Golf Course and club house is located on the eastern boundary of the subject land on the opposite side of Montreal Street. Booyeembarra Park is also located on the opposite side of Montreal Street and provides for the passive and active recreational needs of residents in the immediate area. Other recreational areas are also located in proximity to the subject land, including Stevens Reserve to the south west (off Stevens Street), Memorial Reserve to the north west (off Knutsford Street) and the proposed public open space areas within the Swanbourne Street Structure Plan (SSSP) area to the west.

The SSSP area abuts the subject land to the west and provides for the future redevelopment of this industrial area for residential and community purposes. The original SSSP was adopted by the City of Fremantle in December 2003 and a more recent SSSP was approved by WAPC in September 2015.

There is the opportunity to build upon the green links provided in the SSSP through the identification of expanded green links through the LSP, particularly within the wide road reserve along Knutsford Street. This would link future residents and workers within the LSP area to established parks and recreational nodes to the east and west, as well as local shopping facilities.

There are a range of educational facilities serving the area, including White Gum Valley Primary School on Montreal Street to the south, East Fremantle Primary School on Forrest Street to the north-west and John Curtin Senior High School on East Street, also to the north-west.

Due to the subject land's proximity to these services and facilities, with a choice of parks located within a short walking distance of the land, the need to physically provide land for the development of additional parks and recreation areas in this area is questioned. A contribution towards the enhancement of existing parks and recreation areas is considered more likely to be of benefit to the community in this area. However, consideration will need to be given to any requirement to retain storm water drainage on site and the opportunity to combine this

with landscaped POS areas in order to introduce a more visually pleasing feature to the LSP area.

The introduction of additional residents into this area may lead to a demand for local convenience shopping which is not currently provided for in this area. Some mixed use development has been identified in the SSSP. In addition an opportunity exists for a local convenience store to be accommodated within the LSP area to service existing and proposed new residents and workers of this area. As a permitted land use a convenience store could be located anywhere in the LSP area. Given the location of the mixed use development site on the eastern periphery of the SSSP and the need to provide a site easily accessible to pedestrians and passing vehicles, a site on or near the corner of Montreal and Knutsford Streets may be most appropriate.

The subject land comprises a varied and undulating landform which has been further modified historically, via retaining and the use of embankments. This is further detailed in Section 2.2, following. However, it is noted here as the land offers potential sweeping inland views. The possibility of ocean and city views may exist, but will largely be dependent upon development height. Accordingly, advantage may be taken of these potential views through the provision of higher density residential development in appropriate locations, including on Knutsford Street and also on sections of Montreal, Wood and Amherst Streets, close to Knutsford Street.

1.2 ENVIRONMENT

1.2.1 Climate

Fremantle experiences a Mediterranean climate with warm to hot summers and cool, wet winters. The summer temperature averages 29°C during the day and 17°C at night with the afternoon sea breeze (known as the *Fremantle Doctor*) offering relief during the summer months. The average winter temperature is 18°C during the day, dropping to 9°C at night. The average annual rainfall for Fremantle is 775mm with the majority of this falling in the winter months of June to August (Bureau of Meteorology Australia, 2002).

The opportunity exists, with the redevelopment of this industrial area, for additional residents to enjoy the climate of Fremantle, and, with the use of medium to high residential densities, there is the opportunity for apartments to be afforded ocean views and benefit from possible cooling sea breezes.

1.2.2 Topography

The topography of the site originally consisted of steep undulating slopes. Following historic limestone extraction, the land comprised numerous excavation pits, rendering the topography indiscriminate.

The existing topography will be retained and the historical topography of the area will be enhanced, where possible, through the use of minimal cut and fill to increase the existing fill levels or reduce the land profiles as part of the development process.

Boundaries of several of the lots now consist of significant earth retention, via retaining walls, resulting in vertical gradients up to approximately 5 metres. The current elevations range from 24mAHD to 32mAHD. This characteristic of the landform will influence the final development form and, accordingly, must be addressed and accommodated at the Subdivision or development application stage.

Due to the nature of the topography, local surface run-off varies across the subject land. The portion of the subject land with Wood Street as its western boundary is likely to have surface water run-off generally in a north-easterly direction towards the north-eastern segment of the golf course. The portion of the subject land with Wood Street as its eastern boundary is likely to have surface water run-off generally to the north, towards the adjacent residential area.

There may be an opportunity to further explore the piping of some of the storm-water drainage off-site into a compensation basin within Booyeembarra Park to the southwest of the LSP area. However, the topography of the land would limit this opportunity, thus not making it feasible to provide the necessary infrastructure to pipe only a small amount of the storm-water run-off to Booyeembarra Park.

Furthermore, the increase in surface water runoff as a result of the redevelopment of the land is considered to be minimal, given the vast expanse of existing hard stand areas associated with industrial development. However, any storm-water which is not considered capable of being accommodated within an individual site will need to be accommodated in sumps or swales and reflect best management practices in water sensitive urban storm-water management. The location of these facilities will be determined at the development stage in consultation with the City. Land required for drainage at the subdivision stage would be set aside as a 'Reserve for Drainage Purposes'. Where it is identified that storm-water retention facilities are required within the Structure Plan area, consideration will be given to the design and landscaping of these areas to improve the amenity of the area and opportunities to combine these facilities with parks and achieve POS credits, will be explored.

1.2.3 Regional Geology and Hydrogeology

According to information obtained from the Geological Survey of Western Australia 1:50 000 Environmental Geological Series "Fremantle" (Gozzard, J R, 1983), the subject area is characterised by Tamala Limestone from the surface to 30-35m below ground level.

Based on information obtained from the Perth Groundwater Atlas, 1:15 000 (Water and Rivers Commission, 1997), groundwater is located between 5 and 13 metres below ground level. Soils are highly permeable and groundwater is expected to flow west to north-west towards the Fremantle Harbour section of the Swan River and the Indian Ocean.

The preliminary site investigations undertaken by Parsons Brinkerhoff have identified that, due to the highly permeable nature of the soils and depth to groundwater, it is likely that historical land uses in this area have had a detrimental impact on groundwater quality (refer Parsons Brinkerhoff Environmental Report (Appendix 1). Accordingly, further, more detailed, site investigations will need to take place at the subdivision or development application stage to determine the extent of any contamination of the groundwater. Further consideration will also need to be given to the use of memorials on the titles of any new lots to inform landowners of the need to avoid contact with the groundwater, should contamination be found to have taken place.

1.2.4 Flora and Vegetation

Historic aerial photography shows that the majority of the subject area has previously been cleared of vegetation as part of historic limestone extraction activities and more recent industrial development in this area. The vegetation that exists now is mainly regrowth *Acacia* over storey, with little conservation value, over a range of weed species.

As a result of the extensive clearing that has occurred over the subject land in the past, the highly degraded vegetation presents very little opportunity for native fauna habitat.

1.2.5 Potentially Contaminating Activities

Preliminary site investigations were undertaken in September 2004 by Parsons Brinkerhoff, and potentially contaminating activities were identified.

Parsons Brinkerhoff identified a number of sites, within a radius of 1.1km of the subject land, which are listed as LEGACI Investigation Sites by the then Department of Environment. Four of these sites are located within the structure plan area, being Lots 2, 3 & 1219 Stack Street and Lot 11 Blinco Street. The activities undertaken on these sites included electroplating, manufacture of paint and reconditioning of machinery and have been identified as potentially contaminating.

In addition to these sites, a portion of Booyeembarra Park to the east of the structure plan area has previously been used for a sanitary landfill site (City of Fremantle putrescible and inert waste disposal). Groundwater from Booyeembarra Park is likely to flow beneath the subject land, resulting in possible contamination of water in this area. Accordingly, following the change in use of the area from industrial to residential, restrictions may need to be placed on any use of groundwater for domestic purposes.

The majority of the structure plan area currently, and in the past, has been occupied by land uses with a potential to cause contamination of soil and groundwater. Due to the proposed change in land use to a more sensitive land use, and in accordance with the Department of Water and Environmental Regulation Guidelines, further investigations are required to be undertaken on the lots within the structure plan area to determine each site's contamination status. These more detailed site investigations will need to be undertaken at the next stage, as part of the subdivision, development or Local Development Plan preparation. A guide to the potential scope of works to be undertaken for each lot to determine the extent of any contamination and necessary remediation is included within the Parsons Brinckerhoff Report included as Appendix 1.

1.2.6 Culture and Heritage

The subject land has no identified cultural significance. However, the historic character of the

industrial area can be acknowledged and emphasised in the redevelopment through the retention and/or reuse of buildings or portions of buildings and building materials in future residential and commercial/mixed use development. The preparation of Design Principles guide future development and describe attributes which will assist in maintaining the character of the former industrial area.

A search of the Department of Indigenous Affairs Aboriginal sites database revealed that no portion of the site was registered on the 'interim' or 'permanent register'. The *Aboriginal Heritage Act 1972* (the Act), protects all sites, whether they are registered or not. Due to past activities undertaken on the land and the extent of existing development, it is unlikely that any Aboriginal sites exist on the land. Nevertheless, an Aboriginal Heritage Survey may be required to confirm the absence of any sites of significance to ensure compliance with the expectations of the Act.

1.3 PLANNING CONTEXT

1.3.1 Metropolitan Region Scheme (MRS)

The current MRS zoning of the subject land is 'Urban'. The 'Urban' zoning provides for the residential and small scale commercial use of the land in accordance with the structure plan.

Wood Street, along with land immediately adjoining it on the eastern side, was formerly reserved in the MRS for the purpose of establishing the Fremantle Eastern By-pass (FEB). The deletion of the FEB was the catalyst to the redevelopment of this area for residential purposes.

1.3.2 Historic Zoning (Town Planning Scheme No.3)

The current and historic use of the subject land is a result of the historic zoning of the land.

The subject land was historically zoned 'Industry' under the City of Fremantle's Scheme (TPS 3). A portion of the land, on the eastern side of Wood Street, encompassed the former FEB Road Reserve and was accordingly designated the same under TPS 3. With the deletion of the FEB from the MRS, TPS 3 was also amended to remove the FEB reserve. Affected portions of the subject land were consequently zoned 'Development Zone' to reflect the proposed zoning for the area under LPS 4

1.3.3 Local Planning Scheme No.4

The redevelopment opportunity inherent in the structure plan has been acknowledged with the designation of the subject land as 'Development zone' in LPS 4 with a corresponding

Development Area No. 1 reference (refer to Figure 4 – LPS Zoning Plan).

The current zoning provides for the future residential, commercial and mixed use of the land in accordance with this structure plan. The use class table in LPS 4 (Table 1 – Zoning) does not indicate the uses that are permitted within the 'Development zone'. Instead, the Scheme provides for an approved structure plan to designate land uses.

This structure plan designates residential, commercial, mixed use, community and limited light, service and cottage industrial land uses throughout the area. The land uses preferred for this area have been modelled on the land uses designated in the Mixed Use zone under LPS 4.

1.3.4 Regional and District Planning Studies

Fremantle Regional Strategy 1994

The Western Australian Planning Commission's (WAPC) Fremantle Regional Strategy (FRS 1994) recommends that the bunkering facilities on the adjoining land to the west, within the SSSP area, be relocated as they are no longer appropriate for this location and implies that this area, encompassing the subject land and adjoining land, should be more appropriately utilised for residential and mixed use purposes.

The FRS was prepared by the WAPC in association with the City of Fremantle. The current zoning of the land in the MRS and LPS 4, and the designation of mixed use / residential in the structure plan, reflects the intentions of the strategy.

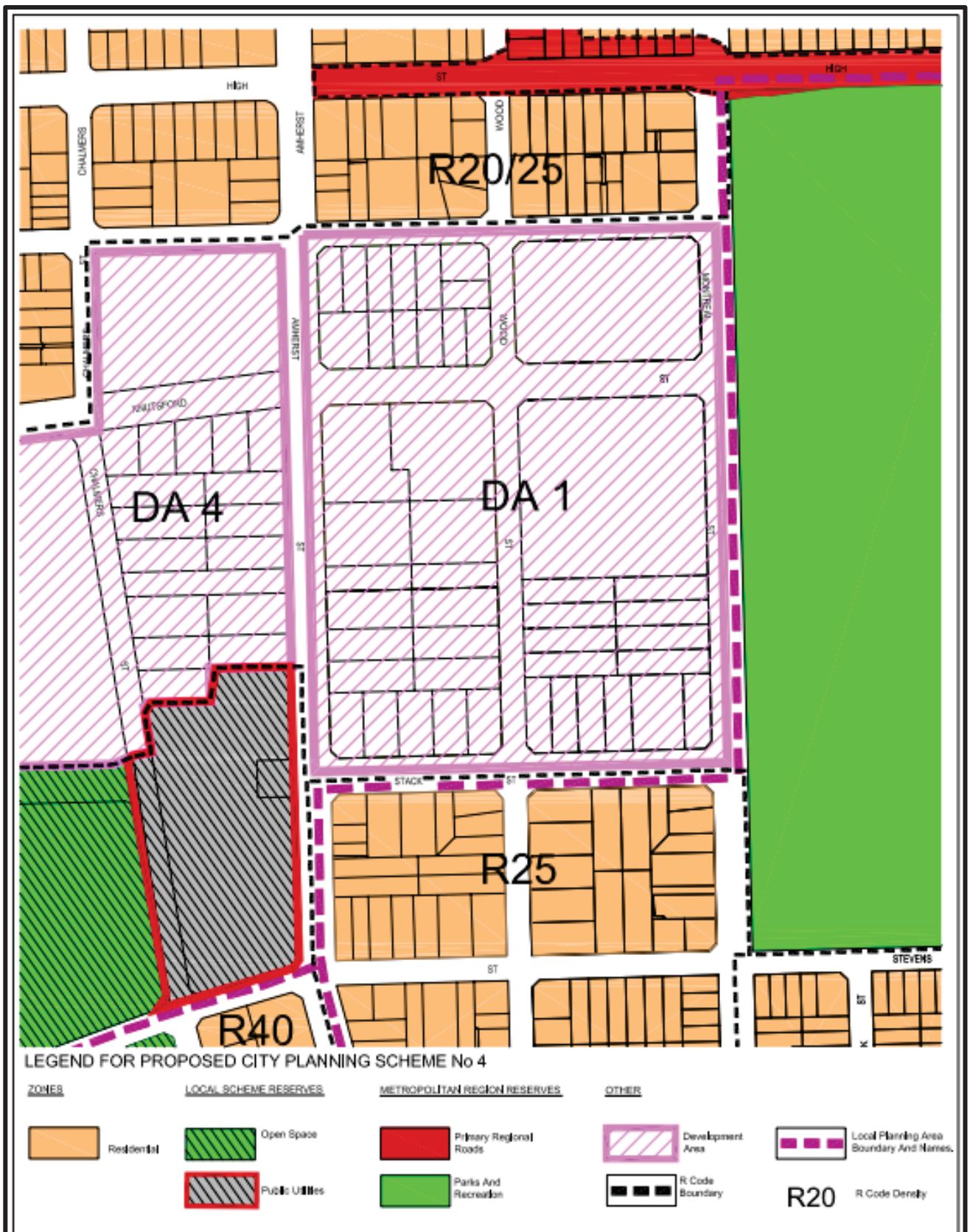


Figure 4 – Local Planning Scheme zoning plan

1.3.5 State and Local Policies/Strategies

Local Planning Strategy

The City of Fremantle Local Planning Strategy, the Fremantle Planning Strategy (July 2001), was the precursor to LPS 4, and established the long term strategic direction and rationale for the Scheme.

The Fremantle Planning Strategy (2001) identified the subject area as Development zone and required the preparation of a structure plan to advance development. This structure plan has been prepared in response to the LPS recommendations and subsequent LPS 4 zoning.

State Planning Context

The WA State government's Network City Framework and subsequent policies and planning frameworks including Perth and [Peel@3.5m](#) and Central Planning Framework, identify the need to increase the proportion of housing in infill development in order to accommodate population growth targets. The subject land and surrounds, as an older area offers many opportunities to redevelop underused land and to strengthen networks and centres.

These strategies propose a target of 7030 dwellings for Fremantle to increase (from 2011). This structure plan, through the redevelopment and remediation of industrial land for residential and mixed use purposes will assist in the achievement of this infill objective through the contribution of around 900 new dwellings. The structure plan will provide for residential development at higher densities, which represents an efficient use of land within an established and well serviced area, and which provides the opportunity to strengthen the existing networks and centres within, and leading into, Fremantle.

1.4 OPPORTUNITIES AND CONSTRAINTS

The subject land presents a variety of opportunities to support and encourage its redevelopment and, while a number of potential constraints are also noted, the opportunity inherent in the land is considered to outweigh these constraints.

1.4.1 Opportunities

Zoning:

The rezoning of the site to “Development Zone” in LPS No.4 establishes the statutory framework for redevelopment to proceed.

Age of Improvements:

The continuing and ongoing viability of the area as an effective and modern industrial area is in question due to the age and condition of many of the improvements which are in need of refurbishment. This situation promotes the opportunity for redevelopment.

Removal of FEB:

The deletion of the FEB reservation has removed a constraining factor to the use of part of the subject land.

Government Landholdings:

Government agencies own or control significant parts of the subject area ensuring a presence within the subject land of experienced development agencies, in turn providing an impetus for development.

Swanbourne Street Structure Plan (SSSP):

Redevelopment of the adjoining industrial area to the west has been initiated by the adoption of the SSSP by the City of Fremantle. Physical redevelopment of parts of this area has already commenced with the demolition of buildings on Lot 1354 Knutsford Street.

Proximity to Fremantle City:

The close proximity to the Fremantle City Centre ensures access to the full range of facilities, services and employment opportunities necessary to help sustain a future residential and mixed use area.

Proximity of Golf Course, Booyeembarra Park and Stevens Reserve:

The proximity of a range of recreational and open space facilities, meeting both active and passive activity needs, further supports the potential of the subject land for residential and mixed use purposes.

1.4.2 Constraints

Possible Historic Contamination:

The long term use of the subject land for industrial activity may have resulted in some contamination issues which will need to be addressed. Some sites within the subject land have been identified by environmental authorities as possible sites of contamination.

Dramatic Level Shifts – Embankments/retaining:

Historically, the subject land has been reworked resulting in the creation of a number of embankments or retaining walls across the site and substantial differences in ground levels in some instances. This could also be seen as an opportunity as dramatic topography is relatively rare in the Perth metropolitan area.

Additional Servicing Requirements:

The level and standard of service infrastructure available within the subject area is unlikely to be sufficient to meet residential requirements and will, therefore, require both upgrading and expansion.

Multiple Land Ownership:

The structure plan area contains a range of multiple land ownerships including both Government and private owners. Co-ordination of, and co-operation between, landowners will be integral to securing the implementation of the structure plan and subsequent redevelopment of the subject land.

In summary, the location of this historic industrial area, its changed zoning, the dated condition of many of the improvements and redevelopment opportunities and pressures nearby provide an impetus towards redevelopment of the subject land. The constraints inherent in the site, while challenging, do not comprise a 'fatal flaw' which would preclude redevelopment for residential and mixed use purposes proceeding.

Bush Fire Prone Area

State Planning Policy (SPP) 3.7 requires strategic planning proposals relating to land with a bushfire hazard level (BHL) and Bushfire Attack level (BAL) above low to comply with the policy. A portion of the structure plan area has been designated as a Bushfire Prone Area by Department of Fire and Emergency Services (DFES) affected by Booyeembarra Park. This does not preclude development however the structure plan is required to address how the policy will be complied with.

2.0 STRUCTURE PLAN

2.1 STRUCTURE PLAN PHILOSOPHY

2.1.1 Vision

To redevelop an aging underutilised industrial area through the introduction of a mix of residential and commercial uses including small scale convenience retail to serve the local area and integrated with the existing surrounding community via the application of sustainable planning principles which retain the historic character of its former industrial use without compromising the amenity of existing and future residents, workers and businesses.

2.1.2 Objective and Principles

The following objective and the principles outlined constitute the planning philosophy required to achieve the above vision.

To create a sustainable residential and mixed use area by adhering to the following principles:

Integration: Ensure the new community is integrated with the existing residential community and the proposed new adjoining communities, with particular attention to the interface.

Permeability: Facilitate social integration by promoting access through the site, particularly for cyclists and pedestrians.

Green Links: Promote accessibility between Booyeembarra Park and the proposed green spaces within and adjacent to the Swanbourne Street Structure Plan area.

Community: Enhance and support existing public open space areas and provide for Knutsford Street to act as a community focal point and to foster social interaction by linking Monument Hill Park to the Golf course and Booyeembarra Park.

Diversity: Promote a mix of land uses and a range of housing types to meet the housing needs of a wide range of the community.

Efficiency: Take advantage of the site's proximity to existing urban areas and established community and service infrastructure by providing for development at a range of residential densities.

Environment: Remediate the site to where it is suitable for residential and community use.

Identity: Endeavour to instill a 'Fremantle identity' with some relationship to the site's history and its industrial character.

Economic Development: Provide opportunities for existing and new local commerce, shops, light industry and home based employment which expand upon the exiting employment opportunities in the area.

Amenity: Create an urban environment which satisfies the lifestyle, aesthetic and security aspirations of its residents and workers.

Innovation: Promote flexible land use solutions for residential, mixed use and home based employment opportunities.

Urban Design: Adopt appropriate urban design principles, including from the WAPC's Liveable Neighbourhoods approach, and the Design WA suite of documents which strive to achieve a built form that promotes the preceding principles.

Adaptability: Encourage the retention of existing buildings and businesses and the introduction of new business and built form which is able to adapt to a range of land uses over time to meet the changing needs of the community.

Sustainability: Achieve a balance between social, economic and environmental considerations and lead by example in the adoption of environmental best practice with a focus on sustainability in built form and land use and services

2.2 STRUCTURE PLAN APPROACH

The Knutsford Street East Structure Plan has been prepared in accordance with the requirements of Clause 6.2.6 of LPS 4 for the preparation of a local structure plan.

The structure plan is generic and provides the broad principles for the coordinated subdivision and development of Development Area No. 1. The structure plan identifies the requirements for subdivision and site design which will facilitate the ultimate development of the land in accordance with the vision, objective and principles of the structure plan.

2.2.1 Precincts

In 2006 the structure plan area was divided into five (5) precincts. The 5 precincts were allocated on the basis of land ownership groupings and the boundaries were generally defined by the location of roads (refer Figure 5 Land Ownership and Precinct Plan).

The delineation of precincts is no longer considered necessary to assist orderly planning and development, however they are still useful to describe servicing requirements later in the document. The Precincts were described as:

PRECINCT 1: (Private Landowner Group 1)

Area bound by Amherst, Knutsford, Wood and Blinco Streets, and comprising Lots 10-16 Blinco Street, Lots 3-7 & 25 Knutsford Street, Fremantle, with a total area of approximately 1.4ha.

All properties are currently privately owned and used for industrial or commercial purposes, including warehousing, storage, plumbing and gas services, furniture manufacturing, crayfish pot building and automotive repair. Two of the properties in this precinct are currently used for caretaker residential purposes, in conjunction with industry.

PRECINCT 2: (Former WA Museum Site)

Area bound by Wood, Knutsford, Montreal and Blinco Streets and comprising Lot 1819 (former Reserve 23558), with an area of 1.6ha.

The land is classified as Crown Land and is currently owned by the Department of Planning, Lands and Heritage and Infrastructure and leased to the Western Australian Museum for storage purposes. Prior to this, the site was used as a maintenance depot for the Public Works Department. LandCorp, the government's premier land development agency, is currently in the process of acquiring the land and is the likely developer of this land.

PRECINCT 3: (City of Fremantle Depot)

Area south of Knutsford St, west of Montreal Street and east of Wood Street, comprising Lots 11, 12 & 13 and encompassing an area of approximately 2.5ha.

The land is currently owned by the City of Fremantle and is occupied by the City's Public Works Depot and Nursery.

PRECINCT 4: (Private Landowner Group 2)

Area north of Stack Street and west of Montreal Street and comprising Lots 1-4, 7 & 17 Stack Street, Lots 8-10 Montreal Street and Lots 14-16 Wood Street, Fremantle, with a total area of approximately 1.9ha.

The land is predominately privately owned, with Lots 1, 15 & 16 on the corner of Stack Street and Wood Street currently owned by the Commissioner of Main Roads. LandCorp is currently in the process of acquiring the lots and is the likely developer. The properties are generally used for industrial purposes, including storage of building materials, automotive repair, sheet metal processing, engineering, boat building, air conditioning manufacture, metal coating (casting) and art studio.

PRECINCT 5: (Private Landowner Group 3)

Area bound by Knutsford Street, Stack Street, Amherst Street and Wood Street and comprising Lots 500 & 501 Knutsford Street, Lots 1, 1823, 1209, 1212 & 1217 Amherst Street, Lots 2, 1824, 1210, 1211 & 1218 Wood Street, and Lots 1219-1223 Stack Street, Fremantle. The total area of this precinct is approximately 4ha.

The land in this precinct is privately owned and is used for a range of industrial and commercial activities including container storage and transport, automotive wrecking, boat building, mechanical engineering, truck haulage and storage, automotive engine repair and cabinet making. The built form ranges in type and age and comprises mostly warehouse buildings with various 'add-ons' and other supporting structures.

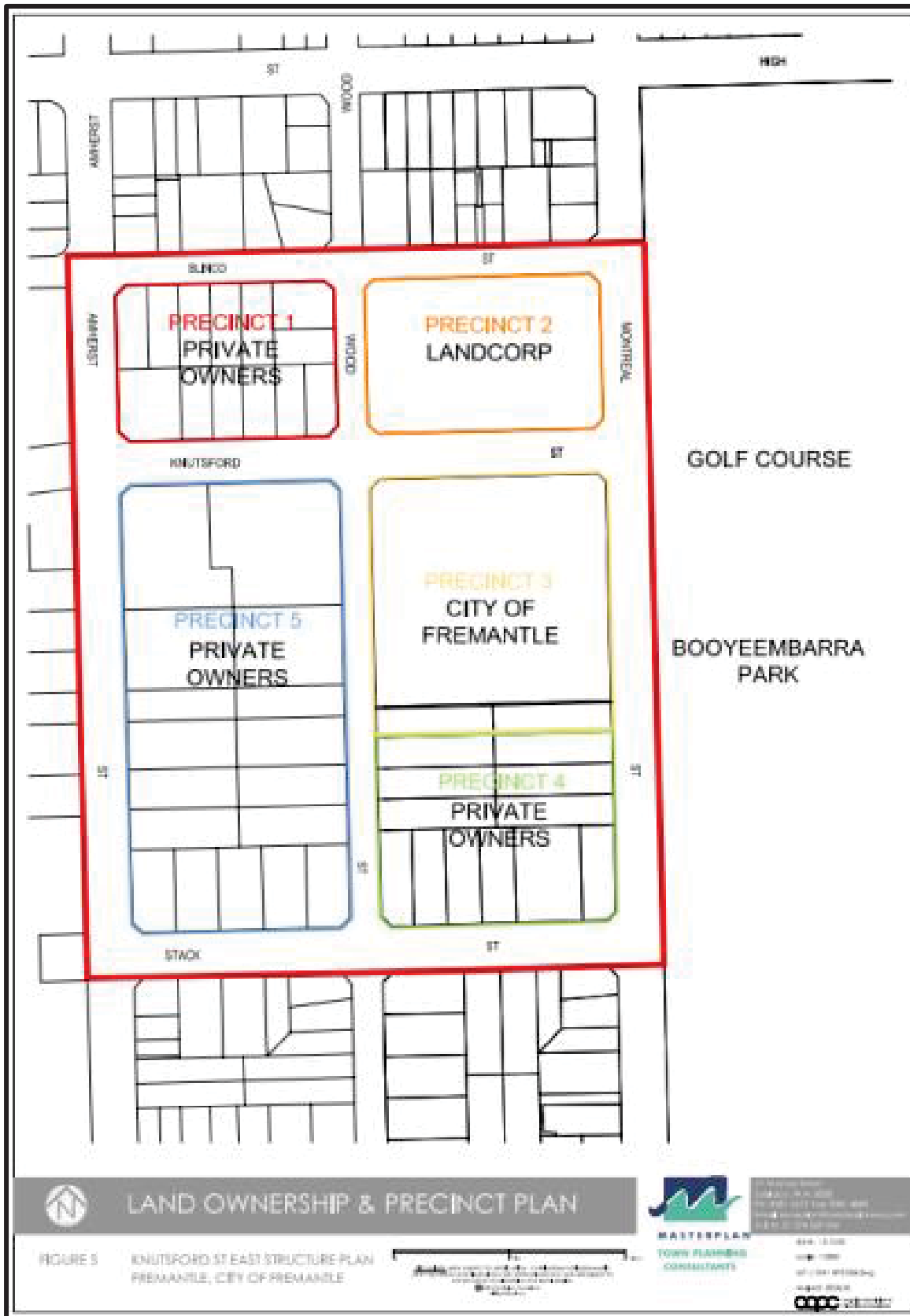


Figure 5 – Precinct Diagram

2.3 STRUCTURE PLAN LAND USE OVERVIEW

2.3.1 General

The structure plan aims to accommodate, as best as possible, the aspirations of the City of Fremantle, the landowners and the local community. It balances the planning objectives identified above with the City's and the WAPC's policies and guidelines.

A steering committee, comprising representatives of each of the landowner groups within Precincts 1-4, was formed in June 2004 and meetings were held in September and November 2004, and January and February 2005 to assist the preparation of the structure plan by Masterplan Consultants WA Pty Ltd.

Precinct 5 was represented by Greg Rowe and Associates, who had been commissioned to prepare a structure plan for this land parcel. Various meetings and liaison took place throughout September, November and December 2004, and January and February 2005, between the two representatives to ensure that the proposals within each area were consistent and to facilitate the preparation of a comprehensive structure plan for the area.

The various components of the structure plan for precincts 1-5 are outlined below and shown in Figure 6 – Structure Plan.

2.3.2 Interface Considerations

Special consideration must be given to the interface between the structure plan area and existing (and/or proposed) development or land uses on adjoining land.

Land to the north of Blinco Street and south of Stack Street is generally characterised by residential development, comprising older housing stock. In accordance with the current zoning, the land can be developed at a density of 25 dwellings per hectare (R25). However, existing development is typically single residential at a lower density than is presently available.

It is anticipated that as development occurs in the subject land and the SSSP area to the west, improving land values will provide an impetus for redevelopment of the existing residential areas to the north and south of the subject area to maximise the capacity inherent in the residential density coding currently applying in these areas.

This will result in the further development of additional dwellings within the existing residential areas than currently exists. The resultant urban development will be compatible with that proposed under this structure plan in terms of physical density and built form. To ensure this, development adjoining existing residential areas should demonstrate an appropriate interface and transition.

Land to the west of Amherst Street has historically been used for industrial purposes, but is

proposed to be developed for residential in the form of grouped and multiple dwellings and mixed use purposes, in accordance with the approved SSSP.

This structure plan proposes adaptable residential frontages to Blinco Street, Stack Street and Amherst Street, which will generally respect the scale of existing housing and proposed residential development on the opposite sides of the streets.

This will be achieved by the requirement for that portion of development fronting these streets to be generally 2 storeys at the street interface with any additional storeys set well back from the street. It must also be demonstrated that the development will not impact on the amenity of surrounding areas with respect to overlooking and overshadowing.

Height and density bonuses will not be permitted on the sites facing Stack and Blinco Streets

There is a substantial physical separation between the development on the opposite sides of Blinco Street, Amherst Street and Stack Street as a result of the wide road reserves and building setbacks. The landscaping of the road reserves will serve to ease the transition from the existing to the proposed new development in the structure plan area and provide an attractive interface.

Higher density residential development with a minimum R60 and a maximum R100 and a building height up to 4 storeys is provided for within the structure plan area. Development adjoining established residential areas is to ensure an appropriate interface with existing residential areas and transition from these areas to more dense development towards central parts of the Structure Plan area.

Development higher than 4 storeys will be considered in the areas of the structure plan not facing from Stack and Blinco Streets, Any additional height would be subject to achieving specific conditions as set out in Table 1 and must be justified in the context of the overall scale, bulk and design of the building. In these cases, it must be demonstrated that the development will not impact on the amenity of surrounding areas with respect to overlooking and overshadowing.

The SSSP provided for a mix of land uses, including home businesses and mixed use - residential and small scale commercial, fronting Knutsford Amherst Street, immediately opposite Precincts 1 & 5 of the structure plan. This land use mix was intended to address the existing development on the opposite side of Amherst Street (industrial) and also take into consideration the redevelopment potential of this area. The provision, is compatible with the development proposed for the Swanbourne Street Structure Plan and will assist in sustaining the commercial uses proposed therein.

Vision

To redevelop an aging under utilised industrial area through the introduction of a mix of residential and commercial uses including small scale convenience retail to serve the local area and integrated with the existing surrounding community via the application of sustainable planning principles which retain the historic character of its former industrial use without compromising the amenity of existing and future residents and workers and businesses.

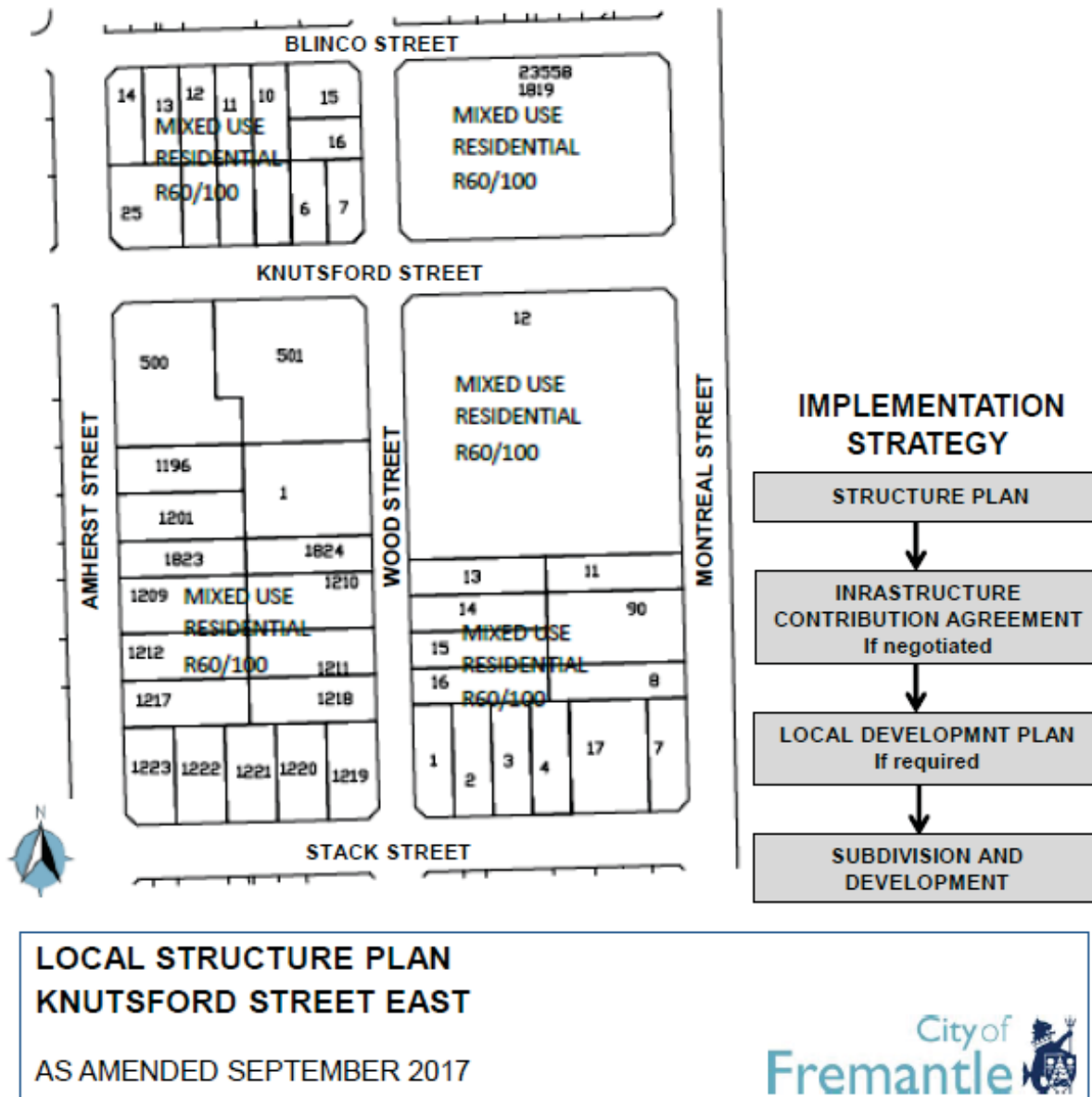


Figure 6 – Local Structure Plan

2.3.3 Residential Density

The structure plan seeks to achieve diversity in housing choice by providing for a range of housing types, including multiple dwellings (studios and apartments) and mixed use development (non-residential uses integrated with residential development). This will ensure that the needs of a wide range of the community are met, in accordance with the objective and principles of the structure plan.

The diversity of housing types are provided through the allocation of a range of medium densities over the subject land – from R60 to R100. The maximum residential density code applicable will be R100

Landowners and developers will need to demonstrate to the satisfaction of the Council, that they meet two or more of the criteria in Table 1 before a density exceeding R100 or height above 4 storeys will be considered. Such development will be considered (subject to Council approval) for exceptional proposals. For example a proposal would need to demonstrate leading edge sustainability and/or exceptional architectural merit and/or offer special amenity or affordability.

2.3.4 Non-Residential Land Uses

As the subject land is located only 1km from the Fremantle CBD, commercial, entertainment, community, recreational and medical services are available in close proximity. On this basis a neighbourhood centre is not considered feasible.

However convenience retail is permitted anywhere in the structure plan area. There is also an opportunity to create a community focal point at the eastern end of Knutsford St, possibly incorporating a redevelopment of the golf course club house. In order to maintain some of the industrial character and quirkiness of the area, the opportunity also exists (and is in fact encouraged) for other uses to be incorporated throughout the structure plan area which are compatible and can be combined with residential activity. This includes commercial and business uses, like offices and consulting rooms as well as cottage industry, light industry and hospitality uses, provided there is minimal nuisance to residential uses. To encourage this adaptable ground floors are required to have 4.2m ceilings and universal access.

The Structure Plan and Local Planning Scheme 4 provides for existing approved industrial land uses to be afforded non-conforming use rights and permitted to continue. However, the structure plan retains a strong emphasis on redevelopment, with the permitted and discretionary land uses falling within the residential and commercial/mixed use and light industrial categories as per Table 1.

The Mixed Use/Residential designation provides for and encourages the integration of non-

residential uses with residential development. Where discretionary land uses are proposed as part of any development, including mixed use development, the development would be subject to the 'D use provisions of LPS 4.

Where industrial land uses are to remain, the continuation of these uses will need to be acknowledged by the new uses or residences on or adjacent to existing industrial sites.

This may mean that development is staged so as to allow relocation to take place or buildings are designed and constructed so that noises can be attenuated and memorials are placed on the titles of lots to notify purchasers of the existence of these activities. It may also be appropriate for new residential and business design and operations to adapt to ensure compatibility with existing uses.

TABLE 1. LAND USE AND DEVELOPMENT REQUIREMENTS¹

PERMITTED LAND USES	DISCRETIONARY LAND USES ²	DENSITY (INCLUDING BONUSES)	BUILDING HEIGHT AND BUILT FORM
Single dwellings, Grouped dwellings, Multiple dwellings, Residential Building, Aged or Dependent Persons Dwellings, Home Business, Home Occupation, Home Office, Home Store, Bed and Breakfast, Health Studio, Tourist Accommodation, Family Day Care Centre, Hardware Store, Office, Convenience Store, Lunch Bar, Consulting Rooms, Cottage Industry, Civic Use.	Garden Centre, Market, Nursery, Club Premises, Liquor Store, Public Amusement, Restaurant, Warehouse, Community Purpose, Education Establishment, Public Utility, Exhibition Centre, Medical Centre, Service Industry, Child Care, Vet Consulting Rooms, Shop, Light Industry (only uses that do not create excessive noise and are compatible with surrounding residential uses will be allowed)	<p>Maximum permitted residential density is R100 unless exceptional development potential can be justified.</p> <p>Height and density bonuses will not be permitted on the sites facing Stack and Blinco Streets</p> <p>An increase in height shall only be applied at the discretion of Council as a bonus provision for development proposals that incorporate two or more of the following elements:</p> <ul style="list-style-type: none"> (a) Conservation of a building, to Council's satisfaction, for either mixed use or residential purposes that is considered by Council to have architectural, social or cultural significance and represents a desirable built form for the development area. (b) Developments that clearly demonstrate the application of leading edge sustainability initiatives which are demonstrably measurable as being above business as usual standard at the time of the proposal and are particularly designed to substantially reduce water usage and increase energy efficiency. (c) Provision of a mixed use development incorporating at least one storey of a permitted or discretionary non-residential use as outlined in columns 1 & 2 of Table 1 (not including requirements for adaptable ground floor space.) The bonus additional residential floor space above 4 storeys will be capped at an area equivalent to the NLA of non-residential uses provided (d) Provision of a proposal of exceptional architectural merit as advised by the City's Design Advisory Committee. (e) Provision of significant public access and amenity (beyond Public Open Space requirements) (f) Provision of affordable housing* and/or affordable space for artists and /or business incubation (not including requirements for adaptable ground floor space.) The bonus additional residential floor space above 4 storeys will be capped at an area equivalent to the NLA of the affordable spaces or housing provided <p>*(as defined in Schedule 1 of the City's Local Planning Scheme #4 and it's successors)</p>	<p>Maximum overall building height of 4 storeys.</p> <p>A minimum of 2 storeys is applicable for all development. Development towards Stack and Blinco Street should be generally 2 storeys at the street interface with any additional storeys set well back from the street. It must also be demonstrated that the development will not impact on the amenity of surrounding areas with respect to overlooking and overshadowing.</p> <p>All ground floors to be designed in the form of adaptable buildings. (i.e. ground level floor-to-ceiling height minimum 4.2m with commercial standard 'front door' access).</p>

¹ Reference should also be made to the provisions of LPS 4 and any Council Policies which may apply.

² Discretionary land uses shall be dealt with in accordance with the 'D' use provisions of LPS 4. All other land uses are not permitted.

2.4 PUBLIC OPEN SPACE

The WAPC normal requirement in residential areas is that, where practicable, 10% of the gross subdivisible area be given up free of cost by the subdivider and vested in the Crown under the provisions of Section 152 of the *Planning and Development Act, 2005* as a Reserve for Recreation.

In terms of the location and distribution of public open space, the Commission favours an overall balance between incidental open space, readily accessible to all residents, and recreational open space in larger units suitable for active leisure pursuits. The advice of the local government is considered in this regard. This approach is confirmed within the latest version of *Liveable Neighbourhoods*.

The Commission recognises that the provision of land for public open space may not be suitable in all cases, on the basis that the area would be of insufficient size for practical use, there is already sufficient public open space in the locality and/or public open space is planned in another location. In these cases, and in accordance with the provisions of the *Planning and Development Act, 2005*, the Commission may allow the provision of cash-in-lieu of the provision of land.

It is considered appropriate to provide cash-in-lieu of the provision of land for public open space within the structure plan area on the following basis:

- The immediate area is provided with abundant passive and active open space areas, most particularly:
 - Booyeembarra Park to the east – active and passive recreation, including parkland and a skate park;
 - Stevens Reserve to the west – active and passive recreation, including sporting and playground facilities, and;
 - Monument Hill to the west – passive recreation, including seating and shade trees.
- Additional open space is planned and allocated in the adjoining SSSP area. The public open space areas are intended for passive and active use, with some areas proposed to retain parcels of established *agonis flexuosa* (WA peppermint) and *Acacia Cyclops* (wattle). An area of generally flat, cleared land will also be provided for the enjoyment of new and existing residents in this area.
- The structure plan also identifies the potential for a “green pathway” which will serve to link the existing and proposed open space and residential development areas. This “green pathway”, incorporating streetscape improvements could be established within the wide road reserve of Knutsford Street, providing a safe, usable and attractive area for pedestrians to travel to and from community and shopping facilities.

Accordingly, the structure plan provides for the public open space requirement to be met principally through the provision of cash-in-lieu to be used for green links, streetscaping and enhancing existing POS

This does not preclude consideration being given to the allocation of land for additional POS where a developer chooses to do so at the subdivision stage. In these circumstances, POS may take the form of drainage swales and may be used to protect limestone outcrops, provide viewing points, access-ways and green links to improve integration and permeability across the combined Swanbourne Street and Knutsford Street East Structure plan areas.

The amount of money or land to be provided would likely be based on the equivalent value of the land which would have been given up, however this will ultimately be determined by the Council and the Commission. A variation to the standard 10% contribution may be sought on the basis that there is sufficient developed POS areas within walking distance from the subject land.

It is noted that some of the public open space surrounding the structure plan area are designated bushfire prone areas as determined by DFES in accordance with SSP3.7 Planning in Bushfire Prone Areas. Compliance with SPP 3.7 will be dealt with later in the document.

2.5 VEGETATION RETENTION

The structure plan seeks to encourage the retention of existing vegetation in POS areas, or within a development site through the careful placement of buildings and design of landscaping areas. At the subdivision or development, developers will be required to identify any vegetation worthy of retention and any opportunities to incorporate existing landscape features (including limestone rock outcrops) into subdivision and development proposals.

2.6 BUILT FORM

The built form will be guided by the site's former industrial heritage, with the use of building materials which reflect the site's former industrial character. This includes, but should not be limited to, the use of materials made from steel, glass, iron and wood.

Building height is controlled through maximum height restrictions in Table 1, A minimum height requirement is also prescribed to facilitate a vertical mix of residential and commercial uses, making provision for (future) commercial uses at ground level, providing for active street frontages, and residential apartments, providing surveillance of the street.

The City may at some point create formal design principles for the combined Swanbourne St and Knutsford Street East Structure plan areas. In any event the City will encourage new

buildings to be designed to a high standard and to reflect the industrial character of the area. Buildings will be encouraged to be adaptable for a range of uses to accommodate the different needs of residents over time. The adaptable nature of the buildings will assist in achieving a more sustainable community and the incorporation of environmental sustainability performance criteria will help to facilitate best practice sustainable development.

Reference to adaptable buildings and adaptable units in the structure plan and any subsequent Design Principles should be interpreted to imply that the buildings or units be configured to allow occupation for both non- residential uses, and residential purposes and that incorporate the following design features:

- Building design to reflect a warehouse or mixed development style.
- Adaptable ground floor development which creates active uses at the street front with ground level parking behind will be permitted.
- Adaptable buildings are to be designed in a manner so as to comply with the relevant standards under the Building Code of Australia and other relevant legislation to ensure that each adaptable unit can be utilised under a wide range of building classes associated with the residential and non-residential uses listed in Table 1.
- Adaptable units being identified within a suitable Strata Management Statement. The purpose of the Management Statement is to ensure that mixed use purposes can be developed and operate without limitations being imposed either by the adjoining residential landowners or affected Strata Company.

2.7 MOVEMENT SYSTEMS

2.7.1 Road System and Network

Existing roads in and surrounding the subject land are described as follows.

Knutsford Street provides pedestrian access to and local vehicular access to adjacent land uses. The street terminates at the golf course to the east. Vehicles cannot access Hampton Road to the west, although this is a key crossing point for pedestrians and cyclists to and from the Fremantle City Centre. Knutsford St # will take most of the traffic into the structure plan area from the west.

Amherst Street provides a north-south connection between High Street and Watkins Street and is restricted to left-in/left-out at High Street. No changes are proposed to this intersection, which will take most of the traffic from the north and east into the structure plan area.

Stack Street is a local access street linking Amherst Street, Wood Street and Montreal Street.

Stevens Street is considered as a local district distributor road and links Carrington Street through to Hampton Road, with traffic flows at Carrington Street restricted to left-in/left-out. The intersection with Swanbourne Street is controlled with a roundabout.

High Street lies to the north of the structure plan area and is a primary regional distributor linking Fremantle, Stirling Highway, Carrington Street and Leach Highway. The upgrade of High St is likely to have a significant impact on future traffic movements on this link. Access to High Street is currently unrestricted at Montreal Street and Chalmers Street. Amherst Street has restricted egress, although is it the preferred point of access to the structure plan area for traffic travelling from the east and north (High Street/Leach Hwy and Stirling Hwy).

Montreal Street represents the eastern boundary of the structure plan area and includes the golf course and Booyeembarra Park on its eastern side. Montreal Street terminates at High Street to the north and does not provide a direct link to South Street. The intersection at High Street is currently uncontrolled and the queuing of traffic seeking to turn right onto Stirling Hwy may serve to detract traffic from using Montreal Street. The upgrade of High St is likely to result in restricted or no access from High Street to Montreal St.

Riley Consulting, Traffic Engineers, were commissioned to undertake a traffic and transport impact assessment, which is attached as Appendix 2. The assessment concludes that existing development on the subject land presently generates about 2,195 vehicle movements per day, based on expected trips for general industrial land uses and an estimate of the floor space of development.

The proposed development, based on maximum yields for residential development at the original densities indicated (without density bonuses), is expected to generate 2,780 trips per day. This means that the redevelopment of the structure plan area is expected to increase local traffic flows by about 585 trips per day. While an increase, this is not significant and it is not considered to have an adverse impact on the function of these roads (which are currently quite underutilised) or the amenity of adjoining land uses.

Accordingly, the structure plan proposes to utilise the existing road network of the locality and does not propose any major changes to the roads and their treatment

The existing road pattern within and surrounding the subject land forms a traditional grid based system. Such a system is promoted by the WAPC in Liveable Neighbourhoods as amongst other elements, it enables traffic volumes to be dispersed rather than focused upon a particular road, therefore minimising net traffic impacts. This road system is proposed to be extended within the area, if new roads are proposed, to facilitate integration of the new community with the existing surrounding community, provide flexibility and ensure development is outwardly focused.

The existing roads have been constructed to an industrial standard. While they show no major signs of disrepair, and the additional traffic volumes and change in the type of traffic is not expected to generate a need for major upgrading or modifications to intersections, the roads

and associated kerbing will need to be developed to a residential standard to reflect the change in use.

The use of rear laneways should be considered as part of the subdivision design stage as this will allow internal permeability without attracting through traffic, whilst also enhancing the streetscape and pedestrian/cyclist connections.

Overall, the analysis of traffic generation suggests that the redevelopment of the subject land will not have any significant detrimental effect upon the residential amenity of local streets and access to and from the local area should not be compromised. . An update of traffic analysis may be required to confirm this before major development occurs.

2.7.2 Public Transport

The subject area is serviced by public transport with an existing bus route (No. 502) scheduled along Amherst Street which connects directly to the Fremantle Train Station. Bus stops are located in Amherst Street just to the north of the intersection with Stack Street, meaning all but a small section at the north east corner of the structure plan area is within a comfortable five minute walk (400m) of the bus stop. This will help sustain the residential redevelopment of the locality by providing direct and regular public transport access to the Fremantle City Centre and wider Metropolitan transport network.

2.7.3 Pedestrian and Cyclist Movement

Knutsford Street currently provides a direct link between open space and recreational areas to the west and east. Pedestrians currently use the wide road reserves to walk between these open spaces, while cyclists use the road pavement. There is a potential to use Knutsford Street as a green link as well as to accommodating pedestrians and cyclists. Pathways are also proposed for Amherst, Stack, Wood, Montreal and Blinco Streets. The paths will link with existing pathways, taking pedestrians and cyclists to the City Centre and along Fothergill St to the Old Fremantle Prison. The provision of other pedestrian networks, could provide greater opportunities for pedestrian movement within and through the structure plan area.

2.8 SERVICING OVERVIEW

Ewing Consulting Engineers have investigated relevant engineering items pertinent to the subject land. A copy of their report is appended (Appendix 3) and is summarised as follows.

2.8.1 Road Network

Existing roads within the structure plan area are generally constructed to minimum commercial standards. These standards are not, however, sufficient to meet expected standards for residential development and therefore upgrading will most likely be required. As a minimum, this

is expected to comprise re-sheeting and re-kerbing of the road surface. The provision of footpaths and dual use paths is also expected to be required.

2.8.2 Sewerage

Sewerage requirements vary between the different precincts. Precinct 1 is essentially easily serviced by existing sewer infrastructure. Precinct 2 can be connected to the existing network via a minor extension to the network, whereas Precinct 3 will require a major extension. However, this could be influenced by the timing of the minor extension needed to service Precinct 4. Like Precinct 1, Precinct 5 has the potential to connect into the existing network with minimal external extension.

2.8.3 Water Supply

Precincts 1 and 2 can be connected to the existing water reticulated network without requiring any upgrading to this infrastructure. Precincts 3, 4 and 5 will require major upgrades of existing water reticulation mains in Blinco and Amherst Streets plus work to extend the network to connect to Precincts 3, 4 and 5. There is also a possibility that parts of the water mains in the surrounding area may also require upgrading to enable a reticulated service to be provided to Precincts 3, 4 and 5.

2.8.4 Electricity

The structure plan area is currently connected to the power network. Redevelopment is likely, however, to see a requirement that future electricity infrastructure be undergrounded.

2.8.5 Telecommunications

The subject land is currently fully serviced by a traditional telecommunications network which will remain available to service future residential users.

2.8.6 Drainage

Further consultation was undertaken with the City's engineering Department in regard to the future drainage of the land. The City has advised that drainage sumps are not acceptable as a means of storm-water disposal. Application of latest best practice water sensitive design solutions, are the preferred solutions for accommodating drainage in this area. An integrated Drainage Management Plan for the structure plan area will encompass best management practices in water sensitive urban design.

2.9 PLANNING IN BUSHFIRE PRONE AREAS

State Planning Policy (SPP) 3.7 requires strategic planning proposals relating to land with a bushfire hazard level (BHL) and Bushfire Attack level (BAL) above low to comply with the policy. A portion of the structure plan area has been designated as a Bushfire Prone Area by Department of Fire and Emergency Services (DFES) affected by Booyeembarra Park.

Taking into account the individual site circumstances and the presence of a 30 metre wide road separation between the bushland and the subject site, a desktop assessment suggests that a BAL assessment finding above 29 is unlikely. Therefore BHL or BAL assessments are not required at structure planning phase. BHL/BAL assessments will be required to confirm this and any site based mitigation measures at Subdivision or Development Application stage, whichever comes first. Notwithstanding the City may choose to undertake more strategic BHL/BAL assessments prior to development commencing.

2.10 POPULATION AND EMPLOYMENT

2.10.1 Population

The expected population yield from the development is described in Table 2 and is based on a predominantly residential development scenario.

The number of new dwellings and population projections are indicative only and based on the area of the land, the maximum density of development permitted (without density bonuses) and average occupancies 1.6 persons per dwelling for multiple dwellings and mixed use development).

TABLE 2. ESTIMATED DWELLINGS AND POPULATION UPDATE

	DENSITY 1	LOT SIZE	DWELLINGS 2	POPULATION 3
Area totals	Min R60 Max 100 Average say R80	Total area 11.4ha approx. Lot sizes as per RCodes and Multi unit housing codes	912 dwellings (Previously 760)	1,459 persons (previously 1,194)

Notes:

- 1 Approximate only.
- 2 Based on 1.6 persons per dwelling for multiple dwellings and mixed use development.
- 3 Includes 20% of area allocated for mixed use development.

2.10.2 Employment

The existing industrial area provides for some local employment and to a degree sets the

character of the area. The viability of this industrial area is questionable, however while some industrial activities may continue in the short term, in the longer term the employment generating activities will be limited to cottage industry and small scale commercial and service industries.

The land uses proposed will service a broad residential catchment. The land is adjacent to a regional park and provides good traffic and public transport access providing opportunities for employment generating commercial uses. Accordingly, the structure plan provides for a range of small scale industrial, creative and commercial uses, which are compatible with the residential - mixed use nature of the area.

These opportunities include the provision of residential - mixed use and commercial development throughout the area (including offices and shops), allowance for home businesses to be established throughout the structure plan area, including home office, small scale retail, small scale light industrial, creative and hospitality development

2.11 COMMUNITY INFRASTRUCTURE AND BENEFITS

The site's proximity to the Fremantle CBD provides all necessary community, recreational, social, entertainment and retail facilities and services within close proximity. Development of the site generally in accordance with the structure plan will make the following contribution to community infrastructure:-

- Build on industrial character while removing inappropriate activities from the area and remediating sites. or upgrading unattractive but compatible industrial activities
- Remove the barrier effect of long established industrial activities and provide for improved connectivity with the surrounding residential area.
- Enhanced, pedestrian cyclist and vehicular permeability, fostering community interaction.
- Open street development interfacing with existing residential development (as opposed to a walled estate) - again, contributing to social interaction and community enhancement.
- Provision of pedestrian/cyclist links between existing and proposed recreational and open space areas and with the Fremantle City Centre.
- Provision of a range of new housing opportunities for new residents
- Provision for mixed use – residential and commercial development which will provide presently unavailable commercial services to the general area.

3.0 IMPLEMENTATION

3.1 STRUCTURE PLAN

In accordance with the requirements of the City of Fremantle Local Planning Scheme No. 4 (LPS 4), a structure plan must be prepared to guide subdivision, land use and development prior to approval of a development application in a Development Area. Any development applications received prior to adoption of a structure plan will be assessed by the Council under the mixed use provisions of the Scheme. Council recommends that any applications for residential development and subdivision be deferred until a structure plan is adopted.

This structure plan has been prepared in accordance with the requirements of LPS4. The structure plan is only required to be considered by the Commission if it proposes the subdivision of land. In this case, the structure plan does not propose subdivision, although subdivision is contemplated.

The structure plan comes into effect on the day on which it is adopted by the Council or the Commission.

3.2 INFRASTRUCTURE CONTRIBUTIONS

While the structure plan has been prepared to minimise, as much as possible, the need for individual owners to be reliant upon other owners in order for development to proceed, there are a number of items that may require co-ordination and co-operation between the multiple owners in order to facilitate development of the subject land. These items primarily relate to the costs associated with extending water, sewerage and electricity mains to the land to service the new development, the upgrading of roads and provision of cash-in-lieu of public open space.

As different parts of the subject land have different requirements and individual owners different development programmes the onus is on individual landowners to demonstrate there is or will be adequate servicing or to arrange any upgrades. There is the opportunity for individual owners to enter into voluntary agreements with neighbouring landowners in order to share costs.

Any cost sharing mechanism should be put in place prior to subdivision and development. The mechanism would need to address the following matters:

- Timing of development – The preferred staging of development based on the efficient servicing of the land would need to be considered alongside the intentions of the individual landowners.

- Pre-funding of infrastructure – There may need to be an ability for an individual landowner to pre-fund works to enable development to proceed.
- Allowance should be made for the pre-funding body to be reimbursed for the development costs that it has borne on behalf of other landowners.

3.3 PREFERRED MECHANISM

There are a number of different mechanisms available for State Government, Local Government and private landowners to facilitate redevelopment and distribution of development costs.

One mechanism for the Knutsford Street East Structure Plan area is an Infrastructure Contribution Agreement between the Local Government and one or more affected landowners. The City has explored this option and chosen not to pursue it in favour of encouraging voluntary landowner agreements.

3.4 SUBDIVISION AND/OR DEVELOPMENT

The subdivision of land requires the approval of the Commission and all applications are to be made on a prescribed form available from the Department of Planning, Lands and Heritage.

The City of Fremantle administers LPS 4 and, in accordance with that scheme, is the authority responsible for granting approval to development within the structure plan area. The detailed requirements for submitting a Planning Application, Demolition License and Building License can be obtained from the City.

Approval for either a subdivision or development proposal will be issued subject to appropriate conditions which will reflect standard Commission and City requirements but also the endorsed structure plans.

Subdivision and development plans shall include sufficient information to facilitate the ultimate coordinated development of land on that site and demonstrating context and integration of with other sites within the structure plan area and adjoining land.

Subdivision and development plans should be consistent with the structure plan vision objective, principles and requirements, LPS 4, Council policies, Commission policies and procedures and may be required to include:

- Distribution of land uses,
- Distribution of residential densities,
- Justification for any development concessions or exemptions sought as it relates to plot ratio, site coverage, car parking, etc,

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- Layout of any subdivision proposed,
 - Existing buildings and notations as to whether the building is to be retained and converted for residential and/or mixed use,
 - Building envelopes for any proposed new buildings,
 - Investigation of on-street car parking in appropriate locations,
 - Areas of contamination and proposed remediation works,
 - Existing and proposed services,
 - Areas for drainage to be accommodated on-site,
 - Design Guidelines (where required) to guide and address sustainable built form outcomes, and
 - Such other information considered relevant by the Council.

In order to determine the extent of any site contamination and the necessary works to remediate the site, further detailed site investigations must be undertaken. The DWER will need to be satisfied, in all cases that the land is not subject to contamination and/or any contamination has been removed to their satisfaction. Reference should be made to the limited preliminary site investigation completed by Parsons Brinkerhoff, Environmental Consultants, as part of the structure plan. Parsons Brinkerhoff has identified indicative investigative works that should be used as a guide to the potential scope of works required for each property in the structure plan area.

If required, subdivision and development plans will be supported by detailed traffic and transport reports documenting the rationale for the road hierarchy and any potential parking demand. This may also be required to include a supplementary report that addresses off-site impacts such as intersection capacity and reduced service levels as a consequence of any proposed development

Plans shall also address the staging of the development and the manner in which the land is to be serviced.

In addition to the identification of buildings to be retained, plans will identify existing industrial land uses which are to continue and comment on their impact on the redevelopment in the structure plan area.

A heritage assessment of all existing buildings may need to be undertaken at this stage and an Aboriginal Heritage Survey may also need to be undertaken to confirm that there are no Aboriginal sites on the land which would be disturbed as part of the redevelopment. No sites have been identified on relevant databases affecting the subject area and, given its history of ownership, development and use, identification of sites within the structure plan area is considered unlikely. The Department of Indigenous Affairs has, however, prepared advice for developers and due regard to this advice is recommended.

CONCLUSION

The Knutsford Street East Structure Plan has been prepared to respond to the obligations for the Development Zone under Local Planning Scheme No.4 and to provide guidance for the redevelopment of this historic industrial area.

It has been prepared to establish the vision and provide general guidance as to the work necessary and the nature of the ultimate form of development which occurs on the subject land. It has addressed the context of the proposed redevelopment within the wider locality as well as the implications for this redevelopment.

This structure plan establishes a vision and a process to implement that vision responding to the unique challenges of the site and its ownership pattern.