



## **TOWN PLANNING SCHEME NO. 3**

### **AMENDMENT NO. 118**

**January 2018**

**PLANNING AND DEVELOPMENT ACT, 2005  
RESOLUTION TO AMEND A TOWN PLANNING SCHEME**

**CITY OF COCKBURN  
TOWN PLANNING SCHEME NO 3  
AMENDMENT NO. 118**

RESOLVED that the Council, in pursuance of Section 75 of the Planning and Development Act 2005, amend the City of Cockburn Town Planning Scheme No. 3 by:

1. Recoding various residential zoned properties within parts of the suburbs of 'South Lake', 'Bibra Lake' (east) and parts of 'North Lake' to 'Residential R30', 'Residential R40', 'Residential R60' and 'Residential R80'. To be generally in accordance with the City of Cockburn adopted *Lakes Revitalisation Strategy* (May 2016) and the *Lakes Revitalisation Strategy Background Report* (December 2015). Reclassifying incorrectly zoned land to the 'Parks and Recreation' and 'Local Road' Local Scheme Reserves.

2. Modifying Clause 5.1.1 by including an additional sub-clause as follows:

*The Freight Rail Noise Area is shown on the Scheme Map as FRNA.*

3. Modifying Clause 5.1 by inserting a new Clause after Clause 5.1.1, as follows, and renumbering the subsequent Clauses accordingly:

*Notwithstanding the exemptions to the need for development approval set out in Part 7 of the Deemed Provisions and this Scheme, development approval is required where the following development is included in the Freight Rail Noise Area, as defined by Part 5 of the Scheme, but not for minor extensions:*

- a) *The erection or extension of a single house;*
- b) *The erection or extension of an ancillary dwelling*
- c) *The erection or extension of a grouped dwelling.*
- d) *The erection or extension of a multiple dwelling.*

4. *Include a new Clause within Part 5 as follows:*

- 5.7 *The purpose of the Freight Rail Noise Area is to-*
  - a) *implement State Planning Policy No. 5.4 Road and Rail Transport Noise and Freight Considerations in Land Use Planning ('SPP 5.4') and the associated SPP 5.4 Implementation Guidelines ;*
  - b) *define noise and vibration affected areas, based on SPP 5.4 and site specific noise and vibration*

*measurements, within parts of the suburbs of Bibra Lake and South Lake;*

- c) protect current and/or future inhabitants, with applications for noise-sensitive land uses, from unreasonable levels of transport noise by implementing a pre-determined standardised set of noise and vibration attenuation measures, or alternatively site specific assessments and measures prepared by a suitably qualified acoustical consultant, at the development application stage;*
- d) encourage noise mitigation best-practice advancements, design and construction standards for new development proposals in proximity to major transport corridors; and*
- e) recognise in some few instances it may not be reasonable and practicable to meet the full extent of the expected vibration criteria thus, in these few instances, Local Governments may exercise some level of flexibility, where appropriate, in decision making.*

*5.7.2 The Freight Rail Noise Area is defined on the Scheme Map within 300 metres of the central line of the nearest railway track of the Freight Railway Line within the suburbs of Bibra Lake and South Lake pursuant to State Planning Policy 5.4, which applies to noise-sensitive land uses. The Freight Rail Noise Area is informed by a site specific Freight Train Noise and Vibration Assessment prepared in accordance with State Planning Policy No. 5.4.*

*Note: The designation of particular parts of the district as a Freight Railway Noise Area should not be interpreted to imply that areas outside the Freight Railway Noise Special Control Area are unaffected by noise and vibration.*

*5.7.3 In determining an application to carry out development in the Freight Rail Noise Area, the Local Government may impose conditions on any planning approval as to-*

- a) require noise and vibration attenuation measures to be incorporated into the design of buildings; and*
- b) require the registration of notifications on title advising of the potential for Freight Rail Noise and Vibration nuisance.*

*5.7.4 The Local Government may consult with the Department of Environment Regulation, or any other such acoustic or building industry experts the Local Government considers necessary, in the consideration and determination of an application for planning approval to ensure appropriate*

*noise and vibration attenuation measures are incorporated into the design of buildings.*

5. Amending the Scheme Legend accordingly.
6. Amending the Scheme Map accordingly.

Dated 9 February 2017

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CHIEF EXECUTIVE OFFICER

**REPORT**

1. LOCAL AUTHORITY City of Cockburn
2. DESCRIPTION OF TOWN PLANNING SCHEME: Town Planning Scheme No. 3
3. TYPE OF SCHEME: District Zoning Scheme
4. SERIAL NO. OF AMENDMENT: Amendment No. 118
5. PROPOSAL: Amend Town Planning Scheme No.3 by implementing the density codes as generally prescribed within the 'Lakes Revitalisation Strategy' and its associated 'Background Report' inclusive of the correction of Local Scheme Reserve anomalies and the implementation of a SCA for Freight Rail Noise and Road Noise Areas.

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  - 8.5.5 The Lakes Revitalisation Strategy Acoustic Analysis.
  - 8.5.6 City of Cockburn Draft State Planning Policy No. 5.4 Road and Rail Noise - City of Cockburn [SPP 5.4 'Technical Working Group' ('TWG') Member] Submission dated 15 December 2017.
  - 8.5.7 City of Cockburn meeting minutes with DoPLH, DoT and PTA regarding Freight Rail Noise and Vibration Discussion.

# AMENDMENT REPORT

## 1.0 Introduction

On 12 May 2016 the City of Cockburn Council ('the City') resolved to adopt the '*Lakes Revitalisation Strategy*', subject to modification. These modifications have since been implemented, in accordance with Councils' resolution resulting in the following two final reports, which together comprise the '*Lakes Revitalisation Strategy*';

1. City of Cockburn – The Lakes Revitalisation Strategy (May 2016).
2. City of Cockburn – The Lakes Revitalisation Strategy Background Report (December 2015).

The proposed Amendment to the City of Cockburn's Town Planning Scheme No. 3 ("Scheme") aims to implement the density codes as prescribed within the Lakes Revitalisation Strategy ('the Strategy') and its associated 'Background Report' inclusive of the correction of Local Scheme Reserve anomalies.

The Strategy is the latest of the City's revitalisation projects and is intended to guide how future urban infill can be delivered within the suburbs of 'South Lake', 'Bibra Lake' (east) and parts of 'North Lake'. The strategy aims also to identify improvements and infrastructure required to support the expected population growth as outlined by the State Governments' '*Directions 2031 and Beyond - Metropolitan Planning Beyond the Horizon August 2010*' document.

The objectives of the Strategy are to:

- *"Provide opportunities for further housing growth, meeting the needs of existing and future households;*
- *Contribute towards State Government urban infill aspirations;*
- *Ensure adequate services and infrastructure including promoting pedestrian orientated streetscapes:*
- *Allow for a variety of housing types and designs to encourage flexibility and affordability, and;*
- *Preserve the natural environment and identify opportunities to enhance the character of the Lakes area."*

## 2.0 Background

The City of Cockburn has been undertaking revitalisation strategies since the year 2009. The Lakes Strategy seeks to contribute further infill by identifying further growth opportunities within the suburbs of 'South Lake', 'Bibra Lake' (east) and parts of 'North Lake'.

The Lakes Strategy follows on from the following revitalisation strategies, namely; Coolbellup (2014), Hamilton Hill (2012), and the Phoenix Revitalisation Strategy (2009).

The subject area is considered to be an appropriate area to revitalise due, but not necessarily limited to, the following factors:

- *The subject area is strategically placed within the heart of the rapidly expanding south west corridor.*
- *The subject area is a well-connected area in proximity to the new Fiona Stanley Hospital, Murdoch University Precincts and the emerging Cockburn Central Activity Centre.*
- *The subject area has an established level of infrastructure with various forms of public transport facilities including passenger rail, high frequency bus and also motor vehicular access via the Kwinana Freeway in close proximity.*
- *The physical age of built form within the subject area being such that decisions for redevelopment and/or renewal are expected to be made by landowners over the coming years, providing the opportunity to consider whether redevelopment to other forms of housing (grouped and multiple) should take place.*

## 3.0 Amendment Type

Pursuant to Part 5, Division 1 of the *Planning and Development (Local Planning Schemes) Regulations 2015*, there are three amendment types: basic, standard and complex. These are defined under Clause 34 of the regulations.

Clause 35(2) of the regulations requires the local government to specify in their resolutions to prepare or adopt an amendment what type of amendment it is, as well as the explanation for forming that opinion.

This proposed amendment is considered to be a complex amendment, which under Clause 34 of the regulations it is described as *any of the following amendments to a local planning scheme* —

- a) an amendment that is not consistent with a local planning strategy for the scheme that has been endorsed by the Commission;*
- b) an amendment that is not addressed by any local planning strategy;*

- c) *an amendment relating to development that is of a scale, or will have an impact, that is significant relative to development in the locality;*
- d) *an amendment made to comply with an order made by the Minister under section 76 or 77A of the Act;*
- e) *an amendment to identify or amend a development contribution area or to prepare or amend a development contribution plan;*

This proposed amendment satisfies 'a', 'b' and 'c' of the above criteria and the application is not considered to fall within the definition of either a 'basic' or a 'standard' amendment.

## **4.0 Town Planning Context**

### **4.1 Metropolitan Region Scheme ('MRS')**

The land which is the subject of the proposed Amendment is primarily zoned 'Urban', with a single 'Public Purpose Reserve – High School' ('HS') reserved, under the Metropolitan Region Scheme ('MRS').

The Western Australian Planning Commissions identifies "Urban" as;

*"Areas in which a range of activities are undertaken, including residential, commercial recreational and light industry."*

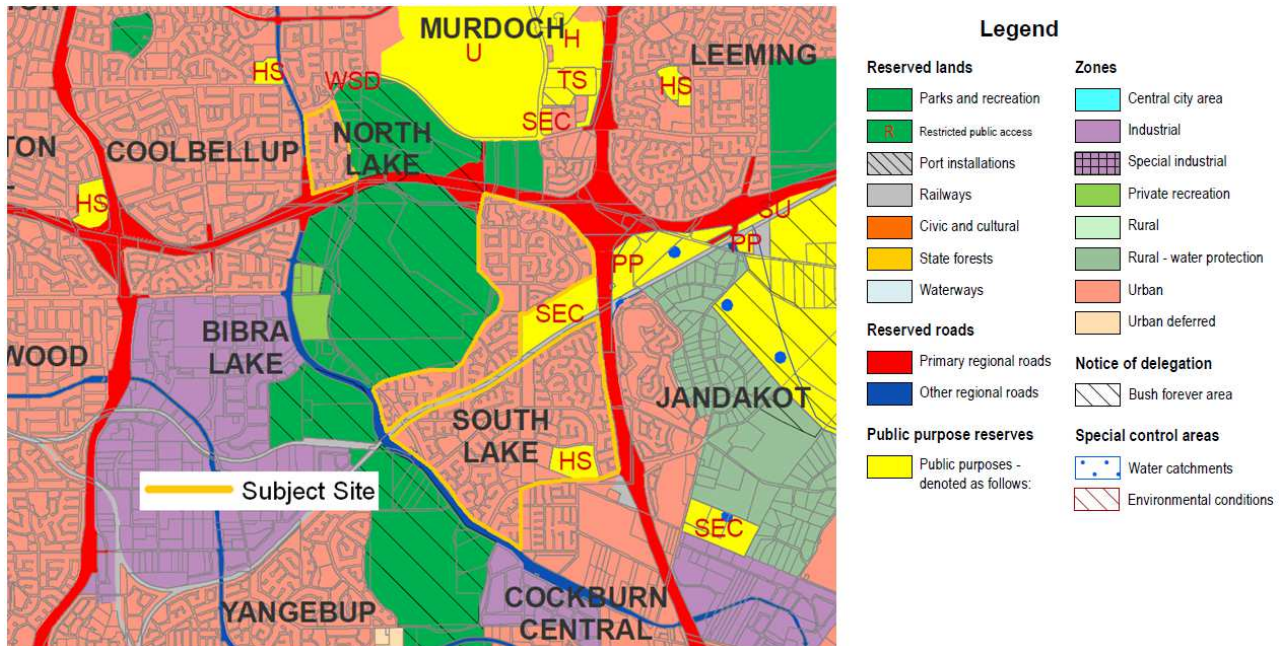
The subject site abuts a 'Bush Forever' Area comprising a series of interconnected wetlands namely 'North Lake', 'Bibra Lake' and 'Yangebup Lake'. This land is reserved as 'Parks and Recreation' under the MRS and shown as dark green below.

A portion of land in-between the suburbs of North Lake and Bibra Lake, dissecting the wetlands, is partially reserved for the future Roe Highway extension. This land is formally reserved as 'Primary Regional Roads' under the MRS and shown in red below in east-west delineation. The north-south 'Primary Regional Road' provides for the Kwinana Freeway which bounds the subject site to the east.

Parts of each of the three suburbs abut North Lake Road which is identified in blue below and reserved under the MRS as 'Other Regional Roads'.

A portion of the land in-between the suburbs of South Lake and Bibra Lake is reserved as 'Railways'. Figure 1 below provides a broad MRS Zoning map which generally identifies the subject land by the orange border.

Figure 1: Metropolitan Region Scheme Map



#### 4.2 City of Cockburn Town Planning Scheme No. 3 ('TPS No. 3')

The land which is the subject of the proposed Amendment is primarily zoned 'Residential', with 'Local Centre' and 'Mixed Business' zones included within the subject site.

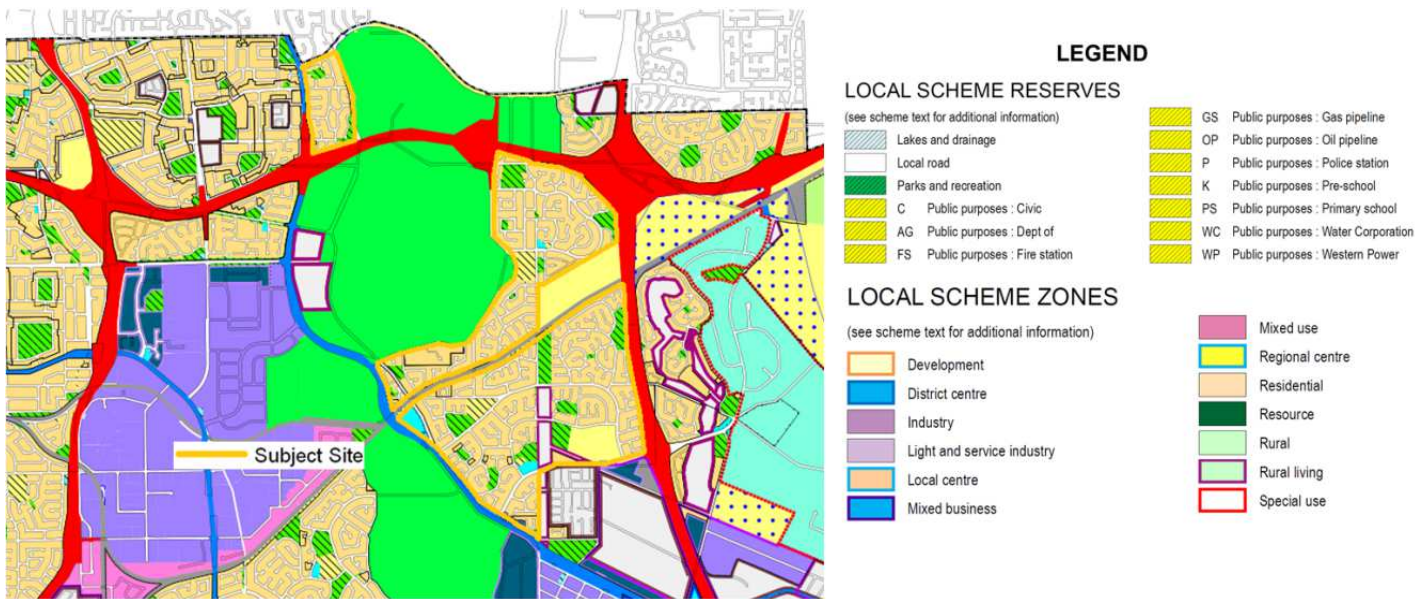
The subject site comprises the following Local Scheme Reserves under TPS No. 3 namely; 'Local Road', 'Parks and Recreation', 'Public Purpose – Primary School', 'Public Purpose – High School', Public Purpose – Civic' and 'Lakes and Drainage'.

Pursuant to Clause 4.2.1 (a) of Town Planning Scheme No.3 the objective of the 'Residential' Zone is;

*"To provide for residential development at a range of densities with a variety of housing to meet the needs of different household types through the application of the Residential Design Codes."*

A portion of the Residential Zoned land within the subject site is coded 'R25' however the majority is coded 'R20'. Figure 2 below provides a broad Scheme Zoning map which generally identifies the subject land by the orange border.

Figure 2: Town Planning Scheme No.3 Map



### 4.3 State Planning Strategy

The June 2014 State Planning Strategy ('SPS') makes mention that the purpose of the 'Planning and Development Act 2005', which governs land use planning decisions such as the Lakes Revitalisation Strategy, is to:

1. Provide for an efficient and effective land-use planning system in the State; and
2. Promote the sustainable use and development of land in the State.

The SPS provides a credible State strategic context and guide for coordinating and promoting land use planning, transport planning and land development in a sustainable manner. These elements are in unison with the objectives of the Lakes Revitalisation Strategy.

A 'liveable place' under the SPS is described as safe, attractive, affordable and environmentally sustainable, with a socially cohesive and inclusive community, good access to public open space, employment, education, shops, healthy food, arts and culture, accessible and frequent public transport, and walking and cycling infrastructure. The Lakes Strategy, with its associated suite of recommendations, cannot in its own right comprehensively address each of these principles however it aims to improve the liveability of the subject area, in line with these key principles.

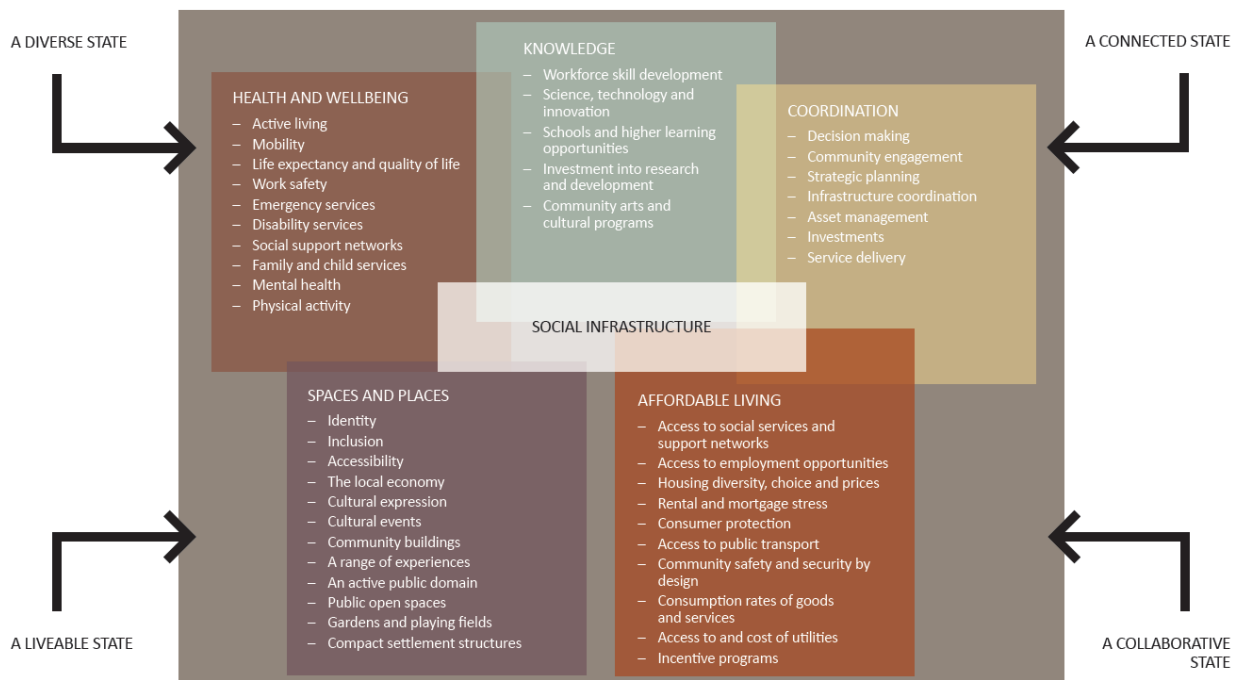
Social infrastructure has both 'hard' and 'soft' elements. 'Hard' elements include health facilities and centres, education facilities, nursing homes, recreation grounds, police stations, prisons, fire and emergency service buildings, art and cultural facilities and other government buildings.

'Soft' elements may include programs, resources and services, as well as public art and cultural events that complement these 'hard' elements and contribute to the formation of a community. 'Hard' elements do not work successfully unless the 'soft' elements accompany them.

The key outcomes of social infrastructure planning include health and wellbeing, spaces and places, knowledge, affordable living and coordination. Public and private investment in this context is essential. A range of quality services and facilities are vital to a socially mature community.

The SPS highlights Western Australia's population is expected to increase at a faster rate than the Australian average. On this basis social infrastructure planning is required to consider not only the needs of the current community but also plan for the future residents. The below figure provides a visual representation of the broader strategic social infrastructure planning considerations as directed by the State government.

Figure 3: Planning for Social Infrastructure  
Source: SPS, 2014



The SPS identifies the following 'key facts' which are of particular relevance to the objectives of the Lakes Revitalisation Strategy.

- *“If an additional 40% of the Australian population engaged in regular, moderate and effective exercise, an estimated net benefit of \$6.5 million per day would result from the reduced costs associated with heart disease, back pain, increased workplace productivity and reduced absenteeism.”*
- *“People who use public open spaces are three times more likely to achieve recommended levels of physical activity than those who do not use the spaces.”*

- *“Research shows that people who live in neighbourhoods designed to make walking attractive walk an hour a week more than those who live in less walkable places.”*
- *“The Perth-based RESIDE study found that adults living in high-walkable neighbourhoods were more than twice as likely to walk 60 minutes/week for transport. This study provides support for the notion that a more walkable neighbourhood is also a place where residents feel safer, endorsing a shift away from low-density suburban development towards more walkable communities with access to shops, parks and public transit.”*

The SPS identifies planning considerations and approaches that directly relate to the formulation of the Lakes Revitalisation Strategy and sets the agenda for urban infill and urban regeneration projects throughout Perth, those being:

- Place based approaches - that plan for the local economy, enhance and protect the identity of places, and provide for diverse, accessible and liveable communities.
- Affordable Living – Identifying opportunities for housing diversity, infill development opportunities, in appropriate locations, and the promotion of sustainable development outcomes.
- Health and well-being – Identifying opportunities for the built environment to encourage the well-being of communities such as through the provision of pedestrian and cyclist infrastructure and improvements to public transport infrastructure.
- Land availability – Providing diverse and affordable housing options in locations which are close to areas of amenity such as opposite Public Open Space. Providing a higher base density code (R30) and proportionally increased density along public transport routes, to encourage a higher proportion of the community to use active modes of transport and/ or public transport.

This Amendment, in conjunction with the Lakes Strategy and its associated suite of recommendations, is in accordance with the strategic objectives of the State Planning Strategy.

#### **4.4 Directions 2031**

‘Directions 2031’ is a high level spatial framework and strategic plan that establishes a vision for future growth of the metropolitan Perth and Peel region. Directions 2031 identifies local population housing and job targets, managing growth principles and how to develop the activity centre concept.

Whilst the document is not a final ‘blueprint’, it is identified as the latest in an evolving series of plans that helps shape Cockburn, and the wider Metropolitan Region.

Directions 2031 helps provide for a growing population whilst ensuring we live within available land, water and energy resources. It provides State direction on where development should be focused and what patterns of land use and transport will best support this development pattern.

Under the 'connected city' scenario it is estimated that by 2031 the population of the south-west sub-region will have grown by 34 per cent to 278,000. Directions 2031 expects the sub-region to increase its employment self-sufficiency rate from its current 60 per cent rate to 70 per cent, which will require 41,000 new jobs by 2031.

Figure 17 on page 86 of Directions 2031 identifies the subject site as being well connected to major transport infrastructure and adjacent to key industrial employment sites. The subject site benefits also from proximity to the Cockburn secondary centre and the Jandakot Airport 'specialised centre'. These locational criteria coupled with the population growth expectations for the region make the subject site an ideal location for urban infill.

## **5.0 State Planning Policies**

Part 3 Section 25 of the *Planning and Development Act 2005* provides for the details pertaining to *State Planning Policies*. A State Planning Policy is to be directed primarily towards broad general planning and facilitation of the coordination of planning through the State by local governments. On this basis this report is required to have 'due regard' to the relevant State Planning Policies. The below sub-sections provide for a general overview in this regard and are provided as follows.

### **5.1 State Planning Policy No. 3 – Urban Growth and Settlement (2006)**

Similar to the abovementioned, SPP No. 3 reiterates that the State is growing and changing. SPP No. 3 goes further into the associated planning issues with regards to a growing metropolitan area. It identifies there is a cost involved with the States dependence on cars for meeting the daily travel needs when it is in most cases easier for people to walk or cycle to their destinations.

Whilst the majority preference is still for the suburban home, community expectations and preferences are also changing towards more compact patterns of development. Households are becoming more diverse. The population is ageing and there is an increasing proportion of smaller households seeking a wider range of housing types other than conventional suburban home. More people are attracted to compact, mixed use development freeing them from maintaining large gardens and dependency on the car. There is also a noted greater interest in people returning to established neighbourhoods.

The overall aim of the policy is to facilitate sustainable patterns of urban growth and settlement, by setting out the requirements of sustainable settlements and communities and the broad policy in accommodating growth and change.

The objective of the policy includes;

- i. The promotion of sustainable and well planned patterns of settlement across the state.
- ii. To build on existing communities with established local economies, such as those within the Lakes Strategy area.
- iii. To manage growth, social and economic needs of the community.
- iv. To promote sustainable and liveable neighbourhoods for which to reduce energy, water and travel demand.

The key requirements for sustainable communities include, but are not limited to the following;

- i. Variety and choice in the size, type and affordability of housing to support a range of household sizes, ages and incomes.
- ii. Making the most efficient use of land in the existing urban areas.
- iii. Supporting higher residential densities in the most accessible locations, such as in and around town and neighbourhood centres, high frequency public transport nodes and interchanges, major tertiary institutions and hospitals and adjacent to high amenity areas such as foreshores and parks.
- iv. Protecting water resources and reducing the use of non-renewable resources and waste generation.

This Amendment, in accordance with the Lakes Revitalisation Strategy, the Background Report and the suite of associated recommendations adhere to and complement SPP No.3 as outlined above.

## **5.2 State Planning Policy No. 2.3 - Jandakot Groundwater Protection (2017)**

The subject site does not fall within the 'Priority One, Two or Three' groundwater protection areas as prescribed under Figure 1 of SPP 2.3. The Priority Groundwater areas are generally located to the east of Kwinana Freeway. The subject site is wholly to the west of Kwinana Freeway and therefore the subject site is not within an identified Priority Groundwater protection area.

Notwithstanding the above, the subject site is in close proximity to the priority groundwater protection areas. Pursuant to proper and orderly planning principles, this Amendment is required to have due regard to the policy objectives.

The objectives of SPP 2.3 are as follows;

- *“To ensure that all development and changes to land use within the policy area are compatible with maximising the long-term protection and management of groundwater, in particular for public drinking water supply;”*
- *“To protect groundwater quality and quantity in the policy area in order to maintain the ecological integrity of important wetlands that are hydraulically connected to that groundwater, including wetlands outside the policy area;”*

- *“To prevent, minimise, and manage in defined locations development and land uses that may result in contamination of groundwater; and”*
- *“To maintain or increase natural vegetation cover over the policy area.”*

The Amendment does not propose to give effect to mass rezone or reclassification of the subject land nor does the proposal aim to clear significant areas of natural vegetation. The proposed Amendment falls outside the priority groundwater protection areas and is considered to be consistent with the objectives of SPP 2.3.

### **5.3 State Planning Policy No. 3.1 - Residential Design Codes (2015)**

The Residential Design Codes ('R-Codes') apply throughout Western Australia, including the Lakes area, to most/ if not all residential development. This includes permanent accommodation for people, and may include all dwellings, the residential component of mixed-use development, and residential buildings proposing permanent accommodation.

The purpose of the R-Codes is to provide a comprehensive basis for the control of residential development. In assessing and determining proposals for residential development, as a result of the increased density codes within the Lakes area, the decision maker is required to have due regard to 1.3.2 of the R-Codes, the R-Codes generally and the Scheme.

Any future proposals for residential development will be guided by the requirements of the R-Codes. This Amendment is consistent with the objectives of SPP 3.1, subject to due process being adhered to with regards to future residential development proposals under the higher density codes.



The *Planning and Development (Local Planning Schemes) Amendment Regulations 2015* and SPP 3.7 specifically exclude development applications for single houses and ancillary dwellings on a lot or lots less than 1,100m<sup>2</sup> from requiring further assessment.

Under part 5.4 of the guidelines where lots of less than 1,100m<sup>2</sup> have already been created, the application of the appropriate construction standard at the building permit stage is the instrument used to reduce the residual bushfire risk to those properties.

Pursuant to the Building Code of Australia ('BCA') and as mentioned by section 5.8.2 of the *Guidelines for Planning in Bushfire Prone Areas*; for development of Class 1, 2 or 3 buildings or Class 10a buildings or decks associated with Class 1, 2 or 3 buildings in a bushfire prone area, the bushfire construction requirements of the BCA will be applied at the building permit stage irrespective of the planning assessment process. This is important to note.

The City of Cockburn engaged the services of *Bushfire Prone Planning* to prepare a '*Bushfire Management Plan Strategic BAL Contour Mapping dated 27 October 2016*'. Figures 5.2 of this document provides an appropriate BAL Contour Map prepared under the requirements of SPP 3.7 which identifies a small proportion of the existing residential lots within the study area fall within the BAL-40 and the BAL-FZ range. See Appendix for details.

SPP 3.7 section 6.7 provides a section in relation to 'Strategic planning proposals, subdivision or development applications in areas where an extreme BHL and/or BAL-40 or BAL-FZ applies'. This section specifies extreme BHL and/or BAL-40 or BAL-FZ will not be supported unless:

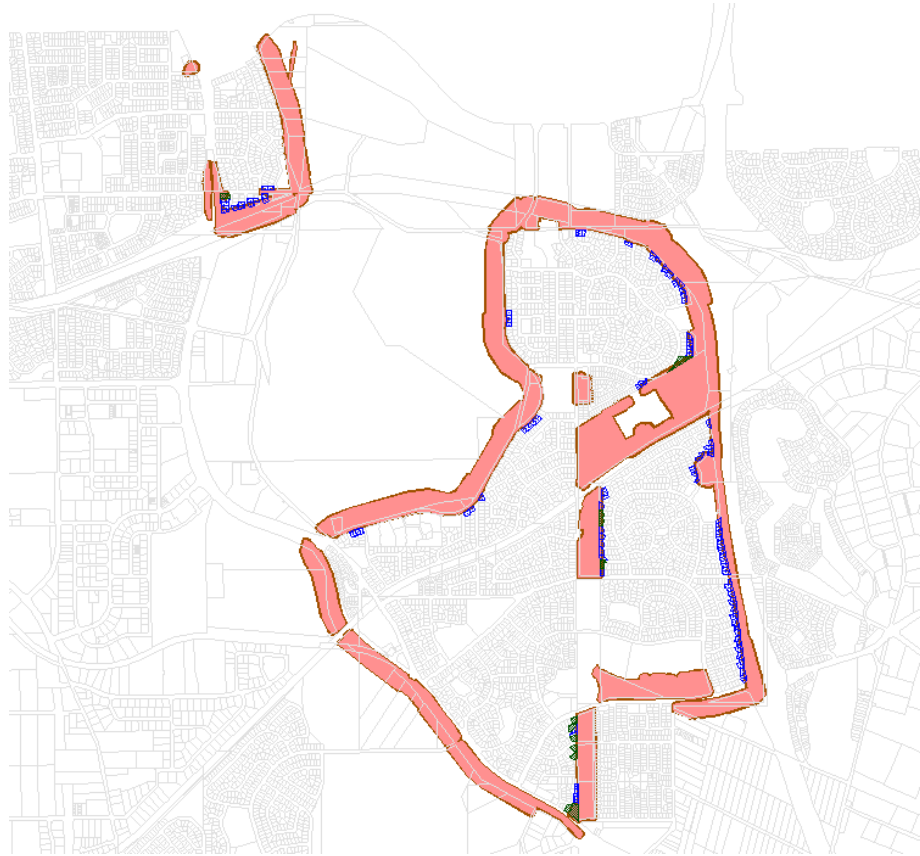
- a) The proposal is considered to be '*minor development*' (see SPP 3.7 definition) to which policy measure 6.7.1 applies; or
- b) The proposal is considered to be '*unavoidable development*' (see SPP 3.7 definition) to which policy measure 6.7.2 applies.

Section 5.7 of the WAPCs associated Guidelines specifies '*increases in residential densities would not be considered unavoidable development*'. As per the above point ('a') '*minor development*' however refers to; *applications in residential built-out areas at a scale which may not require full compliance with the relevant policy measures. Classes of development considered under this definition are single houses or ancillary dwellings on a lot of 1,100m<sup>2</sup> or greater.*

Under Clause 78B of the *Planning and Development (Local Planning Schemes) Amendment Regulations 2015*, bushfire requirements do not apply to lot/(s) with a total area of 1,100m<sup>2</sup> or more.

On the above basis it is important to note, in this context 142 residential lots within the Amendment area are indicatively classified as BAL-40 or BAL -FZ. Of the 142 residential lots 130 of these residential lots are less than 1,100m<sup>2</sup> in area (see blue lots below under Figure 5) with 12 lots more than 1,100m<sup>2</sup> in area (see green lots below under Figure 5).

Figure 5: Lots within BAL-40 or BAL-FZ within the Map of Bush Fire Prone Areas  
Source: City of Cockburn GIS from Data provided from Bushfire Prone Planning.



In this respect and in keeping with SPP 3.7 Policy objective 5.1, the City notes the following key points;

- i. The small portion of BAL-40/FZ lots, within the Scheme Amendment area, applies to existing residential lots. The proposed Scheme Amendment does not propose to rezone land to accommodate additional residential zoned land. The proposed Amendment applies to existing Urban/ Residential land. This is important to note.
- ii. The portion of residential land to the south of North Lake and to the north of Bibra Lake abuts the land reserved under the MRS as a 'Primary Regional Road Reserve'.

This land is reserved as the future Roe Highway. It is understood since Roe 8 has been cancelled/ postponed this land may be conserved for public open space. This might involve fuel reduction to allow for open grass. Other options include pockets of residential development, which would also reduce the fuel loads.

- iii. The central north/ south bushfire prone vegetation within South Lake is subject to future embellishment by the City of Cockburn to a grassed lawn standard. This is identified as an outcome of the Lakes Revitalisation

Strategy. As such the associated central impact on the existing residential lots is planned to be eliminated. See text boxes on the BAL Contour Map, under the Appendices section of this report, for details regarding the anticipated bushfire implications in this regard.

- iv. The re-coding of residential zoned land by the City of Cockburn's Scheme Amendment proposal does not necessarily reflect the private landowners desire to re-develop their land.

Based on previous revitalisation strategies undertaken by the City of Cockburn, the rate of re-development (post Scheme Amendment to up-code land) is particularly slow resulting in an estimated 2% change over a 5 year period (source: 'Forecast-id').

On this basis the re-coding of land by this Scheme Amendment may not necessarily result in re-development or an increase in threat of bushfire to people, property and infrastructure. This is an important point to note.

- v. Pursuant to the Guidelines, AS 3959-2009 is applied at the Building Permit stage irrespective of the 'Planning Stage' i.e. irrespective of the outcome of the indicative BAL Contour Map or development approval. Each and every residential property within the Scheme Amendment Area that falls within the State's Bushfire Prone Area Mapping will be subject to its own separate BAL Assessment at Building Permit Stage based on the then specific Class 1, 2, 3 and 10a structures at the time, should the landowner/(s) decide to redevelop their land.

The residential landowners within the BAL-40 and BAL-FZ indicative areas (in particular) are encouraged to consider the issue of bushfire/ AS 3959-2009 at the early stages of their consideration to redevelop their properties. There may be associated/ unexpected costs with development to higher BAL's. These landowners may not wish to develop the full potential of their properties (i.e. they may decide not to build in the BAL-40/FZ areas and focus their redevelopment on the BAL-29 or below areas). These matters can be resolved at subdivision stage and secured at Building Permit Stage. It would be appropriate for the WAPC not to support future subdivisions where lots proposed are likely to be fully within the BAL 40/FZ areas.

On the above basis, in the view of the City of Cockburn the proposed Scheme Amendment is compliant with SPP 3.7 subject to the future precautions as mentioned above. Notwithstanding, landowner/(s) within the Scheme Amendment area planning to develop or redevelop their properties, as a result of higher densities, are encouraged to investigate and consider the implications of AS 3959-2009 on their property/ properties at the earliest stage of their development/ re-development considerations. This is to avoid unexpected costs or surprises relating to AS 3959-2009. Any future subdivision applications are to investigate and note whether proposed lots are within the BAL40/FZ. Should lots be identified these subdivisions are to restrict development wholly within BAL 40/FZ. Each application should be considered on a case by case basis in this context given the infill nature of this proposal and the uncertainty of the Roe 8 reserve.

Whilst this is not strictly orthodox planning it is considered appropriate in this instance based on the above mentioned justification.

### **5.5 State Planning Policy No. 5.3 – Land Use Planning in the Vicinity of Jandakot Airport (January 2017)**

The City of Cockburn was invited by the WAPC to provide comment on the preliminary version of the 2015 *draft State Planning Policy 5.3 Land Use Planning in the Vicinity of Jandakot Airport* ('draft SPP') on 15 December 2015. The [then] advertising period closed on 16 March 2016.

Item 14.4 of the 10 March 2016 Council Meeting outlined the City of Cockburn's formal response to the WAPC in relation to the draft SPP 5.3. The City's recommendation was as follows;

"That Council make a submission to the Department of Planning on the basis of the officer's report, which recommends the draft 2015 State Planning Policy 5.3 be amended to incorporate the following:

1. *The policy should recognise that Jandakot Airport is unique and differs considerably from Perth Airport, and other airports. This being due to the training airfield and general aviation function, which results in bursts of more frequent but less intense noise in the immediate vicinity of the Airport, as well as the considerable variability in the types and age of aeroplanes used.*
2. *The policy should recognise that there is an increasing reality that Jandakot is in an urbanised / urbanising environment, and therefore management of the actual aeroplane operations may also need consideration as it is these elements that can influence the ANEF shape. There is a need to build in to the policy a process whereby the community are invited to engage in the process of formulating the ANEF.*
3. *The policy should recognise that as a long term planning document, the ANEF should not be expected to drastically change, as given the strategic expectation associated with land use planning.*
4. *The requirement for notifications on land titles for all new noise sensitive development within the 'Frame Area' and also the N60 100 daily noise event contours.*
5. *The requirement for 6.38mm laminated glass on all new noise sensitive development within the existing/ proposed 'Frame area' under SPP 5.3;*
6. *Include frequency-based noise charts (N60, N65 & N70 Noise Contours) to supplement the ANEF within SPP 5.3 as recommended in NASF Guideline A.*
7. *Expand the 'Frame Area' boundary within SPP 5.3 to be consistent with Attachment 4 of this report for the purposes of notifications on title".*

In relation to point 7 above, the City's proposed Frame Area – 'N' Contours was identified as follows;

Figure 6: CoC SPP 5.3 Proposed Frame Area – 'N' Contour  
Source: CoC Council meeting 10.03.2016 Item 14.4 Attachment No. 4 - Proposed Frame Area (SPP 5.3)



As can be seen by Figure 6 above, areas of Bibra Lake and South Lake fall within the City's proposed 'SPP 5.3 Frame Area'. Following the WAPCs receipt of the City of Cockburn's comments in relation to the [then] draft SPP 5.3 the WAPC has since finalised SPP 5.3 which was Gazetted on 11 January 2017.

The 'Frame Area' in the new (January 2017) SPP 5.3, although expanded from the WAPCs first draft, is not as encompassing as the City of Cockburn Councils preferred option (as per figure 6 above).

Councils recommended/ preferred option (which is also supported by Jandakot Airport and the Department of Transport) includes parts of South Lake and Bibra Lake. Council has previously recommended points 4 and 5 of the above Council resolution are implemented for those lots identified in the red hatching above in Figure 6.

The [Gazetted] January 2017 SPP 5.3 makes mention of the incorporation of a SCA under section 6.3. Under section 5.2.1 of SPP 5.3 there is mention that the ANEF contours may exceed the frame area, which is interesting as the 'N' contours exceed the ANEF contours. It is noted the Jandakot Airport Masterplan recommends the application of the N contours over the ANEF.

As provided for within the Jandakot Airport Master Plan 2014;

*"The NASF 'Guideline A: Measures for Managing Impacts of Aircraft Noise' acknowledges that the 20 ANEF and 25 ANEF zones do not capture all high noise affected areas around an airport and that Australian Standard AS2021 recognises that the ANEF contours are not necessarily an indicator of the full spread of noise impacts, particularly for residents newly exposed to aircraft noise.*

*As such, JAH welcomed the announcement in May 2013 by Standards Australia that it would proceed with a review of AS2021, and that the approved scope includes reviewing the applicability of AS2021 to small airports. Pending the outcome of that review, JAH fully supports the inclusion of the frequency-based noise charts (N60, N65 & N70 Noise Contours) to supplement the ANEF as recommended in NASF Guideline A.”*

It is noted in relation to the above the Managing Director of Jandakot Airport in a letter dated 16 March 2016 provided the following formal correspondence;

*“The limitations of AS2021, particularly in application to general aviation airports, are well documented. AS2021 states that it will sometimes be necessary to undertake supplementary noise measurements so that a sufficiently representative prediction of the noise exposure at the site under evaluation can be obtained, particularly at aerodromes at which a significant number of training circuits occur. JAH therefore considers that reference to the National Airports Safeguarding Framework Guideline ‘A’ (Aircraft Noise) and the frequency based Noise Above Contours would be appropriate in sections 5.4.5 and 5.5.5 which provide for the noise impact to be assessed and considered.*

*Acknowledgement of the National Airports Safeguarding Framework Guideline A within the SPP would be consistent with the State Aviation Strategy which states that "Western Australia intends to use the National Airports Safeguarding Framework as guidance for strategic planning, taking it into consideration along with all other relevant economic, social and environmental factors".*

On this basis the City of Cockburn Council may consider preparing an appropriate Scheme Amendment to incorporate a SCA for the reasons of the points raised above. As the SCA would extend beyond the Lakes Scheme Amendment portions of South Lake and Bibra Lake it is considered appropriate of the City to address this issue as part of a separate Scheme Amendment which would apply to an area beyond the geographical bounds of this amendment area. This is a consideration which will need to be presented to the City of Cockburn Council for consideration. Additionally this issue will need to be discussed also with JAH and other stakeholders including the WAPC. On this basis the proposed Lakes Scheme Amendment will defer this issue to the separate Scheme Amendment in relation to the above points.

Notwithstanding the above, the Lakes Scheme Amendment as prepared by the City of Cockburn adheres to the requirements of the January 2017 SPP 5.3.

**5.6 State Planning Policy No. 5.4 – Road and Rail Transport Noise and Freight Considerations in Land Use Planning (September 2009) and also Draft State Planning Policy 5.4 Road and Rail Noise September 2017.**

Excessive transport noise has the potential to affect the health and amenity of a community as a whole as well as the wellbeing of an individual. There is documented evidence that long-term exposure to high levels of noise may cause serious health, learning and development problems. Some people are more sensitive to noise than others, and tolerance to noise can vary depending on the time of day or the day of the week.

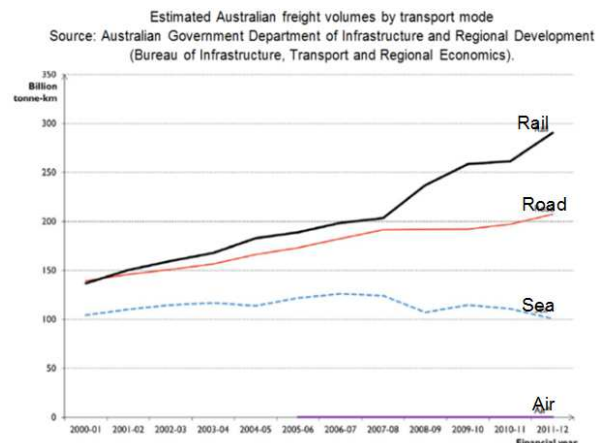
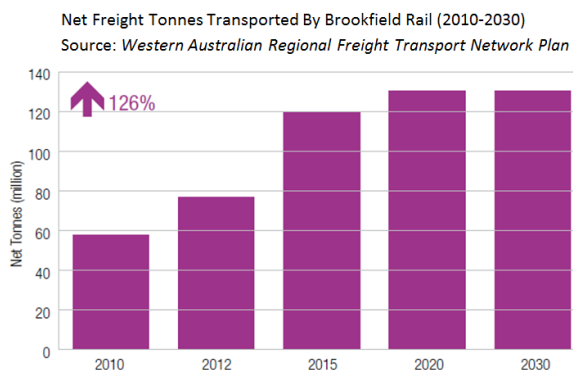
Consequences of sleep deprivation by type and term

Source: World Health Organisation (Europe)  
'Night Noise Guidelines for Europe'

Type	Short-term	Long-term
Behavioural	Sleepiness Mood changes Irritability and nervousness	Depression/mania Violence
Cognitive	Impairment of function	Difficulty in learning new skills Short-term memory problems Difficulty with complex tasks Slow reaction time
Neurological	Mild and quickly reversible effects	Cerebellar ataxia, nystagmus, tremor, ptosis, slurred speech, increased reflexes, increased sensitivity to pain
Biochemical	Increased metabolic rate Increased thyroid activity Insulin resistance	Decreased weight despite increased caloric intake (in animals) Diabetes, obesity (in humans)
Others	Hypothermia Immune function impairment	Susceptibility to viral illness

The efficient movement of people and freight is critical to the economic sustainability of Western Australia. As the population and resource industry grow, the increase in the volume of freight and the vast distances involved in distribution will put further pressure on transport infrastructure.

The Western Australian State Government sees a growing role for freight rail in providing a viable alternative to road transport for suitable freight tasks in strategic corridors. WA rail activity has the potential to increase by up to 126 per cent in the future.



The location of freight corridors, centres and the manner in which goods move between them can have a significant impact on the amenity and health of local communities. South Lake and Bibra Lake are dissected by a freight railway line and therefore the consideration of freight noise is a relevant consideration under this Scheme Amendment.

Freight moves long distances through various localities in response to distant economic demands. Freight movement can thus create local impacts without immediate and apparent local benefits.

There is plenty of evidence (World Health Organisation 2009) that sleep is a biological necessity, and disturbed sleep is associated with a number of health problems, particularly with children.

Vibration and sound are intimately related. Vibration, particularly from freight railway lines like the one dissecting the study area, can create an audible 'rumble' like noise through vibration of building surfaces.

The WA Environmental Protection Act 1986 states, in its definition section, that *"noise includes vibration of any frequency, whether transmitted through air or any other physical medium"*. There are no objective criteria under the Act for ground vibration from rail (or road) transport.

The WA Regulations (EPNR) provides some guidance on what constitutes an acceptable level of noise, albeit for more general sources of noise. From a WA State Government guidance perspective, the EPA has previously authored guidance on vibration/ noise planning which states an acceptable standard may be developed for indoor noise levels on the basis of AS/NZS standard 2107:2000.

Internationally, however, there is movement away from standards defining what constitutes an acceptable level of vibration, meaning individual authorities should prescribe objective vibration limits. The international trend is towards vibration standards which focus on methodology and subjective descriptions of possible human response, rather than objective values.

Planning controls offer paramount opportunity to manage transportation vibration through coordinated design responses and education, which is invaluable at early contemplation stages of development. Without early planning controls, there may be a lack of foresight and guidance which could result in excessive noise and vibration (health impacts) beyond practicable control; or alternatively, large (planning) buffer distances which result in reduced land use efficiency.

The City of Cockburn has created the first local government response ever in WA to deal effectively with vibration through the local planning framework. This is compliant, from a technical perspective, with the World Health Organisation (International best practice) and also considers the cost implications for the end user.

SPP 5.4 aims to promote a system in which sustainable land use and transport are mutually compatible. Improvements in technology in both infrastructure and

development industries are therefore encouraged; with the aim of a long-term reduction in noise experienced by noise-sensitive land uses.

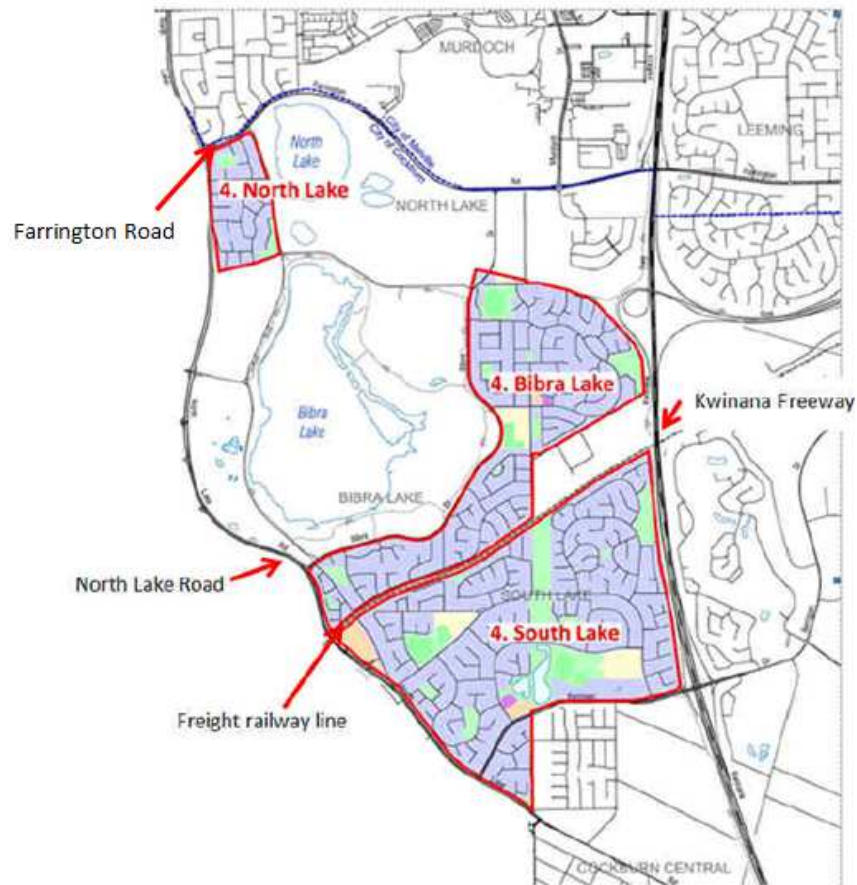
The objective of SPP 5.4 is based around protecting people from transport noise; whilst simultaneously encouraging best-practice design and construction standards for new development proposals. In applying SPP 5.4 the WAPC specifies it is expected that consideration will be given to a 15-20 year transport planning horizon, which allows for the impact of future traffic growth.

Bibra Lake and South Lake are dissected by a freight railway line and therefore in accordance with SPP 5.4/ Guidelines principles, noise (and vibration) needs to be addressed regarding the freight railway line. Ground-borne vibration is most commonly associated with freight rail transport. SPP 5.4 recognises vibration, and regenerated noise, can result from freight railways.

Roads carrying more than 20,000 vehicles per day are classified under the current SPP 5.4 section 5.2.2 as 'Major Roads'. *'Major transport corridors' are defined under SPP 5.4 as; "land set aside for the movement of road/or rail traffic, including railways and major roads"*.

North Lake Road, Farrington Road, Kwinana Freeway and the freight railway line are considered to be *'major transport corridors'* within the Lakes Revitalisation Strategy Scheme Amendment area. These major transport corridors are located in the vicinity of existing residential development and potential future residential development sites. As North Lake, Bibra Lake and South Lake evolve (and redevelop) as suburbs over time these transport routes may be flanked by higher density housing. The below figure spatially identifies these major transport corridors within the Scheme Amendment area.

Figure 7: 'Major Transport Corridors' within the Scheme Amendment Area (SPP 5.4)  
Source: City of Cockburn Lakes Revitalisation Strategy Background Report (December 2015)



It is noted the Roe 8 Highway development application proposal included its own separate Acoustic Report which was prepared by AECOM and peer reviewed by Lloyd George Acoustics.

The Roe 8 Acoustic report, as published on Main Roads Western Australia ('MRWA') website, specifies traffic noise monitoring will be conducted immediately post construction and then annually for 3 years to determine the accuracy of the predicted noise emissions and the adequacy of noise mitigation. The report further specifies if this post construction monitoring indicates that noise mitigation is not sufficient, Main Roads will consider upgrading the noise barriers adjacent to the affected areas. On this basis, and also because the Roe 8 project has been cancelled, noise considerations regarding Roe Highway have been excluded from the Scheme Amendment assessment/ report.

SPP 5.4 specifies, for new noise-sensitive developments, noise assessments should generally be conducted as early in the planning process as practical, typically at the 'Scheme Amendment' stage. In this instance, as outlined within the Lakes Revitalisation Strategy, noise and vibration are particularly important Scheme Amendment issues in need of due consideration at this stage of planning.

The guidelines include estimates of transport noise levels, taking into account traffic volumes and distance separation from the railway or major road. Under

Appendix A of the guidelines, “generally if a noise-sensitive location is within 300 metres of a major freeway, primary freight road, freight railway or terminal a screening assessment is to be undertaken”.

SPP 5.4 specifies, for residential buildings, acceptable indoor noise levels are  $L_{Aeq(Day)}$  of 40dB(A) in living and work areas and  $L_{Aeq(Night)}$  of 35Db(A) in bedrooms (AS 2107:2000). The  $L_{Aeq}$  noise measurement used in SPP 5.4 describes the average noise during a measured period. The measurement is well suited to the large number and constant movements typical of road traffic. It is also reasonably suited to the regular and frequent movements of passenger rail.

Freight rail is different from road noise as it is characterised by a low number of irregular movements, which results in significant noise fluctuation from a very low level to a very high level as freight trains pass. This is an important point to note.

Applying the SPP 5.4  $L_{Aeq}$  noise measurement to freight rail may result in low noise level values due to the averaging effect for a low number of movements. An alternative method more suited to the assessment of noise from intermittent sources with high noise levels such as freight trains is  $L_{Amax}$  which is the maximum level measured over a period event i.e. a train passes-by. It is noted this is supported by the *Freight and Logistics Council of WA* and it is noted the drafted 2005 versions of SPP 5.4 included  $L_{Amax}$ .  $L_{Amax}$  is widely understood as the more appropriate parameter for freight noise by the acoustics industry. (Source: *FLC of WA Bulletin No. 7 and 'The Lakes Acoustic Analysis'*). The City's acoustic report utilises both  $L_{Aeq}$  and also  $L_{Amax}$ .

It is recognised that building construction techniques, for the purposes of noise management and mitigation, includes such things as upgrading glazing, ceiling insulation and sealing of air gaps. Noting SPP 5.4, and this proposed Scheme Amendment, does not propose to act retrospectively with respect to noise mitigation.

It is recognised it may not always be reasonable and practicable to meet the noise or vibration target criteria. Where transport noise is above the target level, measures are expected to be implemented that best balance reasonable and practicable considerations, such as noise benefit, cost, feasibility, community preferences, amenity impacts, safety, security and conflict with other planning and transport policies.

Similarly as mentioned under section 5.8 of SPP 5.4, it may not always be practicable to achieve acceptable indoor noise levels if new development is located very close to the transport corridor. In these situations the primary focus should be on achieving the lowest level of noise, with other reasonable and practicable considerations being secondary to this objective.

Section 6 of SPP 5.4 recognises, in cases in which there are serious noise issues, such as the freight railway line dissecting Bibra Lake and South Lake, 'special control areas' ('SCA') may be a suitable planning mechanism. A SCA is proposed over the freight railway line and areas of Bibra Lake and South Lake based on the Acoustic report provided within the Appendix.

Table 4.1 of the SPP 5.4 Guidelines '*Noise management during planning stages*' stipulates; at the Scheme Amendment stage the scope should address the suitable land use density options adjacent to major roads and freight handling facilities. Preparation of detailed noise assessment and noise management plans is required by the proponent, and has therefore been provided and discussed below in two separate Acoustic reports.

### **5.6.1 The Lakes Revitalisation Strategy – Acoustic Analysis (Report 1 of 2)**

The City of Cockburn engaged the services of Lloyd George Acoustics to prepare the '*Lakes Revitalisation Strategy – Acoustic Analysis*' which was finalised on 8 July 2016, post Councils adoption of the Lakes Revitalisation Strategy.

The Acoustic Analysis is a broad assessment of the '*major transport corridors*'. The assumed road traffic data used in the modelling is provided in Table 3.2 of the Analysis report. Major roads are forecast 2031 traffic volumes.

Freight railway noise monitoring was undertaken within the study area alongside the Freight Rail Line at a distance of 20m from the nearest track. Freight railway vibration monitoring was undertaken at 20, 40 and 80m from the nearest track.

The Acoustic Analysis report is not a detailed assessment of each *major transport corridor*. The Acoustic Analysis report was prepared to inform the Lakes Revitalisation Strategy (previous planning stage) however it is broadly relevant in assisting to justifying the proposed density codes with respect to this Scheme Amendment. Additionally this report provides some indication of the likely noise and vibration considerations which may be relevant at the following stage, the development application stage/(s).

As with most planning considerations there are competing interests, such as population growth planning considerations (discussed above under SPP 3) and the issue of noise (SPP 5.4) and its impacts on the health and wellbeing of residents.

The dual consideration, of the above mentioned competing interests, in formulating the proposed density codes is provided below; noting this stage of planning does not purport to resolve all planning issues. Noise and vibration mitigating considerations will be dealt with more specifically at the subdivision and development application stages.

Figure 8: Location of the Noise and Vibration Data Loggers on Subject Site  
Source: CoC Lakes Revitalisation Strategy Background Report (December 2015) – Acoustic Assessment (July 2016)



The noise from each of these transport corridors was modelled to various assumed adjoining developments ranging from single storey dwellings, townhouses, two storey apartments and three and four storey apartments.

As mentioned above, the Acoustic Analysis uses the  $L_{Aeq}$  parameter for traffic noise and provides both the  $L_{Aeq}$  and the  $L_{Amax}$  for freight rail. It is important to note this report in all scenarios assumes the ground to be flat, unlike the more recent report which is more comprehensive.

The study resulted in measuring the average noise level of a passing train was 74.4dB  $L_{Aeq,1min}$  and 84.6dB  $L_{Amax}$ . Comparing these directly with the target criteria of SPP 5.4 means the  $L_{Aeq(Night)}$  exceeds by 13dB and the  $L_{Amax}$  by 18dB.

The Analysis suggests, under the summary of findings, for transport corridors where the noise impacts are significant (e.g Kwinana Freeway), supporting large buildings/ high density development adjacent to the corridor can be beneficial in reducing the extent of the noise affected area. Under the proposed density plan the Scheme Amendment offers R30, R40 and R60 density codes adjacent to Kwinana Freeway. R30, R40, R60 and R80 density codes are proposed along the Freight Railway line. On this basis, with respect to appropriateness of density codes, the proposed densities are conceptually compliant with the advice provided for in the Acoustic Analysis report.

The broad findings are discussed in more detail for each *major transport corridor* below. It is worth re-iterating that no noise measurements were undertaken for the road calculations at the earlier stage of the project as discussed below, under the Acoustic Analysis report, and therefore these are un-calibrated. It is advised

however the City of Cockburn has since commissioned a more detailed calibrated 'major road' noise reports which are discussed further on in this report.

### **North Lake Road**

- The first row of buildings maybe marginally above the limit, however this could be reduced at ground level to below the limit by increasing the boundary wall height.
- Where development behind the first row is only single storey, it is unlikely be noise affected. Where the first row is single story double story development could commence in the third row (70m) and not be noise affected.
- The above findings could vary if Roe Highway does not proceed, as significantly higher traffic volumes would then be expected on North Lake Road.

### **Farrington Road**

- The first row of buildings may be marginally above the target.
- Where development behind the first row is single or double storey, this is unlikely to be noise affected.
- The above findings could vary if Roe Highway does not proceed, as significantly higher traffic volumes would then be expected on Farrington Road.

### **Roe Highway and Kwinana Freeway**

- The first row of buildings will be above the limit. However an appropriate noise wall could be constructed so that the ground level is below the limit, but it would need to be significant in height.
- Where the first row is single storey:
  - Four rows from the road (110m) will still be noise affected.
  - Double story development could commence in the eighth row (250m) and not be noise affected.
  - Three and four story development could commence in the tenth row (320m) and not be noise affected.
- There is an acoustic benefit in preferring higher density development alongside Roe Highway and Kwinana Freeway, as this will shield houses behind and will reduce the extent of the noise affected area.

### **Freight Rail**

- An  $L_{Amax}$  assessment is likely to be critical in protecting the amenity of residents at close distances to the rail line.

- Where the first row is single story:
  - Up to four rows (110m) of single storey will still be noise affected
  - Double storey development could commence in the sixth row (180m) and not be noise affected.
  - Three and four storey development could commence in the seventh row (210m) and not be noise affected.
  
- It is recommended that for any new development within 80m of the railway track a site specific vibration assessment be required (unless the deemed to comply requirements are applied – which is discussed in the subsequent Acoustic Reports).
  
- Policy guidelines should be developed for assessing the acceptability of  $L_{Amax}$  noise and vibration levels and for determining noise and vibration control treatments to buildings alongside the Freight Rail Line. These policies should clearly define the measurement method to be employed for any such assessment and prescribed relevant criteria (this is discussed in the subsequent Acoustic Reports).

The noise and vibration measurements undertaken for the freight rail (under this Acoustic report) were only in one section of the track (see above figure), so variations can be expected in other areas. Ignoring the limitations of the study the below information can be used as a guide.

#### **Development near North Lake Road**

- Where the site is within 20m of the edge of the nearest carriageway, a site specific noise assessment is to be undertaken by a suitably qualified acoustic consultant.
  
- Any single storey development between 20 and 30m from the edge of the nearest carriageway, is to incorporate 'Package A' architectural treatments or alternatively, undertake a site specific assessment by a suitably qualified acoustical consultant.
  
- Any multiple story development within 180m is to undertake a site specific assessment by a suitably qualified acoustical consultant.

#### **Development near Farrington Road**

- Any single storey development between 15m and 25m from the edge of the nearest carriageway, is to incorporate 'Package A' architectural treatments or alternatively, undertake a site specific assessment by a suitably qualified acoustic consultant.
  
- Any multiple storey development within 100m is to undertake a site specific assessment by a suitably qualified acoustical consultant.

#### **Development near the freight rail line**

- Where the site is within 80m of the freight rail, vibration levels are to be measured and assessed by a suitably qualified acoustical consultant (refer to Acoustic Analysis report below for further details).
- Consideration is to be given to the  $L_{Amax}$  parameter, in particular, achieving 60dB  $L_{Amax}$  internally and incorporating the freight packages or suitable equivalent.
- Any single storey development between 80m and 140m of the track is to incorporate 'Package A' architectural treatment or alternatively, undertake a site specific assessment by a suitably qualified acoustical consultant.
- Any multiple storey development within 250m is to undertake a site specific assessment.

### **5.6.2 Understanding the Limitations and further opportunities with respect to the Acoustic Analysis Report (Report 1 of 2)**

As alluded to above, the preference is to develop these above findings further by undertaking more detailed assessments of each transport corridor (essentially 'noise mapping').

The advantage of noise mapping is that it can provide a more accurate picture of the noise and vibration impacts. Ideally, when a proposed development is submitted, its potential noise and/or vibration impacts can already be known. As well as providing council with a useful tool, it may also limit the extent of potentially requiring acoustic assessments, although this option would still be open to landowner/(s) or developer/(s).

The Acoustic Analysis report relies on single area vibration measurements (refer to Figure 8 above). It is noted vibration is likely to vary significantly along the track and it may take a significant number of measurements to have sufficient confidence in the results without undertaking a site specific assessment.

### **5.6.3 Freight Train Noise & Vibration Assessment – Bibra Lake (North), Bibra Lake (North-East) & South Lake (North) (Report 2 of 2)**

The focus of this report is to define freight rail noise and vibration affected areas, based on recent noise and vibration measurements, prior to any future development occurring at the higher (proposed) density codes. The purpose of this will allow the City of Cockburn to identify lots that are affected and provide deemed to satisfy (DTS) construction packages for redevelopment of the site as development applications are submitted. As with the above mentioned Acoustic report, alternatively site specific assessments may be undertaken by the developer, at their request, rather than adopting the DTS standard.

Like the above Acoustic report, the study utilises the treatment packages as determined from the Freight and Logistics Council study (Bulletin No. 7), those being Packages 'AF', 'BF' and 'CF', with one of the main changes in freight packages requiring the use of clay roof tiles.

The Acoustic studies follow the 'scientific method' and are compliant with current industry best practice considerations including;

1. AS 2107:2000 Acoustics – Recommended design sound levels and reverberation times for building interiors; and
2. AS 2670.2:1990 Evaluation of Human Exposure to Whole Body Vibration, Part 2: Continuous and Shock Induced Vibration in Buildings (1 to 80Hz).

The site measurements for this (second) Acoustic report, were more comprehensive than the above mentioned report. Measurements were taken from 19 October to 30 November 2016 as follows.

Figure 9: Location of Noise and Vibration Monitoring  
Source: Freight Train Noise & Vibration Assessment Bibra Lake and South Lake

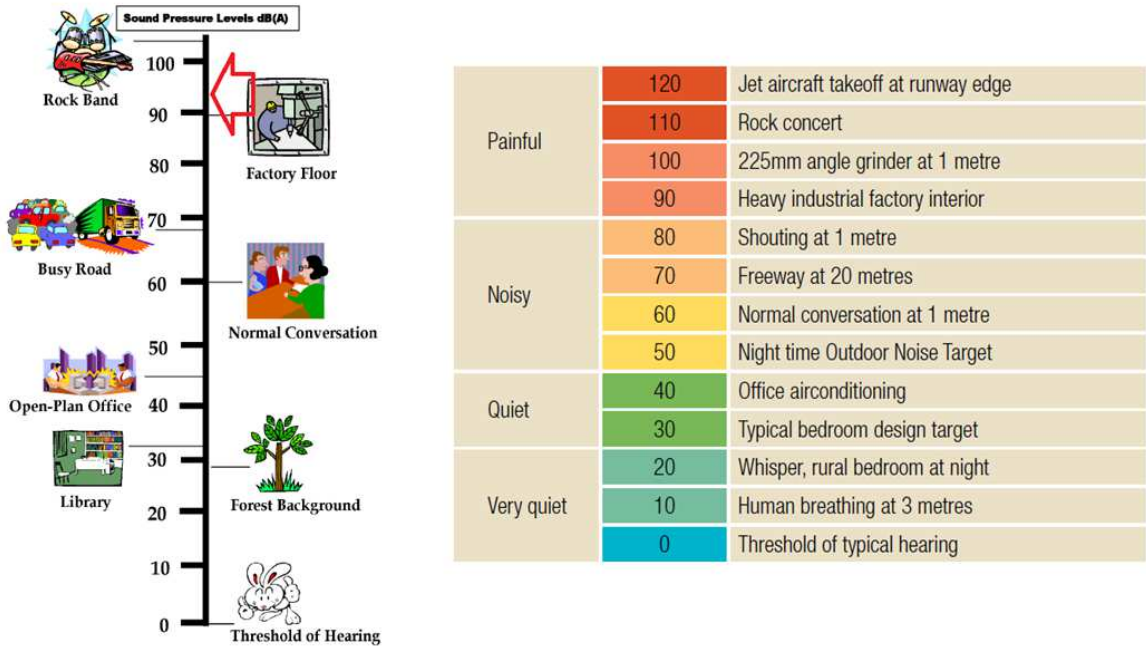


The loggers were programmed to record 5-minute<sup>2</sup>  $L_{Amax}$  and  $L_{Aeq}$  levels. Noting the loggers were field calibrated before and after the measurement session and found to be within +/-1dB. Additionally it is important to note the terrain for the area was also incorporated via a 3D model which was obtained from Landgate. On this basis the second acoustic report referred to above is considered to be an exemplary model in line with industry best practice.

It is interesting to note of the 14 properties within the study the highest number of trains per night (10:00pm to 6:00am) was 9 and the lowest being 6 (source Table 4.1 of the Acoustic report). The highest night time noise was recorded at **94.6dB** and the lowest at **82.4dB** (source Table 4.2 of the Acoustic report). This equates to the expected noise level of somewhere between a 'Factory Floor' and a 'Rock Band' as identified in Figure 10 below.

Figure 10: Typical Noise Levels in dB

Source: Freight Train Noise & Vibration Assessment Bibra Lake and South Lake (L) and SPP 5.4 Guidelines (R)



Locations within the study area in proximity of North Lake Road crossing are likely to have a higher maximum noise level due to the sounding of horns from train drivers.

Interestingly, vibration levels at 17 Allamanda Drive South Lake (for example) were found to be slightly higher than those at the closer location to the railway line being the property at 20 Allamanda Drive South Lake, see the below image for details.

Figure 11: Aerial Photograph for Locations of numbers 17 and 20 Allamanda Drive, South Lake

Source: City of Cockburn Intramaps aerial photograph



It is noted this report, like all reports (generally speaking), is not without its limitations, which are clearly identified within the report. The noise model has been calibrated against the average +1SD values. The report notes there are different corrections applied along the length of the track/ model.

The overall outcome of the Study is a series of buffers, at which different requirements could be applicable. These requirements will vary depending on whether or not the development is single or multiple storey, as permitted under the higher density codes.

Figure 12: Freight Train Noise & Vibration Impacts (Ground Level)  
Source: Figure 7.1 from the Freight Train Noise & Vibration Assessment Bibra Lake & South Lake



The above lots correlate to the below mentioned construction packages, as outlined within the 12 January 2017 Freight Train Noise & Vibration Assessment - Acoustic report. See below for details.

Figure 13: Example Construction for Freight Packages  
Source: Freight Train Noise & Vibration Assessment Bibra Lake & South Lake

Area	Orientation to Road or Rail Corridor	Freight Rail Package CF (up to 92 dB L <sub>Amax</sub> )	Freight Rail Package BF (up to 88 dB L <sub>Amax</sub> )	Freight Rail Package AF (up to 80 dB L <sub>Amax</sub> )
All Habitable Rooms (Including Kitchens)	Facing	<ul style="list-style-type: none"> <li>Walls: 2 x 110mm double brick wall with 50mm cavity and 50mm fibreglass insulation within the cavity.</li> <li>Window: 10.5mm VLam Hush awning windows (up to 40% of room floor area).</li> <li>External Doors: 10mm fully glazed hinged door (up to 20% of room floor area).</li> <li>External doors to bedrooms are not recommended.</li> <li>Roof and ceiling: Clay roof tiles with sarking and 10mm plasterboard ceiling, or, Colorbond roof sheeting with sarking, 4mm fibre cement sheeting fixed to the roof purlins and 2 x 10mm plasterboard ceiling.</li> <li>Mechanical ventilation.</li> </ul>	<ul style="list-style-type: none"> <li>Walls: 2 x 90mm double brick wall with 20mm cavity.</li> <li>Windows: 6mm awning windows (up to 40% of room floor area); or, 10mm awning windows (up to 60% of room floor area).</li> <li>External Doors: 10mm sliding glass doors (up to 20% of room floor area).</li> <li>External doors to bedrooms are not recommended.</li> <li>Roof and ceiling: Clay roof tiles with sarking and 10mm plasterboard ceiling, or, Colorbond roof sheeting with sarking, 4mm fibre cement sheeting fixed to the roof purlins and 2 x 10mm plasterboard ceiling.</li> <li>Mechanical ventilation.</li> </ul>	<ul style="list-style-type: none"> <li>Walls: 2 x 90mm double brick wall with 20mm cavity.</li> <li>Windows: 6mm awning or 10mm sliding windows (up to 40% of room floor area); or, 6mm awning windows (up to 60% of room floor area).</li> <li>External Doors: 6mm sliding glass doors (up to 20% of room floor area).</li> <li>Roof and ceiling: Colorbond roof sheeting with 10mm plasterboard ceiling.</li> <li>Mechanical ventilation.</li> </ul>
	Side	<ul style="list-style-type: none"> <li>As above.</li> </ul>	<ul style="list-style-type: none"> <li>As above.</li> </ul>	<ul style="list-style-type: none"> <li>As above.</li> </ul>
	Opposite	<ul style="list-style-type: none"> <li>As above, except -</li> <li>Windows: 6mm awning windows (up to 40% of room floor area); or, 10mm awning windows (up to 60% of room floor area).</li> <li>External Doors: 6mm fully glazed hinged door (up to 20% of room floor area).</li> </ul>	<ul style="list-style-type: none"> <li>As above, except -</li> <li>Windows: 6mm awning or 10mm sliding windows (up to 40% of room floor area); or, 6mm awning windows (up to 60% of room floor area).</li> <li>External Doors: 6mm sliding glass doors (up to 20% of room floor area).</li> </ul>	<ul style="list-style-type: none"> <li>As above, except -</li> <li>Windows: 4mm awning or 6mm sliding windows (up to 40% of room floor area); or, 6mm awning or 10mm sliding windows (up to 60% of room floor area).</li> </ul>
Outdoor Living Area		<ul style="list-style-type: none"> <li>Where practicable, locate an outdoor living area on the opposite side of the rail corridor or in an alcove on the side of the house.</li> </ul>	<ul style="list-style-type: none"> <li>Where practicable, locate an outdoor living area on the opposite side of the rail corridor or in an alcove on the side of the house.</li> </ul>	<ul style="list-style-type: none"> <li>Where practicable, locate an outdoor living area on the opposite side of the rail corridor or in an alcove on the side of the house.</li> </ul>

It is understood the Department of Planning Lands and Heritage ('DoPLH') is in the process of considering a draft/ revised September 2017 version of SPP 5.4. The City of Cockburn is very familiar with this draft 2017 version of SPP 5.4 as

the City of Cockburn has been an active member of the SPP 5.4 Technical Working Group. Please note this Scheme Amendment report relies upon the justification in relation to draft SPP 5.4 under the submission dated 15 December 2017 to the SPP 5.4 Review team. Please refer to the 48 page submission which forms part of this Amendment report under the appendices section.

In addition to the above please note also the “Freight Rail Noise and Vibration Discussion”/ meeting minutes within the appendices of this report. On 22 June 2017 the City of Cockburn met with the Assistant Director General at the DoPLH, the Department of Transport (‘DoT’) and the Public Transport Authority (‘PTA’) to discuss the issue of vibration in the context of both draft SPP 5.4 and this Scheme Amendment. The meeting discussion minutes are provided within the appendices of this report. The DoPLH and DoT raised concerns with the City’s and the PTA’s noise approach prior to this meeting. As can be seen in the meeting minutes (see appendix) the concerns of both State government departments were addressed by both the City and the PTA.

Please refer to this appendix (in particular point 10 of that appendix relating to Supreme Court Rule [2009] WASC 196) with regards to additional justification for the noise and vibration SCA. The SCA is supported by the key stakeholders with respect to the TWG of the SPP 5.4 review. This includes DoWER (the technical experts). The City has also met with UDIA to discuss the proposed approach who have given an in principle support to the proposed SCA. As is evident with the Scheme Amendment consultation, FLCWA and other key industry bodies are in strong support of this approach as proposed by the City.

On the above basis it is understood that the concerns relating to vibration, cost of construction, draft SPP 5.4, flexibility in decision making, flexibility in discretion relating to vibration and treatment packages; from DoPLH and DoT are therefore comprehensively addressed. The City of Cockburn has formulated (and recently amended) the Scheme Text and draft Local Planning Policy to address the industries concerns. This is considered to therefore be a robust, fair and reasonable approach which is in line with proper and orderly planning. Accordingly the SCA should respectfully be supported (as proposed without any modification) by DoPLH staff and also the Hon. Minister for Planning for these reasons and justification as provided above.

This amendment proposes therefore a series of Special Control Areas which address rail noise and vibration and also road noise. The proposed scheme maps, scheme text and draft Local Planning policy work as ‘a package’ to address noise and vibration. Please refer to the ‘full package’ to get an appreciation for the manner in which this is proposed to operate.

## **6.0 City of Cockburn Planning Strategy**

The City of Cockburn Local Planning Strategy (‘the Strategy’) is to be read in conjunction with Town Planning Scheme No. 3. The Strategy sets out the long-term planning directions for the City of Cockburn, setting out the Council’s general aims and intentions for the future looking ahead 10 to 15 years (noting the Strategy was approved in the year 1999).

The Strategy considers land use or development opportunities and constraints which provide a context for local planning decisions. One of the primary purposes of the Strategy is to require a local government to assess where it currently stands in respect to the planning and development of the district, determine where it wants to be in the future and to devise a statutory planning scheme that will, over time, achieve its vision for the community.

The primary purpose of the Strategy is to assist government both State and local in long-term land use planning. It also assists State agencies, local government and the private sector, to achieve a co-ordinated response to the challenges of the future.

The Strategy articulates a “vision” and the means by which the vision can be achieved. The Strategy provides an overview of future challenges facing the State over the next 30 years and provides a comprehensive list of strategies and actions, policies and plans to guide the development of regional and local communities.

The relevant (LPS) strategies and extracts from the associated actions, which are applicable to the Lakes Scheme Amendment, are identified below for ease of reference:

<b>No.</b>	<b>STRATEGY</b>	<b>ACTIONS</b>
1	Enhance the quality of life for all Western Australians.	<ul style="list-style-type: none"> <li>- Ensure the impacts from traffic and other noise generating activities are considered and appropriately addressed by the planning process.</li> <li>- Encourage new AS 3959/ BAL compliant structures in bushfire prone areas (where structures are currently not built to any BAL) but not allow/ discourage BAL 40/FZ structures. This is to be achieved on a case by case basis.</li> </ul>
2	Respond to the changing needs of the population.	Ensuring there is an appropriate housing and density mix to fulfil existing and potential demand from aged people, Aboriginal people, people with disabilities, non-traditional families and different ethnic groups.
3	Provide a range of housing opportunities	Encourage the provision of a range of lots and housing types in large comprehensively planned development projects or smaller redevelopments to reflect the diverse needs of the community.

With respect to the above table of relevant extracts from the Strategy there are a number of key considerations which are relevant to this stage of the planning process. The Lakes Scheme Amendment meets the above actions by providing for an appropriate density mix in the suburbs of North Lake, Bibra Lake and South Lake. This will in turn result in a range of lots and ultimately housing types.

Pursuant to the two Acoustic analysis reports as provided above, this Amendment adequately addresses the impacts from *major traffic corridors* (as defined by SPP 5.4). On this basis the Amendment is complimentary to the City of Cockburn Local Planning Strategy and thus, in this context, demonstrates proper and orderly planning.

## 7.0 Conclusion

The Lakes Scheme Amendment has been informed by the Lakes Revitalisation Strategy ('the Strategy') and the Lakes Revitalisation Strategy 'Background Report'. The Strategy and the Background report involved several compounding levels of thorough community consultation and public advertising. The proposed Scheme amendment expresses the outcome of a consolidation of the agreed majority.

The Scheme amendment ('the Amendment') has been formulated in accordance with best practice and meets the requirements of proper and orderly planning. The Amendment is supported by a bushfire management plan and two acoustic reports which meet State Planning Policy requirements pursuant to Supreme Court Rule [2009] WASC 196. These attachments are provided below. The proposed Scheme Amendment and Local Planning Policy meet the broad State and local government policy requirements, as detailed above.

Western Australia's population is expected to increase at a faster rate than the Australian average. On this basis social infrastructure planning is required to consider not only the needs of the current community but also plan for the future residents.

It is estimated by 2031 the population of the south-west sub-region will have grown by 34 per cent to 278,000. Directions 2031 expects the sub-region to increase its employment self-sufficiency rate from its current 60 per cent rate to 70 per cent, which will require 41,000 new jobs by 2031.

There is a cost involved with the States dependence on cars for meeting the daily travel needs when it is in most cases easier for people to walk or cycle to their destinations.

The subject area is considered to be an appropriate area to revitalise/ increase density codes due, but not necessarily limited to, the following factors:

- The subject area is strategically placed within the heart of the rapidly expanding south west corridor.
- The subject area is a well-connected area in proximity to the new Fiona Stanley Hospital, Murdoch University Precincts and the emerging Cockburn Central Activity Centre.
- The subject area has an established level of infrastructure with various forms of public transport facilities including passenger rail, high frequency

bus and also motor vehicular access via the Kwinana Freeway in close proximity.

- The physical age of built form within the subject area being such that decisions for redevelopment and/or renewal are expected to be made by landowners over the coming years, providing the opportunity to consider whether redevelopment to other forms of housing (grouped and multiple) should take place.

The density codes as provided for within this amendment are therefore considered appropriate at a State and local government context. The increased density codes consideration aims to achieve appropriate levels of amenity for current and future residents as well as adequate levels of protection of the natural environment and is in keeping with the interests of public infrastructure/ service providers.

## **8.0 APPENDICES**

**8.1 Location Map – Town Planning Scheme No. 3 –  
Amendment No. 118**

## **8.2 Existing and Proposed Scheme Maps - Town Planning Scheme No. 3 – Amendment No. 118**

**8.3 (draft) Local Planning Policy - Freight Rail Vibration / Noise and Road Noise Areas – Incidental LPP for information purposes subject to future approval by the City of Cockburn following approval of Town Planning Scheme No. 3 – Amendment No. 118.**

#### **8.4 Bushfire Management Plan Strategic BAL Contour Mapping City of Cockburn Study Area North Lake, Bibra Lake and South Lake.**

## **8.5 Acoustic Analysis details**

### **8.5.1 Freight Train Noise & Vibration Assessment Bibra Lake (North), Bibra Lake (North-East) & South Lake (North).**

## **8.5.2 Road Traffic Noise Assessment North Lake Road & Farrington Road, North Lake.**

### **8.5.3 Road Traffic Noise Assessment North Lake Road, South Lake & Bibra Lake.**

#### **8.5.4 Road Traffic Noise Assessment Kwinana Freeway, South Lake & Bibra Lake.**

### **8.5.5 The Lakes Revitalisation Strategy Acoustic Analysis.**

**8.5.6 City of Cockburn Draft State Planning Policy No. 5.4 Road and Rail Noise - City of Cockburn [SPP 5.4 'Technical Working Group' ('TWG') Member] Submission dated 15 December 2017.**

**8.5.7 City of Cockburn meeting minutes with DoPLH, DoT and PTA regarding Freight Rail Noise and Vibration Discussion.**

**PLANNING AND DEVELOPMENT ACT, 2005  
RESOLUTION TO AMEND A TOWN PLANNING SCHEME**

**CITY OF COCKBURN  
TOWN PLANNING SCHEME NO 3  
AMENDMENT NO. 118**

RESOLVED that the Council, in pursuance of Section 75 of the Planning and Development Act 2005, amend the City of Cockburn Town Planning Scheme No. 3 by:

1. Re-coding various residential zoned properties within parts of the suburbs of South Lake, Bibra Lake (east) and North Lake to 'Residential R30', 'Residential R40', 'Residential R60' and 'Residential R80' as per the advertised Scheme amendment map, except for the following changes as a result of the advertising process:
  - a) The density codes of Lot 304 (No. 26), Lot 305 (No. 24) and Lot 306 (No. 22) Gwalia Place, Bibra Lake be recoded to 'R40' in order to provide a more appropriate streetscape response in this area (as per submission no. 176).
2. Reclassifying incorrectly zoned land (anomalies) to the 'Parks and Recreation' and 'Local Road' Scheme reserves;
3. Modifying Clause 5.1.1 by including two additional sub-clause as follows:

*The Freight Rail Noise Area is shown on the Scheme Map as FRNA. The Road Noise Areas are shown on the Scheme Map as RNA 1 and RNA 2.*
4. Modifying Part 5 of the Scheme by inserting a new heading and clauses, with appropriate numbering, as follows:

*Development approval in the Freight Rail Noise Area and Road Noise Areas.*

*Notwithstanding the exemptions to the need for development approval set out in Part 7 of the Deemed Provisions, and this Scheme, development approval is required where the following development is included in the Freight Rail Noise Area or a Road Noise Area, as defined by Part 5 of the Scheme, but not for minor extensions:*

  - a) *The erection or extension of a single house*
  - b) *The erection or extension of an ancillary dwelling*
  - c) *The erection or extension of a grouped dwelling.*
  - d) *The erection or extension of a multiple dwelling.*

5. Include a new clause within Part 5 – Special Control Areas as follows:

*The purpose of the Freight Rail Noise Area is to-*

- a) *implement State Planning Policy No. 5.4 Road and Rail Noise ('SPP 5.4') and the associated SPP 5.4 Implementation Guidelines;*
- b) *define noise and vibration affected areas, based on SPP 5.4 and site specific noise and vibration measurements, within parts of the suburbs of Bibra Lake and South Lake;*
- c) *protect current and/or future inhabitants, with applications for noise-sensitive land uses, from unreasonable levels of transport noise by implementing a pre-determined standardised set of noise and vibration attenuation measures, or alternatively implementing site specific assessments and measures prepared by a suitably qualified acoustic consultant, at the development approval stage;*
- d) *encourage noise mitigation best-practice advancements, design and construction standards for new development proposals in proximity to major transport corridors; and*
- e) *recognise in some few instances it may not be reasonable and practicable to meet the full extent of the expected vibration criteria thus, in these few instances, Local Governments may exercise some level of flexibility, where appropriate, in decision making.*

6. Include a subsequent new clause within Part 5 – Special Control Areas as follows:

*The Freight Rail Noise Area is defined on the Scheme Map within 300 metres of the central line of the nearest railway track of the Freight Railway Line within the suburbs of Bibra Lake and South Lake pursuant to State Planning Policy 5.4, which applies to noise-sensitive land uses. The Freight Rail Noise Area is informed by a site specific Freight Train Noise and Vibration Assessment prepared in accordance with State Planning Policy No. 5.4.*

*Note: The designation of particular parts of the district as a Freight Railway Noise Area should not be interpreted to imply that areas outside the Freight Railway Noise Special Control Area are un-affected by noise and vibration.*

7. Include a subsequent new clause within Part 5 – Special Control Areas as follows:

*In determining an application to carry out development in the Freight Rail Noise Area, the Local Government may impose conditions on any planning approval as to:*

- a) *require noise and vibration attenuation measures to be incorporated into the design of buildings; and*

b) *require the registration of notifications on title advising of the potential for Freight Rail Noise and Vibration nuisance.*

8. Include a subsequent new clause within Part 5 – Special Control Areas as follows:

*The Local Government may consult with; the Department of Water and Environment Regulation (Noise branch), Main Roads Western Australia or any other such government department, acoustic or building industry experts the Local Government considers necessary; in the consideration and determination of an application for development approval to ensure appropriate noise and vibration attenuation measures are incorporated into the design of buildings.*

9. Include a new clause within Part 5 – Special Control Areas as follows:

The purpose of a Road Noise Area is to:

- a) implement State Planning Policy No. 5.4 Road and Rail Noise ('SPP 5.4') and the associated SPP 5.4 Implementation Guidelines;
- b) define noise affected areas, based on SPP 5.4 and site specific noise measurements, on the Scheme Maps;
- c) *protect current and/or future inhabitants, with applications for residential noise-sensitive land uses, from unreasonable levels of transport noise by implementing a pre-determined standardised set of 'deemed to satisfy' noise attenuation measures, or alternatively site specific assessments and measures prepared by a suitably qualified acoustic consultant, at the development application stage; and*
- d) *encourage noise mitigation best-practice advancements, design and construction standards for new development proposals in proximity to major transport corridors.*

10. Include a subsequent new clause within Part 5 – Special Control Areas as follows:

*Road Noise Area 1 (North Lake Road) and Road Noise Area 2 (Kwinana Freeway) are defined on the Scheme Map to reflect the Road Noise Acoustic Reports for North Lake Road - Other Regional Road and Kwinana Freeway - Primary Regional Road. The Road Noise Areas are informed by site specific Road Traffic Noise Assessments prepared in accordance with State Planning Policy No. 5.4 which applies to residential noise-sensitive land uses.*

*Note: The designation of particular parts of the district as a Road Noise Area should not be interpreted to imply that areas outside the Road Noise Area Special Control Area are un-affected by noise (and possibly vibration).*

11. Include a subsequent new clause within Part 5 – Special Control Areas as follows:

*In determining an application for development approval in a Road Noise Area, the Local Government may impose conditions to-*

- a) require noise attenuation measures to be incorporated into the design of buildings; and*
- b) require the registration of notifications on title advising of the potential for Road Noise nuisance.*

12. Include a subsequent new clause within Part 5 – Special Control Areas as follows:

*The Local Government may consult with; the Department of Water and Environment Regulation (Noise branch), Main Roads Western Australia or any other such government department, acoustic or building industry experts the Local Government considers necessary; in the consideration and determination of an application for development approval to ensure appropriate noise attenuation measures are incorporated into the design of buildings.*

13. Amending the Scheme Legend accordingly.
14. Amending the Scheme Map accordingly.

**ADOPTION**

Adopted by resolution of the Council of the City of Cockburn at the ordinary meeting of the Council held on 9 February 2017.

\_\_\_\_\_  
MAYOR

\_\_\_\_\_  
CHIEF EXECUTIVE OFFICER

**FINAL APPROVAL**

Adopted for final approval by resolution of the City of Cockburn at the Meeting of the Council held on 12 October 2017, and the Common Seal of the City of Cockburn was hereunto affixed by the authority of a resolution of the Council in the presence of:

(Seal)

.....  
MAYOR

.....  
CHIEF EXECUTIVE OFFICER

Recommended/Submitted for Final Approval

.....  
DELEGATED UNDER S.16 PLANNING  
AND DEVELOPMENT ACT 2005

DATE.....

Final Approval Granted

.....  
MINISTER FOR PLANNING  
DATE.....