

# **Ordinary Council Meeting**

22 May 2024

# **Agenda**

Notice is hereby given of Ordinary Meeting of Council to be held in the Council Chambers, City of Kwinana Administration Centre commencing at 5.30pm.



Members of the public who attend Council meetings should not act immediately on anything they hear at the meetings, without first seeking clarification of Council's position. Persons are advised to wait for written advice from the Council prior to taking action on any matter that they may have before Council.

Agendas and Minutes are available on the City's website www.kwinana.wa.gov.au



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#### 1 OPENING AND ANNOUNCEMENT OF VISITORS

Presiding Member to declare the meeting open and welcome all in attendance.

Presiding Member to announce that the Ordinary Council Meeting is being live streamed and recorded in accordance with the City's Live streaming and Recording Council Meetings policy.

By being present at this meeting, members of the public consent to the City recording and livestreaming their image and/or voice.

# 2 WELCOME TO COUNTRY AND ACKNOWLEDGEMENT OF COUNTRY

#### DEPUTY MAYOR BARRY WINMAR TO PRESENT THE WELCOME TO COUNTRY:

"NGULLAK NYINNINY KOORALONG KOORA NGULLAK NOITJ NIDJA NOONGAR BOODJAR. NOONGAR MOORT DJOORAPINY NYINNINY NIDJA NGULLA QUOPADOK NOONGAR BOODJAR KOORALONG.

FROM THE BEGINNING OF TIME TO THE END, THIS IS NOONGAR COUNTRY. NOONGAR PEOPLE HAVE BEEN GRACEFUL KEEPERS OF OUR NATION FOR MANY, MANY YEARS.

DJINANGINY KATATJIN DJOORAPINY NIDJA WEERN NOONGAR BOODJAR NGALLA MIA MIA BOORDA.

LOOK, LISTEN, UNDERSTAND AND EMBRACE ALL THE ELEMENTS OF NOONGAR COUNTRY THAT IS FOREVER OUR HOME.

KAYA WANDJU NGAANY KOORT DJOORPINY NIDJA NOONGAR BOODJAR DAADJALING WAANKGANINYJ NOONGAR BOODJAR.

HELLO AND WELCOME MY HEART IS HAPPY AS WE ARE GATHERED ON COUNTRY AND MEETING HERE ON NOONGAR COUNTRY"

# PRESIDING MEMBER TO READ THE ACKNOWLEDGEMENT OF COUNTRY:

"IT GIVES ME GREAT PLEASURE TO WELCOME YOU ALL HERE AND BEFORE COMMENCING THE PROCEEDINGS, I WOULD LIKE TO ACKNOWLEDGE THAT WE COME TOGETHER TONIGHT ON THE TRADITIONAL LAND OF THE NOONGAR PEOPLE AND WE PAY OUR RESPECTS TO THEIR ELDERS PAST AND PRESENT."

# 3 DEDICATION

Councillor Ivy Penny to read the dedication:

"May we, the Elected Members of the City of Kwinana, have the wisdom to consider all matters before us with due consideration, integrity and respect for the Council Chamber.

May the decisions made be in good faith and always in the best interest of the greater Kwinana community that we serve."

# 4 ATTENDANCE, APOLOGIES, LEAVE(S) OF ABSENCE (PREVIOUSLY APPROVED)

# **Apologies:**

Councillor Sherilyn Wood

# Leave(s) of Absence (previously approved):

Nil

# 5 PUBLIC QUESTION TIME

In accordance with the *Local Government Act 1995* and the *Local Government (Administration) Regulations 1996*, any person may during Public Question Time ask any question.

In accordance with Regulation 6 of the *Local Government (Administration) Regulations* 1996, the minimum time allowed for Public Question Time is 15 minutes.

A member of the public who raises a question during Question Time is to state his or her name and address.

Members of the public must provide their questions in writing prior to the commencement of the meeting. A public question time form must contain all questions to be asked and include contact details and the form must be completed in a legible form.

Please note that in accordance with Section 3.4(5) of the *City of Kwinana Standing Orders Local Law 2019* a maximum of two questions are permitted initially. An additional question will be allowed by the Presiding Member if time permits following the conclusion of all questions by members of the public.

# 6 RECEIVING OF PETITIONS, PRESENTATIONS AND DEPUTATIONS

#### 6.1 PETITIONS

A petition must -

be addressed to the Mayor;

be made by electors of the district;

state the request on each page of the petition;

contain at least five names, addresses and signatures of electors making the request; contain a summary of the reasons for the request;

state the name of the person to whom, and an address at which, notice to the petitioners can be given; and

be respectful and temperate in its language and not contain language disrespectful to Council.

The only motion which shall be considered by the Council on the presentation of any petition are –

that the petition be received;

that the petition be rejected; or

that the petition be received and a report prepared for Council.

# 6.2 PRESENTATIONS

In accordance with Clause 3.6 of the *Standing Orders Local Law 2019* a presentation is the acceptance of a gift, grant or an award by the Council on behalf of the local government or the community.

Prior approval must be sought by the Presiding Member prior to a presentation being made at a Council meeting.

Any person or group wishing to make a presentation to the Council shall advise the CEO in writing before 12 noon on the day of the meeting. Where the CEO receives a request in terms of the preceding clause the CEO shall refer it to the presiding member of the Council committee who shall determine whether the presentation should be received.

A presentation to Council is not to exceed a period of fifteen minutes, without the agreement of Council.

#### 6.3 DEPUTATIONS

In accordance with Clause 3.7 of the *Standing Orders Local Law 2019*, any person or group of the public may, during the Deputations segment of the Agenda with the consent of the person presiding, speak on any matter before the Council or Committee provided that:

the person has requested the right to do so in writing addressed to the Chief Executive Officer by noon on the day of the meeting.

setting out the agenda item to which the deputation relates;

whether the deputation is supporting or opposing the officer's or committee's recommendation; and

include sufficient detail to enable a general understanding of the purpose of the deputation.

A deputation to Council is not to exceed a period of fifteen minutes, without the agreement of Council.

# 7 CONFIRMATION OF MINUTES

# 7.1 MINUTES OF THE ORDINARY COUNCIL MEETING HELD ON 24 APRIL 2024

#### RECOMMENDATION

That the Minutes of the Ordinary Council Meeting held on 24 April 2024 be confirmed as a true and correct record of the meeting.

# 8 DECLARATIONS OF INTEREST (FINANCIAL, PROXIMITY, IMPARTIALITY – BOTH REAL AND PERCEIVED) BY MEMBERS AND CITY OFFICERS

Section 5.65(1) of the Local Government Act 1995 states:

A member who has an interest in any matter to be discussed at a council or committee meeting that will be attended by the member must disclose the nature of the interest —

in a written notice given to the CEO before the meeting; or at the meeting immediately before the matter is discussed.

Section 5.66 of the Local Government Act 1995 states:

If a member has disclosed an interest in a written notice given to the CEO before a meeting then —

before the meeting the CEO is to cause the notice to be given to the person who is to preside at the meeting; and

at the meeting the person presiding is to bring the notice and its contents to the attention of the persons present immediately before the matters to which the disclosure relates are discussed.

- 9 REQUESTS FOR LEAVE OF ABSENCE
- 10 ITEMS BROUGHT FORWARD FOR THE CONVENIENCE OF THOSE IN THE PUBLIC GALLERY
- 11 ANY BUSINESS LEFT OVER FROM PREVIOUS MEETING
- 12 RECOMMENDATIONS OF COMMITTEES

Nil

- 13 ENBLOC REPORTS
- 14 REPORTS COMMUNITY

Nil

# 15 REPORTS – ECONOMIC

# 15.1 PROPOSED AMENDMENTS TO THE DRAFT ANIMAL, ENVIRONMENT AND AMENITY LOCAL LAW

# **SUMMARY**

Following feedback from the community and relevant State Government departments, the proposed City of Kwinana Animal, Environment and Amenity Local Law (Local Law) has been amended and is presented to Council to endorse a further public submission period, in accordance with the requirements of the *Local Government Act 1995* (Act).

By way of background, at the Ordinary Council Meeting of 8 March 2023, Council resolved to approve state-wide and local public notices seeking community feedback on the proposed Local Law'.

Notices were published in the West Australian and Sound Telegraph newspapers respectively on 3 March 2023 advising that the public submissions on the Local Law were invited between from 10 May 2023 and 26 June 2023. In addition, copies of the Local Law were submitted to the following State Government Department's for comment:

- Department of Local Government, Sport and Cultural Industries (DLGSC);
- Department of Water and Environmental Regulations (DWER);
- Department of Biodiversity, Conservation and Attractions (DBCA);
- Department of Primary Industries and Regional Development (DPIRD); and
- Department of Health (DoH).

The City received only two submissions for community members during the consultation period.

One was not supportive of the law on the basis that the following requirements were opposed:

- 1) the requirement to leave 1 metre between any chicken coop and property boundaries; and
- 2) the requirement that poultry not able to approach within 18 metres of a street, public building, commercial premises or premises where food is stored, prepared or manufactured.

The second submissions suggested removal of a clause stating that the City may consult with neighbours when assessing an application to keep more than 10 chickens.

A copy of community feedback received is provided at **Attachment A**.

DWER responded on 17 May 2023 suggested a number of amendments intended to add additional buffers aimed at protecting sensitive water resources, include the Jandakot Underground Water Pollution Control Area. A copy of DWER's comments if provided at **Attachment B**.

There was a significant delay in the City receiving responses on the proposed Local Law from DLGSC and DPIRD. DLGSC responded on 12 September 2023 and advised that they found no significant issues with the Local Law, though suggested several minor changes for consideration. A copy of DLGSC's comments is provided at **Attachment C**.

DPIRD provided their feedback on the 31 October 2023, suggesting numerous amendments. Where appropriate, these amendments were incorporated. A copy of DPIRD's feedback is provided at **Attachment D**.

DBCA and DoH had no comments.

On the basis of the submissions received from the community, DWER and DLGSC, the City has made a number of proposed amendments to the Local Law. A copy of the Local Law is provided at **Attachment E**. A 'tracked changes' copy is also provided at **Attachment F** for consideration.

Pursuant to section 3.13 of the Act, the City is required to undertake further public consultation on the proposed law on the basis that the City's amendments constitute a significant change to what was originally advertised.

Council are recommended to resolve to give public notice of the Local Law as amended.

#### OFFICER RECOMMENDATION

#### That Council:

- 1. Approve state-wide and local public notice of the City's proposal to make the amended Animal, Environment and Amenity Local Law as at attachment E; and
- 2. Read aloud the purpose and effect of the proposed amended local law as follows:

# **Purpose**

- to protect the environment and public health, safety and amenity within the district; and
- to repeal redundant local laws.

# **Effect**

- to provide for the elimination or reduction of threats to the environment and public health, safety, and amenity through
  - (a) the regulation of the keeping of animals (other than dogs and cats) in terms of types, number and how and where they can be kept;
  - (b) prescribing minimum standards for the keeping of all animals; and
  - (c) prescribing requirements for owners and occupiers of land to manage activities to prevent crating a nuisance including vermin control, dust prevention, refuse control, light, smoke, and odour emissions.
- To repeal redundant provisions of certain City of Kwinana local laws.
- 3. Cause the CEO to send copies of the proposed amended local law to relevant Ministers for comment.

# **VOTING REQUIREMENT**

Simple majority.

#### DISCUSSION

A review has been conducted of the City's local laws regulating animal ownership (other than cats and dogs) as well as activities by owners and occupiers which have the potential to negatively impact community amenity via creating a nuisance or public health risk. It was identified as part of that review that there is a need for the City to implement a new local law aimed to:

- Repealing dated or redundant local laws.
- Consolidate existing local laws to simplify enforcement processes.
- Streamline the City's administration processes in relation to animal ownership by removing red tape where possible; and

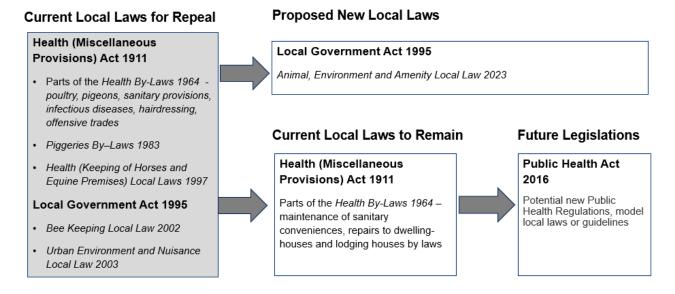
 Introduce modified penalties over public health issues that are currently not effectively managed or controlled.

The proposed *Animal, Environment and Amenity Local Law 2024* ('Local Law') provided at Attachment A was developed following extensive benchmarking with other local governments and in consideration of the evolving needs of the community into the future.

The Local Law seeks to repeal a number of local laws, including provisions that duplicate standards covered under the National Construction Code of Australia (NCA) or the *Food Act 2008* (E.g., clauses that relate to construction standards of a kitchen or bathroom are already addressed in the NCA).

Provisions in the City's *Health By-Laws 1964* relating to sanitation, housing standards, offensive trades and lodging houses will be required to remain in place pending anticipated amendments to the *Public Health Act 2016* by State Government.

The following chart highlights the existing local laws proposed to be repealed and to remain:



The following is a summary of the proposed changes resulting from the Local Law:

- Creates new offences for burning rubbish, smoke, fumes and odours not being managed effectively under current local laws.
- Introduces minimal standards of cleaning and maintenance for the keeping of all animals.
- Removes registration requirements for keeping of horses (with limitations through planning approval stocking rate guidelines).
- Removes registration requirements for low number of poultry, pigeons and bees.
- Set limitations on aviary birds and the keeping of roosters to assist with reducing the noise and nuisance impacts.
- New provisions for vermin control including mosquitoes, rodents, and cockroaches.
- Removes existing provisions relating to graffiti, truck and vehicle nuisance, private works (on, over or under public places), and disposal of disused refrigerators under the existing *Urban Environment and Nuisance Local Law* 2003:
  - o Graffiti Vandalism Act 2016 does not allow the City to remove graffiti on private land.
  - Truck and vehicle nuisance are now dealt with under the Commercial Vehicle Parking Local Planning Policy No. 10.
  - Existing private works provisions are already managed through the Activities on Thoroughfares and Public Places and Trading Local Law 2011.
  - Disposal of disused refrigerators is dealt with under the Waste Local Law 2022.

 Consolidates laws relating to poultry, pigeons, bees, horses, and pigs in the one local law with the following requirements:

ANIMAL	POSITION UNDER CURRENT LOCAL LAWS	PROPOSED POSITION UNDER NEW LOCAL LAW
Poultry	<ul> <li>Current limits: 20 with a permit (residential) and 150 with a permit (rural)</li> <li>Current setbacks: at least 9m setback from any house, 18 m from any street boundary</li> <li>Roosters, geese, turkeys or peafowl not permitted except on rural zones</li> </ul>	<ul> <li>Proposed limits: 10 (residential) and 25 (rural), &gt;25 requires a permit (rural)</li> <li>Proposed setbacks: 9m setback from a house on another lot</li> <li>Roosters, geese, turkeys or peafowl not permitted except on rural zones</li> </ul>
Pigeons	<ul> <li>Current limits: 20 with annual permit (residential) and 150 with a pigeon club affiliation and annual permit (residential/rural)</li> <li>Current setbacks: at least 1.2 from lot boundary, at least 9m setback from any house, 18 m from any street boundary.</li> <li>Current specifications:</li></ul>	<ul> <li>Proposed limits: 20 (residential) and &gt;50 requires a permit and affiliation (rural)</li> <li>Proposed setbacks: at least 9m setback from any house, 18 m from any street boundary.</li> <li>Proposed specifications: Compliance with DPIRD's Code of Practice – Pigeon Keeping and Pigeon Racing in WA</li> </ul>
Birds	Current limits: no limit     Current setbacks: no     requirements	<ul> <li>Proposed limits: not limit, but birds may not create a nuisance or unreasonable noise.</li> <li>Proposed setbacks: 5m from a house on another lot.</li> </ul>
Bees	<ul> <li>Current limits: 2 on land size &lt;2000m² with a permit and 15 hives on land size 2000-20,000m² with a permit</li> <li>Current setbacks: at a distance specified on case-by-case basis</li> </ul>	<ul> <li>Proposed limits: 2 on any land, &gt;2 requires a permit.</li> <li>Proposed setbacks: at least 5m from lot boundary, at least 9m setback from any building on any other lot, footpath, street or public place</li> </ul>
Horses	Current limits: On land size between 1500- 2500m² up to 4 horses with annual permit On land size between 2500m² and up to 5 hectares – up to 8 horses with annual permit On land size between 4000m² and up to 5 hectares – at discretion and with annual permit, taking into consideration of land capability.  Planning approval required and reference to Stocking Rate Guidelines for Rural Small	Proposed limits: in accordance with planning approval Proposed setbacks: at least 9m from any street (corner site), at least 18m from any house, at least 30m from private bore, well or dam, buffer distances in accordance with the Environmental Management Guidelines.

	Holdings – Swan Coastal Plain and Darling Scarp 2000  Current setbacks: at least 9m from any street (corner site), at least 900mm from lot boundary, at least 18m from any house, at least 30m from underground source of water	
Pigs	<ul> <li>Current limits: not permitted in residential area, permitted in rural area if registered as a piggery and offensive trade</li> <li>Current setbacks: none, piggeries are managed through planning approval with buffers to protect water quality and emissions are regulated by Department of Water and Environmental Regulation (DWER) as a prescribed premises</li> </ul>	<ul> <li>Proposed limits: not permitted in residential area or within the Jandakot UWPCA</li> <li>Note:more than 1 pig requires registration as a piggery and offensive trade</li> <li>Proposed setbacks: At least 18m from any other premises, piggeries are managed through planning approval with buffers to protect water quality and emissions are regulated by DWER as a prescribed premises</li> </ul>
Farm animals (Includes cow, sheep, alpaca, goat, pig, or other hoofed animal, excluding a horse.)	Current limits: no limit, complies with Town Planning Scheme     Current setbacks: no requirements	<ul> <li>Proposed limits: not permitted in residential areas</li> <li>Proposed setbacks: At least 18m from any house</li> <li>Note: Keeping of animals are still required to comply with the Town Planning Scheme outside of the requirements of this local law.</li> </ul>

The following cleaning and maintenance standards are proposed with respect to keeping of animals:

# Keeping of animals generally

- Keep the premises free from excrement, filth, food waste and all other matter which is likely to cause a nuisance, become offensive or injurious to health or to attract vermin
- Issue an order by an authorised officer, to clean and disinfect the premises
- Keep the premises, so far as possible free from flies or other vermin, by spraying with a residual insecticide or other effective means.
- Modified penalty: \$150 (first offence) and \$300 (subsequent)

# **Keeping of horses**

- Maintenance requirements for stable, stable shelters and associated facilities, fences, railing, gates, paddocks, and yards
- Waste and manure management requirements
- Modified penalty: \$150 (first offence) and \$300 (subsequent)

# Keeping of poultry, pigeons, and aviary birds

- Enclosures to be kept in clean condition and good repair.
- Effective measures to control vermin and eradicate offensive odours (poultry and pigeons)
- Aviary birds must not cause a nuisance or unreasonable noise.
- Issue an order to take adequate steps to prevent pigeons from nesting or perching on premises.
- Modified penalty: \$150 (first offence) and \$300 (subsequent)

In relation to bird feeding, it will be an offence to feed or permit the feeding of any uncaged bird unless otherwise approved by the local government (excludes provision of water supply). Where approval has been given to feed or permit the feeding of any uncaged bird, the approval can be withdrawn in the event that:

- (a) the holder does not comply or cause compliance with the conditions.
- (b) there is a change in the circumstances upon which the approval was granted; or
- (c) the feeding or permission to feed any uncaged bird causes a nuisance.

The Local Law will emulate requirements within existing local laws in relation to the following matters:

- Amusement nuisance
- Light emission or reflection nuisance and use of exterior lighting onto adjoining properties
- Removal of refuse, disused materials, and unsightly overgrowth of vegetation
- Storage of vehicles and machinery
- Containment of stormwater, rainwater, swimming pool water and wastewater
- Hazardous plants and trees
- Measures to prevent or minimise danger or hazard to the public or property from cyclonic activities (or severe weather conditions)
- Containment of dust and liquid waste

The Local Law is intended to mandate new requirements in relation to the following matters:

- Fencing unsightly land
- Creating a new offence for burning rubbish, refuse or other materials (excluding barbeque, solid fuel water heater, space heater or ovens fired with dry paper, dry wood, synthetic charcoal or charcoal type fuel)
- Creating a new offence for failing to take reasonable steps to prevent the escape of smoke, fumes or odours from the land or premises in such quantity or of such a nature as to cause or to be a nuisance to any person (unless approved)

The Local Law as presented incorporates numerous changes to the originally advertised law in response to feedback received during the initial public consultation period, both from the community and relevant State Government departments. The City also took the opportunity to incorporate a number of additional changes intended to simplify the Local Law and better meet the needs of the community. A summary of the key changes to the originally advertised Local Law is as follows:

- Restrictions to keeping of pig and disposal of dead animals in Jandakot UWPCA.
- Repealed Part IX of the Health-By Law 1963 relating to offensive trades and removal of piggery registration requirements due to Stage 5 Public Health Act enactment on the management of public health risks related to offensive trades (effective from 4 June 2024)
- Removed all equine premises permit requirements
- Additional requirement for water supply to be situated at a distance of less than 5 metres from the hive
- Changed requirements for land owner or occupier to obtain local government approval for more than 50 pigeons (previously 150 pigeons)
- Removed 1 metre land boundary setback requirements for keeping of poultry and aviary birds
- Increased setbacks from 9m to 10m for placement waste receptacles associated with keeping of horses
- Requirements for stables within Jandakot UWPCA to meet buffer distances within the Environmental Management Guidelines for Horse Facilities and Activities

Section 3.12 of the Act provides that public notice is to be given seeking public submissions for a period not less than 50 days before it can be considered by Council for adoption. Significant amendments to a local law after public notice has been given will require the law to be readvertised unless the changes are minor in nature. The Joint Standing Committee on Delegated Legislation have not given clear guidance on what constitutes a 'minor' change. However, a review of undertakings required to be given to the Committee by other local governments indicates that altering the restrictions imposed under a local law will be considered a significant change.

In accordance with the *Local Government Act 1995*, the local law will be re-advertised for comment for a period of not less than 50 days. All submissions will be presented to a future meeting of Council for consideration prior to adoption of the Local Law (with or without amendment).

# STRATEGIC IMPLICATIONS

There are no strategic implications as a result of this proposal.

# **SOCIAL IMPLICATIONS**

There are no social implications as a result of this proposal.

# **LEGAL/POLICY IMPLICATIONS**

Section 3.12 of the *Local Government Act 1995* sets out the procedure to be followed to make a local law as follows:

- the purpose and effect of the proposed local law needs to be included in the agenda and minutes of this meeting;
- state-wide and local public notice that the City intends to make a local law and its purpose and effect. Also, that copies are available for public comment over a six-week period and the closing date for public submissions;
- provide a copy to the Minister for Local Government;
- consider any submissions made before making the local law;
- publish the local law in the Government Gazette;
- give local public notice of when the local law comes into operation and that copies are available; and
- provide an explanatory memorandum of the process used to the Minister for Local Government.

Section 3.13 states that if during the procedure for making a proposed local law the local government decides to make a local law that would be significantly different from what it first proposed, the local government is to recommence the procedure.

#### FINANCIAL/BUDGET IMPLICATIONS

Cost of advertising of the proposed local law in state-wide and local newspapers is estimated to be \$500.

Upon adoption by Council, a further public notice will be required at as estimated cost of \$500, in addition to publication in the WA Gazette at an estimated \$4,000.

#### **ASSET MANAGEMENT IMPLICATIONS**

There are no direct asset management implications associated with this report.

#### **ENVIRONMENTAL/PUBLIC HEALTH IMPLICATIONS**

The enacting of the Animal, Environment and Amenity Local Law is intended to present significant environmental, public health, safety, and amenity benefits within the district.

#### **COMMUNITY ENGAGEMENT**

Community engagement is proposed to take place in the form required by section 3.12(3) of the *Local Government Act* 1995 – Procedure for making local laws and includes the requirement to give state-wide public notice that the local government proposes to make a local law the purpose and effect of which is summarised in the notice.

In order to facilitate community engagement with respect to the proposed local law, the City also intends on utilising *Love My Kwinana*. In addition to compiling the submissions, *Love My Kwinana* will be able to provide a platform for the community to ask questions and increase their understanding of the impacts and changes.

Part of the engagement process will include identifying key stakeholders and ensuring they are appropriately communicated to regarding the proposed law, potential impacts and opportunities for them to make submissions.

#### **ATTACHMENTS**

- A. Community Submissions Proposed Animal, Environment and Amenity Local Law &
- B. Department of Water and Environmental Regulation Submission Animal Environment and Amenity Local Law <u>U</u>
- C. Department of Local Government, Sport and Cultural Industries Submission Animal Environment and Amenity Local Law U
- D. Department of Primary Industries and Regional Development Submission Animal Environment and Amenity Local Law  $\P$
- E. Proposed Animal, Environment and Amenity Local Law J.
- F. Proposed Animal, Environment and Amenity Local Law (tracked changes) &

# Russell Mark

From:

Love My Kwinana <notifications@engagementhq.com>

Sent:

Thursday, 4 May 2023 10:12 PM Vicky Chui; Kwinana Health

To: Subject:

Tony completed Submissions

Tony just submitted the survey Submissions with the responses below.

Please select your position in relation to this proposed Local Law:

I don't support it at all

Please explain your position to this proposed Local Law by stating the grounds for your submission and any supporting facts and circumstances

In rural and semi rural areas it is typical to use boundary fences to contain poultry. Section 2.13(c) - Leaving a 1m gap will increase rodent and snake ingress as this land is not usable. Furthermore a 1m gap from a boundary provides no reduction in potential nascence issues. However, a larger distance would make keeping poultry difficult and inefficient. section 2.13(d) - 18m from street would exclude significant properties, even in semi rural areas.

# Russell Mark

From:

Love My Kwinana <notifications@engagementhq.com>

Sent:

Wednesday, 17 May 2023 5:29 PM

To: Subject: Vicky Chui; Kwinana Health Paige completed Submissions

Paige just submitted the survey Submissions with the responses below.

Please select your position in relation to this proposed Local Law:

I support it subject to changes outlined in my submission

Please explain your position to this proposed Local Law by stating the grounds for your submission and any supporting facts and circumstances

Do we still need a letter from our neighbours in order to have an application to keep chickens in our own yards? I don't find this very helpful, especially if you don't have a good relationship with neighbours who may deny out of spite? I think as long as the owner is following the correct management according to the council legislation then it's not any of the neighbours business what goes on in our own yards.



Your ref:

Our ref: RF3771-03 & PA056208 Enquiries: Fiona Routledge, Ph 9550 4237

City of Kwinana PO Box 21 KWINANA WA 6167

Attention: Russell Mark

Dear Russell

# CITY OF KWINANA PROPOSED ANIMAL, ENVIRONMENT AND AMENITY LOCAL LAW

Thank you for providing a copy of the proposed new Animal, Environment and Amenity local law, received via email on 9 May 2023, for the Department of Water and Environmental Regulation (Department) to consider.

The Department supports the proposed local law, subject to consideration of the comments provided in Attachment 1. To ensure the protection of sensitive water resources within the City of Kwinana, including the Jandakot Underground Water Pollution Control Area (UWPCA), additional buffers to some land use activities are recommended.

Land uses within the Jandakot UWPCA, also referred to as the Rural Water Resource Zone within the City of Kwinana Local Planning Scheme No. 2, are guided by <u>State Planning Policy 2.3 Jandakot Groundwater Protection (SPP 2.3)</u> and draft <u>State Planning Policy 2.9 Planning for Water</u>. SPP2.3 refers to the Department's <u>Water Quality Protection Note 25 Land Use Compatibility tables for public drinking water source areas (WQPN 25) for guidance on acceptable land uses. The <u>Metropolitan Water Supply, Sewerage and Drainage (MWSSD) By-laws 1981</u> also prescribe restrictions on activities within the Jandakot UWPCA, which are relevant to the proposed local laws.</u>

As the proposed local law references the Department of Primary Industries and Regional Development's (DPIRD) Code of Practice, it is recommended the document is also provided to DPIRD for consideration.

Kwinana Peel Region

107 Breakwater Parade Mandurah Ocean Marina Mandurah Western Australia 6210 PO Box 332 Mandurah Western Australia 6210

Telephone: 08 9550 4222 Facsimile: 08 9581 4560

www.dwer.wa.gov.au

Should you require any further information on the comments, please contact Fiona Routledge at the Mandurah office on 9550 4237.

Yours sincerely

Brett Dunn

Program Manager – Planning Advice

Kwinana Peel Region

(Benn)

17 / 05 / 2023

cc Department of Primary Industries and Regional Development

# Attachment 1 - Department of Water and Environmental Regulation detailed comments on the City of Kwinana Animal, Environment and Amenity Local Law 2023

Contact for further information: Fiona Routledge, 9550 4237

Item No.	Reference	Reviewer comment/advice
1	s1.5 Definitions	Issue Several production bores within the Jandakot UWPCA are located within the City of Kwinana.
		Please consider the inclusion of a definition of Jandakot UWPCA or alternatively the Rural Water Resource Zone, for subsequent reference in various sections of the local law:
		Recommendation/Advice
		Jandakot Underground Water Pollution Control Area (UWPCA) – A gazetted public drinking water source area under the Metropolitan Water Supply, Sewerage and Drainage Act 1909. Refer to Figure 1 within SPP 2.3 Jandakot Groundwater Protection.
2	s.2.2 Disposal of dead animals	Issue Further guidance of animal disposal is recommended to protect public health and to maintain environmental values, including buffers between burial sites and water resources.
		MWSSD By-law 5.4.23: In a pollution area a person shall not carry out the burial or disposal of animal or poultry carcases, blood offal, or other refuse products in excess of 2t, unless prior approval has been obtained from the CEO.
		Recommendation/Advice Please insert new clauses: (1) Animals must not be disposed of within 100m of any water resources¹.
		(2) Animals must not be disposed of within the Jandakot UWPCA.
3	s2.4 Keeping of pigs	Issue In accordance with the Department's <u>WQPN 25</u> , piggeries are considered an Incompatible land use within Jandakot UWPCA.

<sup>&</sup>lt;sup>1</sup> Water Resources defined within draft <u>State Planning Policy 2.9 Planning for Water</u>

Item No.	Reference	Reviewer comment/advice
		Recommendation Please insert a new clause:
		(3) Registered piggeries shall not be located within the Jandakot UWPCA.
4	s2.8 Keeping of horses	Issue Stocking densities should be in accordance with best management practice guidelines to prevent environmental degradation.
		Recommendation Please insert a new clause: (1)(c) Stocking densities shall be in accordance with the Stocking Rate Guidelines for Rural Small Holdings (Department of Agriculture, 2000). If the property is within the Jandakot UWPCA the Environmental Guidelines for Horse facilities and Activities (WRC, 2002) also apply.
5	s2.9 (1) Requirements for construction of stable, stable shelter, paddock, yards	Issue Land within the Jandakot UWPCA is classified as Priority 1 (P1), Priority 2 (P2) or Priority 3 (P3) to guide the risk management approach to land use activities.
		In accordance with the Department's <u>WQPN 25</u> , stables are considered an Incompatible land use within a P1 area and Compatible with conditions within a P2 area. Conditions include preventing animals from entering a Wellhead Protection Zone (WHPZ), which may be a buffer of 300m or 500m around a production bore.
		Buffers to wetlands should also be maintained.  Environmental Guidelines for Horse Facilities and Activities  (WRC, 2002) recommends a 200m buffer between stables and yards and the boundary of wetlands, and 50m buffer to streams and rivers.
		Recommendation/Advice Please insert new clauses which outline where stables and stable shelters may not be situated:
		(1)(f) Priority 1 areas of the Jandakot UWPCA. (1)(g) Within 300m of bores within the Jandakot UWPCA. (1)(h) Within 200m of a wetland (1)(i) Within 50m of streams and rivers

Item No.	Reference	Reviewer comment/advice
6	s2.9 (1)(c) Requirements for construction of stable, stable shelter, paddock, yards	It is not recommended that private water sources, which are untreated, are used for human consumption. It is therefore recommended to remove the reference to "where the water is intended for human consumption".  Water that is harnessed for human consumption is from the Jandakot UWPCA.  Recommendation/Advice Please adjust item (1)(c) as follows:
		(1)(c) 30 metres from any private bore, well or dam.
7	s2.9 (6) Requirements for construction of stable, stable shelter, paddock, yards	Issue As per Item 4, additional environmental considerations are relevant to the siting of paddocks, yards and training rings.  Recommendation/Advice (6)(c) Please remove the reference to "where the water is intended for human consumption" and remove reference to stream which is to be captured as a new clause as per recommendation (6)(i) below.  Please insert additional clauses: (6)(f) Priority 1 areas of the Jandakot UWPCA. (6)(g) Within 300m of bores within the Jandakot UWPCA. (6)(h) Within 200m of a wetland (6)(i) Within 50m of streams and rivers
8	s2.11 Waste and manure management	Issue  MWSSD By-law 5.4.2: In a pollution area a person shall not store animal manures or sewage sludges within 100m of a production well except with the approval of the CEO.  Wastewater, including from washdown areas, contains urine and manure and should be prevented from reaching groundwater and surface water.  Recommendation/Advice Please include new clauses: (c) Contaminated wastewater should be contained and managed. (d) Manure must not be stored within 100m of a bore within the Jandakot UWPCA. (e) Manure must not be applied to land within Priority 1 areas of the Jandakot UWPCA.

Item No.	Reference	Reviewer comment/advice
9	s2.12 Application for permit to keep horses	Issue To ensure the Department has all of the information required to undertake development application assessments referred by the City, it would be beneficial for additional environmental considerations to be included in the proponent's application.
		To determine the stocking rate appropriate to the soil type, it is necessary to understand:  the type of horse (pony, light, draught)  if the horses will be on site all year-round  the duration of time proposed to be stabled  if dry or irrigated pastures are proposed.
		Recommendation/Advice Please include additional requirements within the application: (1)(d) Proposed number of horses, type of horse, duration of time to be on the property; hours to be stabled each day. (1)(d)(i) Plan of the property showing location of native trees, water resources (ie. bores, rivers, wetlands), areas to be irrigated. (1)(d)(iii) Protection of native vegetation.
10	s2.15 Permit conditions	Issue Should the permit stipulate that a food source and water be made available (similar to 2.28(a) for bees)?
		Recommendation/Advice Please consider capturing an additional clause: (1)(g) Any horse kept on the premises must always have a good and sufficient water supply on the land which is readily accessible, and a regular food source.
11	s2.19 Requirements for keeping of poultry	Issue In accordance with the Department's <u>WQPN 25</u> , free range poultry farms are considered an Incompatible land use within a P1 area and P2 area. Housed poultry farms are Incompatible within a P1 area and Compatible with conditions within a P2 area, outside of the WHPZ.
		Buffers to water resources should be considered, in accordance with the <u>Code of Practice for Poultry Farms in WA</u> (2004).
		Recommendation/Advice Please consider capturing an additional clause: (1)(f) No enclosure shall be located within the P1 area of the Jandakot UWPCA. Conditions apply within the P2 area of the Jandakot UWPCA.

Item No.	Reference	Reviewer comment/advice
		(1)(g) No enclosure shall be located within 50m of a water resource.
12	s2.22 Requirements for keeping of aviary birds	Recommendation/Advice  Please check statement (a) – should 'seeks' be 'seeds'?
13	s2.26 Application for keeping of poultry or pigeons contrary to clause 2.18(1)(b)	Issue Buffers to water resources should be adopted, therefore it is necessary to identify these areas within the site plan.  Recommendation Please include an additional requirement to the site plan: 2(c) The site plan should indicate any nearby water resources.
14	s6 Stormwater and wastewater management	The current statement doesn't allow for the removal of wastewater into reticulated sewerage or stormwater discharge into the road drainage network:  An owner or occupier of land shall ensure that all rainwater, wastewater or stormwater received on the land is contained within the land and is not permitted to discharge onto or run—off onto adjacent land.  Recommendation Please consider adjusting the text as follows: An owner or occupier of land shall ensure that all rainwater and stormwater received on the land, and all wastewater generated on the land is contained on the land or discharged into an approved drainage structure or sewerage apparatus.

From: Steven Elliott <steven.elliott@dlgsc.wa.gov.au>

Sent: Tuesday, September 12, 2023 5:51 PM
To: Vicky Chui < Vicky. Chui@kwinana.wa.gov.au>

Subject: HPE CM: RE: City of Kwinana - Proposed Animal, Environment and Amenity Local Law

Good afternoon,

The Department's comments on the City's proposed local law is provided below.

No major issues were identified but some minor changes are suggested. Feel free to contact me if you had any questions or concerns.

#### Animal, Environment and Amenity Local Law 2023

#### 1. Slaughter of farm animal

Clause 2.7 provides that no farm animal may be slaughtered unless the slaughter is at an approved premises.

It is noted that in typical local laws, this clause will include exceptions for situations involving euthanasia, vermin control, abattoirs, and pet food operations. The City may wish to consider whether it seeks to include similar exemptions.

#### 2. Entry into private property

Several clauses in the local law provide that if a person fails to comply with a notice, the local government may enter property and carry out the action at the landowner's cost.

The Local Government Act 1995 does not provide any general power to enter private land. Rather, it provides very specific situations where entry can occur. In some cases, this entry may also be subject to certain rules or notice requirements.

For this reason, it is suggested that clause 10.1 include an additional subclause as follows:

(4) This local law is subject to sections 3.25, 3.27 and Schedules 3.1 and 3.2 of the Local Government Act 1995 and any powers of entry exercised by the local government under this local law is subject to Part 3, Division 3, Subdivision 3 of the Act.

#### 3. Minor edits

The following minor edits are suggested:

# Contents page:

- Remove the page numbers, as they may clash with the Gazette's existing page system. So long as
  the clause numbers and clause titles are included, this should be sufficient to navigate the
  document.
- Remove the entries for 1.5(1), (2) and (3).

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- o Include an entry for clause 1.3.
- Clause 1.3:
  - Change all citations to italics.
  - Change all instances of "Government Gazette" to italics.
- Clause 2.28(c)(iii): change the full stop to "; and".
- Clause 8.3(2):
  - Reformat to the left.
  - o Move paragraph (a) to a new line.
- Schedule 1:
  - o In the bracket reference at the beginning of the table, change "Clause 8.4" to "Clause 10.3(1)"
  - o In Item 47 change "Q" to "(c)".
- Schedule 2 After the Schedule title include a bracket reference to clause 4.6.

The City should also ensure that all references and cross references are checked, particularly if any changes are made as a result of the Department's comments.

#### Minister's Directions - pursuant to s 3.12(7) of the Local Government Act 1995

Please note: once the City has published a local law in the *Government Gazette*, the City must comply with the requirements of the Minister's *Local Laws Explanatory Memoranda Directions 2010*. The City must, within 10 working days of the Gazettal publication date, forward the signed Explanatory Memoranda material to the Committee at the current address:

Committee Clerk
Joint Standing Committee on Delegated Legislation
Legislative Council Committee Office
GPO Box A11
PERTH WA 6837

Email: delleg@parliament.wa.gov.au

Tel: 9222 7404 Fax: 9222 7805

A copy of the Explanatory Memoranda forms can be downloaded from the Department of Local Government, Sport and Cultural Industries website at <a href="https://www.dlgsc.wa.gov.au">www.dlgsc.wa.gov.au</a>. A copy of the Directions is also available at the Committee's webpage at the Parliament WA website. Failure to comply with the Directions may render the local law inoperable.

Please note that my comments:

- · have been provided to assist the City with drafting matters in relation to the local law;
- · do not constitute legal advice;
- have been provided in good faith for the City's consideration; and
- · should not be taken as an approval of content.

The City should ensure that a detailed editorial analysis of the proposed local law has been undertaken and that the content of the local law is in accordance with the City's policies and objectives.

Kind regards

#### Steven Elliott

A/Principal Strategy Officer

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Department of Local Government, Sport and Cultural Industries 140 William Street, Perth WA 6000 GPO Box R1250, Perth WA 6844

Telephone +61 8 6552 1642

Email steven.elliott@dlgsc.wa.gov.au

Web www.dlgsc.wa.gov.au

The Department acknowledges the Aboriginal peoples of Western Australia as the traditional custodians of this land, and we pay our respects to their Elders past and present.

3



Your reference:

Our reference: LUP 1724 Enquiries: Grant Stainer

Vicky Chui Coordinator Environmental Health City of Kwinana PO Box 21 Kwinana WA 6966 Vicky.Chui@kwinana.wa.gov.au

Date: 31 October 2023

Dear Ms Chui

# City of Kwinana - Proposed Animal, Environment and Amenity Local Law

Thank you for inviting the Department of Primary Industries and Regional Development (DPIRD) to comment on the above proposal, and apologies that DPIRD has taken so long to respond.

DPIRD feels that the proposed local law in general meets its intended purpose and would like to make the following comments and suggestions.

- In the definition of "stable", DPIRD would recommend that the definition makes clear that stables must be covered and have an impermeable base (permeability no greater than 1x10<sup>-9</sup> m/s).
- In the definition of "vermin", subclause 1 appears to be missing. This appears likely to simply be a typesetting issue, and DPIRD acknowledges your advice that this document has yet to go through the typesetting process.
- Section 2.3 (Keeping of farm animals) subclause 1 says that farm animals cannot be kept in a residential zone. However, the definition of farm animals excludes horses and other equines. This suggests that horses are permitted in the residential zone. DPIRD does not support the keeping of horses in a residential zone.
- Section 2.3 (2) states that "...in a rural zone there is no limit on the number of farm animals that may be kept...". DPIRD would like it to be clearer that maximum sustainable stocking rates apply, as per the DPIRD Stocking Rate Guidelines for Rural Small Holdings.
- Section 2.4 relates to the keeping of pigs. It is worth noting that piggeries (depending on size) are subject to licensing requirements by the Department of

444 Albany Highway Albany WA 6330 Telephone 9892 8444 landuse.planning@dpird.wa.gov.au dpird.wa.gov.au

ABN: 18 951 343 745

- Water and Environmental Regulation (DWER) under the *Environmental Protection Act 1986*.
- Section 2.8 (Keeping of horses). DPIRD would like to see the addition of a subclause (c) that states "stocking rates must be compliant with the DPIRD Stocking Rate Guidelines for Rural Small Holdings".
- Section 2.9 (3)(b). DPIRD would like to see "impervious" defined as a permeability no greater than 1x10-9 m/s.
- Section 2.9 (4)(a). DPIRD would like to see a minimum clearance between the land surface and the groundwater to be 2 metres rather than 1.5 metres. DWER should also be consulted on this.
- Section 2.9 (6)(c). It is unclear whether the 30 metre buffer is being considered a
  horizontal radius from the bore or a vertical height above groundwater. Consider
  re-wording to clarify.
- Section 2.11 (a). Nine metres is an exceptionally short distance for a waste receptacle to be located away from a house on an adjacent property. There would need to be very strict and effective odour controls to ensure that odours do not impact adjacent properties, and it is unclear how this would be achieved.
- Section 2.12 (1)(d). Recommend the inclusion of another clause that states, "information detailing how the application complies with the stocking rates applicable for the property".
- Division 4 (Keeping of poultry, pigeons and birds). DPIRD recommends that a minimum buffer distance be included to any nearest wetland or body of water where wild birds frequent. This buffer should be sufficient to minimise the risk of interaction and hence the risks associated with transmission of avian flu.
- Section 2.28 (Requirements for keeping of bees).
  - Bees are considered livestock. Consistent with the advice from Andrew Longbottom (DPIRD), bees need to be registered with DPIRD's Brands Office (<u>Brands.Bunbury@dpird.wa.gov.au</u>). Registration of livestock is required regardless of the number of animals (or beehives).
  - o Bees should be listed as a "farm animal" in the definitions of farm animals.
  - o The <u>Best practice guidelines for urban beekeeping</u> is a useful resource, and this should be considered as a minimum standard to maintain.
  - Despite media portrayal of bees as harmless, bees are an aggressive and dangerous species that will harass people and animals, and pose a potentially life-threatening risk to the approximately 5-8% of people who are allergic to bee stings.
  - The main method of preventing trespass of bees into neighbouring areas is by providing a reliable and accessible water supply at a distance of less than 5 metres from the hive. If this source dries out, then bees will search further for more reliable water supplies (for example, a neighbour's pool), and once these are found, it will be hard to break the bee's habit of accessing that new source.
  - It is recommended that any proponents obtain written verification from the neighbouring property owners that each are happy for the hives to be present. This should also help address compliance with safety legislation, as <u>an apiary is considered a workplace</u> and therefore workplace safety legislation applies.
  - o Keeping beehives in accordance with the proposed nine metres should be considered a minimum, along with maintaining a placement and orientation of hives to ensure that flight paths do not fall below three metres above any public thoroughfare or neighbouring property.
  - Section 2.28 (d). Change from "if" to "as", consistent with the advice from Andrew Longbottom (DPIRD).

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- Section 4.2 (Emission of light). The Western Australian Planning Commission
  has published a <u>Position Statement</u> that should assist with this. It details the five
  key principles (see Part 5 Policy measures) that should be adhered to, to
  assist in reducing light pollution.
- Western Australia has a mandatory livestock ownership, identification, and movement system, known as the National Livestock Identification Scheme (NLIS). This requires owners of animals, including cattle, sheep, goats, pigs, horses, donkeys, deer, alpaca, llama, camels, buffalo, emus, ostriches and poultry (including chickens, turkeys, geese, ducks, guinea fowl, quails, pigeons, pheasants and partridges) and bees, to register even if these animals are kept as pets. DPIRD's Brands Office then allocates a property identification code (PIC) to owners, to indicate who owns the animals and where they are kept. This is important for managing any outbreaks of emergency animal diseases such as foot and mouth disease or varroa mite. More information about the NLIS can be found on the DPIRD website.
- Section 5.2. It would be worth defining "unsightly growth". This would give
  clearer guidelines that should help ensure that native vegetation is not
  unnecessarily cleared. This is influenced by experience in regional local
  government areas where there are large numbers of residents who have a bareearth philosophy, and this has influenced the local government and its approach
  to native vegetation.
- Section 7.1. There needs to be a mechanism to ensure that there is proof of a
  genuine hazard posed by the vegetation, otherwise any individual could claim
  that any particular tree or plant poses a hazard and have it removed when it is in
  reality unjustified to do so.
- DPIRD is responsible for administering the <u>Soil and Land Conservation Act</u> <u>1945</u>, which is aimed at preventing land degradation.

For future reference, please send referrals on land use planning matters to <a href="mailto:landuse.planning@dpird.wa.gov.au">landuse.planning@dpird.wa.gov.au</a> to ensure that we receive them and can attend to them in a timely manner. Sorry about the current situation.

For more information, please contact Grant Stainer on 90813 113 or grantley.stainer@dpird.wa.gov.au

Yours sincerely,

Tim Overheu

Acting Director

**Agriculture Resource Management Assessment** 

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Sustainability and Biosecurity

Page 3 of 3



# City of Kwinana Animal, Environment and Amenity Local Law 2024



# City of Kwinana

# **ANIMAL, ENVIRONMENT AND AMENITY LOCAL LAW 2024**

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Animal, Environment and Amenity Local Law 2024

#### **Local Government Act 1995**

# City of Kwinana

# Animal, Environment and Amenity Local Law 2024

Under the powers conferred on it by the *Local Government Act 1995* and all other powers enabling it, the Council of the City of Kwinana resolved on date to make the following local law

#### **PART 1 – PRELIMINARY**

#### 1.1 Citation

This Local Law may be cited as the *City of Kwinana Animal, Environment and Amenity Local Law* [year].

#### 1.2 Commencement

This local law comes into operation 14 days after the day on which it is published in the Government Gazette.

# 1.3 Repeal

- (1) The Town of Kwinana By–Law No. 29(B) Relating to the Keeping of Pigeons published in the Government Gazette on 12 November 1996 is repealed.
- (2) The Town of Kwinana Piggeries By–Laws published in the Government Gazette on 9 September 1983 is repealed.
- (3) The Town of Kwinana Health (Keeping of Horses and Equine Premises) Local Laws 1997 published in the Government Gazette on 11 February 1998 is repealed.
- (4) The Town of Kwinana Urban Environment and Nuisance Local Law 2003 published in the Government Gazette on 18 July 2003, and amended from time to time is repealed.
- (5) The Town of Kwinana Bee Keeping Local Law 2002 published in the Government Gazette on 7 May 2002 is repealed.
- (6) The following parts of the Town of Kwinana Health By–Law 1963 published in the Government Gazette on 28 February 1964, and amended from time to time, are repealed
  - (a) Part I General Sanitary Provisions by-laws 1 to 1B, 2, 4A, 4AB to AF, 5 35aA, 36 to 68, Schedule A;
  - (b) Part II Infectious Diseases;
  - (c) Part III Private Hospitals;
  - (d) Part IV Dairies and Milk Shops;

Animal, Environment and Amenity Local Law 2024

- (e) Part VII Food;
- (f) Part VIII Barbers Shops and Hairdressing Establishments; and
- (g) Part IX Offensive Trades

#### 1.4 Application

This local law applies throughout the district.

#### 1.5 Definitions

(1) In this local law unless the context specifies otherwise –

Act means the Local Government Act 1995;

**affiliated person** means a person that is a member of a pigeon or poultry association, which is an incorporated body under the *Associations Incorporation Act 2015*;

**amusement** means entertainment provided by equipment operated for hire or reward which provides entertainment or amusement through movement of the equipment, or part of the equipment, or when passengers travel on, around or along the equipment or move the equipment through self-powered motion;

**associated building or facilities** includes a feed room, gear room, shoeing area, hosing down area, lunging yard, rolling yard, veterinary treatment area, and a vehicle and float storage area used in the keeping, caring or management of horses;

authorisation includes a permit or approval granted under this local law;

**authorised person** means a person authorised by the CEO of the local government, under section 9.10 of the Act to administer or enforce this local law;

aviary bird means any bird, other than poultry or pigeons, kept or usually kept in an aviary, cage or enclosure;

**beehive** means a movable or fixed structure, container or object which contains a bees nest and in which bees are kept;

**Building Code** means the latest edition of the Building Code of Australia published by, or on behalf of, the Australian Building Codes Board, as amended from time to time, but not including explanatory information published with the Building Code;

**building site** means any land for which a building permit issued under *Building Act* 2011 is current and upon which building work has commenced;

CEO means the Chief Executive Officer of the local government;

**Code of Practice** means the Code of Practice for Pigeon Keeping and Racing in Western Australia, administered by the Department of Primary Industries and Regional Development/Agriculture and Food, as amended from time to time, in conjunction with the Pigeon Racing Federation WA Inc. and the Independent Racing Pigeon Federation Inc.;

**demolition site** means any land for which a demolition permit issued under the *Building Act 2011* is current and upon which the demolition work has commenced;

Animal, Environment and Amenity Local Law 2024

development has the meaning given to it in the Planning and Development Act 2005;

**development site** includes any land for which there is a current development or subdivision approval, and any land upon which, construction work, earthworks, clearing of scrub, trees or overgrowth or any other site works are taking or have taken place, whether or not such works are subject to a development or subdivision approval;

district means the district of the local government;

**dust** means any visible granular or particulate material which has or has the potential to become airborne and includes organic and non-organic matter and sand, but does not include smoke;

**dwelling** means a building or portion of a building being used, adapted or designed, or intended to be used, for the purpose of human habitation;

**Environmental Management Guidelines** means the Environmental Management Guidelines for Horse Facilities and Activities (WQP Guideline 13), administered by the Water and Rivers Commission, as amended from time to time;

farm animal includes cow, sheep, goat, pig or other hoofed mammal, excluding a horse;

food business has the meaning given to it by the Food Act 2008;

**horse** includes any animal of the *Equidae* family, including a horse, ass, mule, donkey or pony;

**Jandakot UWPCA** means the Jandakot Underground Water Pollution Control Area, a gazetted public drinking water source area under the *Metropolitan Water Supply, Sewerage and Drainage Act 1909*;

*land* has the meaning given in clause 7 of the *Property Law Act 1969*. That definition includes a building or part of a building;

*liquid waste* means waste from any process or activity, whether useful or useless, that is in liquid form and includes paint, fuel, grease, fat, oil, degreaser solvent, detergent, chemical, animal waste, food waste, effluent and all discharges of liquid to land, air or water that are not otherwise authorised by a written law but does not include uncontaminated stormwater;

livestock means a farm animal;

local government means the City of Kwinana;

**local planning scheme** has the meaning given to it by the *Planning and Development Act 2005*;

**manure receptacle** means a receptacle, of sufficient capacity to receive all manure produced in one week on land upon which a farm animal or farm animals, a horse or horses are kept, constructed of smooth, durable, impervious materials, fitted with a fly proof, hinged cover and with no part of the floor lower than the adjoining ground;

**mosquito** means any of the two-winged insect constituting the family *Diptera Culicidae* and commonly known as mosquito;

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#### nuisance means -

- (a) an activity or condition which is harmful or annoying and which gives rise to legal liability in the tort of public or private nuisance at law;
- (b) an unreasonable interference with the use and enjoyment of a person of his or her ownership or occupation of land; or
- interference which causes material damage to land or other property on the land affected by the interference;

occupier has the same meaning as in the Act;

owner has the same meaning as in the Act;

**pigeon** includes homing pigeons and other domesticated breeds of the family *Columba*, but does not include native pigeons or doves whether or not the keeping of such birds is subject to the approval of the Department of Biodiversity, Conservation and Attractions;

**poultry** includes fowls, roosters, ducks, peafowls, turkeys, geese, guinea fowls, pheasants and other birds commonly kept for the production of eggs or meat for domestic consumption;

**refuse** includes bricks, lime, cement, concrete, rubble, stones, iron, timber, tiles, bags, plastics, ashes, vegetation, wood or metal shavings, sawdust, and waste food, and includes any broken, used, derelict or discarded matter whatsoever, whether of the same type as, or a different type from, those mentioned here;

#### recycling waste means -

- (a) paper and cardboard;
- (a) plastic containers comprised of polyethylene terephthalate or high-density polyethylene;
- (b) glass containers;
- (c) steel containers;
- (d) aluminium containers;
- (e) liquid paper board; and
- (f) any other waste determined by the local government to be recycling waste.

**Regulations** means the Local Government (Functions and General) Regulations 1996;

**residential zone** includes any land zoned Residential or Special Residential under a local planning scheme;

**rodents** means those mammals belonging to the order *Rodentia* and includes rats and mice, but does not include mammals of that species kept as pets in an enclosure designed for the purpose of keeping pets;

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**rural zone** means any land zoned Rural or Special Rural or otherwise zoned for rural purposes under a local planning scheme;

**sand** means granules or particles of rock, earth, clay, loam, silt and any other granular, particulate or like material, and includes dust and gravel;

slaughter means to kill an animal for food;

**stable** means any building used for the keeping, breeding, caring, feeding and rearing of horses;

**stable shelter** in relation to stabling of horses means a three or four walled and fully roofed structure with or without a concrete floor provided for the substantial protection of horses from inclement weather that is provided and approved in lieu of a stable;

**Stocking Rate Guidelines** means the Stocking Rate Guidelines For Rural Small Holdings, Swan Coastal Plain and Darling Scarp and surrounds, Western Australia Plain and Darling Scarp and surrounds, Western Australia, administered by the Department of Primary Industries and Regional Development, as amended from time to time:

**stormwater** means any naturally occurring water that results from rainfall on or around a site, or water flowing onto the site;

**street** means any highway or thoroughfare which the public are entitled to use, and includes every part of the highway or thoroughfare, including the verge and other things including bridges and culverts appurtenant to it;

unreasonable noise has the meaning given to it by the Environmental Protection Act 1986;

**vermin** includes rats, mice, flies, fleas, mites, lice, cockroaches and any other animal, whether vertebrate or invertebrate, which is known to be a vector of disease or is likely to cause damage to human food, habitation or possessions.

water resources includes watercourses, waterways and their estuaries, inlets and floodplains, wetlands, groundwater, surface water, stormwater and drainage.

- (2) Any word or term used in this local law that is not defined in subclause (1) shall have the meaning given to it in the Act.
- (3) Where under this local law the local government is authorised to carry out actions or cause works to be undertaken as a consequence of the failure of any person to comply with the terms of a notice or other conduct, the right to enter land is at all times subject to the provisions of Part 3, Division 3, Subdivision 3 of the Act.
- (4) Where, in this local law, a duty or liability is imposed on an owner or occupier, or on an owner and occupier, the duty or liability is taken to be imposed jointly and severally on each of the owners or occupiers.

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#### **PART 2 - KEEPING OF ANIMALS**

#### Division 1- Keeping of animals

#### 2.1 Cleanliness

- (1) An owner or occupier of land on which an animal is kept shall keep such land
  - (a) free from excrement, filth, food waste and all other matter which causes, or is likely to cause a nuisance, become offensive or injurious to health or to attract vermin; and
  - (b) so far as possible, free from flies or other vermin, by spraying with a residual insecticide or other effective means.
- (2) When directed by an authorised officer, an owner or occupier of land upon which an animal is kept shall clean and disinfect any portion of such land.

#### 2.2 Disposal of dead animals

- (1) An owner or occupier of land, other than a veterinary practice, on which there is a dead animal, must dispose of the dead animal —
  - (a) as soon as practicable; and
  - (b) in a manner that does not
    - (i) create a nuisance;
    - (ii) become offensive; or
    - (iii) attract vermin.
- (2) A dead animal must not be disposed of within 100 metres of any water resources or within the Jandakot UWPCA.

#### Division 2 - Keeping of farm animals

#### 2.3 Keeping of farm animals

An owner or occupier of land in a residential zone shall not keep, or permit to be kept, any farm animals on such land.

#### 2.4 Keeping of pigs

An owner or occupier of land shall not keep any pig —

- (a) within a residential zone; or
- (b) within the Jandakot UWPCA.

#### 2.5 Conditions for keeping farm animals

The owner or occupier of land upon which farm animals are kept shall ensure —

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- (a) all farm animals are prevented from approaching within 18 metres of any dwelling, public building, building used for commercial purposes or food business;
- (b) that the land on which the farm animals are enclosed is fenced or walled in a manner capable of confining such animals and, having regard to the species, age, size and condition of the animals, capable of preventing the animals from escaping; and
- (c) such animals are kept in accordance with the provisions of any local planning scheme applicable to that zone.

#### 2.6 Requirements for farm animal shelters

The owner or occupier of land on which farm animals are kept shall ensure that any stable, enclosure or shelter provided for the keeping of farm animals is —

- (a) not situated within 18 metres of any dwelling, public building, building used for commercial purposes or food business; and
- (b) maintained in a manner so as to provide adequate shelter, drainage and ventilation.

#### 2.7 Slaughter of farm animals

- (1) Subject to subclause (2), a person shall not slaughter any farm animal on any land.
- (2) Subclause (1) does not apply to euthanasia of animals by veterinarians, abattoirs, animal food processing premises, vermin control or any premises approved for slaughtering purposes.

#### Division 3 - Keeping of horses

#### 2.8 Keeping of horses

An owner or occupier of land shall not keep, or permit to be kept, any horse —

- (a) on land other than within a rural zone; and
- (b) contrary to the provisions of any local planning scheme applicable

# 2.9 Requirements for construction of stable, stable shelter, paddock, yards, training/walking rings and associated buildings or facilities

- (1) Any stable or stable shelter shall not be situated within
  - (a) 18 metres of any dwelling, building used for commercial purposes or food business on an adjacent lot;
  - (b) 9 metres of any dwelling, building used for commercial purposes or food business within the same lot;
  - (c) a 30 metre radius of any private bore, well or dam;

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- (d) 18 metres from the property boundary; and
- (e) 9 metres of any street in the case of a corner site.
- (2) Any stable or stable shelter situated within the Jandakot UWPCA shall not be situated within the minimum buffer distances as set out in the Environmental Management Guidelines.
- (3) Any stable or stable shelter shall
  - (a) have a separate stall for each horse in accordance with subclause (4);
  - (b) have each wall and roof constructed of an impervious material;
  - (c) have on all sides of the building between the top of the wall and the roof a clear opening of at least 150 millimetres in height, unless otherwise approved by the local government; and
  - (d) have walls that are not less than 3 metres in height and in length.
- (4) Subject to subclause (5), a stable must have
  - (a) a roof that covers the entire floor area of the stall; and
  - (b) a floor with an upper surface that
    - is raised at least 75 millimetres above the surface of the surrounding ground;
    - (ii) is constructed of cement, concrete or other similar impervious materials;
    - (iii) has an adequate fall to a drain which shall empty into a trapped gully situated outside the stable that discharges to sewer or an approved effluent disposal system; and
    - (iv) has an area of not less than 12 square metres for each stall.
- (5) A stable or stable shelter constructed with a sand floor shall be constructed as follows
  - (a) the site must be well drained with the highest known water table no closer than 2 metres to the sand floor level which may be achieved artificially;
  - (b) the footings to each stable are to be a minimum of 450 millimetres below ground level;
  - (c) the roof is to be not less than 50% of the floor area; and
  - (d) in all other respects, the requirements of subclause (3) apply to the stable building.
- (6) Any associated building or facility shall not be closer than 9 metres to any dwelling.
- (7) Any paddock, yards or training/walking rings shall not be situated within —

- (a) 18 metres of any dwelling, building used for commercial purposes or food business on an adjacent land;
- (b) 9 metres of any dwelling, building used for commercial purposes or food business within the same land;
- (c) 30 metres radius of any private bore, well or dam; and
- (d) the minimum buffer distances set within the Environmental Management Guidelines for land situated within the Jandakot UWPCA.

#### 2.10 Maintenance

The owner or occupier of land where any horse is kept shall —

- (a) ensure that stables, stable shelters and any associated building or facilities are
  - (i) maintained in good working order;
  - (ii) in sound, weatherproof condition; and
  - (iii) are fit for use,

including but not limited to their roofs, walls, floors, guttering, downpipes (including on-site storm water disposal systems), doors and windows.

- (b) maintain fences, railings and gates in the stables, stable shelters, paddocks, yards, training/walking rings in good working order and repair; and
- (c) ensure any paddock is fenced or walled in a manner capable of confining any horse contained therein.

#### 2.11 Waste and manure management

The owner or occupier of land where any horse is kept shall ensure that —

- (a) no manure receptacle is situated closer than 10 metres from any dwelling on an adjacent property;
- (b) waste and manure are not permitted to accumulate unless stored or treated so as not to create a nuisance, become offensive or injurious to health or attract vermin; and
- (c) manure is managed in accordance with the planning approval under the under the local planning scheme.

#### Division 4 – Keeping of poultry, pigeons and birds

#### 2.12 Keeping of poultry and pigeons

(1) Subject to subclause (2), an owner or occupier of land must not keep or permit to be kept on such land —

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- (a) more than 10 poultry or pigeons in a residential zone; or
- (b) more than 25 poultry or 50 pigeons in a rural zone without the approval of the local government in accordance with clause 2.20.
- (2) Subclause (1) shall not apply to premises approved by the local government for veterinary purposes or intensive agriculture.

#### 2.13 Requirements for keeping of poultry

An owner or occupier of land upon which poultry are kept, other than for veterinary purposes or intensive agriculture, must ensure that —

- (a) all poultry are kept in a properly constructed and securely fastened enclosure;
- (b) poultry are prevented from approaching within 9 metres of a street, or any dwelling on any other lot, or land used for public building or commercial purposes or food business;
- (c) the enclosure is kept in clean condition and in good repair at all times; and
- (d) effective measures are taken to control vermin and eradicate offensive odours.

#### 2.14 Requirement for keeping of pigeons

- (1) An owner or occupier of land upon which pigeons are kept shall ensure that
  - (a) all pigeons are kept in a properly constructed enclosure and confined in that enclosure except where registered homing pigeons are freed for exercise;
  - no opening to an enclosure, including openings for ventilation, is within 9 metres of any street, dwelling, public building, building used for commercial purposes or food business; and
  - (c) the enclosure is kept in a clean condition and in good repair at all times, with effective measures taken to control vermin and eradicate offensive odours.
- (2) An affiliated person shall ensure that all pigeons are kept in accordance with the Code of Practice for Pigeon Keeping and Racing in Australia and subject to the provisions of this local law.

#### 2.15 Roosters, geese, turkeys and peafowl

Other than land within a rural zone, an owner or occupier of land must not keep or permit to be kept, any —

- (a) roosters;
- (b) geese;
- (c) turkeys; or
- (d) peafowl.

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#### 2.16 Requirements for keeping of aviary birds

An owner or occupier of land shall ensure that any enclosure used for the keeping of aviary birds is —

- (a) of sound, weatherproof construction as follows
  - (i) the framework and roost are to be smooth sealed timber or metal;
  - the walls and roof are to be constructed of galvanised iron or other approved material; and
  - (iii) the floor is to be constructed in a manner that facilitates the hygienic removal of waste matter, husks, seeds, feathers, dead birds and faecal matter.
- (b) kept in clean condition and good repair at all times; and
- (c) kept at least 5 metres from any premises on any other land.

#### 2.17 Nuisance caused by birds or poultry

An owner or occupier of land shall not keep any bird or poultry which —

- (a) causes, or is likely to cause a nuisance; or
- (b) emits an unreasonable noise.

#### 2.18 Restrictions on feeding of uncaged birds

- (1) A person shall not feed or permit the feeding of any uncaged bird unless otherwise approved by the local government.
- (2) Where an authorised person is satisfied that a person has not complied with subclause (1) the authorised person may serve the person a notice of breach requiring the person to clean up and properly dispose of any feed or waste products specified in the notice.
- (3) Where approval has been given by the local government to feed or permit the feeding of any uncaged bird, the approval can be withdrawn by the local government in the event that —
  - (a) the holder does not comply or cause compliance with the conditions;
  - (b) there is a change in the circumstances upon which the approval was granted; or
  - (c) the feeding or permission to feed any uncaged bird causes a nuisance.

#### 2.19 Restrictions on pigeons nesting or perching

An authorised person may order an owner or occupier of land on which pigeons nest or perch, to take adequate steps to prevent them from continuing to do so.

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## 2.20 Application for approval for keeping of poultry or pigeons contrary to clause 2.12(1)(a) and 2.12(1)(b)

- (1) An owner or occupier of land may apply in writing to the local government for approval to keep poultry or pigeons otherwise than in accordance with clause 2.12(1)(b).
- (2) An application to the local government for approval pursuant to subclause (1) is to include
  - (a) a statement outlining the reasons why approval is sought;
  - (b) the number of poultry or pigeons proposed to be kept;
  - (c) a site plan showing land size, location of enclosure, the distance of the enclosure from any boundaries and buildings on adjoining land and any nearby water resources;
  - (d) where applicable, proof affiliation to a poultry or pigeon keeping association;
  - (e) proof of registration as a livestock owner where required by the *Agriculture Management (Identification and Movement of Stock and Apiaries) Regulations* 2013; and
  - (f) any fee determined by the local government.
- (3) Prior to determining an application for approval, the local government may seek and consider the views and concerns of any owner or occupier of an adjoining property.
- (4) The local government may grant approval of an application pursuant to subclause (1), with or without conditions, or refuse to grant approval.
- (5) Where an approval pursuant to subclause (1) is granted subject to conditions, the holder of the approval shall comply with those conditions.
- (6) A grant of approval is personal to the applicant and applies only to the premises described in the approval.
- (7) The applicant shall notify the local government of any change in the circumstances on which the grant of an approval was based as soon as any change occurs.
- (8) An approval can be cancelled by the local government in the event that
  - (a) the holder does not comply with any conditions set by the local government;
  - (b) there is a change in the circumstances upon which the approval was granted; or
  - (c) the granting of the approval causes a nuisance in the opinion of the local government.

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#### Division 5 - Keeping of bees

#### 2.21 Keeping of bees

An owner or occupier of land shall not keep, or permit to be kept, bees in more than two bee hives, unless approval is granted by the local government in accordance with clause 2.24.

#### 2.22 Requirements for keeping of bees

An owner or occupier of land shall not keep, or permit to be kept, bees in any beehive unless

- (a) a good and sufficient water supply is located on the land which is readily accessible by the bees situated at distance of less than 5 metres from the hive;
- a screen or other barrier prevents the bees flying low over a street, public place or adjoining land;
- (c) each beehive is kept as follows
  - (i) at least 9 metres from any building on any other land;
  - (ii) at least 9 metres from any footpath, street, private street or public place; and
  - (iii) at least 5 metres from the boundary of the land; and
- (d) where required, the owner or occupier is registered under the Agriculture Management (Identification and Movement of Stock and Apiaries) Regulations 2013.

#### 2.23 Nuisance caused by bees

A person shall not keep, or allow bees or beehives to be kept, on land so as to create a nuisance.

#### 2.24 Application for approval for keeping of more than two bee hives

- (1) An owner or occupier of land may apply in writing to the local government for approval to keep more than two bee hives on such land.
- (2) An application for approval should include
  - (a) a statement outlining the reasons why an approval is sought;
  - (b) the number of bee hives proposed to be kept;
  - (c) a site plan showing land size, the location of bee hives, and the distance of the enclosure from any boundaries and buildings on adjoining land;
  - (d) where required, proof of registration as a beekeeper under the Agriculture Management (Identification and Movement of Stock and Apiaries) Regulations 2013; and
  - (e) payment of any fee determined by the local government.

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- (3) Prior to determining an application, the local government may seek and consider the views and concerns of the owners and occupiers of adjoining land.
- (4) The local government may grant approval, with or without conditions, or refuse to grant approval.
- (5) Where approval is granted subject to conditions, the holder of the approval shall comply with those conditions.
- (6) A grant of approval is personal to the applicant and applies only to the land described in the approval.
- (7) The applicant shall notify the local government of any change in the circumstances on which the approval was based as soon as any change occurs.
- (8) An approval can be cancelled by the local government in the event that
  - (a) the holder does not comply with the conditions of approval;
  - (b) there is a change in the circumstances upon which the approval was granted; or
  - (c) the granting of the approval causes a nuisance.

#### Division 6 - Previous approvals

#### 2.25 Previous approvals by local government

- (1) Every registration or approval granted by the local government relating to the keeping of poultry, pigeons, pigs, horses and bees under the former provisions and in force immediately before the commencement of local laws, has effect as if granted under this local law and notwithstanding any of the provisions in this local law, may be renewed or transferred, on application made under this local law, at the discretion of the local government subject to such conditions or restrictions, if any, that the local government may deem necessary to impose.
- (2) In clause 2.31(1), "former provisions" means the Town of Kwinana Health (Keeping of Horses and Equine Premises) Local Laws 1997, Town of Kwinana Bee Keeping Local Law 2002, Town of Kwinana Bee Keeping Local Law 2002, Town of Kwinana Piggeries By–laws, Town of Kwinana By–Law No. 29(B), Relating to the Keeping of Pigeons or Town of Kwinana Health By–Law 1963 as repealed.

#### **PART 3 – VERMIN CONTROL**

#### Division 1 - Mosquitoes

#### 3.1 Mosquito control

(1) An owner or occupier of land must keep the land free of water located so as to be, or be liable to become, a breeding place for mosquitoes.

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(2) An authorised person may order an owner or occupier of land to take adequate and reasonable measures to prevent the pooling of water or undertake control measures to prevent mosquito breeding.

#### **Division 2 - Rodents**

#### 3.2 Measures to be taken to eradicate rodents

- (1) Where there are indications of the presence of rodents, the owner or occupier of land must take adequate and reasonable measures to keep such land free from rodents and prevent rodent breeding.
- (2) An authorised person may order an owner or occupier of land to take adequate and reasonable measures to eradicate rodents or undertake control measures to prevent rodent breeding.

#### Division 3 - Cockroaches

#### 3.3 Measures to be taken to eradicate cockroaches

- (1) Where there are indications of the presence of cockroaches in, on or about land, the owner or occupier of such land must take adequate and reasonable measures to keep the land free from cockroaches and prevent cockroach breeding.
- (2) An authorised person may order an owner or occupier of land to take adequate and reasonable measures to eradicate cockroaches or undertake control measures to prevent breeding of cockroaches.

#### **PART 4 - NUISANCES**

#### **Division 1 – Amusements**

#### 4.1 Operation of amusements

A person shall not provide or conduct any amusements on land so as to create or cause a nuisance to any owner or occupier of land in the district, without the approval of the local government.

#### Division 2 - Light

#### 4.2 Emission or reflection of light

An owner or occupier of land must not —

 (a) permit artificial light to be emitted or reflected from anything on the land so as to illuminate premises outside that land at a level that interferes unreasonably with normal activities; or

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(b) permit natural light to be reflected from anything on the land so as to create or be a nuisance to any owner or occupier of adjoining land or person using a street as a thoroughfare.

#### 4.3 Use of exterior lighting

An owner and or occupier of land on which floodlights, lighting installations or other exterior lights are erected or used must not allow the floodlights or other exterior lights to shine directly onto adjoining land so as to cause a nuisance.

#### 4.4 Notice

The local government may give a notice to the owner or occupier of land to abate a nuisance arising from a contravention of clause 4.2 or 4.3 within the time specified in the notice by —

- (a) preventing artificial light from being emitted or reflected from the land;
- (b) treating any reflective surfaces;
- restricting the hours of use of the floodlights, lighting installations or other exterior lights; or
- (d) requiring alterations to the direction in which any lights are shining.

#### Division 3 - Smoke, fumes, odours, and other emissions

#### 4.5 Burning rubbish, refuse or other material

- (1) An owner or occupier of land must not set fire to, or cause to be set on fire, any rubbish, refuse or other material listed in Schedule 2 on the land, unless approved under a written law.
- (2) Subclause (1) does not apply to any barbeque, solid fuel water heater, space heater or ovens fired with dry paper, dry wood, synthetic charcoal or charcoal type fuel.

#### 4.6 Escape of smoke, fumes, odours, and other emissions

An owner or occupier of land must take reasonable steps to prevent the escape of smoke, fumes or odours from the land in such quantity or of such a nature as to cause or to be a nuisance to any person, unless that owner or occupier has approval under a written law that permits the escape of smoke, fumes or odours from the land.

#### PART 5 - UNSIGHTLY LAND AND DISUSED MATERIALS

#### 5.1 Removal of refuse and disused materials

The owner or occupier of land shall not keep, or permit to remain on the land, any refuse, rubbish or disused material of whatsoever nature or kind which in the opinion of an authorised person is likely to give the land an untidy appearance and does not conform with the general appearance of other land in that particular part of the district.

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#### 5.2 Removal of unsightly overgrowth of vegetation

The owner or occupier of land shall not permit any unsightly overgrowth of vegetation on the land that gives the premises an untidy appearance and does not conform with the general appearance of other land or premises in that particular part of the district.

#### 5.3 Fencing unsightly land

The local government may give notice to an owner or occupier of land to ensure that unsightly land is enclosed, to the satisfaction of the local government, with a fence or other means suitable to prevent the land, so far as is practicable, from being unsightly.

#### 5.4 Storage of vehicles and machinery

The owner or occupier of land hall not —

- (a) wreck, dismantle or break up any vehicle or machinery (or any part thereof); or
- (b) store or allow to remain on any land any vehicle or machinery (or any part thereof) in a state of disrepair or disuse,

unless inside a building within an area enclosed by a fence or wall of not less than 1.8 metres in height and of such a nature as to screen all vehicles, parts or bodies of vehicles or machinery from the street and from adjoining land.

#### PART 6 - STORMWATER AND WASTEWATER MANAGEMENT

#### 6.1 Containment of stormwater, rainwater, and wastewater

An owner or occupier of land shall ensure that all rainwater and stormwater received on the land, and all wastewater generated on the land is contained on the land or discharged into an approved drainage structure or sewerage apparatus.

#### 6.2 Containment and disposal of swimming pool and other wastewater

An owner or occupier of land shall ensure that all wastewater and backwash water from any swimming pool or spa filtration systems or other water storage systems on the land is contained within the land and diverted to the storm water drainage system on the land.

#### PART 7 — HAZARDOUS MATERIALS

#### 7.1 Hazardous plants and trees

- (1) Where a plant or tree situated on land presents a hazard,or endangers or may endanger any person or thing on adjoining land, an authorised person may give a notice to the owner or the occupier of the land to remove, cut, move or otherwise deal with the plant or tree so as to remove the danger or hazard.
- (2) Where a plant or tree situated on land presents a serious and immediate danger to any person or thing on adjoining land, an authorised person may take any remedial action considered appropriate in order to make a plant or tree safe without having given the owner or occupier notice under subclause (1).

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#### 7.2 Cyclonic activities or severe weather conditions

Where there is likely to be a danger to the public or property which may result from cyclonic activity or severe weather, an authorised person may give a notice to the owner or the occupier of land specifying measures to be taken in relation to the premises to prevent or minimise any danger or hazard.

#### PART 8 - BUILDING, DEVELOPMENT AND LAND CARE

### Division 1 – Litter and refuse on building sites, development sites and demolition sites

#### 8.1 Provision of refuse and recycling receptacles

- (1) The owner or occupier of a building site, development site or demolition site shall at all times provide and maintain a refuse receptacle and recycling receptacle, available for use on the land.
- (2) A refuse receptacle and recycling receptacle under subclause (1) shall include a suitable cover, to the satisfaction of an authorised officer, of such design as will
  - (a) contain any refuse and recycling waste likely to be produced on the land; and
  - (b) prevent refuse and recycling waste being blown from the receptacle by wind.

#### 8.2 Requirements to control refuse and recycling waste

- (1) From the time of commencement of works on a building site, development site or demolition site until the time of completion of such work, the owner or occupier of the land shall take reasonable steps to –
  - (a) ensure all refuse on the land is placed and contained in the refuse waste receptacle;
  - (b) ensure all recycling waste on the land is placed and contained in the recycling waste receptacle;
  - (c) keep the site as free as is reasonably practicable from any refuse and recycling waste:
  - (d) ensure all refuse and recycling waste are contained in the receptacles are prevented from being blown from the site by wind;
  - (e) maintain the street verge immediately adjacent to the land free of refuse and recycling waste from the site; and
  - (f) ensure the refuse and recycling waste receptacle is emptied when full.
- (2) The owner or occupier of a building site, development site or demolition site must ensure that within 2 days of completion of works on the site or when directed by an authorised officer
  - (a) the land and the street verge immediately adjacent to it is cleared of all refuse; and recycling waste; and

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(b) all recycling and refuse receptacles are removed from the land.

#### Division 2 - Prevention of dust and liquid waste

#### 8.3 Containment of dust and liquid waste

- (1) An owner or occupier of land must take effective measures to -
  - (a) stabilise dust on the land;
  - (b) contain all liquid waste on the land; and
  - (c) ensure no dust or liquid waste is released or escapes from the land whether by means of wind, water, or any other cause.
- (2) An owner or occupier of land must notify the owners or occupiers of adjoining land in writing 48 hours prior to the commencement of any activity that has the potential to cause the release or escape of dust or liquid waste from the land, giving details of —
  - (a) the nature of the activity;
  - the proposed commencement time, frequency, duration time and location of the activity; and
  - (c) the name of the person responsible for carrying out the activity and how and where that person may be contacted.
- (3) Where an authorised person is satisfied that an owner or occupier has not complied with subclause (1), the local government may serve on the owner and or occupier of the land a notice requiring the owner and or occupier to do one or more of the following
  - (a) comply with subclause (1);
  - (b) clean up and properly dispose of any released or escaped dust or liquid waste;
  - clean up and make good any damage resulting from the released or escaped dust or liquid waste; or
  - (d) take effective measures to stop any further release or escape of dust or liquid waste
- (4) The requirements set out in a notice served under subclause (3) must be complied with
  - (a) within 48 hours of service of the notice where no other time is specified;
  - (b) within such other period as is specified in the notice; or
  - (c) immediately, if the notice so specifies.
- (5) Where an authorised person is satisfied that dust or liquid waste has escaped or has been released from an activity undertaken on land or as a consequence of the use of equipment on land, the local government may serve a notice on the owner and or

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- occupier of the land and or the operator of the equipment, as the case may be, requiring that the activity or use of the equipment on the land be ceased immediately, for such period as is specified in such notice.
- (6) Where an authorised person is satisfied that dust or liquid waste is likely to be released or escape as a result of an activity to be carried out on any land, the local government may give to the owner and or occupier a notice providing that the activity may only be carried on subject to conditions specified in the notice.

#### PART 9 - OBJECTIONS AND APPEALS

#### 9.1 Objections and appeals

When the local government decides under this local law whether it will —

- (a) grant a person an authorisation;
- (b) renew, vary, or cancel an authorisation; or
- (c) give a person a notice,

the provisions of Division 1 of Part 9 of the *Local Government Act 1995* and Regulation 33 of the Regulations shall apply to that decision.

#### **PART 10 - ENFORCEMENT**

#### Division 1 - Notices given under this local law

#### 10.1 Notice of Breach

- (1) Where a breach of any provision of this local law has occurred, the local government may give a notice in writing to the person alleged to be responsible for such breach directing them to take such actions as an authorised person considers necessary within the timeframe specified in the notice.
- (2) A notice given under subclause (1) shall
  - (a) specify the provision of this local law which has been breached;
  - (b) specify the particulars of the breach; and
  - (c) state that the manner in which the person is required to remedy the breach to the satisfaction of the local government within the time specified in the notice.
- (3) If a person fails to comply with a notice given to him or her under this local law, the local government may do, or arrange to be done, the thing specified in the notice and recover from the person to whom the notice was given, as a debt, the costs incurred in doing so.

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(4) This local law is subject to sections 3.25, 3.27 and Schedules 3.1 and 3.2 of the Act and any powers of entry exercised by the local government under this local law is subject to Part 3, Division 3, Subdivision 3 of the Act.

#### Division 2 - Offences and penalties

#### Subdivision 1 - General

#### 10.2 Offences and penalties

- (1) A person who
  - (a) fails to do anything required or directed to be done under this local law;
  - (b) fails to comply with the requirements of a notice issued under this local law; or
  - (c) does anything prohibited under this local law,

commits an offence.

(2) A person who commits an offence under this local law is liable to a maximum penalty of \$5,000 and a maximum daily penalty of \$500 in respect of each day or part of a day during which the offence has continued.

#### Subdivision 2 - Infringement notices and modified penalties

#### 10.3 Prescribed offences

- (1) An offence against a clause specified in Schedule 1 is a prescribed offence for the purposes of Section 9.15 of the Act.
- (2) The amount of the modified penalty for a prescribed offence
  - (a) for a first offence is that specified adjacent to the clause in the fourth column of Schedule 1; and
  - (b) for a subsequent offence is that specified adjacent to the clause in the fifth column of Schedule 1.

#### 10.4 Form of infringement notices

For the purposes of this local law —

- (a) where a vehicle is involved in the commission of an offence, the form of the notice referred to in section 9.13 of the Act is that of Form 1 in Schedule 1 of the Regulations;
- (b) the form of the infringement notice given under section 9.16 of the Act is that of Form 2 in Schedule 1 of the Regulations; and
- (c) the form of the notice given under section 9.20 of the Act withdrawing an infringement notice is that of Form 3 in Schedule 1 of the Regulations.

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#### SCHEDULE 1 – PRESCRIBED OFFENCES

				[Clause 10.3(1)]	
Item No.	Clause No.	Nature of offence	Modified Penalty First Offence (\$)	Modified Penalty Subsequent Offence (\$)	
1	2.1(1)	Failure to keep land upon which an animal is kept to the required standard	150	300	
2	2.1(2)	Failure to comply with a direction to clean and disinfect land upon which an animal is kept	150	300	
3	2.2(1) and (2)	Failure to disposing of a dead animal in approved manner	150	300	
4	2.3	Keeping a farm animal within a residential zone	150	300	
5	2.4	Keeping of a pig within a non- permitted area	150	300	
6	2.5(a)	Failure to ensure a farm animal is prevented from approaching a dwelling, public building, building used for commercial premises or food business	150	300	
7	2.5(b)	Failure to ensure that land where a farm animal is kept is fenced or walled to the required standard	150	300	
8	2.5(c)	Failure to keep a farm animal in accordance with planning scheme	150	300	
9	2.6(a)	On land where farm animals are kept, failing to ensure any stable, enclosure or shelter is not situated within 18 metres of any dwelling, public building, building used for commercial purposes or food business	150	300	
10	2.6(b)	On land where farm animals are kept, failing to ensure any stable, enclosure or shelter is maintained in a manner so as to provide adequate shelter, drainage and ventilation	150	300	
11	2.7(1)	Slaughtering an animal other than at an approved premises	150	300	
12	2.8(a)	Keeping of a horse outside of a rural zone	150	300	
13	2.8(b)	Keeping of a horse contrary to the provisions of any local planning scheme	150	300	
14	2.9(1) and (2)	Failure to ensure a stable or stable shelter is sited to the required standard	150	300	

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15	2.9(3) and (4)	Stable or stable shelter contrary to the required standard	150	300
16	2.9(6)	Associated building or facility situated within 9 metres of any dwelling	150	300
17	2.9(7)	Failure to ensure a paddock, yard or training/walking ring is sited to the required standard	150	300
18	2.10(a)	Failing to maintain any stable, stable shelter, associated building or facility where any horse is kept to the required standard.	150	300
19	2.10(b)	Failing to maintain fences, railings and gates to the required standard	150	300
20	2.10(c)	Failure to ensure any paddock where horses are kept is fenced or walled in a manner capable or confining a horse	150	300
21	2.11(a)	Manure receptacle on land where horses are kept situated within 10 metres of a dwelling on adjacent property	150	300
22	2.11(b) and (c)	On land where horses are kept, failing to handle waste and manure to the required standard	150	300
23	2.12(1)(a)	Exceeding the permitted number of poultry or pigeons in a residential zone	150	300
24	2.12(1)(b)	Exceeding the permitted number of poultry or pigeons in a rural zone without approval	150	300
25	2.13	Failure to comply with requirements for keeping of poultry	150	300
26	2.14(1) and (2)	Failure to comply with requirements for keeping of pigeons	150	300
27	2.15	Keeping a rooster, geese, turkey or peafowl outside of a rural zone	150	300
28	2.16	Failure to comply with requirements for keeping of aviary birds	150	300
29	2.17(a)	Keeping a bird or poultry that causes or is likely to cause a nuisance	150	300
30	2.17(b)	Keeping a bird or poultry which emits an unreasonable noise	150	300
31	2.18(1)	Feeding of uncaged bird without approval	150	300
32	2.18(2)	Failure to comply with a notice to clean up and dispose of feed or waste product	150	300
33	2.20(5)	Failure to comply with a condition of approval for keeping poultry or pigeons	150	300
34	2.20(7)	A holder of a permit to keep poultry or pigeons failing to notify of any change in circumstances	150	300

35	2.21	Keeping bees in more than two beehives on land without approval	150	300
36	2.22	Failure to comply with requirement for keeping of bees	150	300
37	2.23	Keeping bees so as to create a nuisance	150	300
38	2.24(5)	Failure to comply with a condition of approval for keeping bees	150	300
39	3.1(1)	Failure to keep land free of water that is or is liable to become a breeding place mosquito breeding	150	300
40	3.2(1)	Where there are indications of the presence of rodents, failure to take measures to keep land free from rodents and prevent breeding	150	300
41	3.3(1)	Where there are indications of the presence of cockroaches, failure to take measures to keep land free from cockroaches and prevent breeding	150	300
42	4.1	Providing or conducting amusements so as to create or cause a nuisance without approval	250	500
43	4.2(a)	Permitting artificial light to be emitted or reflected so as to illuminate premises at a level that interferes unreasonably with normal activities	250	500
44	4.2(b)	Permit natural light to be reflected so as to create or be a nuisance	250	500
45	4.3	Allowing floodlights or other exterior lights to shine into adjoining land so as to cause a nuisance	250	500
46	4.5(1)	Setting fire to rubbish, refuse or other materials without approval	250	500
47	4.6	Failure to take reasonable steps to prevent the escape of smoke, fumes, odours or other emissions so as to cause a nuisance	250	500
48	5.1	Refuse, rubbish or disused material on land so as to give untidy appearance	250	500
49	5.2	Failure to prevent unsightly overgrowth of vegetation	250	500
50	5.4(a)	Wrecking, dismantling or breaking up a vehicle or machinery outside of a building or enclosed area	250	500
51	5.4(b)	Storing or allowing any vehicle or machinery to remain outside of a building or enclosed area	250	500
52	6.1	Failure to ensure rainwater, wastewater or stormwater is contained, discharged to an approved drainage structure or sewage apparatus	250	500

53	6.2	Failure to ensure water from a swimming pool, spa filtration system or other water storage system is contained and diverted to storm water drainage	250	500
54	8.1(1)	Failure to provide and maintain a refuse receptacle and a recycling receptacle at a building site, development site or demolition site	250	500
55	8.1(2)	Receptacle at a building site, development site or demolition site not to the required standard	250	500
56	8.2(2)(a)	Failure to clear refuse or recycling from a building site, development site or demolition site	250	500
57	8.2(2)(b)	Failure to remove receptacle from a building site, development site or demolition site	250	500
58	8.3(1)(a)	Failure to take effective measures to stabilise dust	250	500
59	8.3(1)(b)	Failure to take effective measures to contain liquid waste	250	500
60	8.3(1)(c)	Failure to take effective measures to ensure no dust or liquid waste is released or escapes	250	500
61	8.3(2)	Failure to notify an owner or occupier of adjoining land of an activity with the potential to cause the release or escape of dust or liquid waste	250	500
62	10.2(1)(a)	Failure to do anything required or directed to be done	250	500
63	10.2(1)(b)	Failure to comply with a notice	250	500
64	10.2(1)(c)	Doing anything prohibited under local law	250	500

#### SCHEDULE 2 - MATERIALS NOT TO BE SET ON FIRE OR TO BE BURNT

[Clause 4.5]

- (1) Batteries
- (2) Carpet
- (3) Electrical products
- (4) Fabrics or textiles
- (5) Solvent
- (6) Paint
- (7) Plastic, including polystyrene and the like
- (8) Rubber
- (9) Timber that has been treated with preservatives
- (10) Tyres
- (11) Vehicles or vessels and their parts
- (12) Waste oil, fats or grease

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Dated this	day of	[year]
The Common Seal of the City of Kwinana was hereunto affixed in the presence of :	) )	
Peter Feasey Mayor		Wayne Jack Chief Executive Officer



# City of Kwinana Animal, Environment and Amenity Local Law 2024



#### City of Kwinana

#### **ANIMAL, ENVIRONMENT AND AMENITY LOCAL LAW 2024**

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#### **Local Government Act 1995**

#### City of Kwinana

# Animal, Environment and Amenity Local Law 2024

Under the powers conferred on it by the *Local Government Act 1995* and all other powers enabling it, the Council of the City of Kwinana resolved on date to make the following local law

#### **PART 1 – PRELIMINARY**

#### 1.1 Citation

This Local Law may be cited as the *City of Kwinana Animal, Environment and Amenity Local Law* [year].

#### 1.2 Commencement

This local law comes into operation 14 days after the day on which it is published in the Government Gazette.

#### 1.3 Repeal

- (1) The Town of Kwinana By–Law No. 29(B) Relating to the Keeping of Pigeons published in the Government Gazette on 12 November 1996 is repealed.
- (2) The Town of Kwinana Piggeries By–Laws published in the Government Gazette on 9 September 1983 is repealed.
- (3) The Town of Kwinana Health (Keeping of Horses and Equine Premises) Local Laws 1997 published in the Government Gazette on 11 February 1998 is repealed.
- (4) The Town of Kwinana Urban Environment and Nuisance Local Law 2003 published in the Government Gazette on 18 July 2003, and amended from time to time is repealed.
- (5) The Town of Kwinana Bee Keeping Local Law 2002 published in the Government Gazette on 7 May 2002 is repealed.
- (6) The following parts of the Town of Kwinana Health By–Law 1963 published in the Government Gazette on 28 February 1964, and amended from time to time, are repealed
  - (a) Part I General Sanitary Provisions by-laws 1 to 1B, 2, 4A, 4AB to AF, 5 35aA, 36 to 68, Schedule A;
  - (b) Part II Infectious Diseases;
  - (c) Part III Private Hospitals;
  - (d) Part IV Dairies and Milk Shops;

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- (e) Part VII Food;
- (f) Part VIII Barbers Shops and Hairdressing Establishments; and
- (g) Part IX Offensive Trades

#### 1.4 Application

This local law applies throughout the district.

#### 1.5 Definitions

(1) In this local law unless the context specifies otherwise –

Act means the Local Government Act 1995;

**affiliated person** means a person that is a member of a pigeon or poultry association, which is an incorporated body under the *Associations Incorporation Act 2015*;

**amusement** means entertainment provided by equipment operated for hire or reward which provides entertainment or amusement through movement of the equipment, or part of the equipment, or when passengers travel on, around or along the equipment or move the equipment through self-powered motion;

**associated building or facilities** includes a feed room, gear room, shoeing area, hosing down area, lunging yard, rolling yard, veterinary treatment area, and a vehicle and float storage area used in the keeping, caring or management of horses;

authorisation includes a permit or approval granted under this local law;

**authorised person** means a person authorised by the CEO of the local government, under section 9.10 of the Act to administer or enforce this local law;

aviary bird means any bird, other than poultry or pigeons, kept or usually kept in an aviary, cage or enclosure;

**beehive** means a movable or fixed structure, container or object which contains a bees nest and in which bees are kept;

**Building Code** means the latest edition of the Building Code of Australia published by, or on behalf of, the Australian Building Codes Board, as amended from time to time, but not including explanatory information published with the Building Code;

**building site** means any land for which a building permit issued under *Building Act* 2011 is current and upon which building work has commenced;

CEO means the Chief Executive Officer of the local government;

**Code of Practice** means the Code of Practice for Pigeon Keeping and Racing in Western Australia, administered by the Department of Primary Industries and Regional Development/Agriculture and Food, as amended from time to time, in conjunction with the Pigeon Racing Federation WA Inc. and the Independent Racing Pigeon Federation Inc.;

**demolition site** means any land for which a demolition permit issued under the *Building Act 2011* is current and upon which the demolition work has commenced;

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development has the meaning given to it in the Planning and Development Act 2005;

**development site** includes any land for which there is a current development or subdivision approval, and any land upon which, construction work, earthworks, clearing of scrub, trees or overgrowth or any other site works are taking or have taken place, whether or not such works are subject to a development or subdivision approval;

district means the district of the local government;

**dust** means any visible granular or particulate material which has or has the potential to become airborne and includes organic and non-organic matter and sand, but does not include smoke;

**dwelling** means a building or portion of a building being used, adapted or designed, or intended to be used, for the purpose of human habitation;

**Environmental Management Guidelines** means the Environmental Management Guidelines for Horse Facilities and Activities (WQP Guideline 13), administered by the Water and Rivers Commission, as amended from time to time;

**farm animal** includes cow, sheep, goat, pig or other hoofed mammal, excluding a horse;

food business has the meaning given to it by the Food Act 2008;

**horse** includes any animal of the *Equidae* family, including a horse, ass, mule, donkey or pony;

**Jandakot UWPCA** means the Jandakot Underground Water Pollution Control Area, a gazetted public drinking water source area under the *Metropolitan Water Supply, Sewerage and Drainage Act 1909*;

*land* has the meaning given in clause 7 of the *Property Law Act 1969*. That definition includes a building or part of a building;

*liquid waste* means waste from any process or activity, whether useful or useless, that is in liquid form and includes paint, fuel, grease, fat, oil, degreaser solvent, detergent, chemical, animal waste, food waste, effluent and all discharges of liquid to land, air or water that are not otherwise authorised by a written law but does not include uncontaminated stormwater;

livestock means a farm animal;

local government means the City of Kwinana;

**local planning scheme** has the meaning given to it by the *Planning and Development Act 2005*;

**manure receptacle** means a receptacle, of sufficient capacity to receive all manure produced in one week on land upon which a farm animal or farm animals, a horse or horses are kept, constructed of smooth, durable, impervious materials, fitted with a fly proof, hinged cover and with no part of the floor lower than the adjoining ground;

**mosquito** means any of the two-winged insect constituting the family *Diptera Culicidae* and commonly known as mosquito;

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#### nuisance means -

- (a) an activity or condition which is harmful or annoying and which gives rise to legal liability in the tort of public or private nuisance at law;
- (b) an unreasonable interference with the use and enjoyment of a person of his or her ownership or occupation of land; or
- interference which causes material damage to land or other property on the land affected by the interference;

occupier has the same meaning as in the Act;

owner has the same meaning as in the Act;

**pigeon** includes homing pigeons and other domesticated breeds of the family *Columba*, but does not include native pigeons or doves whether or not the keeping of such birds is subject to the approval of the Department of Biodiversity, Conservation and Attractions;

**poultry** includes fowls, roosters, ducks, peafowls, turkeys, geese, guinea fowls, pheasants and other birds commonly kept for the production of eggs or meat for domestic consumption;

**refuse** includes bricks, lime, cement, concrete, rubble, stones, iron, timber, tiles, bags, plastics, ashes, vegetation, wood or metal shavings, sawdust, and waste food, and includes any broken, used, derelict or discarded matter whatsoever, whether of the same type as, or a different type from, those mentioned here;

#### recycling waste means -

- (a) paper and cardboard;
- (a) plastic containers comprised of polyethylene terephthalate or high-density polyethylene;
- (b) glass containers;
- (c) steel containers;
- (d) aluminium containers;
- (e) liquid paper board; and
- (f) any other waste determined by the local government to be recycling waste.

**Regulations** means the Local Government (Functions and General) Regulations 1996;

**residential zone** includes any land zoned Residential or Special Residential under a local planning scheme;

**rodents** means those mammals belonging to the order *Rodentia* and includes rats and mice, but does not include mammals of that species kept as pets in an enclosure designed for the purpose of keeping pets;

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**rural zone** means any land zoned Rural or Special Rural or otherwise zoned for rural purposes under a local planning scheme;

**sand** means granules or particles of rock, earth, clay, loam, silt and any other granular, particulate or like material, and includes dust and gravel;

slaughter means to kill an animal for food;

**stable** means any building used for the keeping, breeding, caring, feeding and rearing of horses;

**stable shelter** in relation to stabling of horses means a three or four walled and fully roofed structure with or without a concrete floor provided for the substantial protection of horses from inclement weather that is provided and approved in lieu of a stable;

**Stocking Rate Guidelines** means the Stocking Rate Guidelines For Rural Small Holdings, Swan Coastal Plain and Darling Scarp and surrounds, Western Australia Plain and Darling Scarp and surrounds, Western Australia, administered by the Department of Primary Industries and Regional Development, as amended from time to time:

**stormwater** means any naturally occurring water that results from rainfall on or around a site, or water flowing onto the site;

**street** means any highway or thoroughfare which the public are entitled to use, and includes every part of the highway or thoroughfare, including the verge and other things including bridges and culverts appurtenant to it;

unreasonable noise has the meaning given to it by the Environmental Protection Act 1986;

**vermin** includes rats, mice, flies, fleas, mites, lice, cockroaches and any other animal, whether vertebrate or invertebrate, which is known to be a vector of disease or is likely to cause damage to human food, habitation or possessions.

water resources includes watercourses, waterways and their estuaries, inlets and floodplains, wetlands, groundwater, surface water, stormwater and drainage.

- (2) Any word or term used in this local law that is not defined in subclause (1) shall have the meaning given to it in the Act.
- (3) Where under this local law the local government is authorised to carry out actions or cause works to be undertaken as a consequence of the failure of any person to comply with the terms of a notice or other conduct, the right to enter land is at all times subject to the provisions of Part 3, Division 3, Subdivision 3 of the Act.
- (4) Where, in this local law, a duty or liability is imposed on an owner or occupier, or on an owner and occupier, the duty or liability is taken to be imposed jointly and severally on each of the owners or occupiers.

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#### **PART 2 - KEEPING OF ANIMALS**

#### Division 1- Keeping of animals

#### 2.1 Cleanliness

- (1) An owner or occupier of land on which an animal is kept shall keep such land
  - (a) free from excrement, filth, food waste and all other matter which causes, or is likely to cause a nuisance, become offensive or injurious to health or to attract vermin; and
  - (b) so far as possible, free from flies or other vermin, by spraying with a residual insecticide or other effective means.
- (2) When directed by an authorised officer, an owner or occupier of land upon which an animal is kept shall clean and disinfect any portion of such land.

#### 2.2 Disposal of dead animals

- (1) An owner or occupier of land, other than a veterinary practice, on which there is a dead animal, must dispose of the dead animal
  - (a) as soon as practicable; and
  - (b) in a manner that does not
    - (i) create a nuisance;
    - (ii) become offensive; or
    - (iii) attract vermin.
- (2) A dead animal must not be disposed of within 100 metres of any water resources or within the Jandakot UWPCA.

#### Division 2 - Keeping of farm animals

#### 2.3 Keeping of farm animals

(1) An owner or occupier of land in a residential zone shall not keep, or permit to be kept, any farm animals on such land.

#### 2.4 Keeping of pigs

An owner or occupier of land shall not keep any pig —

- (a) within a residential zone; or
- (b) within the Jandakot UWPCA.

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#### 2.5 Conditions for keeping farm animals

The owner or occupier of land upon which farm animals are kept shall ensure —

- (a) all farm animals are prevented from approaching within 18 metres of any dwelling, public building, building used for commercial purposes or food business;
- (b) that the land on which the farm animals are enclosed is fenced or walled in a manner capable of confining such animals and, having regard to the species, age, size and condition of the animals, capable of preventing the animals from escaping; and
- (c) such animals are kept in accordance with the provisions of any local planning scheme applicable to that zone.

#### 2.6 Requirements for farm animal shelters

The owner or occupier of land on which farm animals are kept shall ensure that any stable, enclosure or shelter provided for the keeping of farm animals is —

- (a) not situated within 18 metres of any dwelling, public building, building used for commercial purposes or food business; and
- (b) maintained in a manner so as to provide adequate shelter, drainage and ventilation.

#### 2.7 Slaughter of farm animals

- (1) Subject to subclause (2), a person shall not slaughter any farm animal on any land.
- (2) Subclause (1) does not apply to euthanasia of animals by veterinarians, abattoirs, animal food processing premises, vermin control or any premises approved for slaughtering purposes.

#### Division 3- Keeping of horses

#### 2.8 Keeping of horses

An owner or occupier of land shall not keep, or permit to be kept, any horse —

- (a) on land other than within a rural zone; and
- (b) contrary to the provisions of any local planning scheme applicable

# 2.9 Requirements for construction of stable, stable shelter, paddock, yards, training/walking rings and associated buildings or facilities

- (1) Any stable or stable shelter shall not be situated within
  - (a) 18 metres of any dwelling, building used for commercial purposes or food business on an adjacent lot;

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- (b) 9 metres of any dwelling, building used for commercial purposes or food business within the same lot;
- (c) a 30 metre radius of any private bore, well or dam;
- (d) 18 metres from the property boundary; and
- (e) 9 metres of any street in the case of a corner site.
- (2) Any stable or stable shelter situated within the Jandakot UWPCA shall not be situated within the minimum buffer distances as set out in the Environmental Management Guidelines.
- (3) Any stable or stable shelter shall
  - (a) have a separate stall for each horse in accordance with subclause (4);
  - (b) have each wall and roof constructed of an impervious material;
  - (c) have on all sides of the building between the top of the wall and the roof a clear opening of at least 150 millimetres in height, unless otherwise approved by the local government; and
  - (d) have walls that are not less than 3 metres in height and in length.
- (4) Subject to subclause (5), a stable must have
  - (a) a roof that covers the entire floor area of the stall; and
  - (b) a floor with an upper surface that
    - (i) is raised at least 75 millimetres above the surface of the surrounding ground;
    - (ii) is constructed of cement, concrete or other similar impervious materials;
    - (iii) has an adequate fall to a drain which shall empty into a trapped gully situated outside the stable that discharges to sewer or an approved effluent disposal system; and
    - (iv) has an area of not less than 12 square metres for each stall.
- (5) A stable or stable shelter constructed with a sand floor shall be constructed as follows
  - (a) the site must be well drained with the highest known water table no closer than
     2 metres to the sand floor level which may be achieved artificially;
  - (b) the footings to each stable are to be a minimum of 450 millimetres below ground level;
  - (c) the roof is to be not less than 50% of the floor area; and
  - (d) in all other respects, the requirements of subclause (3) apply to the stable building.

- (6) Any associated building or facility shall not be closer than 9 metres to any dwelling.
- (7) Any paddock, yards or training/walking rings shall not be situated within
  - (a) 18 metres of any dwelling, building used for commercial purposes or food business on an adjacent land;
  - (b) 9 metres of any dwelling, building used for commercial purposes or food business within the same land;
  - (c) 30 metres radius of any private bore, well or dam; and
  - (d) the minimum buffer distances set within the Environmental Management Guidelines for land situated within the Jandakot UWPCA.

#### 2.10 Maintenance

The owner or occupier of land where any horse is kept shall —

- (a) ensure that stables, stable shelters and any associated building or facilities are
  - (i) maintained in good working order;
  - (ii) in sound, weatherproof condition; and
  - (iii) are fit for use,

including but not limited to their roofs, walls, floors, guttering, downpipes (including on-site storm water disposal systems), doors and windows.

- (b) maintain fences, railings and gates in the stables, stable shelters, paddocks, yards, training/walking rings in good working order and repair; and
- (c) ensure any paddock is fenced or walled in a manner capable of confining any horse contained therein.

## 2.11 Waste and manure management

The owner or occupier of land where any horse is kept shall ensure that —

- (a) no manure receptacle is situated closer than 10 metres from any dwelling on an adjacent property;
- (b) waste and manure are not permitted to accumulate unless stored or treated so as not to create a nuisance, become offensive or injurious to health or attract vermin; and
- (c) manure is managed in accordance with the planning approval under the under the local planning scheme.

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#### Division 4 - Keeping of poultry, pigeons and birds

#### 2.12 Keeping of poultry and pigeons

- Subject to subclause (2), an owner or occupier of land must not keep or permit to be kept on such land —
  - (a) more than 10 poultry or pigeons in a residential zone; or
  - (b) more than 25 poultry or 50 pigeons in a rural zone without the approval of the local government in accordance with clause 2.20.
- (2) Subclause (1) shall not apply to premises approved by the local government for veterinary purposes or intensive agriculture.

#### 2.13 Requirements for keeping of poultry

An owner or occupier of land upon which poultry are kept, other than for veterinary purposes or intensive agriculture, must ensure that —

- (a) all poultry are kept in a properly constructed and securely fastened enclosure;
- (b) poultry are prevented from approaching within 9 metres of a street, or any dwelling on any other lot, or land used for public building or commercial purposes or food business:
- (c) the enclosure is kept in clean condition and in good repair at all times; and
- (d) effective measures are taken to control vermin and eradicate offensive odours.

## 2.14 Requirement for keeping of pigeons

- (1) An owner or occupier of land upon which pigeons are kept shall ensure that
  - (a) all pigeons are kept in a properly constructed enclosure and confined in that enclosure except where registered homing pigeons are freed for exercise;
  - no opening to an enclosure, including openings for ventilation, is within 9 metres of any street, dwelling, public building, building used for commercial purposes or food business; and
  - (c) the enclosure is kept in a clean condition and in good repair at all times, with effective measures taken to control vermin and eradicate offensive odours.
- (2) An affiliated person shall ensure that all pigeons are kept in accordance with the Code of Practice for Pigeon Keeping and Racing in Australia and subject to the provisions of this local law.

#### 2.15 Roosters, geese, turkeys and peafowl

Other than land within a rural zone, an owner or occupier of land must not keep or permit to be kept, any —

- (a) roosters;
- (b) geese;

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- (c) turkeys; or
- (d) peafowl.

#### 2.16 Requirements for keeping of aviary birds

An owner or occupier of land shall ensure that any enclosure used for the keeping of aviary birds is —

- (a) of sound, weatherproof construction as follows
  - (i) the framework and roost are to be smooth sealed timber or metal;
  - the walls and roof are to be constructed of galvanised iron or other approved material; and
  - (iii) the floor is to be constructed in a manner that facilitates the hygienic removal of waste matter, husks, seeds, feathers, dead birds and faecal matter.
- (b) kept in clean condition and good repair at all times; and
- (c) kept at least 5 metres from any premises on any other land.

#### 2.17 Nuisance caused by birds or poultry

An owner or occupier of land shall not keep any bird or poultry which —

- (a) causes, or is likely to cause a nuisance; or
- (b) emits an unreasonable noise.

#### 2.18 Restrictions on feeding of uncaged birds

- (1) A person shall not feed or permit the feeding of any uncaged bird unless otherwise approved by the local government.
- (2) Where an authorised person is satisfied that a person has not complied with subclause (1) the authorised person may serve the person a notice of breach requiring the person to clean up and properly dispose of any feed or waste products specified in the notice.
- (3) Where approval has been given by the local government to feed or permit the feeding of any uncaged bird, the approval can be withdrawn by the local government in the event that —
  - (a) the holder does not comply or cause compliance with the conditions;
  - (b) there is a change in the circumstances upon which the approval was granted; or
  - (c) the feeding or permission to feed any uncaged bird causes a nuisance.

#### 2.19 Restrictions on pigeons nesting or perching

An authorised person may order an owner or occupier of land on which pigeons nest or perch, to take adequate steps to prevent them from continuing to do so.

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## 2.20 Application for approval for keeping of poultry or pigeons contrary to clause 2.12(1)(a) and 2.12(1)(b)

- (1) An owner or occupier of land may apply in writing to the local government for approval to keep poultry or pigeons otherwise than in accordance with clause 2.12(1)(b).
- (2) An application to the local government for approval pursuant to subclause (1) is to include —
  - (a) a statement outlining the reasons why approval is sought;
  - (b) the number of poultry or pigeons proposed to be kept;
  - (c) a site plan showing land size, location of enclosure, the distance of the enclosure from any boundaries and buildings on adjoining land and any nearby water resources;
  - (d) where applicable, proof affiliation to a poultry or pigeon keeping association;
  - (e) proof of registration as a livestock owner where required by the Agriculture Management (Identification and Movement of Stock and Apiaries) Regulations 2013; and
  - (f) any fee determined by the local government.
- (3) Prior to determining an application for approval, the local government may seek and consider the views and concerns of any owner or occupier of an adjoining property.
- (4) The local government may grant approval of an application pursuant to subclause (1), with or without conditions, or refuse to grant approval.
- (5) Where an approval pursuant to subclause (1) is granted subject to conditions, the holder of the approval shall comply with those conditions.
- (6) A grant of approval is personal to the applicant and applies only to the premises described in the approval.
- (7) The applicant shall notify the local government of any change in the circumstances on which the grant of an approval was based as soon as any change occurs.
- (8) An approval can be cancelled by the local government in the event that
  - (a) the holder does not comply with any conditions set by the local government;
  - (b) there is a change in the circumstances upon which the approval was granted; or
  - (c) the granting of the approval causes a nuisance in the opinion of the local government.

#### Division 5- Keeping of bees

#### 2.21 Keeping of bees

An owner or occupier of land shall not keep, or permit to be kept, bees in more than two bee hives, unless approval is granted by the local government in accordance with clause 2.24.

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#### 2.22 Requirements for keeping of bees

An owner or occupier of land shall not keep, or permit to be kept, bees in any beehive unless

- (a) a good and sufficient water supply is located on the land which is readily accessible by the bees situated at distance of less than 5 metres from the hive;
- (b) a screen or other barrier prevents the bees flying low over a street, public place or adjoining land;
- (c) each beehive is kept as follows -
  - (i) at least 9 metres from any building on any other land;
  - (ii) at least 9 metres from any footpath, street, private street or public place; and
  - (iii) at least 5 metres from the boundary of the land; and
- (d) where required, the owner or occupier is registered under the Agriculture Management (Identification and Movement of Stock and Apiaries) Regulations 2013.

#### 2.23 Nuisance caused by bees

A person shall not keep, or allow bees or beehives to be kept, on land so as to create a nuisance.

#### 2.24 Application for approval for keeping of more than two bee hives

- (1) An owner or occupier of land may apply in writing to the local government for approval to keep more than two bee hives on such land.
- (2) An application for approval should include
  - (a) a statement outlining the reasons why an approval is sought;
  - (b) the number of bee hives proposed to be kept;
  - (c) a site plan showing land size, the location of bee hives, and the distance of the enclosure from any boundaries and buildings on adjoining land;
  - (d) where required, proof of registration as a beekeeper under the *Agriculture Management (Identification and Movement of Stock and Apiaries) Regulations* 2013; and
  - (e) payment of any fee determined by the local government.
- (3) Prior to determining an application, the local government may seek and consider the views and concerns of the owners and occupiers of adjoining land.
- (4) The local government may grant approval, with or without conditions, or refuse to grant approval.

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- (5) Where approval is granted subject to conditions, the holder of the approval shall comply with those conditions.
- (6) A grant of approval is personal to the applicant and applies only to the land described in the approval.
- (7) The applicant shall notify the local government of any change in the circumstances on which the approval was based as soon as any change occurs.
- (8) An approval can be cancelled by the local government in the event that
  - (a) the holder does not comply with the conditions of approval;
  - (b) there is a change in the circumstances upon which the approval was granted; or
  - (c) the granting of the approval causes a nuisance.

#### Division 6 - Previous approvals

#### 2.25 Previous approvals by local government

- (1) Every registration or approval granted by the local government relating to the keeping of poultry, pigeons, pigs, horses and bees under the former provisions and in force immediately before the commencement of local laws, has effect as if granted under this local law and notwithstanding any of the provisions in this local law, may be renewed or transferred, on application made under this local law, at the discretion of the local government subject to such conditions or restrictions, if any, that the local government may deem necessary to impose.
- (2) In clause 2.31(1), "former provisions" means the Town of Kwinana Health (Keeping of Horses and Equine Premises) Local Laws 1997, Town of Kwinana Bee Keeping Local Law 2002, Town of Kwinana Bee Keeping Local Law 2002, Town of Kwinana Piggeries By–laws, Town of Kwinana By–Law No. 29(B), Relating to the Keeping of Pigeons or Town of Kwinana Health By–Law 1963 as repealed.

#### PART 3 - VERMIN CONTROL

#### **Division 1– Mosquitos**

#### 3.1 Mosquito control

- (1) An owner or occupier of land must keep the land free of water located so as to be, or be liable to become, a breeding place for mosquitos.
- (2) An authorised person may order an owner or occupier of land to take adequate and reasonable measures to prevent the pooling of water or undertake control measures to prevent mosquito breeding.

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#### **Division 2 - Rodents**

#### 3.2 Measures to be taken to eradicate rodents

- (1) Where there are indications of the presence of rodents, the owner or occupier of land must take adequate and reasonable measures to keep such land free from rodents and prevent rodent breeding.
- (2) An authorised person may order an owner or occupier of land to take adequate and reasonable measures to eradicate rodents or undertake control measures to prevent rodent breeding.

#### Division 3 - Cockroaches

#### 3.3 Measures to be taken to eradicate cockroaches

- (1) Where there are indications of the presence of cockroaches in, on or about land, the owner or occupier of such land must take adequate and reasonable measures to keep the land free from cockroaches and prevent cockroach breeding.
- (2) An authorised person may order an owner or occupier of land to take adequate and reasonable measures to eradicate cockroaches or undertake control measures to prevent breeding of cockroaches.

#### **PART 4 - NUISANCES**

#### Division 1 - Amusements

## 4.1 Operation of amusements

A person shall not provide or conduct any amusements on land so as to create or cause a nuisance to any owner or occupier of land in the district, without the approval of the local government.

## Division 2 - Light

#### 4.2 Emission or reflection of light

An owner or occupier of land must not —

- (a) permit artificial light to be emitted or reflected from anything on the land so as to illuminate premises outside that land at a level that interferes unreasonably with normal activities; or
- (b) permit natural light to be reflected from anything on the land so as to create or be a nuisance to any owner or occupier of adjoining land or person using a street as a thoroughfare.

#### 4.3 Use of exterior lighting

An owner and or occupier of land on which floodlights, lighting installations or other exterior lights are erected or used must not allow the floodlights or other exterior lights to shine directly onto adjoining land so as to cause a nuisance.

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#### 4.4 Notice

The local government may give a notice to the owner or occupier of land to abate a nuisance arising from a contravention of clause 4.2 or 4.3 within the time specified in the notice by —

- (a) preventing artificial light from being emitted or reflected from the land;
- (b) treating any reflective surfaces;
- (c) restricting the hours of use of the floodlights, lighting installations or other exterior lights; or
- (d) requiring alterations to the direction in which any lights are shining.

#### Division 3 - Smoke, fumes, odours and other emissions

#### 4.5 Burning rubbish, refuse or other material

- (1) An owner or occupier of land must not set fire to, or cause to be set on fire, any rubbish, refuse or other material listed in Schedule 2 on the land, unless approved under a written law.
- (2) Subclause (1) does not apply to any barbeque, solid fuel water heater, space heater or ovens fired with dry paper, dry wood, synthetic charcoal or charcoal type fuel.

#### 4.6 Escape of smoke, fumes, odours and other emissions

An owner or occupier of land must take reasonable steps to prevent the escape of smoke, fumes or odours from the land in such quantity or of such a nature as to cause or to be a nuisance to any person, unless that owner or occupier has approval under a written law that permits the escape of smoke, fumes or odours from the land.

## PART 5 - UNSIGHTLY LAND AND DISUSED MATERIALS

#### 5.1 Removal of refuse and disused materials

The owner or occupier of land shall not keep, or permit to remain on the land, any refuse, rubbish or disused material of whatsoever nature or kind which in the opinion of an authorised person is likely to give the land an untidy appearance and does not conform with the general appearance of other land in that particular part of the district.

## 5.2 Removal of unsightly overgrowth of vegetation

The owner or occupier of land shall not permit any unsightly overgrowth of vegetation on the land that gives the premises an untidy appearance and does not conform with the general appearance of other land or premises in that particular part of the district.

#### 5.3 Fencing unsightly land

The local government may give notice to an owner or occupier of land to ensure that unsightly land is enclosed, to the satisfaction of the local government, with a fence or other means suitable to prevent the land, so far as is practicable, from being unsightly.

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#### 5.4 Storage of vehicles and machinery

The owner or occupier of land hall not —

- (a) wreck, dismantle or break up any vehicle or machinery (or any part thereof); or
- (b) store or allow to remain on any land any vehicle or machinery (or any part thereof) in a state of disrepair or disuse,

unless inside a building within an area enclosed by a fence or wall of not less than 1.8 metres in height and of such a nature as to screen all vehicles, parts or bodies of vehicles or machinery from the street and from adjoining land.

#### PART 6 - STORMWATER AND WASTEWATER MANAGEMENT

#### 6.1 Containment of stormwater, rainwater and wastewater

An owner or occupier of land shall ensure that all rainwater and stormwater received on the land, and all wastewater generated on the land is contained on the land or discharged into an approved drainage structure or sewerage apparatus.

#### 6.2 Containment and disposal of swimming pool and other wastewater

An owner or occupier of land shall ensure that all wastewater and backwash water from any swimming pool or spa filtration systems or other water storage systems on the land is contained within the land and diverted to the storm water drainage system on the land.

#### **PART 7—HAZARDOUS MATERIALS**

#### 7.1 Hazardous plants and trees

- (1) Where a plant or tree situated on land presents a hazard, or endangers or may endanger any person or thing on adjoining land, an authorised person may give a notice to the owner or the occupier of the land to remove, cut, move or otherwise deal with the plant or tree so as to remove the danger or hazard.
- (2) Where a plant or tree situated on land presents a serious and immediate danger to any person or thing on adjoining land, an authorised person may take any remedial action considered appropriate in order to make a plant or tree safe without having given the owner or occupier notice under subclause (1).

## 7.2 Cyclonic activities or severe weather conditions

(1) Where there is likely to be a danger to the public or property which may result from cyclonic activity or severe weather, an authorised person may give a notice to the owner or the occupier of land specifying measures to be taken in relation to the premises to prevent or minimise any danger or hazard.

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#### PART 8 - BUILDING, DEVELOPMENT AND LAND CARE

## Division 1 – Litter and refuse on building sites, development sites and demolition sites

#### 8.1 Provision of refuse and recycling receptacles

- (1) The owner or occupier of a building site, development site or demolition site shall at all times provide and maintain a refuse receptacle and recycling receptacle, available for use on the land.
- (2) A refuse receptacle and recycling receptacle under subclause (1) shall include a suitable cover, to the satisfaction of an authorised officer, of such design as will
  - (a) contain any refuse and recycling waste likely to be produced on the land; and
  - (b) prevent refuse and recycling waste being blown from the receptacle by wind.

#### 8.2 Requirements to control refuse and recycling waste

- (1) From the time of commencement of works on a building site, development site or demolition site until the time of completion of such work, the owner or occupier of the land shall take reasonable steps to –
  - (a) ensure all refuse on the land is placed and contained in the refuse waste receptacle;
  - (b) ensure all recycling waste on the land is placed and contained in the recycling waste receptacle;
  - (c) keep the site as free as is reasonably practicable from any refuse and recycling waste;
  - (d) ensure all refuse and recycling waste are contained in the receptacles are prevented from being blown from the site by wind;
  - (e) maintain the street verge immediately adjacent to the land free of refuse and recycling waste from the site; and
  - (f) ensure the refuse and recycling waste receptacle is emptied when full.
- (2) The owner or occupier of a building site, development site or demolition site must ensure that within 2 days of completion of works on the site or when directed by an authorised officer
  - (a) the land and the street verge immediately adjacent to it is cleared of all refuse; and recycling waste; and
  - (b) all recycling and refuse receptacles are removed from the land.

#### Division 2 - Prevention of dust and liquid waste

#### 8.3 Containment of dust and liquid waste

(1) An owner or occupier of land must take effective measures to -

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- (a) stabilise dust on the land;
- (b) contain all liquid waste on the land; and
- (c) ensure no dust or liquid waste is released or escapes from the land whether by means of wind, water or any other cause.
- (2) An owner or occupier of land must notify the owners or occupiers of adjoining land in writing 48 hours prior to the commencement of any activity that has the potential to cause the release or escape of dust or liquid waste from the land, giving details of
  - (a) the nature of the activity;
  - (b) the proposed commencement time, frequency, duration time and location of the activity; and
  - (c) the name of the person responsible for carrying out the activity and how and where that person may be contacted.
- (3) Where an authorised person is satisfied that an owner or occupier has not complied with subclause (1), the local government may serve on the owner and or occupier of the land a notice requiring the owner and or occupier to do one or more of the following
  - (a) comply with subclause (1);
  - (b) clean up and properly dispose of any released or escaped dust or liquid waste;
  - (c) clean up and make good any damage resulting from the released or escaped dust or liquid waste; or
  - (d) take effective measures to stop any further release or escape of dust or liquid waste.
- (4) The requirements set out in a notice served under subclause (3) must be complied with
  - (a) within 48 hours of service of the notice where no other time is specified;
  - (b) within such other period as is specified in the notice; or
  - (c) immediately, if the notice so specifies.
- (5) Where an authorised person is satisfied that dust or liquid waste has escaped or has been released from an activity undertaken on land or as a consequence of the use of equipment on land, the local government may serve a notice on the owner and or occupier of the land and or the operator of the equipment, as the case may be, requiring that the activity or use of the equipment on the land be ceased immediately, for such period as is specified in such notice.
- (6) Where an authorised person is satisfied that dust or liquid waste is likely to be released or escape as a result of an activity to be carried out on any land, the local government may give to the owner and or occupier a notice providing that the activity may only be carried on subject to conditions specified in the notice.

#### **PART 9 - OBJECTIONS AND APPEALS**

#### 9.1 Objections and appeals

When the local government decides under this local law whether it will —

- (a) grant a person an authorisation;
- (b) renew, vary or cancel an authorisation; or
- (c) give a person a notice,

the provisions of Division 1 of Part 9 of the *Local Government Act 1995* and Regulation 33 of the Regulations shall apply to that decision.

#### **PART 10 - ENFORCEMENT**

#### Division 1 - Notices given under this local law

#### 10.1 Notice of Breach

- (1) Where a breach of any provision of this local law has occurred, the local government may give a notice in writing to the person alleged to be responsible for such breach directing them to take such actions as an authorised person considers necessary within the timeframe specified in the notice.
- (2) A notice given under subclause (1) shall
  - (a) specify the provision of this local law which has been breached;
  - (b) specify the particulars of the breach; and
  - (c) state that the manner in which the person is required to remedy the breach to the satisfaction of the local government within the time specified in the notice.
- (3) If a person fails to comply with a notice given to him or her under this local law, the local government may do, or arrange to be done, the thing specified in the notice and recover from the person to whom the notice was given, as a debt, the costs incurred in doing so.
- (4) This local law is subject to sections 3.25, 3.27 and Schedules 3.1 and 3.2 of the Act and any powers of entry exercised by the local government under this local law is subject to Part 3, Division 3, Subdivision 3 of the Act.

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#### Division 2 - Offences and penalties

#### Subdivision 1 - General

#### 10.2 Offences and penalties

- (1) A person who
  - (a) fails to do anything required or directed to be done under this local law;
  - (b) fails to comply with the requirements of a notice issued under this local law; or
  - (c) does anything prohibited under this local law,

commits an offence.

(2) A person who commits an offence under this local law is liable to a maximum penalty of \$5,000 and a maximum daily penalty of \$500 in respect of each day or part of a day during which the offence has continued.

#### Subdivision 2 - Infringement notices and modified penalties

#### 10.3 Prescribed offences

- (1) An offence against a clause specified in Schedule 1 is a prescribed offence for the purposes of Section 9.15 of the Act.
- (2) The amount of the modified penalty for a prescribed offence
  - (a) for a first offence is that specified adjacent to the clause in the fourth column of Schedule 1; and
  - (b) for a subsequent offence is that specified adjacent to the clause in the fifth column of Schedule 1.

#### 10.4 Form of infringement notices

For the purposes of this local law —

- (a) where a vehicle is involved in the commission of an offence, the form of the notice referred to in section 9.13 of the Act is that of Form 1 in Schedule 1 of the Regulations;
- (b) the form of the infringement notice given under section 9.16 of the Act is that of Form 2 in Schedule 1 of the Regulations; and
- (c) the form of the notice given under section 9.20 of the Act withdrawing an infringement notice is that of Form 3 in Schedule 1 of the Regulations.

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## **SCHEDULE 1 – PRESCRIBED OFFENCES**

[Clause 10.3(1)]

	01	[Clause 10.3(1)]		
Item No.	Clause No.	Nature of offence	Modified Penalty First Offence (\$)	Modified Penalty Subsequent Offence (\$)
1	2.1(1)	Failure to keep land upon which an animal is kept to the required standard	150	300
2	2.1(2)	Failure to comply with a direction to clean and disinfect land upon which an animal is kept	150	300
3	2.2(1) and (2)	Failure to disposing of a dead animal in approved manner	150	300
4	2.3(1)	Keeping a farm animal within a residential zone	150	300
5	2.4(1)	Keeping of a pig within a non-permitted area	150	300
6	2.5(a)	Failure to ensure a farm animal is prevented from approaching a dwelling, public building, building used for commercial premises or food business	150	300
7	2.5(b)	Failure to ensure that land where a farm animal is kept is fenced or walled to the required standard	150	300
8	2.5(c)	Failure to keep a farm animal in accordance with planning scheme	150	300
9	2.6(a)	On land where farm animals are kept, failing to ensure any stable, enclosure or shelter is not situated within 18 metres of any dwelling, public building, building used for commercial purposes or food business	150	300
10	2.6(b)	On land where farm animals are kept, failing to ensure any stable, enclosure or shelter is maintained in a manner so as to provide adequate shelter, drainage and ventilation	150	300
11	2.7(1)	Slaughtering an animal other than at an approved premises	150	300

Animal, Environment and Amenity Local Law 2024

12	2.8(a)	Keeping of a horse outside of a rural zone	150	300
13	2.8(b)	Keeping of a horse contrary to the provisions of any local planning scheme	150 300	
14	2.9(1) and (2)	Failure to ensure a stable or stable shelter is sited to the required standard	150	300
15	2.9(3) and (4)	Stable or stable shelter contrary to the required standard	150	300
16	2.9(6)	Associated building or facility situated within 9 metres of any dwelling	150	300
17	2.9(7)	Failure to ensure a paddock, yard or training/walking ring is sited to the required standard	150	300
18	2.10(a)	Failing to maintain any stable, stable shelter, associated building or facility where any horse is kept to the required standard.	150	300
19	2.10(b)	Failing to maintain fences, railings and gates to the required standard	150 300	
20	2.10(c)	Failure to ensure any paddock where horses are kept is fenced or walled in a manner capable or confining a horse	150 300	
21	2.11(a)	Manure receptacle on land where horses are kept situated within 10 metres of a dwelling on adjacent property	150	300
22	2.11(b) and (c)	On land where horses are kept, failing to handle waste and manure to the required standard	150	300
23	2.12(1)(a)	Exceeding the permitted number of poultry or pigeons in a residential zone	150	300
24	2.12(1)(b)	Exceeding the permitted number of poultry or pigeons in a rural zone without approval	150 300	
25	2.13	Failure to comply with requirements for keeping of poultry	150 300	
26	2.14(1) and (2)	Failure to comply with requirements for keeping of pigeons	of 150 300	

27	2.15	Keeping a rooster, geese, turkey or peafowl outside of a rural zone	150 300	
28	2.16	Failure to comply with requirements for keeping of aviary birds	150 300	
29	2.17(a)	Keeping a bird or poultry that causes or is likely to cause a nuisance	150 300	
30	2.17(b)	Keeping a bird or poultry which emits an unreasonable noise	150 300	
31	2.18(1)	Feeding of uncaged bird without approval	150	300
32	2.18(2)	Failure to comply with a notice to clean up and dispose of feed or waste product	150	300
33	2.20(5)	Failure to comply with a condition of approval for keeping poultry or pigeons	150	300
34	2.20(7)	A holder of a permit to keep poultry or pigeons failing to notify of any change in circumstances	150	300
35	2.21	Keeping bees in more than two beehives on land without approval	150	300
36	2.22	Failure to comply with requirement for keeping of bees	150 300	
37	2.23	Keeping bees so as to create a nuisance	150 300	
38	2.24(5)	Failure to comply with a condition of approval for keeping bees	150	300
39	3.1(1)	Failure to keep land free of water that is or is liable to become a breeding place mosquito breeding	150	300
40	3.2(1)	Where there are indications of the presence of rodents, failure to take measures to keep land free from rodents and prevent breeding	150	300
41	3.3(1)	Where there are indications of the presence of cockroaches, failure to take measures to keep land free from cockroaches and prevent breeding	150	300
42	4.1	Providing or conducting amusements so as to create	250	500

				T
		or cause a nuisance without approval		
43	4.2(a)	Permitting artificial light to be emitted or reflected so as to illuminate premises at a level that interferes unreasonably with normal activities	250	500
44	4.2(b)	Permit natural light to be reflected so as to create or be a nuisance	250 500	
45	4.3	Allowing floodlights or other exterior lights to shine into adjoining land so as to cause a nuisance	250 500	
46	4.5(1)	Setting fire to rubbish, refuse or other materials without approval	250	500
47	4.6	Failure to take reasonable steps to prevent the escape of smoke, fumes, odours or other emissions so as to cause a nuisance	250	500
48	5.1	Refuse, rubbish or disused material on land so as to give untidy appearance	250	500
49	5.2	Failure to prevent unsightly overgrowth of vegetation	250	500
50	5.4(a)	Wrecking, dismantling or breaking up a vehicle or machinery outside of a building or enclosed area	250	500
51	5.4(b)	Storing or allowing any vehicle or machinery to remain outside of a building or enclosed area	250	500
52	6.1	Failure to ensure rainwater, wastewater or stormwater is contained, discharged to an approved drainage structure or sewage apparatus	250	500
53	6.2	Failure to ensure water from a swimming pool, spa filtration system or other water storage system is contained and diverted to storm water drainage	250	500
54	8.1(1)	Failure to provide and maintain a refuse receptacle and a recycling receptacle at a building site, development site or demolition site	250	500
55	8.1(2)	Receptacle at a building site, development site or	250	500

		demolition site not to the required standard		
56	8.2(2)(a)	Failure to clear refuse or recycling from a building site, development site or demolition site	250 500	
57	8.2(2)(b)	Failure to remove receptacle from a building site, development site or demolition site	250 500	
58	8.3(1)(a)	Failure to take effective measures to stabilise dust	250	500
59	8.3(1)(b)	Failure to take effective measures to contain liquid waste	250	500
60	8.3(1)(c)	Failure to take effective measures to ensure no dust or liquid waste is released or escapes	250	500
61	8.3(2)	Failure to notify an owner or occupier of adjoining land of an activity with the potential to cause the release or escape of dust or liquid waste	250	500
62	10.2(1)(a)	Failure to do anything required or directed to be done	250	500
63	10.2(1)(b)	Failure to comply with a notice	250 500	
64	10.2(1)(c)	Doing anything prohibited under local law	250	500

## SCHEDULE 2 - MATERIALS NOT TO BE SET ON FIRE OR TO BE BURNT

[Clause 4.5]

- (1) Batteries
- (2) Carpet
- (3) Electrical products
- (4) Fabrics or textiles
- (5) Solvent
- (6) Paint
- (7) Plastic, including polystyrene and the like
- (8) Rubber
- (9) Timber that has been treated with preservatives
- (10) Tyres
- (11) Vehicles or vessels and their parts
- (12) Waste oil, fats or grease

Animal, Environment and Amenity Local Law 2024

Dated this	day of	[year]
The Common Seal of the City of Kwinana was hereunto affixed in the presence of :	)	
Peter Feasey	Wayı	ne Jack
Mayor	Chief	f Executive Officer

#### 15.2 COUNCIL POLICY REVIEW

#### **SUMMARY**

Council policies are high-level statements articulating the intent of the City's strategic objectives as well as guiding the City's operations. Appropriate policies help strengthen the City's governance as well as support consistency in decision-making and outcomes.

Unlike the review of local laws, the *Local Government Act 1995* does not stipulate a specific timeframe for the review of Council policies. However, the City has established processes to ensure timely reviews based on necessity.

High-risk policies are to be reviewed every two years, while lower-risk policies may be reviewed every four years. Policies are required to be updated as needed even if the review timeframe is not due, in response to changes in legislation, procedures, and other relevant factors. The City's commitment to policy review ensures that no policy exceeds a four-year review timeframe, with the respective review dates clearly stated within the Policies reference section.

As part of the City's commitment to transparency and efficient processes, a new council policy has been developed regarding requests for leave of absences by Elected Members. The purpose of this policy is to provide guidance for applying and managing leave requests by Elected Members while ensuring compliance with the *Local Government Act 1995* and associated regulations.

It's recommended that Council resolve to adopt the new Elected Members Leave of Absence policy as detailed in **Attachment A**.

In addition, as part of the City's ongoing policy review process, the following policies have undergone a thorough review and are recommended for adoption by Council:

- Mobile Food Vendors (Food Trucks) (Attachment B)
- Fraud and Corruption (Attachment D)
- Advocacy and Lobbying (Attachment E)

The Green Buildings Policy as detailed in **Attachment F** has been reviewed and determined to be no longer necessary on the basis that it has been superseded by the City's internal Green Building – Guidelines. It is recommended that Council resolve to revoke the Policy.

## OFFICER RECOMMENDATION

That Council resolves as follows:

In accordance with the Local Government Act 1995:

- (a) Adopt the new Council policy Elected Members Leave of Absence as detailed in Attachment A
- (b) Adopt the following amended Council policies as detailed in Attachments B to E:
  - Mobile Food Vendors;
  - Fraud and Corruption; and
  - Advocacy and Lobbying
- (c) Revoke Council policy Green Buildings as detailed in Attachment F

## **VOTING REQUIREMENT**

Simple majority.

## **DISCUSSION**

As part of the City's policy review process, the following policies have been subject to review and assessment. After careful consideration the policies are now recommended for adoption or to be revoked by Council. To facilitate this decision-making process, City officers have provided comments and insights related to each policy, these comments have been included in the table below.

## **New Policy for Adoption**

In accordance with the *Local Government Act 1995*, the following policy have been developed and is recommended for adoption:

Policy Name	Comment	
	The new council Elected Members Leave of Absence Policy emphasises the City's commitment to transparency and efficiency in its operations. The Policy serves as a structured framework for both applying for and managing leave requests by elected members, aligning with the requirements outlined in the <i>Local Government Act 1995</i> and the City's internal processes.	
Elected Members Leave of Absence	By establishing clear processes for requesting leave, the Policy aims to streamline the process and ensure that all requests are handled consistently. This promotes fairness and accountability within the council, as well as transparency in how leave requests are managed.	
	Additionally, by providing clarity on how leave requests are evaluated, approved, and managed, the Policy helps maintain the effective functioning of the council and its ability to serve the needs of the community.	
	The development of the Policy reflects the City's proactive approach to governance, prioritising transparency, efficiency, and compliance in the management of leave requests by elected members.	

## **Amended Policies for Adoption:**

In accordance with the *Local Government Act 1995*, the following policies have been reviewed and are recommended for adoption:

Policy Name	Comment		
	City officers have conducted a review of the Mobile Food Vendors (Food Trucks) Policy. The Policy has been renamed to Mobile Food Vendors Trading Policy.		
	As discussed at the Elected Members briefing held 29 April 2024, it is recommended that the Policy be amended to a principle-based document to enable a flexible framework in regulating mobile food vendors.		
Mobile Food Vendor (Food Trucks)	Additional new objectives have been included in the updated Policy to support place activation and encouraging healthier food vendors.		
	City officers have developed a new operational guideline to support the implementation, which includes a list of designated trading areas.		
	The designated trading areas will be determined by the Chief Executive Officer rather than through Council adoption.		
	For your reference a tracked changed version can be located at Attachment C.		
	The City's Fraud and Corruption Policy has undergone a review aimed at enhancing its consistency and clarity. While no major amendments have been made, adjustments have been implemented to provide greater clarification and ease of understanding.		
Fraud and Corruption	By improving clarity, the Policy aims to facilitate better adherence and implementation across the organisation, by strengthening efforts to prevent and address instances of fraud and corruption.		
	The review of the Fraud and Corruption Policy reflects the City's commitment to maintaining high standards of integrity and accountability within the City. By ensuring consistency and clarity, the Policy remains a vital tool in safeguarding the City's resources and upholding public trust.		
	The Advocacy and Lobbying Policy establishes how the City of Kwinana will engage with various stakeholders to meet community needs, aligning with the Strategic Community Plan.		
Advocacy and Lobbying	The Advocacy and Lobbying Policy has undergone a review, key updates include consolidating "Priority Items" into "priority themes," requiring a 5-day comment period for Elected Members on advocacy items, and ensuring all themes and items are recorded in the City's Records System. The Policy also details advocacy methods such as meetings and functions.		

## Policy to be Revoked:

In accordance with the *Local Government Act 1995*, the following policy is recommended to be revoked:

Policy Name	Comment
	After careful review the City recommends revoking its Green Buildings Policy. The decision to revoke the Green Buildings Policy in favour of the Green Building Guideline reflects a consolidation of documentation. Essentially, both the Policy and guidelines were serving similar purposes, resulting in redundancy and unnecessary complexity. By streamlining to just one set of guidelines, the City eliminates confusion and ensures consistency in its approach to green building practices.
Green Buildings	The purpose of these guidelines is to incorporate green building requirements into the design, construction, and renewal processes of council buildings and facilities. This move aims to reduce environmental impacts and operational costs while focusing on lowering carbon emissions and overall environmental impact across the City's portfolio. The guidelines also emphasise the use of alternative materials and lower emission products to promote sustainability.
	It should be noted that it is intended that the Green Building Guidelines will form part of the City's climate change approach under an updated Climate Change Plan that is scheduled for review in 2024/2025. This integration underscores the City's commitment to sustainability and climate action, ensuring that our advocacy efforts are aligned with our environmental objectives.

## STRATEGIC IMPLICATIONS

This proposal will support the achievement of the following outcome/s and objective/s detailed in the Strategic Community Plan and Corporate Business Plan.

Strategic Community Plan				
Outcome	Strategic Objective	Action in CBP (if applicable)	How does this proposal achieve the outcomes and strategic objectives?	
5 – Visionary leadership dedicated to acting for its community	5.1 – Model accountable and ethical governance, strengthening trust with the community	N/A – There is no specific action in the CBP, yet this report will help achieve the indicated outcomes and strategic objectives	Although there is no specific action to the City's SCP or CBP the review, adoption and revoking of Council Policies should reflect the City desired achievements of the outcomes and objective of the visionary leadership of the City.	

#### **SOCIAL IMPLICATIONS**

There are no social implications as a result of this proposal.

#### **LEGAL/POLICY IMPLICATIONS**

Local Government Act 1995

- 2.7. Role of council
- (2) Without limiting subsection (1), the council is to
  - (a) oversee the allocation of the local government's finances and resources; and
  - (b) determine the local government's policies.

#### FINANCIAL/BUDGET IMPLICATIONS

There are no financial implications that have been identified as a result of this report or recommendation.

#### **ASSET MANAGEMENT IMPLICATIONS**

No asset management implications have been identified as a result of this report or recommendation.

#### **ENVIRONMENTAL/PUBLIC HEALTH IMPLICATIONS**

No environmental or public health implications have been identified as a result of this report or recommendation.

#### **COMMUNITY ENGAGEMENT**

There are no community engagement implications as a result of this report or recommendation.

#### **ATTACHMENTS**

- A. DRAFT Policy Elected Members Leave of Absences J.
- B. Draft Council Policy Mobile Food Vendor J.
- C. Attachment tracked changes Mobile Food Vendor Trading Policy &
- D. Policy Fraud and Corruption J.
- E. Attachment Policy Advocacy and Lobbying U
- F. Policy Green Building new and renovated Council buildings 2018 U



# **Council Policy**

Elected Member Leave of Absence



Legislation/local law requirements	s.2.25 Local Government Act 1995
Relevant Delegation	N/A
Related policy procedures and documents	Elected Members leave of absence form

#### Introduction

Elected Members of the City of Kwinana are encouraged to attend all Council Meetings and additional commitments required of an elected member.

Where a leave of absence is required by an Elected Member, this Policy outlines the procedure to be followed when applying for leave of absence.

Disqualification from membership of council under sections 2.25(4) and 2.25(5A) of the Act for failing to attend meetings will be avoided as long as Council grants a leave of absence prior to a member being absent from three consecutive ordinary meetings, unless all the meetings are within a two month period.

#### **Purpose**

This policy outlines the City's approach to managing requests for leave of absence by Elected Members.

#### Objective

To guide the handling of requests for leave of absence of Elected Members.

#### Scope

This policy is applicable to all Elected Members and of the City of Kwinana.

## **Policy Provisions**

#### **Policy**

- 1. Elected Members have a duty to attend all council meetings to ensure that electors are adequately represented.
- Under the Local Government Act 1995 (the Act), an Elected Member who is absent from three consecutive ordinary council meetings without leave being granted by the Council are automatically disqualified.
- 3. If an Elected Member needs to be absent for more than six consecutive ordinary council meetings, Ministerial approval is necessary as well as Council approval.
- 4. Applications for leave of absence must be approved by Council before (or at the start of) the meeting(s) the Elected Member is to be absent from.
- 5. Leave is not to be granted in respect of:
  - a. a meeting that has concluded; or
  - b. the part of a meeting before the granting of leave.
- Applications by Elected Members for leave of absence from Council commitments are to be provided in writing using either the Elected Member leave form or by email to the CEO as soon as practicable after they become aware that leave is required.
- 7. Applications are required to include the following information, as a minimum:
  - a. Period of leave sought (dates from beginning to end).
  - b. Reason for absence (e.g. holiday, health, work related).
  - Expected number of ordinary council meetings held during applicable period of leave.
  - d. Any meetings, briefings or other functions conducted by the City during the requested period of leave which the Elected Member would be required or expressly wishes to attend.
- 8. The granting of leave, or refusal to grant leave and reasons for that refusal, is to be recorded in the minutes of the next ordinary council meeting of Council.

#### OFFICER USE ONLY

Officers may amend this section without council approval.

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Responsible Team	Governance and Legal			
Initial Council adoption	Date: June 2024 Ref#: <	CM Ref>		
Reviewed/amended	Date: N/A Ref#: <cm ref=""></cm>			
Next Review Date	Date: June 2028			
Policy Document Number	D24/22482			



## **Council Policy**

# Mobile Food Vendors Trading Policy



Legislation/local law requirement	Local Government Act 1995 Food Act 2008 Activities in Thoroughfares and Public Places and Trading Local Law 2011
Relevant Delegation	Refer to the City's delegation register
Related policy procedures and documents	Mobile Food Vendors Trading Guidelines South Metropolitan Health Service, Health Promotion, How to select healthier food vendors for community events: A toolkit for local government.

#### **Purpose**

To allow for outdoor, high-quality mobile food vending activities in a manner that improves the usage, image, and quality of the City's public spaces, whilst managing the competing needs and interests of local business, residents, consumers, and users of the City's facilities.

The objectives of this Policy are to:

- Increase the enjoyment and activation of public spaces within the City;
- · Provide a choice and diversity of local food options;
- Encourage healthy food and drink options;
- Provide opportunities for the development and growth of businesses;
- · Increase a sense of place and connection; and
- Ensure that the trading activities of mobile food vendors complement other local businesses and do not compromise the amenity of surrounding areas.

#### Scope

The Policy applies to all mobile food vendors and temporary food stalls who conduct trading activities within the City of Kwinana.

Exclusion from this policy:

- Mobile food vendors operating on private land by invitation with the consent of the owner of the land (does not include sale of food to the public).
- Food delivery services.

## **Policy Provisions**

#### **Definitions**

Designated trading locations

means set locations from which mobile food vendors can trade with City approval which are set within the Food Vendor Trading Guidelines.

**Public Place** 

as defined under City's *Activity on Thoroughfares and Public Places and Trading Local Law* includes any thoroughfare or place which the public is allowed to use, whether or not the thoroughfare or place is on private property but does not include – (a) premises on private property from which trading is lawfully conducted under a written law; and (b) local government property.

Fixed food business

means a business that the primary purposes of which is the retail sale of food or beverages that is carried out from a fixed

premise. This includes sports club canteens.

Itinerant Food Vendor

means a mobile food vendor who travels along a road looking for customers and who sells a product from a vehicle which stops temporarily to serve customers who stop the vendor or come to the vendor whilst the vehicle is stopped.

Mobile Food Vendor

means a food vendor who has a *Trader's Permit* and operates a Department of Transport licenced vehicle and food business notification or registration certificate issued by a Local Government under the *Food Act 2008*.

Temporary food stall

means movable or temporarily fixed structure, stand or table in, on or from which food are sold or offered for sale. They operate at an occasional event, usually lasting hours or days.

Healthier food vendor

means a mobile food vendor who has been assessed against the Healthier Vendor Self-Assessment Checklist developed by the South Metropolitan Health Service Health Promotion Unit and meet two essential criteria including:

- not to display full sugar drinks; and
- include at least one healthier food option on their menu.

All other definitions have the meaning as prescribed in the City's *Activity on Thoroughfares* and *Public Places and Trading Local Law 2011.* 

#### **Policy statement**

All food vendors are required to comply with all legal and City requirements as detailed in the Mobile Food Vendor Trading Guidelines (the Guidelines).

The Guidelines will outline the conditions and operational requirements for mobile food vendors and temporary food stalls. The Guidelines will be updated periodically to reflect any legislative and/or City operational changes.

The City reserves the right to add or remove locations at any time in response to complaints or periodic review of the Guidelines or Policy.

#### **Designated Trading Locations**

All designated trading locations with specific conditions of trading for each location, including specified trading hours and times, are outlined in the Guidelines.

The locations will be reviewed regularly. New locations will be considered against the criteria set within this Policy.

The City reserves the right to add or remove locations from the guidelines at any time in response to address any noise, odours or any other disturbance concerns, any complaints received, maintenance or works being undertaken or near that location, and/or the review cycle of the City.

Temporary food stalls are not permitted to trade at designated trading areas. Only self-contained mobile food vendors are permitted. No external power, gas, water connection and rubbish service will be provided by the City.

The designated trading location must not:

- Be situated within 100m of a fixed food businesses or an approved food truck event or market (unless written approval has been obtained from the fixed food businesses and the City);
- Operate on main roads, Wells Park, Kwinana Beach, Challenger Beach and industrial areas;
- Obstruct pedestrian flow, vehicular traffic/parking, queuing, and other waiting areas; and
- Pose an unmitigated risk to the safety of the community.

Only healthier food vendors are permitted to trade at designated trading locations within 300 metres of a school.

The suitability of each designated trading location will be assessed against the objectives of the Policy and the designated trading location criteria by the Development Assessment Unit and determined by the Chief Executive Officer.

#### **Itinerant Food Vendor Locations**

Itinerant food vendors are required to trade within the conditions and operational requirements set within the Guidelines.

Itinerant food vendors must not:

- Trade within 100m of a fixed food businesses or an approved food truck event or market (unless written approval has been obtained from the fixed food businesses and the City);
- Trade within 300 metres of a school between the hours of 7.00am and 9.00am and 3.00pm and 5.00pm during school days; and
- Trade on main roads, Wells Park, Kwinana Beach, Challenger Beach and industrial areas.

#### **Approved Events and Markets**

Mobile food vendors and temporary food stalls are permitted to trade at events and markets approved by the City of Kwinana Environment and Health Department in accordance with the Guidelines.

#### Other Public Places for Individual Trading

Individual food vendors who trade at all other public places will be assessed on a case-bycase basis in accordance with the Guidelines.

#### Grounds on which an application maybe refused

An application submitted to the City of Kwinana may be refused where one or more of the following applies:

- The applicant has not provided further information when requested by the City as part of the application assessment process.
- The applicant has not paid outstanding fees at least three business days before the event.
- The applicant has committed a breach of the City's Local Laws, *Food Act 2008* or any other legislation pertinent to the conduct of their business.

The City may at its discretion refuse to accept a trader's permit application that has been submitted outside the nominated application timeframe as detailed in the Guideline.

#### **Approval**

A stallholder or traders permit with conditions will be issued once all applicable fees have been received (if applicable).

Food vendors that trade without a permit or do not comply with the conditions in the approval may result in further formal compliance action.

All appeals must be presented to the Manager Environment and Health in writing.

#### 5.7 Fees and Charges

The City will impose fees and charges on traders in accordance with the relevant Council adopted fees and charges or varied by Council resolution, unless exempted through the City's Community Funding Policy.

#### OFFICER USE ONLY

Officers may amend this section without council approval.

Responsible Team	Environment and Health Services	
Initial Council adoption	Date: 23 May 2018	Ref#: 177
Reviewed/amended	Date: 12 June 2024	Ref#: <cm ref=""></cm>
Next Review Date	Date: June 2027	
Policy Document Number	D24/14296	



# **Council Policy**

Mobile Food Vendors
(Food Trucks) Trading
Policy





#### 1. Title

## Mobile Food Vendors (Food Trucks) Trading Policy

Legislation/local law requirement	Local Government Act 1995 Food Act 2008 Activities in Thoroughfares and Public Places and Trading Local Law 2011
Relevant Delegation	Refer to the City's delegation register
Related policy procedures and documents	Mobile Food Vendors Trading Guidelines South Metropolitan Health Service, Health Promotion, How to select healthier food vendors for community events: A toolkit for local government.

#### 2 Purpose

To allow for outdoor, high-quality food vending activities in a manner that improves the usage, image and quality of the City's public facilities, whilst managing the competing needs and interests of local business, residents, consumers and users of the City's facilities.

#### 3 Scope

The Policy outlines conditions and permit processes for Mobile Food Vendors tolocate within prescribed locations within the City of Kwinana.

The Policy applies to all mobile food vendors and temporary food stalls who conduct trading activities within the City of Kwinana.

Exclusion from this policy:

- Mobile food vendors operating on private land by invitation with the consent of the owner of the land (does not include sale of food to the public).
- Food delivery services.

#### 4 Definitions

Mobile Food Vendor means a food vendor who has a *Trader's Permit* and operates a Department of Transport licenced vehicle or trailer.

Designated trading locations

means set locations from which mobile food vendors can trade with City approval which are set within the Food Vendor Trading Guidelines.

Public Place

as defined under City's *Activity on Thoroughfares and Public Places and Trading Local Law* includes any thoroughfare or place which the public is allowed to use, whether or not the thoroughfare or place is on private property but does not include – (a) premises on private property from which trading is lawfully conducted under a written law; and (b) local government property.

Fixed food business

means a business that the primary purposes of which is the retail sale of food or beverages that is carried out from a fixed premise. This includes sports club canteens.

Itinerant Food Vendor means a mobile food vendor who travels along a road looking for customers and who sells a product from a vehicle which stops temporarily to serve customers who stop the vendor or come to the vendor whilst the vehicle is stopped.

Mobile Food Vendor means a food vendor who has a *Trader's Permit* and operates a Department of Transport licenced vehicle and food business notification or registration certificate issued by a Local Government under the *Food Act 2008*.

Temporary food stall

means movable or temporarily fixed structure, stand or table in, on or from which food are sold or offered for sale. They operate at an occasional event, usually lasting hours or days.

Healthier food vendor

means a mobile food vendor who has been assessed against the Healthier Vendor Self-Assessment Checklist developed by the South Metropolitan Health Service Health Promotion Unit and meet two essential criteria including:

- not to display full sugar drinks; and
- include at least one healthier food option on their menu.

All other definitions have the meaning as prescribed in the City's *Local Law - Activity* on *Thoroughfares and Public Places and Trading*.

Item 15.2 - Attachment C

#### **5** Policy Statement

Mobile Food Vendors (Food Trucks) can add to the vibrancy of the City of Kwinana. Vendors all require a *Trader's Permit* from the City before they can trade. This Policy provides guidance to City Officers when issuing licences for general trading, exclusive of events, in certain designated areas of the City.

#### a. General

- Mobile Food Vendors shall not trade in any public place until a *Trader's Permit* has been issued by the City of Kwinana in writing.
- ii. Failure to comply with the conditions of the permit, including site access requirements, may result in the permit being cancelled.
- iii. Parking for towing vehicles is not permitted at the same site as the vendor. The Mobile Food Vendor needs to be dropped off to a location and a legitimate parking space found for the towing vehicle.
- iv. Vendors are encouraged to develop a rostering system to organise fair and equitable access to the opportunities to trade from the site.
- v. The City of Kwinana is not responsible for settling disputes between vendors.
- vi. Validated complaints and disputes may result in revocation of Trading Permits

All food vendors are required to comply with all legal and City requirements as detailed in the Mobile Food Vendor Trading Guidelines (the Guidelines).

The Guidelines will outline the conditions and operational requirements for mobile food vendors and temporary food stalls. The Guidelines will be updated periodically to reflect any legislative and/or City operational changes.

The City reserves the right to add or remove locations at any time in response to complaints or periodic review of the Guidelines or Policy.

#### b. Locations

- i. Kwinana Adventure Park
- a) Trading will be limited to the hours of 9am to 4pm each day of the week;
- b) Traders must vacate the site by 4.15pm;
- c) A maximum of four (4) traders may operate from the designated bays, as set out below; and
- d) Traders may operate up to a maximum of four (4) hours from the site each day.

#### (removed image)

- ii. Edge Skatepark
  - a) Trading will be limited to the hours of 9am to 4pm each day of the week;
  - b) A total of one (1) trader may operate at any time from the marked bay as set out below; and
  - c) Traders may operate up to a maximum of four (4) hours from the site each day.

# (removed image)

- iii. Peace Park
  - a) Trading will be limited to the hours of 7am to 9pm each day of the week;
  - A maximum of two (2) traders may operate from the designated bays as set out below; and
  - Traders may operate up to a maximum of four (4) hours from the site each day.

#### (removed image)

#### **Mandogalup Fire Station**

- a) Trading will be limited to the hours of 5am to 10am;
- A maximum of one (1) trader may operate from the designated bay as set outbelow;
- c) Traders may operate up to a maximum of four (4) hours from the site each day; and

d) Traders must leave the site immediately at the request of the fire brigade and may not setup when the station is in use during an emergency.

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# **Designated Trading Locations**

All designated trading locations with specific conditions of trading for each location, including specified trading hours and times, are outlined in the Guidelines.

The locations will be reviewed regularly. New locations will be considered against the criteria set within this Policy.

The City reserves the right to add or remove locations from the guidelines at any time in response to address any noise, odours or any other disturbance concerns, any complaints received, maintenance or works being undertaken or near that location, and/or the review cycle of the City.

Temporary food stalls are not permitted to trade at designated trading areas. Only self-contained mobile food vendors are permitted. No external power, gas, water connection and rubbish service will be provided by the City.

The designated trading location must not:

- Be situated within 100m of a fixed food businesses or an approved food truck event or market (unless written approval has been obtained from the fixed food businesses and the City);
- Operate on main roads, Wells Park, Kwinana Beach, Challenger Beach and industrial areas:
- Obstruct pedestrian flow, vehicular traffic/parking, queuing, and other waiting areas;
   and
- Pose an unmitigated risk to the safety of the community.

Only healthier food vendors are permitted to trade at designated trading locations within 300 metres of a school.

The suitability of each designated trading location will be assessed against the objectives of the Policy and the designated trading location criteria by the Development Assessment Unit and determined by the Chief Executive Officer.

# **Itinerant Food Vendor Locations**

Itinerant food vendors are required to trade within the conditions and operational requirements set within the Guidelines.

Itinerant food vendors must not:

- Trade within 100m of a fixed food businesses or an approved food truck event or market (unless written approval has been obtained from the fixed food businesses and the City);
- Trade within 300 metres of a school between the hours of 7.00am and 9.00am and 3.00pm and 5.00pm during school days; and
- Trade on main roads, Wells Park, Kwinana Beach, Challenger Beach and industrial areas.

#### **Approved Events and Markets**

Mobile food vendors and temporary food stalls are permitted to trade at events and markets approved by the City of Kwinana Environment and Health Department in accordance with the Guidelines

#### Other Public Places for Individual Trading

Individual food vendors who trade at all other public places will be assessed on a case-bycase basis in accordance with the Guidelines.

# Grounds on which an application maybe refused

An application submitted to the City of Kwinana may be refused where one or more of the following applies:

- The applicant has not provided further information when requested by the City as part
  of the application assessment process.
- The applicant has not paid outstanding fees at least three business days before the event.
- The applicant has committed a breach of the City's Local Laws, *Food Act 2008* or any other legislation pertinent to the conduct of their business.

The City may at its discretion refuse to accept a trader's permit application that has been submitted outside the nominated application timeframe as detailed in the Guideline.

### **Approval**

A stallholder or traders permit with conditions will be issued once all applicable fees have been received (if applicable).

Food vendors that trade without a permit or do not comply with the conditions in the approval may result in further formal compliance action.

All appeals must be presented to the Manager Environment and Health in writing.

#### 5.7 Fees and Charges

The City will impose fees and charges on traders in accordance with the relevant Council adopted fees and charges or varied by Council resolution, unless exempted through the City's Community Funding Policy.

#### **OFFICER USE ONLY**

Officers may amend this section without council approval.

Responsible Team	Environment and Health Services	
Initial Council adoption	Date: 23 May 2018	Ref#: 177
Reviewed/amended	Date: 22 May 2024	Ref#: <cm ref=""></cm>
Next Review Date	Date: June 2027	
Policy Document Number	D24/14296	



# **Council Policy**

# Fraud and Corruption



Legislation/local law requirements	Corruption, Crime and Misconduct Act 2003 Fair Work Act 2009	
Relevant Delegation	Please see delegated authority register via Attain for relevant delegation.	
Related policy procedures and documents	<ul> <li>Grievance Management HR Policy</li> <li>Employee Code of Conduct</li> <li>Code of Conduct – Behaviour Complaints Management Policy – Elected Members, Committee Members and Candidates</li> <li>Risk Management Policy</li> <li>Risk Management Strategy</li> <li>City of Kwinana Enterprise Agreement</li> </ul>	

#### Introduction

The City of Kwinana (City) is committed to the prevention, deterrence, monitoring, and investigation of all forms of fraud and corruption. Fraud and corruption is damaging to the City through financial loss, loss of public confidence (either perceived or real), reputational damage and adverse publicity.

# **Purpose**

The purpose of this policy is to provide direction on the strategies to be utilised by the City for implementing and monitoring fraud and corruption prevention, detection, as well as response initiatives and activities.

#### **Objective**

The objective of this policy is to outline the City's approach to fraud and corruption prevention, deterrence, and detection. The City is committed to meeting its legislative obligations under the *Local Government Act 1995*.

#### Scope

This policy applies to any actual, alleged, or suspected fraud or corruption involving employees and elected members of the City as well as external parties such as, but not limited to, suppliers, contractors, consultants, or any other external agency undertaking transactions with the City.

Employees and elected members must have, and be seen to have, the highest standards of honesty, transparency, propriety, and integrity in discharging their obligations to the community.

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# **Policy Provisions**

#### **Definitions**

Fraud is defined by Australian Standard AS8001 – 2008 as:

Dishonest activity causing actual or potential financial loss to any person or entity including theft of monies or other property by employees or persons external to the entity and where deception is used at the time, immediately before or immediately following the activity.

It includes the deliberate falsification, concealment, destruction, or use of falsified documentation used or intended for use for a normal business purpose or the improper use of information or position for personal financial benefit.

The theft of property belonging to an entity by a person or persons internal to the entity by where deception is not used is also considered 'fraud' for the purposes of this Standard.

Note: the concept of fraud within the meaning of the standard can involve fraudulent or corrupt conduct by internal or external parties targeting the entity or fraudulent or corrupt conduct by the entity itself targeting external parties.

Fraud can take many forms including:

- the misappropriation of assets;
- the manipulation of financial reporting (either internal or external to the Department); and
- corruption involving abuse of position for personal gain.

**Corruption** is defined by Australian Standard AS8001 – 2008 as:

Dishonest activity in which an employee or contractor of the entity acts contrary to the interests of the entity and abuses their position of trust in order to achieve some personal gain or advantage for themselves or for another person or organisation. The concept of 'corruption' can also involve corrupt conduct by the entity, or a person purporting to act on behalf of and in the interests of the entity, in order to secure some form of improper advantage for the entity.

Corruption is any deliberate or intentional wrongdoing that is improper, dishonest, or fraudulent and may include:

- conflict of interest;
- failure to disclose acceptance of gifts or hospitality;
- acceptance of a bribe;
- misuse of internet or email; or
- release of confidential or private information or intellectual property.

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**Corrupt conduct** tends to show a deliberate intent or an improper purpose and motivation and may involve conduct such as the deliberate failure to perform the functions of office properly; the exercise of a power or duty for an improper purpose; or dishonesty.

Representative, for the purposes of this policy, a representative of the City includes:

- Any contractor or consultant
- Temporary staff supplied through an agency
- Seconded personnel
- Volunteers
- Elected Members
- Committee Members

#### **Policy**

The City is committed to treating all suspected instances of fraud or corruption seriously. In doing so, the City will:

- Investigate all suspected instances of fraud or corruption by City employees, elected
  members, or external parties. Any proven allegations of fraud or corruption will be
  treated as serious misconduct and may result in summary dismissal of an employee,
  or in the case of an elected member, a hearing before the State Administrative
  Tribunal or dismissal by the Governor pursuant to the Local Government Act 1995 or
  notification to the Local Government Standards Panel, Department Local
  Government, Sport and Cultural Industries, or the Corruption and Crime Commission
  depending on the breach committed.
- In accordance with Clause 23.6, Suspension Pending Investigation of the City of Kwinana Enterprise Agreement, the City may suspend an employee from duty where it considers it necessary to investigate the matter.
- Seek to recover funds/assets lost through this behaviour wherever possible and practical.
- Refer any behaviour that could amount to illegal activity to the WA Police at an appropriate time during the investigation process and/or subsequent disciplinary procedure. Note that any criminal investigation will be separate to a City investigation.

The City considers unauthorised possession (theft/robbery), unauthorised use, misappropriation, fraud, corruption, impropriety and dishonesty unacceptable to Council. This behaviour is treated seriously and will be investigated in all suspected and/or alleged instances, whether these involve Council employees, elected members, or external parties.

The City is committed to a strong culture and sound governance that will safeguard public funds and property. The City considers fraud, corruption and misconduct to be serious matters. Such behaviours are considered unacceptable and a zero tolerance approach is adopted by the City towards such behaviour.

Fraud and corruption are a risk to the City, including in terms of:

- financial loss;
- reputational impact;
- diversion of management energy;
- organisational morale;
- organisational disruption;
- loss of employment;

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- reduced performance; and
- diminished safety.

All employees are accountable for, and have a role to play in, fraud and corruption prevention and control. The City encourages staff to disclose actual or suspected fraudulent or corrupt activity. When identified, any suspected fraudulent or corrupt activity will be promptly investigated, and where appropriate legal remedies available under the law will be pursued. All alleged incidences will be investigated thoroughly. Where appropriate, the City will protect the anonymity of those reporting the activity.

Detrimental actions are not permitted against anyone who reports suspected or known incidents, consistent with the *Public Interest Disclosure Act 2003*. The City adopts a similar approach to those who maliciously and knowingly create a false and/or vexatious allegation.

Fraud and corruption control forms part of the City's Risk Management Policy and Strategy. It is a risk that the City actively seeks to identify and limit its exposure to, by reducing the potential opportunity (risk likelihood) for fraud and corruption to occur.

All employees and elected members have a key responsibility to safeguard against damage and loss through fraud, corruption or misconduct and have an obligation to support efforts to reduce associated risk by behaving with integrity and professionalism in undertaking their duties.

The City expects its employees and elected members to act in compliance with relevant Code of Conduct and behave ethically and honestly when performing their functions and during their interactions with each other, the community, and all stakeholders of the City.

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#### 1. Reporting

- 1.1. Any person reporting any suspected fraudulent act (the informant) must do so to their immediate Manager, City of Kwinana Grievance Officer, Public Interest Disclosure Officer and/or Manager Human Resources.
- **1.2.** If the informant has reason to believe their Manager is implicated in the suspected fraud, the matter must be reported to the Manager Human Resources.
- **1.3.** If Chief Executive Officer involvement is suspected, the matter must be reported to the Mayor.
- **1.4.** If Elected Member involvement is suspected, the matter must be reported to the Chief Executive Officer.
- 1.5. In all instances, suspected fraud must also be reported to the City of Kwinana Grievance Officer, Public Interest Disclosure Officer and/or Manager Human Resources who will notify the Chief Executive Officer and initiate investigations
- **1.6.** The informant reporting the activity/behaviour may remain anonymous.
- 1.7. All inquiries concerning the activities under investigation from the suspected individual, his or her lawyer, or representative, or any other enquirer must be directed to the Manager Human Resources.

#### 2. Investigations

- **2.1.** The Manager Human Resources has primary responsibility for investigation of all suspected unauthorised possession (theft), fraudulent or corrupt acts or behaviour as defined in this policy.
- **2.2.** Any investigation carried out should comply with the City of Kwinana employment policies, namely the Grievance Management Policy.
- **2.3.** Any investigative activity required will be conducted without regard to the suspected wrongdoer's length of service, position/title, or relationship to Council.
- 2.4. At the conclusion of the investigation the events will be documented in a confidential report which will be provided to the Chief Executive Officer, and they may determine that the report be provided to the Council and the Audit and Risk Committee, where appropriate. Recommendations may be made to enhance internal control procedures.
- **2.5.** Decisions to refer the investigation results to the appropriate law enforcement and/or regulatory agencies for independent investigation will be made by the Chief Executive Officer, in consultation with the Manager Human Resources and with legal advice if appropriate.
- 2.6. The Manager Human Resources have free and unrestricted access to all Council records and premises and authority to examine, copy, and/or remove all or any portion of the contents of files, desks, cabinets, and other storage facilities on premises without prior knowledge or consult of any individual who may have custody of any such items or facilities when it is within the scope of their investigation.

# 3. Equity and Fairness

- **3.1.** The means for ensuring that every individual suspected of committing fraud (Whether they are an employee, elected member, or someone external to the City) is dealt with consistently and fairly.
- **3.2.** All parties suspected of committing fraudulent acts must be dealt with in the same manner. This includes all, employees, elected members, or associated parties external to the City.
- 3.3. Any individual reporting suspected fraud has the right to expect their actions will

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be dealt with in confidence.

**3.4.** Evidence collected as part of any fraud investigation must substantiate any further action the organisation takes. There must be transparency in the fraud response action that the process has been adhered to.

#### 4. Consequences of an investigation

- **4.1.** Fraud perpetuated against the City will be reported to the City's insurers, Office of the Auditor General and the Corruption and Crime Commission as required.
- **4.2.** Any investigation may result in a recommendation to terminate a supplier's, consultants or contractors' contract, or, in the case of an employee, the commencement of a disciplinary process, the outcome of which may be dismissal of the employee where appropriate.
- **4.3.** Any decision to begin disciplinary process, or to terminate an employee's employment at the conclusion of that process, will be made in conjunction with Manager Human Resources.
- **4.4.** Where instances of fraud or corruption are substantiated, any decisions to take no action, or to take action that is seen inappropriate by either the City of Kwinana Grievance Officer, Public Interest Disclosure Officer and/or Manager Human Resources, will be referred to the Chief Executive Officer for authorisation.

#### 5. Media

- **5.1.** No information concerning the status of an investigation will be disclosed, except to the Chief Executive Officer, City of Kwinana Grievance Officer, Public Interest Disclosure Officer and/or Manager Human Resources in cases where an employee is suspected of unauthorised possession or fraud.
- **5.2.** The proper response to an enquiry is:

"I am not at liberty to discuss this matter" and/or "Fraud perpetrated against the City will be reported to the City's insurers, Office of the Auditor General and Corruption and Crime Commission as required".

# 6. Fraud and Corruption Management

Incorporating fraud and corruption risk identification and mitigation strategies as part of the integrated and reporting planning framework, educating employees in accountable conduct and fraud awareness issues, including ongoing performance assessment and counselling and monitoring, auditing, and communicating processes.

Where fraud or corruption is detected the relevant Manager of the team will be responsible to assess the adequacy of the relevant internal control environment and provide a report to City Leadership outlining any recommended improvements identified.

#### 7. Roles and responsibilities

#### 7.1. Chief Executive Officer – All Managers and Senior Officers

- Ensure appropriate controls are in place at all levels to safeguard against fraud and corruption and take action to implement and maintain these controls.
- Regularly review transactions and activities that may be susceptible to fraud or corruption.
- Promote the scope of this policy.
- Take appropriate action in liaison with the Manager Human Resources and the Chief Executive Officer when breaches of this policy occur.

The Chief Executive Officer applies the City's resources to fraud prevention and ensures

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the implementation of adequate controls for managing fraud and corruption risks within the City.

The Chief Executive Officer, under the *Corruption, Crime and Misconduct Act 2003* must notify the Corruption and Crime Commission or the Public Sector Commission if misconduct is suspected.

#### 7.2. Audit and Risk Committee

In relation to fraud control, the Audit and Risk Committee's responsibilities include:

- reviewing risk management frameworks and associated procedures for the effective identification and management of fraud risks;
- providing leadership in preventing fraud and corruption.

#### 7.3. Public Interest Disclosure (PID) Officer

Public Interest Disclosure Officers investigate disclosures and act following the completion of investigations under the *Public Interest Disclosure Act 2003*.

#### 7.4. Manager Human Resources

The Manager Human Resources or delegated officer will manage the grievance and discipline process.

# 7.5. City Employees and elected members

- Adherence and compliance with this policy
- The immediate reporting of an actual or suspected fraud or corruption incident to the relevant person

All employees and elected members have a responsibility to contribute to preventing fraud and corruption by following the relevant City of Kwinana Codes of Conduct, complying with controls, policies, processes, resisting opportunities to engage in fraudulent or corrupt behaviour and reporting suspected fraudulent or corrupt incidents or behaviour.

Report all suspected or actual incidents of fraud and corruption that they may be aware of by following Section 1 of this policy. Alternatively, employees can make a Public Interest Disclosure under the *Public Interest Disclosure Act 2003*.

# 7.6. Internal Auditors

Internal auditors provide an independent and objective review and advisory service to:

- provide assurance to the Chief Executive Officer/Council that the financial and operational controls designed to manage the City's risks and achieve the City's objectives are operating in an efficient, effective, and ethical manner;
- assist management in improving the City's business performance; and
- Review six monthly fraud reports and ensure fraud issues are disclosed to the external auditor.

#### 7.7. External Auditors

Review whether there are appropriate systems processes and controls in place to prevent, detect and effectively investigate fraud.

External auditors provide an opinion on whether the City's Annual Report represents a true and fair view of the financial position at a certain date.

Annual external audit of the Financial Reports assists in the detection of fraud under Australian Auditing Standard ASA 240: The Auditors' Responsibility to Consider Fraud

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in an Audit of a Financial Report.

In addition, the auditor's accountability for the detection of fraud will form part of any audit. These provisions will increase the likelihood of detecting material miss-statements or errors in the City's financial statements.

#### OFFICER USE ONLY

Officers may amend this section without council approval.

Responsible Team	Governance and Legal	
Initial Council adoption	Date: 16 December 2020 Ref#: 315	
Reviewed/amended	Date: April 2024	Ref#: <cm ref=""></cm>
Next Review Date	Date: April 2026	
Policy Document Number	D20/63804	

D20/63804



# Policy Advocacy and Lobbying



Council Policy	
Legal Authority	Local Government Act 1995 s.2.7(2)(b)
Department	City Leadership Office of the CEO
Legislation/local law requirements	Local Government Act 1995
Relevant Delegation	See Delegated Authority Register
Related policy procedures and documents	City of Kwinana Lobbying and Advocacy Register City of Kwinana Elected Member, Committee Members and Candidates – Code of Conduct

#### 1. Title

Advocacy and Lobbying

# 2. Purpose

To establish a framework that sets out how Council will work across the municipality and the region by advocating, informing, and partnering with national, state, regional and local stakeholders to meet the needs of the community.

# 3. Scope

This Policy identifies how Council should engage in advocacy and lobbying activities to assist in establishing partnerships, networking, pursuing, and promoting opportunities for the City of Kwinana in line with the Strategic Community Plan. This Policy applies to Council and the Chief Executive Officer and outlines the reporting requirements of these activities.

# **Policy Provisions**

# 4. Responsibilities

#### **Elected Members**

The role of the Mayor and Councillors Elected Members -is set out in the Local Government Act 1995 and the Councillors Code of ConductCity of Kwinana Elected Member, Committee Members and Candidates - Code of Conduct.

Chief Executive Officer

The role of the Chief Executive Officer is to ensure that advocacy issues align with the Council's adopted Kwinana Future Priorities key priority themes document and have business cases that establish the benefit of the projects to the City of Kwinana.

# Policy Statement

#### 5.1 Kwinana Future Priorities

From time to time, Council will adopt a Kwinana Future Priorities document that, in concert with the Strategic Community Plan, identifies as number of Key Priority Areas that are recognised as being of strategic importance to the future of the City.

# 5.2 1 Priority Items Themes

City Officers will develop a list of <u>p</u>Priority <u>Items themes that are with</u> specific advocacy initiatives that are recognised as being of strategic importance to the future of the <u>City.</u>

The advocacy initiatives will be generally be aligned to the key priority themes of:

- Developing Tourism
- Healthy Living
- Environment and Sustainability
- Commercial and Investment Opportunities

The themes will be presented to the Councillors for comment and briefing documents will be prepared where necessary.

All priority themes will be recorded in the City's Records System and indexed to D19/16394

Where these Priority Items align, in the opinion of the CEO, with a Key Priority Area in the Kwinana Future Priorities document, a summary of the Advocacy Item will be sent to Councillors by circular for comment for a period of 5 working days for comment prior to adoption. The themes will be presented to the Councillors for comment and briefing documents will be prepared where necessary.

Where a Priority Item does not align with an adopted Key Priority Area or Councillors raise an issue, the item will be referred to Council for determination.

All priority Items will be recorded in the City's Records System and indexed to D19/16394.

All Priority Items will be recorded in the City's Records System and indexed to D19/16394.

5.3 Advocacy and Lobbying Activities

The City will advocate for the <u>k</u>Key <u>Priority Areasthemes</u> in a number of ways including seeking meetings with politicians and government departments as well as holding, attending and sponsoring various functions, where it can forward the City's position.

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# -OFFICER USE ONLY

Officers may amend this section without council approval.

Responsible Team	Office of CEO	
Initial Council adoption	Date: 13 June 2016	Ref#: 268
Reviewed/amended	Date: May 2024	Ref#: <cm ref=""></cm>
Next Review Date	Date: May 2027	
Policy Document Number	D16/40746[v*]	

# 6. References

Date of adoption and resolution No.	13/6/16 Resolution 268
Review dates and resolution No.	
Next review due date	1/10/2022 <u>May 2027</u>
Related documents	Acts/Regulations Local Government Act 1995 Advocacy Items Register D19/16394

Note: Changes to references may be made without the need to take the Policy to Council for review.

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# **Council Policy**

Green Building – new and renovated Council buildings





Council Policy	
Green Building – new and renovated Council buildings	D16/68946[v2]

#### 1. Title

Green Building - new and renovated Council buildings

#### 2. Purpose

To reduce the environmental impacts and running costs of new and renovated Council buildings facilities by including green building requirements in the building design and construction.

#### 3. Scope

This policy applies to the construction of all new Council buildings, major renovations of existing buildings as well as their surrounding car parks, lighting and landscaping.

#### 4. Definitions

The following definitions are used within this Policy;

**Building Management System (BMS)** means a system, otherwise known as a building automation system (BAS) and is a computer-based control system installed in buildings that control and monitor the building's mechanical and electrical equipment such as ventilation, lighting, power systems, fire systems, and security systems.

City means the City of Kwinana.

**Environment Department** means the department within the City of Kwinana responsible for natural area management and sustainability.

**Energy Rating** means a rating that provides consumers with information on the energy efficiency of a product. Appliances have a label with a certain number of stars on it. The more stars the more energy efficient the product is.

**Greywater system** means a system that takes used water from showers, baths, handbasins, laundry tubs and washing machines and treats it so it is suitable for reuse, generally for garden irrigation.

**Heat pump hot water system** is a hot water system which absorbs heat from the air and transfers it to heat water. They run on electricity but are roughly three times more efficient than conventional electric water heaters.

**Internal Rate of Return (IRR)** means the percentage rate earned on each dollar invested for each period it is invested. IRR allows the City to compare the return of a project to what the money would earn in a bank.

**Internet of Things (IoT)** means the connection of devices other than computers tablets and smartphones to the internet. These objects are able to collect and exchange data using built in sensors and can be used to analyse and display data which can be used for a range of purposes.

**Net Present Value (NPV)** means the financial value of a project to the City over its lifetime in today's dollars.

D16/65703[v3]

Passive means without the need for mechanical heating, cooling or ventilation.

**Rain gardens** means a planted depression or a hole that allows rainwater runoff from impervious urban areas, like roofs, driveways, walkways, parking lots, and compacted lawn areas, the opportunity to be absorbed. It can both improve the water quality of the run-off and reduce the need for irrigation water.

**R-Value** means a measure of thermal resistance for materials such as insulation used in the building and construction industry. It gives an indication of how quickly they will lose heat.

**Tree pit** means a chamber filled with filter media installed beneath an urban tree designed to collect stormwater runoff from small carpark areas or roads and direct it to the base of the tree. This runoff filters through the tree roots and surrounding soil mix, trapping sediment and pollutants before flowing to a piped stormwater system. The tree pit provides the dual benefit of providing water to the tree (thereby reducing watering requirements) and improving storm water quality.

#### 5. Policy Statement

- 5.1 The need for new buildings should be carefully considered and align with the City of Kwinana Community Infrastructure Plan and Long Term Financial Plan. Where possible, co-located and shared facilities should be considered to maximise resource use.
- 5.2 The Environment Department will be included in consultations on the design, specifications and procurement of all new City buildings to determine site and building specific green building requirements. Large buildings will require specialist advice.
- 5.3 For large prominent community facilities the City should consider having the building built to an established Green Building Rating System such as the National Australian Built Environment Rating System, Greenstar or to an equivalent standard.
- 5.4 Specifications for all new City buildings and renovations should include the following;
  - A preference for designers and suppliers with Green Building qualifications and experience.
  - The building design should be oriented to maximise passive heating and cooling.
  - Window design and placement should allow for passive heating and cooling, cross ventilation and natural light while maintaining building security.
  - The buildings should be designed to reduce non-beneficial heat gain and loss through the windows through energy efficient window glazing and frames (Low U-value and Mid-range SHGC according to Window Energy Rating Scheme), eaves, and window treatments.
  - The building design should consider building materials that minimise the
    embodied environmental impact of the building as well as enabling the
    building to passively heat and cool. Information on the relative merits of the
    proposed building materials should be provided in the tenderer's response.
  - All north facing windows should be fully shaded 1 month either side of the

D16/65703[v3]

summer solstice. Windows on the west and east sides of the building should be minimised. Where windows are required on the west and east sides they should be completely shaded in summer.

- Lighting design should;
  - o Be zoned,
  - o Be of a high efficiency type (LED or Fluorescent),
  - o Provide lighting fit for the purpose according to Australian Standards. ie areas should not be over lit,
  - The lighting control system should allow car park lights to be set on a timer separate to the building lighting, and
  - Lighting linked to motion detectors should be included where appropriate.
- All internal lighting and non-essential appliances such as air conditioning etc should be linked to the security alarm system to switch off when the building alarm is set.
- A Building Management System and monitoring package should be included in large buildings (usually those which have large ducted air conditioning services or require remote control of air conditioning) to allow ongoing monitoring of energy and water use.
- Buildings with a Building Management System should have water and energy end use and tenancy sub-metering included (to a standard which allows for tenant billing).
- Building design should consider the use of Internet of Things (IoT) to collect a diverse range of metrics. These may be used for identifying, analyzing and diagnosing unusual energy and water use.
- All split system air conditioning systems should be inverter based R32 or R410A refrigerant with a 5 star energy rating for 3-5kW or at least 4 star energy rating for over 5kW.
- Larger ducted air conditioning systems are not labelled under the energy star scheme but should be designed to be as efficient as possible. Ductwork should meet Australian Standards for ductwork, AS 4254. Criteria for energy efficiency in the air conditioning should be included in the specifications and information on the energy use of the chosen system be required to be provided in the tenderer's response.
- The roof should be insulated with insulation rated to a minimum R-value of 3.2.
- The roof material should be light in colour, ideally white.
- Any hot water system should be solar or, if not suitable, a heat pump high efficiency hot water system.
- An appropriately sized solar photovoltaic system with remote monitoring via a web portal should be included.
- Hot water dispensers should be high efficiency and equipped with timers.
- All fridges should achieve at least a 4 Star energy rating (domestic scale refrigerators) or be designated "High Efficiency" (commercial scale) under

D16/65703[v3]

the "Greenhouse and Energy Minimum Standards (Refrigerated Display Cabinets) Determination 2012".

- All toilets and taps should at minimum achieve a 4 star WELS rating.
- Taps and showers should be on push button timers and vandal resistant where there is a high likelihood of vandalism.
- All showerheads should have a minimum 3 star WELS rating.
- Outdoor taps should only be provided where there is a clearly defined use.
   Where an outdoor tap is provided it should be constructed to be resistant to vandalism and any leaks should be easily visible.
- Purpose built washdown and chemical containment areas should be provided where the use of the building requires this (e.g. line marking paint, mechanical workshops)
- The use of rainwater tanks and greywater reuse systems in new buildings should be considered.
- Landscaping should consider the use of rain gardens and tree pits to allow treatment of stormwater before infiltrating onsite as well as minimise irrigation requirements.
- Trees must be provided in car parks at a rate of 1 tree per 4 car parks.
   Planting areas should be appropriately sized for the tree.
- A minimum of 8% of the land area should be landscaped (as per the City's Town Planning Scheme).
- A waste management plan for construction should be prepared and submitted as part of the proposal to outline how building and construction waste will be reduced and recycled.

# 6. Financial/Budget Implications

The cost of water and electricity has been rapidly rising and these requirements will minimise the City's exposure to potential price increases into the future. The capital cost of many energy efficiency measures is also rapidly decreasing. This means that many efficiency measures provide returns which are well in excess of bank interest rates. Therefore the measures in this Policy are financially as well as environmentally beneficial.

Complex Green Building projects will undergo a financial assessment which will be reviewed by the Environment Department. The financial assessment should include Internal Rate of Return and Net Present Value. This information will allow initiatives to be chosen which deliver the best return on investment. For smaller projects, this assessment may be carried out in-house.

To ensure that the policy remains cost effective and practical, the requirements of this policy have been intentionally limited to things that;

- must be addressed at the construction stage and can not be retrofitted (e.g. building orientation, window placement)
- add only minimal cost at the construction stage (if any cost at all) but would be costly to retrofit later (e.g. roof colour, solar hot water system)
- have very clear financial and/or thermal comfort benefits (e.g. solar panels, insulation, efficient air conditioning)

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 are existing standard inclusions in new buildings (e.g. zoned lighting, timers, motion sensors).

The design and cost of planned community facilities will be refined over time to incorporate these requirements as detailed drawings are developed.

#### 7. Asset Management Implications

These requirements will reduce the ongoing running costs of these buildings and in some cases maintenance costs as well. Rainwater tanks and greywater systems will require additional maintenance.

#### 8. Environmental Implications

These requirements will significantly reduce the water and energy use of new and renovated buildings.

# 9. Strategic/Social Implications

This policy assists the City to address the following objectives in the Strategic Community Plan;

Objective 3.4: Promote the use of renewable energy within the City of Kwinana and reduce energy use where possible.

Strategy 3.4.1 Continue retrofitting energy inefficient City of Kwinana assets through the City's Revolving Energy Fund and ensure new buildings are designed to be energy efficient.

Objective 3.5: Encourage and exercise best practice water management.

This policy also assists the City to achieve its water conservation goals and climate change goals listed in the Sustainable Water Management Plan and Climate Change Mitigation and Adaptation Plan.

#### 10. Occupational Safety and Health Implications

Electrical and plumbing work has the potential for occupational safety and health implications. It is not anticipated that these requirements will add any additional risks that wouldn't already be present as part of construction works.

#### 11. Risk Assessment

A risk assessment conducted as part of the Policy review has indicated that there is currently a risk to the City of increasing operating costs. This policy assists to reduce that risk. Measures have been chosen because they are proven well established technologies with minimal performance risks.

#### 12. References

Name of Policy	Green Building – New and Renovated Council
	Buildings
Date of Adoption and	17/01/2018 #074
resolution No	
Review dates and resolution	
No #	
New review date	17/01/2019
Legal Authority	Local Government Act 1995
Directorate	City Living
Department	Environment
Related documents	Acts/Regulations
	N/A
	Plans/Strategies
	Climate Change Mitigation and Adaptation Plan,
	Sustainable Water Management Plan

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Policies
Policy – Asset Management
Policy - Climate Change
Work Instructions
N/A
Other documents
N/A

Note: Changes to References may be made without the need to take the Policy to Council for review.

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# 16 REPORTS – NATURAL ENVIRONMENT

Nil

# 17 REPORTS – BUILT INFRASTRUCTURE

17.1 WELLARD RESIDENTIAL LOCAL STRUCTURE PLAN (AMENDMENT 1) - LOT 506
JOHNSON ROAD, WELLARD - CONSIDERATION OF SUBMISSIONS &
RECOMMENDATION TO WAPC

#### **SUMMARY**

An amendment to the Wellard Residential Local Structure Plan (WRLSP) has been lodged with the City of Kwinana (City) in accordance with Schedule 2, Part 4 of the *Planning and Development* (Local Planning Scheme) Regulations 2015 (2015 Regulations).

The existing WRLSP extends over the commonly known Providence Estate, Wellard and is adjacent to a portion of the Bollard Bullrush Wetland. Lot 506 Johnson Road (Lot 506) is a vacant undeveloped lot, 7.85 hectares in area, that adjoins the WRLSP area. The proposed amendment seeks to incorporate Lot 506 into the existing approved WRLSP to accommodate 130 residential lots at an R30 density, as well as two separate areas of public open space. The amended WRLSP is shown in Attachment A, and Figure 1 of Attachment B shows the site context.

Public advertising of the amended WRLSP occurred between 7 February and 25 March 2024 (42 days), with the City receiving six submissions. All submissions were from government agencies.

The Western Australian Planning Commission (WAPC) is the determining authority for approval of local structure plans, including the proposed amendment. As a local government, the City is required to provide a report to the WAPC within a specified timeframe (by 24 May 2024) that:

- Lists and responds to submissions received on the amended WRLSP;
- Provides an assessment of the amended WRLSP based on planning principles; and
- Provides a recommendation on whether the amended WRLSP should be approved or not, with or without modification.

#### OFFICER RECOMMENDATION

# **That Council:**

- a) Advise the Western Australian Planning Commission, pursuant to Schedule 2
  Regulation 20 of the *Planning and Development (Local Planning Schemes)*Regulations 2015, that the City of Kwinana (City) recommends that Amendment 1 to the Wellard Residential Local Structure Plan as at Attachments B and E be approved subject to the following modifications and additional information being provided:
  - i. The Bushfire Management Plan (BMP) is to be amended to state that the BMP will be revised on receipt of approved landscaping plans for the public open space areas. The revised BMP will consider the bushfire attack level ratings as a result of the final landscape outcome as approved under the landscaping plans.
  - ii. Section 4.6 of the addendum report (Attachment B) is to be amended to outline the following elements that will need to be considered as part of final landscape plans across the amendment area:
    - a. The provision of a hard edge between the Public Open Space 1 (POS1) and the wetland buffer to ensure no spread of weed species into the buffer;
    - b. Play spaces are to incorporate accessible elements;

- c. Tree species in road reserves are to be consistent with those from the adjoining Oakebella Estate to provide continuity in streetscape.
- d. Planted areas are to have a maximum gradient of 1 in 4. Basin areas can have a 1 in 3 gradient for planting;
- e. A footpath should be designed around the perimeter of POS 1 to allow for circulation;
- f. Detail is to be provided showing how the wetland buffer access track will function. Local Planning Policy 3 shows the wetland buffer fencing and termination of the buffer access track on POS1.
- g. Detail is to be provided showing how POS1 will link and/or integrate with the adjoining POS in the Oakebella Estate.
- iii. A Landscape Feature and Tree Retention Strategy is to be prepared and submitted for assessment by the City in accordance with the City's Local Planning Policy No. 1: Landscape Features and Tree Retention. The Landscape Feature and Tree Retention Strategy should be developed in consultation with the City of Kwinana to inform subdivision.
- iv. The Applicant's response to the Department of Water and Environmental Regulation (DWER) and the Water Corporation's comments on the Local Water Management Strategy (LWMS) should be referred to DWER and the City of Kwinana for consideration and approval.
- v. Different (higher) residential density coding should be considered to promote diversity of housing supply, to maximise areas of higher amenity (eg. public open space), and to be consistent with the areas of higher density in the adjoining Oakebella Estate local structure plan.
- b) Notify the Western Australian Planning Commission that the City would support an application made by the applicant to extend the timeframe for the Wellard Residential Local Structure Plan (WRLSP) for an additional five years, noting the content and provisions of the WRLSP (including the amendment) is appropriate and consistent with the current planning framework.
- c) Endorse the Schedule of Submissions (Attachment F) pursuant to Schedule 2, Part 4, Clause 20(2) of the Planning and Development Regulations 2015 and advise the submitters of Council's decision accordingly.
- d) Forward this Ordinary Council Meeting Report, Council's Resolution and Schedule of Submissions for the Wellard Residential Local Structure Plan to the WAPC pursuant to Schedule 2, Clause 20 of the Planning and Development Regulations 2015.

# **VOTING REQUIREMENT**

Simple majority.

# **DISCUSSION**

# Site Description and Context

The location of Lot 506 is shown in Figure 1 of Attachment B, and described as follows:

- Lot 506 is bound by the Oakebella Estate to the north. The portion of urban land directly adjacent to Lot 506 has yet to be developed. A separate Local Structure Plan exists over the Oakebella Estate. The WRLSP will link with the local structure plan for Oakebella as seen in the overlay plan below.
- Providence Estate is west of Lot 506, on the other side of the Peel Main Drain and is approximately two-thirds developed.
- Johnson Road and Irasburg Parade run along the eastern and southern boundaries of the site and will act as the primary access point to the site. Established residential development and the Wellard Primary School exist on the eastern side of Johnson Road.
- The Bollard Bullrush conservation category wetland and associated 50 metre buffer is located north of Lot 506.
- The WRLSP was approved by the Western Australian Planning Commission (WAPC) on 28
   September 2012. It covers the land now known as the Providence Estate.



Figure 1 - Overlay of WRLSP and Oakebella LSP

# Planning Framework

Lot 506 is zoned 'Development' under LPS2. Consequently, a structure plan is to be prepared over the site in accordance with Part 4, Schedule 2 'Deemed Provisions' of the *Planning and Development (Local Planning Schemes) Regulations 2015* (the Regulations).

The WAPC is the determining authority for approval of structure plans, including the proposed amended WRLSP. As a local government, the City is required to provide a report to the WAPC within a specified timeframe that:

- 1. Lists and responds to submissions received on the LSP;
- 2. Provides an assessment of the LSP based on planning principles; and
- 3. Provides a recommendation on whether the LSP should be approved with or without modification.

# Proposal

The subject amendment incorporates Lot 506 Johnson Road, a 'Development' zoned parcel of land into the WRLSP.

The primary purpose of this amendment (Amendment 1) is to facilitate future subdivision and development over Lot 506 Johnson Road, consistent with its 'Development' zoning under the City of Kwinana Local Planning Scheme No.2 (LPS2). Specifically, this amendment proposes the following updates:

- Extend the Structure Plan map boundary to include Lot 506;
- Allocate a 'Residential' zone to cover Lot 506, with a density coding of R30;
- Allocate two areas for public open space on Lot 506; and
- Append an Addendum Report to the existing LSP to provide an explanatory report for the amendment (see Attachment B).

While the majority of the existing approved WRLSP is unchanged, the following changes are made as part of this amendment (refer to Attachment E):

- Updated LSP map to include Lot 506 Johnson Road (Page 86);
- Updated Executive Summary to reference Amendment 1 (Page 14);
- Updated Table 1 (Land Ownership and Legal Description) to include Lot 506 Johnson Road (Page 21);
- Updated Figure 14 (Public Open Space) to refer to Addendum Report (Page 62); and
- Updated Table 2 (Public Open Space and Drainage Summary) to refer to Addendum Report (Page 64).

In summary, the proposed amendment does not affect the existing implementation of the wider Providence Estate. The proposed changes primarily relate to the inclusion and development of Lot 506.

#### Planning Matters

The City has assessed the WRLSP against a range of statutory and strategic planning documents, and sought comment from the public and government agencies. The following key planning matters have been identified, and are discussed below:

- 1. Housing Diversity
- 2. Development Contribution Areas
- 3. Bushfire Management
- 4. Public Open Space
- 5. Tree Retention
- 6. Local Water Management Strategy (LWMS)
- 7. Traffic
- 8. Manner and Form
- 9. Extension of Time

# 1. Housing Diversity

Liveable Neighbourhoods indicates that for local structure plans, residential density should indicate the target dwellings per site hectare. The residential density proposed by the amended WRLSP is 26 dwellings per residential hectare, which is consistent with the yield target of 26 dwellings per hectare of net development area set by *Perth and Peel* @ *3.5 million*.

Only one density coding (R30) is proposed for the expanded area of the WRLSP. As indicated in Figure 1 above, the existing WRLSP area and adjoining Oakebella Estate provide areas of higher density (R50 – R60) which promotes housing diversity.

There is an opportunity within the expanded WRLSP area to provide different residential density coded land, thereby encouraging diversity of housing product, in particular adjoining areas of public open space and adjoining the R60 coded land in the adjoining Oakebella Estate.

It is recommended that the Applicant consider applying a different (higher) residential density code to discrete areas within the expanded WRLSP to accommodate housing diversity, to maximise higher amenity areas (adjoining public open space) and to be consistent with the adjoining Oakebella Estate.

# 2. Development Contribution Areas

As per the balance of Providence Estate, Lot 506 is affected by three development contribution areas (DCA): 1, 7 and 12. Contributions under DCA 1 will contribute to the following infrastructure:

- Road and drainage infrastructure upgrades for Johnson and Bertram Road; and
- Construction of vehicle and footpath crossings over the peel main drain.

  Contributions under DCA's 7 and 12 will contribute to the construction of the following community infrastructure:
- A district sporting ground in the Casuarina locality;
- A community facility that incorporates a library and a dry recreation centre (to be located in the Wandi/Anketell locality); and
- Upgrades to several public open space areas.

A condition will be recommended on future subdivision applications to require the relevant contributions be paid.

# 3. Bushfire Management

A Bushfire Management Plan (BMP) is attached to the amended WRLSP specifically relating to Lot 506 (see Attachment G).

Part 5.1.2.1 of the BMP indicates that the two POS areas will be designed to achieve low threat vegetation. The BMP has designated the POS areas to have a low-threat landscaping outcome (that will eventually be required to be maintained by the City) to accommodate lower BAL ratings for residential zoned land adjacent to these POS areas. This is specifically applicable to the larger, western POS area.

The City cannot accept the risk and responsibility for maintenance of POS to a low threat standard in order to accommodate lower BAL ratings for the future residential lots. Notwithstanding, the City notes that POS1 is unrestricted and therefore will incorporate a design that requires a level of maintenance into the future. However, the BAL rating of this POS area cannot be confirmed until landscaping plans have been approved by the City (at subdivision stage). The approved landscaping plans will also be able to consider tree retention in the POS area (which has not yet been finalised).

It is therefore recommended the BMP incorporate commentary that outlines the BMP will be amended based on the approved landscaping plans. Considering the fact this POS area is unrestricted, it is envisaged that regardless of the BAL outcome, the bushfire threat to nearby residential lots will be manageable (i.e. lower that BAL40). This approach is consistent with SPP 3.7 and will ensure an appropriate development outcome for both the POS and residential zoned land.

# 4. Public Open Space

The proposed amendment incorporates two public open space (POS) areas equalling 0.78 hectares. Liveable Neighbourhoods and Development Control Policy 2.3 (DC 2.3) require a minimum of 10% of subdivisible area to be provided as public open space (POS) within residential development. The entire WRLSP will have a total of 14.6% POS – refer to the updated POS schedule as seen on page 15 of the addendum (Attachment B). The initial WRLSP provided a total of 15.4% open space. The proposed POS 1 (referred to as 'Main Drain Park') and POS 2 (referred to as 'Johnson Road Interface') are discussed below.

#### Main Drain Park - POS 1

This POS area is designed to incorporate both unrestricted and restricted open space. The unrestricted open space is the only active space for the amendment area. A small portion of the POS will be used for drainage purposes. Concept plans have been provided for this POS area as seen in Attachment C (refer to Attachment 2 within Attachment C). A key consideration in the design and location of this POS is the City of Kwinana Local Planning Policy 3 – Bollard Bullrush Masterplan (LPP 3). LPP 3 seeks to guide the location and design of open space across the Bollard Bulrush Urban Cell.

Proposed POS1 is generally consistent with LPP 3, particularly in terms of location. However, the following elements need to be considered as part of detailed design for POS1:

- Play space will need accessible elements;
- Planted areas are to have a maximum gradient of 1 in 4. Basin areas can have a 1 in 3 gradient for planting;
- A footpath should be designed around the perimeter of POS 1 to allow for circulation;
- Planted batters/native shrubland planting is to be non-irrigated/only irrigated for establishment. As previously advised, the City will not take on responsibility to maintain these at low fuel load to bring down BAL ratings;
- Detail is to be provided showing how the wetland buffer access track will function. LPP3 shows the wetland buffer fencing and termination of the buffer access track on POS1;
- A hard edge is to be provided between POS1 and the wetland buffer to minimise spread of weed species into the wetland buffer; and
- Detail is to be provided showing how POS1 will link and/or integrate with the adjoining POS
  in Oakebella Estate.

It is recommended that the WRLSP addendum be modified to incorporate the above comments to ensure this is captured at detailed design stage.

#### Johnson Road Interface - POS 2

This smaller POS area is provided adjacent to a portion of the Johnson Road frontage. The POS is approximately nine metres wide and is an extension of an identical POS interface to the north (in Oakebella Estate). This POS is considered 'Restricted' POS. It should be noted that there is a slope down into Lot 506 from Johnson Road – see cross section below. This POS will function as a planted buffer interface between Johnson Road and future residential as seen in the cross section below. This POS outcome has provided for a good amenity outcome in Oakebella estate and therefore it is considered appropriate to extend this design outcome through to this development area.

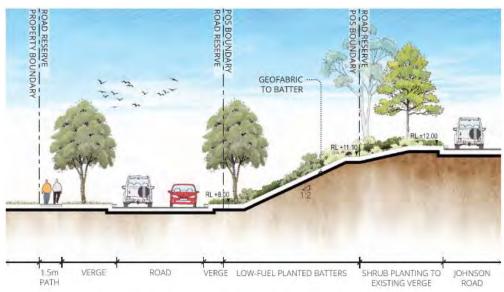


Figure 2 - POS2 Cross Section

Lastly, it should be noted that the neighbouring Oakebella Estate landscape masterplan from 2017 shows Fraxinus Raywoodii as street trees within key access roads. It is envisaged that several roads will extend from Oakebella Estate into Lot 506. In order to provide continuity in streetscapes, it is recommended that the amended LSP be modified to make note of this to ensure it is part of future approved landscaping plans.

# 5. Tree Retention

The proposed amendment notes that the site has been historically cleared of vegetation and been used as pasture for agricultural purposes. Rows of windbreak trees were planted on the permitter of the paddocks. These windbreaks comprise a variety of established trees (both native and non-native). A survey of the site has identified several trees to be retained, predominately within the POS areas.

The majority of trees that are proposed to be retained are located in POS1 where the site interfaces with the Peel Main Drain and wetland buffer. As required by the City's Local Planning Policy No.1 – Landscape Feature and Tree Retention (LPP1), trees within the western portion of the site will be retained within the POS which has been strategically located within this section of the site to maximise retention. A site survey has been provided showing the location of trees to be retained, subject to detailed design and subsequent discussions with the City as part of the earthworks design for the site. The City notes that further consideration at detailed design stage should be given to greater tree retention, particularly within road reserves. While it is acknowledged that fill will be required across the site, further consideration needs to be given to how this fill is distributed with regard to both drainage outcomes and tree retention.

# 6. Local Water Management Strategy (LWMS)

The applicant has submitted an LWMS alongside the WRLSP to both the City and the Department of Water & Environment Regulation (DWER). As part of public consultation, both DWER and the Water Corporation (Water Corp) provided a response outlining concerns with the LWMS – see Attachments C and D. This LWMS is a key supportive document for the WRLSP that proposes management criteria for water conservation, groundwater, surface water quality and quantity. The LWMS is intended to provide overall guidance to the general stormwater management principles for the area and to guide the development of the future Urban Water Management Plan. The requirement to undertake preparation of more detailed water management plans to support subdivision is generally imposed as a condition of subdivision. While strategies have been provided within this LWMS that seek to address planning for water management within the amendment area several issues have been identified by DWER, Water Corp and the City that are required to be addressed prior to endorsing the LWMS. The issues are identified in Attachments C and D, with the key matters relating to:

- Modelling of the local road drainage network;
- Infiltration basin area configurations and outlet structures;
- Restricting direct connection of the development to the adjoining Peel Main Drain;
- Reconsideration of stormwater management for small rainfall events. Upstream biofiltration (such as roadside rain gardens and tree pits) are to be incorporated into the drainage design, rather than a swale in public open space;
- Further discussion in relation to the potential source of nutrients;
- Please consider including criteria relating to groundwater quality under Groundwater Management;
- Confirming groundwater contours;
- Ensuring consistency across earthworks concepts and the LWMS.

The City would like to reiterate that roadside rain gardens and tree pits are a critical stormwater design element that must be considered in the LWMS and overall design of the amendment area.

The applicant has commenced working through the comments raised by DWER and Water Corp and has provided an interim response on how to address the matters raised. As the matters are capable of being resolved, it is recommended that the applicant continue to work with DWER, Water Corp and the City to ensure the LWMS is satisfactory before being endorsed by DWER and the City.

#### 7. Traffic

Traffic and transport aspects relating to the amended WRLSP have been analysed and assessed in the context of the surrounding area and Element 2 of Liveable Neighbourhoods. A detailed traffic and transport analysis has been prepared and is included as an appendix to the LSP (see Attachment G). The City's Engineering Department has reviewed the report and is satisfied with its findings and recommendations. The relatively small development area and low lot yield results in minimal impacts on the proposed and existing road network. One vehicle access point is proposed into the development area from Johnson Road in addition to a second access point provided to the north into Oakebella Estate. The detailed design of the roads within Lot 506 will be considered as part of subdivision approval.

# 8. Manner and Form

It is noted that as per Schedule 2, clause 16(1)(a) to (c) of the Regulations, local structure plans are to be prepared in a manner and form set out by the WAPC. In summary, a structure plan has three main components: the Executive Summary, Part One (implementation) and Part Two (explanatory section).

The proposed amendment has been prepared as an addendum to the initial WRLSP that was approved in 2012. The approved WRLSP and the addendum are not consistent with the three main components as prescribed in the manner and form. However, the content of the WRLSP includes the core components, albeit in a different format. The City considers it unreasonable to require the approved WRLSP to be amended to be consistent with the prescribed manner and form. Section four of the WRLSP replaces the implementation part while sections two and three are equivalent of the explanatory section. The subject amendment included an Addendum Report to the existing WRLSP, which is to be read as an Explanatory Report for the amendment. Only minor administrative modifications to the existing WRLSP are proposed, as the amendment simply intends to apply the existing structure plan and associated provisions to Lot 506. The City is comfortable the existing manner and form can continue to function as intended and deliver development on the ground for this residential estate.

#### 9. Extension of Time

Separate to this amendment, the applicant has lodged an application to extend the approval timeframe of the WRLSP via a Form 5D application with the DPLH. In accordance with the Deemed Provisions of the Planning and Development (Local Planning Schemes) Regulations 2015 ('the Regulations'), all structure plans approved prior to the Regulations are taken to have been approved on the day the Regulations came into effect, and therefore the existing Providence LSP is set to expire on 19 October 2025. The applicant is requesting the timeframe of the WRLSP be extended to enable subdivision and development over the undeveloped portions of the existing Providence estate and allow sufficient time for the buildout of Lot 506 pending its inclusion in the WRLSP.

The City does not have any concerns with extending the timeframe, noting the content and provisions of the WRLSP (including the amendment) is appropriate and consistent with the current planning framework. The City would not have any concerns if the DPLH were to approve the Form 5D.

# Conclusion

The proposed amendment to the WRLSP will complete the delivery of residential development on the vacant Lot 506. The proposal has been considered against the relevant planning framework and can be supported subject to modifications and submission of several technical supporting documents. The distribution of POS and residential zoned land on Lot 506 is appropriate and will lay the foundation for future subdivision and development.

#### STRATEGIC IMPLICATIONS

This proposal will support the achievement of the following outcome/s and objective/s detailed in the Strategic Community Plan and Corporate Business Plan.

Strategic Community Plan			
Outcome	Strategic Objective	Action in CBP (if applicable)	How does this proposal achieve the outcomes and strategic objectives?
3 – Infrastructure and services that are affordable and contribute to health and wellbeing	3.1 – Develop quality, affordable infrastructure and services designed to improve the health and wellbeing of the community	N/A – There is no specific action in the CBP, yet this report will help achieve the indicated outcomes and strategic objectives	The WRLSP includes POS areas that exceed the minimum required under Liveable Neighbourhoods.
4 – A unique, vibrant and healthy City that is safe, connected and socially diverse	4.3 – Enhance opportunities for community to meet, socialise, recreate and build local connections	N/A – There is no specific action in the CBP, yet this report will help achieve the indicated outcomes and strategic objectives	Local POS areas are provided across the WRLSP. The POS adjacent to the wetland will incorporate a footpath that connects the surrounding development which will enhance social opportunities for the future residents.

This proposal will support the achievement of the following strategic directions detailed in the City's Draft Local Planning Strategy.

City of Kwinana Local Planning Strategy (Draft)		
Strategic Direction	How does this proposal achieve the strategic Direction?	
Ensure a range of lot sizes and dwelling types for a diversity of households, allowing residents to stay in their communities as they age as well as providing a range of housing options for young people and families with a high level of amenity.	The proposed amendment to the WRLSP identifies Lot 506 Johnson Road to be predominately zoned as Residential R30. The R30 density is a maximum and it is envisaged that various lot sizes ranging between 260m2 and 500m2 will be provided.  It is recommended that the Applicant consider applying different (higher) density coding to discrete areas to promote housing diversity, maximise higher amenity areas (public open space) and to be consistent with the adjoining Oakebella Estate.	
Encourage high quality housing developments targeted to households at different life stages and income levels, including a mix of lower to moderate income groups.	The residential R30 product that is proposed within the amendment area will support lower to moderate income groups. High quality housing will be promoted through subdivision design and development policy.	
To deliver an equitable distribution of accessible and integrated multi-functional public open spaces, community infrastructure and recreation facilities that supports healthy and socially connected communities.	Public Open space is provided within the amendment area. Of significance in achieving this strategic direction, is the fact that the larger public open space area is located adjacent to the bollard bullrush wetland buffer, consistent with applicable policy. The recommendation incorporates various elements to be incorporated into the WRLSP that will provide for a high quality active public open space area that incorporates infrastructure that will support a healthy and socially connected community.	
To identify, permanently protect and enhance Kwinana's natural environment which is critical to the maintenance of ecological processes and biodiversity	The amendment has identified that there is scope for retention of vegetation on the site. Furthermore, drainage design for the amendment area is yet to be finalised with current recommendations outlining various design outcomes that will promote protection of the natural environment, specifically the protection of the adjacent Bollard Bullrush Wetland area.	
To create a well-connected community with a safe, high-quality, integrated, multi-modal transport network that makes it easy, safe and convenient for our community to access activity centres, schools, services, recreation and entertainment facilities.	While detailed transport network design will be undertaken at subdivision stage, the amendment WRLSP is designed such that a well connected network can be accommodated.	

#### **SOCIAL IMPLICATIONS**

This proposal will support the achievement of the following social outcome/s, objective/s and strategic priorities detailed in the Social Strategy.

Social Strategy				
Social Outcome	Objective	Strategic Priority	How does this proposal achieve the social outcomes, objectives and strategic priorities?	
1 – Healthy and Active	1.0 – A physically and mentally healthy and active community	<ul> <li>1.1 – Facilitate a diverse range of active lifestyle opportunities</li> <li>1.2 – Deliver initiatives that enhance the use of public open space and natural environment reserves</li> </ul>	The WRLSP abuts a wetland and includes POS areas that abut this wetland. A footpath is planned to extend along the wetland buffer boundary to enhance the use and enjoyment of the area.	
2 – Connected and Inclusive	2.0 – Equitable and inclusive social connection and engagement with community life	2.2 – Plan for open and accessible community spaces when developing suitable facilities to facilitate community interaction  2.3 – Value and support the importance of social connections and consider how new and existing programs and services can contribute to reducing social isolation  2.4 – Facilitate initiatives that encourage social interaction and	The WRLSP seeks to guide the distribution of residential land, POS and key roads. The detailed design of these will enable greater social interaction for the emerging community.	

## **LEGAL/POLICY IMPLICATIONS**

For the purpose of Elected Members considering a financial or impartiality interest only, the Applicant is CLE Town Planning & Design, acting on behalf of Wellard Residential Pty Ltd, owners of Lot 506 Johnson Road, Wellard.

The WRLSP has been lodged with the City in accordance with Schedule 2, Part 4 of the *Planning and Development Regulations 2015.* 

The WRLSP has been assessed in accordance with the following key policies and strategies:

- Draft Liveable Neighbourhoods (WAPC, 2015)
- Draft Local Planning Strategy (City of Kwinana, 2023)
- Local Biodiversity Strategy (City of Kwinana, 2023)
- Community Infrastructure Plan (City of Kwinana 2022)
- Local Planning Scheme No. 2 (City of Kwinana, 1992)
- City of Kwinana Local Planning Policy No.1 and No.3

#### FINANCIAL/BUDGET IMPLICATIONS

The cost of preparing the WRLSP has been borne by the applicant.

Reg. 48 of the *Planning and Development Regulations 2009* enables the City to charge a fee to the Applicant for the assessment of a structure plan, based on hourly rates prescribed in the Regulations. In addition, the City can seek reimbursement for costs incurred advertising the structure plan. Following Council's consideration of this matter, the City will charge the Applicant an assessment fee in accordance with these Regulations.

#### **ASSET MANAGEMENT IMPLICATIONS**

The WRLSP establishes the planning framework for subdivision and development of the area. Upon completion and establishment, the City will be financially responsible for maintaining public open space, roads, verge trees and footpaths within the WRLSP once the area has been developed.

#### **ENVIRONMENTAL/PUBLIC HEALTH IMPLICATIONS**

Environmental implications have been identified and discussed earlier in this report, particularly the impact on remnant vegetation. Tree retention will be further considered through the provision of a Landscape Feature Tree Retention Plan required under the City's Local Planning Policy No.1. Public open space areas are provided as part of the amended WRLSP area that will provide key environmental value. Drainage design proposed through the LWMS will be refined to provide for an appropriate environmental and amenity outcome.

#### **COMMUNITY ENGAGEMENT**

The City advertised the WRLSP for 42 days between 7 February and 25 March 2024. This involved:

- Notifying nearby landowners and State government agencies in writing and invited comment on the proposal;
- Installing information signs on site providing advice on the proposal; and
- Utilising 'Love My Kwinana' community engagement page.

Six submissions were received during the advertising period, all from the following government agencies:

- DWER;
- Water Corp;
- Department of Biodiversity, Conservation and Attractions;
- Main Roads WA;
- Department of Health; and
- Department of Education.

Attachment F provides the comments and issues raised in the submissions, as well as the City's and the Applicant's response to the submissions.

The key points raised by the resident and landowner submissions are summarised in the table below.

Submitter	Submission Detail		
MRWA	Main Roads WA has recommended additional information be provided in the		
	Traffic Impact Assessment in relation to:		
	<ul> <li>Cross-section of Johnson Road and access into Lot 506;</li> </ul>		
	<ul> <li>Further assessment in relation to the SIDRA data;</li> </ul>		
	Consider noise impacts.		
Department	The structure plan area is required to connect to scheme water and		
of Health	reticulated sewerage.		
	It was noted that the site has been used for equine stabling over a long period, and therefore hazardous substances/materials may exist on the site. The DOH advises the proponent should ensure that all hazardous materials be safely removed from existing stable buildings prior to demolition and clearance to avoid the creation of new contaminated sites.		
	The proponent should work with the City of Kwinana (the City) to determine the extent of risk from mosquitoes and mosquito-borne disease and if that risk is considered to be high by the City, new residents are to be warned of the risk of mosquito-borne disease and the potential for nuisance mosquitoes via an appropriately worded notification on the property titles.		
Department of Education	Residential growth and student enrolment demand of public schooling and welcomes the opportunity to work with the City of Kwinana particularly at the preparation of localised planning instruments to ensure that the public educational needs of the locality are met.		
	In addition, the Department also wishes to advise that the Western Australian Planning Commission's (WAPC) Model Subdivision Condition S3 which relates to developer contribution will be recommended for any future subdivision applications over five lots or more on the site in accordance with WAPC Operational Policy 2.4 – Planning for School Sites.		
Water Corp	A retic mains extension is required to service Lot 506 Johnson Road. Final details of this extension are to be undertaken.		
	Water Corp have major concerns with the submitted LWMS and therefore the		
	Local Structure Plan is not accepted as provided.		
DBCA	DBCA have no comments on the proposed LSP amendment.		
DWER	The Local Water Management Strategy Lot 506 Johnson Road, Wellard		

(Emerge, 2023) was prepared and submitted to the Department for review in January 2024.
It is recommended the LWMS is updated in accordance with the aforementioned comments and any advice received from the City of Kwinana.

### **ATTACHMENTS**

- A. Local Structure Plan J.
- B. Local Structure Plan Addendum J
- C. Water Corp Comments 4
- D. DWER Comments &
- E. Wellard Residential LSP 4
- F. Schedule of Submissions &
- G. Technical Attachments &

Attachment A



#### WELLARD RESIDENTIAL

#### LOCAL STRUCTURE PLAN



Johnston Road, Wellard

2263-52K-01 05.12.2023 NTS

Attachment B



Addendum Report (Amendment 1)

# WELLARD RESIDENTIAL LOCAL STRUCTURE PLAN



December 2023





Title:	Wellard Residential Local Structure Plan	
	Amendment 1 Addendum	
Prepared for:	Wellard Residential Pty Ltd	
CLE Reference:	2263Rep190B	
Date:	20 December 2023	
Status:	Final	
Prepared by:	CLE Town Planning + Design	
Project team:	Town Planning + Design - CLE Town Planning + Design	
	Environment, Water, Bushfire & Landscape - Emerge	
	Associates	
	Transport - PJA	
	Engineering Services - JDSi	

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- 5.0 Conclusion

AMENDMENT 1 ADDENDUM | WELLARD RESIDENTIAL LOCAL STRUCTURE PLAN



# **ATTACHMENTS**

Attachment 1 - Amended Wellard Residential Local Structure Plan

Attachment 2 - Local Water Management Strategy [Emerge Associates]

Attachment 3 - Engineering Services Report [JDSi]

Attachment 4 - Bushfire Management Plan [Emerge Associates]

Attachment 5 - Landscape Masterplan [Emerge Associates]

Attachment 6 - Environmental Assessment & Management Strategy [Emerge Associates]

Attachment 7 - Transport Impact Assessment [PJA]

WELLARD RESIDENTIAL LOCAL STRUCTURE PLAN | AMENDMENT 1 ADDENDUM







#### 1.0 PURPOSE OF AMENDMENT

The primary purpose of this amendment (Amendment 1) is to facilitate subdivision and development over Lot 506 Johnson Road, consistent with its 'Development' zoning under the City of Kwinana Local Planning Scheme No.2 (LPS2), by introducing the subject site into the existing Wellard Residential Local Structure Plan area.

Specifically, this amendment proposes the following updates:

- Extend the Structure Plan map boundary to include Lot 506.
- Allocate a 'Residential' zone to cover Lot 506, with a density coding of R30.
- Append this Addendum Report to the existing LSP to provide an explanatory report for the amendment.

The Wellard Residential Local Structure Plan map, inclusive of the proposed modifications is shown as Attachment 1 of this Addendum. The updated LSP map supersedes the existing map contained within the existing Wellard Residential Local Structure Plan.

The changes proposed by this amendment shall prevail over the existing Wellard Residential Local Structure Plan to the extent of any inconsistencies.

#### 2.0 BACKGROUND

#### 2.1 Area & Land Use

The amendment area covers the entirety of Lot 506 Johnson Road, which spans a total area of approximately 7.8ha.

Lot 506 is an undeveloped (vacant) land parcel that has been historically cleared and use for agriculture purposes. The site is not currently used for any specific purpose, and the past agricultural uses have had a considerable impact on the natural environment of the site resulting in it being largely cleared of any native vegetation which have any ecological value.

The site has been utilised for various agricultural land uses, since having been cleared in the 1950s, which more recently has included a horse agistment facility. Various shelters and single row windbreak non-native tree plantings that separate cleared paddocks are present across the site.

#### 2.2 Ownership & Title Details

Lot 506 is owned by Wellard Residential Pty Ltd who are the sole landowner of the existing Providence estate. The amendment does not affect any lot currently held in private (third party) ownership.

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Figure 1 - Site Plan Source: Nearmap

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#### 2.3 Location & Surrounding Context

The amendment area is located in Wellard within the City of Kwinana, approximately 32km south of the Perth CBD, and 2km southeast of the Kwinana town centre. The Wellard locality is largely defined by Bertram Road to the north, Wellard Road to the west, the Kwinana Freeway to the east, and Millar Road to the south

The inclusion of Lot 506 into the structure plan area represents a logical extension to the existing Providence estate to the west of the Peel Main Drain. The following provides a brief summary of the local context:

- The site is separated from the balance of the Providence estate via the Peel Main Drain (zoned Rural under the MRS), which currently forms the western boundary of the site.
- The existing Providence estate which is located to the west on the other side of the Peel Main Drain has yet to be fully developed out, with a number of stages yet to be constructed.
- To the north, the site is bound by the Oakebella residential estate which
  has yet to be developed within the portion fronting the site. Development
  in the Oakebella estate has been largely isolated to sections further north
  towards Bertram Road, however the intent is for the site to connect into
  Oakebella once development progresses southward.
- Johnson Road and Irasburg Parade run along the eastern and southern boundaries of the site and will act as the primary access point to the site. Further afield, the site is in close proximity to existing infrastructure including the Wellard Primary School located on the opposite side of Johnson Road as well as established residential development further east.

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#### 3.0 PLANNING FRAMEWORK

The Wellard Residential Local Structure Plan was approved by the Western Australian Planning Commission (WAPC) on 28 September 2012 and subsequently endorsed by the City of Kwinana on 17 October 2012. It covers the land now being developed as the Providence estate. Pursuant to Clause 5.16 of the City of Kwinana's Local Planning Scheme No.2 (LPS2), the Wellard Residential Local Structure Plan is an operational structure plan.

Lot 506 is zoned 'Development' under the LPS2 as shown in Figure 2 below.

In accordance with LPS2, the purpose of the 'Development' zone is:

- a. designate land for future development;
- b. provide a planning mechanism for the identification and protection of areas of conservation value whilst facilitating the growth of the Town;
- provide for the orderly planning of large areas of land for residential, commercial, industrial and associated purposes through a comprehensive structure planning process;
- d. enable planning to be flexible and responsive to changing circumstances throughout the developmental stages of the area; and
- e. provide sufficient certainty for demand forecasting by service providers.

As outlined in Clause 5.14.3 of LPS2, the subject site requires an approved Structure Plan to guide subdivision and development.

As the site abuts the Wellard Residential Local Structure Plan, which is the overarching planning document for the existing Providence estate, this amendment represents an excellent opportunity to consolidate urban development in the locality and ensure that subdivision and development progresses in a well integrated and coordinated manner across the estate.

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Figure 2 - City of Kwinana Local Planning Scheme No.2 (LSP2)

Source: DPLH

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#### 4.0 PROPOSAL

A Subdivision Concept Plan has been prepared in support of the amendment, demonstrating how lot 506 can be developed in accordance with the Structure Plan (as amended).

The Subdivision Concept Plan reflects the existing density codes established in the Wellard Residential Local Structure Plan, through the provision of an R30 density code for the site.

A suite of technical work has been undertaken to support this amendment, demonstrating that there are no impediments to subdivision and development occurring over lot 506, and ultimately the amendment progressing.

The following sections provide analysis and justification for the amendment relating to the key planning considerations.

#### 4.1 Zoning & Land Use

The primary purpose of the amendment is to extend the LSP area to cover the subject site, to facilitate subdivision and development consistent with the density codes established in the Wellard locality.

The amendment proposes to extend the 'Residential' designation over the site, with a density code of R30 applied across the balance of the site, which will provide opportunities to deliver a range of traditional lots typically ranging in size from 260m² to 500m² consistent with the existing LSP.

The Perth and Peel @3.5 million planning framework sets an overall residential density target of 15 dwellings per gross hectare of urban-zoned land. This target was carried over from the previous planning framework, Directions 2031 and Beyond and is reflected in Liveable Neighbourhoods (LN). Perth and Peel @3.5 million also contains a yield target of 26 dwellings per hectare of net developable area ('NDA', being the land area available to the developer for sale for residential purposes).

Based on the subdivision concept (shown within Figure 3), it is envisaged the site will provide an additional 100-130 residential dwellings within the Providence estate, achieving an overall density of 16 dwellings per gross hectare and a residential site density of 26 dwellings per residential hectare, consistent with the density targets set out in *Perth and Peel @3.5 million* and LN.

#### 4.2 Residential & Built Form

The addition of lot 506 to the LSP will further opportunities to provide a range of densities, housing types and tenures to facilitate residential yields commensurate with the strategic planning framework, as well as the site's location within the broader district context.

As mentioned above, the site will be covered by a base density code of R30, providing opportunities to deliver traditional front loaded lots. The R30 density code has been allocated in recognition of the sites interface to the Peel Main Drain and nearby Wetland, which will provide a suitable transition to future residential development to the north as part of the Oakebella estate, allowing for both traditional and cottage lots.

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Figure 3 - Subdivision Concept
Source: DPLH

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To ensure that high quality-built form outcomes are delivered in a manner that is consistent with the existing Providence estate, it is expected that the provisions of the existing estate wide LDP will be carried over to the site. The Bollard Bulrush (South) Local Development Plan ('the LDP') which was approved by Council on 12 November 2013, currently applies to the entirety of the existing Providence estate. The LDP currently provides specific built form controls relating to:

- Setbacks
- Boundary Walls
- Privacy
- Surveillance
- Streetscape Interface
- Private Open Space
- · Utilities and Facilities

As the LDP only remains valid until October 2025, consistent with Clause 67 of the Deemed Provisions, the LDP will need to be amended to include lot 506 and to extend the approval period to ensure consistent development outcomes for the remaining sections of the estate. This can be managed at the subdivision stage via standard conditions of approval and will ensure built form outcomes are delivered in a coordinated and consistent manner with the existing estate.

#### 4.3 Movement Network

In accordance with the WAPC's Transport Impact Assessment Guidelines, the project traffic engineers, PJA, have undertaken a Transport Impact Assessment based on the Development Concept Plan.

The TIA demonstrates that the proposed amendment, and inclusion of the subject site, does not compromise the function of the existing movement network, and simply extends the established road network in the Wellard locality.

The following provides a summary of the key elements of the Transport Impact Assessment including details of the existing and proposed road networks, the road hierarchy and traffic generation. Further consideration is also given to public transport, cyclist and pedestrian network provision.

#### Existing Road Network

The characteristics of the road network surrounding the site are as follows:

- Johnson Road is an undivided single carriage way 'Local Distributor' road, which is located along the eastern boundary of the site. Access will be taken off Johnson Road via the existing Johnson Road / Irasburg Parade / Breccia Parade roundabout intersection along the south-east boundary of the site.
- Irasburg Parade is a divided single carriage way 'Access Road', which
  is located along the southern boundary of the site. Irasburg Parade
  runs in east-west alignment and provides connectivity from the existing
  Providence estate to the west, over the Peel Main Drain.

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There is also a planned network of Access Streets emerging in the Oakebella estate to the north, to which connections will be made at appropriate locations to create a permeable and legible network of local roads.

#### Proposed Road Network

The proposed road network follows a logical and orderly hierarchy which provides legible and useable networks for all modes of transport for travel, to, from and within the area. The network has been defined by predicted traffic volumes, road function and design characteristics. As lot 506 is bound to the west by the Peel Main Drain, the proposed network is general focused in a north and south manner towards Johnson Road and the Oakebella estate respectively.

The proposed LSP road network has been designed with regard to the adjoining structure plans in the area which are currently under construction, particularly that of the Oakebella Estate to the north.

The site comprises a network of 'Access Streets' which will provide connectivity to and from the proposed access points onto Lattuge Drive and Johnson Road to the north and south respectively. Road reserves and street cross sections are provided in accordance with the standards set out in LN as follows:

Access Street C: 16m

Access Street D: 13m – 15m

Traffic generated by lot 506 area and other existing and planned road networks have been considered as part of the TIA and it is expected the external traffic generation can be adequately accommodated on the future planned external road network. The traffic modelling undertaken as part of the TIA demonstrates that all traffic movements fall within the acceptable limits outlined by LN for the respective road categories proposed by this amendment.

#### Intersection Analysis

A total of two access points will be provided for to connect the site into the existing and future road network surrounding the site. Initially, access into lot 506 will be from the Johnson Road / Irasburg Parade / Breccia Parade roundabout intersection at the south-east corner of the site. The TIA demonstrates that there is adequate capacity in this intersection and there are no constraints with accommodating access into lot 506 during both peak periods.

The northern access point into the Oakebella estate will be extended and integrated with lot 506 via an extension of Lattuge Drive to the north as development progresses.

#### Cycling and Pedestrian Movement

The Structure Plan facilitates a safe and convenient pedestrian and cycle movement network through the provision of indirect vehicle routes and landscaped environments, that expand upon existing connections found in adjoining areas.

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A planned shared path through the Oakebella estate to the north will provide north-south connectivity for cyclists travelling to and from the area. Additionally, the existing footpath network on the eastern side of Johnson Road is planned to be upgraded to a shared path standard and will provide further opportunity to utilise active modes of transport.

Footpaths will be provided on at least one side of all Access Streets at the subdivision stage, with the precise location and alignment of all paths to be determined in consultation with the City of Kwinana as part of detailed civil design following subdivision approval.

A copy of PJA's Transport Impact Assessment is included as Attachment 7.

#### 4.4 Environmental

The site has been cleared for a number of years for agricultural purposes which has resulted in most of the natural environment being removed, highly disturbed and/or degraded.

The following section summarises the key findings of the Environmental Assessment and Management Strategy (EAMS) prepared by Emerge Associates. The EAMS details the site conditions and constraints within the site and demonstrates that the relevant environmental factors, can all be adequately addressed through the planning approval process via the application of appropriate land use responses and management practices.

As noted previously, the site has been historically cleared of any native vegetation and only comprises pasture grasses and planted trees which have little ecological value.

#### 4.4.1 Topography, Landform & Soils

The site is relatively flat and ranges in height from approximately 4m Australian Height Datum (AHD) to 10m AHD, with the high point being located along the eastern boundary of the site at Johnson Road.

The site is located within the Bassendean soil and landform system and regional geology mapping indicates that the site ranges from Bassendean and Vasse sands. The southern and eastern portions of the site are predominately sandy soils, which are ideal for urban development. Further information on soil types and drainage is provided in the Environmental Assessment and Management Strategy and Local Water Management Strategy (refer Attachment 6 and 2 respectively).

The Department of Water and Environment Regulation (DWER) acid sulphate soil (ASS) risk mapping shows the majority of the site as 'high to moderate risk' of ASS occurring within 3m of the natural soils surface. The eastern portion of the site is mapped as having a 'moderate to low risk'.

An ASS assessment will be prepared in the usual manner prior to earthworks, as part of the subdivision. Given the limited amount of cut required for the site, potential ASS impacts and associated management response are expected to be limited to areas connected to sewer construction.

#### 4.4.2 Flora & Vegetation

The site does not contain any Threatened Ecological Communities (TECs), Priority Ecological Communities (PECs), Declared Rare or Priority flora or Bush Forever sites.

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As noted above, the site is predominantly cleared of native vegetation and is generally comprises planted non-native trees (wind break and shelter plantings) and some scattered native trees remaining amongst extensive areas of paddock grasses and weeds.

The vegetation condition within the site has been assessed as being 'Completely Degraded', reflective of the sites previous agricultural use which involved extensive grazing. As a result, the site has largely remained free of vegetation until around 2000 when rows of windbreak trees were planted dividing empty paddocks.

Some remnant scattered *Eucalyptus rudis* (flooded gum) are located in the central portions of the site and the proposed POS area in the western portion of the site interfacing with the Peel Main Drain. As required by the City's *Local Planning Policy No.1 – Landscape Feature and Tree Retention* (LPP1), trees within the western portion of the site will be retained within the POS which has been strategically located within this section of the site to maximise retention. Despite this, it is noted that the none of the trees were considered to have a diameter at breast height greater than 0.5m, and as such are not considered to be defined as "significant trees" in LPP1.

The location of trees proposed to be retained are shown in Figure 4 and will be retained where possible subject to detail design and subsequent discussions with the City as part of the earthworks design for the site.



Figure 4 - Tree Retention Plan
Source: Emerge Associates

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#### 4.4.3 Fauna

As the site has historically been cleared of native vegetation and largely comprises of recently planted windbreak trees, it offers very limited and poorquality fauna habitat, particularly in the context of the broader area (with the Bollard Bulrush Swamp to the north).

The EAMS notes that whilst the site is partly mapped within a buffer for a known roosting site for Carnaby's Black Cockatoo, the degraded nature of native vegetation on site is unlikely to provide important habitat particularly given the large patches of suitable habitat found within the nearby Bollard Bulrush Swamp.

#### 4.4.4 Wetlands

The Department of Biodiversity, Conservation and Attractions (DBCA) geomorphic wetlands database shows that the site is covered by a Multiple Use Wetland UFI 13327 associated with the Bollard Bulrush Swamp. Multiple Use Wetlands are the lowest of the 3 wetland categories used in DBCA's classification system and apply to wetlands that have little to no ecological value but retain hydrological functions requiring particular attention in respect of water management planning.

Importantly, the conservation wetland (CCW) and resource enhancement wetland buffer (REW) associated with the Bollard Bulrush Swamp does not extend into the site which is located outside the boundary of the amendment area.

Ultimately, the assessment demonstrates that the vacant site is free of any environmental features of conservation significant that would restrict residential development on site.

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#### 4.5 Water Management

A Local Water Management Strategy (LWMS) has been prepared by Emerge Associates to support the inclusion of lot 506 into the existing Providence LSP. The LWMS demonstrates how the site addresses urban water management via an integrated water cycle approach, supported by implementation of Water Sensitive Urban Design (WSUD) initiatives, consistent with the WAPC's Better Urban Water Management guidelines, relevant approved State Planning Policies and local policies, and the draft version of State Planning Policy 2.9: Planning for Water Guidelines.

The LWMS (Attachment 2) confirms that water can be managed appropriately to enable implementation of water sensitive urban design principles, in line with state and local government objectives and policies and that there are no issues that would preclude the site from being developed for urban uses.

Refining the key principles for the management of stormwater runoff and groundwater quality, implementation of the LWMS will be through the development of a subsequent Urban Water Management Plans (UWMP) which will be prepared at the time of subdivision.

#### 4.5.1 Stormwater Management

The LWMS sets out the proposed drainage system for the site in a manner that is appropriate for local conditions that incorporates best practice water sensitive urban design measures. The key features include:

 Residential lots will retain the first 15mm of runoff with a combination of soakwells, and further infiltration will also be provided in adjacent pervious garden areas to ensure runoff from the small rain event is treated as close to source as possible.

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- Runoff not retained on lots or within the road reserve will be conveyed to the downstream bio-retention area within the western POS, abutting the Peel Main Drain to cater runoff above the first 15mm of rainfall (small event) up to and including the 20% AEP event.
- Stormwater runoff above the 20% AEP (minor event) up to and including the 1% AEP event (major event) will be conveyed within the downstream flood management area at the catchment low points and be retained and infiltrated within the western POS.

Despite the current site levels being (in some parts) lower than the 1% AEP flood level in the Peel Main Drain and the existing informal channel connection to the Peel Main Drain, no surface runoff will be discharged into the adjoining Peel Main Drain, with all runoff proposed to be fully retained on site.

#### 4.5.2 Groundwater Management

Adequate separation between finished surface levels and groundwater will be achieved through the use of clean, free draining fill (where required).

An earthworks strategy has been prepared by JDSi Engineers (refer Attachment 3) for the site which shows adequate separation with minimum clearance of 1.2m from maximum groundwater levels across the site.

The control of groundwater by subsoil drainage is not required as a result of proposed lot levels which will provide the adequate clearance (at least 500mm) above the 1% AEP flood levels in the Peel Main Drain.

#### 4.6 Public Open Space

The Amendment will provide two additional areas of public open space to support the established areas located within the Providence estate.

A 6,727m² area of public open space (denoted as 'Main Drain Park') is proposed in the western portion of the amendment area, abutting the Peel Main Drain and will act as an extension to the planned POS abutting the site to the north located within Oakebella estate. It performs a combined recreational and drainage function and has been credited as 'Unrestricted' POS for the purpose of the POS calculation.

An additional 1,500m² portion of open space (denoted as 'Johnson Road Interface') is provided along the Johnson Road frontage to ensure a high amenity interface. This area is approximately 9m wide and logically extends from the existing POS interface along Johnson Road to the north, within the Oakebella estate. This has been credited as 'Restricted' POS for the purpose of the POS calculation.

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Figure 5 - Public Open Space Overview

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Public Open Space Schedule (all areas are in hectares)			
Site Area		81.62	
Existing Deductions			
EPP Wetland and Buffer (MRS Rural Zone)	9.70		
REW Core within Urban Zone	0.31		
Total Existing Deductions	9.70		
Gross Urban Area		71.9	
Structure Plan Deductions			
1:1 Drainage within POS	0.70		
Restricted Use POS Surplus (>2% of total) (2.49-1.40)	1.09		
Total Structure Plan deductions	1.79		
Gross Subdivisible Area		70.13	
POS @ 10%		7.01	
Public Open Space Requirement			
May Comprise:			
Min 8% unrestricted POS	5.61		
Max 2% restricted POS	1.40		
TOTAL POS REQUIRED		7.01	
Public Open Space Provided	Unrestricted POS Area	Restricted POS Area	
1. Wetland Core	0.00	0.00	
2. Wetland Buffer	0.00	1.48	
3. Wetland Interface	0.53	0.03	
4. North Western Open Space	1.10	0.01	
5. Tramway	2.29	0.02	
6. Western Linear Park	0.97	0.07	
7. Western Entry South	0.01	0.09	
8. Main POS	0.97	0.19	
9. Woodland Park	1.32	0.01	
10. Eastern Neighbourhood Park	0.28	0.17	
11. Eastern Entry	0.36	0.06	
12. Main Drain Interface	0.20	0.12	
13. Millar Park	0.22	0.04	
14. Main Drain Park	0.40	0.23	
15. Johnson Road Interface	0.00	0.15	
TOTAL (ha)	8.66	2.66	
Additional Deductions			
Restricted Use POS Surplus (>2% of total; accounted above)		1.09	
Public Open Space Contribution			
Min 8% unrestricted POS provided	8.66	12.3%	
Max 2% restricted POS provided	1.57	2.2%	
Total Creditable POS Provided	10.23	14.6%	

Table 1 - Public Open Space Schedule



An updated POS Schedule has been provided for the entire Structure Plan area to include lot 506, and to reflect revised drainage storage areas and gross POS areas that have been delivered and implemented as part of subsequent subdivision and UWMP's for the existing Structure Plan area.

The updated POS Schedule demonstrates that a revised total POS of approximately 10.23ha will be provided, and once LN credits are applied, the open space provision is 14.6%, meeting the minimum credited public open space requirements, as shown in Table 1 (Public Open Space Schedule). Table 1 supersedes the previous POS Schedule (Appendix 10) which currently supports the existing structure plan.

#### Notes:

- 1. In accordance with Liveable Neighbourhoods: the area subject to inundation more frequently than a one year average recurrance interval rainfall event is not included as restricted or unrestricted open space and is a deduction from the net site area (LN R33); areas for the detention of stormwater for a greater than one year average recurrance interval up to the five year recurrance interval is restricted open space up to 20%, the area greater than 20% is a deduction (LN R26 & Table 11); areas for the dentention of stormwater for a greater than five year average recurrance interval is within unrestricted open space (LN R25).
- 2. Gross Area is the total area of Lots 167-170, 83, 85, 92 & 1278 Wellard Road, and Lots 1, 2, 10 and 502 Johnson Road.
- 3: The EPP Wetland Core and EPP Wetland Buffer are outside of the LSP boundary and are treated as deductions from the Gross Site Area. There is a portion of the REW Core within the LSP area, which is also a deduction from the Gross Site Area.
- 4. The REW Buffer is Restricted Use Open Space in accordance with Liveable Neighbourhoods R33.
- 5. Restricted Use Open space exceeding 2% of the minimum POS requirement is treated as a deduction. This area includes a portion of the REW Buffer area
- 6. Parks and Recreation (Tramway Reserve) treated as unrestricted open space in accordance with Liveable Neighbourhoods (LN R7).
- 7. 'Main Drain Interface' and 'Western Entry South' are treated as restricted open space with the exception of the area subject to inundation more frequently than a one year average recurrance interval rainfall event, which is a deduction from the gross site area.

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A Landscape Concept has been prepared by Emerge Associates showing the planned landscaping for this additional area of POS within lot 506. The Concept provides for a grassed area, creating an area of active open space with drainage conveyed to a landscaped bio-retention area to the south for onsite infiltration as shown Figure 6 & 7. This retention area will be landscaped with native vegetation and will provide an attractive and accessible interface to the Peel Main Drain.

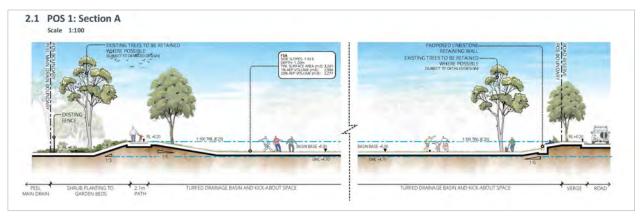
The Landscape Concept is shown as Attachment 5 (Emerge Associates).



Figure 6 - Landscape Concept Source: Emerge Associates

WELLARD RESIDENTIAL LOCAL STRUCTURE PLAN | AMENDMENT 1 ADDENDUM | 16





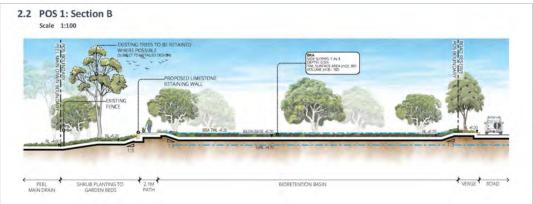


Figure 7 - Typical Site Sections Source: Emerge Associates

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#### 4.7 Bushfire Hazard Management

The north-west portion of the application area is identified as bushfire prone under the Department of Fire and Emergency Services State Bushfire Mapping, which triggers the bushfire planning requirements under *State Planning Policy 3.7 Planning in Bushfire Prone Areas*.

A Bushfire Management Plan (BMP) has been prepared by Emerge Associates as part of this amendment and confirms that the bushfire risk will not be an impediment to development and that any hazard affecting the amendment area can be managed through a combination of asset protection zones (APZ), mandatory dwelling setbacks and appropriate construction standards (of dwellings).

The BMP identifies the primary bushfire hazards affecting the amendment area as the Bollard Bulrush Wetland and Peel Main Drain both of which are located along the northern and western boundaries of the site. The land to the north has been identified as a temporary bushfire risk given the vegetation within the undeveloped portions of Oakebella estate which interfaces with the site, however this will ultimately be removed as development progresses.

To respond to these risks the POS has been strategically located within the western portion of the site and has been designed to be suitable for maintenance in a low-threat state, to provide separation from habitable development to the east. This interface has been further managed via the use of perimeter roads within the western and northern portions of the site, which connect into the proposed access streets to ensure two-way access to the site via Johnson Road to the south and Lattuge Drive to the north.

Lots impacted by the bushfire risk associated with the Oakebella estate and the Peel Main Drain will be managed via minor front or rear lot setbacks which will ensure that habitable building envelopes can be accommodated in areas which are subject to less than BAL-29.

Staged construction at the subdivision stage will also consider the BAL impacts from the Oakebella estate until the hazard has been removed to ensure lots are not impacted by bushfire risk.

Together these measures will ensure the majority of lots are only subject to a Bushfire Attack Level (BAL) rating of BAL-LOW or BAL-12.5, with no lot proposed to be greater than BAL-29.

A copy of the Bushfire Management Plan is enclosed (Attachment 4).

#### 4.8 Servicing

Lot 506 can be connected to all essential services, which typically involve extending the infrastructure network from the existing Providence estate and the surrounding area.

#### Sewer

Waste water will connect into the site via an extension to the existing network from the Oakebella estate to the north, and will flow northward to the Tikva Way pump station located a further 250m to the north, which has capacity to accommodate the predicated inflows.

WELLARD RESIDENTIAL LOCAL STRUCTURE PLAN | AMENDMENT 1 ADDENDUM | 18

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#### Water Supply

Water supply service planning carried out by the Water Corporation has already assumed the development of lot 506. Potable water will be provided through the extension of the network from the Johnson Road and Irasburg Parade, which in turn will be supplied via a DN200 water main that will be constructed to service the site and provide connection northward to the Oakebella estate.

#### Power Supply

Power supply will be extended into lot 506 from the existing high voltage underground network located on the opposite side of Johnson Road/Irasburg Parade which connects from the Medina Zone Substation.

#### **Telecommunications**

Existing telecommunications infrastructure is located within the Johnson Road/Irasburg Parade verge and will be extended into lot 506 as development proceeds northward.

The developer will be responsible for installing pit and pipe infrastructure that can accommodate the fibre, of with which NBN will provide. The design of road reserves, pavement and verge provisions will ensure adequate allowance for services including broadband, which will be accommodate at detailed subdivision stage.

An Engineering Serving report prepared by JDSi engineers can be found as Attachment 3.

#### 5.0 CONCLUSION

This amendment to the Wellard Residential Local Structure Plan will facilitate the logical extension of urban development into the subject site. The introduction of density codes into the subject site, consistent with the existing densities established under the structure plan, will ensure residential subdivision and development is able to progress as envisaged for the subject site.

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Attachment C

Sent: Tuesday, April 16, 2024 2:20 PM

To: Kwinana Planning Team <Planning.Team@kwinana.wa.gov.au>;

**Subject:** FW: D21/0002 - Proposed Amendment To Wellard Residential Local Structure Plan - Local Water Management Strategy Comments

Ηi

We are sorry for the delay in providing our remaining comments regarding drainage but we were making sure we understood the ramifications of the Local Water Management Strategy (LWMS). We understand that the Department of Water and Environmental Regulations (DWER) have some concerns with the LWMS and recommending amendments to the LWMS. The Water Corporation also have major concerns and recommend that the LWMS and therefore the Local Structure Plan is **not accepted** as provided. Please note the following comments.

 Of most concern is the significant proposed development within the flood storage area. Based on the existing detailed survey (Appendix D) and the Earthworks concept plan (Appendix B) a significant portion of the development appears to encroach into the existing 1% AEP (100 year) floodplain storage of Bollard Bullrush Swamp. This existing floodplain storage needs to be

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- preserved (or equivalent provided at another location within the development), in addition to the 1% AEP flood storage required for the development. This aspect and the overall drainage strategy will need to be endorsed by DWER.
- Although Section 4.3 (Criteria SW2) and 6.2.3.2 stipulate all runoff up to the 1% AEP is to be retained on site, Section 3.4.1 & 8.1 Para 2 make reference to a small swale/depression in the western corner of the site adjacent to the Peel MD and the potential for discharge/connection to the Peel MD (to pre-development levels) should future design approaches propose it. Direct connection of the development to the Peel MD would <u>not</u> be supported by the Water Corporation as modelling undertaken as part of the Peel MD 2002 Review and subsequent ADS for the Jandakot District Structure Plan completed in 2009 made no allowance for this area as it was assumed it could not be developed and any runoff from the catchment discharged directly to Bollard Bullrush Swamp and not the Peel MD. In addition the primary function of this swale/depression is not to accept flows but to direct overflow from the Peel MD into the regional floodplain storage of Bollard Bullrush Swamp (which also encompasses the western portion of Lot 506 Johnson Road see 2<sup>nd</sup> dot point below).
- The assumed infiltration rate of 4.32m/day (minus clogging) assumed for the hydrological model discussed in Section 8.8 appears too high and therefore the 1% AEP storage volume in the FSA may be inadequate. In addition a maintenance plan would need to be established to advise the City of Kwinana how the infiltration rates could be sustained over time.
- Additional land will be required by the Water Corporation within the Lot 506 Johnson Road Wellard LWMS boundary for the Peel Main Drain where it abuts the proposed development otherwise the drain would remain with steep banks that could lead to formation of slip circles potentially impacting the development. The specific land requirements will depend on the proposed earthworks levels and cross section profiles of the development relative to the drain and would require detail cross sections of the interface between the development and the Peel Main Drain in order to fully assess any requirements (including for maintenance/access).
- Appendix C details a proposed Dual Use Path (DUP) Crossing of Peel MD (Item 05 on plan 1.2). The underside of this DUP crossing would need to be at least 500mm above the 1% AEP flood level of the Peel MD and a detailed plan, considering public safety and other engineering aspects, would need to be submitted to the Water Corporation for approval.
- Section 7.3 (Criteria GW3) stipulates surface-based infiltration should have 300mm clearance above MGL. The Controlled Groundwater Level (CGL) for Bollard Bullrush Swamp is 4.8m
   AHD. This is the lowest level that DWER will permit surface and sub surface drainage invert levels to be set. This aspect, including the provision of any subsoil drainage within the POS as mentioned in Section 7.3, will need to be endorsed by DWER.

The information provided above is subject to review and may change. If the proposal has not proceeded within the next 6 months, please contact us to confirm that this information is still valid.

Should you have any queries or require further clarification on any of the above issues, please do not hesitate to contact us.

Regards

**Development Services** 



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Attachment D

City of Kwinana PO Box 21 KWINANA WA 6966

Dear

# PROPOSED AMENDMENT TO WELLARD RESIDENTIAL LOCAL STRUCTURE PLAN, PROVIDENCE ESTATE WELLARD

Thank you for providing the *Wellard Residential Local Structure Plan Amendment* (December 2023) received on 8 February 2024 to the Department of Water and Environmental Regulation (the Department) for comment.

The Local Structure Plan (LSP) amendment proposes to include Lot 506 Johnson Road into the Providence Estate, Wellard. Consistent with *Better Urban Water Management (BUWM)* (WAPC, 2008) and policy measures outlined in *State Planning Policy 2.9: Water Resources*, LSPs should be supported by an approved Local Water Management Strategy (LWMS) prior to finalisation to demonstrate the proposed urban development can adequately manage water quality and quantity.

The Wellard Residential Local Water Management Strategy (Emerge Associates, May 2012) was endorsed by the Department in June 2012. To support the proposed LSP amendment, Local Water Management Strategy Lot 506 Johnson Road, Wellard (Emerge, 2023) was prepared and submitted to the Department for review in January 2024. Please refer to Attachment 1 for the Department's comments on the LWMS dated 14 February 2024.

It is recommended the LWMS is updated in accordance with the aforementioned comments and any advice received from the City of Kwinana.

Kwinana Peel Region

107 Breakwater Parade Mandurah Ocean Marina Mandurah Western Australia 6210 PO Box 332 Mandurah Western Australia 6210

Telephone: 08 9550 4222 Facsimile: 08 9581 4560

www.dwer.wa.gov.au

#### **OFFICIAL**

Should you require any further information on the comments, please contact Fiona Routledge at the Mandurah office on 9550 4237.

Yours sincerely

Jane Sturgess

A/Program Manager - Planning Advice

Kwinana Peel Region

20 / 02 / 2024

Attachment 1 Department of Water and Environmental Regulation comments on

Lot 506 Johnson Road, Wellard Local Water Management Strategy

dated 14 February 2024

**OFFICIAL** 



Your ref: EP22-062(03)
Our ref: RF158-05 & PA061324
Enquiries: Fiona Routledge, Ph 9550 4237

Emerge Associates Unit 4, 26 Railway Road SUBIACO WA 6008

Attention: David Coremans

Dear David

# LOCAL WATER MANAGEMENT STRATEGY – LOT 506 JOHNSON ROAD, WELLARD

Thank you for providing the draft Local Water Management Strategy (LWMS) received on 18 January 2024 for the Department of Water and Environmental Regulation (Department) to assess.

The Department has reviewed the *Local Water Management Strategy Lot 506 Johnson Road, Wellard* (Revision A; dated December 2023) and provides the attached comments for your consideration.

These comments should be reviewed and actioned alongside comments from the City of Kwinana. If there are any conflicts between comments from different parties, it is expected that the document author will mediate an agreed position between the relevant parties.

In the event there are modifications to the proposal that may have implications on aspects of water management, the Department should be notified to enable the implications to be assessed.

Should you require any further information on the comments, please contact Fiona Routledge at the Mandurah office on 9550 4237.

Yours sincerely

Jane Sturgess

A/Program Manager - Planning Advice

Kwinana Peel Region

14/02/2024

Kwinana Peel Region

107 Breakwater Parade Mandurah Ocean Marina Mandurah Western Australia 6210

PO Box 332 Mandurah Western Australia 6210

Telephone: 08 9550 4222 Facsimile: 08 9581 4560

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#### **OFFICIAL**

Attachment 1 - Department of Water and Environmental Regulation comments on the draft Local Water Management Strategy Lot 506 Johnson Road, Wellard

Contact for further information: Fiona Routledge, Telephone 9550 4237

	Date received	Comments Sent
Rev A	18/01/2024	14/02/2024
Rev B		
Rev C		

No.	Page	Section	Rev A - DWER Comments	Rev A – Author's Actions
1	4	Table E1  Water management criteria and compliance summary  Criteria SW1	Runoff from road reserves in small rainfall events is proposed to be retained within a vegetated Bio-retention Area (BRA) in POS. This is not current best practice and upstream biofiltration (such as roadside rain gardens and tree pits) is to be incorporated into the drainage design.  The Decision Process for Stormwater Management in Western Australia (DWER, 2017) recommends that the first 15mm of rainfall is managed at-source as much as practical, including the retainment of road runoff within road reserves as expressed to conveyage to drainage	
2	22	s3.6.3.1 Groundwater Levels	road reserves as opposed to conveyance to drainage basins.  The calibrated maximum groundwater level (MGL) at each bore is the measured maximum level + 680mm or natural surface (whichever is lower).  It is unclear if the groundwater levels and contours presented within Plate 1 and Figure 6 respectively are the calibrated MGL. The title of Plate 1 suggests it represents the measured groundwater levels, however Figure 6 contours, which represents MGL appears to align with with Plate 1. Please adjust the text to clarify or amend the figures accordingly to include the calibrated MGL.	

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No.	Page	Section	Rev A - DWER Comments	Rev A – Author's Actions
3	23	s3.6.3.2	Within Table 2, please include reference to the Australian and New Zealand guideline for fresh and marine water	
		Groundwater Quality	quality (2000) guideline value of each parameter.	
		Table 2	High TP and higher nitrate concentrations were observed at Bore MB05. Please discuss the potential source of nutrients.	
4	25	s4 Design criteria and Objectives	Please consider including criteria relating to groundwater quality under Groundwater Management.	
5	27	s5.1.2 Groundwater	Is it proposed to irrigate the streetscaping (as outlined within the Landscape Concept) using the current groundwater allocation? If so, please include the additional area and estimated irrigation requirements.	
6	31	s6.2.1 Bio-retention areas	The BRA is proposed to have a depth of 500 mm with 1:3 side slopes. Please confirm the City of Kwinana supports this concept design.	
			The Stormwater Management Manual (DWER, 2022) recommends bank grades no steeper than 1:6 on open systems.	
7	31	s6.2.1 Bio-retention areas	Treatment of runoff will be provided through interaction with vegetation and adsorption to sand particles through infiltration prior to reaching groundwater.	
			Soil filter media should be used for the bioretention component of the system where PRI of the soil/infill is less than 10. Section 7.2 Groundwater quality management states BRA will be underlain by material with an appropriate PRI. Please adjust for consistency.	

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No.	Page	Section	Rev A - DWER Comments	Rev A – Author's Actions
8	32	s6.2.1 Bio-retention areas	As per Groundwater Criteria GW3 – Surface based infiltration should have 300mm clearance above MGL, please state the invert of the BRA will be at least 300mm above the MGL.	
9	32	s6.2.2 Flood storage areas	Please include additional information within this section which includes the calibrated MGL and finished site level.  The Geotechnical Investigation Report (GGC, 2022) states "It must be noted that clayey material was encountered from the surface to depth of up to 3.2 m within GGC completed CPT01 in the proposed area POS and drain area in Zone 3. We consider that the POS and drain area is currently unsuitable for on-site disposal of stormwater by infiltration using soakwells, due to the presence of shallow groundwater and shallow clayey soils within this location."  With consideration given to the underlying clayey soils, no intent to discharge to the Peel Main Drain, and the FSA invert set at the existing site level, please include additional information to demonstrate how major stormwater events will infiltrate?	
10	32	s6.2.3.1 Small rainfall event	Runoff from the first 15mm will be retained onsite (within lots and/or road reserve).  Table E1 and Table 6 state runoff from road reserves in small rainfall events will be retained with a vegetated BRA in POS.  Please adjust for consistency.	
11	32	s6.2.3.1 Small rainfall event	Please include details of the BRA invert levels and TWL (similar to FSA in s6.2.3.2 Major rainfall event).	

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No.	Page	Section	Rev A - DWER Comments	Rev A – Author's Actions
12	35	s7.1 Groundwater level management	Lot levels require 500mm above the 1% AEP flood levels, please correct typo of 500m.	
13	36	s7.3 Groundwater design criteria compliance	Criteria GW3 states subsoil drainage will be provided in the POS. Subsoil drainage is not discussed within the report. Please confirm if subsoil drainage will be used.	
14	40	s9.2.1 Trigger values Table 8	Please adjust the typographical error – the measurement of TP should be in 'ug/L' or the proposed trigger value reduced to 0.2mg/L.	
15	42	s9.3.3.2 Contingency Actions	Please update reference of DWMS to DWMP.  Contingency actions are proposed to be undertaken when downstream nutrient concentrations are >50% higher than upstream nutrient concentrations.  It is recommended that the proposed contingency actions are undertaken if the downstream values exceed the established trigger values.  A change in land use from intensive grazing to urbanisation should lead to an improvement in the water quality.	
16	56	Figure 6 Groundwater Contours	Please confirm the groundwater contours presented in Figure 6 are the calibrated MGLs (as per s3.6.3.1 Groundwater levels), i.e. measured levels +680mm.	
17		Figure 8 Post-development Monitoring Locations	The proposed downstream and upstream points would be representative of surface water, however as there is no intent to measure surface water, upstream and downstream groundwater monitoring points should be established.	

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No.	Page	Section	Rev A - DWER Comments	Rev A – Author's Actions
			Please reconsider the location of the proposed upstream groundwater monitoring point, consistent with the groundwater contours (Figure 6).	
18	65	Appendix B Earthworks Concept	The surface contours along Navet Road/Lattuge Drive are proposed to increase up to 6.60m. Please confirm this will allow for a minimum of 0.3m to the proposed habitable floor levels of the three lots in the adjoining subdivision (Lot 9010) along Navet Road.  The lot levels provided in the Earthworks Concept of these three lots, from east to west, are noted as 6.30m, 6.50m and 6.35m respectively however the Preliminary Earthworks Plan within Lots 503-505, 507 and 900 Johnson Road Local Water Management Strategy {RPS, 2015}) indicates the proposed levels of these lots are 6.60m, 6.70m and 6.20m respectively.	
19	69	Appendix C Landscape Concept	Please provide an additional cross section illustrating the spillway between the BRA and FSA, Including invert levels and top water levels.	
20	69	Appendix C Landscape Concept	Please indicate where flush kerbing or rain gardens may be captured within the streetscaping.	

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DECEMBER 2023





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# WELLARD RESIDENTIAL



LOCAL STRUCTURE PLAN

# WELLARD RESIDENTIAL LOCAL STRUCTURE PLAN

Prepared by:



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Project No. 2263Rep49E

December 2023

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# **Table of Amendments**

Amendment No.	Summary	Date Approved by the WAPC
Amendment No.	Introduce Lot 506 Johnson Road, Wellard within the Wellard Residential Local Structure Plan by applying a residential density of R30, along with two areas of POS.  Amend the Wellard Residential Local Structure Plan to:  Update LSP map to include Lot 506 Johnson Road (Page 86);  Update Executive Summary to reference Amendment 1 (Page 14);  Update Table 1 (Land Ownership and Legal Description) to include Lot 506 Johnson Road (Page 21);  Update Figure 14 (Public Open Space) to refer to Addendum Report (Page 62); and  Update Table 2 (Public Open Space and Drainage Summary) to refer to Addendum Report (Page 64).	



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# WELLARD RESIDENTIAL



LOCAL STRUCTURE PLAN

## **LANDOWNER**

Wellard Residential Pty Ltd

#### PROJECT TEAM

Project Management - Wellard Residential Pty Ltd

Planning and Urban Design - CLE Town Planning + Design

Environmental Assessment - PGV Environmental

Groundwater and Drainage - Emerge Associates

Engineering Infrastructure and Services - JDSI Consulting Engineers

Traffic and Transport - Bruce Aulabaugh Traffic Engineering

Acoustic Assessment - Lloyd George Acoustics

Bush Fire Protection - South West Fire Services

Landscaping - Urban Landscaping

Visual Analysis - EPCAD

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# WELLARD RESIDENTIAL

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# WELLARD RESIDENTIAL



# LOCAL STRUCTURE PLAN

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3.5	Public	()	Shace

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# LOCAL STRUCTURE PLAN

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# WELLARD RESIDENTIAL

# LOCAL STRUCTURE PLAN

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- 2. Road Traffic Acoustic Assessment Lloyd George Acoustics
- 3. Fire Management Plan Southwest Fire Services
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- 5. Traffic and Transport Assessment Bruce Aulabaugh
- 6. Infrastructure and Servicing Strategy JDSi
- 7. Local Water Management Strategy Emerge Associates
- 8. Landscaping Strategy Urban Landscaping
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# WELLARD RESIDENTIAL



LOCAL STRUCTURE PLAN

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- 6. Traffic Impact Assessment PJA



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#### **EXECUTIVE SUMMARY**

The Wellard Residential Local Structure Plan (LSP) allows for the creation of a diverse and vibrant urban community within an urban infill setting that responds to the surrounding land use context, natural environment, and State Government infill targets.

The LSP area covers approximately 73ha over Lots 167-170, 83, 85, 92 & 1278 Wellard Road, and Lots 2, 10, and 1 Johnson Road, Wellard ("the subject land"), of which approximately 61.5ha is zoned Urban under the MRS, with the balance zoned Rural. The LSP establishes a robust statutory planning framework that provides a comprehensive guide for future land use and development, whilst recognising the site's context within the strategic planning framework, as well as its physical setting.

The urbanisation and development of the subject land provides further opportunities to maximise the catchment to existing and planned infrastructure through consolidation of urban development, while satisfying State Government infill housing targets, and recognising the natural setting of the land. The wider area between the Kwinana town centre and the Kwinana Freeway has been subject to extensive growth and urban consolidation over the past decade. As a result essential infrastructure is either already in place, or is capable of being extended into the subject land, making it a logical choice for urban infill.

The Minister for Planning approved amendment 1189/57 to the Metropolitan Region Scheme on 30 November 2010 to rezone approximately 89ha of Rural zoned land in Wellard to Urban Deferred. A portion of the Urban Deferred land including the LSP area was subsequently transferred to Urban zone in October 2011.

In considering MRS amendment 1189/57, the Environmental Protection Authority (EPA) set the level of assessment as 'Scheme Not Assessed' and advised that a 50m buffer to the Environmental Protection Policy (EPP) wetland, the southern portion of which sits within the north eastern corner of the LSP, is sufficient to protect and retain the core values of the wetland area. The LSP complies with this requirement.

The LSP responds to the current strategic planning framework provided by the Jandakot Structure Plan, and the draft Eastern Residential Intensification Concept (ERIC). The LSP recognises and elaborates on the key principles of these strategies to provide a statutory mechanism for their implementation.

The LSP allows for the creation of approximately 770-820 dwellings over approximately 61.5ha of Urban zoned land, located between Wellard Road and Johnson Road, to the south of the Bollard Bulrush Wetland. Overall the Plan allows for the provision of approximately 11 hectares of public open space, plus an additional 10ha of wetland core area, achieving an ideal balance between useable



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## WELLARD RESIDENTIAL



#### LOCAL STRUCTURE PLAN

passive and active open space, as well as recognising significant vegetation and drainage requirements within public open space reserves, and providing view corridors from Homestead Ridge to the west of the subject land. Of the gross urban zoned area the LSP area delivers 18% open space. In accordance with Liveable Neighbourhoods, once appropriate credits are applied 15.4% open space is provided.

Once developed, the LSP area will provide a broad range of housing choice and a variety of lot product. Medium density housing options will be located around key areas of public open space, adjoining primary school and local centre, and adjacent to planned public transport routes, balanced with transitional densities away from core infrastructure and adjoining the Bollard Bulrush Wetland and Bush Forever, recognising that these environmental features do not provide the context for high density development. The LSP achieves an appropriate density for residential development in greenfields locations, in the context of the Bollard Bulrush wetland core and Tramway Reserve to be ceded free of cost to the Crown, and given the proposed betterment of the wetland buffer, Tramway Reserve and POS areas within the LSP.

The LSP is environmentally responsive, recognising areas of mature vegetation in passive areas of open space, and providing a suitable interface to the Bush Forever reserve to the south through a combination of road reserves and public open space. The LSP

also provides a similar interface to the Bollard Bulrush Wetland to the north, meeting EPA wetland buffer requirements, ensuring that the urban land uses are clearly delineated from the wetland areas. Drainage has been designed to be consistent with predevelopment flows into the Wetland area and the Peel Main Drain, ensuring that the development will not impact on any downstream wetlands or waterways through a reduction in drainage volumes or water quality.

The LSP demonstrates a clear and legible hierarchy of roads that respond to the existing road network and the City of Kwinana's traffic forecasting and modelling. The internal road network provides permeable east-west and north-south connections via a primary local distributor and local access streets, ensuring that traffic flows and volumes are distributed appropriately throughout the estate.

The LSP demonstrates and confirms that the subject land can be readily serviced, with essential infrastructure already available in the area. Furthermore, given the large majority of the land is in single ownership, cost sharing for provision of infrastructure is not in any way prohibitive to development, and can be addressed through standard agreements with service providers.

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## Addendum (Amendment 1)

Amendment 1 to the Wellard Residential Local Structure Plan looks to introduce Lot 506 Johnson Road into the structure plan area, by extending the R30 density code to facilitate residential development within the subject site. The amendment also proposes to introduce two additional areas of public open space within the subject site to complement the established open space network, to provide a shared drainage function in a manner that will not compromise active and passive recreational uses. The surrounding road network is capable of connecting into the site, with a network of access roads, consistent with the existing structure plan being proposed within the subject site. This amendment has been progressed to facilitate future subdivision and development over Lot 506 to reflect its 'Development' zoning under the City of Kwinana Local Planning Scheme 2.



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# WELLARD RESIDENTIAL





As part of the preparation of the LSP, the following reports, assessments and management plans have been prepared, and are summarised in the LSP report, with full copies included as technical appendices.

- 1. Environmental Assessment Report (including Wetland Management Strategy)
- 2. Transport and Access Strategy
- 3. Local Water Management Strategy
- 4. Landscape Concept Plan and Open Space Strategy
- 5. Servicing and Infrastructure Strategy
- 6. Road and Traffic Acoustic Assessment
- 7. Fire Management Plan
- 8. Landscape and Visual Study

These strategies and reports comprehensively address all of the applicable planning considerations, and demonstrate that the subject land is capable of supporting urban development in the form proposed via this LSP.

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#### LOCAL STRUCTURE PLAN

#### 1.0 PLANNING BACKGROUND

### 1.1 Introduction and Purpose

This Local Structure Plan (LSP) has been prepared on behalf of Wellard Residential Pty Ltd, and is lodged with the City of Kwinana pursuant to clause 6.17 of Town Planning Scheme No.2.

The purpose of this LSP is to provide a broad statutory planning framework to guide future subdivision, development, and use of the subject land. The LSP draws on the current strategic planning framework, and refines the level of detail in order to ensure that environmental, social, economic and infrastructure issues are comprehensively addressed, and that a clear and robust statutory framework is provided.

Preparation of this LSP has involved extensive consultation with the City of Kwinana, Department of Planning, Department of Education, Main Roads WA, Department of Water, Public Transport Authority and relevant service authorities. In addition the proponent has also met with adjoining owners who represent the Homestead Ridge Progress Association. The extensive consultation at the beginning of the process has ensured that the LSP addresses all matters raised by the various agencies prior to lodgement.

## 1.2 Land Description

The LSP area encompasses all of Lots 167-170, 83, 85, 92 & 1278 Wellard Road, and lots 2, 10 and 1 Johnson Road. A site plan and orthophoto is Figure 1.

The following sections provide a detailed description of the land and surrounds.

#### 1.2.1 Location

The LSP area is located within the City of Kwinana, approximately 32km south of the Perth CBD, and 2km south east of the Kwinana town centre, identified as a Secondary Centre under WAPC's State Planning Policy 4.2 – Activity Centres for Perth and Peel. A location plan showing the subject land within the Kwinana district is Figure 2.

The areas between the Kwinana town centre and the Kwinana Freeway have been subject to extensive growth and urban consolidation over the past decade. As a result of the extensive consolidation in this area, essential infrastructure is either already in place, or is capable of being extended into the subject land. New housing estates are either planned, under construction, or completed surrounding the site at Bertram, Casuarina, Wellard Village, Wellard East, and Emerald Park (Wellard West).

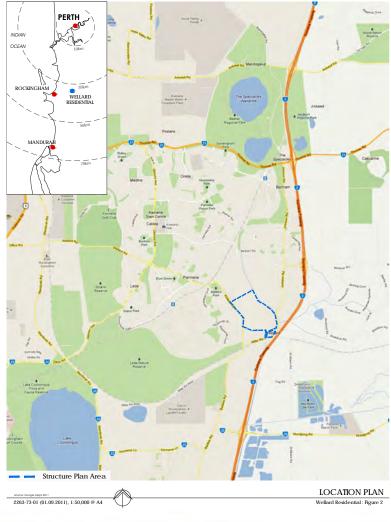
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Further infill development is also underway in the Kwinana town centre, Parmelia, and Orelia. The urbanisation of the subject land provides further opportunities to maximise the catchment to existing and planned infrastructure through consolidation of urban development, and to achieve state government infill housing targets.

Figure 3 provides a District Context Plan, showing the context of the surrounding endorsed local structure plans and the strategic planning framework of the WAPC's Outer Metropolitan Perth and Peel Sub-regional Strategy.

The Wellard locality is largely defined by Bertram Road to the north, Wellard Road to the west, the Kwinana Freeway to the east, and Millar Road to the south. The surrounding infrastructure and proximity to the Kwinana town centre afford excellent opportunities to provide a large scale urban infill project.

The subject land is broadly bounded by Bush Forever Area 349 to the south west, the Peel Main Drain to the east, Wellard Road to the west, the Bollard Bulrush Wetland to the north east, and Lot 87 Wellard Road to the north west. An unconstructed portion of road reserve forms a portion of the north eastern boundary of the LSP area, and can be utilised to provide access and servicing of the LSP area.

Lots 1, 10 and 2 Johnson Road are separated from the balance of the site via the Peel Main Drain, which forms the western boundary to these lots. These lots all have frontage and access to Johnson Road, while Lot 2 also has direct frontage to Millar Road. These lots are under separate ownership to the balance of the LSP area, and have been included in the LSP at the request of the City of Kwinana.

#### 1.2.2 Area and Land Use.

The LSP area provides a gross area of approximately 73.82ha. This includes 11 freehold lots ranging in size from 0.7ha to 15ha.

The land is predominantly cleared, and has historically been used for grazing of livestock, and other agricultural purposes.

# 1.2.3 Legal Description and Ownership

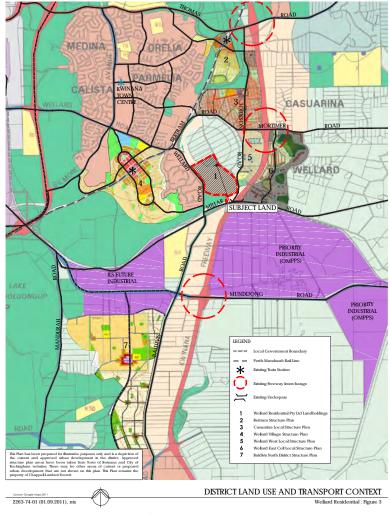
The LSP area comprises of Lots 167-170, 83, 85, 92 & 1278 Wellard Road, and Lots 1, 10, and 2 Johnson Road in Wellard. Wellard Residential Pty Ltd is the sole beneficial landowner of the large majority of the subject land, with the exception of Lots 1, 10 and 2 Johnson Road, which are privately owned.

Table 1 provides the legal description and ownership of the subject land.

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LOCAL STRUCTURE PLAN

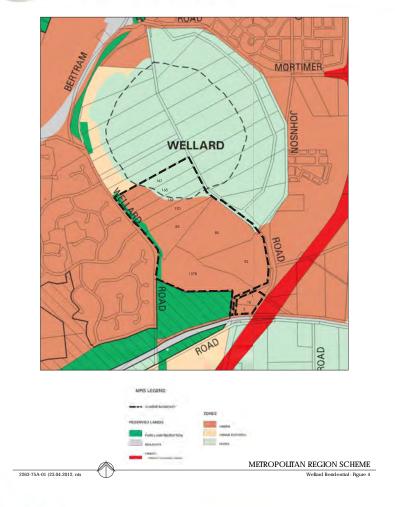
Table 1 – Land Ownership and Legal Description

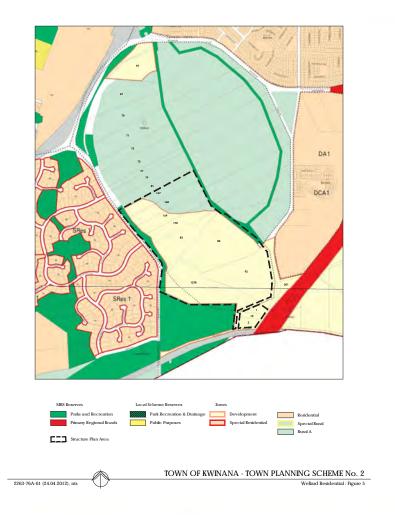
Lot Number	Plan Number	Area zoned Urban	Rural zone and Parks and Recreation Reserve	Lot Area (Total 81.67ha)	Landowner
167 Wellard Road	202766	1.7161	3.732	5.4481ha	Wellard Residential Pty Ltd
168 Wellard Road	202766	2.0774	3.3378	5.4152ha	Wellard Residential Pty Ltd
169 Wellard Road	202766	2.5738	2.7959	5.3697ha	Wellard Residential Pty Ltd
170 Wellard Road	202766	4.1189	1.1977	5.3166ha	Wellard Residential Pty Ltd
83 Wellard Road	202766	7.1171	0.5927	7.7098ha	Wellard Residential Pty Ltd
85 Wellard Road	202641	15.1150	0	15.1150ha	Wellard Residential Pty Ltd
1278 Wellard Road	144366	14.2084	0.6471	14.8555ha	Wellard Residential Pty Ltd
92 Wellard Road	202645	11.9780	0	11.9780ha	Wellard Residential Pty Ltd
506 Johnson Road	71000	7.8510	0	7.8510ha	Wellard Residential Pty Ltd
Total Wellard Residential Landholdings		58.9047	12.3032	79.0589ha	
2 Johnson Road	65344	1.0326	0	1.0326ha	Seth Anthony Bombara
10 Johnson Road	65115	0.6943	0	0.6943ha	Amanda Rogers
1 Johnson Road	65344	0.8881	0	0.8881ha	Roy Anthony Eddleston
Total LSP Area		61.5197	12.3032	81.6739ha	

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## LOCAL STRUCTURE PLAN

## 1.3 Planning Framework

## 1.3.1 Zoning & Reservations

## Metropolitan Region Scheme

The Metropolitan Region Scheme (MRS) currently zones the bulk of the subject land as Urban. 9.7ha in the north east corner of the site is zoned Rural, while a 2.42ha strip adjacent to Wellard Road is reserved for Parks and Recreation, reflecting the existing 'Kwinana Tramway Reserve'.

The Bush Forever Area 349, located to the south of the subject land, is reserved for Parks and Recreation. The Bollard Bulrush Wetland and Peel Main Drain to the north and east is currently zoned Rural, though it is understood that the wetland area may also be reserved for Parks and Recreation as part of a future MRS amendment.

Figure 4 shows the current MRS zoning.

## City of Kwinana Town Planning Scheme No.2

The City of Kwinana Town Planning Scheme No.2 (TPS 2) currently zones the large majority of the subject land Development, with the exception of the Tramway Reserve on the western boundary, which is shown as Parks and Recreation (MRS) Reserve, and the Bollard Bulrush Wetland core area which is zoned Rural A. The Peel Main Drain is reserved under TPS 2 for Parks, Recreation and Drainage.

A plan showing the current zonings under TPS 2 is Figure 5.

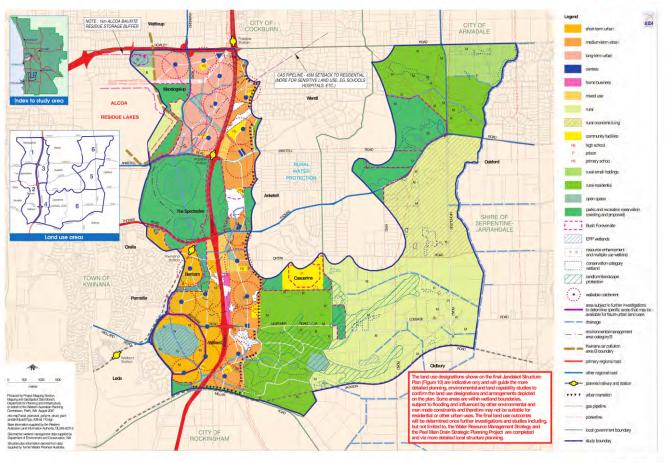
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# WELLARD RESIDENTIAL

# LOCAL STRUCTURE PLAN



Source: WAPC phot/cd.prd 2263-77-01 (02.09.2011), nts

JANDAKOT STRUCTURE PLAN

Wellard Residential : Figure 6



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#### LOCAL STRUCTURE PLAN

## 1.3.2 Structure Planning

#### Jandakot Structure Plan

The subject land is included within the area covered by the Jandakot Structure Plan, a sub-regional structure plan prepared by the WAPC in 2007. The Jandakot Structure Plan provides a broad strategic planning framework to guide future region and local scheme amendments, and local structure plans.

Importantly the Jandakot Structure Plan broadly identifies the entire area of the subject land and surrounds as 'Short Term Urban'. The Jandakot Structure Plan is Figure 6. Many of the more detailed principles of the Jandakot Structure Plan have now been addressed & clarified through the draft Eastern Residential Intensification Concept and as part of the MRS amendment to rezone the land to Urban Deferred, and subsequent transfer to Urban.

Eastern Residential Intensification Concept District Structure Plan (draft)

The Eastern Residential Intensification Concept (ERIC) was prepared as a draft by the City of Kwinana in 2005. The ERIC has not been formally adopted by the City of Kwinana or the WAPC following advertising, though it is understood that it is still used as an operational guide for urban development and structure planning by the City. A copy of the draft ERIC is Figure 7.

The draft ERIC is a district level structure plan and identifies a number of urban cells, and provides a broad strategic framework guiding land use, infrastructure and environmental management for each cell.

The LSP area is located within the Wellard (west) cell with the majority of the land identified as 'Possible Mid to Long Range Future Residential'. The draft ERIC notes that future urbanisation over the balance of the land may be considered following full technical environmental review of the impact of urbanisation on the EPP wetland area. Further discussion on the EPP wetlands and the technical environmental review is included in Appendix 1. Importantly, this work has now occurred and is reflected in the Urban zoning of the land.

Other key elements of the draft ERIC which are applicable to the LSP area include:

- Recognition that the subject land has sufficient elevation from groundwater and the wetland area to indicate that it has the potential for urbanisation;
- A half diamond interchange to the Kwinana Freeway at the existing Millar Road underpass (which Main Roads have since confirmed will not be provided);
- Proposed realignment of Johnson Road, crossing the Peel Main Drain and passing through the LSP area. The alignment has been refined in the LSP to connect north south to Millar Road as requested and agreed with the City of Kwinana;

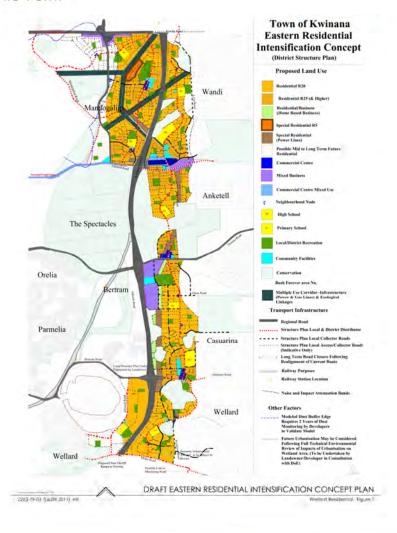
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- An east / west local distributor connecting the realigned Johnson Road with Wellard Road, reflected in the LSP:
- A primary school and district open space located to the east of the LSP area and Johnson Road.

Further discussion on these elements and how they are addressed through the LSP is provided in part 3 of this report.

#### 1.3.3 Relevant WAPC Policies & LSP Response

The following sections summarise those government policies and strategies that are relevant to the urbanisation and development of the LSP area.

# SPP 5.4 – Road and Rail Transport Noise and Freight Considerations in Land Use Planning

The LSP area is located in close proximity to the Kwinana Freeway – an existing primary regional road and major transport corridor, as well as the Mundijong Freight railway line. As such, the proposal must be considered in the context of SPP 5.4, which guides noise sensitive development in proximity to major transport routes.

An assessment of the site in the context of both the Kwinana Freeway and the Mundijong rail line confirmed that the easternmost portions of the LSP area are affected by traffic noise generated by the Kwinana Freeway. The same investigation confirmed that the LSP area is not affected by noise or vibration generated by the Mundijong rail line.

In accordance with SPP5.4, a Road Traffic Acoustic Assessment has been prepared by Lloyd George Acoustics. The Acoustic Assessment is prepared in accordance with the parameters of SPP 5.4, and identifies the portions of the LSP area that will require additional noise mitigation / quiet house design. The Acoustic Assessment is included as Appendix 2 to the LSP.

## Planning for Bush Fire Protection Guidelines

The WAPC and FESA released Planning for Bush Fire Protection guidelines in May 2010 as a means of outlining the matters that need to be addressed through the planning process in order to protect life and property in the event of a bush fire.

The LSP shares its southern boundary with Bush Forever Area 349. In accordance with the guidelines, a Fire Management Plan (FMP) has been prepared by Southwest Fire Services, refer Appendix 3. The FMP identifies a combination of wider road reserves, building setbacks, and built form treatments in accordance with Australian Standard AS3959 as the best means of ensuring adequate fire protection for future development in affected areas.

The FMP has been prepared in consultation with the City of Kwinana fire and building officers, who have confirmed that those lots that are deemed to be affected are to be constructed in accordance with AS3959 construction standards, as determined and required by the City of Kwinana.

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## 1.3.4 Previous Approvals & Decisions

The WAPC resolved in 2010 to amend the MRS to rezone the Wellard Urban Precinct (west), including the LSP area, to Urban Deferred. This decision was informed by a submission presented by the previous landowners and their consultant team.

Prior to rezoning the land, the proposed amendment was referred to the Environmental Protection Authority (EPA) to determine the level of assessment. The EPA reviewed the proposal, and subsequently set the level of assessment as 'Scheme Not Assessed', noting that a 50m buffer to the EPP Lake will provide adequate protection to the EPP lake and wetland. A copy of the EPA advice is Appendix 4. The LSP provides a minimum 50m buffer to the EPP lake and wetland in accordance with the EPA advice. A portion of the Precinct, including the LSP area has since been transferred to Urban zone.

#### 1.4 Context Analysis

As demonstrated in the District Context Plan at Figure 3, the subject land is one of the last remaining undeveloped sites west of the Freeway within the City of Kwinana that is suitable for urban development. The LSP provides an excellent opportunity to further consolidate urban development in the area, and to ensure that land use and infrastructure planning is integrated and coordinated throughout the district. This is further demonstrated in the sections below.

## 1.4.1 Transport Routes

The site has convenient access to a number of existing north-south and east-west transport routes, providing strong linkages to a range of activity centres, employment nodes, public transport, and recreational areas.

The Kwinana Freeway provides the primary north-south transport route. The Freeway can be readily accessed via interchanges at Mortimer Road to the north, and Mundijong Road to the south.

Wellard Road has been identified by the City of Kwinana as a future District Distributor, providing a secondary north-south route. Early discussions with the City have indicated an anticipated ultimate traffic volume for Wellard Road in the vicinity of 15 000 vehicles per day at capacity. The LSP provides controlled access to Wellard Road via a roundabout or priority T intersection, ensuring that the future community has a convenient access to the district distributor. A secondary access to Wellard Road is proposed further to the north, improving access and permeability for the north western lots. This access has been identified as a full movement priority T intersection, though it is recognised that it could potentially be downgraded to a left in / left out when Wellard Road is constructed as a dual carriageway with a divided median.



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The City of Kwinana has also identified Johnson Road as a local distributor within the district hierarchy. Johnson Road is expected to carry relatively low volumes of north-south traffic, with an estimated volume of 1 260 - 2 100 vehicles per day at capacity. Consistent with the draft ERIC, the LSP proposes to realign Johnson Road through the centre of the LSP area, enhancing the function of the local distributor. Discussions with the City have confirmed anticipated volumes for the realigned Johnson Road will not exceed 3 000 vpd.

East-west transport routes are currently provided via Millar Road to the south, including a Freeway underpass linking the future industrial area to the south east with the Kwinana town centre and surrounds. The LSP provides a direct connection to Millar Road via the realigned portion of Johnson Road.

Bertram Road also provides an east-west connection further to the north, linking Wellard Village to the Kwinana Freeway at the Mortimer Road interchange.

A comprehensive Traffic and Transport Assessment has been prepared by Bruce Aulabaugh, traffic consultant, and is included as Appendix 5. The Traffic and Transport Assessment identifies the existing transport routes and road hierarchy, and ensures that the LSP is appropriately integrated into the existing network.

#### 1.4.2 Services and Infrastructure

As demonstrated in the servicing strategy included as Appendix 6, the subject land can be readily serviced, with essential infrastructure already available in the area. The servicing strategy demonstrates how infrastructure provision to the LSP area can be integrated with the existing infrastructure in the broader district. As such, servicing and timely provision of service infrastructure is not a constraint to development.

## 1.4.3 Activity Centres and Employment Nodes

The LSP area is located in close proximity to a number of activity centres and employment nodes, ensuring good accessibility to commercial services, and providing excellent opportunities to achieve employment self sufficiency targets prescribed in Directions 2031 and Beyond.

The Kwinana Secondary Centre (approx 4km) and Rockingham Strategic Metropolitan Centre (approx 12km) are both easily accessible from the LSP area, providing employment opportunities, as well as convenient access to commercial and retail services, and community facilities. A small local centre is planned for Emerald Park (Wellard West), located immediately to the north-east of the LSP area adjacent to Johnson Road and approximately 500m from the centre of the LSP area. The local centre will provide local convenience facilities to the future community within the LSP area.

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There are a number of major existing employment nodes in the Kwinana and Rockingham areas including the Western Trade Coast, Kwinana Industrial Area, Australian Marine Complex, Kwinana Secondary Centre, Rockingham Strategic Metropolitan Centre, and Jandakot airport. In addition, there are expansive areas of planned industrial development including Latitude 32 industrial area, North-East Baldivis, and East Rockingham. Development of the subject land is a logical solution to increasing the local employment catchment, which is critical to achieving the employment self sufficiency targets set by Directions 2031 and Beyond.

1.4.4 Reserves, Open Space and Community Infrastructure

The LSP area has excellent access to a range of regional and district level open space and community infrastructure. The land is bounded to the south and west by regional MRS Parks and Recreation reserves, providing a variety of regional level passive open space within proximity to the site.

The LSP area also has good access to district active open space, with the Orelia district open space in close proximity, and the planned sub-regional open space at Thomas Oval also easily accessible from the LSP area.

A local sporting ground along with a sporting pavilion is identified in the Wellard West (Emerald Park) Local Structure Plan to be located in the southern portion of the Emerald Park estate. This active open space is within a walkable catchment of the LSP area and provides a complimentary local active open space for the LSP area.

The City of Kwinana has prepared an amendment to TPS 2 which creates a mechanism for the provision for regional, district and local level community facilities included via a development contribution plan (DCP). The DCP is informed by a draft Community Infrastructure Plan that identifies the specific type and location of community infrastructure to be funded via the DCP.

In addition to the infrastructure identified in the DCP, there is a planned government primary school immediately to the west of the subject land in Emerald Park, which can service the subject land once developed. The Department of Education was consulted during the preparation of the LSP, and confirmed that the primary school would have sufficient capacity to accommodate the future population of the LSP area. The Department intends to construct the school by 2013/2014 in recognition of the growing population in the area. The school is co-located with approximately 3.5ha of active open space, providing for the planned local sporting facility and pavilion.

The King's College is an existing private K-12 school located to the north of the site between Bertram Road and the northern end of the Bollard Bulrush Wetland, while there are numerous existing government primary and secondary schools in the area that are easily accessible from the subject land.

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#### LOCAL STRUCTURE PLAN

#### 2.0 SITE CONSIDERATIONS

#### 2.1 Environmental Assets & Constraints

The subject land is substantially unconstrained and environmental factors affecting the land, including protection of wetlands, groundwater, drainage, and bushfire management can be managed through standard mechanisms via the implementation of management plans at the subdivision stage.

A comprehensive Environmental Assessment Report (EAR) has been prepared by PGV Environmental, and is included as Appendix 1. The EAR includes a vegetation survey, flora and fauna analysis, desktop heritage analysis and wetland management strategy. The EAR concludes that:

- There are no Threatened Ecological Communities, Declared Rare and Priority Flora species within the LSP area.
- There are no fauna species of conservation significance within the LSP area.
- The development buffers provided to the EPP Lake (50m) and Resource Enhancement Wetland (30m), in accordance with the EPA's advice and DEC standard recommendation, are sufficient to ensure that development of the LSP area will not compromise the ecological values of the Bollard Bulrush Wetland.

- There is limited remnant vegetation on the site due to historic clearing and grazing. The existing vegetation condition is predominantly classified as 'Completely Degraded', with only a small pocket of vegetation in the south-west corner of the LSP, adjacent to the Bush Forever reserve that is classified as 'Very Good', which is recognised in the LSP concept.
- The LSP area currently contains introduced plant species that are classified as 'Declared' weeds under the Agriculture and Related Resources Protection Act 1976. Development of the subject land will create opportunities to manage and eradicate these species.

The City of Kwinana has advised that the adjacent Bush Forever Area 349 may contain suitable foraging habitat for Carnaby's Black Cockatoo.

#### 2.2 Landform & Soils

The topography and soil types within the LSP area are similar to surrounding urban areas and are not constraints to development. The ultimate earthworks design will respect the current landform through the minimisation of retaining walls, and recognition of the general fall of the site from south to north towards the Bollard Bulrush wetland.



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# LOCAL STRUCTURE PLAN



The LSP area is predominantly flat, supporting varying geomorphological features of the wetland depression in the northern corner of the LSP area, and the relatively low relief sand dunes in the south. The northern edge of the LSP area adjacent to the Bollard Bulrush Wetland has a level of approximately 4m AHD. The southern portion of the site is higher than the Bollard Bulrush Wetland, with a level of between 5 and 10m AHD. The highest points are located in the southern portion of the site on Lot 1278, and towards the Johnson Road portion of the LSP area. The relatively flat nature of the site ensures that the site can be drained and serviced without the need for substantial retaining, or significant changes to the topography.

Soil types within the LSP area range from Bassendean and Spearwood sands, and sandy silts typical of the Beeliar Wetland chain. The south and west of the LSP area are predominantly sandy soils, providing free draining soils suitable for urban development. Further discussion on soil types and drainage is provided in sections 3.4 and 3.5 and the Local Water Management Strategy at Appendix 7.

#### 2.3 Ground & Surface Water

Management of ground and surface water is comprehensively addressed through the Local Water Management Strategy (LWMS) at Appendix 7, and is not a constraint to development. The LWMS is

consistent with the DWMS, which was approved by the Department of Water in August 2011.

The existing hydrological conditions are summarised below, while the key principles of the LWMS are outlined in section 3.5 of the LSP.

Surface water flows are currently conveyed across the LSP area via a series of local drains and sheet flow, to discharge into the Bollard Bulrush wetland and Peel Main Drain. The Wetland area provides detention storage, slowing the flows before entering the Peel Main Drain.

Groundwater flows are generally towards the Bollard Bulrush Wetland and Peel Main Drain. Maximum Groundwater Levels (MGLs) range from 5.01m AHD in the south, to 4.23m AHD in the north of the LSP area. The majority of the LSP area is approximately 0.03m – 4.67m above the MGL, with the exception of the northernmost portion of the LSP area, where the ground level and MGL meet, coinciding with the edge of the Wetland. The earthworks and drainage strategy, in response to the MGL's, is discussed further in Section 3.6.7.

The LWMS proposes to retain pre-development flow rates to ensure that water quality and quantity is not adversely affected.

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#### 2.4 Fire Management

In accordance with the recommendations of the WAPC's Planning for Bush Fire Protection Guidelines, a Fire Management Plan (FMP) has been prepared by Southwest Fire Services, and is included as Appendix 3. The FMP concludes that bush fire risk is not a constraint to development in the LSP area, and any risk can be managed through the implementation of an adequate hazard separation zone, and by requiring minimum standards of construction for those dwellings that abut the hazard separation zone.

In accordance with the FMP, the LSP ensures that adequate separation is provided between Bush Forever Area 349 and the future urban area via a 23m wide road interface. The combination of the 23m road interface and 6m building setback provides an adequate hazard separation zone in accordance with the Bush Fire Protection Guidelines. As agreed with the City of Kwinana fire and building officers, the first row of houses facing the Bush Forever reserve are to be constructed to satisfy the BAL-12.5 construction standard in accordance with AS 3959, to provide adequate protection in the event of a bush fire. This can be addressed via a Detailed Area Plan or other statutory mechanism as a condition of subdivision.

### 2.5 Noise Management

The site is in close proximity to the Kwinana Freeway and the Mundijong freight rail line, and as such, the development proposal must have regard to the WAPC's SPP 5.4 – Road and Rail Transport Noise and Freight Considerations in Land Use Planning.

An Acoustic Assessment has been prepared by Lloyd George Acoustics in accordance with SPP 5.4, and is included as Appendix 2 to the LSP. The Assessment uses detailed noise modelling to determine any potential impact from the adjoining Freeway and rail line on noise sensitive uses. The Assessment concludes that while portions of the LSP area are deemed to be affected by Freeway noise, this is not a constraint to development and can be addressed through a combination of open space buffers, noise walls and quiet house design.

The southernmost portion of Lot 2 Johnson Road is affected by noise from the freight rail line. Again, this is not a constraint to development, and can be addressed through a combination of open space buffers, noise walls and quiet house design.

Impacts of rail vibration have also been taken into consideration as part of a preliminary desktop assessment. The nearest residential dwelling will be greater than 25m from the rail line, and as such satisfy the DEC's requirements with respect to rail vibration.



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#### 2.6 Heritage

Previous surveys for Aboriginal archaeological and ethnographic sites, as well as a search of the Department of Indigenous Affairs database, have not identified any archaeological sites in the LSP area.

The City of Kwinana's Municipal Heritage Inventory (MHI) identifies the Tramway Reserve, forming the western boundary of the LSP area, as having cultural heritage significance for its historic context as a supply route. There are no buildings or structures within the Tramway Reserve that have recognised heritage significance.

The MHI identifies the tramway reserve as a 'Management Category B' site, and notes that its significance arises from its historic value as a former tramway alignment. The MHI describes this category as having to provide a "high level of protection for places of considerable cultural heritage significance to the City of Kwinana."

As noted previously, the Tramway Reserve is reserved under the Metropolitan Region Scheme for Parks and Recreation. The LSP does not propose any development within the Reserve; however, there are opportunities to incorporate the Reserve into the broader open space network, and to improve the reserve as part of the LSP so that the heritage significance can be suitably recognised.

The MHI also identifies the 'Wellard Swan/Bollard Bulrush Swamp' as having cultural heritage significance for its Aesthetic and Historic value. The Swamp is listed as Management Category A. The LSP does not propose any development or modification to the Swamp, and as such its significance remains intact.

A desktop heritage assessment is included in Appendix 1.

#### 2.7 Area of Landscape Protection

The LSP area and broader surrounds fall within an 'Area of Landscape Protection' pursuant to clause 6.16 of TPS 2. An Area of Landscape Protection is a form of Special Control Area under the Scheme, and prescribes matters to which Council should have regard in considering development proposals. These matters include:

- a. the overall impact of the proposed development on the landscape amenity of the area;
- b. the need for an overall management plan prepared by Council in consultation with the affected landowners as a prerequisite to any Planning Approval being issued;
- the extent to which any subdivision proposal should guarantee the protection of natural ecological features and areas of landscape amenity;
- d. the desirability of minimizing the effect of new road construction, including earthworks and clearing of vegetation within road reserves.

In order to demonstrate that the proposal satisfies the abovementioned criteria, the proponent has undertaken a comprehensive Landscape and Visual Study, with a specific focus on Lots 167-169 Wellard Road, in the north western precinct of the LSP area. A copy of the Study is Appendix 9, and further discussion of the recommendations is included in section 3.2.5.

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#### 3.0 LOCAL STRUCTURE PLAN

#### 3.1 Plan Overview & Land Use Description

The LSP presents an opportunity for robust and environmentally responsive urban development that respects the natural amenity of the area, while forming an important addition to the Wellard community as an infill development project.

The LSP Concept Plan at Figure 8 indicatively demonstrates how development could occur on the site consistent with the LSP principles and requirements, while the LSP Statutory Plan at Figure 23 provides the statutory framework and development principles, based on the Concept Plan. The Concept Plan represents just one way development could occur within the framework of the statutory plan; the final subdivision plan will be a further refinement of the concept plan, consistent with the statutory plan.

The fundamental principles of the LSP are:

- Enabling the creation of a diverse range of high quality housing choices that appeal to a broad section of the market, that address and survey public spaces and recognise the site's context adjoining a Wetland and Bush Forever.
- Providing robust urban form and land use response that recognises the site's location within the broader district context.

- Acknowledging the natural landscape through the inclusion of view corridors, extensive planting within the Tramway Reserve, and retention, where possible, of existing vegetation and ground levels within areas of open space throughout the site.
- Providing a range of services and infrastructure to support the future community.
- Delivering a permeable, interconnected road and path network encouraging and facilitating multi-modal transport outcomes.
- Addressing the principles of the draft ERIC through the realignment of Johnson Road.
- Delivering a network of public open space meeting local active and passive, conservation and drainage needs, as well as allowing for planned and unplanned community activity.
- Recognising high quality vegetation and landform within public open space throughout the LSP area.

Based on these principles, the LSP provides the framework for:

 Approximately 770-790 residential lots, and potentially up to 820 dwellings when including density sites, over the LSP area. Higher densities are focussed around neighbourhood connectors, public transport routes, and key areas of open space, and transitional densities providing a suitable interface to the wetland and Bush Forever, recognising they do not provide a context for high density development.

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#### WELLARD RESIDENTIAL

#### LOCAL STRUCTURE PLAN

- Approximately 22ha of open space overall, including the Bollard Bulrush Wetland Core, Tramway Reserve, wetland buffers, wetland interface and remnant vegetation and neighbourhood parks.
- Approximately 12ha of public open space in addition to the Wetland Core, meeting active and passive recreation, drainage and cultural heritage objectives, as well as exceeding the 10% minimum public open space requirement of Liveable Neighbourhoods.
- Integration of the historic Tramway Reserve into the open space network, improving connectivity to communities to the north via an open space corridor, whilst also recognising the cultural heritage significance of the Tramway Reserve.
- Recognition of areas of remnant vegetation and mature trees within passive public open space.
- Provision of a managed interface to the EPP Lake and Resource Enhancement Wetland, ensuring that the development will not compromise the function of the wetland, and recognising the natural landform of the area. In accordance with the EPA's advice on MRS Amendment 1189/57 development is outside the 50m buffer to the EPP Lake. It addition the plan provides a 30m buffer to the Resource Enhancement Wetland.
- Provision of a managed interface to the Bush Forever reserve, ensuring the provision of adequate bush fire separation, management of introduced weeds, and controlled access.

- Inclusion of view corridors in open space and road reserve, recognising the views of the wetland area from Wellard Road and Homestead Ridge estate, as requested by the City of Kwinana.
- A permeable grid of local distributors and local access streets that is responsive to the existing district road hierarchy, while providing opportunities for future public transport, cyclist and pedestrian connections to the district network.
- Integration of the LSP area with the adjacent primary school and local sporting ground with senior oval through the realignment of Johnson Road, and provision of a crossing over the Peel Main Drain, as requested and agreed with the City of Kwinana.

#### 3.2 Residential

#### 3.2.1 Housing Principles

The LSP provides a structure for the delivery of a diverse range of climate responsive housing, achieving residential density targets specified under state policy.

A diverse mix of lot and housing typologies will be achieved. There may be opportunities for the proponent to build out pockets of housing to deliver a range of housing types and amenity. The following provides a brief description of the housing typologies that could be delivered within the LSP area.

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# WELLARD RESIDENTIAL



LOCAL STRUCTURE PLAN

TRADITIONAL HOME SITES					
Typical Width	17m+				
Typical Depth	30m +				
Area	600m² to 900m²				
Residential Density Code	Residential R20				
Built Form Control	<ul><li>Residential Design Codes</li><li>DAP's</li><li>Design Guidelines</li></ul>				
Built Form Delivery	Single dwellings     Typically sold as land only				



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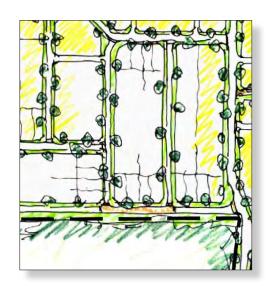
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# WELLARD RESIDENTIAL



LOCAL STRUCTURE PLAN

CONTEMPORARY FRONT LOADED LOTS				
Typical Width	12.5m -17m			
Typical Depth	• 30m			
	• 22 - 25m			
Area	300m² to 600m²			
Residential Density Code	Residential R30			
Built Form Control	Residential Design Codes			
Built Form Delivery	Single dwellings			
	Typically sold as land only			



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# WELLARD RESIDENTIAL



LOCAL STRUCTURE PLAN

COTTAGE LOT HOUSING			
Typical Width	7.5m - 12m		
Typical Depth	28m to 30m		
Area	210m² to 360m²		
Lane access	Rear laneway provided for vehicular access		
Residential Density Code	<ul> <li>Residential R30/R50</li> <li>Opportunities for corner duplex lots at R50 to improve surveillance of laneways and secondary streets</li> </ul>		
Built Form Control	Residential Design Codes     Detailed Area Plans		
Built Form Character and Delivery	<ul> <li>Single and grouped dwellings</li> <li>Potential for studios over garages</li> <li>Lots less than 10m wide typically built out and sold as a house and land package</li> <li>Opportunities for innovative delivery of housing on narrow lots</li> <li>Opportunities for terrace housing abutting POS</li> </ul>		



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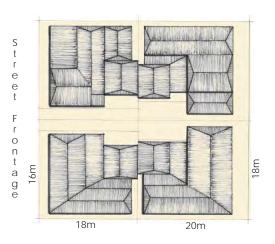
# WELLARD RESIDENTIAL



LOCAL STRUCTURE PLAN

FOUR PACK HOUSING					
Typical Width	36m				
Typical Depth	38m				
Area	<ul> <li>1368m²</li> <li>front lots 288m²</li> <li>rear lots 360m² (excluding access leg)</li> </ul>				
Residential Density Code	Residential R50				
Built Form Control	Residential Design Codes     DAP's				
Built Form Delivery	<ul> <li>Single and grouped dwellings</li> <li>Potential for studios over garages</li> <li>Typically built out and sold as house and land packages</li> <li>Rear dwellings have primary frontage to the rear</li> </ul>				





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#### WELLARD RESIDENTIAL

#### LOCAL STRUCTURE PLAN

The delivery of quality housing is a key objective, ensuring the housing style and character reflects the amenity and attributes of the area. Key principles will be housing that addresses and surveys public spaces, incorporation of solar passive design principles for private outdoor living areas and ensuring garages / carports are appropriately located. This will be implemented through Detailed Area Plans, discussed in Section 3.2.4 and potentially Design Guidelines (to be determined by the proponent).

### 3.2.2 Lot Yield and Density Estimates

The LSP will deliver a range of densities, housing types and tenures to facilitate residential yields commensurate with the strategic and statutory planning framework, as well as the site's location within the broader district context.

The LSP has the potential to realise approximately 770-790 residential lots, or up to 820 dwellings, at densities ranging from R20 to R50, based on the following principles:

- The majority of the LSP area has a density code of R30, providing opportunities to deliver traditional front loaded lots, ranging in size from approximately 300m<sup>2</sup> – 600m<sup>2</sup>.
- Larger lots are located in the north western portion of the site, coded R20, ensuring a suitable transition to the rural land to the north. Lot sizes are likely to range from 600m<sup>2</sup> up to

approximately 900m<sup>2</sup>, providing a suitable transition in lot sizes between the contemporary lots to the south and east, and potential larger lots to the north.

Medium density R50 coded lots are located through the centre of the LSP area adjacent to the central open space, the planned east-west bus route, as well as primary school and local centre to the east. This coding provides opportunities to deliver contemporary cottage style housing with rear lane access, as well as grouped housing options. Single house lot sizes will generally range from 200 m² up to 360 m².

Directions 2031 and Beyond recommends a housing density target of 15 dwellings per gross urban zoned hectare. The need for density targets to encourage more efficient and effective housing is acknowledged. However, it is important that the application of these targets recognises the impact of site specific constraints on the ability to actually deliver density.

The LSP recognises the need to deliver specific densities, and balances this with the recognition of a number of site specific environmental and land use constraints including:

- Wetland conservation buffers including EPP lake buffers and Resource Enhancement wetland buffers;
- Bush fire separation setbacks;



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#### WELLARD RESIDENTIAL

#### LOCAL STRUCTURE PLAN

- Freeway noise buffers;
- A 20m wide strip of urban land connecting Millar Road to the LSP area that is not sufficiently wide to allow for urban development, other than the construction of a road;
- City of Kwinana requirements for lower density 'transition zone' and inclusion of view corridors in the north western portion of the site.
- Retention of 1 in 100 year stormwater runoff and retaining existing site hydrology;
- Provision of approximately 14% of the gross site area as multipurpose public open space, in addition to the tramway reserve.

Once these land constraints are taken into consideration, the actual developable residential area is considerably less than the gross urban area.

In addition, consistent with the existing strategic planning framework, the LSP does not include any provision for activity centres, rail stations or employment generators which would warrant a higher density response.

Despite this the LSP delivers the potential for approximately 14.14 dwellings per gross urban hectare based on ceding of the Bollard Bulrush Wetland Core and the Tramway Reserve, and deduction of public open space areas in excess of 10% of the gross urban area, on the basis of the betterment of the wetland buffer, Tramway Reserve and Public Open Space.

#### 3.2.3 Residential Density Coding

Allocation of residential density codings across the LSP area establishes a flexible framework for a diverse range of housing types. Density codes are allocated based on the following criteria:

- In recognition of the value in retaining view corridors, providing a more traditional housing type, and a suitable interface to the Wetland and land to the north, the north-west portion of the site is R20.
- The R20 density coding transitions to a base coding of R30 across the balance of the development area allowing for both traditional and cottage lots.
- Densities of up to R50 are located closest to the central open space and key transport routes.

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#### WELLARD RESIDENTIAL

#### LOCAL STRUCTURE PLAN

#### 3.2.4 Development Standards: R Code Variations

Detailed Area Plans (DAPs) will be prepared as condition of subdivision approval for select lots to ensure the delivery of quality built form and allow variations to the Residential Design Codes to facilitate medium density housing. DAPs will be prepared for:

- Residential R50 density sites
- Cottage Lots
- Lots directly abutting public open space
- R20 coded lots in area of Landscape Protection

A series of R Code variations have been developed to support the delivery of the standard small cottage lot (R50) housing typologies outlined above.

These provisions are subject to further discussions to determine optimum built form outcomes for the development, and DAP's require approval by the local authority at subdivision stage.

The following outlines the key provisions and provides a brief explanation as to their application and benefit.

**Setbacks** - Reduced setbacks to the primary street for lots with vehicular access to a public laneway (2m minimum and 4m maximum, with porticos, verandahs or similar permitted to 1.5m);

At present the R Codes require an average 4m setback from the primary street with a minimum of 2m to the dwelling in areas coded R50.

The variations propose a minor relaxation to the front setback requirements with the 4m setback a maximum rather than average to facilitate flexibility in building design, as well as reinforcing engagement with the public realm. In particular, the setback variation will:

- bring the dwellings forward to address and engage with the street in a more interactive manner than a traditional street setback
- allow 'tight' urban streetscapes, consistent with the urban context for laneway lots
- allow efficient siting and sizing of the private open space/ outdoor living areas at the rear of the dwelling, maximising the use of land, and reducing unusable open space.



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**Boundary Walls** - Permitted boundary walls on both side boundaries (with the exception of laneway and street boundaries) in accordance with the following table:

BOUNDARY WALLS					
Description	Max. Height	Max Length			
Dwelling – Single Storey	3.5 m	No Limit			
Dwelling – Two Storey	6.5 m	12 m			
Garage – Single Storey	3.5 m	7 m			
Garage – Two Storey (with portion of dwelling above)	6.5 m	7 m			

The R Codes currently allow as of right a single storey boundary wall for up to two thirds of the length of one boundary within R50 coded areas, with no second storey boundary walls. This precludes terrace style development, restricts design options on smaller lots where efficient use of space is critical, and discourages two storey development. Greater flexibility is needed if housing forms are to respond to density and solar imperatives.

Allowance for walls on both side boundaries for the length of the boundary is proposed, with a restricted length of 12m for the second storey, or 7m where the garage is incorporated as part of the two storey development. This allowance provides sufficient flexibility

to encourage two storey built form, while achieving a reasonable level of amenity protection for adjoining properties.

**Private Open Space** - Minimum open space provided reduced to a minimum of 30% of the site area.

The R Codes currently require 45% of the site to be retained as open space at R50, which severely limits single storey dwelling design on smaller lots, undermining affordability imperatives.

A variation in the minimum open space provision to 30% is necessary to successfully achieve and implement terrace housing, facilitating the delivery of affordable and diverse dwellings.

Reductions in open space are contingent upon provision of an outdoor living area of 20m² with minimum dimension of 4m.

**Design for Climate** - The overshadowing provisions shall not apply.

Greater flexibility in regards to overshadowing requirements has been incorporated as a necessary prerequisite to achieving the densities and housing diversity outlined in this report.

The standards for overshadowing applicable to lower density areas cannot reasonably be applied in the same way in higher density precincts without severely impacting on the quality of dwellings. For example, the overshadowing provisions would limit, or in some

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#### LOCAL STRUCTURE PLAN

situations preclude the majority of single storey development on the 8m and 10m wide cottage lots, and would preclude almost all two storey development. It is important that there is no disincentive to the construction of two storey dwellings to encourage this housing form. As such, the overshadowing standards do not apply.

**Privacy** – The setback to major openings and unenclosed outdoor active habitable spaces (balconies, verandahs, terraces or other outdoor living areas) that have a floor level more than 0.5m above natural ground level and overlook any part of any other residential property behind its street setback line, shall be setback in direct line of slight with a cone of vision from a boundary to a minimum of 4.5m for all laneway lots.

Like overshadowing, the standards for privacy applicable to lower density areas cannot be applied in the same way in higher density precincts without severely impacting on the quality of dwellings. For example, the 7.5m balcony privacy setback would preclude provision of balconies on almost all of the R50 lots due to the narrowness of lots.

Again, greater flexibility in regards to these requirements has been incorporated as a necessary prerequisite to achieving the densities and housing diversity. As such, the standard privacy provisions do not apply to the R30 and R50 areas, with a reduced privacy setback of 4.5m applying to major openings to all habitable

spaces, including bedrooms and balconies. This approach is widely accepted by the building industry, local authorities and WAPC in other new residential communities.

**Public Open Space** – Dwellings and major structures on lots adjoining public open space to be setback between 2 and 3m, dwellings designed to address the open space and outbuildings abutting open space of materials that complement the dwelling.

Typically the interface to public open space will be via roads; however in some instances direct lot frontage can provide increased surveillance, activity and diversity to the public spaces. Lots adjoining open space will be provided in accordance with Liveable Neighbourhoods principles.

Where lots do interface with open space it is critical to ensure the adjoining housing addresses and adds value to the open space. This includes appropriate setbacks and major openings addressing the space, rather than nil setbacks and blank walls. It is also important to ensure outbuildings do not undermine the amenity of the interface.

**Surveillance** - Surveillance of laneways and secondary streets is required through appropriate building design, location of major openings to habitable spaces, and inclusion of lofts/studios.



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#### LOCAL STRUCTURE PLAN

Secondary street fencing will be visually permeable in accordance with the City of Kwinana's Residential and Subdivision Guidelines Policy 3.3.30.

The DAP's could be complemented by Design Guidelines prepared and implemented by the developer for particular housing precincts. This will be determined at subdivision stage by Wellard Residential.

#### 3.2.5 Landscape Protection Area

The north western precinct of the LSP area, comprising lots 167 – 169 Wellard Road falls within an Area of Landscape Protection pursuant to TPS 2, and has been identified by the City of Kwinana as an area requiring a specific design and built form response in order to ensure that the landscape amenity is retained.

At the request of the City of Kwinana, the landowners have prepared a Landscape and Visual Study in order to identify the most appropriate design and built form response for this precinct. A copy of the Landscape and Visual Study is Appendix 9.

The Landscape and Visual Study recommends the following design and built form control features for this north western precinct:

Inclusion of an open space interface on the northern boundary
of lot 167 to provide a transition to the land to the north, and
a view corridor to the wetland, corresponding with the Farrier
Court cul-de-sac on the opposite side of Wellard Road;

- Reconfiguration of development on lot 167 to retain views towards the wetland when travelling south on Wellard Road, and to create an irregular urban edge;
- Inclusion of larger lots of approximately 600m² 700m² on lot 167, providing a graduated transition to the Urban Deferred zoned land to the north:
- Inclusion of wider landscaped local road reserves of approximately 18-21 metres for those roads which align with public vantage points within the Homestead Ridge estate, preserving and framing views towards the wetland from the public realm;
- Development of a landscaped and vegetated visual screen within the Tramway Reserve adjacent to Wellard Road, retaining the existing character of the site and minimising any visual impact on those properties fronting Wellard Road.

The abovementioned elements have been incorporated into the LSP design to ensuring that the LSP respects the visual amenity of the area.

In addition to the urban design, the Study recommends restrictions on roof colour, limited to "dark recessive colours that are not visually prominent in respect to the local landscape." These additional recommendations relate to matters of detailed design, and can be addressed via Detailed Area Plans at subdivision and construction stage.

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#### LOCAL STRUCTURE PLAN

#### 3.3 Activity Centres

As noted in section 1.4.3, the LSP area is located in close proximity to the planned Local Centre/Neighbourhood Node immediately to the north of the primary school on the eastern side of Johnson Road. The planned Local Centre is identified in the Wellard West Local Structure Plan as a small convenience store of approximately 100-200m2 GLA, with associated community based uses.

In general, the viability of Local Centres is typically determined by the following elements:

- The residential population within the walkable catchment;
- The amount of passing vehicle trade; and
- Competition with other centres in the locality.

The planned Local Centre has reasonable exposure to passing vehicle trade using Johnson Road, and has limited competition from other centres in the locality for local convenience retail. Considered in isolation however, the Local Centre has only a very limited population within the walkable catchment at present, due to the high proportion of non residential land uses within the catchment, including the Kwinana Freeway, and the Rural zoned land to the west of Johnson Road.

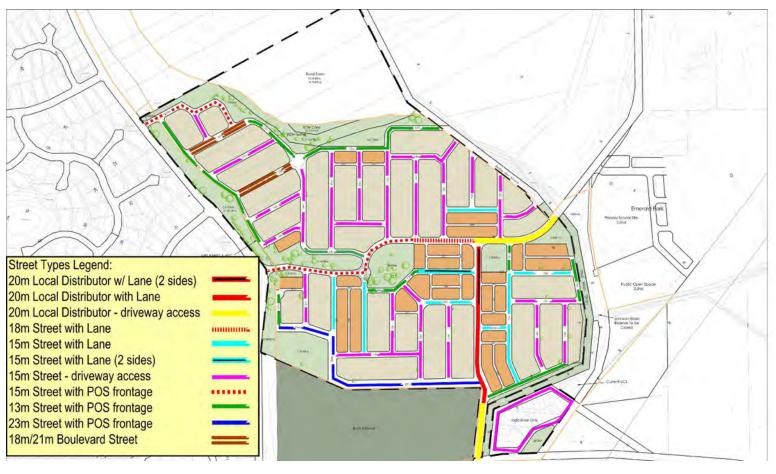
The Wellard Residential LSP will improve the viability of the planned Local Centre by:

- Increasing the residential population within the 800m walkable catchment of the Centre, thereby improving opportunities for local, non car-based patronage; and
- Increasing passing trade on Johnson Road through its realignment, and through the increase in residential population.

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STREET TYPES

Wellard Residential : Figure 9

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#### WELLARD RESIDENTIAL



#### LOCAL STRUCTURE PLAN

#### 3.4 Movement Network

Traffic and transport aspects of the LSP have been analysed and assessed in the context of the information provided by the City of Kwinana, the Jandakot Structure Plan, the draft ERIC, and Element 2 of Liveable Neighbourhoods.

A detailed traffic and transport analysis has been prepared by Bruce Aulabaugh, Traffic Consultant, and is included as Appendix 5 to the LSP. The key findings and recommendations of the analysis are summarised below.

#### 3.4.1 Road Network, Capacity and Arterial Road Access

The Street Types plan in Figure 9 identifies the proposed local road network, including the identification of a hierarchy of local distributor roads and access streets within the LSP area.

The realigned Johnson Road is identified as a local distributor, connecting through the LSP area via a new crossing over the Peel Main Drain in the north eastern section, and passing through the LSP area to link with Millar Road in the south where Johnson Road terminates. The realigned Johnson Road is forecast to carry approximately 1800-2100 vehicles per day, significantly less than the Liveable Neighbourhoods 5,000 vpd threshold which limits direct vehicle access from residential lots. The Johnson Road alignment

and treatment has been extensively discussed with the City of Kwinana, and the LSP reflects the agreed alignment.

The LSP provides a key local access road linking Wellard Road in the west with the realigned Johnson Road in the centre of the LSP area. This local access road is forecast to carry approximately 2,200 – 2,800 vpd, and provides a strong east-west link through the LSP area, without compromising the functional road hierarchy, or disrupting the local movement network throughout the LSP area.

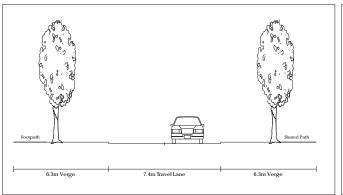
The remainder of the road network comprises of local access streets, supporting short trips for local traffic to and from the residential areas. The local road network is based on a modified grid layout, providing strong north-south and east-west connections throughout the LSP area. Perimeter local roads abutting the Bush Forever site to the south, and the wetland areas to the north provide a hard edge interface to these features, as well as allowing for local access. Traffic volumes on these 'interface' roads are estimated to be less than 1,000 vpd.

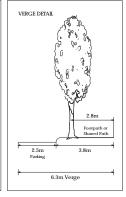
The estimated traffic volumes and road hierarchy are consistent with the City of Kwinana's latest traffic and transport planning, the draft ERIC, and the indicative volume range provided in Liveable Neighbourhoods.

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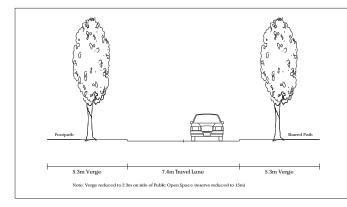


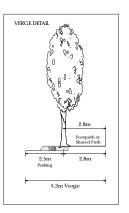




# $\underline{\mathsf{STREET}\;\mathsf{CROSS}\;\mathsf{SECTION}\;\mathsf{-}\;\mathsf{LOCAL}\;\mathsf{DISTRIBUTOR}}$

Wellard Residential: Figure 10





STREET CROSS SECTION - KEY LOCAL ACCESS STREET

Wellard Residential: Figure 11



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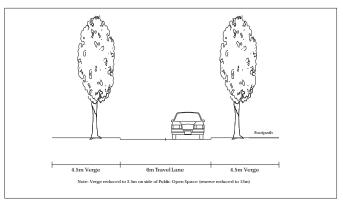


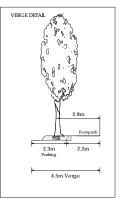
#### LOCAL STRUCTURE PLAN

Access to the existing arterial road network is provided at four separate connections:

- A full movement T or roundabout access to Wellard Road to the west of the LSP area. Wellard Road is identified by the City of Kwinana as a district distributor road estimated to carry in excess of 16,000 vpd at ultimate capacity, at which point it will be upgraded to a four lane divided road. The preferred traffic control and intersection treatment will be confirmed at subdivision stage.
- A second access to Wellard Road to the north of the LSP area.
   This access will be a full movement T, and can be downgraded to a left in / left out when Wellard Road is upgraded, and a solid median is constructed.

- A full movement T or roundabout access to Millar Road via the realigned Johnson Road at the south of the LSP area. The existing Johnson Road / Millar Road intersection will remain, however the current Johnson Road reserve will be closed to the north of lot 10, and will provide local access only.
- The realignment of Johnson Road, a designated local distributor, through the centre of the LSP area will provide the fourth access point to the site. Access will be provided via a crossing over the Peel Main Drain, in the north eastern corner of the LSP area, connecting to the existing Johnson Road alignment immediately to the west of the planned primary school at Emerald Park estate.

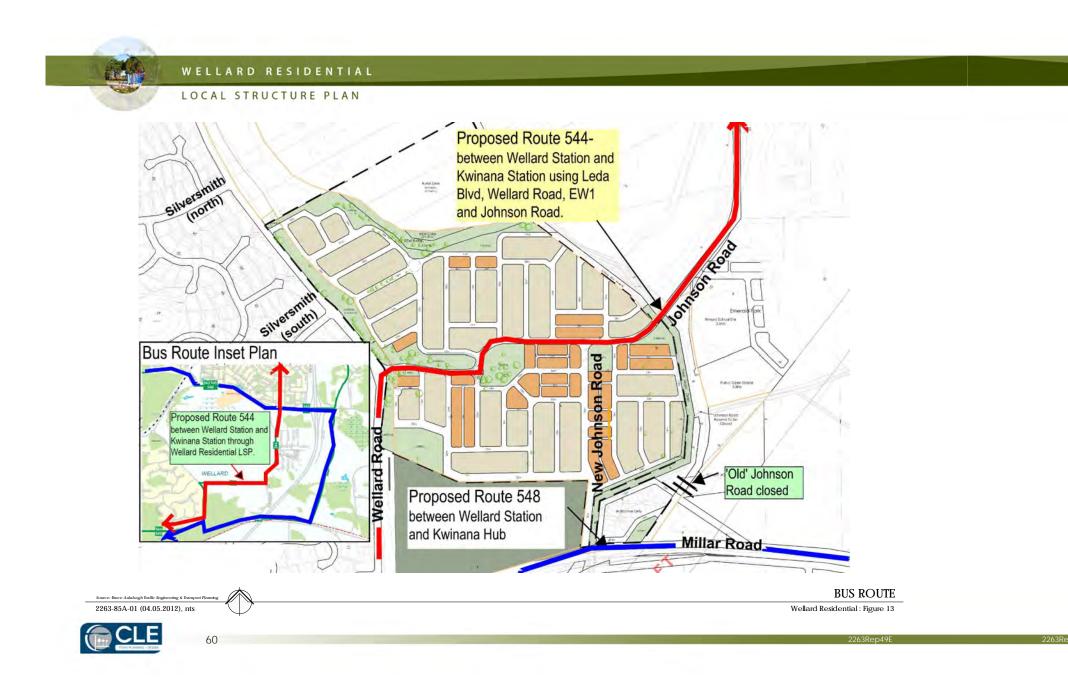




STREET CROSS SECTION - LOCAL ACCESS STREET
Wellard Residential: Figure 12

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#### WELLARD RESIDENTIAL

#### LOCAL STRUCTURE PLAN

3.4.2 Local Street Cross Sections & Traffic Management Treatments

Local access streets will form the vast majority of local streets within the LSP area. The indicative cross sections for these access streets are consistent with Liveable Neighbourhoods cross sections figures 20-22, and range from 15m reserves to 18m for key local access streets, as well as allowing for reduced verges (typically 4.5m to 2.5m) for roads adjoining open space. Road reserve widths and design of access streets can be further refined at subdivision stage.

Wider local access streets of 18m - 21m have been introduced in order to provide view corridors from key aspects of the adjoining Homestead Ridge Estate. These streets will continue to function in the same manner as a typical local access street. These view corridors are discussed further in Section 3.5.4.

Figures 10 – 12 show indicative street cross sections.

Section 5.4 of Appendix 5 establishes traffic management treatments for the LSP area. Generally the intersections of higher volume access streets and local distributors will be controlled via single lane roundabouts, while lower order intersections will have priority control – either stop signs or give way.

In addition to road construction treatments, speed control devices will be implemented along the key local access street that connects Wellard Road with the realigned Johnson Road to ensure safe vehicle speeds commensurate with the residential surrounds.

Speed control measures on planned bus routes will be designed in consultation with Transperth and the Public Transport Authority at detailed design stage, and will ensure that bus movements are not compromised.

#### 3.4.3 Public Transport

The LSP allows for a bus route connecting Wellard Road to the realigned Johnson Road via a key east-west local access street. This bus route has been planned and prepared in consultation with Transperth and the Public Transport Authority.

Proposed route 544 will connect Wellard Station with Kwinana Station, and will travel via Leda Boulevard and Wellard Road, before passing through the LSP area and connecting to Johnson Road.

Road reserve widths, street cross sections and traffic management devices have all taken the bus route into consideration, and will be refined at subdivision / detailed design stage in consultation with Transperth and the PTA.

The PTA and Transperth are also planning to create new bus route 548 connecting Wellard train station and the Kwinana town centre via the eastern side of the Kwinana Freeway. This route passes along Millar Road to the south of the LSP area.

Figure 13 shows the planned bus routes.

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#### WELLARD RESIDENTIAL



#### LOCAL STRUCTURE PLAN

#### 3.4.4 Pedestrians & Cyclists

The LSP makes provision for a comprehensive network of pedestrian and cycle facilities, allowing a safe, convenient and legible movement network. Key principles for cyclist and pedestrian movement are:

- The principle cycle network is aligned with the local distributor roads, providing a balance of on road cycle lanes in the higher traffic volume areas, and dual use paths within the road verges.
- The cycle network provides safe and convenient access to the existing regional Principal Shared Path that runs parallel to the Kwinana Freeway linking Perth CBD to Mandurah.
- Pedestrian footpaths provided on at least one side to all local streets.
- Key local access streets providing either footpath on one side and dual use path on the other, or footpaths on both sides.
- A shared path circumnavigating the LSP area, providing recreational access to key areas of open space, Bush Forever, and opportunities for northern connections via the Tramway Reserve.
- A strong pedestrian link following the eastern portion of the realigned Johnson Road, providing safe and convenient access to the adjoining primary school and local centre.

• Low speed zones will be provided around key pedestrian linkages and areas of high amenity to ensure a safe, pedestrian friendly environment.

#### 3.5 Public Open Space

#### 3.5.1 Open Space Provision & Schedules

There is a total of approximately 21.16ha of open space within the Wellard Residential land holding and LSP area, including approximately 10ha of Bollard Bulrush Wetland, zoned Rural under the MRS. This equates to 29% open space across the gross area of 73ha.

Once Liveable Nieghbourhoods credits are applied the open space provision is 15.4% exceeding the minimum 10% credited public open space requirement, refer Table 2, Figure 14 and Appendix 10.

The following outlines the key aspects of public open space provision based on Liveable Neighbourhoods requirements, with the detailed description of each open space type outlined in Section 3.5.3 below.

 Based on a Gross Subdivisible Area (gross site area less Rural zoned Wetland Core, and Parks and Recreation Reserve) of 61ha, the 10% open space requirement is 6.1ha.

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## WELLARD RESIDENTIAL

## LOCAL STRUCTURE PLAN

Table 2 - Public Open Space and Drainage Summary

Wellard Residential Local Structure Plan – Public Open Space and Drainage Summary								
Park Name	POS#	Gross POS Area	Total Deductions	Total Restricted Use POS	Total Unrestricted POS			
Wetland Core (includes MRS Rural Zone & REW Core)	1	10.01	10.01	0.00	0.00			
Wetland Buffer	2	1.33	0.00	1.33	0.00			
Wetland Interface	3	0.81	0.00	0.24	0.58			
North Western Open Space	4	1.24	0.00	0.00	1.24			
Tramway	5	2.42	0.00	0.00	2.42			
Western Linear Park	6	1.06	0.00	0.00	1.06			
Western Entry South	7	0.12	0.00	0.12	0.00			
Main POS	8	1.22	0.09	0.25	0.88			
Woodland Park	9	1.32	0.00	0.00	1.32			
Eastern Neighbourhood Park	10	0.50	0.05	0.12	0.33			
Eastern Entry	11	0.44	0.02	0.06	0.36			
Main Drain Interface	12	0.39	0.03	0.36	0.00			
Millar Park	13	0.29	0.03	0.04	0.22			
TOTAL		21.16	10.23	2.51	8.42			

- 1. Deductions include EPP Wetland and Buffer (MRS Rural Zone), RE Wetland Core, and 1 year 1 hour drainage areas in open space.
- 2. Restricted Use Open Space includes all drainage areas in POS for greater than 1 year 1 hour and up to 1 in 5 year storage areas, as well as all of the following:
  - Wetland buffer
  - Main Drain interface
  - Western Entry South
- 3. Refer to Appendix 10 for a full POS Schedule in accordance with Liveable Neighbourhoods requirements.



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#### WELLARD RESIDENTIAL



#### LOCAL STRUCTURE PLAN

- The LSP provides 11.15ha of gross open space, with open space areas serving a shared drainage function, while not compromising the active and passive recreational uses.
- Approximately 0.22ha of open space will receive drainage for events occurring more frequently than the 1 in 1 year (1 hour) event, and as such is a deduction from the Gross Subdivisible Area in accordance with Liveable Neighbourhoods (LN R33).
- Liveable Neighbourhoods allows up to 2% of the 10% open space requirement to comprise of restricted use open space. The balance of restricted use open space becomes a deduction (LN R33).
- Based on the requirements of Liveable Neighbourhoods, a maximum of 1.25ha can be restricted use open space and a minimum of 5.02ha unrestricted open space.
- Approximately 0.86ha (7% of the total POS contribution) of open space will receive drainage from the 1 in 1 year to 1 in 5 year drainage event in landscaped infiltration basins and bio-retention areas, in accordance with water sensitive urban design principles. The 1 in 1 to 1 in 5 year drainage event is treated as restricted use open space in accordance with Liveable Neighbourhoods.
- Main Drain Interface and Western Entry South are small pocket parks providing local amenity and a drainage function and are entirely restricted use open space.

- The POS area within the Wetland Buffer is restricted use open space in accordance with Element R33 of Liveable Neighbourhoods.
- The Tramway Reserve is unrestricted open space in accordance with Element R8 of Liveable Neighbourhoods and will continue to be available as multi-purpose open space, providing a green link between the Bush Forever Reserve to the south, and the land to the north of the LSP area, as well as and allowing for an integrated path network throughout the reserve, in accordance with the City's Loop Trail network.
- All other POS areas are unrestricted open space, providing a range of passive and active functions, as well as recognising the existing environment through the retention of mature trees and vegetation. The total unrestricted use open space area is 8.42ha.

#### 3.5.2 Urban Water Management & Open Space

The LSP adopts best practice urban water management principles through the integration of storm water detention and infiltration areas into public open space, creating multi-purpose areas, without compromising the amenity or functionality.

A Local Water Management Strategy (LWMS) has been prepared by Emerge Associates, and is included as Appendix 7 to the LSP.

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## WELLARD RESIDENTIAL

## LOCAL STRUCTURE PLAN







Wellard Residential: Figure 15



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#### WELLARD RESIDENTIAL



#### LOCAL STRUCTURE PLAN

Part 7 of the LWMS sets out the stormwater management strategy, and details the key types of drainage methods and infrastructure to be included within areas of open space. Drainage in open space will be managed through bio-retention areas and infiltration basins, as described below.

- Bio-retention areas Dedicated drainage areas within both road reserves and open space that will strip nutrients from storm water runoff before infiltrating back into the groundwater system. Generally bio retention areas will form small pockets of passive open space, comprising of dense, low level vegetation to assist in nutrient stripping, and to provide a visual feature within the broader open space area. Bio retention areas are included within the central POS areas, as well as the eastern entry POS adjacent to Johnson Road.
- Infiltration basins used to detain and infiltrate stormwater runoff from major events, infiltration basins are large shallow basins within areas of open space. These basins can form either passive or active functions within the open space, and will generally be large, flat grassed areas, with side slopes not steeper than 1 in 6. Infiltration basins will be incorporated into the central POS areas, as well as adjacent to the Wetland buffer, and local parks south and east.

#### 3.5.3 Description of Open Space Areas

The following provides a summary of the key characteristics for landscape distribution, function and design throughout the LSP area. A detailed Landscape Strategy is Appendix 8, and is shown as Figure 15.

#### North Western Open Space

- Approximately 1.2ha of informal active open space, providing opportunities for kick-about, as well as conveying drainage from Homestead Ridge to the Peel Main Drain.
- Provides a landscaped interface to the Urban Deferred land to the north, allowing for a transition zone between this land and the developed area to the south.
- Allows for a view corridor recognising key aspects from Homestead Ridge to the Wetland.

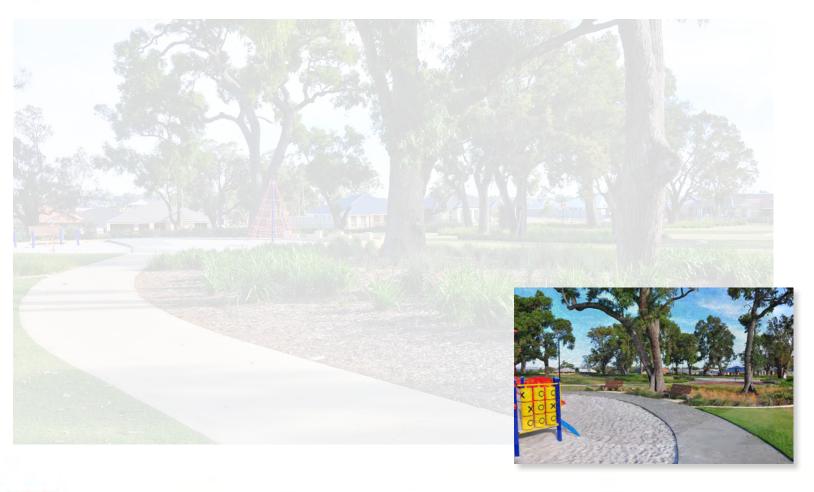
#### Tramway Reserve

- Approximately 2.4ha reserved for Parks and Recreation under the MRS, providing opportunities for active and passive recreation through provision of extensive path network.
- Creates opportunities for the extension of the Kwinana Loop Trail (Stage 4), forming part of a greater regional open space network.

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#### WELLARD RESIDENTIAL



#### LOCAL STRUCTURE PLAN

- Allows for a 'green link', connecting the Bush Forever site with land to the north, providing opportunities for wildlife corridors.
- Opportunities for interpretive signage recognising the heritage significance of the historic Tramway Reserve.
- Conveys storm water runoff from the broader area towards the North Western Open Space.
- Provides a landscaped interface to Wellard Road, reducing vehicle noise, and contributing to the amenity of the area.
- Opportunities for an early planting program to be introduced to better screen temporary visual impacts associated with earthworks, and the need for long term softening of proposed future development.

#### Western Linear Parkland

- 1.1ha of linear open space, retaining existing mature trees wherever possible.
- Provides a landscaped entry from Wellard Road, as well as forming the western portion of the east-west open space link through the centre of the LSP area.
- Opportunities for an integrated path network, picnic and barbeque areas, and passive recreation, with mature trees providing shade and amenity.

#### Main POS

- Forms a central focus for the future community, providing a 1.2ha space for formal and informal gatherings.
- Includes a variety of play equipment, communal bbq facilities, shaded picnic areas
- Existing mature flooded gums will be retained wherever possible, providing additional shade and amenity, as well as recognising the existing environment.
- Infiltration and bio-retention areas will be integrated with the surrounding open space, using a combination of turfed areas and native planting.
- Path networks connect the western areas with the open space and primary school to the east.

#### Wetland Interface

- A predominantly turfed area of approximately 0.8ha, providing a landscaped transition between the urban area and the wetland buffer to the north.
- Provides opportunities for informal active and passive recreation via turfed areas, and pedestrian pathways around the perimeter.

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## WELLARD RESIDENTIAL



#### LOCAL STRUCTURE PLAN

 Includes a useable infiltration area for the detention and treatment of stormwater runoff, retaining pre-development hydrology and ensuring water quality is maintained. Infiltration areas are shallow depressions with a broad base, ensuring that they remain useable.

#### Wetland Buffer

- Approximately 1.3ha of open space, providing suitable buffers to the Resource Enhancement Wetland.
- Provides opportunities to revegetate and enhance the wetland area, and allows for controlled access via pedestrian paths throughout.
- Pedestrian paths also provide a suitable separation between the buffer and the Wetland Interface, allowing for weed management and preventing introduced weeds from entering the wetland buffer and core.
- No drainage detention or infiltration proposed within the Wetland Buffer.

#### Eastern Entry

 0.4ha of high amenity landscaped area, including a mixture of hard and soft landscape treatments, entry statement signage, and pedestrian connections across the Peel Main Drain linking to the primary school.  Includes shallow, turfed infiltration areas to detain and infiltrate storm water before discharging into the Peel MainDrain via a controlled discharge.

## Eastern Neighbourhood Park

- Provides an intimate community space of approximately 0.5ha, which complements the Main POS, and provides a secondary community meeting space.
- Includes landscaped infiltration and bio-retention areas which can double as informal active space.
- Provides an important link between the Main POS and the Eastern Entry, allowing for a continuous green corridor through the centre of the LSP area.

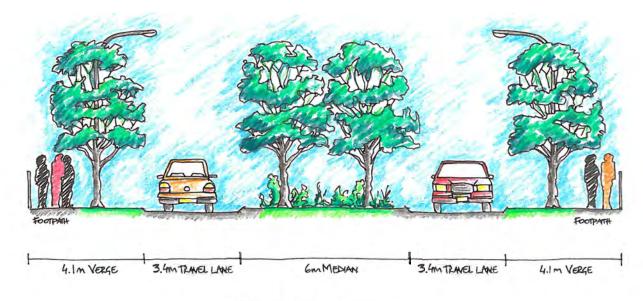
#### **Woodland Park**

- A 1.3ha area that recognises and retains good quality vegetation, and complements the adjacent Bush Forever reserve.
- Includes controlled access via pedestrian pathways, allowing for passive recreation throughout.

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21m ROAD RESERVE



SPECIAL STREETSCAPE CROSS SECTION (21m Reserve)

Wellard Residential : Figure 16



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## WELLARD RESIDENTIAL



#### LOCAL STRUCTURE PLAN

#### Main Drain Interface

- Local pocket park of approximately 4,000m², providing drainage infiltration areas, and opportunities for informal recreation.
- Provides opportunities for surveillance of the Peel Main Drain, and allows for future improvement of the Peel Main Drain subject to agreement of the Water Corporation as landowners.

#### Millar Park

- A local park of approximately 0.29ha located on the corner of Millar and Johnson Road.
- Provides adequate noise buffers from both the Kwinana Freeway and the Mundijong rail line, minimising impact on residential areas, and providing a high amenity open space to support the development of this cell.
- Includes useable infiltration areas, and an integrated pedestrian path.

## 3.5.4 Special Streetscapes

The LSP makes provision for streetscape treatments that provide a high level of public amenity through a combination of waterwise native and exotic tree species. Roadside swales and bio-retention areas will generally be planted with native shrubs to assist with nutrient stripping. Detailed landscape design for streetscape areas will be confirmed with the City of Kwinana at detailed design stage.

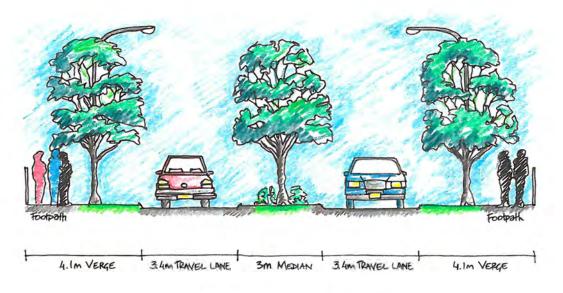
Wider road reserves of 21 metres and 18 metres have been provided in the north western precinct in order to provide view corridors from key aspects of the adjoining Homestead Ridge Estate. These wider roads align with key access roads on the opposite side of Wellard Road, ensuring views of the wetland from the public realm of Homestead Ridge Estate.

Figures 16 and 17 show indicative street cross sections of these special streetscapes, and demonstrate the use of extensive planting in both the road verge, and the central median. Medians range from 3 metres in the 18 metre reserve, to 6 metres in the 21 metre reserve, allowing for extensive planting and soft landscaping through the centre of the road. The road pavement can be provided with a different surface treatment to further delineate these special streetscape areas, and to promote a semi-rural feel to the area.

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18m ROAD RESERVE



SPECIAL STREETSCAPE CROSS SECTION (18m Reserve)

Wellard Residential : Figure 17



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#### LOCAL STRUCTURE PLAN

#### 3.6 Urban Water Management

The LSP provides a framework that allows for best practice urban water management, and remains sensitive to the existing hydrology and natural environment.

This framework emphasises the application of water sensitive urban design to manage the way in which water within an urban context is utilised. This type of design aims to minimise the impact of urbanisation on the natural water cycle.

A Local Water Management Strategy (LWMS) has been prepared by Emerge Associates, and is included as Appendix 7. The LWMS demonstrates in detail how the LSP addresses urban water management, and water sensitive urban design. The key principles of the LWMS are:

 A total water cycle management approach to water management at the site has been developed based on detailed site-specific investigations, industry best-practice and relevant state and City of Kwinana policies relating to water management. The overall objective for water management is to mimic the hydrological regime that currently exists prior to urban development of the site.

- The predevelopment hydrology has been well characterised by the Jandakot DWMP and in the Bollard Bulrush DWMS and this has been further refined in the LWMS. Runoff from within the site has been well characterised. The high permeability of soils beneath the majority of the site will result in onsite infiltration for most rainfall events, and there is a minor flow into the Peel Main Drain during major events. A portion of the site is low-lying, and rainfall in this area drains to the Bollard Bulrush Swamp.
- The overall approach to surface water management at the site
  will be to mimic the natural environment. This will require onsite
  infiltration of minor (frequent) events, which will be achieved in
  lot-scale soakwells, roadside swales within road reserves and
  infiltration basins.
- While lots will be required to retain minor events within soakwells, all runoff which exceeds this will be conveyed first to roadside swales, located within road reserves. Where runoff cannot be captured within roadside swales it will be conveyed to a bio-retention area within the nearest downstream POS area. Water quality treatment requirements will be met within the lot soakwells, roadside swales and bio-retention areas. All other detention/retention requirements to ensure that the post-development environment mimics the predevelopment will be met by providing infiltration basins located within POS.

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INDICATIVE DRAINAGE PLAN

Wellard Residential: Figure 18

Wellard Residential : Figu

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## WELLARD RESIDENTIAL



#### LOCAL STRUCTURE PLAN

- Runoff from within the development will be conveyed by either
  direct sheet flow and flush kerbs to roadside swales, or via a
  concrete piped network. The concrete pipe network will either
  discharge to roadside swales or a bio-retention area. Once
  the capacity of roadside swales has been reached these will
  convey runoff to the next downstream swale/basin. When
  roadside swales and bio-retention areas reach capacity,
  excess runoff will be directed to an infiltration basin or discharge
  structure. These will be designed so that the post-development
  peak flows will mimic the pre-development peak flows.
- Runoff from the wider area is currently conveyed through the site and discharged to Bollard Bulrush Swamp. This flow regime will be continued, and provision has been made within the LSP to ensure that the upstream flows will continue to be conveyed to the Bollard Bulrush Swamp via a shallow open swale located within POS. The conveyance of the upstream flows will be kept separate from any roadside swales/treatment areas provided within the site.
- The quality of groundwater will be maintained by directing all
  runoff from minor events to either soakwells, roadside swales
  or bio-retention areas. Runoff will be treated by a number
  of processes that occur within the soil profile which assist in
  removing nutrients. Further treatment will occur within roadside
  swales and bio-retention areas as these will be vegetated and
  underlain by soils with a high capacity to remove nutrients.

- Water conservation requirements will be met by providing:
  - A broad range of lot sizes, which do not encourage large garden areas
  - Waterwise landscape packages will be offered with sale of lots
  - Water efficient fittings will be mandated within all dwellings through the building licence process
  - Promotion of water efficient appliances and rainwater tanks

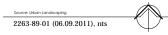
Figure 18 shows the indicative size and location of the drainage within POS and roadside swales, as well as identifying the areas of open space that will be inundated in both the 1 year 1 hour, and 100 year events.

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WETLAND INTERFACE CROSS SECTION 1

Wellard Residential: Figure 19



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## WELLARD RESIDENTIAL



#### LOCAL STRUCTURE PLAN

#### 3.7 Infrastructure Coordination, Servicing & Staging

Civil engineering consultants JDSi have prepared a detailed servicing strategy demonstrating the availability of service infrastructure to the LSP area. The strategy is summarised below, and is provided in full as Appendix 6.

Further detailed infrastructure planning and design will occur as the planning and development of the land progresses.

#### 3.7.1 Wastewater

The Water Corporation has confirmed that the subject land is included in current scheme planning for wastewater infrastructure in this area, and allowances have been made in the capacity planning for the development of the subject land.

The preliminary planning allows for wastewater from the site to be managed and distributed via a combination of existing and proposed pump stations.

## 3.7.2 Water Supply

The Water Corporation has advised that the development is located within the Thompson's Lake Gravity Scheme and can be serviced by an extension of the DN300 main, which currently terminates at

the entrance road to the Emerald Park development (Gemstone Parade). The DN300 will ultimately require extension along Johnson Road to service eastern portions of the subject land.

## 3.7.3 Power Supply

The existing Western Power distribution infrastructure in the vicinity of the site comprises high voltage underground and overhead feeder lines along Wellard Road. There are opportunities to connect to these feeder lines to provide electricity to the subject land, and thus there is no constraint to urban development. The internal electrical network, including location of substations and transformers, can be determined at subdivision stage as part of the detailed design process.

## 3.7.4 Gas Supply

Alinta Gas has an existing pressure main located in close proximity to the subject land that can be extended to service the property.

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SECTION B-B - RESIDENTIAL TO WETLANDS INTERFACE Scale 1200



WETLAND INTERFACE CROSS SECTION 2

Wellard Residential: Figure 20



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#### WELLARD RESIDENTIAL



#### LOCAL STRUCTURE PLAN

#### 3.7.5 Telecommunications

Telstra has existing telecommunications infrastructure surrounding the site, and has confirmed that connection to the development will be possible.

#### 3.7.6 Infrastructure Funding

The service infrastructure described above is typically funded via standard agreements between developers and the service agencies as part of the ongoing subdivision and development works. Given that the land is largely in single ownership, and that there are standard infrastructure funding agreements available, servicing of the land is not considered a constraint to the urbanisation and development of the land.

## 3.7.7 Earthworks and Staging

The preliminary earthworks modelling recognises the existing topography and landform of the LSP area. The LSP remains consistent with the overall landform by ensuring that the gentle slope towards the wetland is maintained, providing a natural battered interface to the wetland area, and avoiding the use of retaining walls or steep batter.

The site currently grades from south adjoining the Bush Forever down to the north adjoining the Bollard Bulrush Wetland. In the central and southern sections earthworks will be minimal, with ground

levels remaining as existing in the central section and some cut in the northern section. The northern portion adjoining the wetland will require fill, to achieve finished ground levels that are elevated above the 1 in 100 year flood, with a gentle slope toward the wetland. The relationship between the existing ground level and the proposed fill level is demonstrated in the cross sections provided at Figures 19 and 20, and shows how the proposed earthworks respect the existing landform.

It is anticipated that subdivision works will commence within the LSP area by 2012-2013, with the first stage of development likely to commence on the eastern side of the LSP area, adjacent to Johnson Road and the Peel Main Drain. Subsequent development will progress to the south and west, with final stages estimated to be completed by 2020.

#### 3.8 Environmental Response

The following provides a summary of the Wetland, Vegetation, and Fauna management strategies provided in Appendix 1.

#### 3.8.1 Wetland Management

The LSP recognises the value and significance of the Bollard Bulrush Wetland, and provides buffers that exceed the minimum requirements set by the EPA and DEC. A minimum 50m buffer is provided to the EPP Lake, in accordance with EPA's advice on MRS

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#### LOCAL STRUCTURE PLAN

Amdt 1189/57. A 30m buffer has been provided to the Resource Enhancement Wetland, in accordance with DEC requirements. Figure 21 shows the location of the wetland core and buffer boundaries in relation to the development area, demonstrating compliance with the EPA's advice on MRS Amdt 1189/57.

Passive open space, revegetation, and gentle battering of the land provides a seamless transition between the development area and the wetland, respecting and enhancing the existing environment.

Appendix 1 includes a broad level Wetland Management Strategy for the portion Bollard Bulrush Wetland within Wellard Residential's ownership. The Wetland Management Strategy provides the framework for a future Wetland Management Plan (WMP) to be prepared as a condition of subdivision approval. The preparation of a WMP as a condition of subdivision approval is a standard and typical mechanism used to manage such issues, and occurred as part of the Bertram stage 1 subdivision. In addition it is also commonly acceptable for a WMP to be prepared over part of a wetland area, where a wetland is over multiple land ownerships and Local Structure Plans, and development intentions for adjoining land are uncertain.

As a condition of subdivision approval, the WMP will be required to address:

- Retention of existing vegetation within the buffer
- Management of potential fire hazards

- Fencing requirements
- Pedestrian access and educational signage
- Weed management
- Management responsibilities and timing
- 3.8.2 Trees, Vegetation, Flora Management

The LSP recognises the value of the existing vegetation in both the Wetland (rural zone) to the north, and a 1.33ha area of vegetation in the south western corner adjacent to the Bush Forever reserve, and retains these areas in public open space where practicable.

The LSP does not propose the removal or modification of the vegetation within the wetland core or buffer.

The vegetation to be retained in the south west will provide a useable passive space, whilst retaining the best quality vegetation. The environmental and social value of the 1.33ha of vegetation to be retained is enhanced by the fact that it directly adjoins the Bush Forever site.

The LSP provides a hard edged road interface to these areas, ensuring an adequate separation between the vegetated areas and future development to manage weeds, public access and surveillance of these spaces.

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## WELLARD RESIDENTIAL



#### LOCAL STRUCTURE PLAN

#### 3.8.3 Fauna Management

The fauna assessments have confirmed that the LSP area does not include any fauna species of conservation significance. The LSP remains sympathetic to any potential existence of fauna within the LSP area by:

- Retaining vegetation, where possible, in areas of open space;
- Avoiding clearing of vegetation in spring to avoid disturbance to nesting birds;
- Introducing of a fauna relocation program (if deemed necessary at construction stage) prior to clearing of vegetation.

#### 3.9 Acoustic Attenuation

The LSP considers and responds to any potential noise impact from the Kwinana Freeway through the following measures:

- Possible inclusion of an open space buffer and noise wall around the edge of the buffer in the south eastern portion of the LSP area, adjacent to the existing Johnson Road reserve; to be determined at subdivision stage;
- Provision of 'Quiet House Design' (package A) for the majority of properties on the eastern side of the Peel Main Drain, and some of the first row of dwellings on the western side of the Drain. Figure 22 identifies those future lots which will require Quiet House Design;

• Implementation of the Quiet House Design requirements through appropriate notifications on title following subdivision approval.

#### 3.10 Bush Fire Prevention

The LSP provides adequate measures to reduce potential risk in the unlikely event of a bush fire in the adjoining Bush Forever site 249. These measures include:

- Inclusion of a wider road reserve of approximately 23 metres adjoining the Bush Forever site, providing a combined fire separation distance of 29 metres including the front setback area:
- Requirements through future subdivision conditions / DAPs to satisfy the BAL12.5 requirements of AS3959 (2010) for the first row of dwellings fronting the Bush Forever reserve, as agreed with the City of Kwinana;
- Inclusion of suitable notifications on title at subdivision stage advising of the BAL requirements.

The Fire Management Plan at Appendix 3 provides further detail on bush fire prevention, including a summary of the roles and responsibilities of the developer and the local authority to ensure that the LSP area is adequately protected from the unlikely event of a bush fire in the area.

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# WELLARD RESIDENTIAL LOCAL STRUCTURE PLAN LEGEND Structure Plan Boundary (Development Zone Area) Zones Residential R20 MRS Rural Zone Public Open Space MRS Parks and Recreation Reserve R30 Road Network Key Local Access Street Full Movement "T" Intersection R30 R30 1. Local road network depicted is indicative only and subject to change and refinement at the subdivision stage. 2. A hard edged road interface shall be provided to the wetland areas and Bush Forever reserves with road reserve widths to be 3. Northern access to Wellard Road is a full movement "T" intersection with priority to Wellard Road. This intersection may be downgraded to left in/left out when Wellard Road is constructed as a dual carriageway. 4. Southern access to Wellard Road is either a roundabout or a full movement "T" intersection, to be confirmed at subdivision stage. 5. The wetland core comprises of both the EPP lake and Resource Enhancement wetland boundaries. 6. The wetland buffer is 50m to the EPP lake and 30m to the Resource Enhancement wetland as agreed with Environmental

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LOCAL STRUCTURE PLAN

Johnston Road, Wellard



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#### WELLARD RESIDENTIAL



#### LOCAL STRUCTURE PLAN

#### 4.0 STATUTORY IMPLEMENTATION

#### 4.1 Status of Local Structure Plan

The statutory Local Structure Plan is Figure 23. This report and technical appendices provide an explanation of the LSP and its implementation.

The LSP applies to Lots 167-170, 83, 85, 92 & 1278 Wellard Road, and Lots 2, 10, and 1 Johnson Road, Wellard, and consists of all land contained within the inner edge of the line denoting the Structure Plan boundary on the Structure Plan Map at Figure 23.

Pursuant to Clause 6.17.7.2 of Town Planning Scheme 2, the LSP, Figure 23, shall have effect as if it were part of the Scheme and designates zonings, reserves, densities, classifications and land use permissibility.

#### 4.2 Detailed Area Plans

Pursuant to clause 6.17.6 of Town Planning Scheme 2, Detailed Area Plans shall be prepared for the following lots as a condition of subdivision approval:

- Residential R50 density sites
- Lots with rear or side lane access

- · Lots directly abutting public open space
- Lots subject to quiet house design requirements, as identified in Figure 22. Additional noise modelling will be required for any two storey development.
- Lots subject to BAL construction standards
- R20 coded lots

## 4.3 General Subdivision and Development Requirements

The following describes the general subdivision and development requirements:

- A hard edged road interface is to be provided to Bush Forever site 349, and to the Wetland buffer area, with the width of the road reserve to be determined at subdivision.
- Northern access to Wellard Road is a full movement "T" intersection with priority to Wellard Road. This intersection may be downgraded to left in/left out when Wellard Road is constructed as a dual carriageway.
- Southern access to Wellard Road is either a roundabout or a full movement "T" intersection, to be determined at subdivision stage.
- The wetland core comprises of both the EPP lake and Resource Enhancement wetland boundaries.

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#### WELLARD RESIDENTIAL

#### LOCAL STRUCTURE PLAN

- The wetland buffer is 50m to the EPP lake and 30m to the Resource Enhancement wetland as agreed with relevant authorities. The EPP Lake and 50m buffer are located outside of the LSP area.
- Implementation of the recommendation of the Noise Impact Assessment to the satisfaction of the City of Kwinana
- Inclusion of notifications on title for those lots deemed to be affected by noise, and subject to Quiet House Design construction standards.
- Inclusion of notifications on title for those lots identified in the Fire Management Plan, acknowledging the requirement to meet specific construction standards in order to minimise risk in the event of a bush fire.
- The proponent acknowledges and understands referral responsibilities in accordance with the Environmental Protection and Biodiversity Conservation Act 1999 as a seperate process to the planning approvals process pursuant to the Planning and Development Act 2005.
- An appropriate interface treatment for the Peel Main Drain is to be identified, to the satisfaction of the City of Kwinana, including but not limited to appropriate fencing, surveillance, landscaping of reserves/wider road reserves to allow for landscaping, with details to be determined at the subdivision stage.

- Inclusion of Notifications on Title to advise of potential impacts of mosquito and midge nuisances in accordance with an approved Mosquito and Midge Management Plan.
- Implementation of an approved Fauna Management Plan to the specification of the City of Kwinana at the subdivision stage, which is to include identification of any potential fauna habitat trees retained in public reserves, strategies for relocation of fauna prior to clearing, salvaging of any suitable hollow logs from cleared trees for installation within Public Open Space and/or the adjacent Bush Forever Area 349, outlining clearing protocol for trees possibly containing Brushtail Possums, strategies for feral pest management, installation of educational signage in the Public Open Space and Bollard Bulrush Swamp, and reporting on the number and variety of species trapped, recorded or relocated both prior to and during subdivision works.
- The ceding of the Bollard Bulrush Wetland core and the Tramway Reserve free of cost to the Crown at the subdivision stage.



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## WELLARD RESIDENTIAL



#### LOCAL STRUCTURE PLAN

#### 4.4 Management Plans

The following management plans are to be prepared where applicable as conditions of subdivision approval.

## 4.4.1 Wetland Management Plan

A Wetland Management Plan is to be prepared as a condition of subdivision approval to the satisfaction of the Department of Environment and Conservation on advice from the City of Kwinana, and is to address the provisions of the Wetland Management Strategy included in Appendix 1.

## 4.4.2 Urban Water Management Plan

An Urban Water Management Plan is to be prepared as a condition of subdivision approval. The Urban Water Management Plan is to be prepared in accordance with the approved Local Water Management Strategy at Appendix 7, and the WAPC's Better Urban Water Management Guidelines (October 2008).

## 4.4.3 Landscape Management Plan

A Landscape Management Plan is to be prepared as a condition of subdivision approval, and shall detail the following:

- Entry statements and verge treatments
- Development and maintenance of public open space
- Remnant vegetation management, requiring on-site tree surveys to be carried out with regards to earthworks and drainage requirements prior to subdivision. This is to determine those trees within the development area to be retained within public reserves and should consider the size and species of trees and potential fauna roosting and nesting hollows.
- Early tree planting and landscaping program for the Tramway Reserve
- Weed control

#### 4.4.4 Mosquito and Midge Management Plan

A Mosquito and Midge Management Plan (including monitoring programs) is to be prepared as a condition of subdivision approval. The Mosquito and Midge Management Plan is to be to the satisfaction of the City of Kwinana, and in accordance with Environmental Protection Authority Guidance Statement 40: Guidance Statement for Management of Mosquitos by Land Developers (EPA 2000).

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# WELLARD RESIDENTIAL

## LOCAL STRUCTURE PLAN

## 4.4.5 Fauna Management Plan

A Fauna Management Plan is to be prepared as a condition of subdivision approval. The Fauna Management Plan is to be to the specification of the City of Kwinana, and is to include:

- Identification of potential fauna habitat trees retained in public reserves:
- Strategies for relocation of fauna prior to clearing;
- Salvaging of any suitable hollow logs for installation in POS or Bush Forever Area:
- Outlining clearing protocol for trees possibly containing Brushtail Possums;
- Strategies for feral pest management;
- Installation of educational signage in POS; and
- Reporting on the number and variety of species trapped, recorded or relocated prior to and during subdivision works.



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Wellard Residential LSP – Amendment 1

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Submitter	Submission Content	Applicant Response to Submission	City of Kwinana Response to Submission
MRWA	<ol> <li>It is unclear from the submission what the final cross-section for Johnson Road (abutting the site) and Access Street C will look like. It is recommended that cross-sections be provided to the satisfaction of the City.</li> <li>SIDRA assessment should consider a 20-year planning horizon for full build-out as a worst-case scenario, as per the WAPC TIA Guidelines. The assumed ultimate development year of 2029 (5 years to the horizon) appears to be significantly low.</li> <li>It is recommended that the original NIA be updated to address the current SPP 5.4 requirements. Noise modelling and treatment recommendations should consider for a 20-year planning horizon.</li> </ol>	<ol> <li>Based on the predicted traffic volumes in the TIA and the predicted future year performance of the Johnson Rd/Breccia Pde/Site Access Roundabout, Johnson Road does not require upgrading and will therefore retain its current cross section.         The Access Street C road will be designed in accordance with Liveable Neighbourhoods, which provides for a minimum width of 15.4m – which will be refined as part of future subdivision.     </li> <li>The Transport Impact Assessment fully considered the 15 or 20 year planning horizon from the WAPC TIA Guidelines – however as these are only a guide, they should only be applied accordingly. In this case, a 20-year planning horizon was considered excessive given the nature of Lot 506 and its relatively short timeframe for full build out which is expected in the next five years. Section 6.1 of the TIA provides further commentary in this regard. The WAPC Guidelines for Transport Impact Assessment states that because structure planning is usually a longer-term process, the development of a structure plan area may occur over a number of years, often 15 to 20 years into the future. The WAPC guidelines suggest that 'the analysis of the transport network should therefore be undertaken for the assumed year of full development.'</li> </ol>	<ol> <li>As per the applicants response, the traffic volumes demonstrate that Johnson Road is not required to be upgraded. Detailed design of roads and intersections will be undertaken as part of future planning stages.</li> <li>Lot 506 is a relatively small development area. The modelling is appropriate for the anticipated development timeline.</li> <li>Lot 506 is located outside the SPP5.4 trigger area. Furthermore, lot 506 is not affected by the predicted noise levels and modelling that was undertaken as part of the initial WRLSP. The key road noise sources in the locality are the Kwinana Fwy and Wellard Road. This was identified under the WRLSP and has since been confirmed at various subdivision stages of the Providence estate. No other roads in the locality are predicted to trigger requirements under SPP 5.4 that would affect Lot 506.</li> </ol>

# Wellard Residential LSP – Amendment 1

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		Ultimately, the realistic future traffic growth from the site and the significant residential developments has already been factored into the TIA for an appropriate future year and the operation of the road network is found to be adequate. A 20-year planning horizon is considered excessive for such a small development area and these longer-term horizons are suited to significantly larger site.  3. An acoustic assessment for Lot 506 has not been prepared as it is not located within the applicable trigger distances to any noise generation routes (e.g. Kwinana Freeway). SPP5.4 therefore does not apply.	
Department of Health	<ol> <li>The development is required to connect to scheme water and reticulated sewerage. Any non-drinking water (i.e., water that is not intended or suitable for drinking) must be managed to ensure it cannot be confused with or contaminate the drinking water supply. This requires satisfactory labelling of non-drinking water taps and, depending on system configuration, suitable backflow prevention arrangement.</li> <li>The site has been used for equine stabling over a long period, and the storage and use of agricultural and veterinary</li> </ol>	<ol> <li>The Department's comments are noted and can be managed as part of a subsequent subdivision application.</li> <li>A review of the DWER Contaminated Sites Database indicates that the site is not registered as a contaminated site pursuant to the Contaminated Sites Act 2003. The historic agricultural (grazing) land use across the site is not identified as a potentially contaminating land use, and therefore in accordance with Assessment and management of contaminated sites: Contaminated sites guidelines (DER 2014), is not considered to represent any significant risk of potential for contamination within the site. The Department's comments relating to hazardous materials are noted</li> </ol>	<ol> <li>The departments Comments are noted.         Detailed design of scheme and sewer connections will be undertaken as part of subdivision.</li> <li>The applicant is aware that various hazardous materials may be present on Lot 506. Relevant actions will be taken as required under legislation (such as the Health Act 1911) as part of future subdivision and works on site.</li> <li>Detailed drainage design and the Local Water Management Strategy has not been endorsed at this point in time. The Departments comments in this regard will be considered as part of drainage and water management design. A mosquito and midge</li> </ol>

Wellard Residential LSP – Amendment 1 Schedule of Submissions

asbestos materials may also exist on site. It is recommended that: a. The proponent should obtain a Basic Summary of Records relating to the land and its surroundings to complete their assessment of the site's suitability for a rezoning to a more sensitive land use. This request can be made via the following link: Form 2 – Request for information. b. The proponent should ensure that all hazardous materials be safely removed from existing stable buildings prior to demolition and clearance to avoid the creation of new	and will be managed as part of future development works if found on site.  3. The Department's comments are noted and can be managed as part of the future subdivision application for the site.	management plan will be required as a condition of subdivision.
contaminated sites.  3. It is recommended that Water Management Strategies refer to the DoH's Chironomid midge and mosquito risk assessment guide for constructed water bodies document: Chironomid-midge.pdf (health.wa.gov.au) to ensure that water does not		

# Wellard Residential LSP – Amendment 1

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	remain stagnant or pooling for greater than 96 hours. Water management strategies should also include vegetation management to ensure that excess vegetation does not promote mosquito breeding. The proponent should work with the City of Kwinana (the City) to determine the extent of risk from mosquitoes and mosquito-borne disease and if that risk is considered to be high by the City, new residents are to be warned of the risk of mosquito-borne disease and the potential for nuisance mosquitoes via an appropriately worded notification on the property titles.		
Department of Education	1. Whilst the Department has no in principle objections to the amendment, the Department will continue to monitor residential growth and student enrolment demand of public schooling and welcomes the opportunity to work with the City of Kwinana particularly at the preparation of localised planning instruments to ensure that the public educational needs of the locality are met.	<ol> <li>The Department's comments are noted.</li> <li>The Department's comments are noted and will be addressed as part of a subsequent subdivision application.</li> </ol>	Comments are noted.

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	2. In addition, the Department also wishes to advise that the Western Australian Planning Commission's (WAPC) Model Subdivision Condition S3 which relates to developer contribution will be recommended for any future subdivision applications over five lots or more on the site in accordance with WAPC Operational Policy 2.4 – Planning for School Sites.		
Water Corp	Wastewater Lot 506 Johnson Rd, Wellard sits within the Kwinana PS17 Tikva Way Wastewater Pumpstation catchment in the Kwinana Sewer District and has been catered for in the long-term scheme plan. A retic mains extension is required to service this lot – see image below an excerpt of the Tivka Way catchment plan which shows Lot 506 Johnson Rd as part of the catchment. Please be aware that while Lot 506 has been catered for the layout is not finalised and was what was proposed at the time the catchment plan was produced.  Drainage/LWMS	As outlined in the Engineering Services Report prepared by JDSi Consulting Engineers, it is acknowledged that a sewer main extension will be required to be constructed through LWP landholdings to the north to service the site.  The layout for the site will be refined as part of future subdivision application, whereby sewer connections will be made available as part of future subdivision works.  Development within the floodplain area has always been contemplated as part of previous planning for the Wellard locality, including Lot 506 and is reflective of Lot 506's 'Development' zoning.  These concerns were not raised as part of the DSP process, nor were they in either of the DWMS's approved as part of the Urban	Water Corps comments in relation to wastewater are noted. The applicant is aware they will need to provide the extension.  Water Corps comments in relation to Drainage/LWMS are noted. The LWMS is not endorsed at this stage. The City's view is that the applicant is to work with Water Corp, DWER and the City to ensure the LWMS can be endorsed.

Wellard Residential LSP – Amendment 1

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The Water Corporation have major concerns with the submitted LWMS and therefore the Local Structure Plan is not accepted as provided. The following comments are made:

- Of most concern is the significant proposed development within the flood storage area. Based on the existing detailed survey (Appendix D) and the Earthworks concept plan (Appendix B) a significant portion of the development appears to encroach into the existing 1% AEP (100 year) floodplain storage of Bollard Bullrush Swamp. This existing floodplain storage needs to be preserved (or equivalent provided at another location within the development), in addition to the 1% AEP flood storage required for the development. This aspect and the overall drainage strategy will need to be endorsed by DWER.
- Although Section 4.3 (Criteria SW2) and 6.2.3.2 stipulate all runoff up to the

Deferred lifting requests for the Wellard Urban Precinct (West) in 2011 and the Wellard Urban Precinct (East) in 2014. More recently, no concerns were raised by the Water Corporation as part of LWMS approved as part of the Lots 503 and 504 Tamblyn Place and Lots 505, 507 and 900 Johnson Road, Wellard LSP (Oakebella) to the north, which has since seen development encroaching into the existing floodplain area within the Oakebella estate.

DWER have not raised concern with proposed drainage strategy set out in the LWMS lodged with this amendment, which clearly demonstrates that the site can accommodate the necessary drainage storage on site without impacting the floodplain storage of the Bollard Bullrush Swamp.

Refer to attachment 1 below for responses to remainder of Water Corporation comments.

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1% AEP is to be retained	
on site, Section 3.4.1 & 8.1	
Para 2 make reference to a	
small swale/depression in	
the western corner of the	
site adjacent to the Peel	
MD and the potential for	
discharge/connection to the	
Peel MD (to pre-	
development levels) should	
future design approaches	
propose it. Direct	
connection of the	
development to the Peel	
MD would not be supported	
by the Water Corporation	
as modelling undertaken as	
part of the Peel MD 2002	
Review and subsequent	
ADS for the Jandakot	
District Structure Plan	
completed in 2009 made no	
allowance for this area as it	
was assumed it could not	
be developed and any	
runoff from the catchment	
discharged directly to	
Bollard Bullrush Swamp	
and not the Peel MD. In	
addition the primary	
function of this	
swale/depression is not to	
accept flows but to direct	
overflow from the Peel MD	
into the regional floodplain	

Wellard Residential LSP – Amendment 1	Schedule of Submissions

· · · · · · · · · · · · · · · · · · ·	
storage of Bollard Bullrush	
Swamp (which also	
encompasses the western	
portion of Lot 506 Johnson	
Road - see 2nd dot point	
below).	
The assumed infiltration	
rate of 4.32m/day (minus	
clogging) assumed for the	
hydrological model	
discussed in Section 8.8	
appears too high and	
therefore the 1% AEP	
storage volume in the FSA	
may be inadequate. In	
addition a maintenance	
plan would need to be	
established to advise the	
City of Kwinana how the	
infiltration rates could be	
sustained over time.	
Additional land will be	
required by the Water	
Corporation within the Lot	
506 Johnson Road Wellard	
LWMS boundary for the	
Peel Main Drain where it	
abuts the proposed	
development otherwise the	
drain would remain with	
steep banks that could lead	
to formation of slip circles	
potentially impacting the	
development. The specific	
land requirements will	
iana reganemente wiii	

Wellard Residential LSP – Amendment 1	Schedule of Submissions

depend on the proposed	
earthworks levels and cross	
section profiles of the	
development relative to the	
drain and would require	
detail cross sections of the	
interface between the	
development and the Peel	
Main Drain in order to fully	
assess any requirements	
(including for	
maintenance/access).	
Appendix C details a	
proposed Dual Use Path	
(DUP) Crossing of Peel MD	
(Item 05 on plan 1.2). The	
underside of this DUP	
crossing would need to be	
at least 500mm above the	
1% AEP flood level of the	
Peel MD and a detailed	
plan, considering public	
safety and other	
engineering aspects, would	
need to be submitted to the	
Water Corporation for	
approval.	
Section 7.3 (Criteria GW3)	
stipulates surface-based '	
infiltration should have	
300mm clearance above	
MGL. The Controlled	
Groundwater Level (CGL)	
for Bollard Bullrush Śwamp	
is 4.8m AHD. This is the	

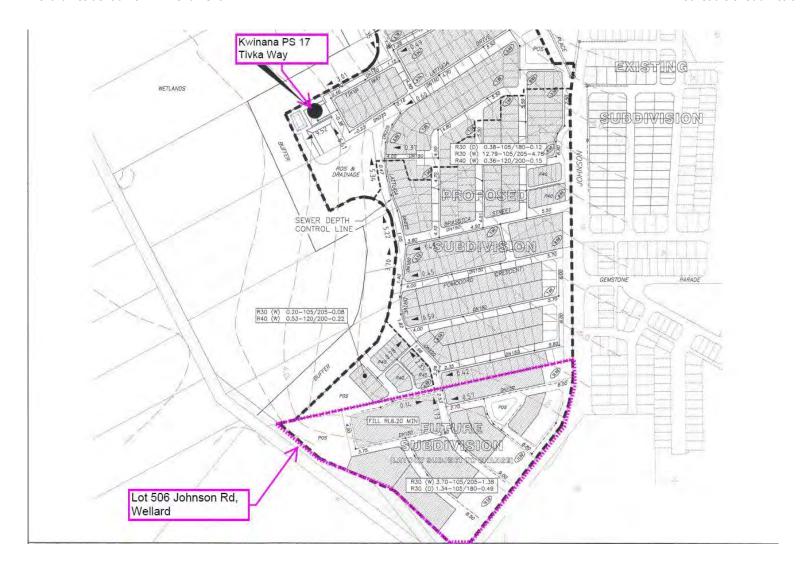
# Wellard Residential LSP – Amendment 1

# Schedule of Submissions

	lowest level that DWER will permit surface and sub surface drainage invert levels to be set. This aspect, including the provision of any subsoil drainage within the POS as mentioned in Section 7.3, will need to be endorsed by DWER.		
DBCA	DBCA have no comments on the proposed LSP amendment.	N/A	N/A
DWER	The Local Water Management Strategy Lot 506 Johnson Road, Wellard (Emerge, 2023) was prepared and submitted to the Department for review in January 2024. See attachment re. the Department's comments on the LWMS dated 14 February 2024. It is recommended the LWMS is updated in accordance with the aforementioned comments and any advice received from the City of Kwinana.	See Attachment 2 below.	DWERS comments in relation to the LWMS are noted. The LWMS is not endorsed at this stage. The City's view is that the applicant is to work with Water Corp, DWER and the City to ensure the LWMS can be endorsed.

# Wellard Residential LSP – Amendment 1

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# **ATTACHMENT 1**

# Wellard Residential LSP – Amendment 1

# Schedule of Submissions

Item #	Section(s) of document	Water Corp feedback 16/4/24	Ernerge responses 23/4/24	Changes proposed to LWMS
1	General, overall Appendix B, Appendix D	Of most concern is the significant proposed development within the flood storage area. Based on the existing detailed survey (Appendix D) and the Earthworks concept plan (Appendix B) a significant portion of the development appears to encroach into the existing 1% AEP (100 year) floodplain storage ged Bollard Bullrush Swamp. This existing floodplain storage needs to be preserved (or equivalent provided at another location within the development), in addition to the 13% AEP flood storage required for the development. This aspect and the overall drainage strategy will need to be endorsed by DWER	Based on a long and robust planning process for the surrounding area of the Bollard Bullrush Swamp, it is understood that a flood plain has not been considered within the property. This has not been identified within the property. The development of the western portion of Lot 506 and overall site has been considered in the District Water Management Strategy prepared by ENV in 2011 to support development on the western side of Peel Main Drain. This included an assessment by GHO which used the Infoworks model developed for the Jandakot DWMP to assess the Impact of developing all residential land surrounding the Bollard Bulrush Swamp (both sides of the Peel Main Drain), including Lot 506. The assessment indicated that if flood detention of the 18 from the development areas is provided there will be no change to the TWL in the Bollard Bulrush Swamp (of 5.6mAHD). Land uses modelled by GHD in 2010/2011 are shown below.	Section 1 of the LWMS to ensure that the historical approval status is fully transparent; the two DWMSs and their dates of approval will be included
			May Adaptional Street Street Street Street	
			A DWMS was also prepared specifically for the western side of Bollard Bullrush Swamp by Emerge in 2014 to support rezoning of all of the land west of the Peel Main Drain. The DWMS was approved by DWER and the City in 2015 and showed the development of Lot 506 as well as surrounding land, and the indicative location of flood storage as currently proposed. Since this time the land north of Lot 506 has been subdivided, filled and developed, as has land on the west side of the Peel Main Drain leaving Lot 506 as the last parcel of land to do so. It is understood that this was not raised by Water Corporation as part of the planning or subdivision process given the extend of the development to the north. It is unreasonable to suggest that preventing Lot 506 from being filled/developed as proposed would make any discernable difference to the amount of flood storage available, given all other zoned land has been allowed to proceed as per previous rezoning/approvals. The land use plan, development areas and indicative basin locations from the 2014/15 approved DWMS is shown below.	
	4		It is anticipated that the DWER has already reviewed the Lot 5D6 Johnson Road LWMS and comment nor request has been raised in relation to the flood plain.	
2	Section 4.3 (Criteria SW2) and 6.2.3.2	Although Section 4.3 (Criteria SW2) and 6.2.3.2 stipulate all runoff up to the 1% AEP is to be retained on site, Section 3.4.1 & 8.1 Para 2 make reference to a small swale/depression in the western corner of the site adjacent to the Peel MD and the potential for discharge/connection to the Peel MD (to pre-development levels) should future design approaches propose it. Direct connection of the development to the Peel MD would not be supported by the Water Corporation as modelling undertaken as part of the Peel MD 2002 Review and subsequent ADS for the Jandakot District Structure Plan completed in 2009 made no allowance for this area as it was assumed it could not be developed and any runoff from the catchment discharged directly to Bollard Bullrush Swamp and not the Peel MD. In addition the primary function of this	As indicated Section 6 requires the 1% AEP runoff to be retained onsite. There is no new connection proposed to the Peel Main Drain to manage stormwater runoff volumes.  The proponent may seek to discuss the potential for a subsoil pipe outlet to the Peel Main Drain that would assist in ensuring that the flood storage basin can fully dry out between storm events. This would not contribute to event based flows and would be set at the minimum elevation required by Water Corporation and DWER.	Text in Section 6 will be updated to explicitly state that there is no discharge being sought to the Peel Main Drain.  Section 8.1 will be updated to acknowledge Water Corporation feedback that direct connection to the Peel Main Drain for stormwater purposes would not be supported by the Water Corporation.

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1		swale/depression is not to accept flows but to direct overflow from the Peel MD into the regional floodplain storage of Bollard Bullrush Swamp (which also encompasses the western portion of Lot 506 Johnson Road - see 2 <sup>nd</sup> dot point below).		
3	Section 8.8	The assumed infiltration rate of 4.32m/day (minus clogging) assumed for the hydrological model discussed in Section 8.8 appears too high and therefore the 1% AEP storage volume in the FSA may be inadequate. In addition a maintenance plan would need to be established to advise the City of Kwinana how the infiltration rates could be sustained over time.	Infiltration rates have been revised for flood storage areas and runoff modelling is being updated to reflect an infiltration rate of 1m/day as per recent geotechnical investigations. Infiltration rates for bio-retention areas will be retained as is, given these features will be built within imported fill, and will be well above the existing natural surface and groundwater. Wate Corporation advice regarding City of Kwinana is noted, and the City are being engaged to seek/address their feedback on the UWMS.	LWMS to be updated with reduced infiltration rates for the flood storage area and resulting basin size to be accommodated in POS.
A		Additional land will be required by the Water Corporation within the Lot 506 Johnson Road Wellard LWMS boundary for the Peel Main Drain where it abuts the proposed development otherwise the drain would remain with steep banks that could lead to formation of slip circles potentially impacting the development. The specific land requirements will depend on the proposed earthworks levels and cross section profiles of the development relative to the drain and would require detail cross sections of the interface between the development and the Peel Main Drain in order to fully assess any requirements (including for maintenance/access).	The current steep banks referred to along the Lot 506 Johnson Road interface with the Peel Main Drain have large established trees therein. Any modification of the eastern bank would likely result in removal of these trees – this is not proposed or supported by the proponent. The earthworks design will integrate with the existing site levels at the boundary of Lot 506. It is noted that this requirement was never raised as part of the structure plan, LWMS nor UWMP approvals for the Providence development.  If Water Corporation wish to modify the current form of the Peel Main Drain this could be undertaken within land that was previously resumed from Lot 506 adjacent to the drain, or from the existing reserve immediately adjacent to the Peel Main Drain to the west which is understood to be the land set aside for the original PMD alignment. Therefore, this could be done without the need for additional land being taken from Lot 506 or the removal of trees along the western boundary of Lot 506. Refer to the below tenure plan for reference.  MNG.	No change proposed to the LWMS to address this comment
5	Appendix C	Appendix C details a proposed Dual Use Path (DUP) Crossing of Peel MD (Item 05 on plan 1.2). The underside of this DUP crossing would need to be at least 500mm above the 1% AEP flood level of the Peel MD and a detailed plan, considering public safety and other engineering aspects, would need to be submitted to the Water Corporation for approval.	Water Corporation's design requirements are noted. As indicated in the conceptual landscape design, the crossing of the Peel Main Drain is envisaged to be by others, and therefore this will need to be addressed by the future proponent.	No change proposed to the LWMS to address this comment
6	Section 7,3	Section 7.3 (Criteria GW3) stipulates surface-based infiltration should have 300mm clearance above MGL. The Controlled Groundwater Level (CGL) for Bollard Bullrush Swamp is 4.8m AHD. This is the lowest level that DWER will permit surface and subsurface drainage invert levels to be set. This aspect, including the provision of any subsoil drainage within the POS as mentioned in Section 7.3, will need to be endorsed by DWER.	Noted. DWER have provided comments on the LWMS and these are being responded to separately.	No change proposed to the LWMS to address this comment

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# **ATTACHMENT 2**

### Wellard Residential LSP – Amendment 1

### Schedule of Submissions

No.	Page	Section	Rev A – DWER Comments	Rev A – Emerge Associates comments (23/04/2024)
1	4	Table E1 Water management criteria and compliance summary Criteria SW1	Runoff from road reserves in small rainfall events is proposed to be retained within a vegetated Bio-retention Area (BRA) in POS. This is not current best practice and upstream biofiltration (such as roadside rain gardens and tree pits) is to be incorporated into the drainage design. The Decision Process for Stormwater Management in Western Australia (DWER, 2017) recommends that the first 15mm of rainfall is managed at-source as much as practical, including the retainment of road runoff within road reserves as opposed to conveyance to drainage basins.	Noted. As indicated in Section 6.1, all residential lots will provide retention of the small rainfall event by the use of soakwells and within pervious garden areas, and therefore no runoff from lots will be expected during the small event. Review of the proposed layout and earthworks plan is being undertaken to determine potential location of WSUD features to manage runoff from road reserves as close to the source as possible. Figure 7 will be amended to indicate proposed locations of WSUD features.
2	22	s3.6.3.1 Groundwater Levels	The calibrated maximum groundwater level (MGL) at each bore is the measured maximum level + 680mm or natural surface (whichever is lower).  It is unclear if the groundwater levels and contours presented within Plate 1 and Figure 6 respectively are the calibrated MGL. The title of Plate 1 suggests it represents the measured groundwater levels, however Figure 6 contours, which represents MGL appears to align with with Plate 1. Please adjust the text to clarify or amend the figures accordingly to include the calibrated MGL.	Noted. Section 3.6.3.1 will be updated to clarify that Plate 1 corresponds to the recorded groundwater levels during the 2 years of monitoring. Please note that Figure 6 shows the calibrated groundwater contours, and will be updated accordingly for clarity.
3	23	s3.6.3.2 Groundwater Quality Table 2	Within Table 2, please include reference to the Australian and New Zealand guideline for fresh and marine water quality (2000) guideline value of each parameter.  High TP and higher nitrate concentrations were observed at Bore MB05. Please discuss the potential source of nutrients.	Table 2 will be updated to include the ANZZEC (2000) guideline values for physicochemical parameters.  Please note that MB05 is located at the upstream end of the development (most eastern corner) indicating that high TP concentrations are related to the upstream development and most likely influenced by the drainage basin (BRA) located approximately 100 m northeast of MB05. It is observed that a decay in TP concentration was recorded in the downstream end monitoring locations with this being consistent with the vacant lot (no further being used for grazing).  The above mentioned detail will be incorporated in Section 3.6.3.2
4	25	s4 Design criteria and Objectives	Please consider including criteria relating to groundwater quality under Groundwater Management.	Noted. Additional criteria will be included under groundwater management related to groundwater quality.  Groundwater quality at the downstream end of the development should be at least the same as or better than upstream groundwater quality.  Soils underlaying bio-retention areas should have a band material that is a minimum of 300 mm deep with high PRI>10.
5	27	s5.1.2 Groundwater	Is it proposed to irrigate current groundwater the streetscaping (as outlined within the Landscape Concept) using the allocation? If so, please include the additional area and estimated irrigation requirements.	Please note that the street tree masterplan is only indicative and intends to provide guidance for future stages of the street palette that will be implemented. It is anticipated that street trees will not be provided at a development level and rather this will be made available as part of a landscape package given to the lot owner. If this was going to be implemented then irrigation requirements will be responsibility of the lot owner.  No changes proposed to the LWMS.

### Wellard Residential LSP – Amendment 1

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No.	Page	Section	Rev A – DWER Comments	Rev A – Emerge Associates comments (23/04/2024)
6	31	s6.2.1 Bio-retention areas	The BRA is proposed to have a depth of 500 mm with 1:3 side slopes. Please confirm the City of Kwinana supports this concept design. The Stormwater Management Manual (DWER, 2022) recommends bank grades no steeper than 1:6 on open systems.	It is acknowledged that the Stormwater Management Manual recommends side slopes no greater than 1.6 to allow for public access, however BRAs are expected to be densely vegetated and therefore accessibility will be limited. The current approach for BRAs within the Lot 506 Johnson Road is consistent with previously supported drainage infrastructure within the City of Kwinana and therefore the adoption of 1.3 side slopes and a maximum water depth of 500 mm is considered appropriate. It is noted that this approach will assist reducing the footprint area of the BRA which will result in more usable open space within the FSA.
7	31	s6.2.1 Bio-retention areas	Treatment of runoff will be provided through interaction with vegetation and adsorption to sand particles through infiltration prior to reaching groundwater.  Soil filter media should be used for the bioretention component of the system where PRI of the soil/infill is less than 10. Section 7.2  Groundwater quality management states BRA will be underlain by material with an appropriate PRI. Please adjust for consistency.	Section 6.2.1 will be updated to be consistent with Section 7.2 and to indicate that BRAs will be underlain with a band of 300 mm of high PRI (>10) material. Suitability of parental soils will be confirmed prior to detail designs and where not deem appropriate imported soil will be utilised.
8	32	s6.2.1 Bio-retention areas	As per Groundwater Criteria GW3 – Surface based infiltration should have 300mm clearance above MGL, please state the invert of the BRA will be at least 300mm above the MGL.	It is acknowledged that Criteria GW3 indicates that drainage basins should have a clearance of at least 300 mm to the underlying GWL, however please note that clearance to the underlying groundwater was not stated in the LWMS as the lowest lying drainage basin will be the FSA. BRA invert level (IL) will be set 700 mm above the FSA IL and therefore providing more than 1 m of clearance.  No changes to the LWMS are proposed.
9	32	s6.2.2 Flood storage areas	Please include additional information within this section which includes the calibrated MGL and finished site level.  The Geotechnical investigation Report (GGC, 2022) states "it must be noted that clayey material was encountered from the surface to depth of up to 3.2 m within GGC completed CPT01 in the proposed area POS and drain area in Zone 3. We consider that the POS and drain area is currently unsuitable for on-site disposal of stormwater by infiltration using soakwells, due to the presence of shallow groundwater and shallow clayey soils within this location."  With consideration given to the underlying clayey soils, no intent to discharge to the Peel Main Drain, and the FSA invert set at the existing site level, please include additional information to demonstrate how major stormwater events will infiltrate?	Additional extensive infiltration testing has been undertaken throughout the flood storage area and as result reduced infiltration rates have been adopted (around 1 m/day). The updated LWMS will present updated storage volumes based on this reduced infiltration rate. As indicated in response to comment 1, further analysis is being undertaken to determine the possibility of implementing WSUD features upstream in the site.  In order to improve infiltration of surface runoff within the downstream basins, a possible contingency measure might be subsoil drainage that could potentially be implemented under the basin in the POS area. Subject to meeting Water Corporation connection requirements—this would not be a stormwater connection to manage flooding. It is noted that the intent of having subsoil would be to ensure drainage basins within the development can drain between rainfall events.
10	32	s6.2.3.1 Small rainfall event	Runoff from the first 15mm will be retained onsite (within lots and/or road reserve).  Table E1 and Table 6 state runoff from road reserves in small rainfall events will be retained with a vegetated BRA in POS.  Please adjust for consistency.	Table E1, Table 6 and Section 6.2.3.1 will be updated to indicate that lots will provide retention of the small rainfall event within soakwells and pervious garden areas, whilst surface runoff from road reserves will be treated as close to the source as possible by the use of raingardens (where possible) and excess runoff will be managed within the downstream BRA.
11	32	s6.2.3.1 Small rainfall event	Please include details of the BRA invert levels and TWL (similar to FSA in s6.2.3.2 Major rainfall event).	Noted. Section 6.2.3.1 will be updated to include the preliminary IL and TWL of the BRA. Please note that the detail design stage will confirm the ultimate configuration, and this will be outlined in subsequent UWMPs.
12	35	s7.1 Groundwater level management	Lot levels require 500mm above the 1% AEP flood levels, please correct typo of 500m.	Noted. Typo will be updated to adopt that lots will provide a minimum clearance of 500 mm above the 1% AEP TWL.  Clearance to the 1% AEP TWL will be confirmed at the detail design stages, however all lots will be designed to have a minimum clearance of 500 mm to the adjacent drainage basin.
13	36	s7.3 Groundwater design criteria compliance	Criteria GW3 states subsoil drainage will be provided in the POS. Subsoil drainage is not discussed within the report. Please confirm if subsoil drainage will be used.	We acknowledge that the use of subsoil drainage was not described in other section of the document as groundwater is not proposed to be controlled across the entire site. Please note that it is intended that lots will provide a minimum clearance of 1.2m above groundwater level (consistent with criteria GW2).

### Wellard Residential LSP – Amendment 1

### Schedule of Submissions

No.	Page	Section	Rev A – DWER Comments	Rev A – Emerge Associates comments (23/04/2024)
				The rationale behind suggesting that subsoil drains could be utilised under the basin is to ensure that it drains between rainfall events, and not to control broader groundwater levels. Subsoil drainage under the POS areas will be proposed to provide a clearance between the basin invert level and the controlled groundwater level have a free draining outlet. This approach is not specifically detailed in the remainder of the Groundwater Management Section and will be removed and discussed in Section 8 as a contingency measure that may be implemented, subject to approval from Water Corporation.  Section 7 will be updated accordingly to reflect the above detail.
14	40	s9.2.1 Trigger values Table 8	Please adjust the typographical error – the measurement of TP should be in 'ug/L' or the proposed trigger value reduced to 0.2mg/L.	Noted. Table 8 will be updated to show the guideline values in mg/L
15	42	s9.3.3.2 Contingency Actions	Please update reference of DWMS to DWMP. Contingency actions are proposed to be undertaken when downstream nutrient concentrations are >50% higher than upstream nutrient concentrations. It is recommended that the proposed contingency actions are undertaken if the downstream values exceed the established trigger values. A change in land use from intensive grazing to urbanisation should lead to an improvement in the water quality.	Noted. Reference to the DWMP will be updated in Section 9.3.3.2  Please note that the proposed guideline values presented in Table 8 are indicative of long term concentration (Post development). It is expected that during construction period of the different stages there will be some level variability in the groundwater quality, notwithstanding after practical completion of the POS area and during the post development monitoring concentrations will be compared with the derived guideline values (as already indicated in Section 9.3.3.2) and if exceedances are observed, contingency actions will be implemented.
16	56	Figure 6 Groundwater Contours	Please confirm the groundwater contours presented in Figure 6 are the calibrated MGLs (as per s3.6.3.1 Groundwater levels), i.e. measured levels +680mm.	Figure 6 shows the calibrated groundwater contours.  No changes are proposed to the LWMS.
17		Figure 8 Post-development Monitoring Locations	The proposed downstream and upstream points would be representative of surface water, however as there is no intent to measure surface water, upstream and downstream groundwater monitoring points should be established.  Please reconsider the location of the proposed upstream groundwater monitoring point, consistent with the groundwater contours (Figure 6).	Noted. Location of the proposed post-development monitoring location has been modified to be consistent with the groundwater flow.
18	65	Appendix B Earthworks Concept	The surface contours along Navet Road/Lattuge Drive are proposed to increase up to 6.60m. Please confirm this will allow for a minimum of 0.3m to the proposed habitable floor levels of the three lots in the adjoining subdivision (Lot 9010) along Navet Road.  The lot levels provided in the Earthworks Concept of these three lots, from east to west, are noted as 6.30m, 6.50m and 6.35m respectively however the Preliminary Earthworks Plan within Lots 503-505, 507 and 900 Johnson Road Local Water Management Strategy (RPS, 2015)) indicates the proposed levels of these lots are 6.60m, 6.70m and 6.20m respectively.	It is aknowledged that the current earthworks plan indicates that the road level (6.60 mAHD) is higher than the lots of the adjacent development (min 6.30 m AHD), however we understand that ultimate levels of these lots within adjacent development are yet to be confirmed.  Notwithstanding, road levels within Lot 506 Johnson Road will be revised to ensure that if this remains as the intended approach then it will be graded away from the lots and therefore ensuring that surface runoff drains away.  Revised earthworks concept plan will be appended to the LWMS.
19	69	Appendix C Landscape Concept	Please provide an additional cross section illustrating the spillway between the BRA and FSA, Including invert levels and top water levels.	Landscape concept will be updated as requested and included in Appendix C of the revised LWMS.
20	69	Appendix C Landscape Concept	Please indicate where flush kerbing or rain gardens may be captured within the streetscaping.	Potential locations of raingardens will be shown in the Landscape concept plan and Appended to the revised LWMS.



Addendum Report (Amendment 1)

# WELLARD RESIDENTIAL LOCAL STRUCTURE PLAN

**Attachments** 



December 2023

### **ATTACHMENTS**

Attachment 1 - Amended Wellard Residential Local Structure Plan

Attachment 2 - Local Water Management Strategy [Emerge Associates]

Attachment 3 - Engineering Services Report [JDSi]

Attachment 4 - Bushfire Management Plan [Emerge Associates]

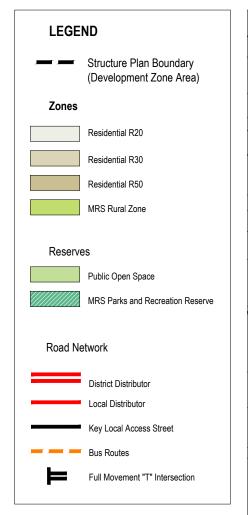
Attachment 5 - Landscape Masterplan [Emerge Associates]

Attachment 6 - Environmental Assessment & Management Strategy [Emerge Associates]

Attachment 7 - Transport Impact Assessment [PJA]

## ATTACHMENT 1

Amended Wellard Residential Local Structure Plan



#### Notes:

- Local road network depicted is indicative only and subject to change and refinement at the subdivision stage.
- A hard edged road interface shall be provided to the wetland areas and Bush Forever reserves with road reserve widths to be confirmed at subdivision.
- Northern access to Wellard Road is a full movement "T" intersection with priority to Wellard Road. This intersection may be downgraded to left in/left out when Wellard Road is constructed as a dual carriageway.
- Southern access to Wellard Road is either a roundabout or a full movement "T" intersection, to be confirmed at subdivision stage.
- The wetland core comprises of both the EPP lake and Resource Enhancement wetland boundaries.
- The wetland buffer is 50m to the EPP lake and 30m to the Resource Enhancement wetland as agreed with Environmental Protection Authority.





LOCAL STRUCTURE PLAN
Johnston Road, Wellard

plan no: **2263-52K-01** date: 20 November 2023 scale: 1:5,000 @A3, 1:2,500 @A1

### ATTACHMENT 2

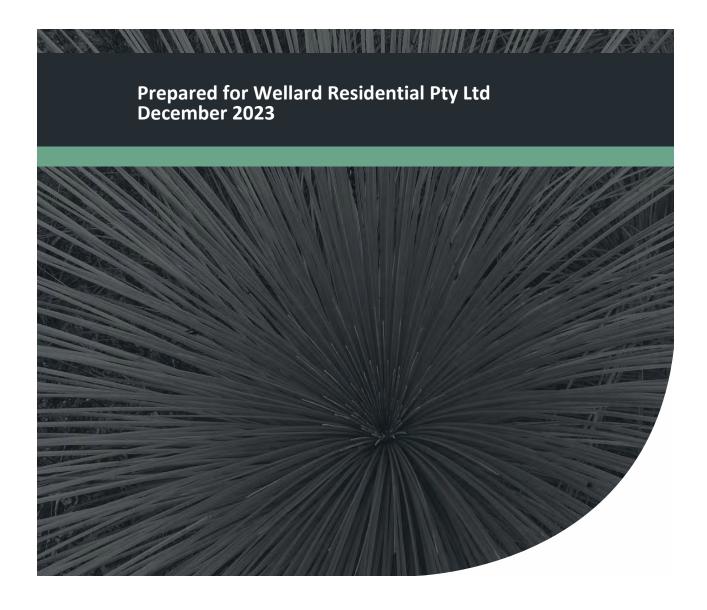
Local Water Management Strategy [Emerge Associates]



# Local Water Management Strategy

Lot 506 Johnson Road, Wellard

Project No: EP22-062(03)



Doc No.: EP22-062(03)--013 JM | Version: A

### Local Water Management Strategy Lot 506 Johnson Road, Wellard



### **Document Control**

Doc name:	Local Water Management Strategy Lot 506 Johnson Road, Wellard				
Doc no.:	EP22-062(03)013	EP22-062(03)013 JM			
Version	Date	Author		Reviewer	
	December 2023	Joyti Mabruk	JM	David Coremans	DPC
1		Fabio Hernandez	FMH		
	Issued for project t	eam review			
	December 2023	Joyti Mabruk	JM	David Coremans	DPC
Α		Fabio Hernandez	FMH		
	Issued for agency s	ubmission			

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# Local Water Management Strategy Lot 506 Johnson Road, Wellard



### **Executive Summary**

Wellard Residential Pty Ltd (the 'proponent') propose to develop Lot 506 on DP P071000, 362 Johnson Road Wellard East (referred to herein as the 'site') for residential purposes. The site is located approximately 38 km south of the Perth central business district (CBD), within the suburb of Wellard. The site is approximately 7.85 hectares (ha) in size, is within the City of Kwinana (CoK) and bounded by Johnson Road to the east, Irasburg Parade to the south, future developments to the north and the Peel Main Drain (PMD) to the west. The proponent is progressing an amendment to the existing Providence Structure Plan.

It is important that stormwater runoff is managed in a manner which avoids flooding and protects the environment. This approach should be clearly documented early in the planning process and should provide a framework for actions and measures to achieve the desired outcomes at subdivision and development stages.

This local water management strategy (LWMS) details the water management approach to support the development in accordance with *Better Urban Water Management* (WAPC 2008), expectations of the Department of Water and Environmental Regulation (DWER) and the CoK. The LWMS also aids in achieving the goals and objectives outlined in the *Kep Katitjin – Gabi Kaadadjan - Waterwise Perth Action Plan 2* (DWER 2023b).

The first step in applying integrated water cycle management in urban catchments is to establish agreed environmental values for receiving environments. In summary, the environmental investigations conducted to date indicate that:

- The site has previously been used for grazing/horse agistment.
- Mean maximum temperatures on site range from 18.1°C to 28.3°C and mean minimum temperatures range from 11.2°C to 19.4°C.
- The site receives 605.10 mm of average annual rainfall with the majority of rainfall received in June and July.
- The site slopes from an elevation of 10 m Australian height datum (mAHD) along the eastern boundary to an elevation of 4.5 mAHD to the western part of the site. A localised low point/sump has an elevation of 3.47 mAHD, and there is an informal channel from this point, providing an existing connection to the PMD.
- The site predominantly consists of Sandy Silt (Ms5) and Sand (S8), which are measured to have moderate (1 m/day) to high (5 m/day) permeability.
- Acid Sulfate soils (ASS) risk mapping classifies the majority of the site as having a 'high to
  moderate' risk of ASS occurring within 3 m of the natural surface, while a minor portion of the
  site (near the eastern and southern boundary) is classified as having a 'moderate to low' risk of
  ASS occurring within 3 m of the natural surface.
- The Geomorphic Wetlands of the Swan Coastal Plain dataset indicates that there is a wetland (referred to as the Bollard Bulrush Swamp) within the study area and classified as:
  - o Multiple Use category wetland area (UFI 13327).
- Surface water is present seasonally within the Bollard Bulrush Swamp and the PMD. The PMD flows seasonally and flows in a southerly direction along the western boundary of the

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# Local Water Management Strategy Lot 506 Johnson Road, Wellard



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structure planning area. The PMD is a Water Corporation asset, and in proximity to the site is a 2 m deep and 8 m wide trapezoidal drain.

- The Jandakot DWMP (Department of Water 2009) has identified the invert and maximum 1%
  AEP flood levels within the Bollard Bulrush Swamp. These levels are 3.5 mAHD and 5.6 mAHD
  respectively. Given that the western part of the site is at around 4.5 mAHD, the site has a
  direct connection to the PMD in a major storm event.
- The results of the surface water quality analysis indicate that water quality exceeds the default trigger values provided in the *National Water Quality Management Strategy* (ANZECC and ARMCANZ 2000), with total phosphorous (TP) concentrations being 5 – 12 times the default trigger values and total nitrogen (TN) concentrations being slightly above the default trigger value.
- The long-term targets for nutrients in the PMD that have been proposed in the Jandakot DWMP (Department of Water 2009) are 0.1 mg/L for TP and 1.0 mg/L for TN.
- Groundwater flow direction is westerly, towards the PMD.
- The maximum recorded groundwater level within the site is 6.12 mAHD at MB05, measured during 2022 (see **Plate 1**). Depth to the calibrated maximum groundwater level (MGL) varies from approximately 5.5m separation at the eastern end of the site near Johnson Road to being at the surface at the western portion of the site.

The approach to managing stormwater at the site is to mimic the existing hydrology, and to encourage infiltrate at source approaches. Water quality and flood detention will be managed at a lot scale and within POS areas adjacent to the PMD. While existing connection to the PMD is likely, a conservative retention at source approach has been taken.

Management of groundwater is achieved by the use of imported fill to achieve minimum clearance levels above the calibrated MGL. Use of the calibrated MGL is a conservative approach however is achievable given site levels.

Water conservation is achieved by implementing both lots scale and estate scale water use efficiency measures, consistent with a contemporary approach utilised in the region. This includes retention of native vegetation within POS where possible and use of waterwise gardening approaches in landscaping of both lots and POS.

The design criteria and the manner in which they are proposed to be achieved are presented in **Table E1**. This table provides a readily auditable summary of the required outcomes which can be used in the future detailed design stage to demonstrate that the agreed objectives for water management at the site have actually been achieved.

This LWMS demonstrates that by following the recommendations detailed in the report the site is capable of being developed for residential purposes.

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# Local Water Management Strategy Lot 506 Johnson Road, Wellard

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Table E1 Water management criteria and compliance summary

Management Aspect	Criteria Number	Criteria Description	Manner in which compliance will be achieved	Responsibility for implementation	Timing of implementation
Water	WC1	Consumption target for water of 100	Provide advice to residents on water conservation measures	Proponent	Point of sale
Conservation		kL/person/year, including not more than 40- 60 kL/person/year scheme water.	Rainwater tanks (RTWs) utilised for non-potable uses within lots	Lot owner	Post-house construction
			Promotion and use of waterwise gardening principles (WWG) to lot owners	Proponent/Lot owner	Point of sale/Post-house construction
			Promotion and use of water efficient appliances	Proponent/Lot owner	Point of sale/Post-house construction
			Mandate water efficient fittings	СоК	Building approval
	WC2	Ensure the efficient use of all water resources in newly developing urban form.	Use of waterwise landscaping principles in POS	Proponent	Landscape design
		,	POS designed to use no more than allocated groundwater		uesign
			Minimise water requirements for POS maintenance		
			Use of water efficient appliances	Lot owner	Post-house construction
			Use of WWG principles in lots		construction

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### Local Water Management Strategy

Lot 506 Johnson Road, Wellard



Table E1 Water management criteria and compliance summary (Continued)

Management Aspect	Criteria Number	Criteria Description	Manner in which compliance will be achieved	Responsibility for implementation	Timing of implementation
Stormwater Management	SW1	Retain and treat the first 15 mm of rainfall as close to source as possible	Residential lots to retain the first 15 mm rainfall events on lot in combination of soakwells and pervious garden areas.	Lot owner/developer	Building construction
			Runoff from road reserves in small rainfall events will be retained within a vegetated BRA in POS. Additional WSUD measures may be considered at detailed design stage.	Proponent	Construction
			All small rainfall event (first 15 mm) runoff will infiltrate through the underlying soil profile with nutrients taken up by vegetation or adsorbed to sand particles prior to reaching groundwater.	Proponent	During detailed drainage design
			Runoff above small rainfall events, up to the major rainfall event, will be retained in an FSA in POS.	Proponent	During detailed drainage design
	SW3	Finished floor levels must have a minimum 500 mm clearance above the 1% AEP flood level in the PMD	The 1% AEP flood level in the PMD is 5.60 mAHD. The preliminary bulk earthworks concept provided in <b>Appendix B</b> shows that approximately 1.06 m clearance will be provided by the closest lots.	Proponent	During detailed drainage design
	SW4	Finished floor levels must have a minimum 300 mm clearance above the 1% AEP TWL in the FSA	All lots will be provided a minimum of 460 mm clearance to the 1% AEP TWL (6.2 mAHD) in the FSA (see <b>Appendix B</b> ).	Proponent	During detailed drainage design
	SW5	Ensure minor roads remain passable in a 20% AEP event	The pipe network will be designed to convey the 20% AEP rainfall event.	Proponent	During detailed drainage design

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Lot 506 Johnson Road, Wellard

Table E1 Water management criteria and compliance summary (Continued)

Management Aspect	Criteria Number	Criteria Description	Manner in which compliance will be achieved	Responsibility for implementation	Timing of implementation
Stormwater Management (continued.)	SW6	Reduce nutrient loads by applying appropriate non-structural measures	Minimise use of fertilisers within POS and road verges.     Street sweeping at regular intervals.     Use of drought tolerant turf species.	Landscape/Maintenance contractor/	Landscape implementation
			Education of residents regarding fertiliser use	Proponent	Point of sale
	SW7	Design infiltration areas to avoid creating mosquito habitat	Stormwater infrastructure will be designed to ensure all runoff is infiltrated within 96 hours	Proponent	Detailed drainage design
Groundwater Management	GW1	Use water sensitive design approaches to recharge the superficial aquifer	Retain and infiltrate all runoff up to the 1% AEP rainfall event on site within lot soakwells, permeable lot areas, a BRA and an FSA.	Proponent	During detailed drainage design
	GW2	Lots should have clearance to the MGL of at least 1.2 m.	Lots will be set at least 1.2 m above the MGL (see preliminary drawings provided in <b>Appendix B</b> ).	Proponent	During detailed drainage design
	GW3	Surface based infiltration should have 300 mm clearance above MGL.	Basin inverts will be set at 300 mm above the MGL	Proponent	During detailed drainage design

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Concept Plan

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Earthworks concept

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Landscape Concept

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**Detailed Survey** 

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#### Appendix F

**Modelling Assumption Report** 

#### Appendix G

**Groundwater Licence** 

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### Local Water Management Strategy Lot 506 Johnson Road, Wellard



# Abbreviation Tables

Table A1: Abbreviations – Organisations

Organisations	
ABS	Australian Bureau of Statistics
ANZECC	Australian and New Zealand Environment and Conservation Council
вом	Bureau of Meteorology
DBCA	Department of Biodiversity, Conservation and Attractions
DoW	Department of Water
DWER	Department of Water and Environmental Regulation
DoW	Department of Water
DPLH	Department of Planning, Lands and Heritage
EPA	Environmental Protection Authority
WAPC	Western Australian Planning Commission

Table A2: Abbreviations – General terms

General terms				
AEP	Annual exceedance probability			
ASS	Acid sulfate soil			
ВМР	Best management practice			
BRA	Bio-retention area			
CBD	Central business district			
СоК	City of Kwinana			
DP	Deposit plan			
DWMP	District water management plan			
FSA	Flood storage area			
GWL	Groundwater licence			
MGL	Maximum groundwater level			
LWMS	Local water management strategy			
PMD	Peel main drain			
POS	Public open space			
PRI	Phosphorus retention index			
RWT	Rainwater tank			
TN	Total nitrogen			

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# Local Water Management Strategy Lot 506 Johnson Road, Wellard



Table A2: Abbreviations – General terms (continued)

General terms	
TP	Total phosphorus
TPS	Town planning scheme
TWL	Top water level
UFI	Unique feature identifier
UWMP	Urban water management plan
WEFA	Water efficient fixtures and appliances
WSUD	Water sensitive urban design
WWG	Waterwise gardening

Table A3: Abbreviations – units of measurement

Units of measurement	
uS/cm	Micro siemens per centimetre
mg/L	Milligrams per litre
ha	Hectare
m	Metre
m²	Square metre
m AHD	m in relation to the Australian height datum

Table A4: Terminology – design rainfall

Rainfall event	Annual exceedance probability (AEP)	Approximate equivalent average recurrence interval (ARI)		
Small/frequent	1 exceedance year (EY) event (frequent)	1 in 1 year ARI event		
Minor (residential purposes)	20% AEP event	1 in 5 year ARI event		
Major	1% AEP event	1 in 100 year ARI event		

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### Local Water Management Strategy

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Lot 506 Johnson Road, Wellard

### 1 Introduction

### 1.1 Background

Wellard Residential Pty Ltd (the 'proponent') propose to develop Lot 506 on DP P071000, 362 Johnson Road Wellard East (referred to herein as the 'site') for residential purposes. The site is located approximately 38 km south of Perth central business district (CBD), within the suburb of Wellard. The site is approximately 7.85 hectares (ha) in size, is within the City of Kwinana (CoK) and bounded by Johnson Road to the east, Irasburg Parade to the south, future developments to the north and the Peel Main Drain (PMD) to the west. The site currently consists of open paddocks and some remnant bushland.

The location and extent of the site is shown in **Figure 1** and the "Concept Structure Plan" is provided in **Appendix A**.

### 1.2 Town planning context

The site is currently zoned as 'Urban' under the *Metropolitan Region Scheme* (WAPC 2023) and 'Development' under the CoK Town Planning Scheme No. 2 (TPS) (City of Kwinana 2023). This document has been prepared to accompany an amendment to the existing 'Providence Structure Plan' area that includes the site area and supports the future urban development of the site.

#### 1.3 Purpose

It is important that stormwater runoff is managed in a manner which avoids flooding and protects the environment. This approach should be clearly documented early in the planning process and should provide a framework for actions and measures to achieve the desired outcomes at subdivision and development stages.

This local water management strategy (LWMS) details the water management approach as required by *Better Urban Water Management* (WAPC 2008), and is intended to satisfy the expectations of the Department of Water and Environmental Regulation (DWER) and the CoK. The LWMS also aids in achieving the goals and objectives outlined in the *Kep Katitjin – Gabi Kaadadjan - Waterwise Perth Action Plan 2* (DWER 2023b).

#### 1.4 Policy framework

There are a number of local and State Government policies of relevance to the development, including:

- Guidance Statement No. 33: Environmental Guidance for Planning and Development (EPA 2008a)
- Gnangara Sustainability Strategy (Government of WA 2009)
- Kep Katitjin Gabi Kaadadjan Waterwise Perth Action Plan 2 (DWER 2023b)

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- Liveable Neighbourhoods Edition 4 (WAPC 2015)
- Planning Bulletin No. 64: Acid Sulfate Soils (WAPC 2009)
- State Planning Policy 2.9 Water Resources (WAPC 2006)
- Draft State Planning Policy 2.9 Planning for Water (DPLH 2021).

In addition to the above policies, there are a number of published guidelines and standards available that provide direction regarding the water management characteristics that developments should aim to achieve. These are key inputs that relate either directly or indirectly to the development and include:

- Australian Rainfall and Runoff (Ball J et al. 2019)
- Australian Runoff Quality (Engineers Australia 2006)
- Better Urban Water Management (WAPC 2008)
- Developing a Local Water Management Strategy (DoW 2008a)
- Decision Process for Stormwater Management in Western Australia (DWER 2017)
- National Water Quality Management Strategy (NWQMS) (Australian Government 2018)
- Stormwater Management Manual for Western Australia (DWER 2022)
- Water Quality Improvement Plan for the Rivers and Estuary of the Peel Harvey System (EPA 2008b)
- Jandakot Structure Plan (JSP) (WAPC 2007)

#### 1.5 Previous studies

#### 1.5.1 Jandakot DWMP

The Jandakot DWMP (Department of Water 2009) presented the then Department of Water (DoW) expectations for developers and stakeholders within the JSP area. The Jandakot DWMP provided guidance on protection of environmental assets, stormwater management, groundwater management and implementation within the PMD catchment. The key objectives proposed in the Jandakot DWMP include:

- New developments should achieve a maximum water consumption target of 100 kL/person/year for residential uses.
- Of the lot scale (residential) uses less than 40-60kL/person/year should be from scheme water.
- Protection of wetlands and waterways from the impacts of urban runoff.
- Protection of infrastructure and assets from flooding and inundation.
  - Retain and or detain the first 15 mm rainfall event at source.
  - Maximise infiltration at source via soakwells, swales, basins and other structures.
  - o Use detention storages disbursed throughout urban areas to attenuate peak runoff rates.
  - o Avoid modification of existing channels unless it is to ensure continuation of flows.
  - o Use revegetation and strategic channel stabilisation.
  - Provide protection from 1% annual exceedance probability (AEP) levels by achieving 500 mm clearance for lot levels.
  - o Major arterial roads should remain passable in a 1% AEP event.

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- Minimise changes to hydrology to prevent impacts on receiving environments.
  - Maintain post development peak discharges to pre-development levels for the small event.
  - Manage catchment runoff such that the critical 10% AEP and 1% AEP event peak flows are consistent with the pre-development peak flows.
  - o Promote WSUD and BMPs which promote onsite retention of events up to the first 15 mm rainfall event at source or as close to source as possible.

The detention storage requirements for each sub-catchment within the Jandakot DWMS area were modelled by Water Corporation using an Infoworks CS model. The outputs of the model were broad scale detention requirements for each sub-catchment, allowable peak water levels within each of the wetlands intersected by the PMD and peak flow rates from each sub-catchment and within the PMD. These were provided within the Jandakot DWMP, and have been used to guide the modelling methodology adopted in this LWMS, and to calibrate the results of the LWMS modelling to ensure consistency with the *Jandakot DWMP* (DoW 2008b) and *Wellard Residential LWMS* (Emerge Associates 2012) Modelling.

#### 1.5.2 Wellard Residential Local Water Management Strategy

The Wellard Residential LWMS was prepared in 2012 by Emerge Associates (Emerge Associates 2012) for the Wellard Residential LSP area (also referred to as 'Providence') and is herein referred to as the LWMS. Whilst this site has largely been constructed, the site conditions are similar and it fronts the same portion of the PMD, and therefore many of the design criteria adopted are relevant for the site structure planning area. The Providence LWMS adopted the following objectives:

#### 1.5.2.1 Water conservation

- Ensure the efficient use of all water resources in newly developed urban form.
- Use scheme water efficiently wherever possible.
- Consumption target for scheme water of 100 kL/person/year for residential areas.

#### 1.5.2.2 Groundwater management

- Lots should have a clearance to the measured maximum groundwater level (MGL) of at least
- The bio-retention system, detention basins and drainage inverts will be set at least 500 mm above the measured MGL.
- Groundwater quality downstream of the development should be at least the same as or better quality than upstream groundwater quality.
- Soils underlying the bio-retention areas (BRAs) should have a band of material that is a
  minimum of 150 mm deep with a phosphorus retention index (PRI) of at least 20. It is
  acceptable for this to be achieved with a thicker layer of lower PRI soil.

#### 1.5.2.3 Stormwater management

• Retain the first 15 mm rainfall event at source or as close as practicable.

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- The post–development critical 20 % AEP and 1 % AEP cumulative peak flows leaving the development shall be generally consistent with the pre-development environment.
- The pipe network will be designed to convey the 20 % AEP event (and therefore roads will be passable in the 20 % AEP event).
- Finished floor levels of lots must have 300 mm clearance from the 1 % AEP flood event flows being conveyed within road reserves.
- The finished floor levels of lots must have a 300 mm clearance from the 1 % AEP flood levels in the Bollard Bulrush Swamp, the PMD and onsite detention areas.
- Runoff generated upstream which is currently being conveyed through the site should be maintained.
- The surface area of BRAs is to be at least 2% of the connected impervious area.
- BRAs to have 1:3 side slopes and a maximum water depth of no greater than 500 mm.
- Reduce nutrient loads by applying appropriate structural and non structural measures.

#### 1.5.3 Providence Urban Water Management Plans

There are a number of UWMPs prepared for Providence which have been approved by DWER and CoK. The UWMPs are listed below:

- Providence Stage 1 UWMP (Emerge Associates 2013a)
- Providence Stages 2 and 3 UWMP Addendum (Emerge Associates 2013b)
- Providence Stages 4 and 5 UWMP Addendum (Emerge Associates 2014)
- Providence Stages 6 and 7 UWMP Addendum (Emerge Associates 2015)
- Providence Stage 9a UWMP Addendum (Emerge Associates 2016)
- Providence Stage 10 UWMP Addendum (Emerge Associates 2019)
- Providence Stage 11 and 12 UWMP Addendum (Emerge Associates 2020)
- Providence Stage 13 UWMP Addendum (Emerge Associates 2022b)
- Providence Stage 14 & 15 UWMP Addendum (Emerge Associates 2022a).

### 1.6 LWMS objectives

This LWMS is based on the following major objectives:

- Maintain the existing hydrological regime.
- Provide a broad level stormwater management framework to support future urban development.
- Incorporate appropriate best management practices (BMPs) into the drainage systems that address the environmental and stormwater management issues identified.
- Ensure that sufficient land area is set aside to manage urban runoff.
- Minimise development construction costs, which will result in reduced land costs for future home owners.
- Minimise transport of nutrients/pollutants to groundwater.
- Minimise ongoing operation and maintenance costs for the land owners and CoK.

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allocation constraints for the area.



- Develop a water conservation strategy for the site that will accommodate existing groundwater
- Gain support from DWER and CoK for the proposed method to manage stormwater within the site.

Detailed objectives for water management within the site are further discussed in **Section 4.** 

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### 2 Proposed Development

The development includes a total of 7.85 ha and proposes land uses including medium density urban residential and public open space (POS) areas.

The site incorporates land uses including approximately:

- 4.83 ha of residential lots
- 0.82 ha of POS
- 2.2 ha of road reserve.

Stormwater from the development is proposed to be managed at source and within the site via the following water sensitive urban design (WSUD) approaches:

- In lot soakage (i.e. soakwells and permeable garden areas)
- BRA integrated into POS
- FSA integrated into POS.

These WSUD features are further discussed in Section 6.

The PMD runs along the western boundary of the site, and the existing connection is informal and therefore surface water will be fully retained and infiltrated onsite.

The Concept Structure Plan is provided in **Appendix A**. Preliminary civil drawings and landscape concept designs are provided in **Appendix B** and **Appendix C**, respectively.

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### 3 Existing Environment

#### 3.1 Sources of information

The following sources of information were used to provide a broad regional environmental context to the site:

- Weather and Climate Statistics (BoM 2023)
- LIDAR elevation dataset, Swan Coastal Plain (DoW 2008c)
- Geological survey of Western Australia (Gozzard 1986)
- Acid sulfate soils risk mapping (DWER 2023a)
- Geomorphic wetlands of the Swan Coastal Plain database (DBCA 2023)
- Perth groundwater map (DWER 2023c)
- Water register (DWER 2023d)
- Landgate Aerial Photography (WALIA 2023)
- National Water Quality Management Strategy (Australian Government 2018).

In addition to the above information, site-specific investigations have been conducted. These have aimed at providing more detail to the existing regional information. These site-specific investigations include:

- Bollard Bulrush West District Water Management Strategy (ENV 2011)
- Geotechnical Investigation Report Providence East Estate (GGC 2022)

The above studies have been reviewed to determine infiltration potential within the site, existing groundwater levels and potential locations for drainage infrastructure around the existing environmental values. This is important, as they can have implications for the stormwater management measures and the extent of earthworks that may be required to facilitate subdivision.

### 3.2 Existing and historical land use

A review of the *Landgate Aerial Photography* (WALIA 2023) shows predominately vacant land that was historically used for grazing since 1995. A few trees were visible at the northwest corner of the site adjacent to the PMD. The land has been divided into number of paddock areas and paddock sheds are visible from 2003.

### 3.3 Climate

The site experiences a dry Mediterranean climate of hot dry summers and cool wet winters. Long term climatic averages indicate that mean maximum temperatures range from 18.1°C to 28.3°C and mean minimum temperatures range from 11.2°C to 19.4°C (BoM 2023). The site is located in an area of moderate rainfall, receiving 605.10 mm annually on average with the majority of rainfall received in June and July (BoM 2023). The region experiences rainfall for 80.2 days annually (on average).

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#### 3.4 Geotechnical conditions

### 3.4.1 Topography

The site is generally undulating and slopes gently from an elevation of 10 m Australian height datum (mAHD) along the eastern boundary to an elevation of 4.5 mAHD at the western part of the site. There is a minor depression in the western corner adjacent to the PMD, which has an elevation of 3.47 mAHD. A small swale/depression runs from the small depression towards the PMD, suggesting an existing informal connection to the PMD.

Topographic contours of the site are shown on **Figure 2** and a detailed survey of the site is provided in **Appendix D**.

#### 3.4.2 Soils

Geological mapping (Gozzard 1983) indicates that the site is underlain mostly by Sandy Silt (Ms5) and Sand (S8) to the eastern and southern portion of the site. These soil types are described as:

**Silty Sand (Ms5)** – dark brownish grey silt, with disseminated fine – grained quartz sand, firm, variable clay content, of lacustrine origin.

Sand (S8) – very light grey at surface, yellow at depth, fine to medium-grained, sub-rounded quartz, moderately well sorted, of eolian origin as relatively thin veneer over Clay (C2), Silt (M4) and Clayey Silt (Mc2).

Geological mapping of the site is shown on Figure 3.

Geotechnical and Geological Consultants (GGC) carried out geotechnical investigations across the site (GGC 2022) which included:

- 25 cone penetrometer tests (CPT)
- Excavation of 12 test pits
- Completion of 11 Perth sand penetrometer tests
- 6 infiltration tests (see **Table 1**)
- Onsite test pits, including logging and sample collection for further laboratory testing.

Table 1: Infiltration test summary (GGC 2022)

Test location	Stratigraphy	Minimum unsaturated permeability. K (m/day)
IT1	Sand fill over sand	5
IT2	Organic silt over sand	1
IT3	Organic silt	<1.0
IT4	Organic silt over sand	1
IT5	Organic sand over sand	4
IT6	Organic sand over sand	>5

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The test pit, CPT and infiltration test locations are shown on Figure 3.

The subsurface profile encountered by GGC are described as:

- **Uncontrolled Fill** fine to coarse grained, subangular to subrounded, grey mottled orange, dark grey; trace non-plastic fines. Containing occasional deleterious materials.
- Topsoil (Organic Sand) Organic SAND: fine to coarse grained, subangular to subrounded, dark grey black.
- Topsoil (Organic Silt) low plasticity, black mottled dark grey; trace Sand, fine to coarse grained, subangular to subrounded.
- **Upper Sand** fine to coarse grained, subangular to subrounded, pale grey mottled white. Typically, medium dense at top of unit becoming dense to very dense at depth.
- **Upper Clayey Material** Low to medium plasticity, black mottled dark grey and yellow, brown, grey orange, firm to stiff.
- Lower Clayey Material Firm to stiff, thin layer of sensitive fine-grained material
- Lower Sand Sand. Very Dense.

The geotechnical report is provided in **Appendix E**.

#### 3.4.3 Acid sulfate soils

Acid sulfate soil (ASS) mapping (DWER 2023a) classifies the majority of the site as having a 'high to moderate' risk of ASS occurring within 3 m of the natural surface. A small portion of the site is classified as having a 'moderate to low' risk of ASS occurring within 3 m of the natural surface.

ASS risk mapping is shown on Figure 4.

#### 3.5 Wetlands

The Geomorphic Wetlands of the Swan Coastal Plain dataset indicates that there is a wetland (referred to as the Bollard Bulrush Swamp) within the study area, classified as:

• Multiple Use category wetland (MUW) area (UFI 13327).

The location of the geomorphic wetlands is shown on Figure 5.

### 3.6 Hydrology

#### 3.6.1 Surface water

The site high point is along the eastern boundary at Johnson Road, with the generally westerly aspect of the site resulting in the surface runoff catchment within the site being directed towards the west, to the PMD. Johnson Road has been fully constructed and forms a barrier to upstream flows entering the site. The site is therefore a discrete catchment that does not need to cater for upstream inflows.

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Within the site, a dry open channel drain conveys overland water flows to a small depression adjacent the western boundary of the site and PMD. The elevation of the depression is 3.75 mAHD and includes a direct but informal trenched connection to the PMD (JDSI 2023).

Surface water is present seasonally within the Bollard Bulrush Swamp. The PMD is a steep sided trapezoidal drain approximately 2 m deep and 8 m wide which flows seasonally and in a southerly direction along the western boundary of the site. The PMD is a Water Corporation asset. The Jandakot DWMP (Department of Water 2009) has identified the invert and maximum 1% AEP flood levels within the Bollard Bulrush Swamp. These levels are 3.5 mAHD and 5.6 mAHD respectively. Given that the site levels are approximately 4.5 mAHD in the western part of the site, there is an existing direct connection to the PMD during major rainfall events. The DWMP indicates that the water levels in Bollard Bulrush are strongly influenced by the tailwater conditions in the Serpentine River. During a major storm event, tailwater conditions from the Serpentine River propagate up the PMD and inundate the low-lying area of Bollard Bulrush Swamp (Department of Water 2009) and this would also be the case for the lower portions of the site.

The hydrological features within and adjacent to the site is shown in Figure 5.

#### 3.6.2 Surface water quality

The water quality of the PMD was characterised by Murdoch University in 2003 and 2005 (MAFRL, 2003 & 2005). The findings of this study indicate that total phosphorous (TP) concentrations within the PMD in proximity to the study area were low (<0.065 mg/L), and total nitrogen (TN) concentrations were low (<1.2 mg/L). Surface water quality monitoring has been undertaken nearby the site within the Bollard Bulrush Swamp in 2010 (ENV 2010). The results of the surface water quality analysis indicate that the water quality exceeds the default trigger values provided in the National Water Quality Management Strategy (ANZECC and ARMCANZ 2000), with TP concentrations being 5-12 times the default trigger values and TN being slightly above the default trigger value. There are no defined regularly flowing drainage channels within the site, and therefore analysis of surface water quality within the site has not been possible to undertake. The long-term targets for the nutrient concentrations in the PMD that have been proposed in the Jandakot DWMP (Department of Water 2009) are 0.1 mg/L for TP and 1.0 mg/L for TN.

### 3.6.3 Groundwater

The *Water Register* (DWER 2023d) indicates that groundwater beneath the site is a multi-layered system comprised of the following:

- Serpentine Perth Superficial Swan unconfined aquifer
- Serpentine Perth Leederville confined aquifer
- Serpentine Perth Yarragadee confined aquifer.

The allocation status of aquifers is further discussed in **Section 5.1.2**.

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#### 3.6.3.1 Groundwater Levels

Five groundwater monitoring bores (MB01 – MB05) were installed by Emerge Associates in June 2022 and these have been monitored during 2022 and 2023. Two monitoring bores (MB-1 and MB-2) are located at the outer edge of the northern boundary. The maximum recorded groundwater level within the site is 6.12 mAHD at MB05, measured during 2022 (see **Plate 1**).

The maximum groundwater level (MGL) contours have been determined by calibrating the measured maximum level to the nearest regional DWER bore (ID 61410095). Analysis of long-term data from bore ID 61410095 indicates that the 2022 recorded maximum is approximately 680 mm below the maximum recorded in the previous 40 years. The calibrated MGL at each bore is therefore assumed to be either the measured maximum level + 680 mm or natural surface (whichever is lower). This is on the basis that once groundwater reaches the surface there is a direct pathway connecting to the PMD, and therefore MGL will not be above the natural surface. The groundwater monitoring bore locations and groundwater contours are shown on **Figure 6**, and this illustrates that groundwater flow is towards the PMD (i.e. to the west of the site). **Plate 1** the measured groundwater levels during 2022 – 2023 monitoring rounds.

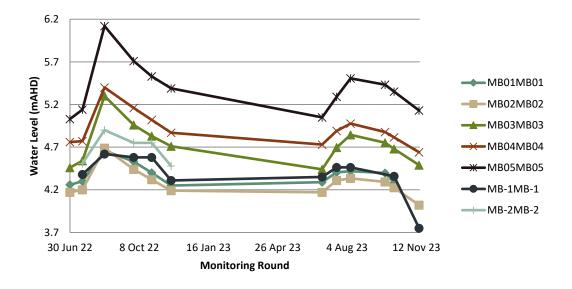


Plate 1: Measured groundwater levels

### 3.6.3.2 Groundwater Quality

Groundwater quality analyses indicate that the local groundwater is slightly acidic (pH 6.03) to neutral (pH 7.12). Monitoring bores near the PMD have slightly higher electrical conductivity. TN concentrations in groundwater are highly varied across the site, but generally elevated above relevant downstream trigger values. TP concentrations are moderate with the exception of MB05

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which displayed high TP concentrations (2.3 mg/L). The groundwater quality monitoring results are summarised in **Table 2**.

Table 2: Groundwater quality monitoring results

Bore ID	рН	EC (uS/cm)	TKN (mg/L)	TN (mg/L)	TP (mg/L)	NO₃ (mg/L)
MB01	7.17	2,463.00	2.5	2.50	0.14	0.03
	(0.13)	(429.75)	(0.1)	(0.1)	(0.046)	(0.0071)
MB02	6.76	4268.33	8.2	8.23	0.10	0.01
	(0.26)	(1119.88)	(2.4)	(2.46)	(0.01)	(0.0029)
MB03	6.44	551.67	3.6	3.63	0.17	0.01
	(0.33)	(117.35)	(0.3)	(0.32)	(0.05)	(0.00)
MB04	6.09	387.20	1.5	1.50	0.15	0.02
	(0.13)	(44.58)	(0.17)	(0.17)	(0.06)	(0.0087)
MB05	6.80	675.33	1.2	1.53	1.89	0.32
	(0.18)	(238.0)	(0.65)	(0.55)	(0.74)	(0.10)

Values given are average and (standard deviation)

### 3.7 Summary of Existing Environment

In summary, the environmental investigations conducted to date indicate that:

- The site has previously been used for grazing/horse agisment.
- Mean maximum temperatures on site range from 18.1°C to 28.3°C and mean minimum temperatures range from 11.2°C to 19.4°C.
- The site receives 605.10 mm of average annual rainfall with the majority of rainfall received in June and July.
- The site slopes from an elevation of 10 mAHD along the eastern boundary to an elevation of 4.5 mAHD to the western part of the site. A localised low point/sump has an elevation of 3.47 mAHD, and presence of an informal channel indicates an existing connection to the PMD.
- The site predominantly consists of Sandy Silt (Ms5) and Sand (S8), which are measured to have moderate (1 m/day) to high (5 m/day) permeability.
- ASS risk mapping classifies the majority of the site as having a 'high to moderate' risk of ASS occurring within 3 m of the natural surface, while a minor portion of the site (near the eastern and southern boundary) is classified as having a 'moderate to low' risk of ASS occurring within 3 m of the natural surface.
- The Geomorphic Wetlands of the Swan Coastal Plain dataset indicates that there is a wetland (referred to as the Bollard Bulrush Swamp) within the site, classified as:
  - o MUW area (UFI 13327).
- Surface water is present seasonally within the Bollard Bulrush Swamp and the PMD. The PMD flows seasonally in a southerly direction along the western boundary of the site area. The PMD is a Water Corporation asset, and in proximity to the site is a 2 m deep and 8 m wide trapezoidal drain.

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- The Jandakot DWMP (Department of Water 2009) has identified the invert and maximum 1% AEP flood levels within the Bollard Bulrush Swamp. These levels are 3.5 mAHD and 5.6 mAHD respectively. Given that the western part of the site is at around 4.5 mAHD, the site has a direct connection to the PMD in a major storm event.
- The results of the surface water quality analysis indicate that the water quality exceeds the
  default trigger values provided in the National Water Quality Management Strategy (ANZECC
  and ARMCANZ 2000), with TP concentrations being 5 12 times the default trigger values and
  TN concentrations being slightly above the default trigger value.
- The long-term targets for nutrients in the PMD that have been proposed in the Jandakot DWMP (Department of Water 2009) are 0.1 mg/L for TP and 1.0 mg/L for TN.
- Groundwater flow direction beneath the site is westwards, towards the PMD.
- The maximum recorded groundwater level within the site is 6.12 mAHD at MB05, measured during 2022 (see **Plate 1**). Depth to the calibrated maximum groundwater level (MGL) varies from approximately 5.5m separation at the eastern end of the site near Johnson Road to being at the surface at the western portion of the site.

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### 4 Design Criteria and Objectives

This section outlines the objectives and design criteria that this LWMS and future management plans must achieve. The water management strategy includes water conservation, groundwater management and stormwater management.

### 4.1 Integrated water cycle management

Better Urban Water Management (WAPC 2008) endorses the promotion of integrated water cycle management and application of WSUD principles to provide improvements in the management of stormwater, and to increase the efficient use of other existing water supplies.

The key principles of integrated water cycle management include:

- Considering all water sources, including wastewater, stormwater and groundwater
- Integrating water and land use planning
- Allocating and using water sustainably and equitably
- Integrating water use with natural water processes
- Adopting a whole catchment integration of natural resource use and management.

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

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

The first step in applying integrated water cycle management in urban catchments is to establish agreed environmental values for receiving environments. The existing environmental context of the site has been discussed in **Section 3** of this document. Guidance regarding environmental values and criteria is provided by a number of national and state policies/guidelines and site-specific studies undertaken in and around the site. These were detailed in **Section 1.4** and **Section 1.5** respectively.

#### 4.2 Water conservation

This LWMS proposes the following water conservation criteria:

Criteria WC1 Consumption target for water of 100 kL/person/year, including not more than 40-60 kL/person/year scheme water.

<u>Criteria WC2</u> Ensure the efficient use of all water resources in newly developing urban form.

The manner in which this objective will be achieved is further detailed in **Section 5**.

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Stormwater management

The principle behind stormwater management at the site is to mimic the pre-development hydrological conditions, as described in **Section 3**. This principle and the guidance documents discussed in **Section 1.4** and have guided the stormwater management criteria.

Criteria SW1 Retain and treat the first 15 mm of rainfall as close to source as possible.
 Criteria SW2 All runoff up to the 1% AEP event is to be retained on site.
 Criteria SW3 Finished floor levels must have a minimum of 500 mm clearance above the 1% AEP flood level in the PMD.
 Criteria SW4 Finished floor levels must have a minimum of 300 mm clearance above the 1% AEP TWL in the FSA.
 Criteria SW5 Ensure minor roads remain passable in a 20% AEP event.
 Criteria SW6 Reduce nutrient loads by applying appropriate non-structural measures.

<u>Criteria SW7</u> Design infiltration areas to avoid creating mosquito habitat.

The manner in which these objectives will be achieved is further detailed in Section 6.

### 4.4 Groundwater management

The principle behind the groundwater management strategy is to maintain the existing groundwater hydrology. The groundwater management criteria for the site include:

<u>Criteria GW1</u> Use WSUD approaches to recharge the superficial aquifer.

<u>Criteria GW2</u> Lots should have a clearance to the MGL of at least 1.2 m.

Criteria GW3 Surface based infiltration should have 300 mm clearance above MGL.

The manner in which the groundwater management objectives will be achieved is further detailed in **Section 7**.

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### 5 Water Conservation Strategy

#### 5.1 Fit for purpose water use

Conservation of water through fit-for-purpose use and best management practices is encouraged so that scheme water is not wasted. Fit-for-purpose describes the use of water that is of a quality suitable for the required use of the water. Fit-for-purpose principles have been utilised in the water conservation strategy for the site and will achieve **Criteria WC1**.

#### 5.1.1 Scheme water supply

The site is located within the Water Corporation water infrastructure and can be serviced by an existing DN300 water main located in the Johnson Road/ Irasburg Parade verge (JDSI 2023).

Scheme water is proposed to be used for all in-house potable uses and, where ex-house uses cannot be serviced by other supplies or approaches, it would also satisfy ex-house requirements.

#### 5.1.2 Groundwater

As discussed in **Section 3.6.3**, the site is located beneath a multi-layered system comprising of the Superficial Swan, Leederville and Yarragadee aquifers.

The proponent has secured groundwater allocations from the Superficial Swan for the following:

• GWL 96942 - up to 43,500 kL

A landscape concept has been prepared which demonstrates that the surface water management features can be accommodated within the POS area provided. This is contained in **Appendix C**. Based on the total POS area of 8,189  $\text{m}^2$  the approximate irrigation demand will be 6,141 kL/year. The existing allocation will therefore ensure that sufficient groundwater is available for irrigation of POS areas. The groundwater licence is provided in **Appendix G**.

#### 5.1.3 Rainwater tanks

Rainwater tanks (RWTs) can be used within private lots to harvest roof runoff. This water is considered non-potable, but can be used to supplement non-potable water uses both inside and outside the home.

#### 5.2 Lot scale water conservation measures

This LWMS proposes that the water conservation measures to be adopted would include RWTs, waterwise principles for lot scale gardens and within estate landscaping (WWG) and water efficient fixtures and appliances (WEFA) to ensure that the development minimises the use of water. These are summarised in the following sections.

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#### 5.2.1 Rainwater tanks

The use of RWTs will not be mandated, and the stormwater quantity management strategy does not rely on their use. They are therefore only considered to be a water conservation measure. Given that rainwater tanks will not be mandated or supplied by the proponent, it has been assumed that these would be implemented by 7.5% of households. The assumed uptake rate has been based on data obtained from the Australian Bureau of Statistics (ABS 2013). It is assumed (for the purposes of the water balance analysis) that all rainwater tanks have a capacity of 3 kL.

#### 5.2.2 Water efficient fixtures and appliances

Water conservation strategy for the site proposes the use of WEFA. Water efficient fittings will be mandated through the building licence, while uptake of water efficient appliances can be encouraged by State and Local Government rebates in addition to education from the proponent at point of sale. It is assumed that water efficient appliances will be implemented by 40% of households, which has been based on data obtained from the Australian Bureau of Statistics (ABS 2013, 2014).

#### 5.2.3 Waterwise gardens

Landscape packages may not be provided as a part of the land sale contract. Reductions in water used for irrigation will therefore be achieved by promoting Waterwise gardening principles (WWG) (WC 2003) at the time of sale. It is assumed that 75% of households will implement WWG principles within lot gardens (ABS 2013). WWG principles include:

- Soil to be improved with soil conditioner certified to Australian Standard (AS) 4454 to a
  minimum depth of 150 mm where turf is to be planted and a minimum depth of 300 mm for
  garden beds.
- The irrigation system shall be designed and installed according to best water efficient practices:
  - o The controller must be 'hydrozoned'.
  - o Emitters must disperse coarse droplets or be subterranean.
- Garden beds to be mulched to 75mm with a product certified to AS4454.
- Increasing community awareness of water conservation by promoting Waterwise practices, fixtures and fittings at the point of sale.
- Minimise water requirements for POS maintenance. This will be achieved by implementing an
  appropriate management and maintenance program for POS areas in accordance with CoK
  specifications. This is further detailed in Section 8.

The above measures will assist in achieving Criteria WC1 and WC2.

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#### 5.3 Water use analysis

#### 5.3.1 Lot scale water use analysis

A water use analysis has been undertaken to estimate the expected individual residential lot water use to demonstrate the effectiveness of the water conservation strategy. The water use analysis has been based on the rates and calculation methodology presented in the Water Corporation (2011) spreadsheet *AltWaterSupply\_Water\_Use\_Model.xls*. This spreadsheet has been adapted to model the effects of using the water conservation measures proposed.

A number of key assumptions were made including:

- Total lot area has been based on the subdivision layout (see Appendix A).
- Average residency of 2.6 people per single lot dwelling. This value has been calculated from data provided by ABS for new housing developments in Perth (ABS 2022).
- Assumed up-take rates include:
  - o 100% uptake of water efficient fittings
  - 40% uptake of water efficient appliances
  - o 7.5% uptake of RWTs
  - o 55% uptake of WWG principles.

The results of the water balance indicate that if households adopt the proposed water conservation measures (e.g. efficient fittings, RWT, WWG principals) at typical uptake rates they will use an average of 45.1 kL/year/person. This achieves the water target of no more than 60 kL/year/person of scheme water and satisfies **Criteria WC1**.

#### 5.4 Wastewater management

The wastewater generated from the site will be managed by connecting the development to the Water Corporation deep sewer network.

#### 5.5 Water conservation management criteria compliance

A summary of the proposed water conservation management criteria and how these are addressed is provided within **Table 3.** 

Table 3: Water conservation management criteria compliance

Criteria number	Criteria description	Manner in which compliance will be achieved
WC1	100 kL/person/year, including not more than 40-60 kL/person/year scheme water.	Provide advice to residents on water conservation measures
		RWTs can be utilised for non-potable uses
		Promotion and use of WWG in lots
		Promotion and use of water efficient appliances

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Table 4: Water conservation management criteria compliance (continued.)

Criteria number	Criteria description	Manner in which compliance will be achieved
WC1	Consumption target for water of 100 kL/person/year, including not more than 40-60 kL/person/year scheme water.	Mandate water efficient fittings
WC2	WC2 Ensure the efficient use of all water resources in newly developing urban form.	Use of waterwise landscaping principles in POS
		POS designed to use no more than allocated groundwater
		Minimise water requirements for POS and verge maintenance
		Use of water efficient appliances
		Use of WWG principles in lots

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#### 6 Stormwater Management

The principle behind the stormwater management strategy for the site is to maintain the existing hydrology by retaining and treating runoff from the small rainfall event (i.e. first 15 mm) as close to source as possible, and retaining the major event (1% AEP) on site. Due to the existing environmental conditions (See Section 3.4), the site is well suited for structural controls utilising infiltration of stormwater, provided sufficient clearance to MGL can be provided. WSUD measures utilised in the stormwater management strategy include:

- Soakwells
- **BRAs**
- FSAs.

The WSUD measures that will be implemented as a part of the development are described in the following sections. Surface runoff modelling undertaken using XPSWMM has been used to inform the design of stormwater infrastructure as detailed in the following sections. Assumptions used to represent the post-development environment are provided in the modelling assumptions report in Appendix F.

#### 6.1 Lot drainage

The ability to retain surface runoff on lot is driven by the lot density, layout and assumed pervious area, along with the underlying geology of the site.

Lot assumptions used in the detailed hydrological modelling for the site are consistent with the proposed structure plan and the geological setting (discussed in Section 3.4). Residential lots will retain the first 15 mm of runoff with a combination of soakwells, and further infiltration will also be provided in adjacent pervious garden areas. Runoff from roof areas may be directed to a RWT (where installed) with excess runoff to soakwells, or entirely to soakwells which will infiltrate into the sandy soil and ultimately the groundwater. Lot storage is the responsibility of the lot owner and will be assessed as part of the building approval process prior to construction.

#### 6.2 Development drainage

#### 6.2.1 **Bio-retention areas**

Runoff from the first 15 mm of rainfall will be captured and retained within a vegetated BRA located in POS. The BRA is assumed to have a depth of 500 mm with 1:3 side slopes. Treatment of runoff will be provided through interaction with vegetation and adsorption to sand particles through infiltration prior to reaching groundwater.

Additional high PRI media may not be required due to the existing PRI of the parent soils (this is to be confirmed prior to detailed design). The proposed location and sizing of the BRA is illustrated in Figure 7.

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The BRA will be designed to dry out within 96 hours following rainfall events, and therefore there will be no risk of creating mosquito breading habitat. The BRA is immediately next to the PMD and set above the MGL. The PMD will provide an immediately adjacent groundwater control that will assist in the BRA drying out between storm events.

The use of a BRA will assist in achieving Criteria SW1, SW6 and SW7.

#### 6.2.2 Flood storage areas

An FSA will be utilised to retain and infiltrate runoff above the first 15 mm and up to the 1% AEP rainfall event. To achieve this, the invert of the FSA will have sufficient clearance above groundwater 300 mm). There will be no offsite discharge from the FSA. The sizes and spatial requirements for the FSA are further discussed in **Section 6.2.3.2** and illustrated in **Figure 7**.

The design of the FSA will be such that adjacent lots will achieve 300 mm clearance above the 1% AEP top water levels (TWL) to ensure protection from flooding during extreme rainfall events (the preliminary earthworks strategy is provided in **Appendix B**) and will achieve **Criteria SW2**.

Consistent with the BRA, the FSA will be designed to dry out within 96 hours following rainfall events. The use of an FSA will assist in achieving **Criteria SW2**, **SW4**, **SW5** and **SW7**.

#### 6.2.3 Stormwater management design

The development drainage system has been designed to achieve the objectives and criteria stated in **Section 4**. Surface runoff modelling undertaken using XPSWMM has been used to inform the design of stormwater infrastructure; modelling assumptions adopted are provided in **Appendix F**.

#### 6.2.3.1 Small rainfall event

Runoff from the first 15 mm of rainfall will be retained onsite (within lots and/or road reserve) to satisfy **Criteria SW1**. Runoff not retained on lots or within the road reserve will be conveyed to downstream POS via the piped drainage network, sized to cater the 20% AEP event as per CoK specifications.

The location and size of the proposed retention storage required to achieve the design criteria is presented in **Figure 7**, whilst design parameters are summarised in **Table 4**.

Table 4: Small event (first 15 mm) treatment requirements

Catchment	Storage Area	Small Event Treatment			
		Depth (m)	TWL Surface Area (m2)	Volume (m3)	
Ct-A	BRA	0.5	391	165	

The inundation areas within the site for the small rainfall event (i.e. first 15 mm of rainfall) is shown on **Figure 7**. Note that the configuration and spatial location of the BRA can be modified at detailed design stage (subject to CoK design requirements) provided intent of the design criteria can still be met.

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The landscape concept plan (provided in **Appendix C**) shows how the stormwater management components are intended to be integrated into the POS. The size of the BRA will be reviewed further in future UWMP stages.

#### 6.2.3.2 Major rainfall event

The site will retain runoff up to the 1% AEP rainfall event, as required under **Criteria SW2**. This is achieved by the use of at-source retention and infiltration storage within lots, the BRA and the FSA. The proposed locations of these are shown in **Figure 7**. The modelled inundated depths and top water level areas for the FSA are provided in **Table 5**.

Table 5: Stormwater storage requirements - minor (20% AEP), and major (1% AEP) events

Catchment	Storage	Minor Event Storage (20%AEP)			Major Event Flood Storage		
	Storage Area	Depth (m)	TWL Surface Area (m2)	Volume (m3)	Depth (m)	TWL Surface Area (m2)	Volume (m3)
Ct-A	FSA	0.43	2,277	880	1.2	3,241	2,984

Note: FSA has 1/6 side slopes

The invert of the FSA will be set at a minimum of 5.0 m AHD to provide 300 mm above the MGL. On this basis, the TWL of the FSA will be 6.2 m AHD. The adjacent lot levels are set at a minimum of 6.66 mAHD, thereby providing 460 mm of clearance between the TWL and the earthworked lot level. The above measures will therefore help to achieve **Criteria SW2**, **SW3** and **SW4**. As with the BRA, the size of the FSA will be reviewed further in future civil design stages.

#### 6.3 Non-structural measures

A number of non-structural measures will be implemented to help reduce nutrient loads within stormwater runoff. These measures include:

- Minimising fertiliser use to establish and maintain vegetation within POS and road verges.
- Street sweeping at regular intervals.
- Use of drought tolerant turf species that require minimal water and nutrients.
- Education of residents regarding fertiliser use and nutrient absorbing vegetation species within lots.

The above measures will assist in achieving **Criteria SW6**.

#### 6.4 Stormwater management criteria compliance

A summary of the proposed stormwater design criteria and how these are addressed is provided in **Table 6**.

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Table 6: Stormwater management criteria compliance

Criteria number	Criteria description	Manner in which compliance will be achieved	
SW1	Retain and treat the first 15 mm of rainfall as close to source as possible	Residential lots to retain the first 15 mm of rainfall on lot in soakwells.	
		Runoff from road reserves in small rainfall events will be retained within a vegetated BRA in POS. Additional WSUD measures may be considered at detailed design stage.	
		All small rainfall event (first 15 mm) runoff will infiltrate through the underlying soil profile with nutrients taken up by vegetation or adsorbed to sand particles prior to reaching groundwater.	
SW2	All runoff up to the 1% AEP event to be retained on site	Runoff above small rainfall events, up to the major rainfall event, will be retained in an FSA in POS.	
SW3	Finished floor levels must have a minimum 500 mm clearance above the 1% AEP flood level in the PMD	The 1% AEP flood level in the PMD is 5.60 mAHD. The preliminary bulk earthworks concept provided in shows that approximately 1.06 m of clearance will be provided at the closest lots.	
SW4	Finished floor levels must have a minimum 300 mm clearance above the 1% AEP TWL in the FSA	All lots will be provided a minimum of 460 mm clearance to the 1% AEP TWL (6.2 mAHD) in the FSA.	
SW5	Ensure minor roads remain passable in a 20% AEP event	The pipe network will be designed to convey the 20% AEP rainfall event.	
SW6	Reduce nutrient loads by applying appropriate non- structural measures	Minimise use of fertilisers within POS and road verges.     Street sweeping at regular intervals.     Use of drought tolerant turf species.     Education of residents regarding fertiliser use	
SW7	Design infiltration areas to avoid creating mosquito habitat	Stormwater infrastructure will be designed to ensure all runoff is infiltrated within 96 hours.	

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Groundwater Management

The development drainage system has been designed to achieve the objectives and criteria stated in **Section 4.4.** 

#### 7.1 Groundwater level management

Stormwater will infiltrate at source wherever possible to be consistent with the existing hydrological regime. This will occur within soakwells, permeable portions of lots, BRAs and FSAs, which will achieve **Criteria GW1**.

Further objectives for groundwater level management are to ensure the final lot levels are at least 1.2 m above the MGL, and that the inverts of infiltration structures are at least 300 mm above MGL (See **Section 4.4**).

Groundwater separation requirements will be achieved by the use of existing site levels plus some imported fill. The control of groundwater by subsoil drainage is not required due to the lot levels that result when providing adequate clearance (at least 500 m) above the 1% AEP flood levels in the PMD (of 5.6 mAHD (DoW 2009)). Lot levels are also influenced by the need to connect to the deep sewer network.

The preliminary bulk earthworks concept is provided in **Appendix B**, and this indicates that the lowest lot earthwork levels are at 6.66 mAHD, which is approximately 1.8 m above MGL. Further, the basin invert of 5 m AHD is 300 mm above the MGL and therefore compliance with **Criteria GW2** and **GW3** will be achieved.

#### 7.2 Groundwater quality management

Whilst not specified in a design criterion, the main objective for groundwater quality management is to maintain or improve the existing groundwater quality. This can be achieved by reducing the total nutrient load into the groundwater that originates from the development. Groundwater that originates from the development is surface runoff that has infiltrated into the soil profile. Therefore, improving groundwater quality can be achieved by treatment of the surface runoff prior to infiltrating to groundwater.

The reduction of nutrient load to the groundwater will be achieved by:

- Retention of existing trees within POS wherever possible
- Directing stormwater to a vegetated (with native wetland species) BRA.
- The BRA will be underlain by material with an appropriate PRI (nominally a PRI of 20 at 150 mm or equivalent). It is acceptable for this to be achieved with a thicker layer of lower PRI soil (e.g. 300 mm of PRI 10).
- Minimise fertiliser use to establish and maintain vegetation within POS areas and road verges.
- Drought tolerant turf species that require minimal water and nutrients will be used.

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- Roll-on turf will be used within the POS areas and road verges, to prevent the high nutrient input requirement during establishment of the turf.
- Garden beds should not be immediately adjacent to the BRA to reduce nutrient transportation into these infiltration areas.

The above measures will improve the quality of the water prior to it infiltrating into the underlying groundwater and will assist in achieving Criteria GW1.

#### 7.3 Groundwater design criteria compliance

A summary of the proposed groundwater quantity design criteria and how these are addressed within the site is provided in Table 7.

Table 7: Groundwater criteria compliance summary

Criteria number	Criteria description	Manner in which compliance will be achieved
GW1	Use water sensitive design approaches to recharge the superficial aquifer	Retain and infiltrate all runoff up to the 1% AEP rainfall event on site within lot soakwells, permeable lot areas, a BRA and an FSA.
GW2	Lots should have clearance to the measured MGL of at least 1.2 m.	Lots will be set at least 1.2 m above the MGL.
GW3	Surface based infiltration should have 300 mm clearance above MGL	Basin inverts will be set at 300 mm above the MGL, and subsoil drainage will be provided in the POS.

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### 8 Subdivision and Urban Water Management Plans

The requirement to prepare more detailed water management plans to support subdivision is generally imposed as a condition of subdivision. The development of any future UWMP should follow the guidance provided in *Urban Water Management Plans: Guidelines for Preparing Plans and for Complying with Subdivision Conditions* (DoW 2008d).

While strategies have been provided within this LWMS that address planning for water management within the site, it is a logical progression that future subdivision designs and the supportive UWMP will clarify details not provided within the LWMS. The main areas that will require further clarification within future UWMPs include:

- Surface runoff modelling
- Implementation of water conservation strategies
- Imported fill specifications
- Non-structural water quality improvement measures
- Management and maintenance requirements
- Construction period management strategy
- Monitoring and evaluation program
- Infiltration assumptions.

These are further detailed in the following sections. As stated above, ongoing (post-development) monitoring of groundwater will be detailed in the UWMP, however in this LWMS is outlined broadly in **Section 9**.

#### 8.1 Surface runoff modelling

It is acknowledged that the water management strategies documented in this LWMS are based upon broad-scale assumptions and to some extent regional data. These assumptions are considered adequate for development of this LWMS and are of an appropriate level of detail. However, verification of proposed subdivision drainage designs will be undertaken once the specific basin designs and extent of inclusion of finer scale WSUD elements are confirmed.

Further, as identified in **Section 3**, there is some measure of existing connection to the PMD via an existing informal channel and due to the site levels being (in some parts) lower than the 1% AEP flood level in the PMD. Should future design approaches propose discharge to the PMD the contribution to the PMD from the site should be verified for the pre-development environment, and detailed designs will need to demonstrate that the existing connection conditions (flow rates and volumes) can be maintained.

#### 8.2 Implementation of water conservation strategies

A number of potential measures to conserve water have been presented within this LWMS. These water conservation strategies will be incorporated into the design and the ongoing maintenance of

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the POS areas. Landscape concept design measures that will be incorporated into the water conservation strategy will be further detailed within the future UWMPs produced for the development. The manner in which the developer intends to promote water conservation measures discussed in this LWMS to future lot owners will also be discussed within the future UWMPs.

#### 8.3 Imported fill specifications

As discussed previously the use of clean fill will be required to ensure the BRA/FSA remain as dry basins and sufficient clearance to groundwater is maintained. Soils beneath the BRA will require a high PRI to provide at-source nutrient retention to ensure the protection of downstream water bodies. The specification for this would typically be a 300 mm band of soil with a PRI>10 beneath the BRA, however this can be modified as long as the soils adopted are comparable to the assumptions in this LWMS.

#### 8.4 Non-structural water quality improvement measures

Guidance for the development and implementation of non-structural water quality improvement measures is provided within the *Stormwater Management Manual for Western Australia* (DWER 2022). Some measures will be more appropriately implemented by CoK, such as street sweeping, however many can be implemented relatively easily within the design and maintenance of the subdivision and the POS areas.

It is expected that the future UWMP will provide an implementation plan/timing/responsibility for measures such as street sweeping, public education (through measures such as signage that may be implemented to raise awareness), etc.

#### 8.5 Management and maintenance requirements

The management measures to be implemented to address surface water quality (such as the use of vegetation within WSUD assets) will require ongoing maintenance. It is therefore expected that the future UWMP will detail management and maintenance procedures that will set out required maintenance actions (e.g. gross pollutant removal), timing (e.g. how often it will occur), locations (e.g. exactly where it will occur) and responsibilities (e.g. who will be responsible for carrying out the actions). Given that approval from the CoK will be sought for the proposed measures, it is anticipated that consultation will be undertaken and referral to guiding policies and documents will be made.

#### 8.6 Construction period management strategy

It is anticipated that the construction stage will require some management of various aspects (e.g. dust, surface runoff, noise, traffic etc.). The management measures undertaken for construction management will be addressed either in the future UWMP or a separate Construction Management Plan (CMP).

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#### 8.7 Monitoring and evaluation program

It will be necessary to confirm that the management measures that are implemented are able to fulfil their intended management purpose, and are in a satisfactory condition at a point of management hand-over to the CoK. A post-development monitoring program will be developed to provide this confirmation, and it will include details of objectives of monitoring, relevant issues and information, proposed methodology, monitoring frequency and reporting obligations. These monitoring programs are discussed in **Section 9** of this LWMS and will be further detailed at the UWMP stage.

#### 8.8 Infiltration assumptions

The infiltration rates used within the hydrological modelling have been based on a preliminary geotechnical investigation carried out by GGC (GGC 2022), which measured unsaturated permeability ranging from <1 m/day to >5 m/day. The infiltration rate for the hydrological model was assumed to be 4.32 m/day (minus clogging) which is consistent with the existing shallow sand. Further testing may be warranted at the target location and intended invert; however, it is also noted that currently the FSA invert is at or slightly above the natural surface. Therefore, the permeability of either natural soils and/or imported soils should be confirmed at the detailed design stage.

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### 9 Monitoring

The aim of this section is to assess the effectiveness of the pre-development monitoring that has been undertaken and make recommendations regarding future post-development monitoring.

#### 9.1 Pre-development monitoring summary

The pre-development groundwater monitoring was conducted at five monitoring bores within the site. The data collected includes groundwater levels, sampling of physio-chemical parameters in situ and laboratory analysis of nutrients. Monitoring data has been collected since 2022 over June to November and captured for two winter peak levels. The result of this monitoring provides an appropriate baseline that will assist in verification of future detailed designs at the subdivision stage. Further predevelopment monitoring is therefore not required.

#### 9.2 Post-development monitoring

The post-development monitoring should be generally consistent in approach with the predevelopment monitoring (as documented in earlier sections), with the addition that the WSUD measures should also be monitored to ensure their continued effectiveness. It will be necessary to confirm that the structural management measures that are implemented are able to fulfill their intended management purpose and are in a satisfactory condition at a point of management handover to the CoK. These monitoring programs will be further detailed at the UWMP stage.

#### 9.2.1 Trigger values

Water quality targets have been derived from the *National Water Quality Management Strategy* (ANZECC and ARMCANZ 2000) and in consideration of the measured levels provided in **Table 2**. The trigger criteria proposed are shown in **Table 8**.

Table 8: Post-development trigger values

Analyte	рН	EC (uS/cm)	TN (mg/L)	TP (mg/L)
Value	6-8	1900	4.0	200

#### 9.3 Recommended program for UWMP

#### 9.3.1 Condition monitoring

It is proposed that the overall condition of the development will be monitored on a bi-annual basis. This monitoring will be implemented after the completion of the civil and landscaping works and will continue for a period of two years.

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A visual assessment will be undertaken to monitor the overall condition of the development, with the aim to ascertain that the maintenance activities are achieving the overall management objectives for the development. The parameters that will be monitored include:

- Gross pollutants
- Terrestrial weeds
- Irrigation
- Vegetation density
- Paths, benches, walkways and other infrastructure.

The management and maintenance objectives will be detailed within future UWMPs along with details of the corresponding monitoring program.

#### 9.3.2 Surface and groundwater monitoring

Given that there will be no surface water discharge from the site during small rainfall events (the first 15 mm) it will be very difficult to collect a water quality sample for treated surface runoff. Post-development surface water monitoring is therefore not proposed.

Post-development monitoring will focus on groundwater quality as this will be more representative of water that has been treated (i.e. post infiltration).

The locations of existing groundwater bores need not necessarily be maintained post-development. Given the variability in the observed water quality data, it is proposed that post-development monitoring will reference both the derived water quality target, and an upstream/downstream comparison of water quality at key locations. The indicative proposed locations for groundwater monitoring are shown on **Figure 8** and have been selected to provide an indication of the results of POS management.

Groundwater quality monitoring should be conducted on a quarterly basis. A summary of the post-development monitoring program is shown in **Table 9**. The post-development monitoring should be conducted for two years.

Table 9: Monitoring Program Summary

Monitoring Type	Locations	Frequency	Parameters
Groundwater	Bores upstream and downstream of key representative areas	Quarterly (typically Jan, April, July, Oct).	In situ pH, EC, temperature.  Sample TSS, TN, TKN, NH <sub>4</sub> , NO <sub>X</sub> , TP.

#### 9.3.3 Contingency Action Plan

A Contingency Action Plan (CAP) should be detailed and implemented as a part of the UWMP. The CAP is effectively a plan of steps that will be undertaken should certain water quality criteria be exceeded.

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#### 9.3.3.1 Trigger Criteria

As indicated, the groundwater trigger values proposed in **Section 9.2.1** have been derived from the *National Water Quality Management Strategy* (ANZECC and ARMCANZ 2000), measured water quality from the site and in consideration of other relevant guidelines.

#### 9.3.3.2 Contingency Actions

If the results from the initial monitoring occasion indicate that nutrient concentrations exceed the nominated trigger values, a number of contingency measures may be employed.

The first action that should be undertaken if groundwater trigger criteria are exceeded is to repeat the monitoring to remove the potential for sampling error. If the repeat monitoring still shows results which breach the trigger value, the next action will be to compare the upstream (incoming) nutrient concentrations with the outgoing (downstream) nutrient concentrations. If the downstream nutrient concentrations are >50% higher than the upstream nutrient concentrations, the following actions should be undertaken:

- Review POS nutrient application practices to identify source if possible.
- Conduct surveillance of subdivision area to determine any other potential and obvious nutrient inputs.
- Remove source if possible (i.e. fertiliser input, etc.).
- Remove sediment-bound nutrients by removing basin sediments.
- Manual removal of plant material from BRAs to facilitate further nutrient uptake.

If the downstream nutrient concentrations are found to be generally consistent with the upstream concentrations the next action will be to conduct a site – specific comparison of long-term background data presented in the DWMS and this LWMS. There is some amount of variability (both spatially and temporally) in nutrient concentrations experienced across the site and the trigger values may need to be modified to accommodate background levels. This information should then be used as a management tool to determine if the trigger values should be revised.

Following the implementation of the above contingency measures the groundwater quality will be re – sampled. If the results of the analysis still show water quality characteristics which breach the trigger values an additional set of upstream/downstream monitoring bores may be installed. The additional bores will be sampled as per the ongoing sampling regime already being undertaken for the first two bores. If the additional locations demonstrate results consistent with the initial monitoring, an assessment will be undertaken as to whether the results are representative of a broader catchment management issue, and whether any additional contingency actions need to be implemented onsite.

#### 9.4 Reporting

A post-development monitoring report will be prepared on conclusion of the two-year monitoring period and will be provided to CoK on request. Interim results (spreadsheet) can be provided to either CoK or DWER on request during the monitoring program.

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## Local Water Management Strategy Lot 506 Johnson Road, Wellard



## 10 Implementation

#### 10.1 Roles and responsibility

The LWMS provides a framework that the proponent can utilise to assist in establishing stormwater management methods that have been based upon site-specific investigations, are consistent with relevant State and Local Government policies and have been endorsed by DWER and CoK. The responsibility for working within the framework established within the LWMS rests with the proponent, although it is anticipated that a future UWMP will be developed in consideration of other relevant policies and documents.

#### 10.2 Funding

The proponent will fund all subdivision, civil and landscape works within the public realm. Development of individual lots will be the responsibility of the lot owner at the lot-scale development application stage.

#### 10.3 Review

It is not anticipated that this LWMS will be reviewed unless the site undergoes significant change post-lodgement of the LWMS. If the proposed layout of the development is substantially modified, the surface runoff modelling undertaken for this LWMS may need to be reviewed and the criteria revised to ensure that all are still appropriate.

The next stage of water management is UWMP preparation. The UWMP is largely an extension of the LWMS, as it should provide detail to the designs proposed within this LWMS and will demonstrate compliance with the criteria proposed in **Section 4**.

The next stage of development following the UWMP is single lot development. It is recognised that certain elements of the LWMS and the UWMP will not be implemented until this late stage, and that there is little or no statutory control that can be applied to ensure the implementation of any remaining measures. While the remaining measures are unlikely to be enforced at this stage their implementation could be encouraged by the CoK through policy (or modification of these where necessary), building licence or awareness programs (such as the Water Corporation Waterwise program).

Project number: EP22-062(03) | December 2023

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Doc No.: EP22-062(03)--013 JM | Version: A

## Local Water Management Strategy



Lot 506 Johnson Road, Wellard

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#### 11.1 General references

The references listed below have been considered as part of preparing this document.

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Project number: EP22-062(03)|December 2023

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Doc No.: EP22-062(03)--013 JM | Version: A

## Local Water Management Strategy Lot 506 Johnson Road, Wellard



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Project number: EP22-062(03)|December 2023

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## Local Water Management Strategy Lot 506 Johnson Road, Wellard

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Doc No.: EP22-062(03)--013 JM | Version: A

## Local Water Management Strategy



Lot 506 Johnson Road, Wellard

#### 11.2 Online references

The online resources that have been utilised in the preparation of this report are referenced in **Section 11.1**, with access date information provided in **Table R 1**.

Table R 1 Access dates for online references

Reference	Date accessed	Website or dataset name
(ABS 2013)	19/10/2023	Environmental Issues: Water use and Conservation
(ABS 2022)	19/10/2023	Housing Occupancy and Costs 2019-2020, Canberra
(BoM 2023)	19/10/2023	Climate Data
(DWER 2023a)	19/10/2023	Acid Sulfate Soils Risk Maps
(DWER 2023c)	19/10/2023	Perth Groundwater Map
(DWER 2023d)	19/10/2023	Water Register

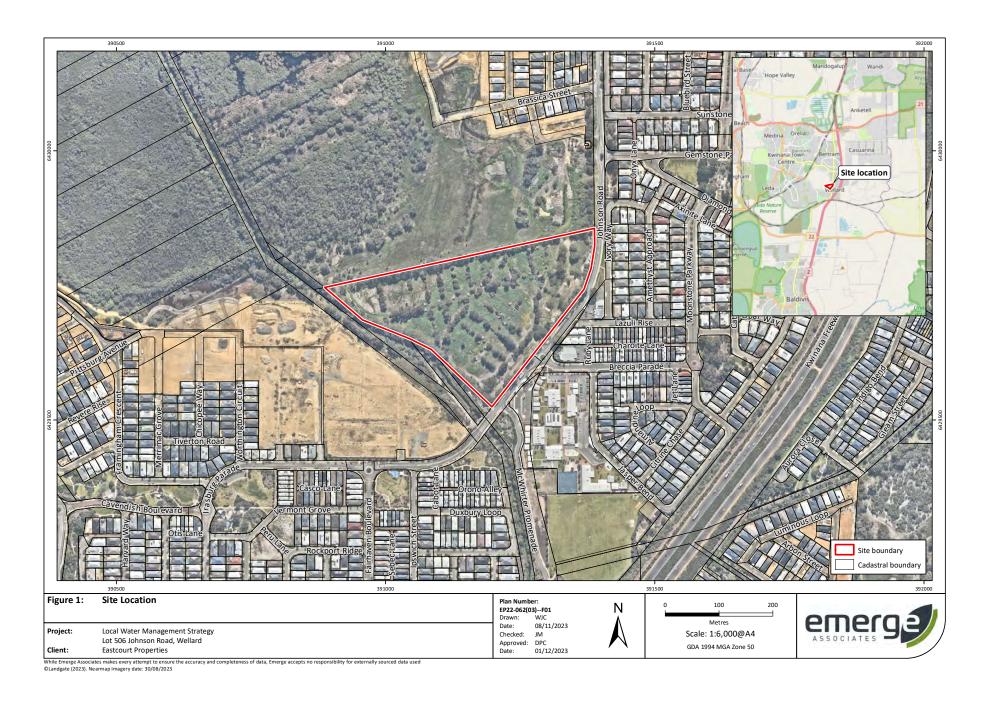
Project number: EP22-062(03) | December 2023

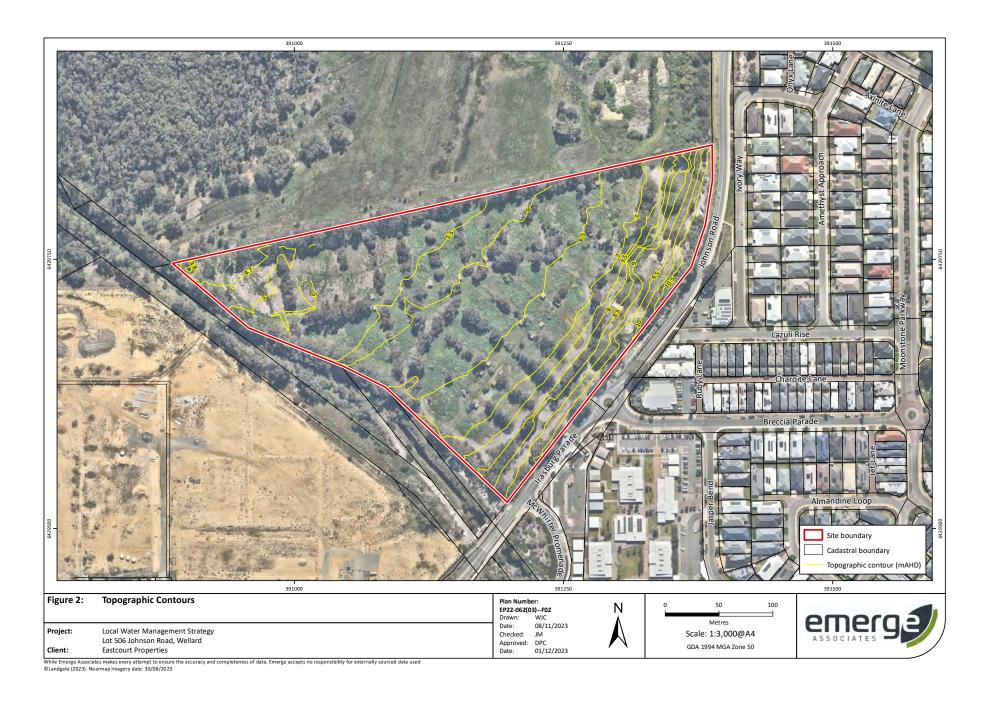
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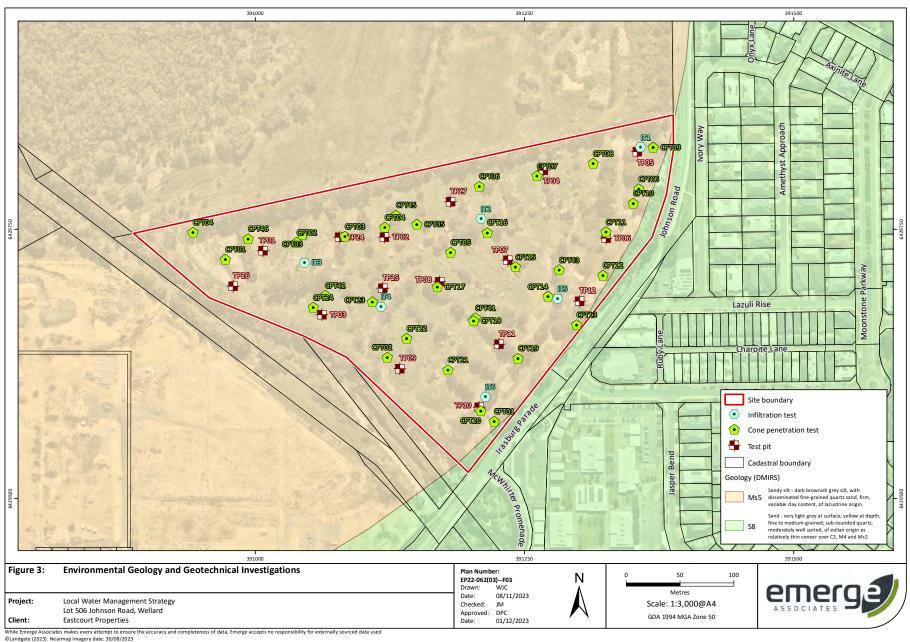
# Figures



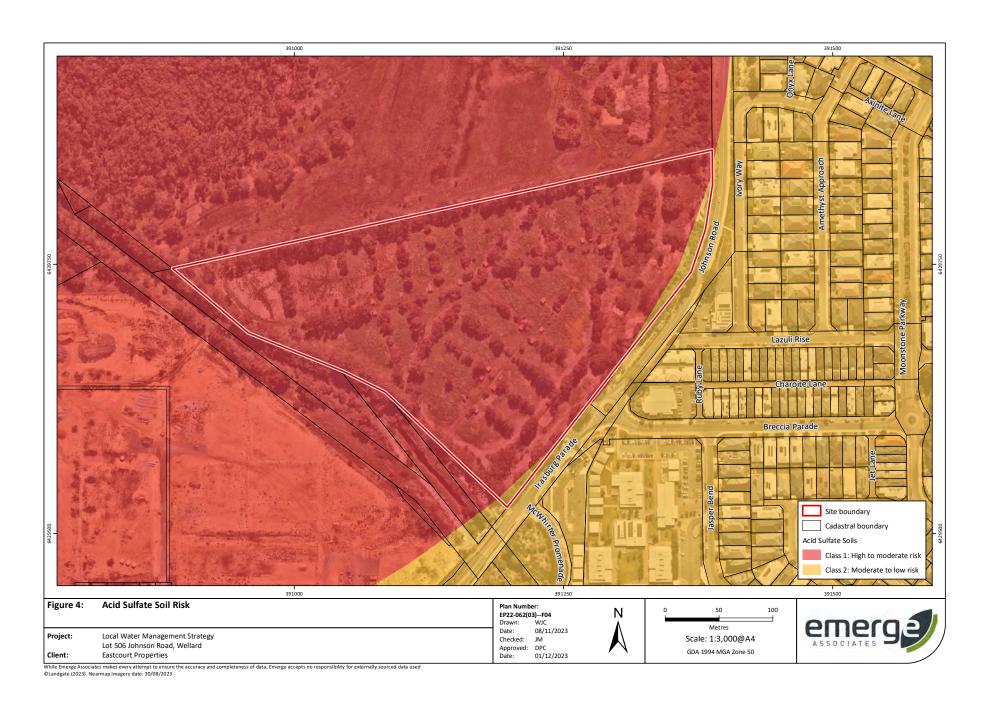
- Figure 1: Site Location
- Figure 2: Topographic Contours
- Figure 3: Environmental Geology and Geotechnical Investigations
- Figure 4: Acid Sulfate Soil Risk Mapping
- Figure 5: Geomorphic Wetlands and Hydrological Features
- Figure 6: Groundwater Contours
- Figure 7: Stormwater Management Plan
- Figure 8: Post-development Monitoring Locations

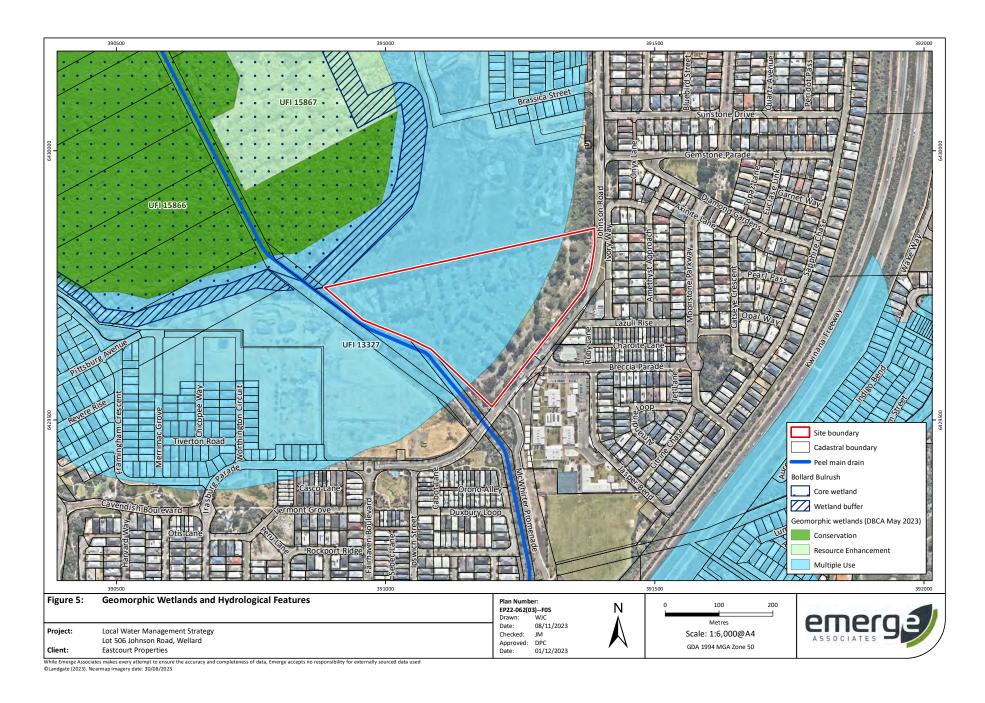


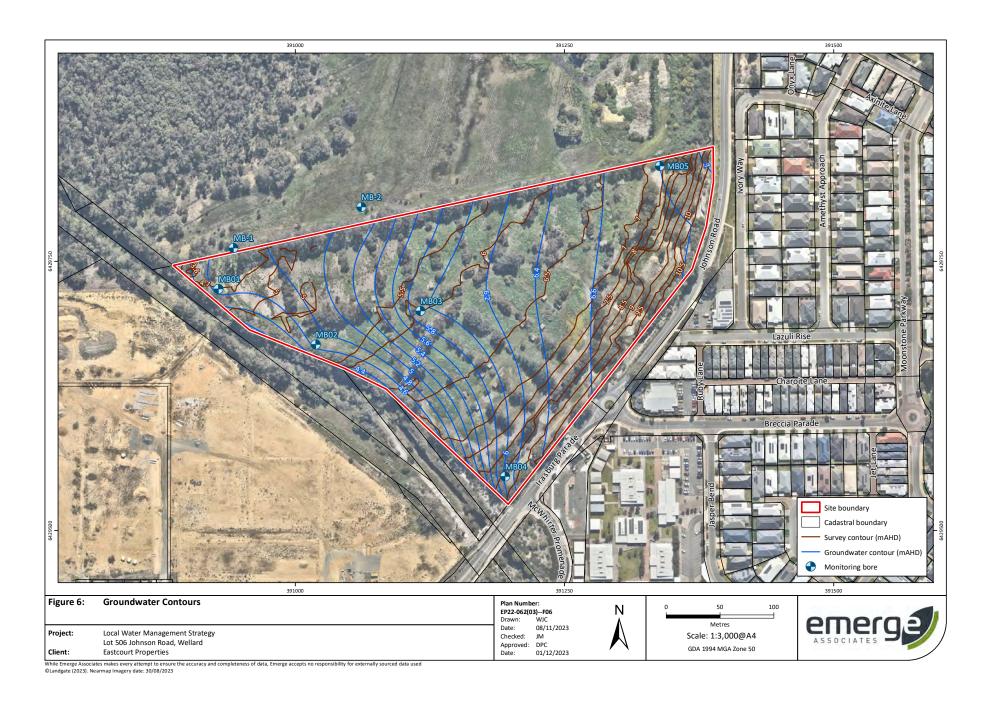


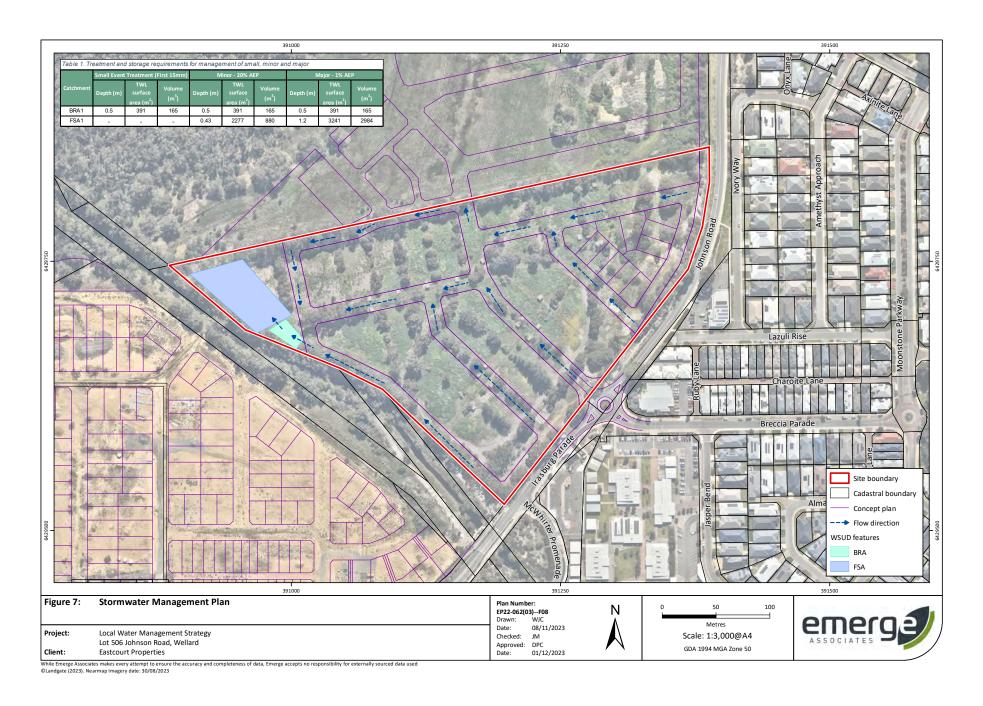


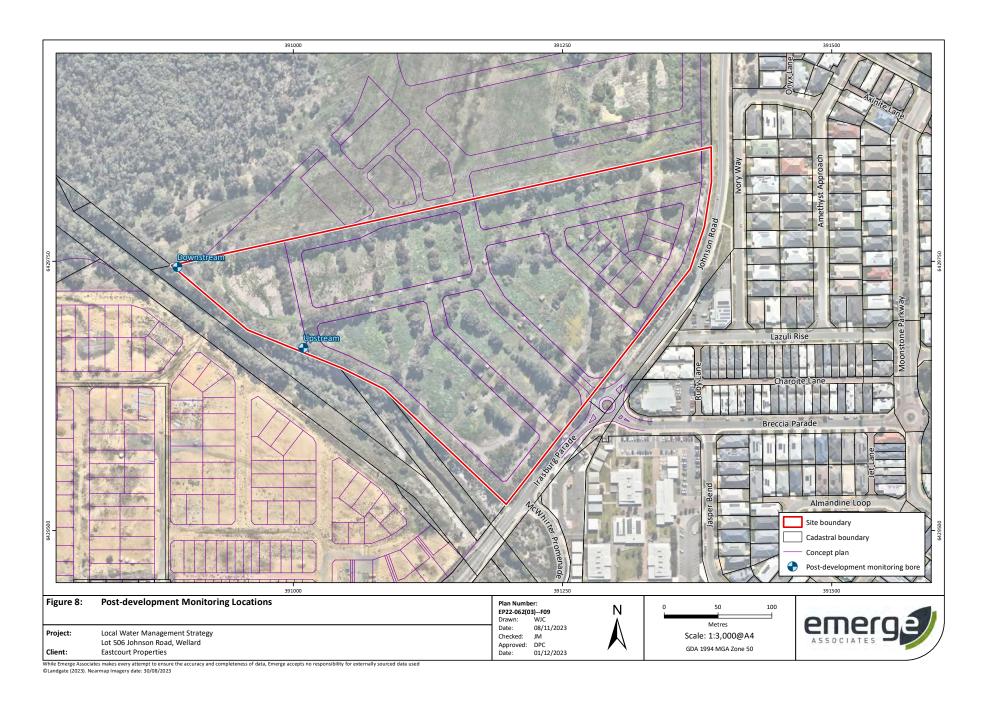
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# Appendix A

Concept Plan

CLE (2023)

Ordinary Council Meeting



CLE Town Planning + Design

CONCEPT PLAN Lot 506 Johnson Road, Wellard

DRAFT

plan no: **2263-186C-02** date: 12 October 2022 scale: 1:1,500 @A3, 1:750 @A1



# Appendix B

Earthworks concept

JDSi (2023)

Ordinary Council Meeting 22 May 2024



# Appendix C

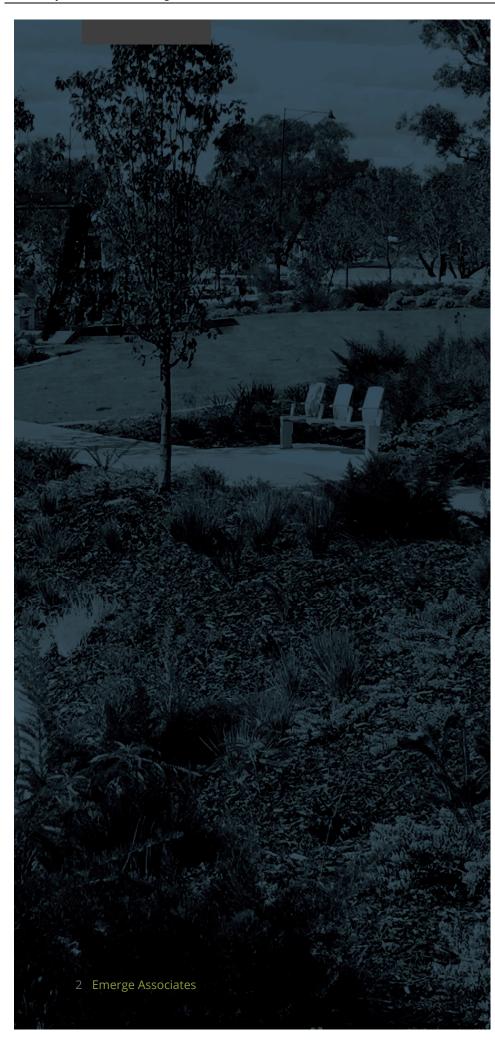
Landscape Concept

Emerge Associates (2023)

Ordinary Council Meeting 22 May 2024



Ordinary Council Meeting



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1.1	Overall Masterplan
1.2	POS 1 Detailed Plan
2.0	Typical Site Sections 5
2.1	POS 1: Section A5
2.2	POS 1: Section B5
2.3	POS 2: Section C6
3.0	Street Tree Masterplan 7
4.0	Planting Palette 8
4.1	Indicative Planting Palette

REVISION	DATE	ISSUE OR AMENDMENT	BY	REVIEWE
Α	05.12.23	Issue for Comment	JW	MM
В	07.12.23	Issue for Approval	JW	MM

Lot 506 Johnson Rd, Wellard - Preliminary Landscape Report

Ordinary Council Meeting

# 1.0 Landscape Concepts

### 1.1 Overall Masterplan



Lot 506 Johnson Rd, Wellard - Preliminary Landscape Report



Emerge Associates 3

Ordinary Council Meeting 22 May 2024

#### 1.2 POS 1 Detailed Plan

# LEGEND EXTENT OF WORKS BRA (FIRST 15mm RAINFALL) 1% AEP (100 YEAR STORM) DUAL USE CONCRETE PATHS 2.5 WIDE RED ASPHALT DUAL USE PATH NATIVE SHRUB PLANTING TURF BIORETENTION BASIN SHADE STRUCTURE AND PICNIC AREA FITNESS EQUIPMENT NODE INDICATIVE PLAY SPACE EXISTING TREES TO BE RETAINED WHERE POSSIBLE (SUBJECT TO DETAILED DESIGN)

#### **LEGEND**

- 01 EXISTING PEEL MAIN DRAIN
- FEATURE HARDSTAND WITH SHADE STRUCTURE AND SEATING OPPORTUNITIES OVERLOOKING PLAYSPACE
- 03 PROPOSED PLAYSPACE
- 04 PROPOSED DUAL USE PATH
- 05 DUP CROSSING TO PEEL MAIN DRAIN BY OTHERS
- 06 PROPOSED FITNESS NODE
- 07 LARGE TURF KICK-ABOUT AREA
- 08 PLANTED BIORETENTION BASIN
- 09 OVERFLOW SPILLWAY WITH ROCKWORK
- 10 PLANTED BATTER TO TIE INTO EXISTING LEVELS
- 11 RUBBISH BINS
- 12 FUTURE DUP BY OTHERS
- 13 LIMESTONE RETAINING WALLS
- 14 PARK BENCH
- 15 INDICATIVE ON STREET PARKING TO POS



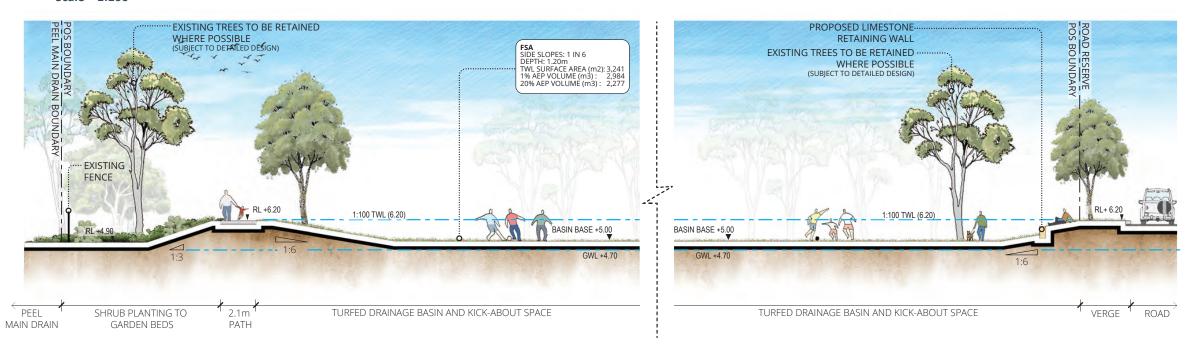
4 Emerge Associates Lot 506 Johnson Rd, Wellard - Preliminary Landscape Report

Ordinary Council Meeting 22 May 2024

## 2.0 Typical Site Sections

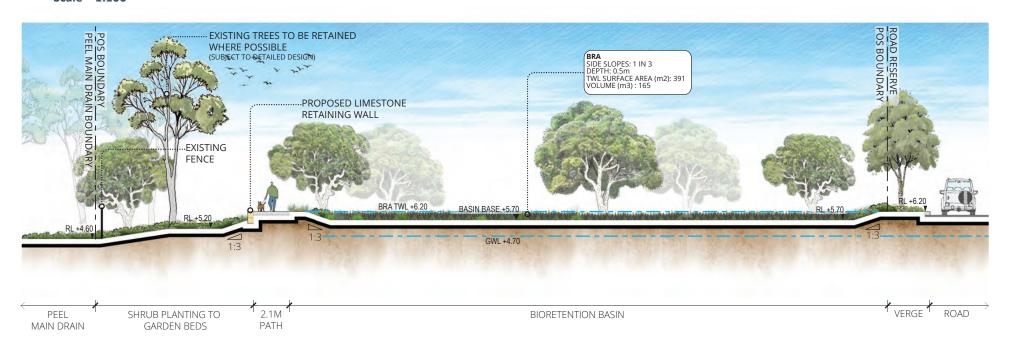
#### 2.1 POS 1: Section A

Scale 1:100



#### 2.2 POS 1: Section B

Scale 1:100

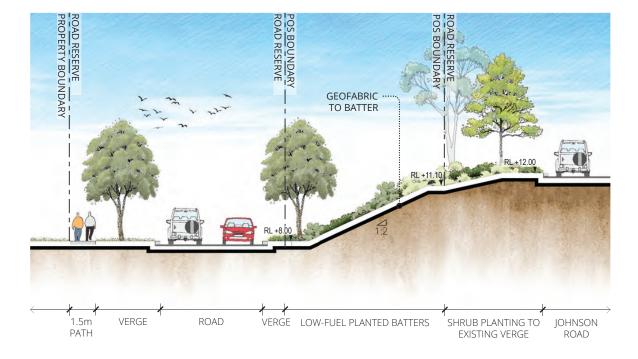


Lot 506 Johnson Rd, Wellard - Preliminary Landscape Report 5

Ordinary Council Meeting

#### 2.3 POS 2: Section C

Scale 1:100



6 Emerge Associates Lot 506 Johnson Rd, Wellard - Preliminary Landscape Report

Ordinary Council Meeting

# 3.0 Street Tree Masterplan





Lot 506 Johnson Rd, Wellard - Preliminary Landscape Report

Emerge Associates 7

**Ordinary Council Meeting** 22 May 2024

## **Planting Palette**

#### 4.1 Indicative Planting Palette

#### Trees (>3m)

Agonis flexuosa WA Peppermint Banksia littoralis Swamp Banksia Eucalyptus gomphocephala Tuart Eucalyptus rudis Flooded Gum Stout Paperbark Melaleuca preissiana Melaleuca rhaphiophylla Swamp Paperbark Ornamental Pear Pyrus calleryana

#### Large Shrubs (>1.5m)

Golden Wreath Wattle Wooley Bush Acacia saligna Adenanthos sericeus One-Sided Bottlebrush Yellow-spotted Emu Bush Calothamnus quadrifidus Eremophila maculata 'Aurea' Olive Grevillea Grevillea olivacea Chenille Honeymyrtle Melaleuca huegelii Dwarf Melaleuca Melaleuca 'Little Nessie' Coastal Daisy-Bush Olearia axillaris

#### Medium Shrubs (1 - 1.5m)

Grevillea Grevillea crithmifolia upright Elegant beaufortia Beaufortia elegans Club Rush Boobialla Ficinia nodosa Myoporum insulare Pom-Pom Myrtle Melaleuca conothamnoides Heart Leaf Flame Pea Chorizema cordatum Coastal Rosemary Westringia fruticosa 'Grey Box'

#### Small Shrubs (0.5 - 1m)

Red & Green Kangaroo Paw Grey Cottonhead Anigozanthos manglesii Conostylis candicans Stalked Guinea Flower White myrtle Hibbertita racemosa Cushion Bush Hypocalymma angustifolium Leucophyta brownii Lomandra Lomandra tanika Wingarra Lomandra wingarra Native Iris

#### Groundcovers (<0.5m) Acacia saligna prostrate

Patersonia occidentalis

Honeypot Dryandra Banksia Nivea Common Clematis Creeping Boobialla Clematis pubescens Myoporum parvifolium Eremophila Grevillea Eremophila glabra 'Roseworthy' Grevillea crithmifolia prostrate

Prostrate Golden Wreath Wattle

#### **Trees**



Agonis flexuosa **WA Peppermint** 

Melaleuca rhaphiophylla

Swamp Paperbark

Eucalyptus gomphocephala

Banksia littoralis

Swamp Banksia



**Large Shrubs** 



Eremophila maculata 'Aurea' Yellow-spotted Emu Bush



Melaleuca huegelii Chenille Honeymyrtle



Calothamnus quadrifidus One-Sided Bottlebrush

#### **Medium Shrubs**



Eremophila nivea Spring Mist



Chroizema cordatum Heart Leaf Flame Tree



Melaleuca conothamnoides Pom-Pom Myrtle



Westringia fruticosa 'Grey Box' Coastal Rosemary

#### **Small Shrubs**



Conostylis candicans **Grey Cottonhead** 



Leucophyta brownii **Cushion Bush** 



Lomandra wingarra Wingarra



Patersonia occidentalis Native Iris

#### Groundcovers



Acacia saligna prostrate Prostrate Golden Wreath Wattle



Eremophila glabra 'Roseworthy' Eremophila



Myoporum parvifolium Creeping Boobialla



Banksia Nivea Honeypot Dryandra

8 Emerge Associates

Lot 506 Johnson Rd, Wellard - Preliminary Landscape Report

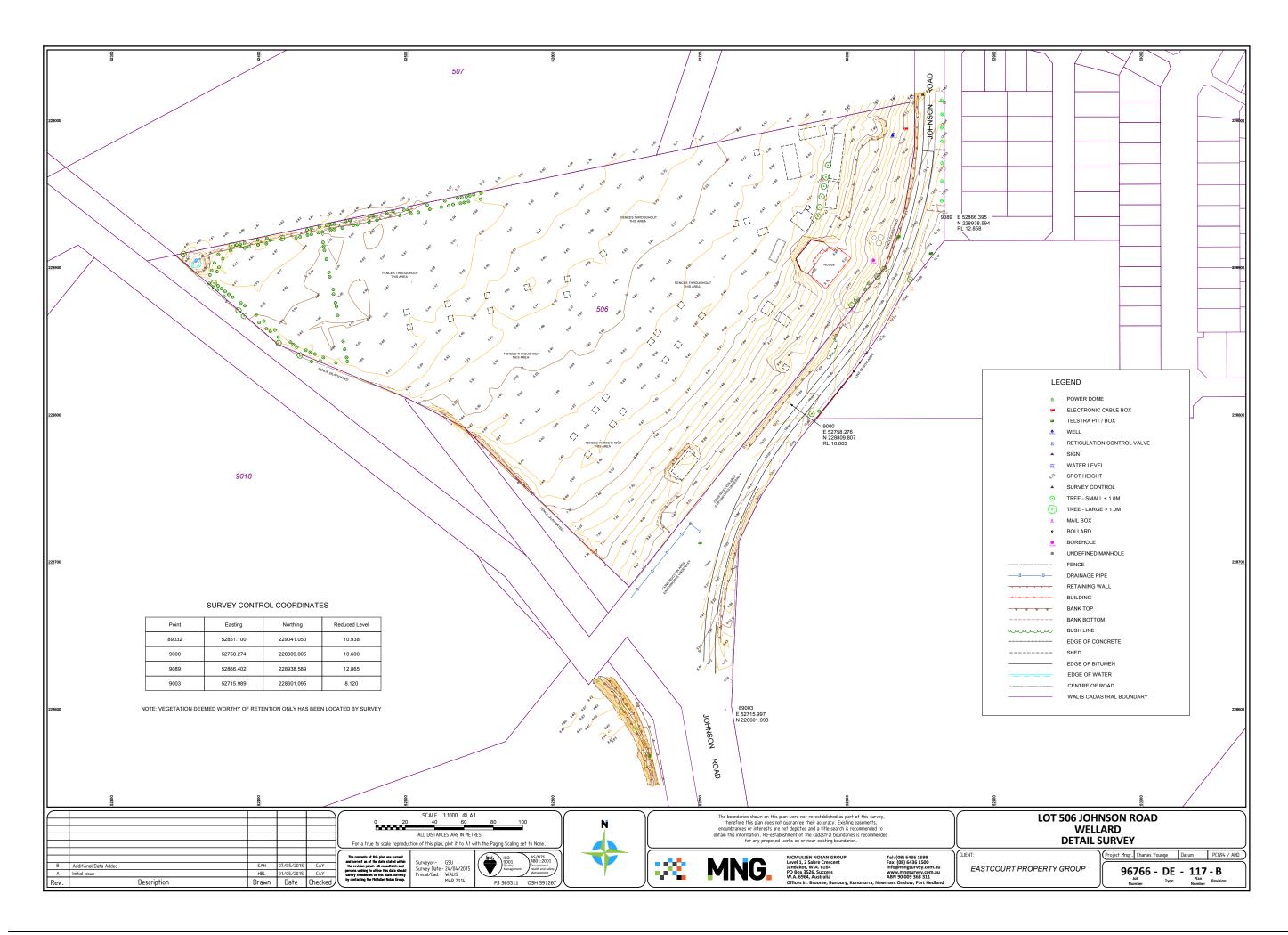
Page 372 Item 17.1 - Attachment G

# Appendix D Detailed Survey



MNG (2015)

Ordinary Council Meeting 22 May 2024



Ordinary Council Meeting

# Appendix E

Geotechnical Report

GGC (2022)





## **Geotechnical Investigation Report**

# Proposed Subdivision Development Providence East Estate Wellard WA

**GGC221986 August 2022** 



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ABN: 69 611 127 676

#### Geotechnical Investigation Report

Proposed Subdivision Development Providence East Estate, Wellard WA Our ref: GGC221986-R01-Rev0

Prepared for:

Eastcourt Property Group Pty Ltd. 756 Canning Highway Applecross WA 6153

Prepared by:

Geotechnical and Geological Consultants Pty Ltd 433 Vincent Street West West Leederville WA 6007

25 August 2022

For and on behalf of Geotechnical and Geological Consultants Pty Ltd

**James Campbell** 

Associate Engineering Geologist

#### **Quality information**

#### Revision history:

Revision	Description	Date	Author	Reviewer	Signatory
Rev 0	Final Report	25 August 2022	JC	RAM	JC

#### Distribution:

Report Status	No. of copies	Format	Distributed to	Date
Rev 0	1	PDF	Eastcourt Property Group	25 August 2022
Rev 0	1	PDF	Geotechnical and Geological Consultants Pty Ltd Report Library	25 August 2022



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#### **IMPORTANT INFORMATION SHEETS**

"Your Geotechnical Report"

#### **FIGURES**

Figure 1: Site Investigation Location Plan

#### **APPENDICES**

**APPENDIX A: Client Supplied Information** 

**APPENDIX B: Test pits logs and penetrometer results** 

**APPENDIX C: CPT results** 

**APPENDIX D: Laboratory test results** 



#### 1 Introduction

This report presents the results geotechnical investigation carried out by Geotechnical and Geological Consultants Pty Ltd (GGC) on behalf of Eastcourt Property Group Pty Ltd ("client") for a proposed subdivision development at Providence East Estate, Wellard WA ("the site").

This work was commissioned by Matthew Palmieri, of Eastcourt Property Group, on 24 June 2022.

This report, and the information presented herein, must be read together with the important notes on the "Your Geotechnical Report" information sheets included after the main report text.

#### 2 Site description

The site comprises an irregular/triangular shaped parcel of land which covers an area of about 82,000 m<sup>2</sup>. The site is bound by Johnson Road to the east and southeast, the Peel Main Drain and Providence Estate subdivision development to the southwest, and the Bollard Bullrush Swamp and vacant land to the north.

A client supplied Concept Plan and Detail Survey Plan is included in Appendix A.

The site can roughly be subdivided to three Zones, namely:

- **Zone 1:** the eastern portion of the site;
- **Zone 2:** the central portion of the site; and
- **Zone 3:** the western portion of the site.

The three Zones are shown on the Site Plan presented as *Figure 1*.

The south-eastern boundary of the site, adjacent to Johnson Road, is elevated and ground levels range from approximately between 10.7 m AHD in the northeast to 8.8 m AHD in the southeast, along this boundary. The topography slopes downwards towards the western corner of the site to about 3.8 m AHD.

Grass vegetation and medium to large sized trees were present across the site. The tree alignment divided the site into number of paddock areas. Several existing shed structures, access tracks, an oval training track, fences and several old building pads associated with past land use were present across the site. We understand that the site used to be a previous horse training facility.

A small wooden retaining wall and associated elevated ground area was observed in the north-eastern portion of the site, which is likely to be associated with an old building platform in this area is shown in **Plate 1**.

Page 5





Plate 1: Small wooden retaining wall and associated elevated ground area adjacent to TP6

Based on GGC's site walk over and visual inspection, a strip of land, approximately 40 m wide, adjacent to Johnston Road had features such as old foundations slab (*Plate 2*), access tracks, construction of bunds to prevent access to the site from Johnston Road (*Plate 3* and *Plate 4*) and possibly raising of the land adjacent to Johnson Road (*Plate 5*)



Plate 2: Old foundation slab

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Plate 3: Soil bund preventing access from Johnston Road



Plate 4: Soil bund preventing access from Johnston Road

Page 7





Plate 5: Uncontrolled Fill and topsoil overlying natural Sand within test pit (TP 5)

#### 3 Proposed development

Based on information provided, it is understood that the development will consist of a residential subdivision including approximately 124 lots, associated access roads and areas of Public Open Space (POS).

At the time of writing this report, a final design layout for the proposed development was not yet available. However, we understand the following:

- The site will generally be graded from Johnson Road, in the southeast to the Bollard Bullrush Swamp to the northwest.
- Zone 1 is likely to have minimal earthworks given the tie into Johnson Road.
- Zone 2 is likely to have nominally 1.2 m to 1.5 m of (imported) fill.
- ▶ Zone 3 is likely to have nominally 1 m of fill within the development area. The public open space, located within Zone 3, is likely to have minimal earthworks.

We understand that the design ground surface levels will be based on site hydrology and drainage requirements, and to be commensurate with Johnson Road and the adjacent (future) developments in the area.

#### 4 Project objectives

The objectives of this study were to:

- Assess the subsurface and groundwater conditions across the site.
- Provide a site classification(s) in accordance with AS2870-2011 "Residential Slabs and Footings".
- Provide an assessment of the suitability of the site for onsite disposal of stormwater by infiltration.
- Assess the suitability of the existing materials for reuse as fill material.
- Provide recommended appropriate site preparation procedures including site preparation, compaction works, density testing and moisture conditioning.

Page 8



- Provide a recommended subgrade California Bearing Ratio (CBR) value(s) for flexible pavement design (by others); and,
- Provide recommendations for any further investigations that may be required for detailed design of the proposed development at the site.

#### 5 Client provided information

The following client provided information have been reviewed as part of this study:

- McMullen Nolan Group Pty Ltd, Lot 506 Johnson Road Wellard Detailed Survey, Reference Job No. 96766-DE-117-B dated 1 May 2015.
- Cossill & Webley Consulting Engineers, Drainage Catchment Area 2 Preliminary Earthworks Plan, Reference Drawing No. 6165-00-SK35 Revision D), dated 5 May 2015.
- CLE Town Planning and Design, Concept Plan Lots 1, 504-506 and 1336 Wellard East, Reference Plan No. 2263-167-01 dated 16 July 2015; and,
- Douglas Partners Pty Ltd, "Ground Test Results Lot 506 Johnson Road", dated 15 Dec 2015.

Copies of the supplied information are included in Appendix A.

#### 6 GGC fieldwork

#### 6.1 Summary

Fieldwork was carried out on 28 and 29 of June 2022 and 8 July 2022 under the full-time attendance of a Geotechnical Engineer from GGC. The fieldwork consisted of the following:

- Advancing of 25 Cone Penetrometer Test probes with pore pressure measurement (CPTu), denoted as CPT01 to CPT24, to depths of between 3.3 m and 5.2 m below existing ground level. The CPT probes were advanced from a 7-tonne tracked CPT rig owned and operated by Probedrill Pty Ltd. Shallow refusal was encountered at a depth of 3.3 m at CPT20 and CPT20A.
- Excavation of 12 test pits (TP01 to TP12) with an 8-tonne rubber tyred backhoe, to depths between 1.4 m and 2.5 m below existing ground level.
- Completion of 11 Perth Sand Penetrometer (PSP) tests and one Dynamic Cone Penetrometer (DCP) test across the site, adjacent the test pits, to depths up to 1.05 m below existing ground level.
- Completion of six infiltration tests (IT01 to IT06) within hand augered boreholes at depths of between 0.9 m and 1.0 m.
- On-site logging of test pits in general accordance with the soil guidance included in AS 1726 2017 "Geotechnical Site Investigations"; and
- Collection of samples for laboratory testing.

The investigation locations were selected and recorded by GGC using a handheld GPS with an accuracy of approximately +/-5 m. The approximate investigation locations are shown the Site Investigation Location Plan, *Figure 1*, attached to this report.

The test pit logs showing the major units intersected and the depths at which samples were recovered, together with explanatory notes and PSP and DCP results are included in *Appendix B*.

Copies of the CPT plots are included in *Appendix C* together with notes on the method of interpretation used by GGC.

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#### 6.2 Infiltration testing

Infiltration tests were completed in hand augured boreholes (IT1 to IT6). The infiltration tests were completed using the "Inverse Auger Hole Method" described by Cocks (2007). The results of the infiltration testing are summarised in **Table 1**.

Table 1 - Summary of falling head infiltration tests

Test Reference and Location	Stratigraphy	Minimum Unsaturated Permeability, k (m/day)*	
IT1	SAND FILL over SAND	0.94	5
IT2	Organic SILT over SAND	0.97	1
IT3	Organic SILT	0.90	<1.0
IT4	Organic Silt over SAND	0.94	1
IT5	Organic Sand over Sand	0.94	4
IT6	Organic Sand over SAND	0.92	>5

Notes:

#### 7 Laboratory testing

Geotechnical laboratory testing was carried out in accordance with the general requirements of AS 1289 by Material Consultants at their NATA registered soils laboratory in Perth.

A summary of the laboratory testing completed for this study is presented in *Table 2* and the laboratory test certificates are included in *Appendix D*.

Table 2 - Summary of laboratory testing

Type of Test	Test Method Reference	Number of Tests
Particle Size Distribution	AS1289.3.6.1	18
Atterberg Limits	AS1289.3.1.1 – 3.4.1	18
Compaction (MMDD)	AS1289.5.2.1	3
Soaked California Bearing Ratio	AS1289.6.1.1	3
Organic Matter Content	AS1289.4.1.1	8

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<sup>\*</sup>All depths are relative to existing ground surface.

<sup>\*</sup> Minimum unsaturated permeability values were estimated at the end of testing when head pressures was at a minimum.



#### 8 Site conditions

#### 8.1 Published geological conditions

The 1:50,000 Environmental Geology Series Map (Rockingham Sheet) produced by the Geological Survey of Western Australia indicates that the site is within an area underlain by:

- ▶ Bassendean Sand (S<sub>8</sub>) described as "very light grey at surface, yellow at depth, fine to medium-grained, sub-rounded quartz, moderately well sorted, of eolian origin" within Zone 1; and
- **Sandy Silt** (Ms<sub>5 −</sub> Swamp Deposits) described as "dark brownish grey silt, with disseminated fine-grained quartz sand, firm, variable clay content, of lacustrine origin" within Zone 2 and Zone 3 (underlying the Bassendean Sand).

#### 8.2 Groundwater information

Published groundwater information within the Perth Groundwater Map was limited across the project area. No minimum groundwater information was available across the site within the Perth Groundwater Map. The maximum groundwater contour information appeared to terminate adjacent to the site (i.e., the groundwater map did not completely cover site) and was only recorded on the eastern most boundary of the site.

The published maximum groundwater contours on the eastern portion of the site indicated groundwater elevations of 10 m AHD. Based on published topographic contours within the Perth Ground water map of 10 m AHD groundwater levels are expected at or near existing ground level along the eastern boundary of the site.

Average Annual Maximum Groundwater Level (AAMGL) contours, provided by RPS in 2016, have been developed for the northern portion of the site and are presented on the Cossill & Webley Consulting Engineers Drainage Catchment Area 2 Preliminary Earthworks Plan (Reference Drawing No. 6165-00-SK35). The plan indicates that the AAMGL contours for the site grade from approximately RL 4.8 m AHD in the north-eastern most corner of the site to approximately RL 3.8 m AHD in the western most corner of the site. No AAMGL data is currently available for the southern half of the site.

Based on AAMGL information and the approximate surface elevations, the AAMGL could range from about 5.8 m below existing ground levels in the north-eastern most corner of the site, to at or near the existing ground surface in the western most portion of the site.

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#### 8.3 Encountered subsurface conditions

GGC has developed a typical subsurface profile based on the results of the investigations completed at the site and this is summarised in *Table 3*.

Table 3 - Typical subsurface profile

Layer/Unit	Typical Depth to Top of Layer (m)	Typical Depth to Bottom of Layer (m)	Thickness of Layer (m)	Typical Description/ Remarks
UNCONTROLLED FILL	0.0	0.7 m to 1.6 m	0.7 m to 1.6 m	FILL: SAND; fine to coarse grained, subangular to subrounded, grey mottled orange, dark grey; trace non-plastic fines. Containing occasional deleterious materials. Only encountered in TP05, TP06 and CPTu11.
TOPSOIL Organic SAND	0.0	0.2 m to 0.4 m	0.2 m to 0.4 m	TOPSOIL: Organic SAND: fine to coarse grained, subangular to subrounded, dark grey black. Only encountered in TP10, TP11 and TP12 in Zone 1.
TOPSOIL Organic SILT	0.0	0.4 m to 1.1 m	0.4 m to 1.1 m	TOPSOIL Organic SILT: low plasticity, black mottled dark grey; trace Sand, fine to coarse grained, subangular to subrounded.  Not encountered in TP5 and TP6.
UPPER SAND	0.4 m to 1.6 m	3.5 m to 4.8 m	3.1 m to 4.4 m	SAND: fine to coarse grained, subangular to subrounded, pale grey mottled white. Typically, medium dense at top of unit becoming dense to very dense at depth.  Loose sand was encountered at top of unit to depths of up to 1.8 m in CPTu19 and CPTu21.  Not encountered in CPTu01.  Base of Sand encountered at CPTu02, CPTu03 CPTu04, CPTu15, CPTu16, CPTu17, CPTu18, CPTu24.  Shallow refusal was encountered within CPTu20 and CPTu20A.
UPPER CLAYEY MATERIAL	0.0	3.2 m	3.2 m	SANDY CLAY/CLAY: Low to medium plasticity, black mottled dark grey and yellow, brown, grey orange, firm to stiff.  Only encountered at CPTu01 and TP01 location in Zone 3.
LOWER CLAYEY MATERIAL	3.5 m to 4.8 m	5 m	>1.5 m thick	SILTY CLAY / CLAY / CLAYEY SILT: Firm to stiff, thin layer of sensitive fine-grained material encountered within CPTu03 at 4.7 m depth, CPTu04 at 3.5 m and within CPTu24 at 4.8 m to base of probe. Possibly diatomaceous.  Typically extending to depth of probe.
Lower Sand	5 m	Not proven	Not Proven	Sand. Very Dense. Only Encountered in CPTu03 and CPTu04

Notes: All depths are in metres below existing ground level. Depths and thicknesses are approximate only.

It should be noted that based on GGC's site walk over and visual inspection, it is likely that Uncontrolled Fill may be present within Zone 1 of the site. It is likely that the Uncontrolled Fill is associated with previous land use at the site e.g., previously existing buildings, raising of the land and barricading adjacent and to Johnson Road.

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It should also be noted that based on GGC's site walk over and visual inspection, it is likely that the Organic Silt is not present in Zone 1 and is present across Zone 2 and Zone 3 in the lower lying areas.

The CPT probes completed by GGC were generally consistent with the CPT probes previously completed by Douglas Partners to a depth of 5 m below ground level. It should be noted that some of the CPT probes completed by Douglas Partner's extended to a maximum depth of 8.2 m.

Douglas Partners CPT probes inferred a 0.75 m to 1.2 m thick layer of very soft to very stiff Organic Layer (Clay, Silt, Sand) in CPT2, CPT3, CPT5, CPT42, CPT43, CPT44, CPT45, CPT46 at depths of between about 3.76 m to 6. 7m below ground level. Beneath the Organic Layer, typically, the CPT probes encountered a medium dense to very dense Sand between 4.4 m to 6.7m below ground level and extended to the base of the CPT probes. An inferred 1.0 m to 1.3 m layer of loose to medium dense silty Sand/ sandy Silt and Sand was encountered within CPT4 and CPT45 at depths of between 3.0 m and 5.7 m.

CPT1 completed by Douglas Partner's was discontinued at 4.06 m due to refusal on inferred by Douglas Partners as Limestone. CPTu20 and CPTu20A completed by GGC near CPT1 was also discontinued at 3.3 m due to high tip resistance and rod friction.

Test pits TP24 and TP26 completed by Douglas Partners indicated Sand with some Clay, clayey Sand at depths of between 1.5 m and 2.9 m. Clayey soils were only by GGC encountered within TP01.

#### 8.4 Groundwater levels

Groundwater was recorded at several investigation locations during the fieldwork and is summarised in *Table 4*. During the wetter months and periods of extended rainfall, the groundwater levels are likely to increase significantly at this site.

Table 4 - Recorded Groundwater Elevations

Date recorded	Observed Depth to Groundwater (m)*	Notes
28 June 2022	1.8	-
28 June 2022	1.65	-
28 June 2022	1.8	-
28 June 2022	2.0	-
28 June 2022	1.7	-
28 June 2022	1.2	-
28 June 2022	1.3	-
28 June 2022	1.9	-
28 June 2022	Not Observed	Dry to 3.3 m
28 June 2022	Not Observed	Dry to 3.5 m
28 June 2022	Not Observed	Dry to 3.3 m
28 June 2022	4.0	-
28 June 2022	Not Observed	Dry to 2.0 m
28 June 2022	2.2	-
29 June 2022	1.7	-
	28 June 2022	Date recorded         Groundwater (m)*           28 June 2022         1.8           28 June 2022         1.65           28 June 2022         1.8           28 June 2022         2.0           28 June 2022         1.7           28 June 2022         1.2           28 June 2022         1.3           28 June 2022         1.9           28 June 2022         Not Observed           28 June 2022         Not Observed           28 June 2022         4.0           28 June 2022         Not Observed           28 June 2022         Not Observed           28 June 2022         2.2

Note: \* All depths are relative to existing ground surface.

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Table 4 (Continued) - Recorded Groundwater Elevations

Location Ref.	Date Recorded	Observed Depth to Groundwater (m)*	Notes
CPTu16	29 June 2022	1.6	-
CPTu17	29 June 2022	1.5	-
CPTu18	29 June 2022	1.7	-
CPTu19	29 June 2022	Not Observed	Dry to 3.0 m
CPTu20	29 June 2022	Not Observed	Dry to 3.0 m
CPTu20A	29 June 2022	Not Observed	Dry to 3.0 m
CPTu21	29 June 2022	2.0	-
CPTu22	29 June 2022	1.7	-
CPTu23	29 June 2022	1.5	-
CPTu24	29 June 2022	1.4	-
TP01	8 July 2022	Not Observed	-
TP02	8 July 2022	1.6	Water observed seeping through sidewall at 1.6 m
TP03	8 July 2022	1.7	Water observed seeping through sidewall at 1.7 m
TP04	8 July 2022	1.6	Water observed seeping through sidewall at 1.6 m
TP05	8 July 2022	Not Observed	-
TP06	8 July 2022	Not Observed	-
TP07	8 July 2022	2.0	Water observed seeping through sidewall at 2.0 m
TP08	8 July 2022	Not Observed	-
TP09	8 July 2022	2.1	Water observed seeping through sidewall at 2.1 m
TP10	8 July 2022	Not Observed	-
TP11	8 July 2022	Not Observed	
TP12	8 July 2022	Not Observed	
IT1		Not Observed	Hand auger boreholes advanced to 1 m
IT2		Not Observed	Hand auger boreholes advanced to 1 m
IT3		Not Observed	Hand auger boreholes advanced to 1 m
IT4		Not Observed	Hand auger boreholes advanced to 1 m
IT5		Not Observed	Hand auger boreholes advanced to 1 m
IT6		Not Observed	Hand auger boreholes advanced to 1 m

Note: \* All depths are relative to existing ground surface.

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#### 8.5 Laboratory test results

The results of the laboratory testing completed on samples recovered during the investigation fieldwork are summarised in Table 5 the laboratory test certificates are included in Appendix C.

Table 5 - Summary of laboratory test results

				Partic Distril			Co	onsister Atter		it -				1.3  1.3  - 6.2  - 10.1  5.3  - 6.1  - 5.7  - 2
Location Reference	Depth from (m) <sup>*1</sup>	Depth to (m)*1	%Cobbles	% Gravel	% Sand	% Fines	Liquid Limit %	Plastic Limit %	Plasticity Index %	Linear Shrinkage %	CBR (%)	MDD (t/m³)	OMC (%)	(% by
TP1	0.3	1	0	1	50	49	78	25	53	13	-	-	-	1.3
TP1	1.6	2.5	0	0	71	29	60	19	41	12	1.5	1.97	11	-
TP2	0	0.4	0	0	78	22	59	52	7	3	-	-	-	6.2
TP2	0.8	1.4	0	0	97	3	N/A	NP	NP	0	-	-	-	-
TP3	0	1.4	0	0	43	57	77	71	6	3	-	1	-	10.1
TP4	0	0.4	0	0	60	40	70	55	15	5	-	ı	-	5.3
TP4	0.6	1.5	0	0	97	3	N/A	NP	NP	0	-	ı	-	-
TP5	0.7	1.6	0	0	99	1	N/A	NP	NP	0	9	1.66	11.5	-
TP6	0.3	1.2	0	2	96	2	N/A	NP	NP	0	-	-	-	-
TP7	0	0.4	0	0	60	40	72	62	10	4	-	-	-	6.1
TP7	0.8	1.5	0	0	98	2	N/A	NP	NP	0	-	-	-	-
TP8	0	0.4	0	0	66	34	47	39	8	4	-	-	-	5.7
TP8	0.8	1.5	0	0	99	1	N/A	NP	NP	0	-	-	-	-
TP9	0	0.5	0	0	82	18	N/A	NP	NP	0	-	-	-	2
TP9	0.8	1.6	-	-	-	-	-	-	1	-	9	1.67	9	-
TP10	0.4	1.5	0	0	99	1	N/A	NP	NP	0	-	-	-	-
TP11	0	0.4	0	1	95	4	N/A	NP	NP	0	-	-	-	2.6
TP11	0.6	1.5	0	0	99	1	N/A	NP	NP	0	-	-	-	-
TP12	0.4	1.2	0	0	99	1	N/A	NP	NP	0	-	-	-	-

Notes:

\*¹ all depths measured relative to existing surface level OMC - Optimum Moisture Content MDD - Maximum Dry Density completed using Modified Compactive Effort CBR - California Bearing Ratio, soaked and remoulded to a dry density ratio of 95% MMDD, 4.5kg surcharge OM - Organic Matter % by mass

NP – Non Plastic N/A – Non Applicable

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#### 9 Geotechnical assessments

#### 9.1 Consolidation settlement

Based on the results of the investigation, a firm to stiff clay was encountered underneath part of Zone 2 and near the Public Open Space in Zone 3. Based on the results of the investigation and our experience in the area, and the results of the investigations at the Wellard development to the west of the site, this is possibly diatomaceous materials.

The Public Open Space area within Zone 3 should remain as such with the boundary between the developed areas and the public open space confirmed by the civil designer and with further geotechnical investigations.

Across the remainder of Zone 3 and for Zone 2, where the clayey materials were encountered, it is likely that the placement of 1.5 m of fill would not result in significant primary consolidation of the clayey materials. In addition, should primary consolidation occur, based on the results of the previous development, the settlement should occur within approximately 6 weeks of earthworks being completed.

If more than 1.5 m of fill (thickness) is required across the site, then it is recommended that a review of the settlement be undertaken by GGC to assess the magnitude and timeframe for settlement to occur.

#### 9.2 Site classification

GGC has assessed the site classification in accordance with AS2870 – 2011 and considers that a "Class-P" is appropriate for the site in its current condition, within proposed areas of lots and roads, due to the presence of Uncontrolled Fill and surficial Organic Silt present at the site.

A site classification of "Class-A" may be achieved in the areas proposed for residential development (as shown on the development plan in **Appendix A**) provided that the recommendations of this report are adopted. It should be noted that the Public Open Space in Zone 3 would require a separate remediation strategy if this was to be considered for development.

#### 9.3 Recommended site preparation measures

The following site preparation measures are recommended to achieve a site classification of "Class-A" and to prepare the site for construction of shallow footings and pavements.

- Remove any Uncontrolled Fill including building pads, building foundations, existing shed structures, access tracks and deleterious materials from across the site to expose underlying natural soil subgrade.
  - It is recommended that GGC are on site to assess the removal of fill materials and delineate between the Sand Fill and natural Sand. In addition, shallow test pits may need to be excavated during the removal works to confirm that the Uncontrolled Fill has been removed. It should be noted that there may also be isolated pockets of Uncontrolled Fill associated with localised rubbish disposal across the site.
- Strip all Topsoil/Organic soil material and grub out all vegetation from proposed development areas, including removal of roots and stumps, to expose the underlying natural soils.
- Stockpile excavated materials for possible re-use (subject to approval by a geotechnical engineer) or arrange for disposal of unsuitable/ deleterious materials to a suitably licensed facility.

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- Proof compact the exposed natural surface to a Dry Density Ratio (DDR) of 95% Maximum Modified Dry Density (MMDD) to a depth of at least 1 m. Where proof compaction reveals 'soft spots' or 'loose zones' these must be excavated and backfilled with granular fill and compacted to 95% MMDD.
- Loose sand was encountered at CPT19 and CPT21 to depths of up to 1.8 m. Following proof compaction in these areas, GGC recommend PSP testing to depth of up to 1.8 m. Where PSP testing indicates loose material, it must be delineated and remediated to achieve 95% MMDD.
- Where additional fill is required to achieve development levels (including to underside of footings, ground bearing slabs and top of subgrade) place Approved Structural Fill and compact in layers not exceeding 300 mm loose lift to achieve compaction requirements of **Section 9.6**.
- Where required, import inert granular Sand Fill (Approved Structural Fill) to achieve a minimum thickness of 1.8 m inert soil above any clayey soils.
- A minimum separation of 1 m between the final site development surface and the highest design groundwater level is recommended by GGC.
- It should be noted that compaction within 1 m of the groundwater table is likely to be difficult. We recommend that earthworks be undertaken during summer months to avoid potential problems achieving compaction close to the groundwater table, consideration could also be given to dewatering as required.

#### 9.4 Assessment of excavated site won sand fill for reuse for reuse as structural fill

The naturally occurring in situ Clean Bassendean Sand material is considered suitable for reuse as Approved Structural Fill.

Any site won sand used for Approved Structural Fill should be clean, cohesionless, and free of all silty, organic or any other deleterious inclusions and have a fines content of less than 5%.

#### 9.5 Assessment of excavated topsoil and organic materials for re-use as structural fill

GGC have reviewed the results of the organic content laboratory test results for the organic soil material at the site. The results indicate the organic content ranges between 1.3 % and 10.1 %.

Given the variable nature of the organic matter content and the fact that it is yet to be excavated, stockpiled and blended to a homogenous material, little is known about the end properties of the of the excavated organic material.

GGC recommend an early small-scale trial of the approach detailed below to assess the practicality of blending site won organic soil with clean sand for reuse as Approved Structural Fill.

The organic soil may be suitable for reuse as and Approved Structural Fill at a blending ratio of up to 5:1 (clean sand to organic soil material).

Based on our review and given the variable organic content matter we recommend preliminary blending trial ratios of 5:1, 4:1, 3:1, 2:1 and 1:1 (clean sand to organic soil) subject to the criteria and recommendations outlined below.

For the organic soil to be suitable for re-use as Approved Structural Fill (to subgrade level) beneath lots and roads it must satisfy the following criteria:

- ▶ Be free from all vegetation (roots, sticks, stumps, grass etc).
- Have maximum permissible organic matter content (by mass) of 2%.

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- Free from deleterious materials.
- ▶ Have a soaked CBR of no less the 9% provided it is compacted to a density ratio of not less than 95% of maximum modified density (MMDD).
- Be non-plastic.
- Be blended to a homogenous/uniform material and free of "clumps" of organic or fine-grained material and,
- Be a sand soil with less than 5% fines.

The following recommendations are aimed at achieving an Approved Structural Fill from the organic soil for re-use within areas as structural fill beneath the roads and lots:

- Following excavation, the earthworks contractor should stockpile excavated organic soil materials for possible reuse.
- Once stockpiled, the organic material should then be mixed to from a homogenous/uniform material at a ratio of 1:1, 2:1, 3:1, 4:1 and 5:1 clean sand (site won or import sand) to organic material, stockpiled separately and visually inspected by a geotechnical engineer. Each stockpile should have a volume of at least 50m<sup>3</sup>.
- Each blended stockpile, including the original stockpile of organic soil and clean sand, material should then be sampled and tested by a NATA accredited laboratory. The testing suite should include Particle Size Distribution (PSD), Atterberg Limits, Optimum Moisture Content (OMC), Maximum Modified Dry Density (MMDD), soaked California Bearing Ratio (CBR), organic content tests and laboratory permeability testing at a minimum frequency of two test suites per stockpile (12 suites in total). The results should be provided to a geotechnical engineer for assessment.
- Following assessment of the laboratory test results and provided the criteria outlined above are achieved, a site-specific blend ratio and specifications may be assessed for the project.

The approach should be reviewed by a hydrology consultant as permeability rates should be expected to reduce within areas where material of this type is placed. The reduced permeability may result in the requirement for the addition of subsoil drainage. The approach should also be reviewed by an environmental consultant with regards to Acid Sulphate Soil management.

If assessed as suitable, the site-specific blend ratio should then be sampled and tested by a NATA accredited laboratory at a minimum frequency of one test per 2,500m³ of material generated for reuse and placed and compacted to achieve requirements of **Section 9.6**. The laboratory testing suite should include PSD, Atterberg Limits, OMC, MMDD, soaked CBR and organic content tests and laboratory permeability test. The laboratory results should be provided to a geotechnical engineer for approval.

Consideration should also be given to including field permeability testing of the site-specific blend ratio, if required.

#### 9.6 Placement and compaction of approved structural fill

Inert granular Sand Fill free of organics and with less than 5% fines or Approved Site Won Sand material (Approved Structural Fill) should be used to build up levels across the site if required.

Approved Structural Fill must be compacted using suitable plant and equipment to a dry density ratio of at least 95% MMDD as determined in accordance with AS1289.5.2.1 and must comply with the material requirements of AS3798-2007 "Guidelines on Earthworks for Commercial and Residential Developments".

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Where sand with less than 5% fines is used, and the Perth Sand Penetrometer can be used for compaction control, the following minimum blow counts may be assumed to correlate approximately to a dry density ratio of 95% MMDD:

- Depth Range 0.0-0.15 m: SET.
- Depth Range 0.15-0.45 m: 8 blows.
- Depth Range 0.45 0.75 m: 10 blows; and,
- Depth Range 0.75 1.05 m: 12 blows.

Whilst the above can be used as a general guide for naturally occurring Perth sands with less than 5 % fines, experience indicates that correlation variations do occur. It is therefore recommended that a site-specific PSP/dry density correlation is undertaken for each material source used on this project.

Over excavation and replacement with approved granular fill may be required where the minimum dry density cannot be achieved. If compaction difficulties are noted, the advice of an experienced geotechnical engineer should be sought.

After compaction, verification testing is required to confirm the level of compaction that has been achieved by testing as follows:

- On each lift of fill on a 10 m grid.
- At each spread footing location minimum of two tests per footing location.
- At 5 m centres along gravity retaining wall footings and all strip footings (where present); and,
- At 10 m centres below on-ground slabs and pavements.

Fill must be placed in horizontal layers not exceeding 300 mm loose lift thickness (depending on the compaction plant adopted). Each layer must be compacted by suitable compaction equipment, and carefully controlled to ensure even compaction over the full area and depth of each layer.

### 9.7 Subgrade CBR

Based on the results of the investigation GGC recommend the following subgrade CBR values:

- CBR for value of 9% for sand subgrade material; and,
- CBR of 1% for clayey subgrade material.

The above recommended CBR value assumes that the subgrade will be prepared and compacted in accordance with the recommendations in **Section 9.3** and **Section 9.6**. to a depth of at least 0.5 m below top of subgrade level. Where the recommended CBR for sand soils is adopted a minimum 0.6 m thickness of sand subgrade material is required.

These recommendations assume that following the removal of organic material the exposed natural subgrade material is compacted to a dry density ratio of at least 95% maximum modified dry density (MMDD).

It should be noted that a shallow groundwater level may occur across the site following wet periods and in winter months and subsoil drainage may be required to control water levels beneath pavement areas and to provide drainage required to prevent rutting and deformation of the subgrade soils.

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#### 9.8 Stormwater disposal

Provided the Topsoil/organic material is excavated to expose natural sand subgrade and/or there is a minimum thickness of 1.8 m of inert Sand soil above any clayey soils and any imported Sand Fill used to raise the site has a permeability value (k) of at least 5 m/day, we recommend a design permeability value (k) for the site of 1 m/day to allow for the variability in materials and reduced permeability as a consequence of:

- Densification of sand during site preparation works.
- Natural variability in the Sands; and,
- Clogging of the sand around soak wells over time with fines.

It should be noted, soak wells are traditionally used in suitable free draining sands where the ground surface is at least 1.5 m above groundwater level any clayey soil. Drainage design will therefore need to consider the depth to groundwater across the site, as soak wells typically become less efficient where design groundwater is within 1 m of the base of the soakwell.

Separation between finished design level and groundwater design level should be considered (in consultation with civil designers, hydraulic designers and local council), as should the base of any soak wells be within 1 m of the groundwater, permeability rates should be expected to reduce (possibly significantly) during and following storm events and in winter months.

Soak wells should be positioned a minimum distance of 5 m from footings and ground bearing slabs (subject to council regulations). Discharge from soak wells can cause local densification of loose sandy soils, leading to settlement of footings and slabs overtime.

If soak wells are positioned closer than 5 m to building footings and slabs, consideration can be given to wrapping the soak well with a non-woven separation geotextile, but the specification for the geotextile must be provided by an experienced geotechnical engineer.

We also recommend a minimum separation spacing of at least 10 m between individual soak wells at this site. This minimum distance is intended to reduce the potential for reducing the local permeability and interaction between the soak wells that may reduce the effectiveness of soakage.

Consideration could be given to additional infiltration testing to confirm infiltration rates prior to finalising detailed design.

It must be noted that clayey material was encountered from the surface to depth of up to 3.2 m within GGC completed CPT01 in the proposed area POS and Drain area in Zone 3. We consider that the POS and Drain area is currently unsuitable for on-site disposal of stormwater by infiltration using soak wells, due to the presence of shallow groundwater and shallow clayey soils within this location.

## 10 Important information about your GGC geotechnical report

The reader's attention is drawn to the important information about this report which follows the main text.

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## 11 References

The following published information sources have been reviewed by GGC in compiling this report:

- Standards Australia (2017) "Geotechnical Site Investigations" Australian Standard AS1726- 2017; and
- Standards Australia (2011) "Residential Slabs and Footings" Australian Standard AS2870 2011.
- Standards Australia (2007) "Guidelines on Earthworks for Commercial and Residential Developments" Australian Standard AS3798 2007.
- Perth Metropolitan Region 1:50 00 Environmental Geology Series Rockingham, Sheet 2033 II and part of 2033 III (1985), Geological Survey of Western Australia.
- Cocks, G (2007), Journal and News of Australian Geomechanics Society, Volume 42 No. 3 pp 101-114 "Disposal of Stormwater Runoff by Soakage in Perth Western Australia".
- Department of Water, online Perth Groundwater Maps, (<u>https://maps.water.wa.gov.au/Groundwater/</u>)

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# **IMPORTANT INFORMATION SHEETS**

Your Geotechnical Report

Geotechnical and Geological Consultants



#### 1 Introduction

The information contained in this document is to inform GGC's clients of the reasonable expectations of a geotechnical report and options to mitigate geotechnical risks and consequences. This information is provided to help clients understand where GGC's responsibility as a geotechnical engineer, acting reasonably, begin and end. In doing so, it also highlights the responsibility of our client and third parties.

Please contact the GGC Project Director should you not understand the report and the limitations of the information provided.

## 2 Collection and Interpretation of Data

Geotechnical investigations identify subsurface conditions only at the point of investigation. The material encountered during the investigation is recorded on logs and based on a visual assessment and (if undertaken) supported by laboratory test results. In the case of an Electric Friction Cone Penetrometer Test (CPT), the data recorded is a tip pressure and sleeve friction on a rod; from which ground conditions are inferred.

Actual conditions may differ from those encountered during the investigations and / or inferred a distance from the investigation stations. In addition, the actual interface between materials or units may be gradual or more abrupt than inferred from the results of the investigation.

A Chartered Geotechnical Engineer and / or Engineering Geologist should be retained through the various stages of the project to identify variances, conduct additional tests if required, and provide recommendations to address geotechnical / geological issues identified on site. The Chartered Geotechnical Engineer / Engineering Geologist should also review the actual conditions encountered to confirm that they are consistent with those inferred in this report.

## 3 Change in Subsurface Conditions

The geotechnical recommendations and parameters provided in this report are based on the ground conditions encountered at the time of the geotechnical investigation. Changes in the ground conditions can occur over time and include, but are not limited to, the following:

- Filling or excavation works (or other anthropologic events);
- Flooding;
- Groundwater fluctuations;
- Earthquakes or other such events;
- Works on neighbouring sites impacting on the subject site; and,
- Migration of pollutants from neighbouring properties.

GGC should be consulted if there is any protracted delay in the issue of this report and the use of the recommendations provided.

It is important to note that where ground conditions have changed, additional geotechnical investigations and testing may be required to assess the impacts of the changed ground conditions.

Page 1 of 3

Your Geotechnical Report

Geotechnical and Geological Consultants



## 4 Specificity of Report

This geotechnical report has been prepared for a specific project and design; therefore, it has been written to address specific geotechnical issues. In doing so, the following has been taken into account:

- The project objectives as described in the report;
- The client's budget and programme constraints;
- The specific site mentioned in the report; and,
- The nature and extent of the development at the site.

This report should not be used for any other purpose other than what has been specifically described and should not be relied upon if:

- The report was not written for you;
- The report was not written for your specific site;
- The report does not address your specific development;
- ▶ There is a significant delay between undertaking the report and developing the site; or,
- Significant changes to the site have occurred.

Where the information and recommendations contained within this report are being used by others, GGC should be engaged during the design process to engage with the other members of the design team and review works being produced by the other design team members to confirm that it is consistent with the geotechnical report.

### 5 Environmental Issues

Unless specifically addressed in this report, environmental and contamination considerations are not included. The investigation methods required for environmental investigation often differ to those used for geotechnical investigations and the information contained within this report may not be appropriate for use by environmental engineering consultants and scientists.

This report was not prepared to address environmental issues and the client is responsible to ensure environmental considerations have been taken into account for the project. GGC can provide information on environmental engineering consultants, should this be required.

#### 6 Construction

The method of ground investigation used for geotechnical investigations limits GGC's ability to know every detail about the ground conditions on site. GGC use reasonable engineering judgement to form an assessment of the subsurface conditions at the site based on information obtained at specific locations.

Ground conditions may be encountered during construction that were not anticipated during the geotechnical investigation. Should this be the case, GGC should be engaged to provide construction support as a means of mitigating the consequence of encountering unexpected ground conditions.

Page 2 of 3

Your Geotechnical Report

Geotechnical and Geological Consultants



## 7 Responsibility of Others

GGC has prepared this report for the use by our client. GGC does not accept any responsibility from any third party, other than our client, who uses the information contained in this report. GGC takes no responsibility for any damages suffered by any third party as a consequence of any decisions or action that have been made based on this report.

Further information regarding the responsibility of clients and other third parties should also be obtained from the following:

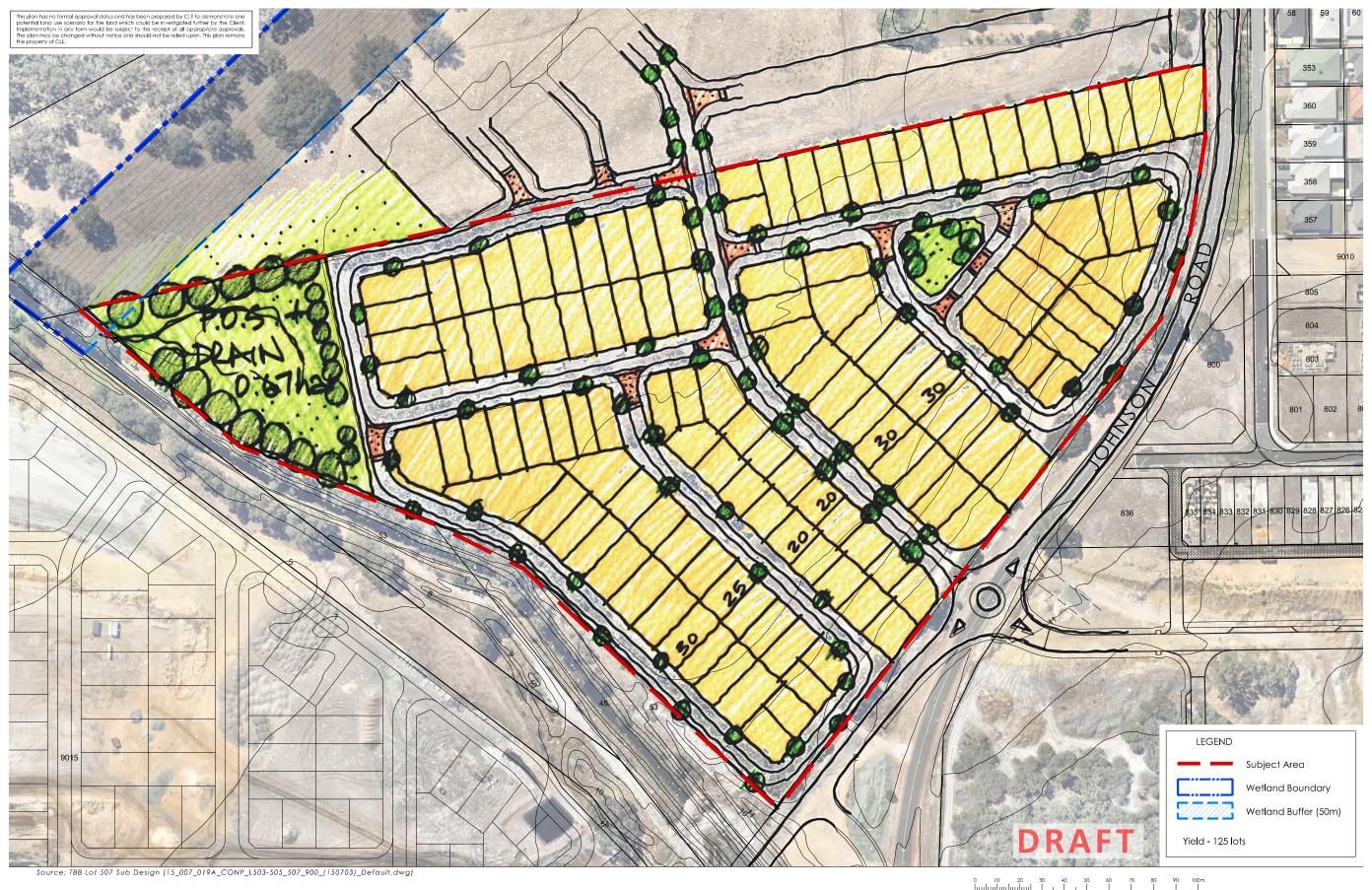
- "Guidelines for the Provision of Geotechnical Information in Construction", published by the Institution of Engineers Australia;
- Australian Standard AS 2870 2011, Residential Slabs and Footings;
- ▶ Australian Standard, AS 5100 2004, Bridge Design Set; and,
- Any other Standard or Code of Practice applicable to the development.

Page 3 of 3

## **FIGURES**



**APPENDIX A:** Client Supplied Information



**CONCEPT PLAN** 

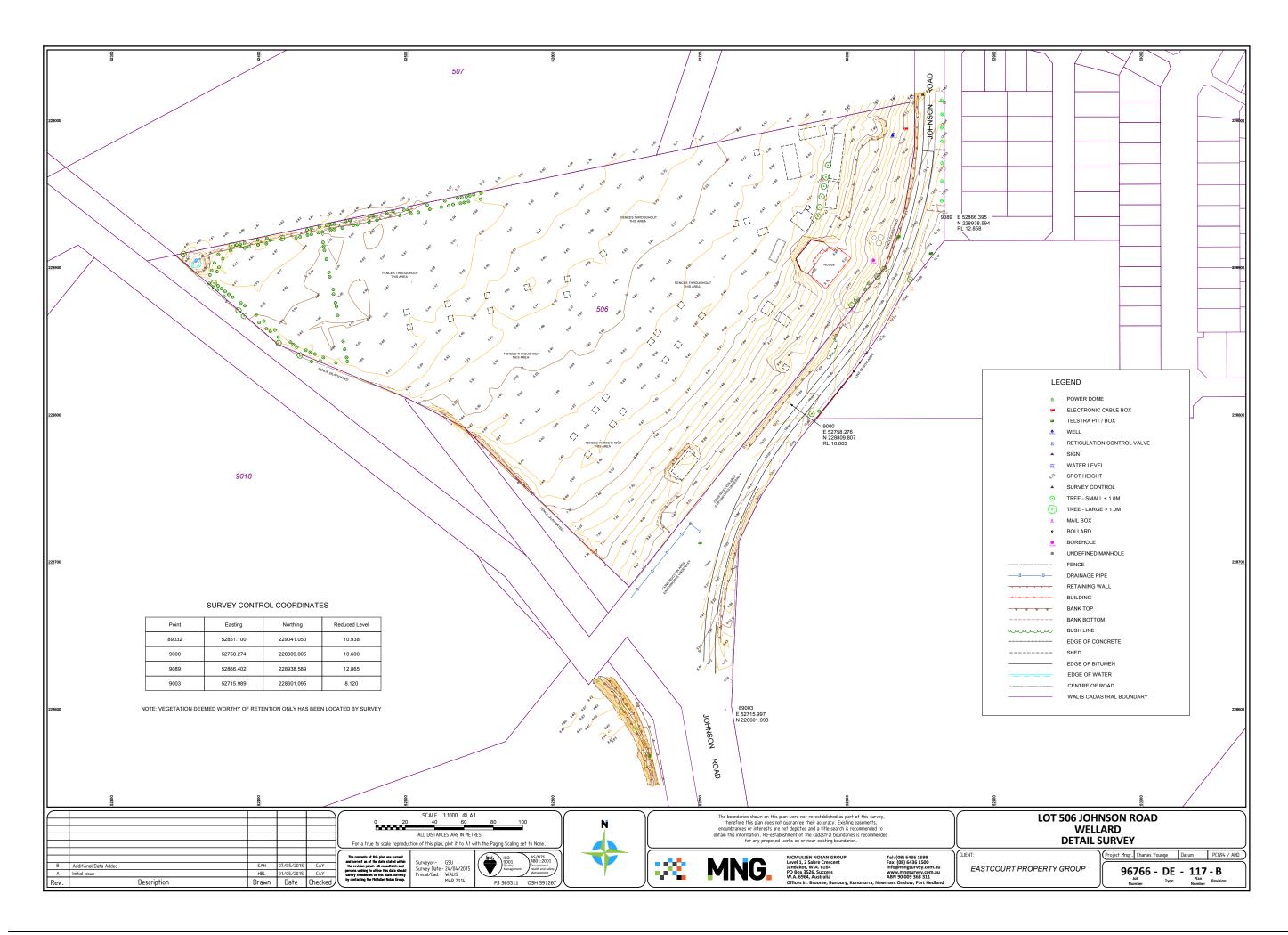
Lots 1, 504-506 & 1336 Wellard East City of Kwinana

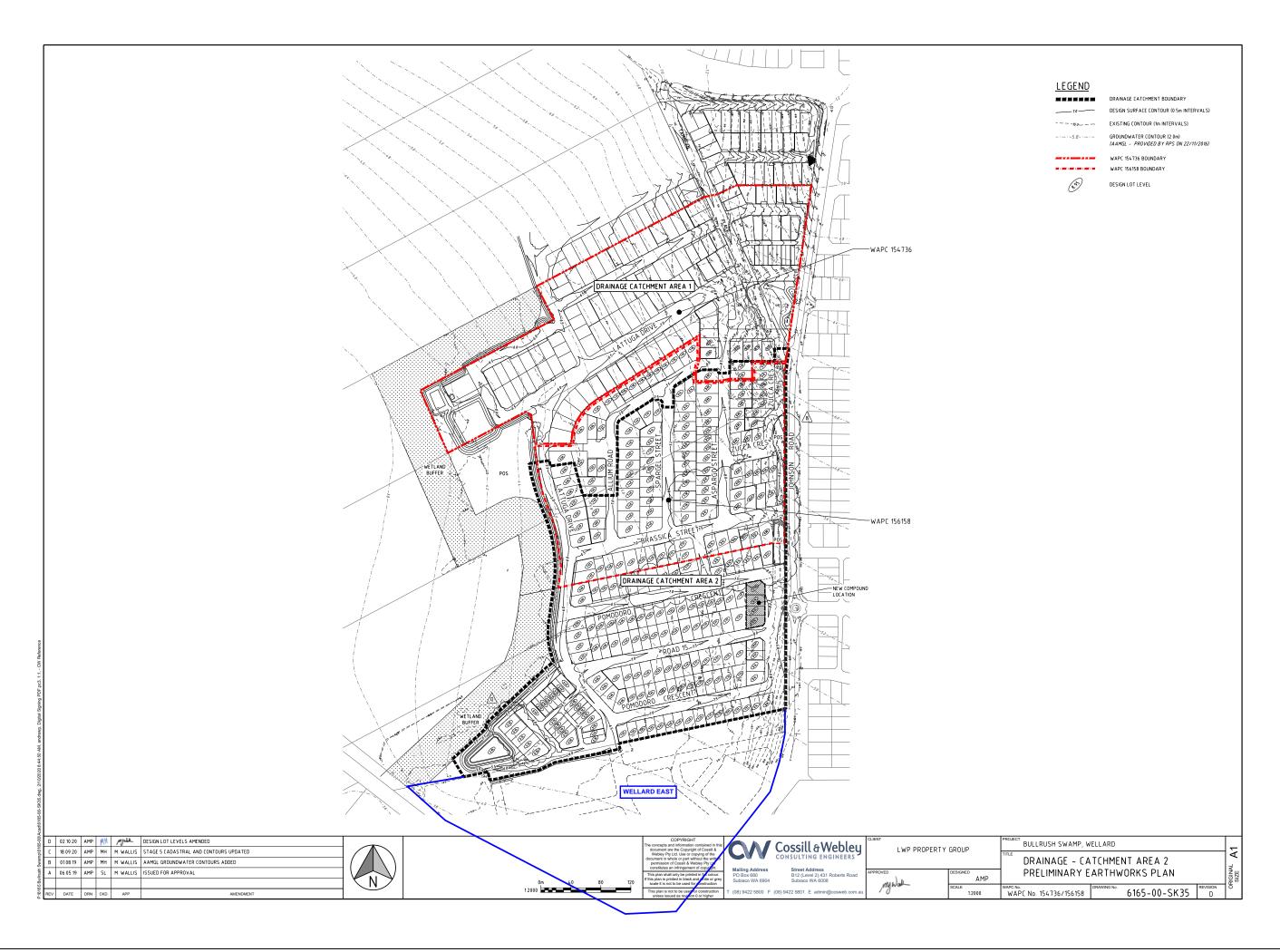




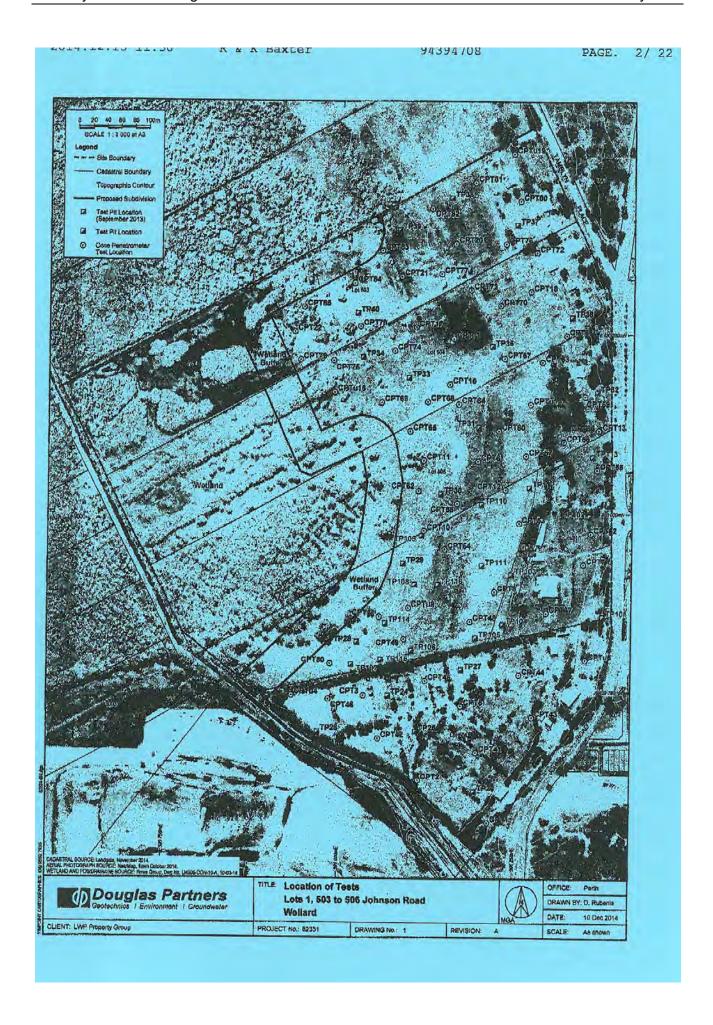
**plan no: 2263-167-01** scale: 1:1500 @ A3 date: 16.07.2015 CLE TOWN PLANNING - DESIGN

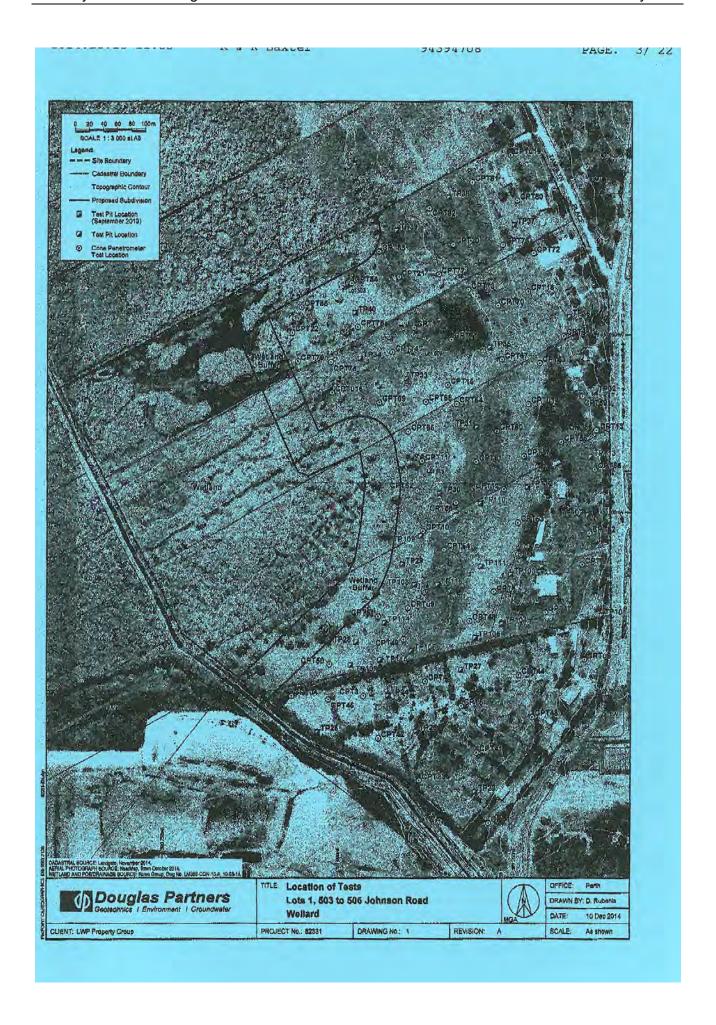
This plan is current at the revised date 2 subject to approved survey 2 engineering detail. This plan remains the property of CLE® yours clanter come

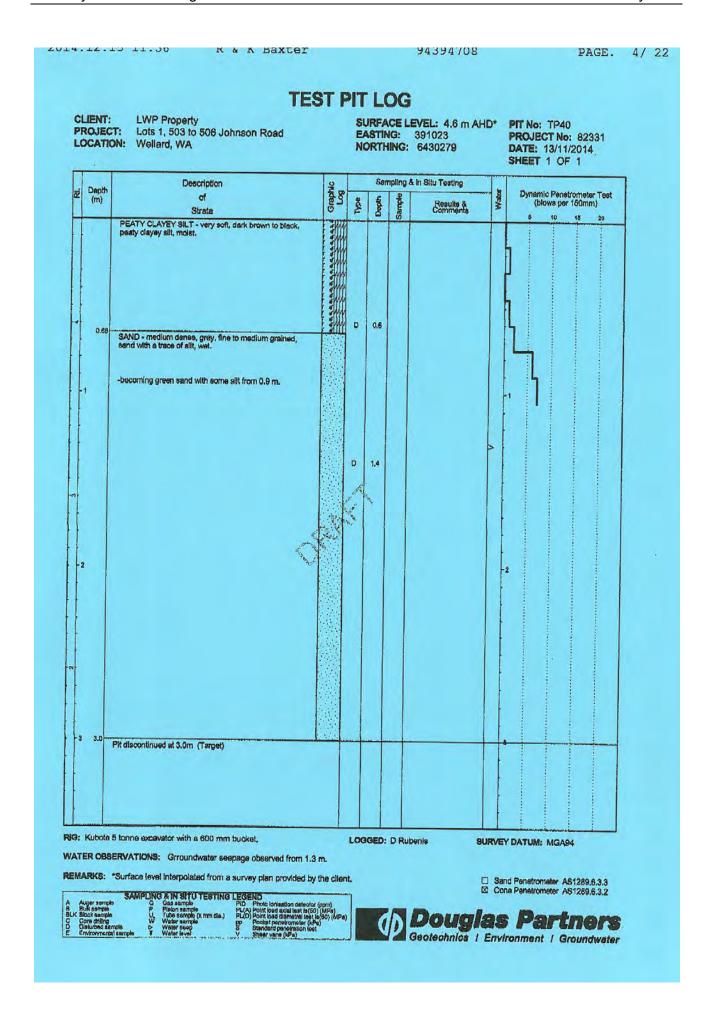


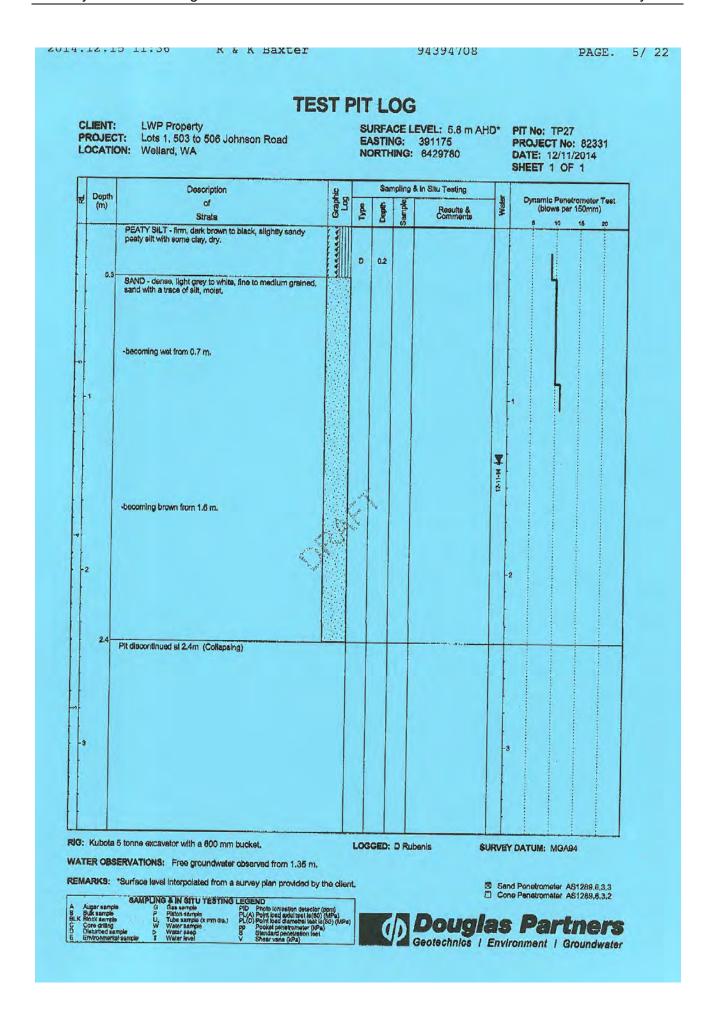


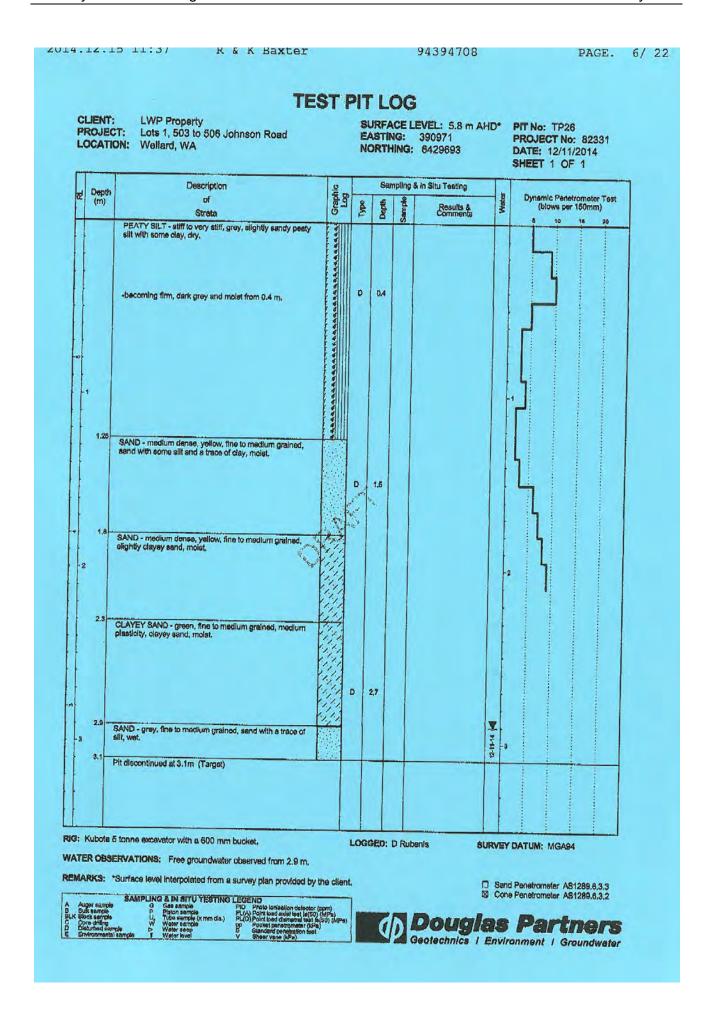
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To:	Sam Gill	From: Bob Baxter	
Fax:	9316 0999	Pages: 22	_
	Very Very	x ages. o.g.	<del></del>
Phone:	0417988167	Date 15 D ec 2015	
Re:	Ground test results Lot 506 John Road	son	
		CC: [Type text]	
x Urgent	For Review Please	Comment Please Reply Please Recycle	4
Comments:			
	the results, as requested.		
D Danton			
R Baxter			

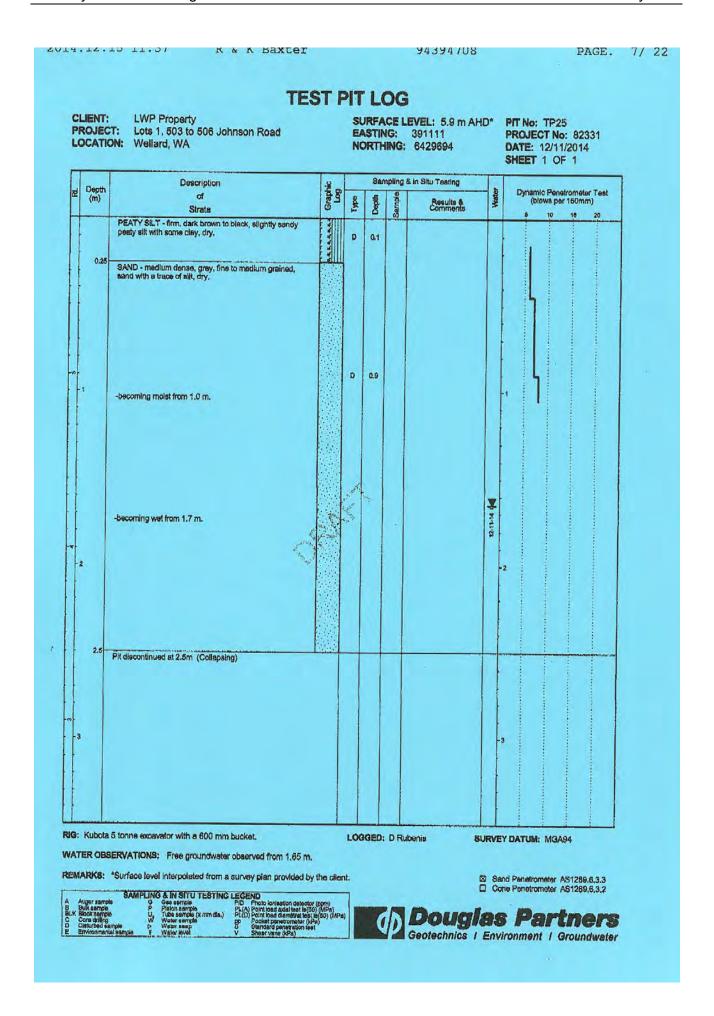


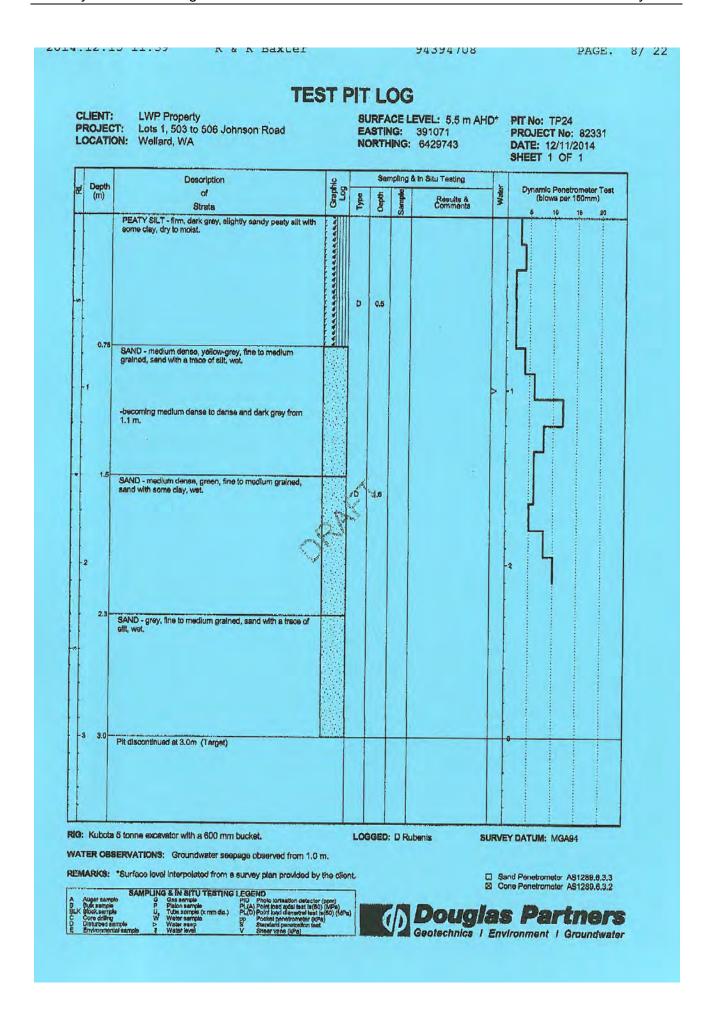


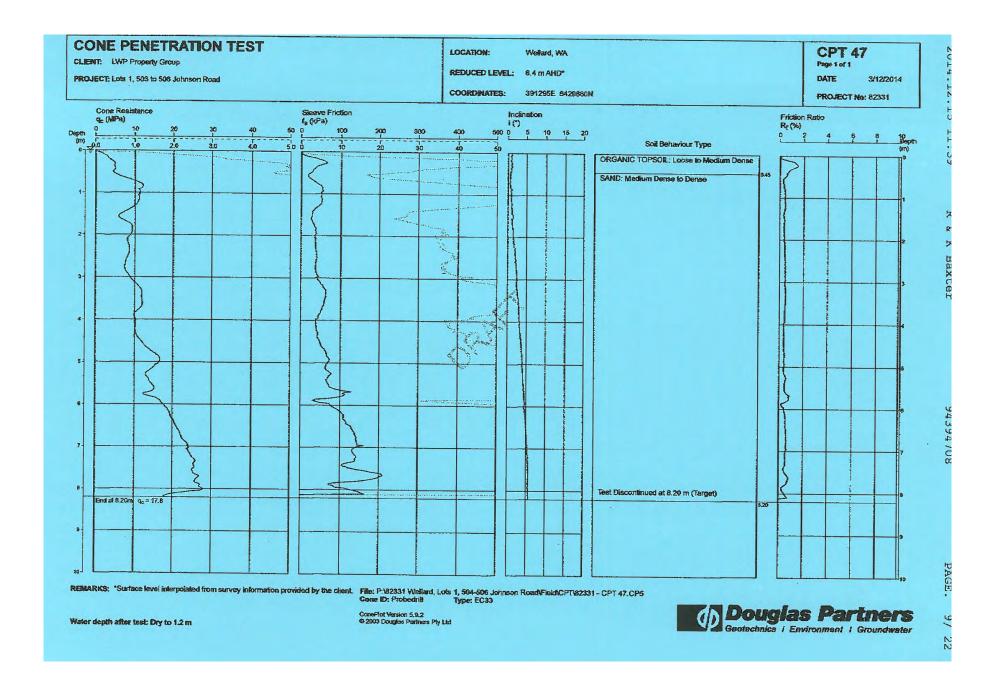


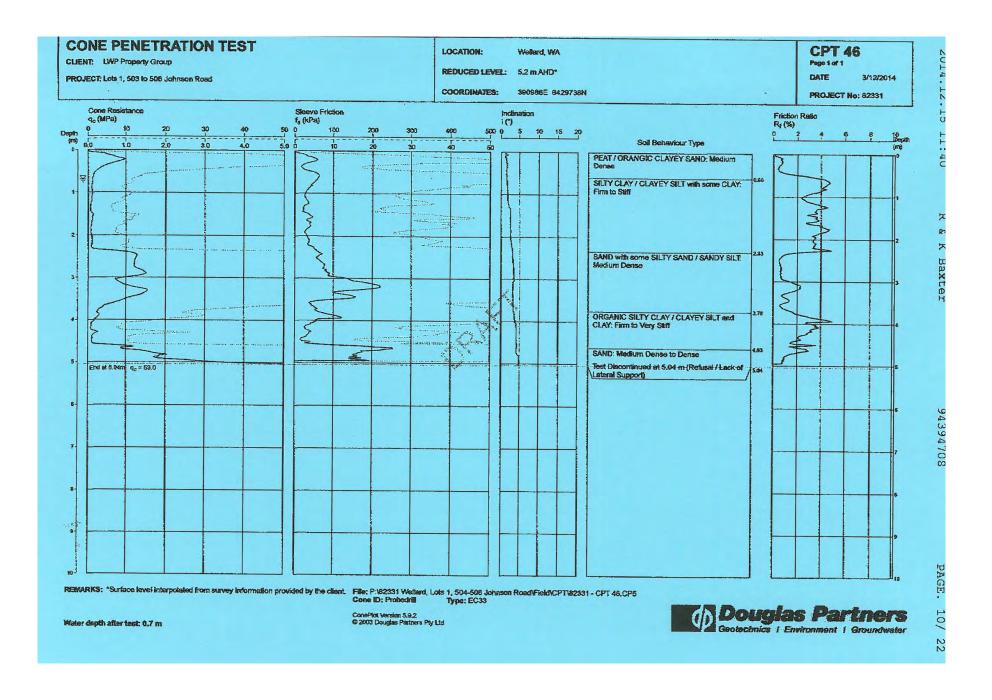


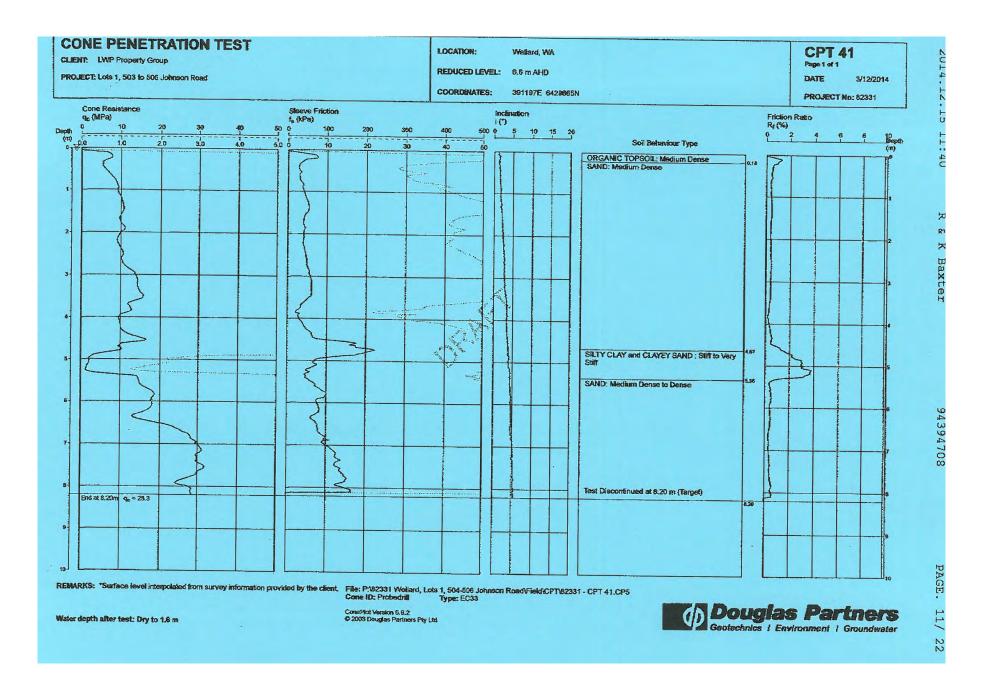


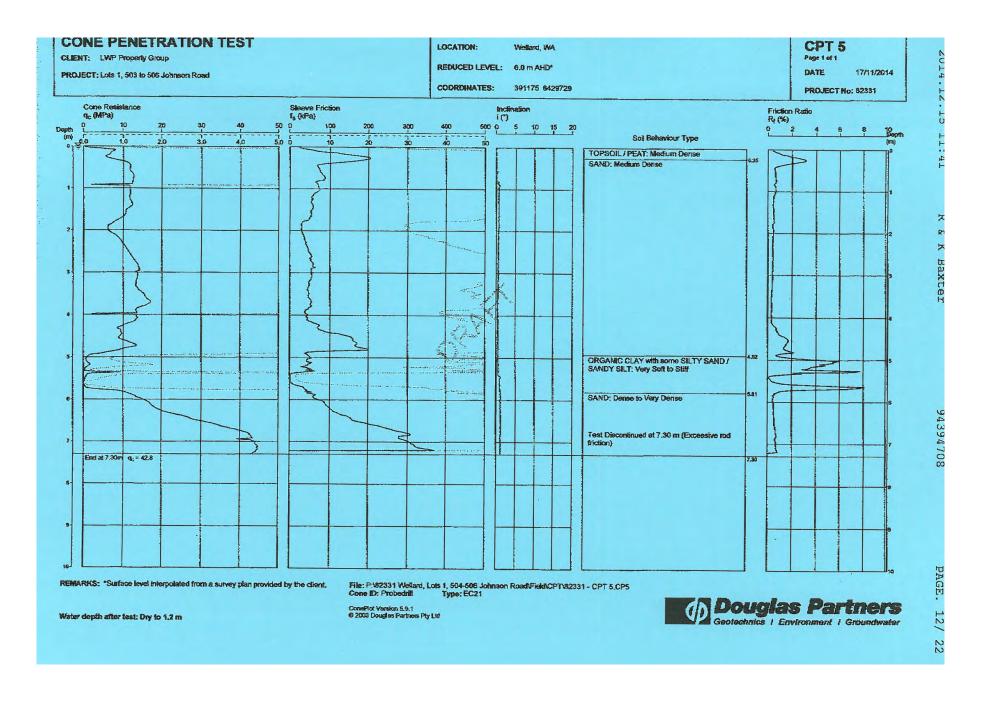


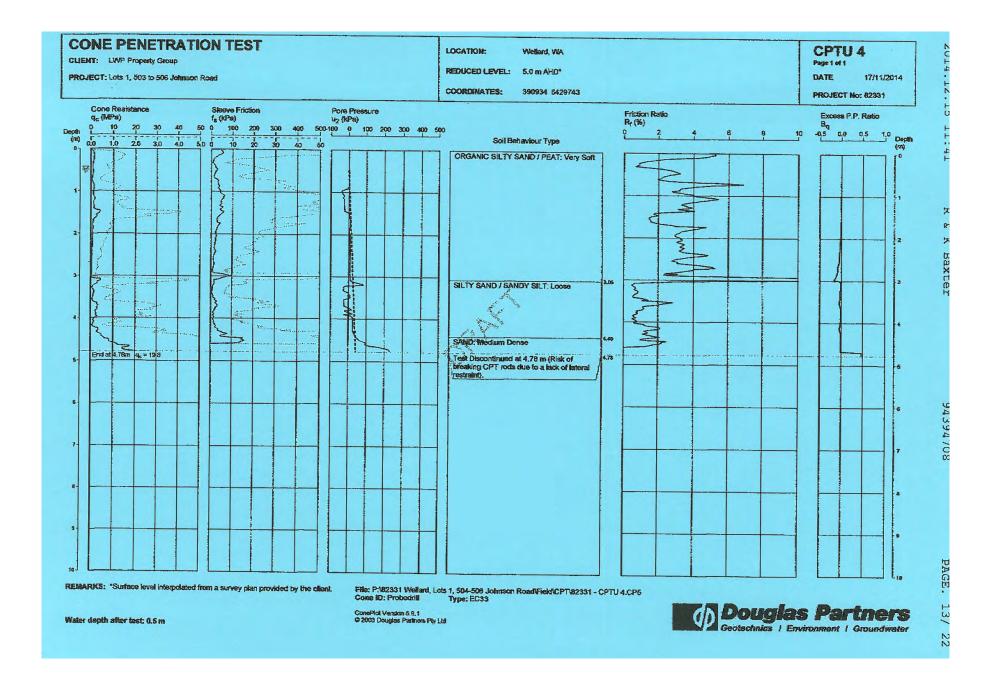


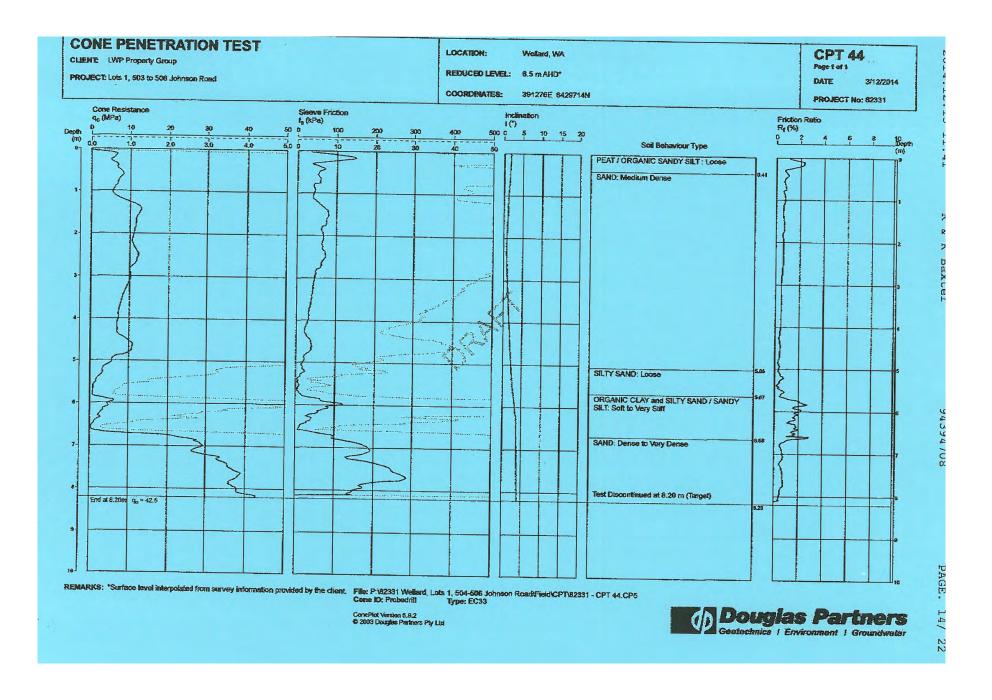


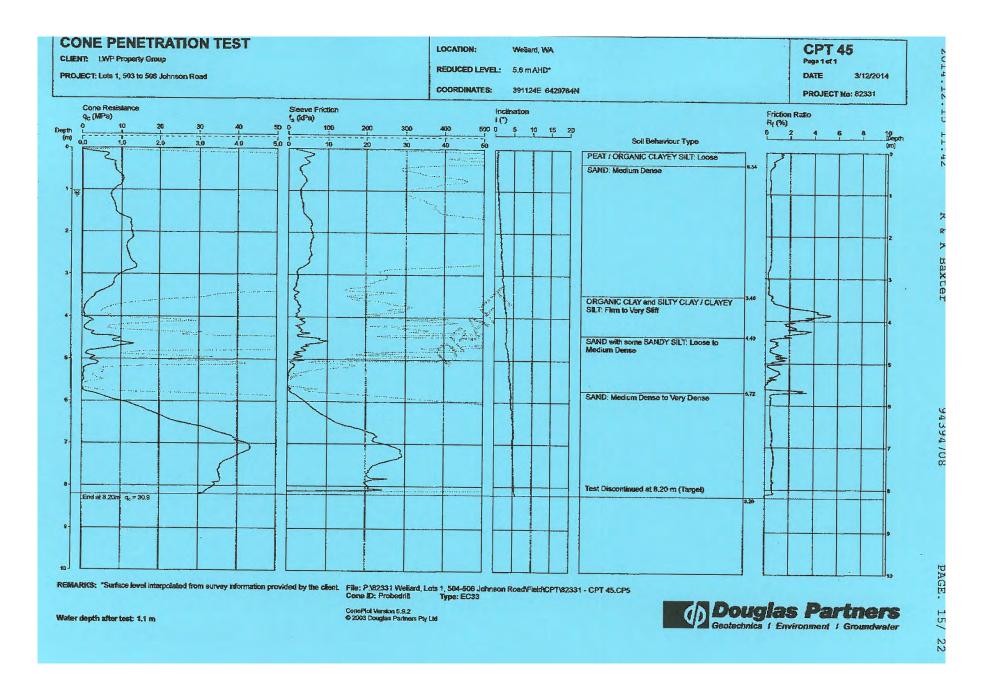


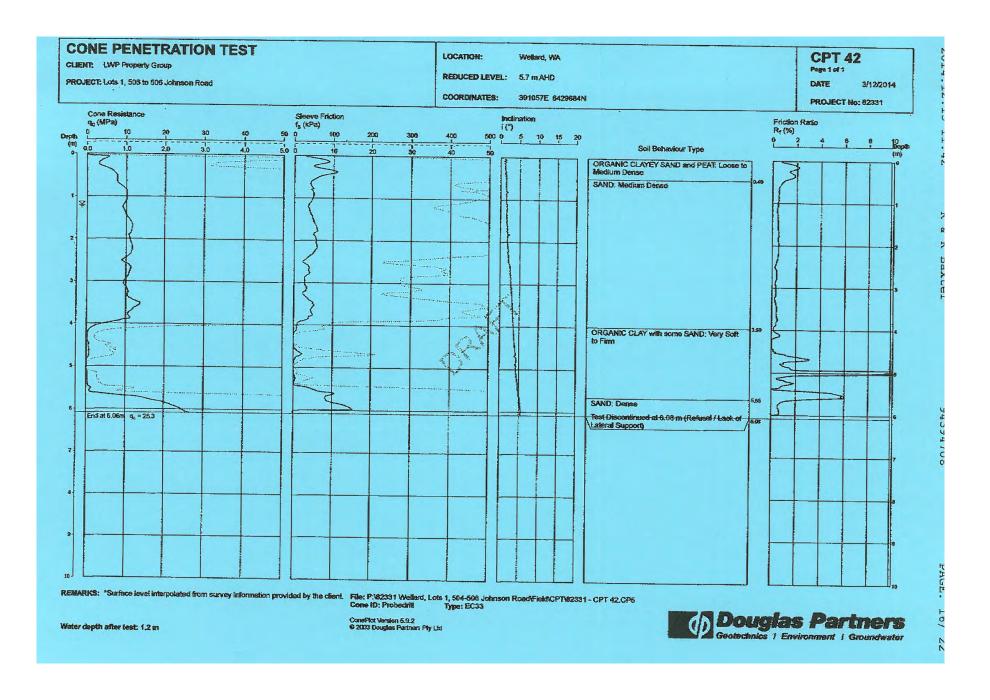


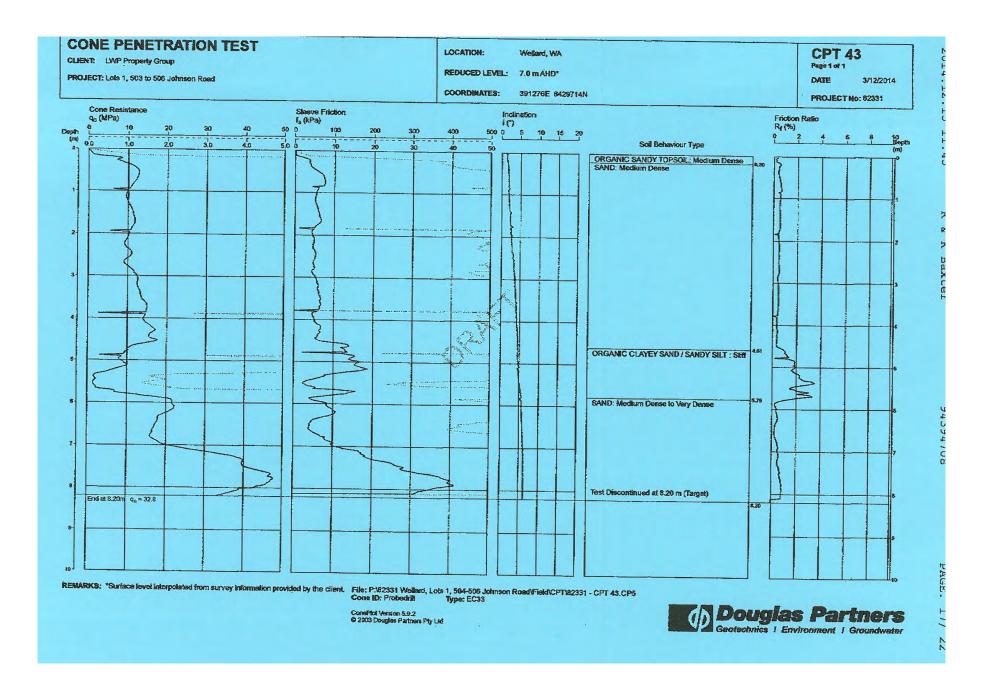


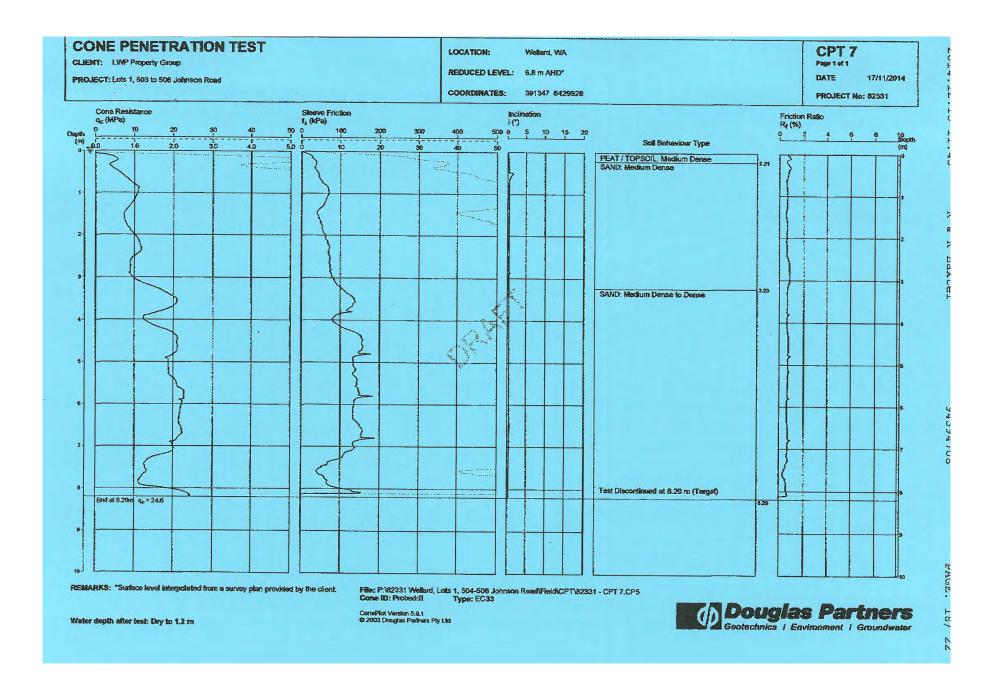


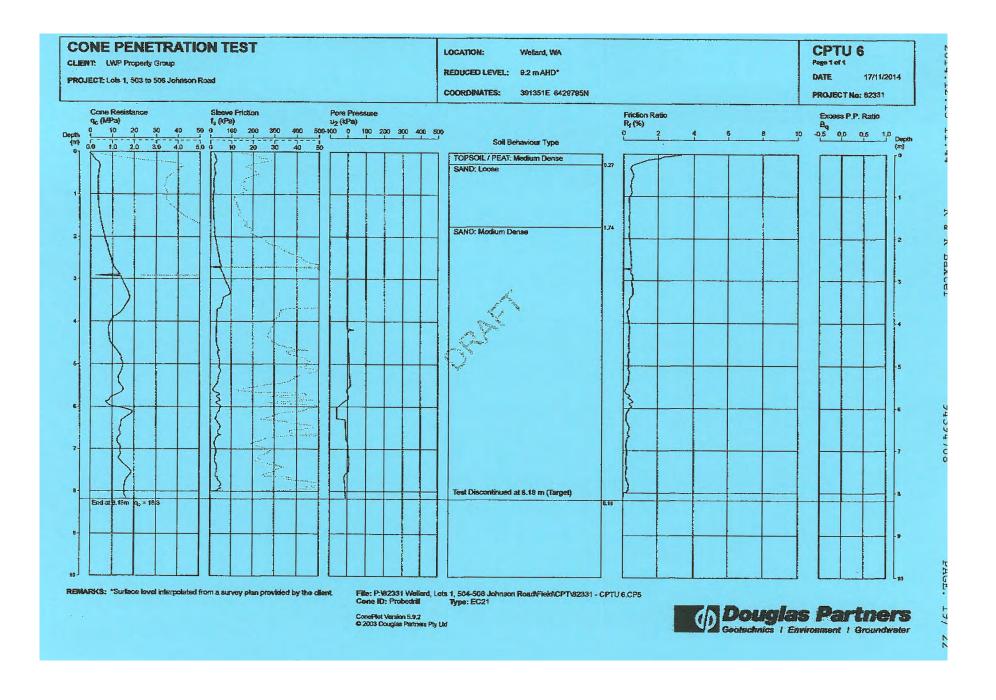


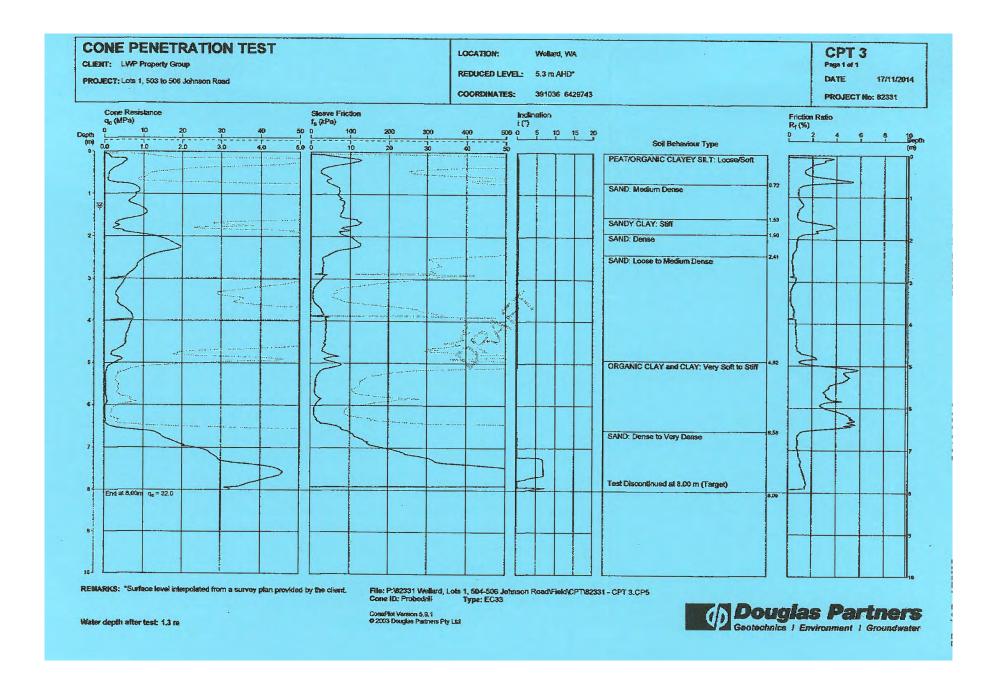


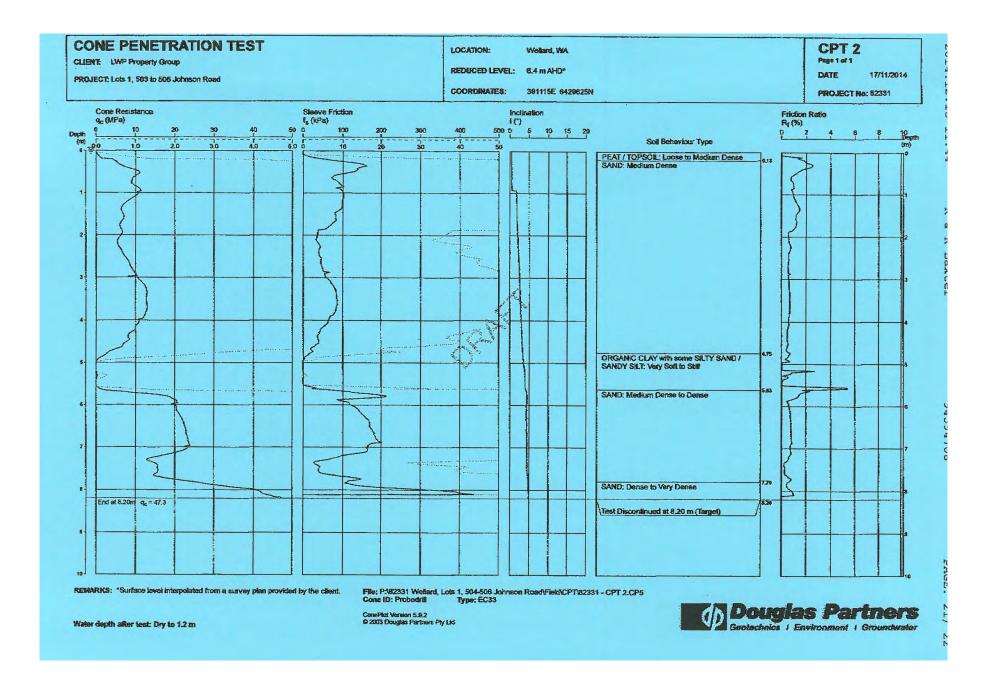


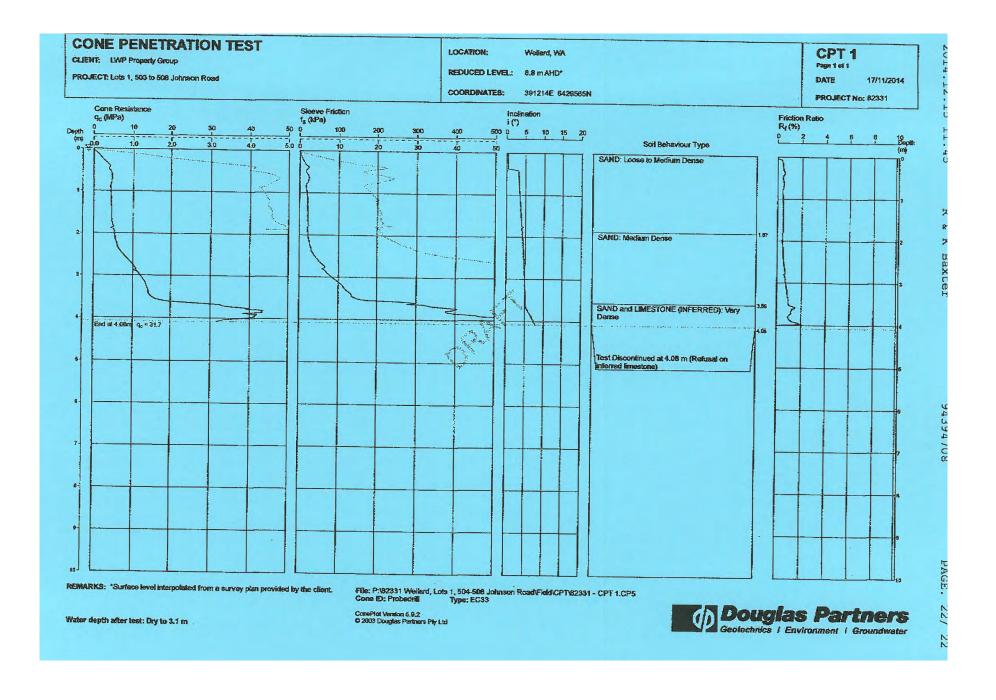












# APPENDIX B: Test pits logs and penetrometer results

## **EXPLANATORY NOTES - SOIL DESCRIPTION**





SAND (SP OR SW)



CLAY (CL, CI OR CH)

ORGANIC SOILS (OL, OH OR Pt)



GRAVEL (GP OR GW)

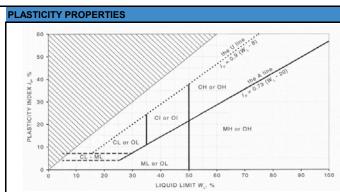
Combinations of these basic symboles can be used to indicate mixed materials (eg. Clayey Gravel)

GP	Poorly Graded Gravel	SM	Silty Sand	CH	High Plasticity Clay
GW	Well Graded Gravel	SC	Clayey Sand	OL	Organic Soils (LP)
GM	Silty Gravel	ML	Low Plasticity Silt	ОН	Organic Soils (HP)
GC	Clayey Gravel	MH	High Plasticity Silt	PT	Peat
SP	Poorly Graded Sand	CL	Low Plasticity Clay	-	Cobbles and Boulders
SW	Well Graded Sand	CI	Medium Plasticity Clay	Fill	Fill / Made Ground

## SOIL CLASSIFICATION AND INFERRED STRATIGRAPHY

Soil descriptions are based on AS1726:2017, Section 6.2. Material properties are assessed in the filed by visual/tactile methods in combination with field testing techniques (where used).

PARTICLE	SIZE	
Soil	Name	Particle Size (mm)
BOUL	DERS	>200
COB	BLES	63 to 200
	Coarse	20 to 63
GRAVEL	Medium	6 to 20
	Fine	2 to 6
	Coarse	0.6 to 2.0
SAND	Medium	0.2 to 0.6
	Fine	0.075 to 0.2
FINES	SILT	0.002 to 0.075
TINES	CLAY	<0.002



MINOR COMPONEN	IS	
TERM	ASSESSMENT GUIDE	PROPORTION OF MINOR COMPONENT IN:
Trace of	Presence just detectable by feel or eye, but soil properties little or no different to general properties of primary component.	Coarse grained soils: <5% Fine grained soils: <15%
With some	Presence easily detected by feel or eye, soil properties little different to general properties if primary component.	Coarse grained soils: 5 - 12% Fine grained soils: 15 - 30%

RESISTENCE TO EXCAVATION								
Symbol	Term	Description						
VE	Very easy	All:-4						
E	Easy	All resistences are relative to the						
F	Firm	selected method of						
Н	Hard	excavation.						
VH	Very hard							

## MOISTURE CONDITION

Symb	ool 1	Term	Description						
D	)	Dry	Sands and gravels are free flowing. Clays and silts may be brittle or friable and powdery						
M	1	Moist	Soils are darker than in the dry condition and may feel cool. Sands and gravels tend to cohere.						
W	1	Wet	Soils exude free water. Sands and gravels tend to cohere.						

റവ	NSIS	STEN	ICA.	ΔΝΓ	DEN	JSITY

Jndrained Shear Strength (kPa)		DCP blows per 100mm		Symbol	Term	Density Index (%)	SPT "N"	DCP blows per 100mm	PSP blows		
0 to 12						(,,,		per roomin	per 300mm		
0.0 12	0 to 2	<1		VL	Very Loose	<15	0 to 4	<1	0 to 2		
12 ti 25	2 to 4	<1		L	Loose	15 to 35	4 to 10	1 to 2	2 to 6		
25 to 50	4 to 8	1 to 2		MD	Medium Dense	35 to 65	10 to 30	2 to 3	6 to 8		
50 to 100	8 to 15	3 to 4		D	Dense	65 to 85	30 to 50	4 to 8	8 to 15		
100 to 200	15 to 30	5 to 10		VD	Very Dense	>85	>50	>8	>15		
>200	>30	>10		Note: PS	Note: PSP correlations only valid 450mm depth						
	12 ti 25 25 to 50 50 to 100 100 to 200	12 ti 25	12 ti 25	12 ti 25	12 ti 25	12 ti 25	12 ti 25	12 ti 25	12 ti 25     2 to 4     <1		

Consistency and density may also be inferred from excavation performance and material behaviour.



Penetrometer Test Results AS1289.6.3.2

Project ID: GGC221986

CLIENT: Eastcourt Property Group
PROJECT: Providence East Estate
LOCATION: Wellard

DATE: 08/07/2022
TESTED BY: LC
HAMMER MASS: 9 kg

**SOIL TYPE:** Topsoil/Sandy Clay **HAMMER DROP HEIGHT:** 510 mm

Test Location	TP01									
Test Depth mm		Blows/100mm								
0-100	SET	SET	SET	SET	SET	SET				
100-200	1									
200-300	2									
300-400	2									
400-500	1									
500-600	2									
600-700	2									
700-800	2									
800-900	3									
900-1000	5									
				•	•	•				

Test Location									
Test Depth mm	Blows/100mm								
0-100	SET	SET	SET	SET	SET	SET			
100-200									
200-300									
300-400									
400-500									
500-600									
600-700									
700-800									
800-900									
900-1000									

Test Location										
Test Depth mm		Blows/100mm								
0-100	SET	SET	SET	SET	SET	SET				
100-200										
200-300										
300-400										
400-500										
500-600										
600-700										
700-800										
800-900										
900-1000										



Penetrometer Test Results AS1289.6.3.3

Project ID: GGC221986

CLIENT: Eastcourt Property Group
PROJECT: Providence East Estate
LOCATION: Wellard

DATE: 08/07/2022
TESTED BY: LC
HAMMER MASS: 9 kg

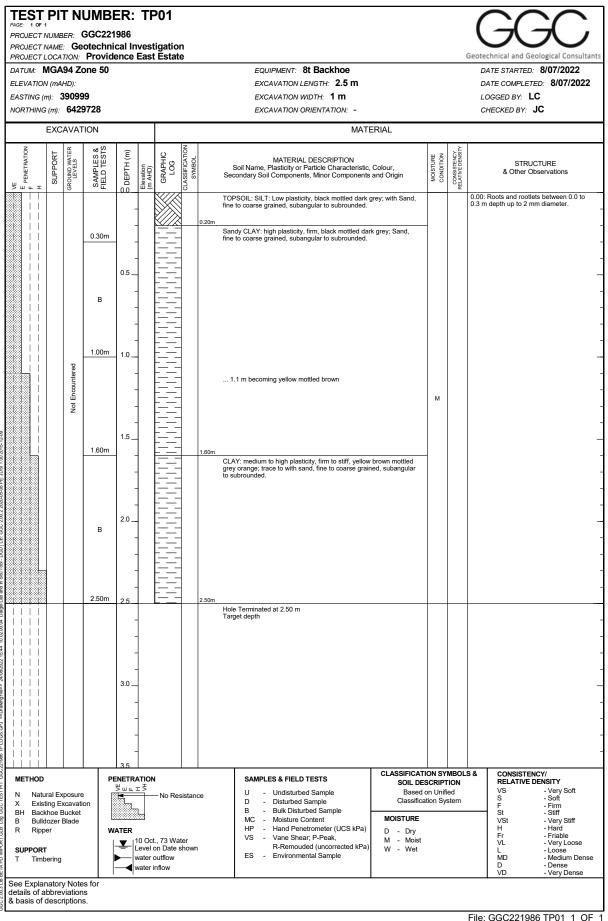
**SOIL TYPE:** Organic SILT/Sand/Topsoil/Fill **HAMMER DROP HEIGHT:** 600 mm

Test Location	TP02	TP03	TP04	TP05	TP06	TP07				
Test Depth mm		Blows/150mm								
0-150	SET	SET	SET	SET	SET	SET				
150-300	4	5	1	1	2	3				
300-450	6	8	3	2	3	6				
450-600	8	8	4	2	5	7				
600-750	8	10	6	3	8	9				
750-900	10	10	8	3	9	8				
900-1050	10	11	8	3	9	8				

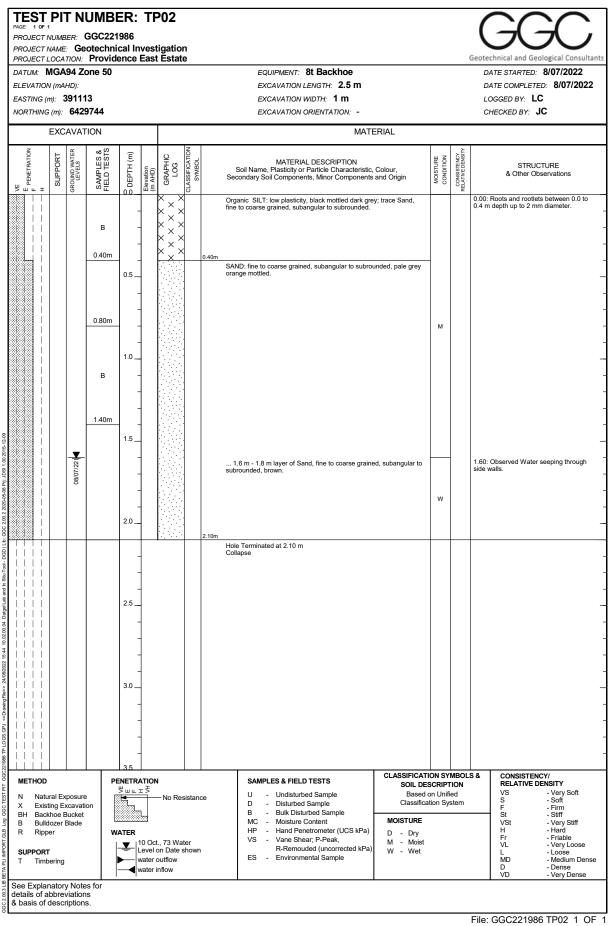
Test Location	TP08	TP09	TP10	TP11	TP12					
Test Depth mm		Blows/150mm								
0-150	SET	SET	SET	SET	SET	SET				
150-300	4	3	1	1	3					
300-450	8	6	3	3	4					
450-600	10	7	4	5	4					
600-750	9	6	4	5	4					
750-900	6	5	3	6	3					
900-1050	7	5	4	8	4					

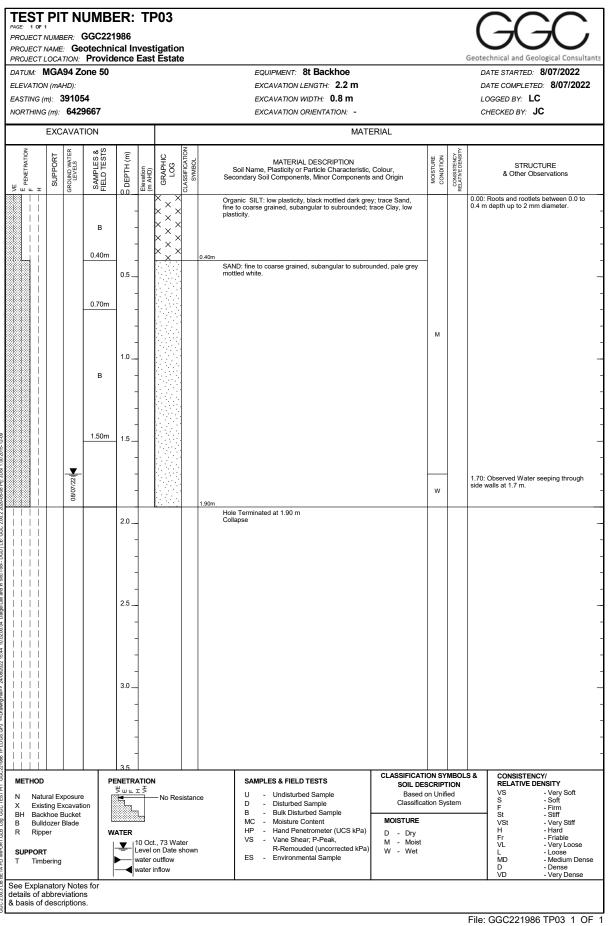
Test Location									
Test Depth mm	Blows/150mm								
0-150	SET	SET	SET	SET	SET	SET			
150-300									
300-450									
450-600									
600-750									
750-900									
900-1050									

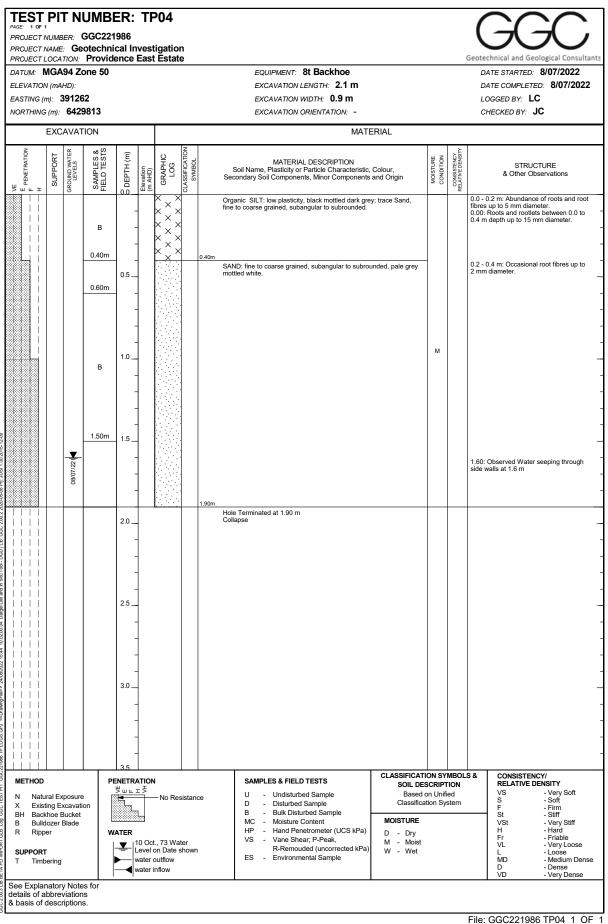
Test Location									
Test Depth mm	Blows/150mm								
0-150	SET	SET	SET	SET	SET	SET			
150-300									
300-450									
450-600									
600-750									
750-900									
900-1050									

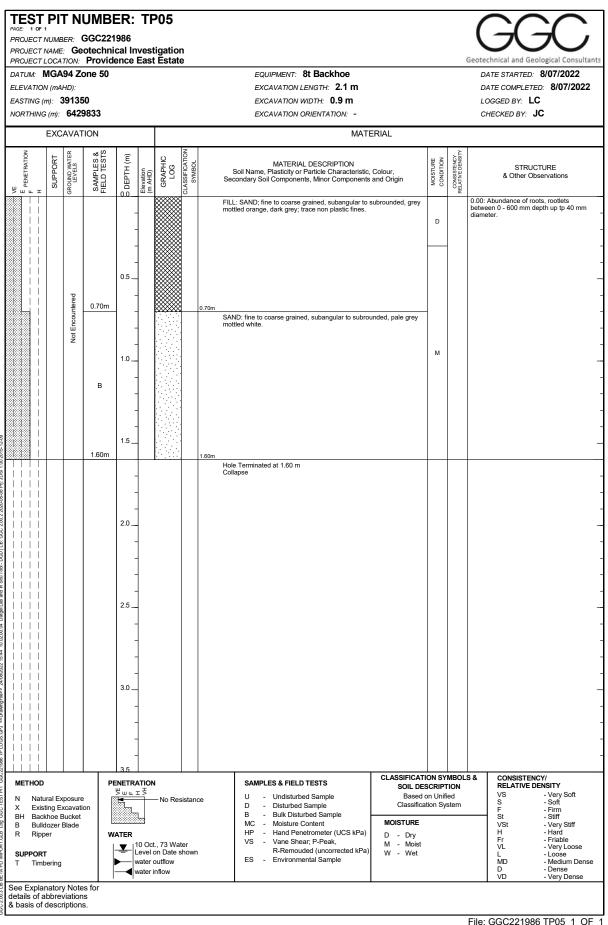


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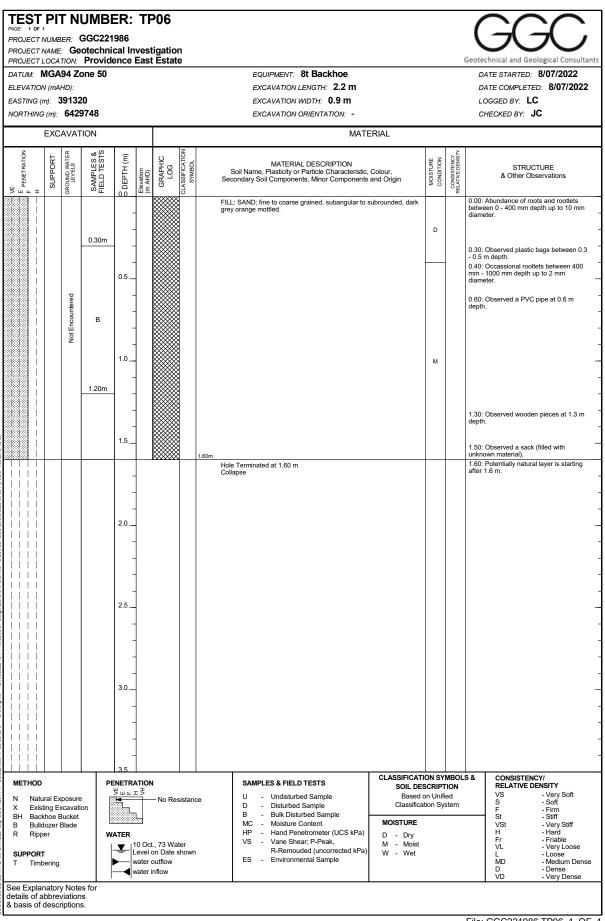




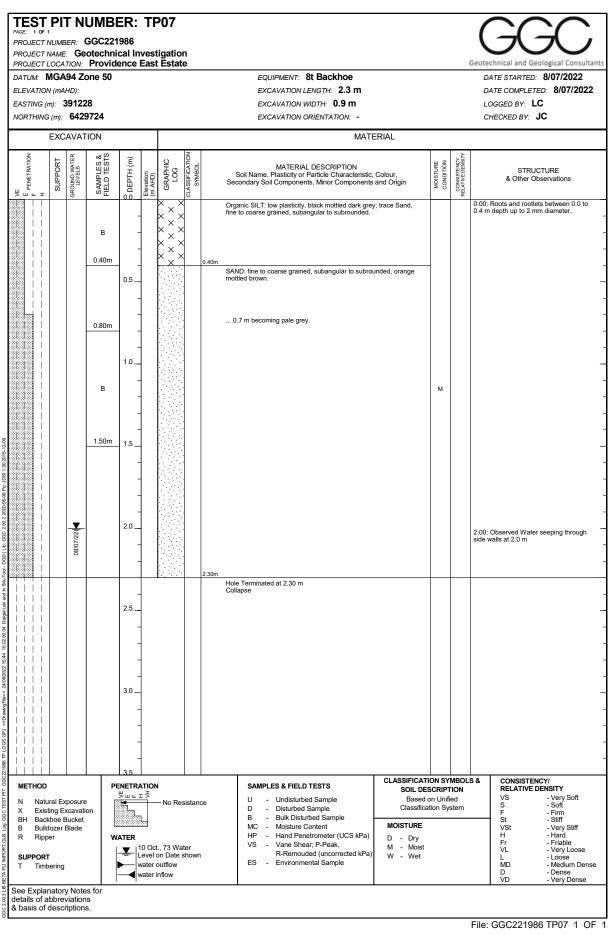


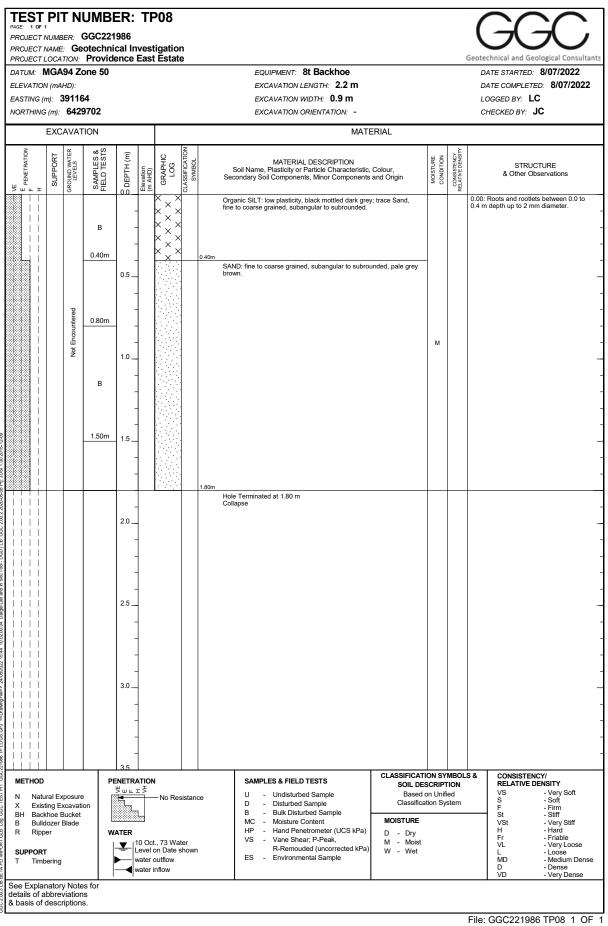


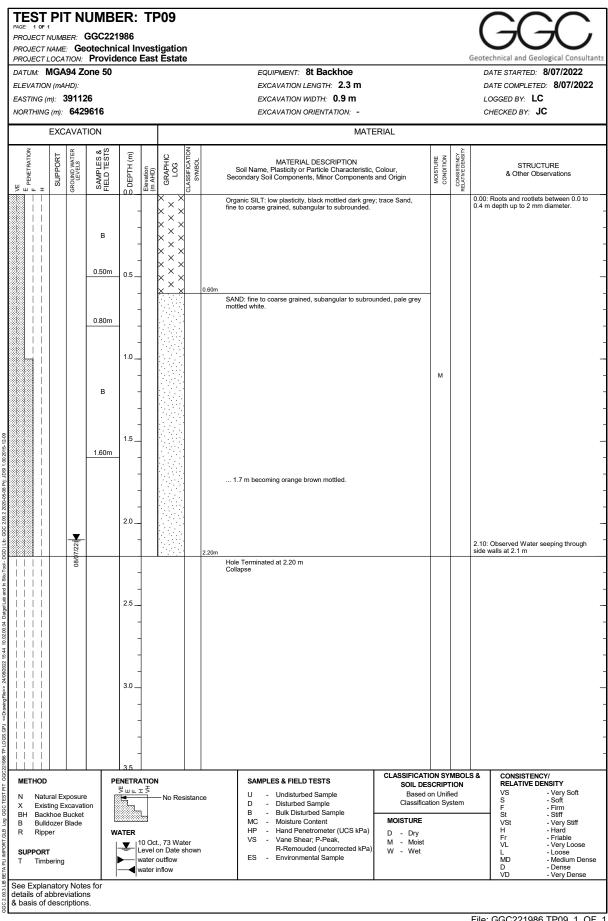
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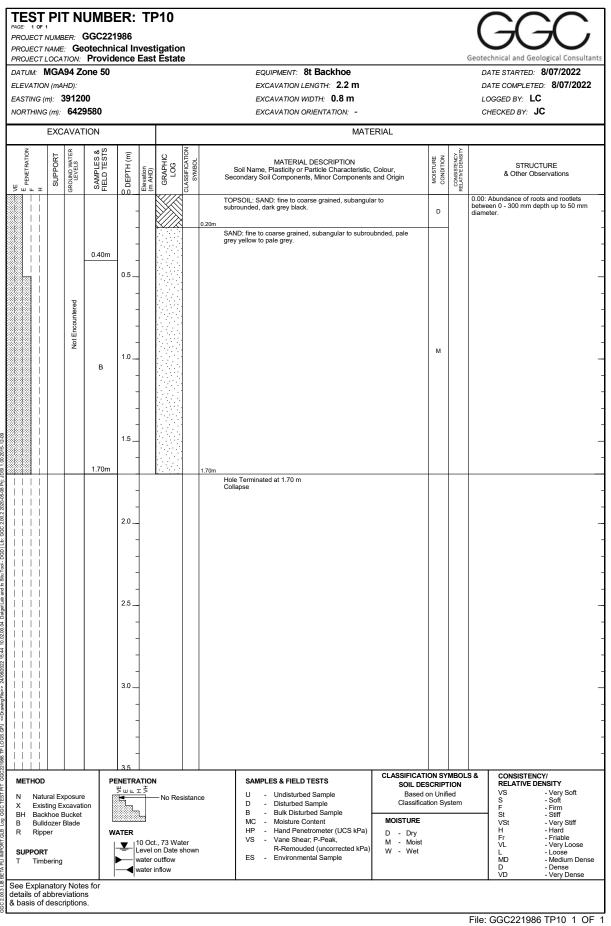
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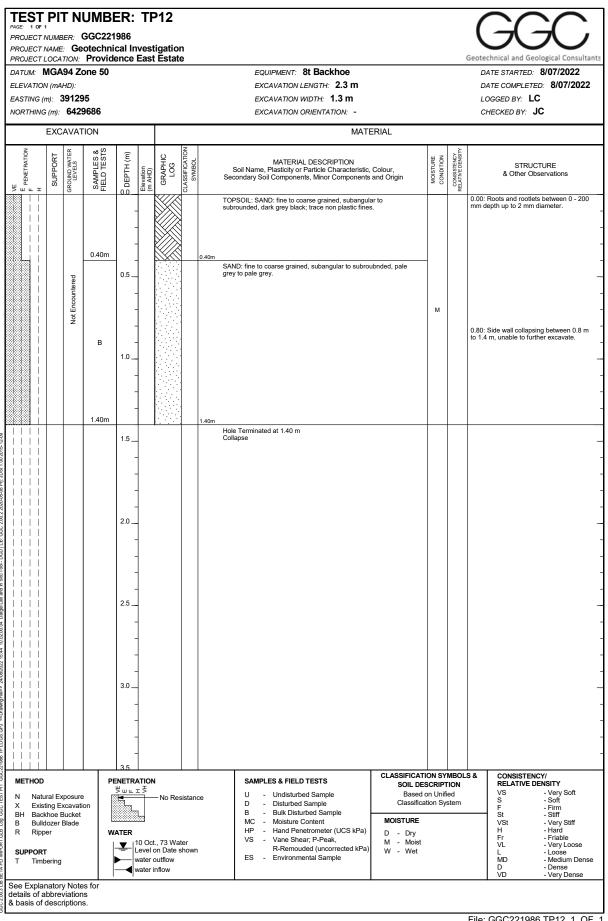




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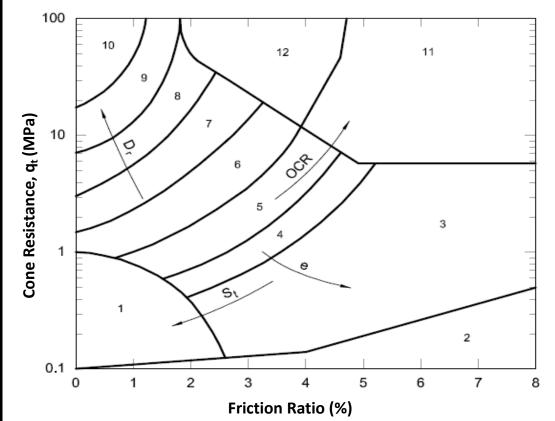


PROJECT LOCATION: Providence Eas  DATUM: MGA94 Zone 50  ELEVATION (mAHD):  EASTING (m): 391219  NORTHING (m): 6429642						Estate  EQUIPMENT: 8t Backhoe  EXCAVATION LENGTH: 2.2 m  EXCAVATION WIDTH: 0.9 m  EXCAVATION ORIENTATION: -									Geotechnical and Geological Consulta  DATE STARTED: 8/07/2022  DATE COMPLETED: 8/07/2022  LOGGED BY: LC  CHECKED BY: JC				
	EXC	AVAT										MATE	ERIAL						
E PENETRATION F	SUPPORT	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	S DEРТН (m)	Elevation (m AHD)	GRAPHIC LOG CLASSIFICATION	MATERIAL DESCRIPTION Soil Name, Plasticity or Particle Characteristic, Colour, Secondary Soil Components, Minor Components and Origin							MOISTURE	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations			
			B 0.40m	-				subro	OIL: SA unded, o	AND: fine to dark grey bla	coarse graine ack.	d, subangula	ar to					roots and ro	
		ered	0.60m	0.5		0.40m  SAND: fine to coarse grained, subangular to subroubnded, pale grey yellow to pale grey.													
		Not Encountered	В	1.0										М					
			1.50m	- - 1.5 _ -	-											1.30: Side to 1.5 m, u	wall colla nable to f	psing betwe urther excav	en 1.3 m vate.
				2.0 _			1.80m			ted at 1.80 r	m								
				-															
				2.5															
				3.0 _															
				3.5															
SUPPORT T Timbering Level water		10 Oct	SAMPLES & FIELD TESTS   SOII				SOIL DE Based	- Dry - Moist			CONSISTI ELATIVE S t St r L	- Very - Soft - Firm - Stiff - Very - Hard - Friab - Very - Loos	Stiff le Loose e um Dens						



File: GGC221986 TP12 1 OF 1

APPENDIX C: CPT results



## **DEFINITIONS**

 $q_t$ : Cone tip resistance corrected for pore water pressure

 $S_t$ : Sensitivity

e: Void ratio

D<sub>r</sub>: Relative density

OCR: Overconsolidation ratio

## SOIL BEHAVIOUR TYPES

- 1. Sensitive fine grained
- 2. Organic material
- 3. Clay
- 4. Silty clay to clay
- 5. Clayey silt to silty clay
- 6. Sandy silt to clayey silt

- 7. Silty sand to sandy silt
- 8. Sand to silty sand
- 9. Sand
- 10. Gravelly sand to sand
- 11. Very stiff fine grained material (OC/cemented)
- 12. Sand to clayey sand (OC/cemented)

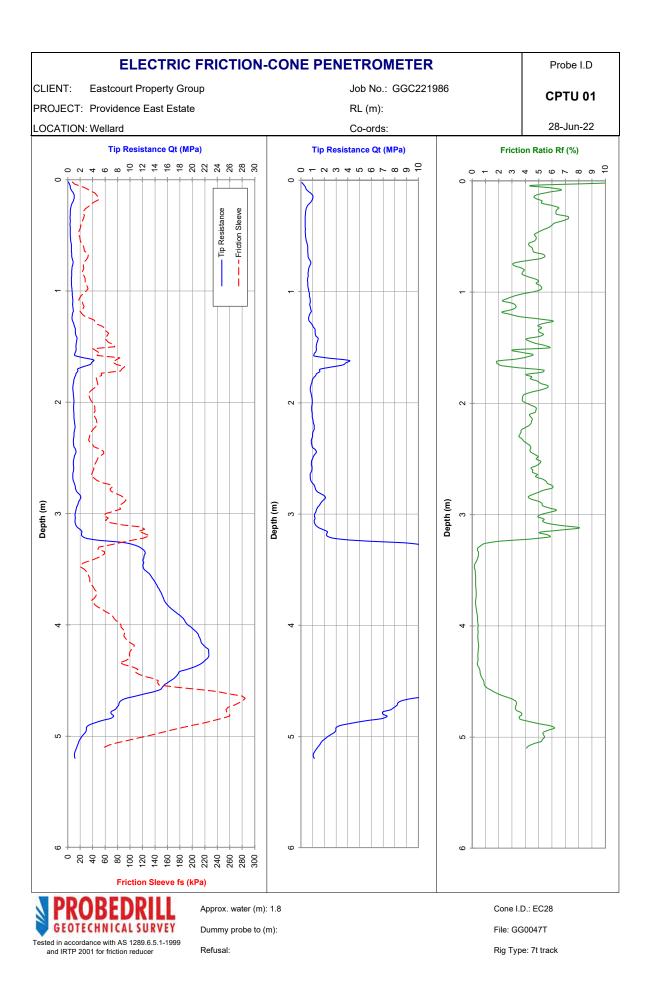
## IMPORTANT NOTES

- i. The above chart is intended for natural soils only and is not directly applicable to FILL materials.
- ii. Some overlap in soil zones should be expected. Soil types may be confirmed visually.
- iil. Correlations based on local experience should be used where available and may indicate differing boundaries to those shown in the chart.

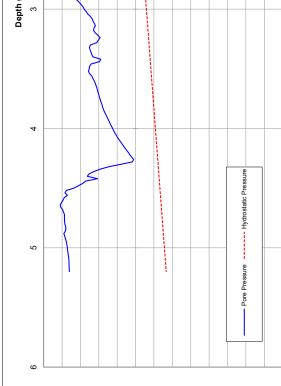
Reference: Robertson, P.K., Campanella, R.G., Gillespie, D. and Grieg, J. (1986) "Use of Piezometer Cone Data". Proceedings of the ASCE Speciality Conference In Situ '86: Use of In Situ Tests in Geotechnical Engineering, Blacksburg, pp 1263-80, American Society of Civil Engineers (ASCE)



# CONE PENETRATION TESTING SOIL TYPE INTERPRETATION



# **ELECTRIC FRICTION-CONE PENETROMETER** Probe I.D Job No.: GGC221986 CLIENT: Eastcourt Property Group **CPTU 01** PROJECT: Providence East Estate RL (m): 28-Jun-22 LOCATION: Wellard Co-ords: Pore Pressure u2 (kPa) Pw Dissipation (kPa) 160 120 80 20 40 09 က 2 9 ω Depth (m) 10

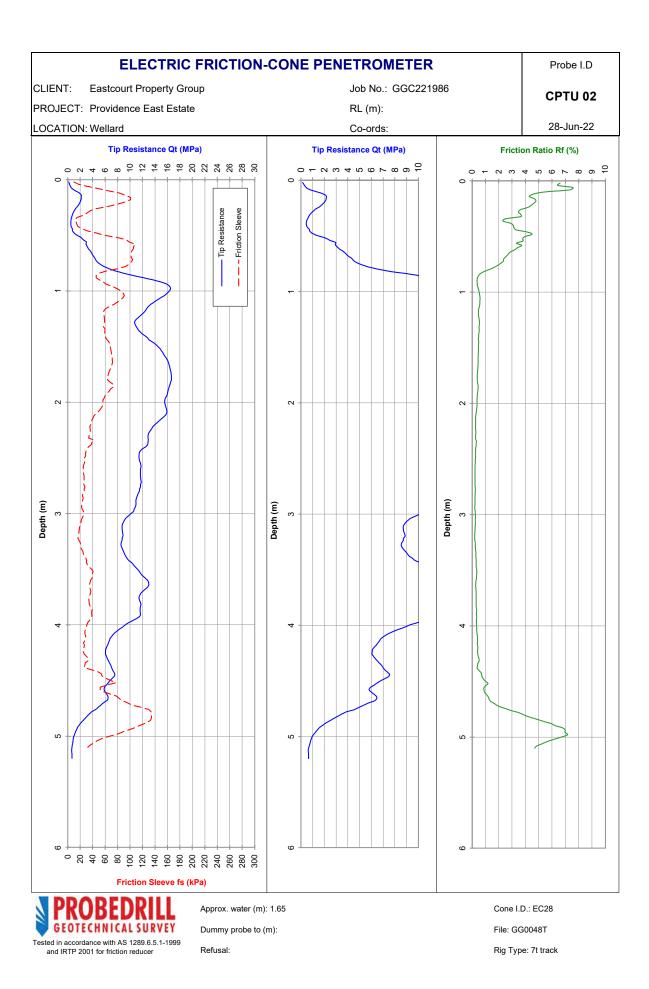


Tested in accordance with AS 1289.6.5.1-1999 and IRTP 2001 for friction reducer

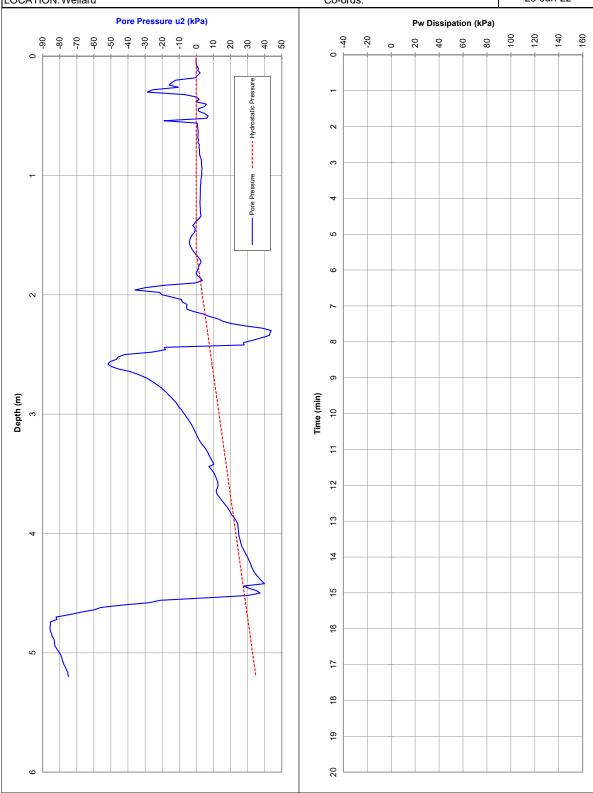
Please note: Hydrostatic Line is taken from the water level manually dipped by the CPT Operator following completion of the probe and, as such, should be used as a guide only.

Approx. Water (m): 1.8

File: GG0047T.txt



#### **ELECTRIC FRICTION-CONE PENETROMETER** Probe I.D Job No.: GGC221986 CLIENT: Eastcourt Property Group **CPTU 02** PROJECT: Providence East Estate RL (m): 28-Jun-22 LOCATION: Wellard Co-ords: Pore Pressure u2 (kPa) Pw Dissipation (kPa) 160 120 .90 -90 -60 -60 -50 -30 -10 0 80 20 40 09 10 20 30 40 50



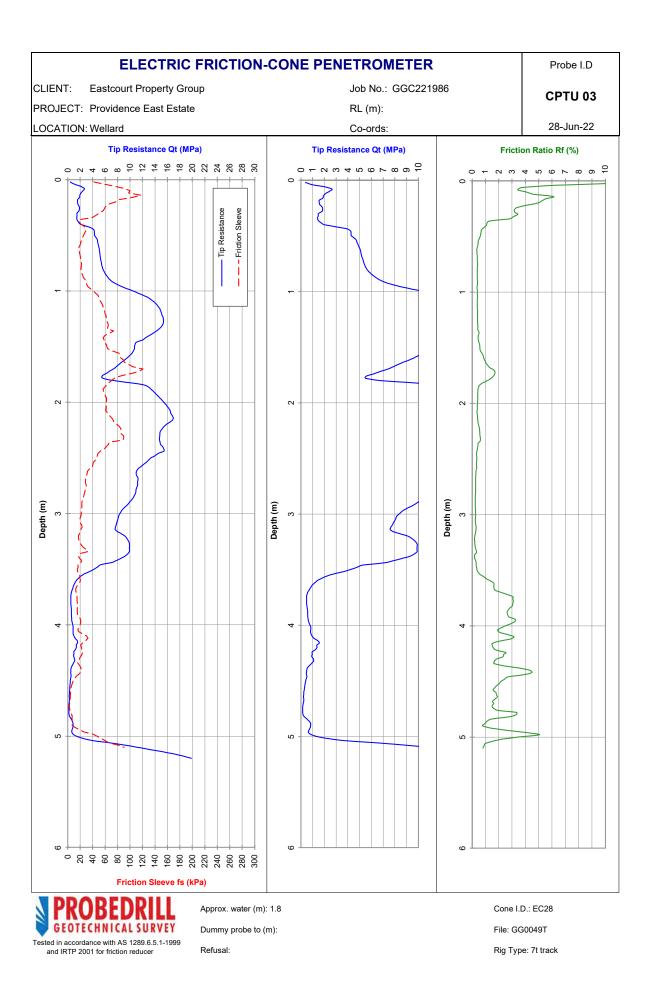
PROBEDRILL
GEOTECHNICAL SURVEY

Tested in accordance with AS 1289.6.5.1-1999
and IRTP 2001 for friction reducer

Please note: Hydrostatic Line is taken from the water level manually dipped by the CPT Operator following completion of the probe and, as such, should be used as a guide only.

Approx. Water (m): 1.65

File: GG0048T.txt



## **ELECTRIC FRICTION-CONE PENETROMETER** Probe I.D Job No.: GGC221986 CLIENT: Eastcourt Property Group **CPTU 03** PROJECT: Providence East Estate RL (m): 28-Jun-22 LOCATION: Wellard Co-ords: Pore Pressure u2 (kPa) Pw Dissipation (kPa) 160 120 -20 40 -30 -80 9 -20 80 20 40 09 10 က 2 9 ω Depth (m) Time (min) 10 7 12 13 4 4 15 16 2 17 9 Pore 19 20

PROBEDRILL
GEOTECHNICAL SURVEY

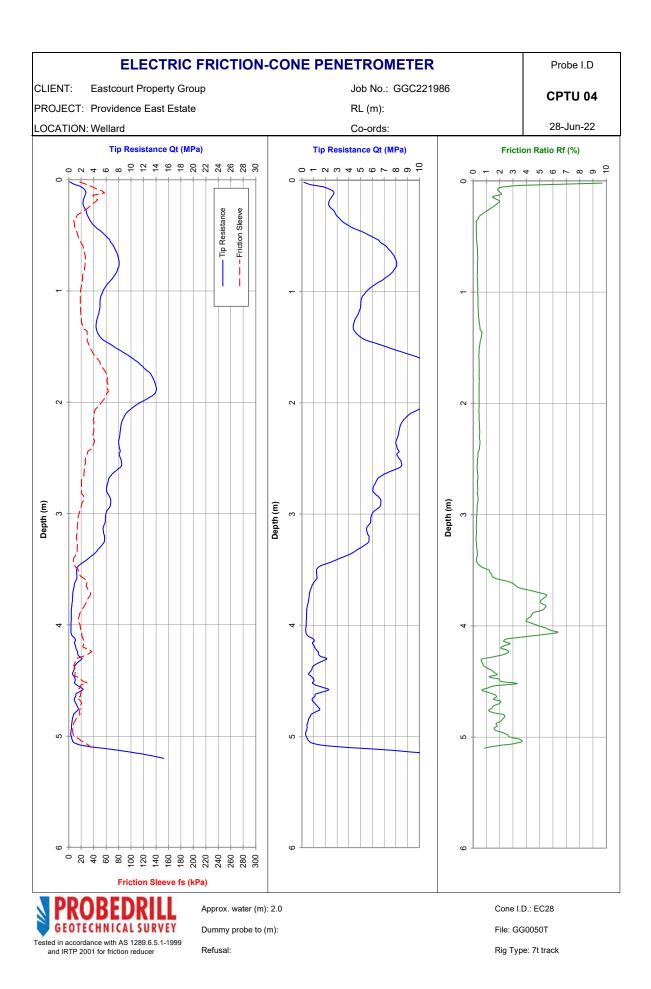
Tested in accordance with AS 1289.6.5.1-1999
and IRTP 2001 for friction reducer

Please note: Hydrostatic Line is taken from the water level manually dipped by the CPT Operator following completion of the probe and, as such, should be used as a guide only.

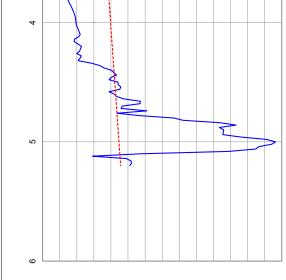
Approx. Water (m): 1.8

File: GG0049T.txt

Rig type: 7t track



# **ELECTRIC FRICTION-CONE PENETROMETER** Probe I.D CLIENT: Eastcourt Property Group Job No.: GGC221986 **CPTU 04** PROJECT: Providence East Estate RL (m): 28-Jun-22 LOCATION: Wellard Co-ords: Pore Pressure u2 (kPa) Pw Dissipation (kPa) 160 120 80 20 40 09 က Pore Pressure 2 9 ω Depth (m) 10



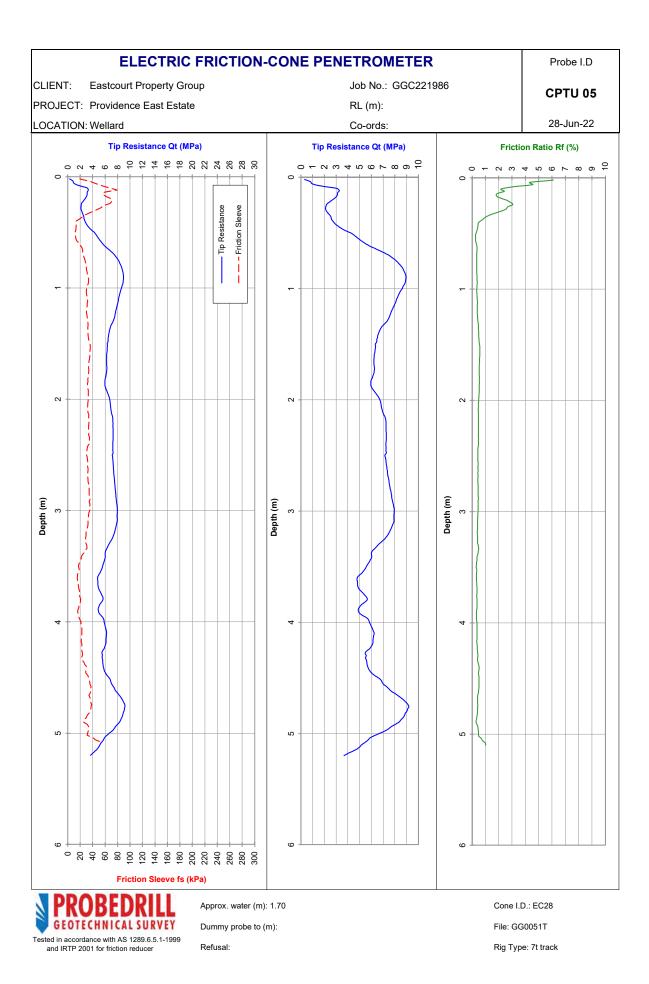
Tested in accordance with AS 1289.6.5.1-1999 and IRTP 2001 for friction reducer

Please note: Hydrostatic Line is taken from the water level manually dipped by the CPT Operator following completion of the probe and, as such, should be used as a guide only.

Approx. Water (m): 2

File: GG0050T.txt

Rig type: 7t track



# **ELECTRIC FRICTION-CONE PENETROMETER** Probe I.D CLIENT: Eastcourt Property Group Job No.: GGC221986 **CPTU 05** PROJECT: Providence East Estate RL (m): 28-Jun-22 LOCATION: Wellard Co-ords: Pore Pressure u2 (kPa) Pw Dissipation (kPa) 160 120 50 -20 -10 -60 20 40 09 80 0 10 20 30 40 50 60 က Pore Pressure 2 9 ω Depth (m) Time (min) 10 7 12 13 4 15 16 2 17 9



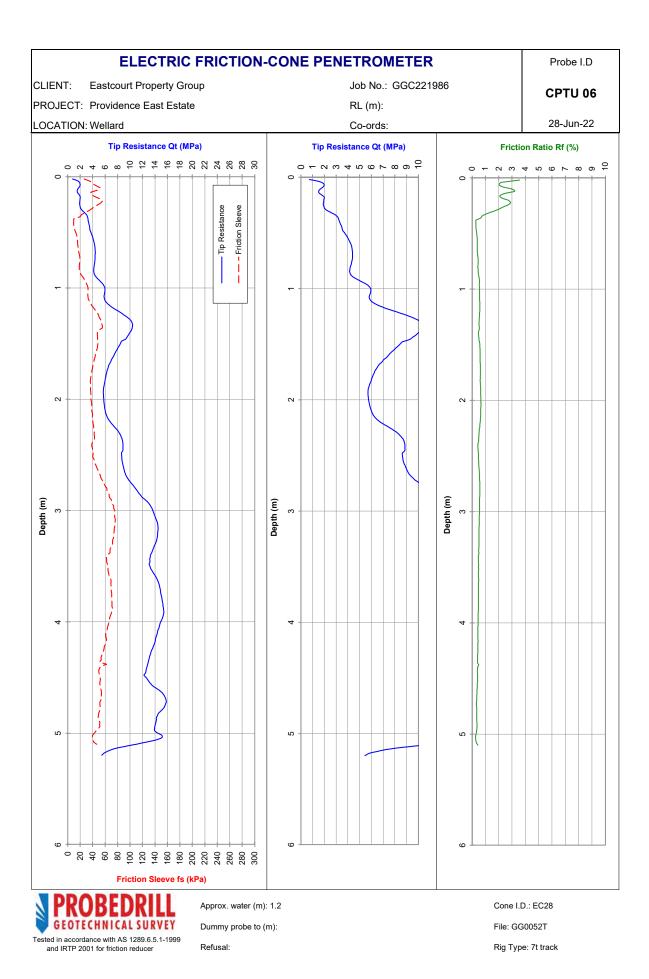
Please note: Hydrostatic Line is taken from the water level manually dipped by the CPT Operator following completion of the probe and, as such, should be used as a guide only.

19

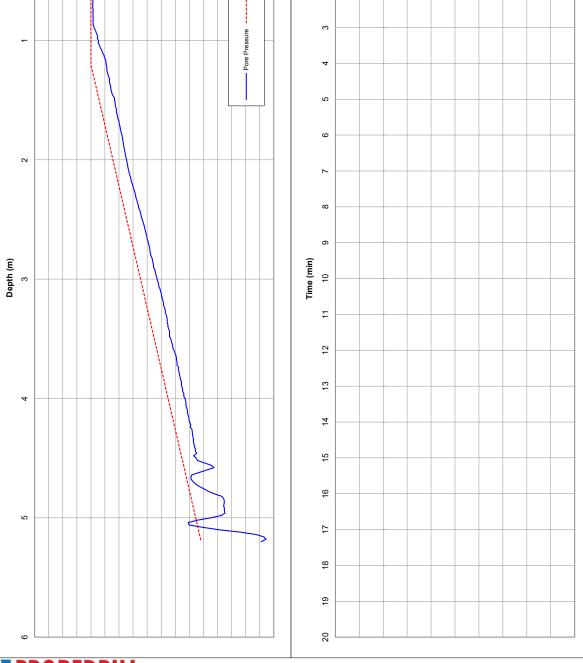
20

Approx. Water (m): 1.7

File: GG0051T.txt



# **ELECTRIC FRICTION-CONE PENETROMETER** Probe I.D CLIENT: Eastcourt Property Group Job No.: GGC221986 **CPTU 06** PROJECT: Providence East Estate RL (m): 28-Jun-22 LOCATION: Wellard Co-ords: Pore Pressure u2 (kPa) Pw Dissipation (kPa) 160 120 80 20 40 09 က Pore Pressure 2 9 ω

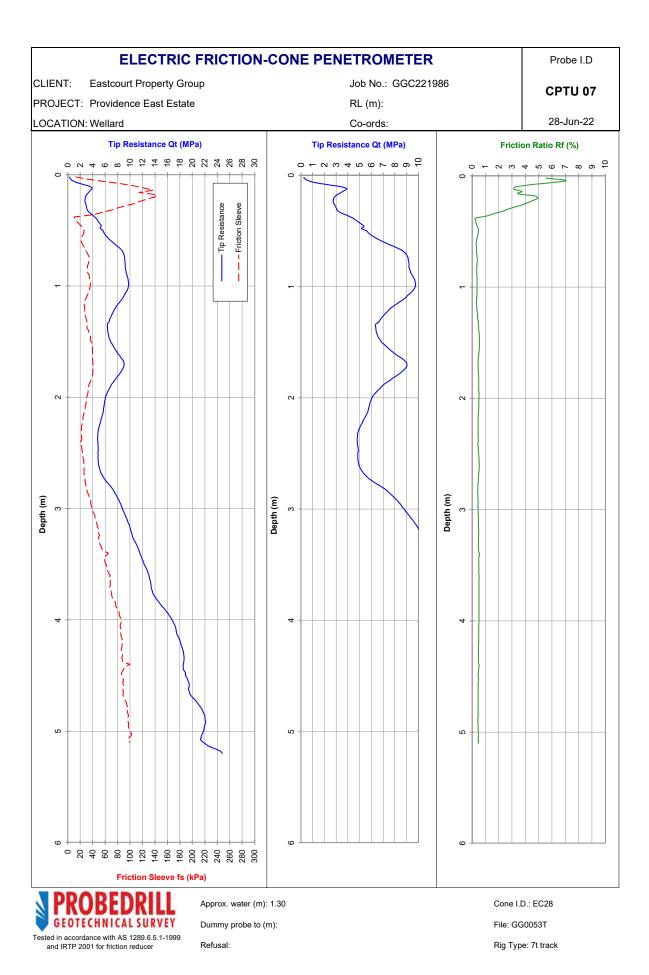




Please note: Hydrostatic Line is taken from the water level manually dipped by the CPT Operator following completion of the probe and, as such, should be used as a guide only.

Approx. Water (m): 1.2

File: GG0052T.txt



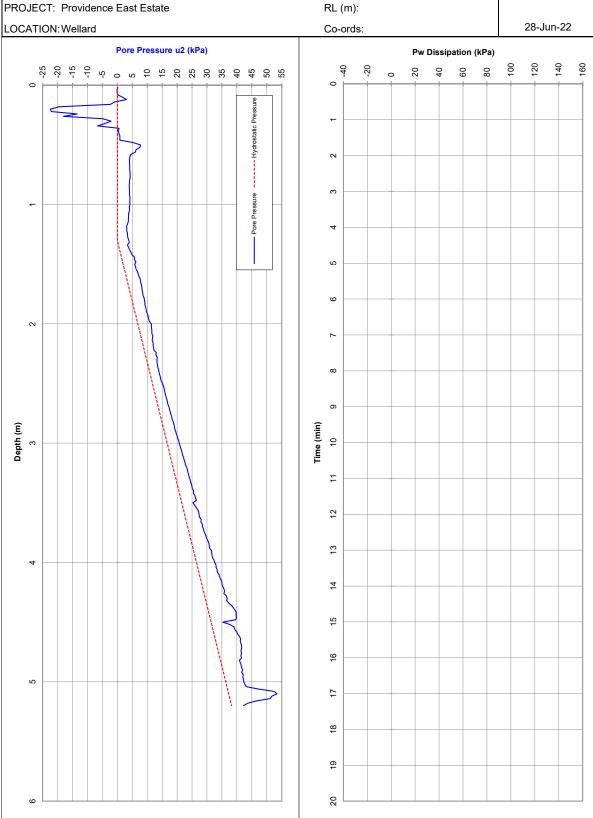
## **ELECTRIC FRICTION-CONE PENETROMETER**

Job No.: GGC221986 CLIENT: Eastcourt Property Group

PROJECT: Providence East Estate

Probe I.D

**CPTU 07** 

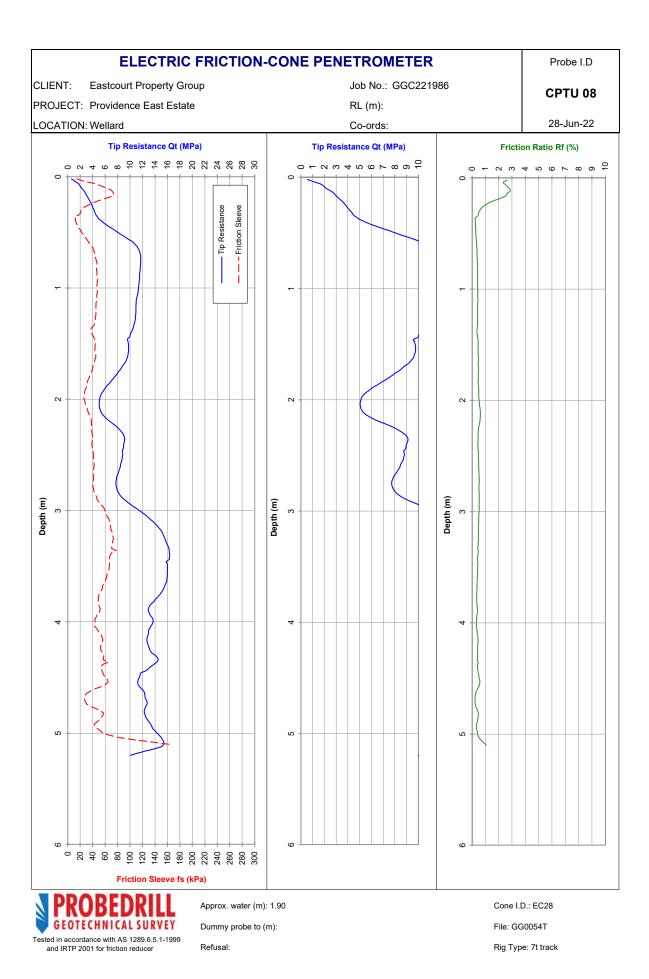


Tested in accordance with AS 1289.6.5.1-1999 and IRTP 2001 for friction reducer

Please note: Hydrostatic Line is taken from the water level manually dipped by the CPT Operator following completion of the probe and, as such, should be used as a guide only.

Approx. Water (m): 1.3

File: GG0053T.txt



# **ELECTRIC FRICTION-CONE PENETROMETER** Probe I.D CLIENT: Eastcourt Property Group Job No.: GGC221986 **CPTU 08** PROJECT: Providence East Estate RL (m): 28-Jun-22 LOCATION: Wellard Co-ords: Pore Pressure u2 (kPa) Pw Dissipation (kPa) 160 120 -80 -70 -60 -50 -30 -10 20 40 09 80 0 10 20 30 40 50 က Pore Pressure 2 9 ω Depth (m) Time (min) 10 7 12 13 4 15 16 2 17 9



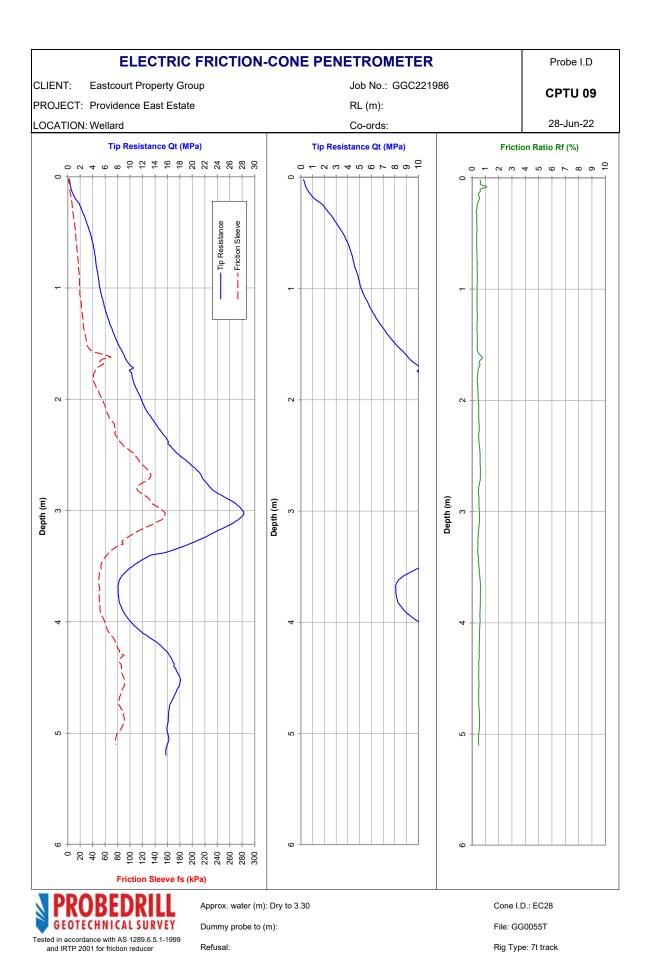
Please note: Hydrostatic Line is taken from the water level manually dipped by the CPT Operator following completion of the probe and, as such, should be used as a guide only.

19

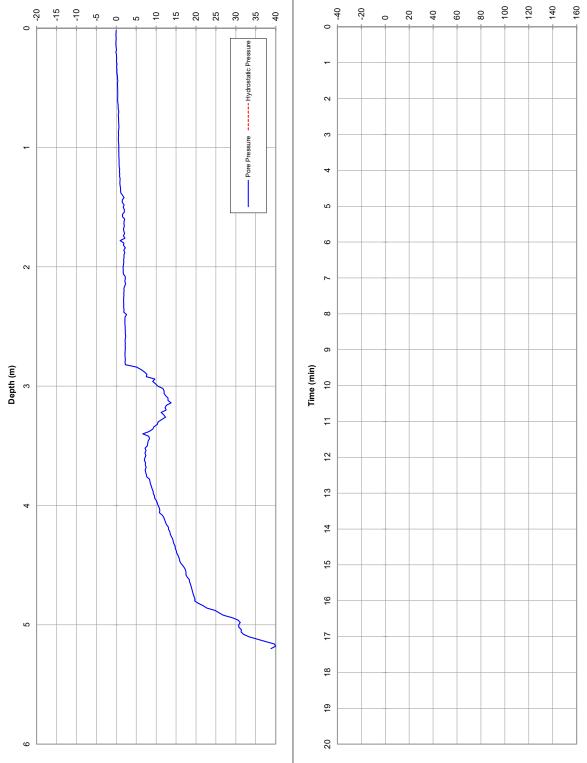
20

Approx. Water (m): 1.9

File: GG0054T.txt



### **ELECTRIC FRICTION-CONE PENETROMETER** Probe I.D CLIENT: Eastcourt Property Group Job No.: GGC221986 **CPTU 09** PROJECT: Providence East Estate RL (m): 28-Jun-22 LOCATION: Wellard Co-ords: Pore Pressure u2 (kPa) Pw Dissipation (kPa) 160 120 -20 80 20 40 9 0 10 10 10 20 20 25 25 30 40



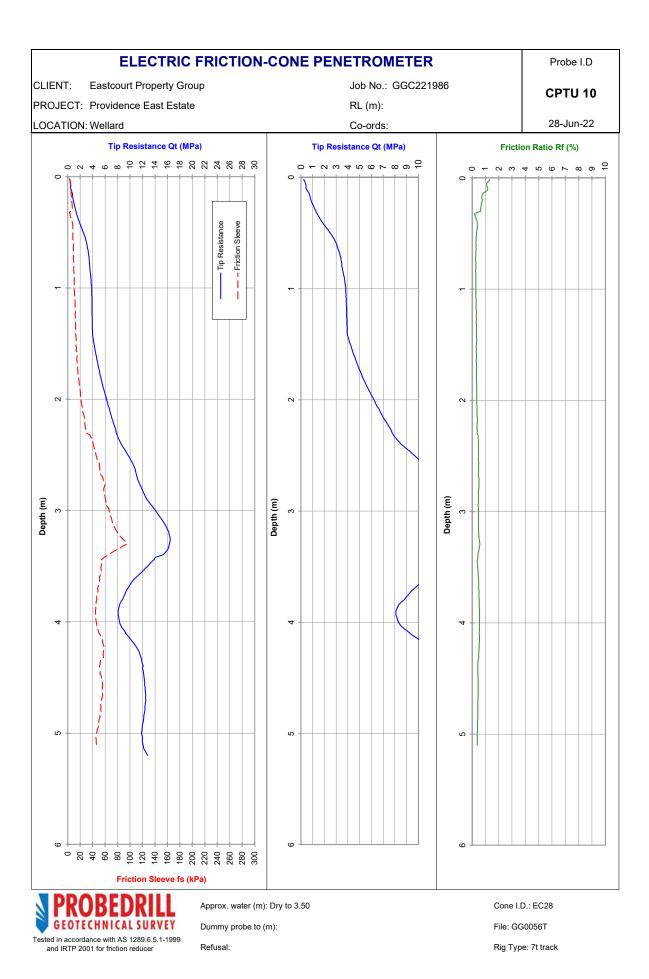


Please note: Hydrostatic Line is taken from the water level manually dipped by the CPT Operator following completion of the probe and, as such, should be used as a guide only.

Approx. Water (m): Dry to 3.30

File: GG0055T.txt

Rig type: 7t track



## **ELECTRIC FRICTION-CONE PENETROMETER** Probe I.D CLIENT: Eastcourt Property Group Job No.: GGC221986 **CPTU 10** PROJECT: Providence East Estate RL (m): 28-Jun-22 LOCATION: Wellard Co-ords: Pore Pressure u2 (kPa) Pw Dissipation (kPa) 160 120 -20 -10 20 40 09 80 15 20 25 0 2 က Pore Pressure 2 9 ω Depth (m) Time (min) 10 7 12 13 4 15 16 2 17 9 19

PROBEDRILL
GEOTECHNICAL SURVEY

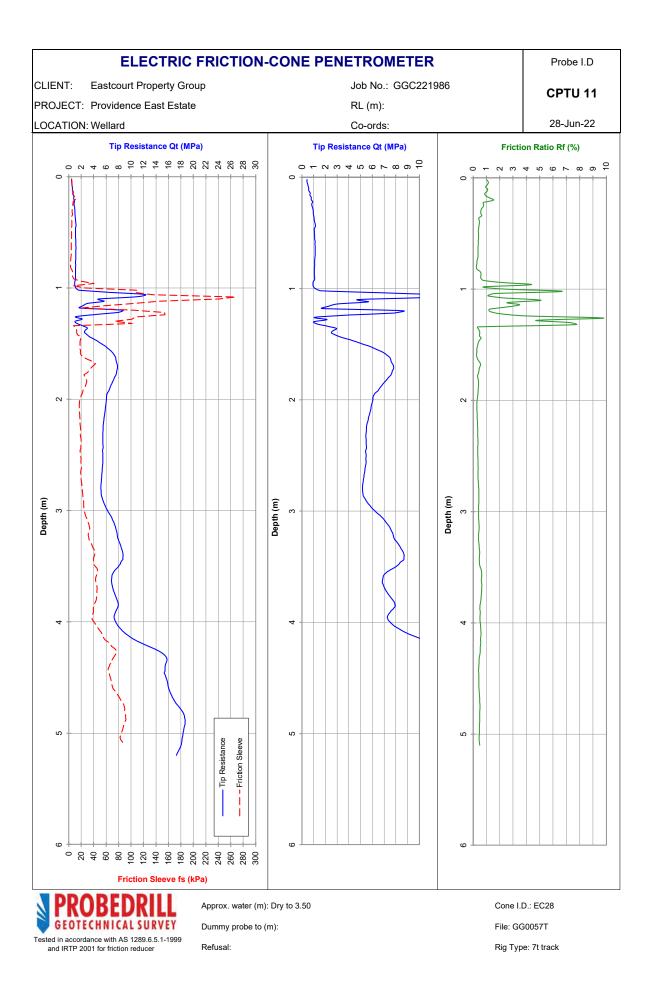
Tested in accordance with AS 1289.6.5.1-1999
and IRTP 2001 for friction reducer

Please note: Hydrostatic Line is taken from the water level manually dipped by the CPT Operator following completion of the probe and, as such, should be used as a guide only.

20

Approx. Water (m): Dry to 3.50

File: GG0056T.txt



## **ELECTRIC FRICTION-CONE PENETROMETER** Probe I.D CLIENT: Eastcourt Property Group Job No.: GGC221986 **CPTU 11** PROJECT: Providence East Estate RL (m): 28-Jun-22 LOCATION: Wellard Co-ords: Pore Pressure u2 (kPa) Pw Dissipation (kPa) 160 120 -20 80 20 40 9 10 15 20 0 2 က Pore Pressure 2 9 ω Depth (m) Time (min) 10 7 12 13 4 15 16 2 17 9

PROBEDRILL
GEOTECHNICAL SURVEY

Tested in accordance with AS 1289.6.5.1-1999
and IRTP 2001 for friction reducer

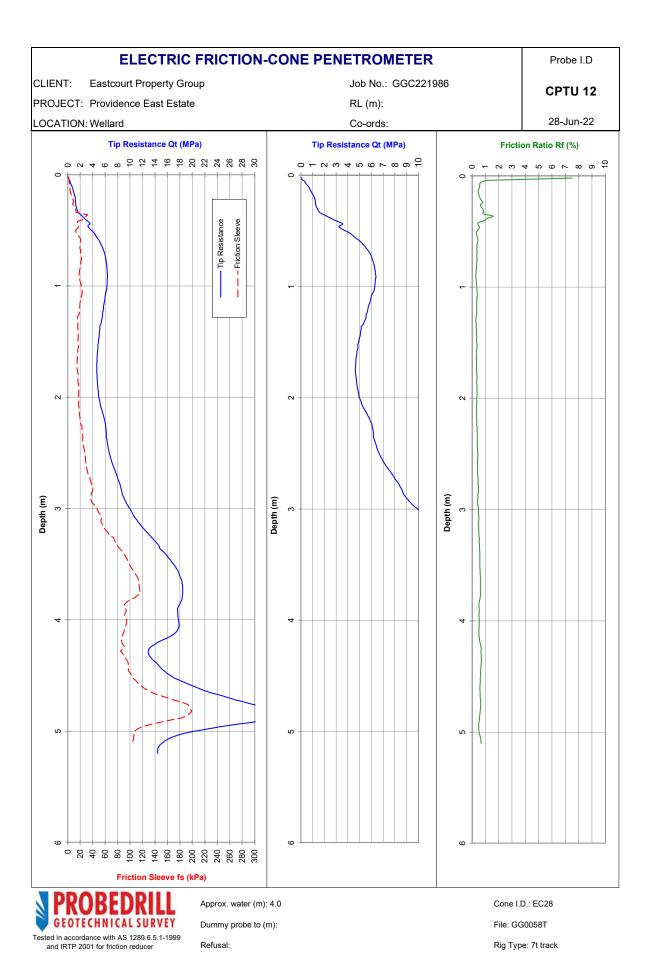
Please note: Hydrostatic Line is taken from the water level manually dipped by the CPT Operator following completion of the probe and, as such, should be used as a guide only.

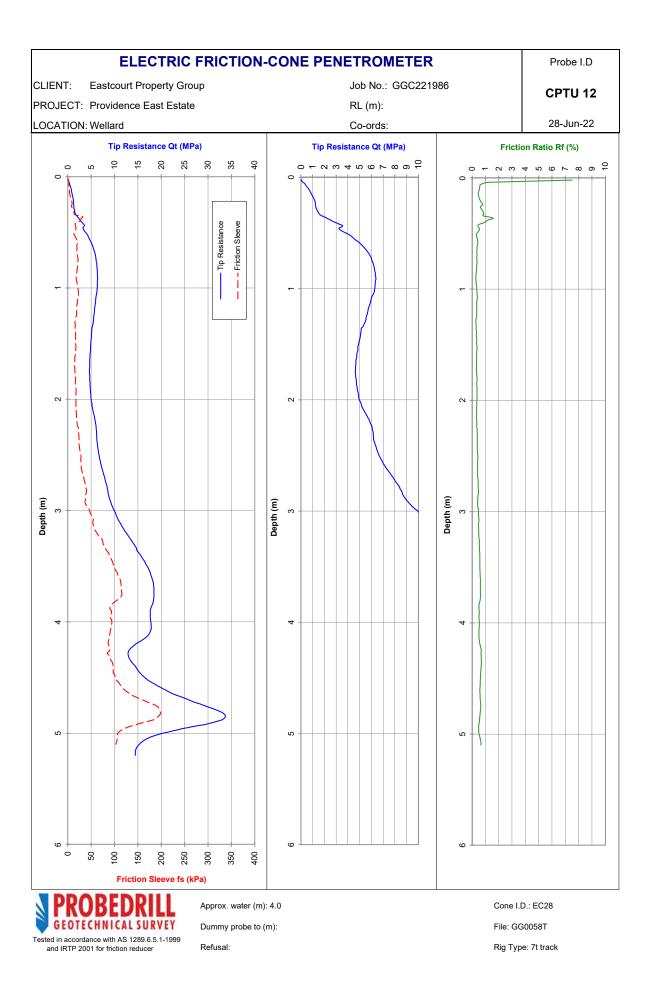
19

20

Approx. Water (m): Dry to 3.50

File: GG0057T.txt





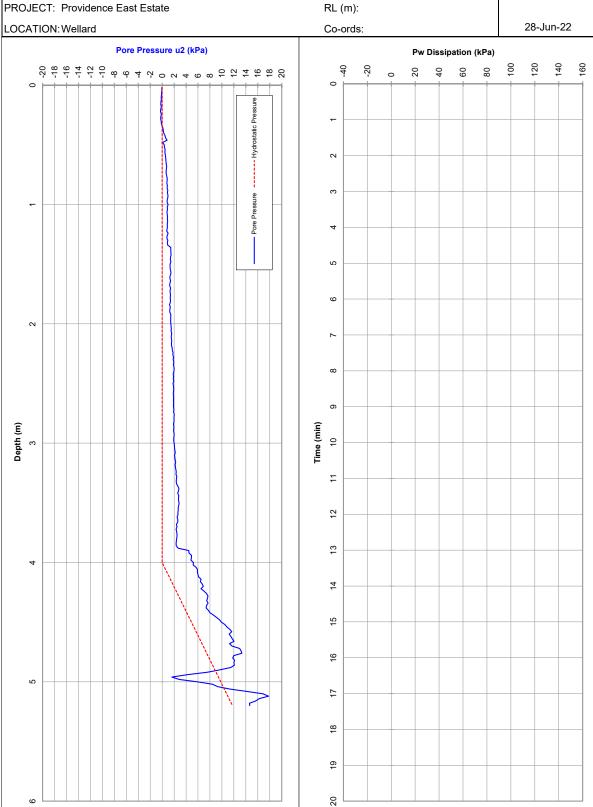
## **ELECTRIC FRICTION-CONE PENETROMETER**

CLIENT: Eastcourt Property Group Job No.: GGC221986

PROJECT: Providence East Estate

Probe I.D

**CPTU 12** 

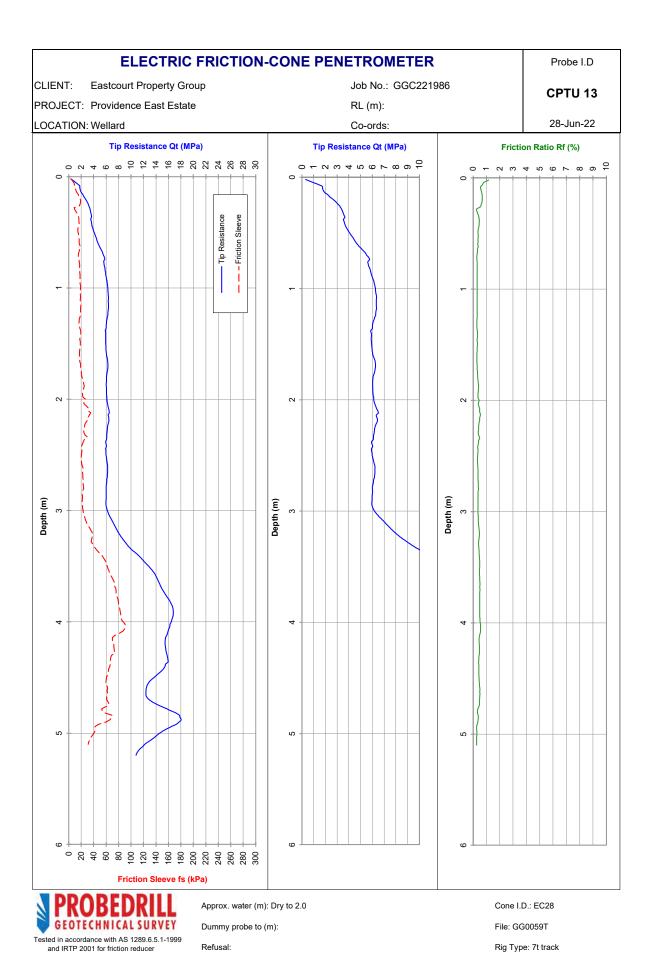


Tested in accordance with AS 1289.6.5.1-1999 and IRTP 2001 for friction reducer

Please note: Hydrostatic Line is taken from the water level manually dipped by the CPT Operator following completion of the probe and, as such, should be used as a guide only.

Approx. Water (m): 4

File: GG0058T.txt



## **ELECTRIC FRICTION-CONE PENETROMETER**

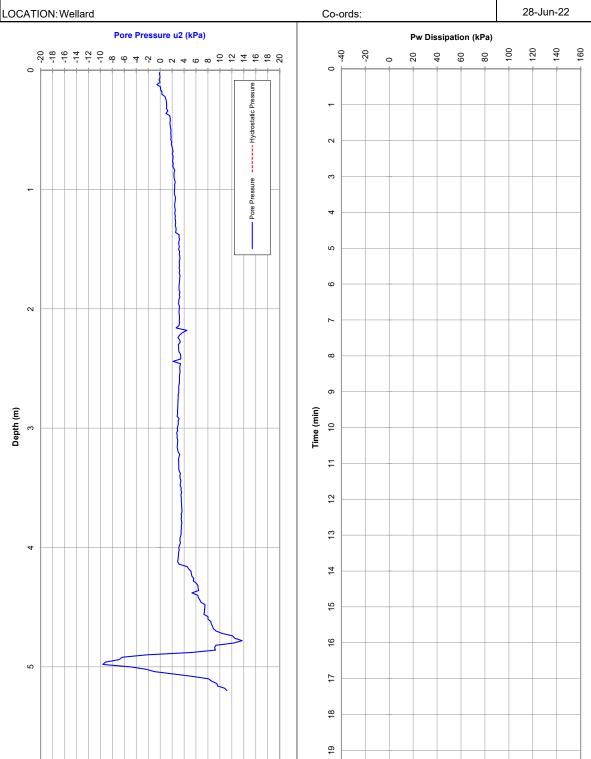
RL (m):

CLIENT: Eastcourt Property Group Job No.: GGC221986

PROJECT: Providence East Estate

Probe I.D

**CPTU 13** 



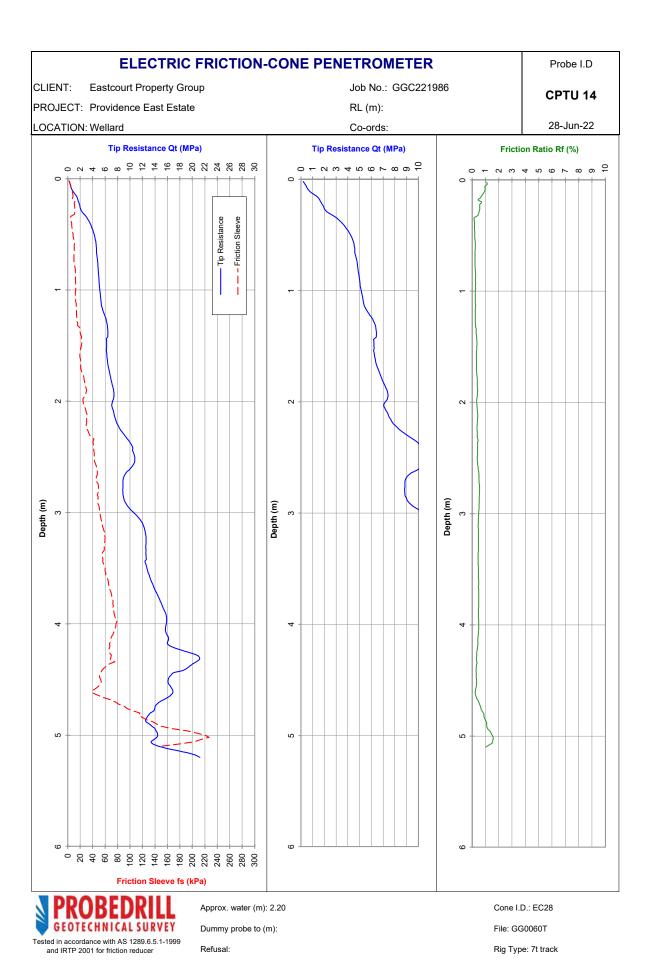


Please note: Hydrostatic Line is taken from the water level manually dipped by the CPT Operator following completion of the probe and, as such, should be used as a guide only.

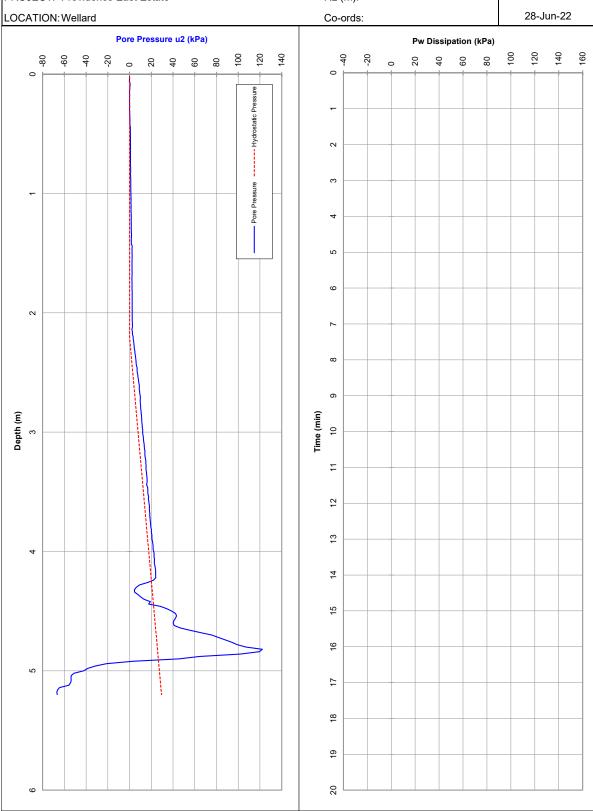
20

Approx. Water (m): Dry to 2.0

File: GG0059T.txt



# ELECTRIC FRICTION-CONE PENETROMETER CLIENT: Eastcourt Property Group PROJECT: Providence East Estate Probe I.D CPTU 14



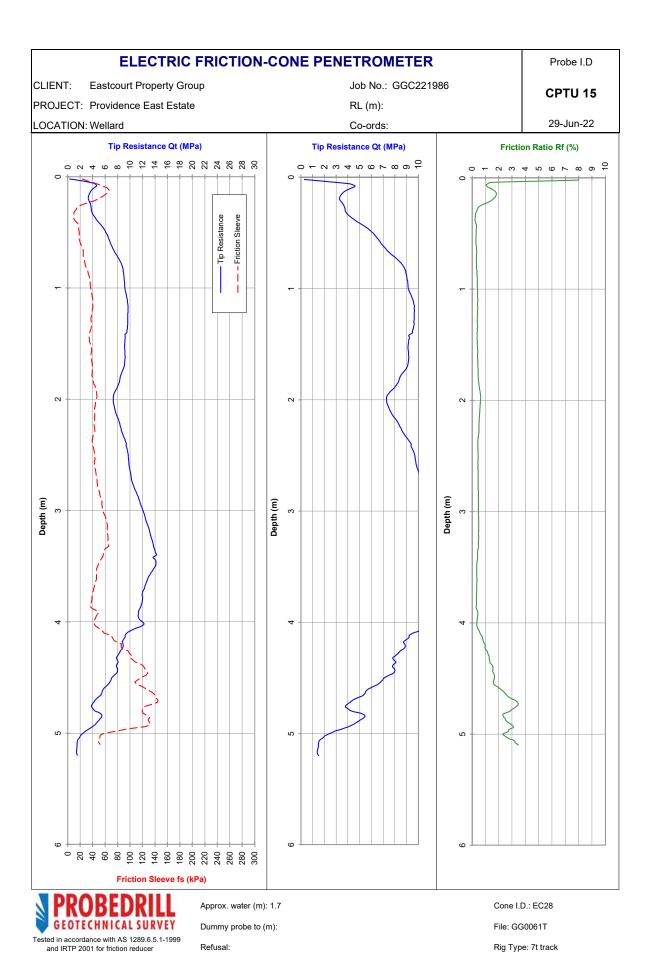
PROBEDRILL
GEOTECHNICAL SURVEY

Tested in accordance with AS 1289.6.5.1-1999
and IRTP 2001 for friction reducer

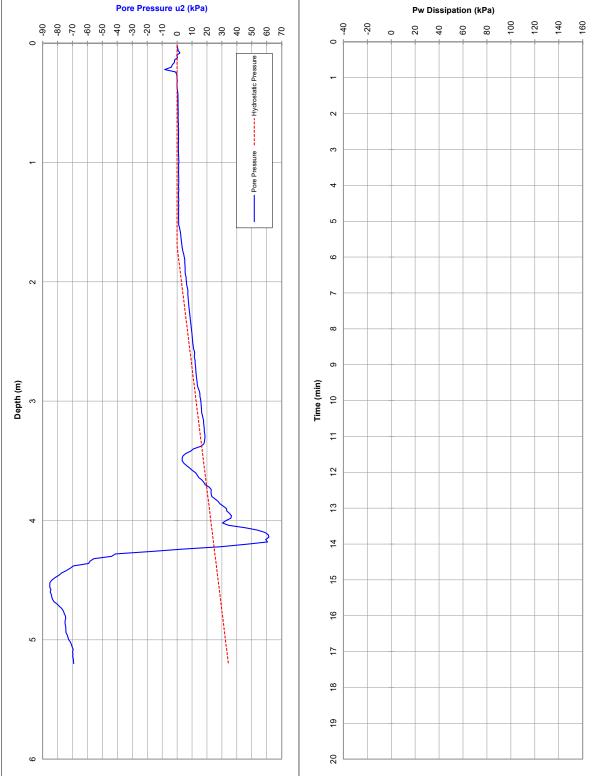
Please note: Hydrostatic Line is taken from the water level manually dipped by the CPT Operator following completion of the probe and, as such, should be used as a guide only.

Approx. Water (m): 2.2

File: GG0060T.txt



#### **ELECTRIC FRICTION-CONE PENETROMETER** Probe I.D CLIENT: Eastcourt Property Group Job No.: GGC221986 **CPTU 15** PROJECT: Providence East Estate RL (m): 29-Jun-22 LOCATION: Wellard Co-ords: Pore Pressure u2 (kPa) Pw Dissipation (kPa) 160 120 80 20 40 09



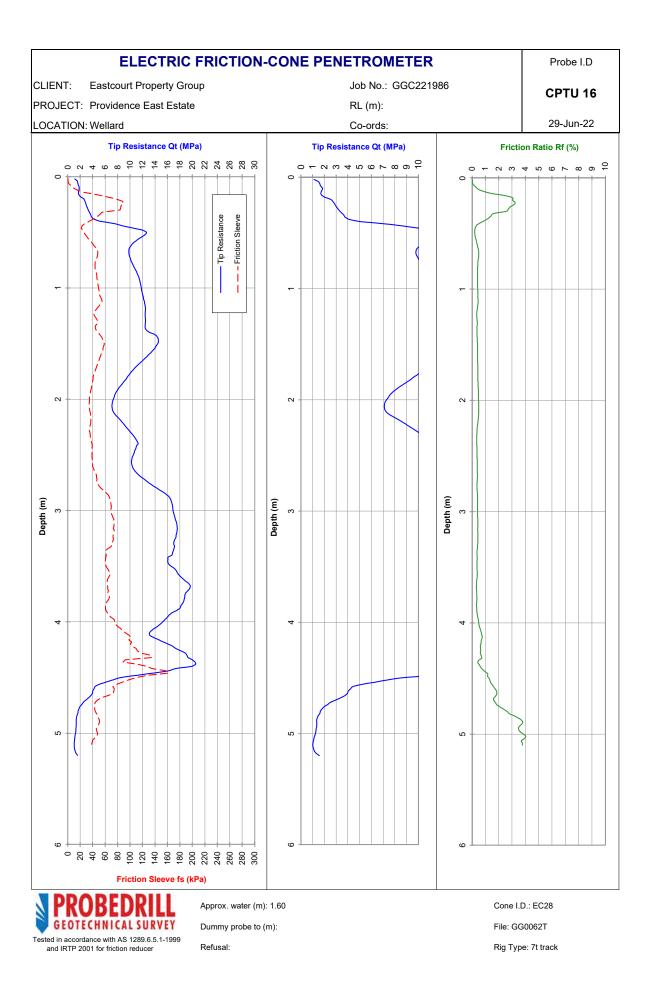
PROBEDRILL
GEOTECHNICAL SURVEY

Tested in accordance with AS 1289.6.5.1-1999
and IRTP 2001 for friction reducer

Please note: Hydrostatic Line is taken from the water level manually dipped by the CPT Operator following completion of the probe and, as such, should be used as a guide only.

Approx. Water (m): 1.7

File: GG0061T.txt

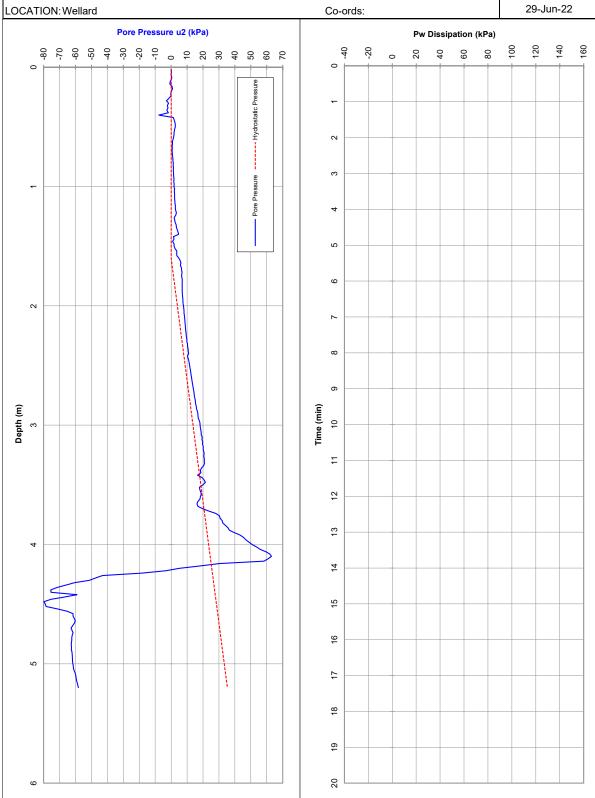


CLIENT:

### **ELECTRIC FRICTION-CONE PENETROMETER** Eastcourt Property Group Job No.: GGC221986

PROJECT: Providence East Estate RL (m): **CPTU 16** 

Probe I.D

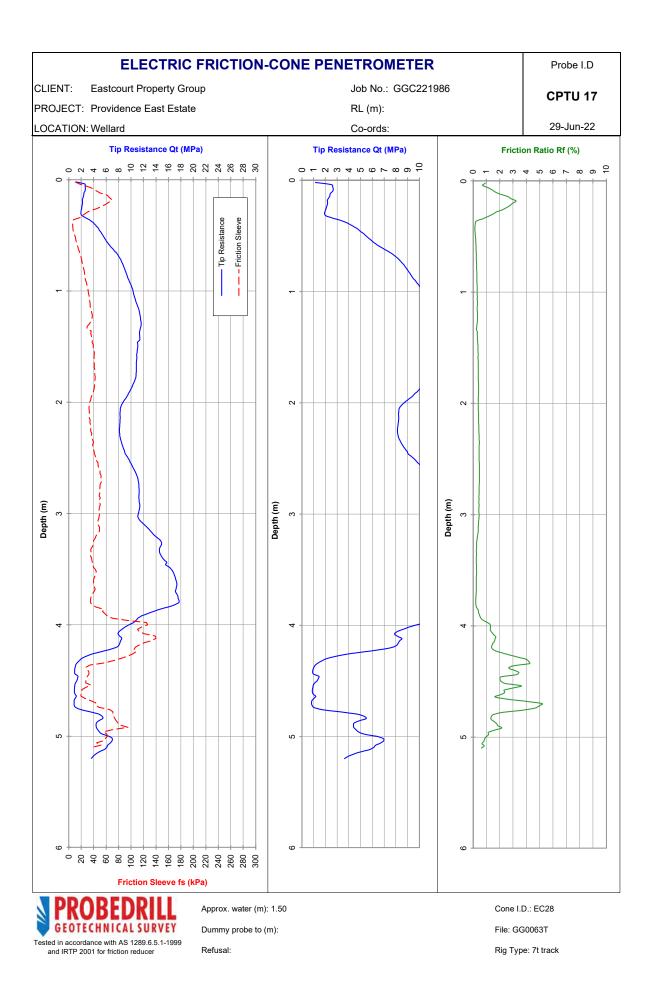


Tested in accordance with AS 1289.6.5.1-1999 and IRTP 2001 for friction reducer

Please note: Hydrostatic Line is taken from the water level manually dipped by the CPT Operator following completion of the probe and, as such, should be used as a guide only.

Approx. Water (m): 1.6

File: GG0062T.txt



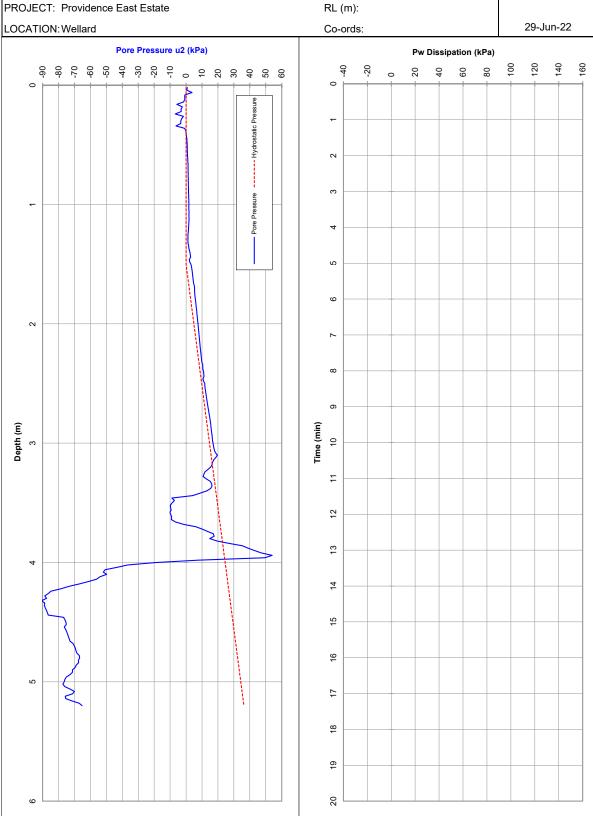
## **ELECTRIC FRICTION-CONE PENETROMETER**

CLIENT: Eastcourt Property Group Job No.: GGC221986

PROJECT: Providence East Estate LOCATION: Wellard

Probe I.D

**CPTU 17** 

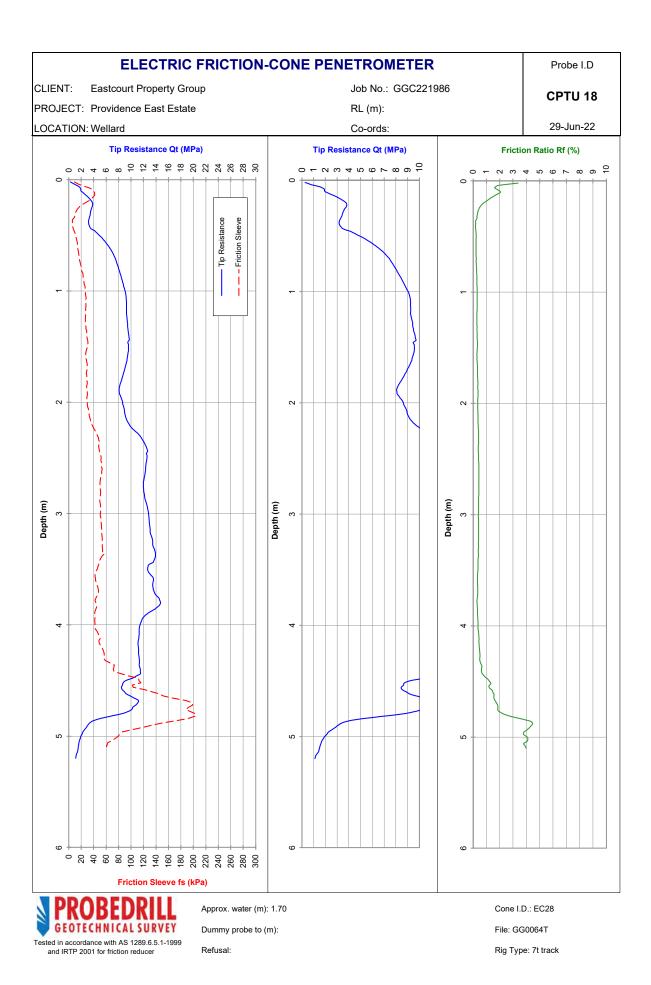


Tested in accordance with AS 1289.6.5.1-1999 and IRTP 2001 for friction reducer

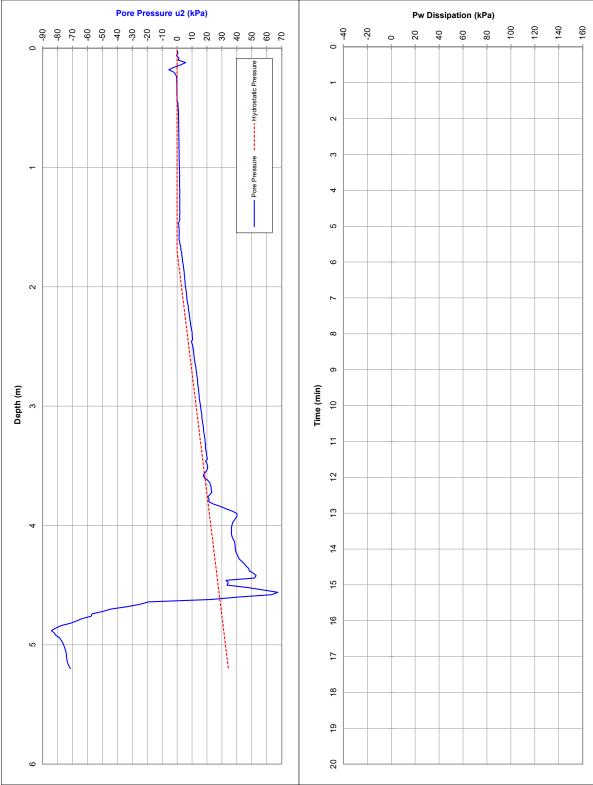
Please note: Hydrostatic Line is taken from the water level manually dipped by the CPT Operator following completion of the probe and, as such, should be used as a guide only.

Approx. Water (m): 1.5

File: GG0063T.txt



#### **ELECTRIC FRICTION-CONE PENETROMETER** Probe I.D CLIENT: Eastcourt Property Group Job No.: GGC221986 **CPTU 18** PROJECT: Providence East Estate RL (m): 29-Jun-22 LOCATION: Wellard Co-ords: Pore Pressure u2 (kPa) Pw Dissipation (kPa) 160 120 80 20 40 09



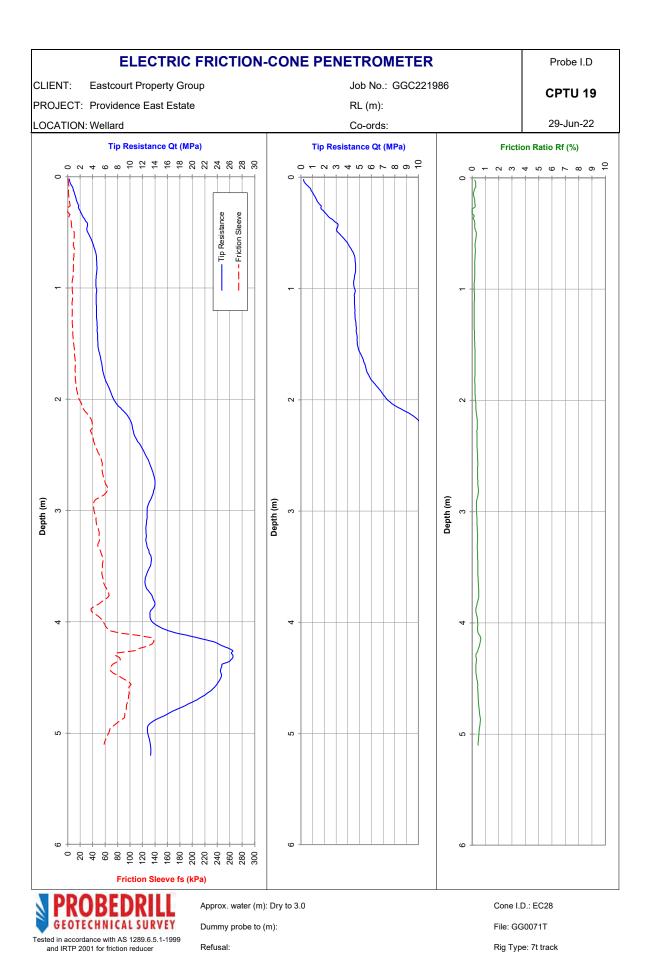
PROBEDRILL
GEOTECHNICAL SURVEY

Tested in accordance with AS 1289.6.5.1-1999
and IRTP 2001 for friction reducer

Please note: Hydrostatic Line is taken from the water level manually dipped by the CPT Operator following completion of the probe and, as such, should be used as a guide only.

Approx. Water (m): 1.7

File: GG0064T.txt



## **ELECTRIC FRICTION-CONE PENETROMETER** Probe I.D CLIENT: Eastcourt Property Group Job No.: GGC221986 **CPTU 19** PROJECT: Providence East Estate RL (m): 29-Jun-22 LOCATION: Wellard Co-ords: Pore Pressure u2 (kPa) Pw Dissipation (kPa) 120 140 160 -70 -20 -40 -30 -10 -20 -80 4 80 20 9 Hydrostatic Pressur က Pore Pressure 2 9 ω Depth (m) Time (min) 10 7 12 13 4 4 15 16 2 17 9



Please note: Hydrostatic Line is taken from the water level manually dipped by the CPT Operator following completion of the probe and, as such, should be used as a guide only.

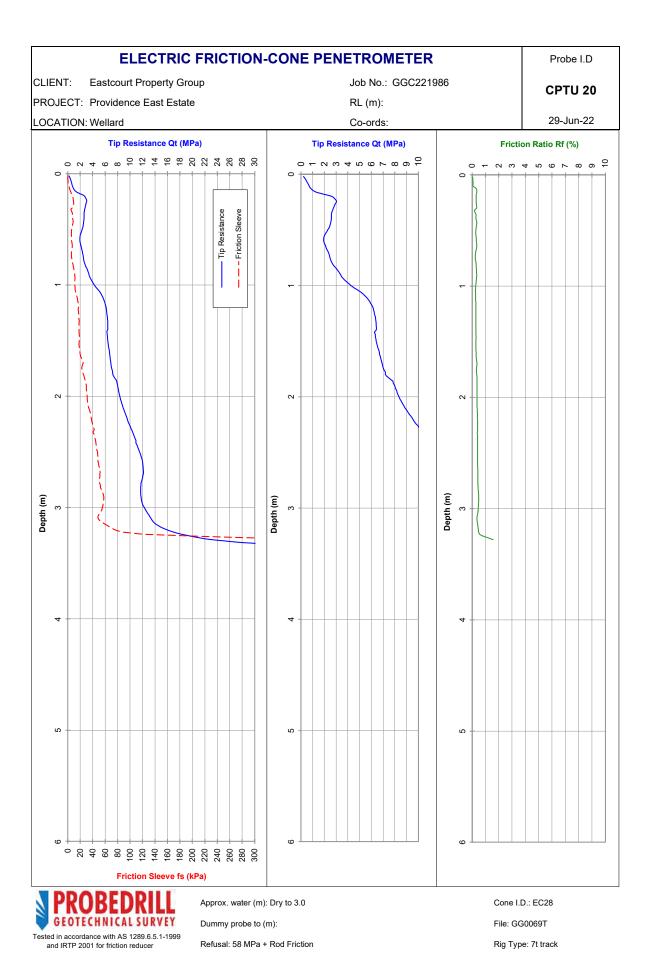
19

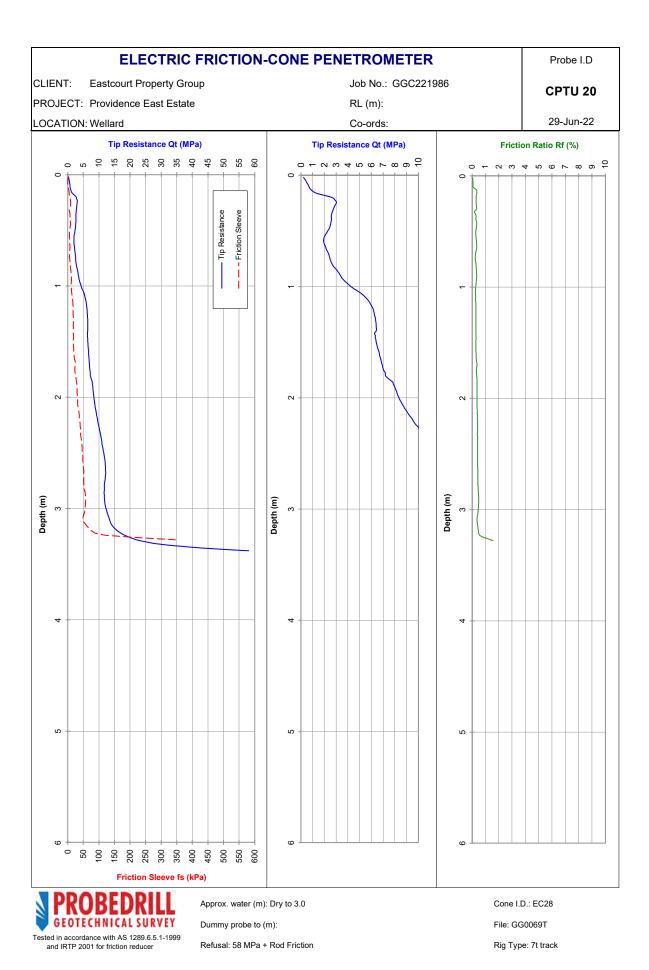
20

Approx. Water (m): Dry to 3.0

File: GG0071T.txt

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## **ELECTRIC FRICTION-CONE PENETROMETER**

RL (m):

CLIENT: Eastcourt Property Group Job No.: GGC221986

PROJECT: Providence East Estate

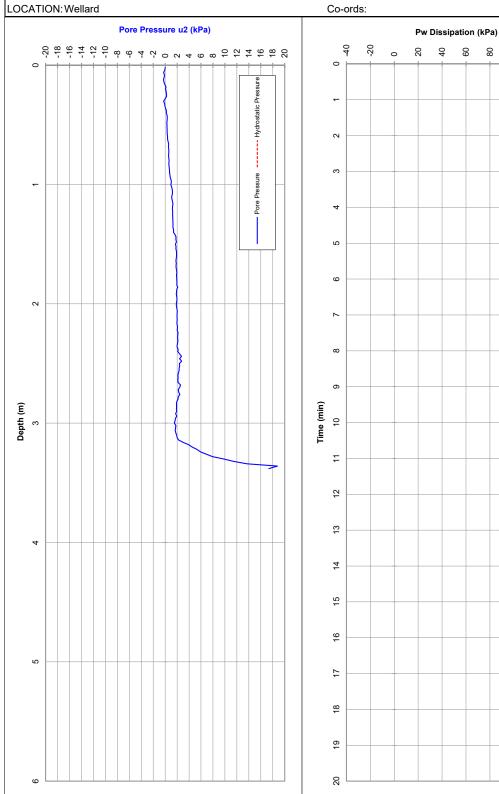
Probe I.D

**CPTU 20** 

29-Jun-22

120 140 160

80



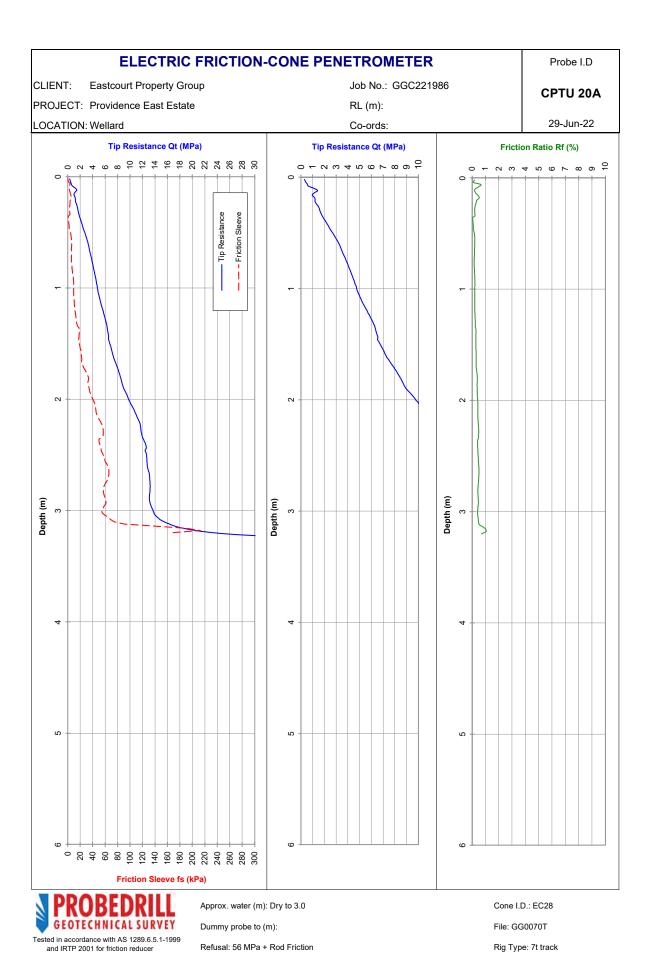
Please note: Hydrostatic Line is taken from the water level manually dipped by the CPT Operator following completion of the probe and, as such, should be used as a guide only.

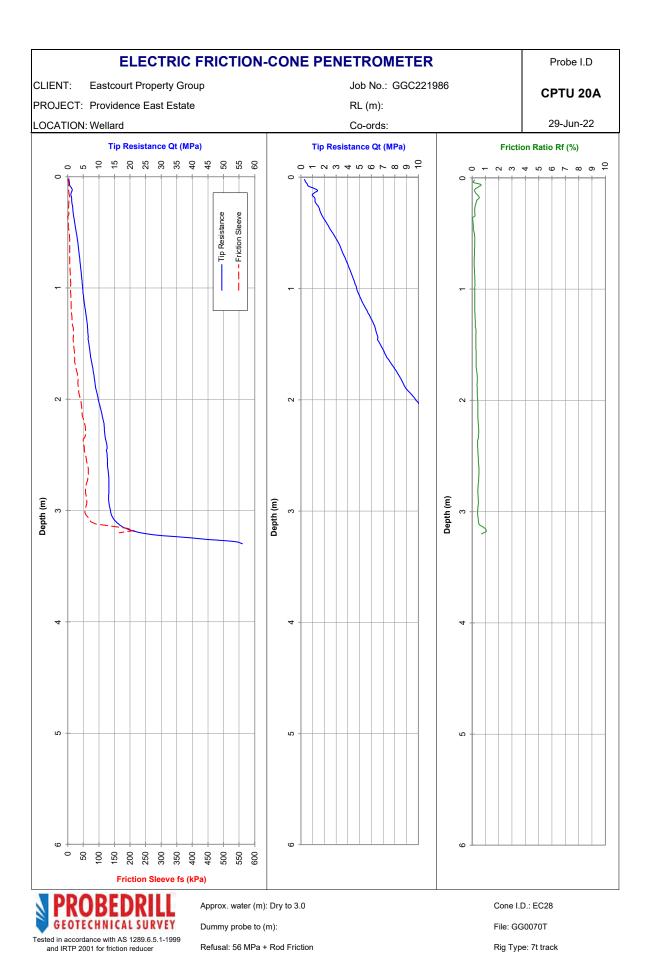
Approx. Water (m): Dry to 3.0

File: GG0069T.txt

Rig type: 7t track

Tested in accordance with AS 1289.6.5.1-1999 and IRTP 2001 for friction reducer





## **ELECTRIC FRICTION-CONE PENETROMETER**

RL (m):

CLIENT: Eastcourt Property Group Job No.: GGC221986

PROJECT: Providence East Estate

Probe I.D

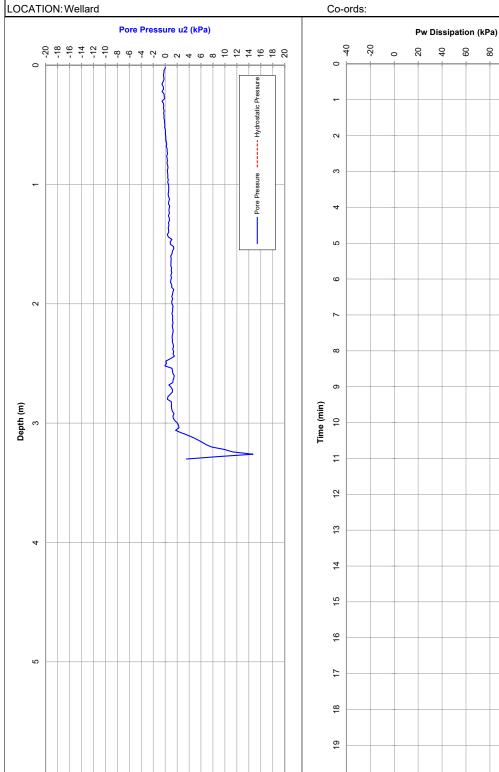
CPTU 20A

29-Jun-22

120 140 160

80

9



Please note: Hydrostatic Line is taken from the water level manually dipped by the CPT Operator following completion of the probe and, as such, should be used as a guide only.

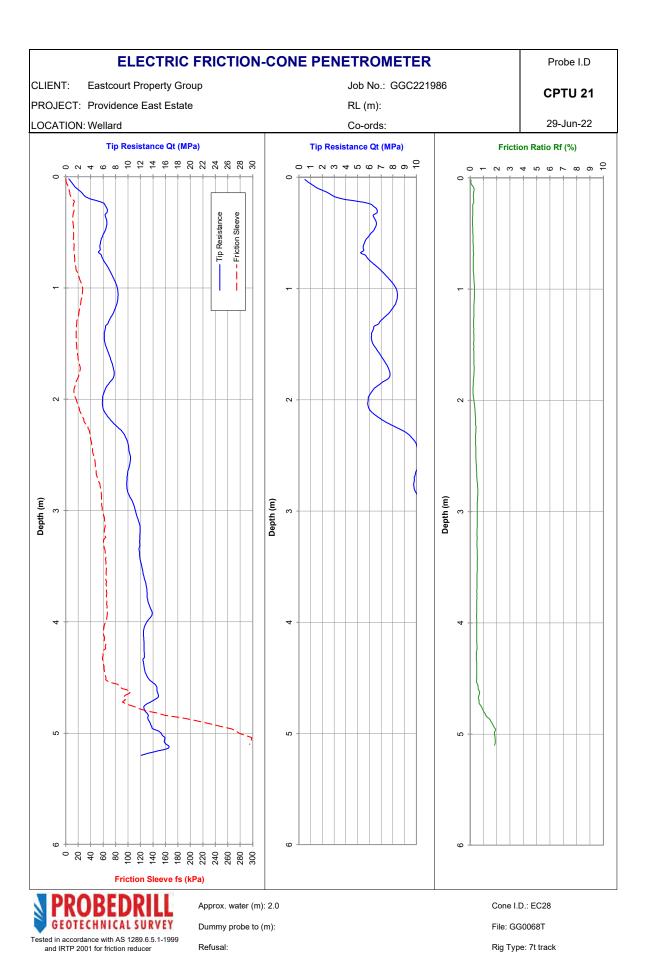
20

Approx. Water (m): Dry to 3.0

File: GG0070T.txt

Rig type: 7t track

Tested in accordance with AS 1289.6.5.1-1999 and IRTP 2001 for friction reducer



## **ELECTRIC FRICTION-CONE PENETROMETER**

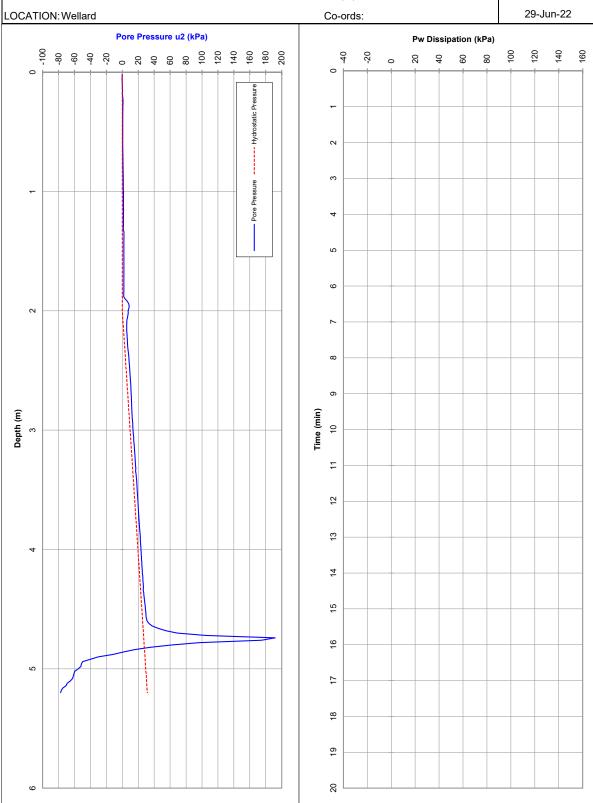
RL (m):

Eastcourt Property Group Job No.: GGC221986 CLIENT:

PROJECT: Providence East Estate

Probe I.D

**CPTU 21** 



Tested in accordance with AS 1289.6.5.1-1999 and IRTP 2001 for friction reducer

Please note: Hydrostatic Line is taken from the water level manually dipped by the CPT Operator following completion of the probe and, as such, should be used as a guide only.

Approx. Water (m): 2

File: GG0068T.txt

## **ELECTRIC FRICTION-CONE PENETROMETER** Probe I.D CLIENT: Eastcourt Property Group Job No.: GGC221986 **CPTU 22** PROJECT: Providence East Estate RL (m): 29-Jun-22 LOCATION: Wellard Co-ords: Pore Pressure u2 (kPa) Pw Dissipation (kPa) 120 140 160 -30 -20 -20 4 80 20 9 10 20 40 20 Hydrostatic Pressure က Pore Pressure 2 9 ω Depth (m) Time (min) 10 7 12 13 4 15 16 2 17 9 19 20

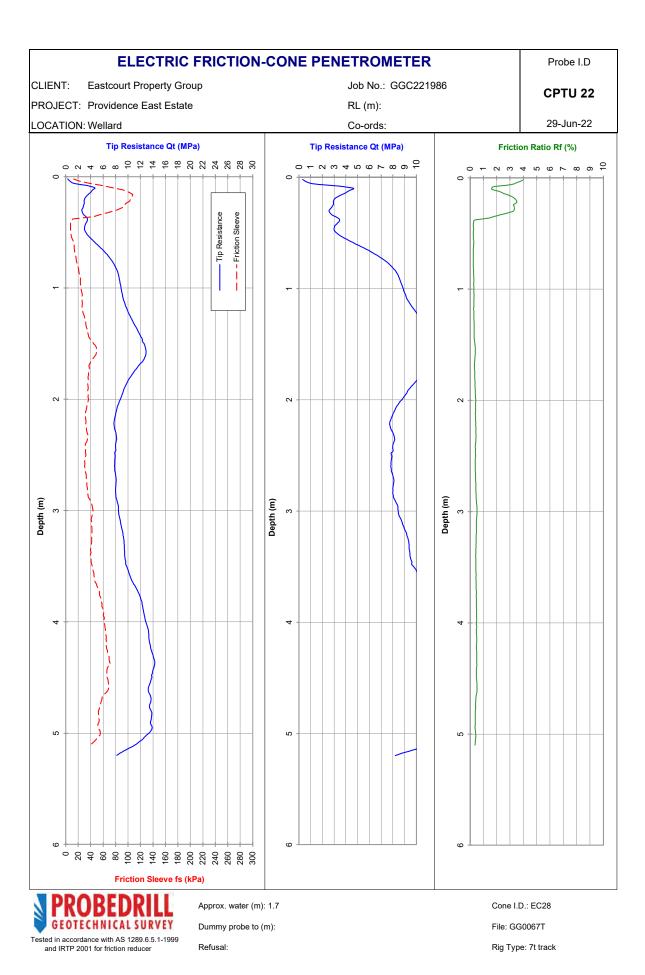
PROBEDRILL
GEOTECHNICAL SURVEY

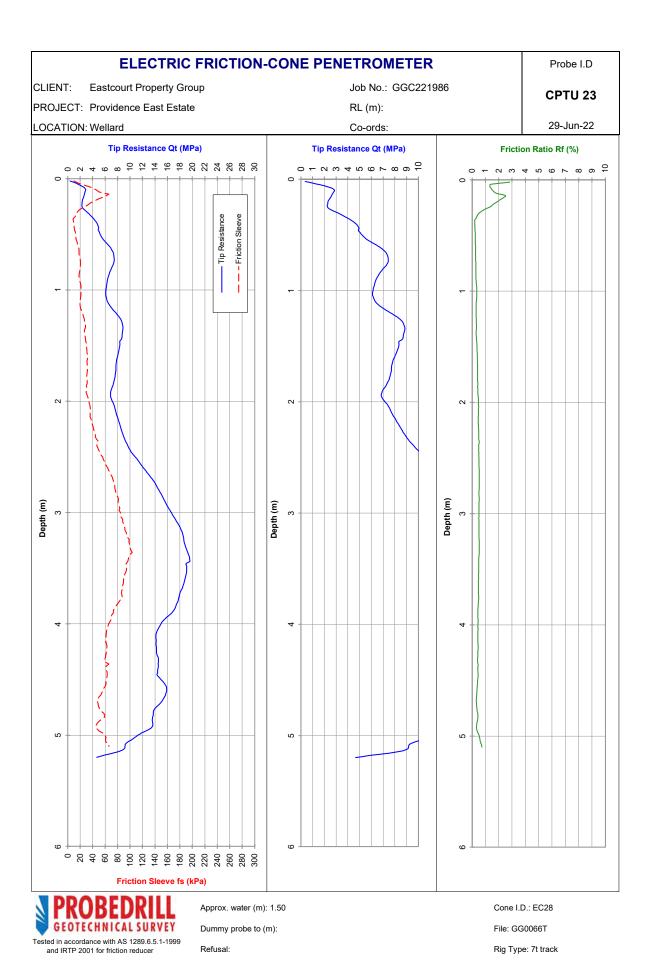
Tested in accordance with AS 1289.6.5.1-1999
and IRTP 2001 for friction reducer

Please note: Hydrostatic Line is taken from the water level manually dipped by the CPT Operator following completion of the probe and, as such, should be used as a guide only.

Approx. Water (m): 1.7

File: GG0067T.txt





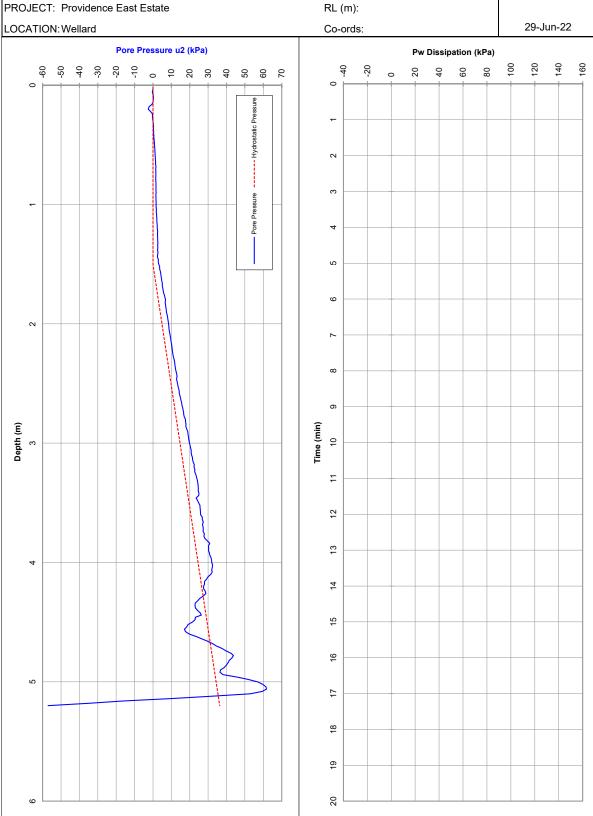
## **ELECTRIC FRICTION-CONE PENETROMETER**

CLIENT: Eastcourt Property Group Job No.: GGC221986

PROJECT: Providence East Estate

Probe I.D

**CPTU 23** 

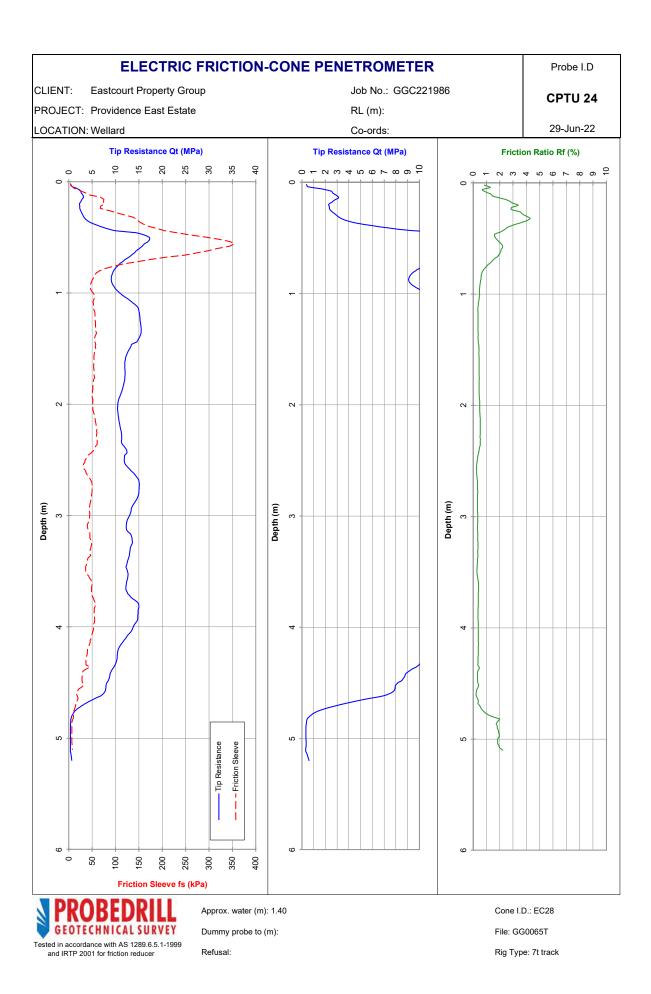


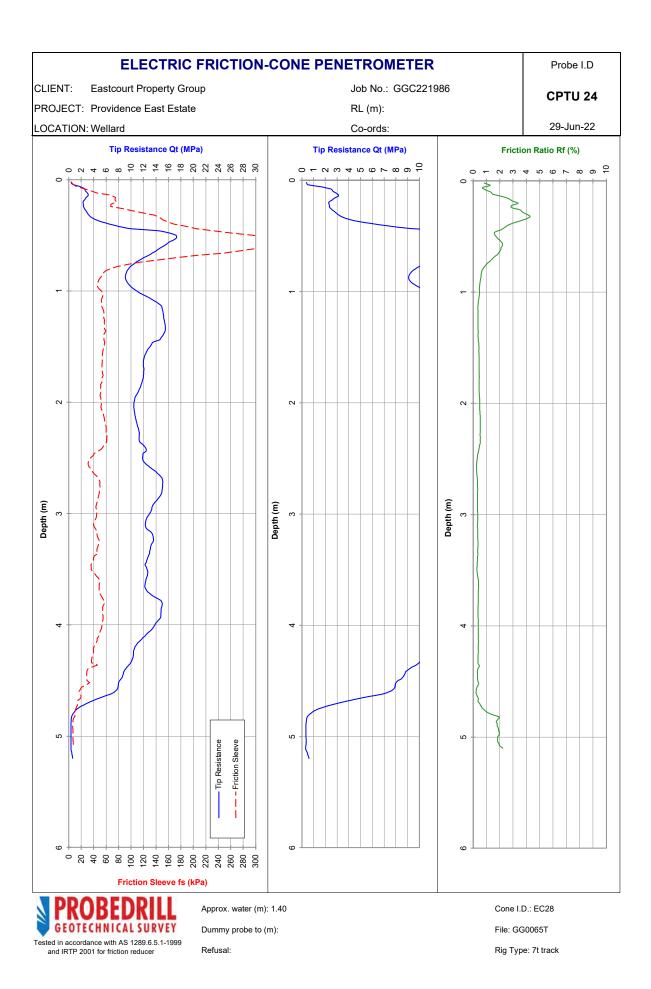
Tested in accordance with AS 1289.6.5.1-1999 and IRTP 2001 for friction reducer

Please note: Hydrostatic Line is taken from the water level manually dipped by the CPT Operator following completion of the probe and, as such, should be used as a guide only.

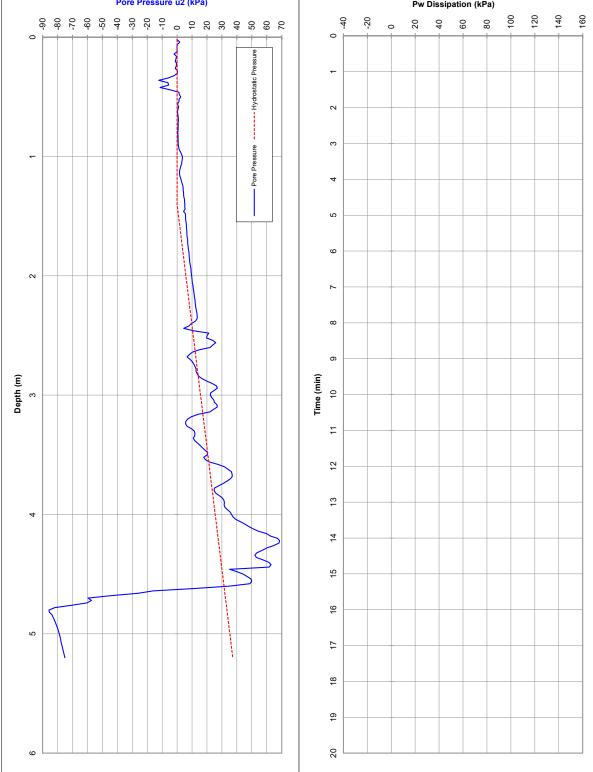
Approx. Water (m): 1.5

File: GG0066T.txt





#### **ELECTRIC FRICTION-CONE PENETROMETER** Probe I.D Job No.: GGC221986 CLIENT: Eastcourt Property Group **CPTU 24** PROJECT: Providence East Estate RL (m): 29-Jun-22 LOCATION: Wellard Co-ords: Pore Pressure u2 (kPa) Pw Dissipation (kPa) 160 120 80 20 40 09





Please note: Hydrostatic Line is taken from the water level manually dipped by the CPT Operator following completion of the probe and, as such, should be used as a guide only.

Approx. Water (m): 1.4

File: GG0065T.txt

**APPENDIX D:** Laboratory test results



PO Box 3090, Bassendean DC, WA 6942 Telephone: 08 6278 3755 Email:admin@matcons.com.au www.matcons.com.au

# **Material Test Report**

Client: GGC Pty Ltd

433 Vincent Street West West Leederville WA 6007

GGC221986 - Eastcourt Property Group, Providence East Estate Project:

TRN: GGC221986

#### Report No: MAT:MC22-01871-S03

Preliminary Report Issued - Issue:1 This report replaces all previous issues of report no 'MAT:MC22-01871-S03'.



Accredited for compliance with ISO/IEC The results in this report relate only to the items/samples that were tested.

Signatory: Alex Briggs (Laboratory Supervisor) Laboratory Number:1763 Date of Issue: 2/08/2022

THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

#### Sample Details

Sample ID MC22-01871-S03 Date Sampled 8/07/2022 Sampling Method Tested as received

Source Test Pit Material Sand **Soil Description** Silty Sand Specification AS 1289.3.6.1 Client ID TP02 **Sample Location** 

0.00m to 0.40m

#### Particle Size Distribution Method: AS 1289.3.6.1

Oven Drying by: Date Tested: 21/07/2022

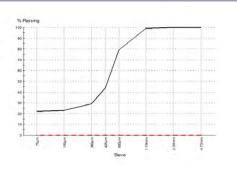
Sample Washed Note:

Sieve Size	% Passing	Limits
4.75mm	100	_
2.36mm	100	_
1.18mm	99	_
600µm	79	_
425µm	44	_
300µm	29	_
150µm	23	_
75um	22	_

#### **Other Test Results**

Description	Method Result	Limits
Sample History	AS 1289.1.1 Oven-dried	
Preparation	AS 1289.1.1 Dry Sieved	
Linear Shrinkage (%)	AS 1289.3.4.1 3.0	
Mould Length (mm)	250	
Crumbling	No	
Curling	No	
Cracking	Yes	
Liquid Limit (%)	AS 1289.3.1.1 59	
Plastic Limit (%)	AS 1289.3.2.1 52	
Plasticity Index (%)	AS 1289.3.3.1 7	
Date Tested	1/08/2022	
Organic Matter (%)	AS 1289.4.1.1 6.2	
Date Tested	21/07/2022	

### Chart



#### Comments

Preliminary results issued on the 01/08/2022.

Form No: 18909, Report No: MAT:MC22-01871-S03

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PO Box 3090, Bassendean DC, WA 6942 Telephone: 08 6278 3755 Email:admin@matcons.com.au www.matcons.com.au

# **Material Test Report**

Client: GGC Pty Ltd

433 Vincent Street West West Leederville WA 6007

**Project:** GGC221986 - Eastcourt Property Group, Providence East Estate

TRN: GGC221986

#### Report No: MAT:MC22-01871-S02

Issue No: 2

port replaces all previous issues of report no 'MAT:MC22-01871-S02



Accredited for compliance with ISO/IEC
The results in this report relate only to the items/samples that were tested.

Philips

Signatory:Alex Briggs
(Laboratory Supervisor)
Number:1763

Signatory:Alex Briggs
(Laboratory Supervisor)
Date of Issue: 1/08/2022

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#### Sample Details

 Sample ID
 MC22-01871-S02

 Date Sampled
 8/07/2022

Sampling Method Tested as received

SourceTest PitMaterialSandSoil DescriptionClayey SandSpecificationAS 1289.3.6.1Client ID2Sample LocationTP01

1.60m to 2.50m

# Particle Size Distribution Method: AS 1289.3.6.1

Drying by: Oven
Date Tested: 22/07/2022

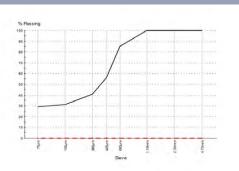
Note: Sample Washed

Sieve Size	% Passing	Limits
4.75mm	100	_
2.36mm	100	_
1.18mm	100	_
600µm	85	_
425µm	56	_
300µm	41	_
150µm	31	_
75um	29	_

#### **Other Test Results**

Description	Method	Result	Limits
Sample History	AS 1289.1.1 O	ven-dried	
Preparation	AS 1289.1.1 D	ry Sieved	
Linear Shrinkage (%)	AS 1289.3.4.1	12.0	
Mould Length (mm)		250	
Crumbling		No	
Curling		Yes	
Cracking		No	
Liquid Limit (%)	AS 1289.3.1.1	60	
Plastic Limit (%)	AS 1289.3.2.1	19	
Plasticity Index (%)	AS 1289.3.3.1	41	
Date Tested	2	5/07/2022	

### Chart



#### Comments

Replacement for certificate MAT:MC22-01871-S02 issue 1 dated 28/07/2022. As per clients request, source amended.

Form No: 18909, Report No: MAT:MC22-01871-S02

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# **Material Test Report**

Client: GGC Pty Ltd

433 Vincent Street West West Leederville WA 6007

**Project:** GGC221986 - Eastcourt Property Group, Providence East Estate

TRN: GGC221986

#### Report No: MAT:MC22-01871-S03

ssue No:

Preliminary Report Issued - Issue: The results in this report relate only to the items/samples that were tested.

frigg

Signatory:Alex Briggs (Laboratory Supervisor) Date of Issue: 1/08/2022

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#### Sample Details

Sample ID MC22-01871-S03
Date Sampled 8/07/2022
Sampling Method Tested as received

SourceTest PitMaterialSandSoil DescriptionSilty SandSpecificationAS 1289.3.6.1

Client ID 3 Sample Location TP02

0.00m to 0.40m

### Other Test Results

Description	Method	Result	Limits
Organic Matter (%)	AS 1289.4.1.1	6.2	
Date Tested	2	1/07/2022	

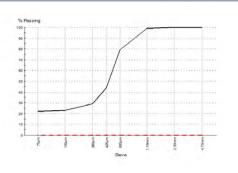
#### **Particle Size Distribution**

Method: AS 1289.3.6.1 Drying by: Oven Date Tested: 21/07/2022

Note: Sample Washed

Sieve Size	% Passing	Limits
4.75mm	100	_
2.36mm	100	_
1.18mm	99	_
600µm	79	_
425µm	44	_
300µm	29	_
150µm	23	_
75um	22	_

### Chart



#### Comments

Preliminary results issued on the 01/08/2022.

Form No: 18909, Report No: MAT:MC22-01871-S03

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# **Material Test Report**

Client: GGC Pty Ltd

433 Vincent Street West West Leederville WA 6007

**Project:** GGC221986 - Eastcourt Property Group, Providence East Estate

TRN: GGC221986

#### Report No: MAT:MC22-01871-S04

Issue No: 1



Laboratory Number:1763 Accredited for compliance with ISO/IEC
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Signatory:Alex Briggs (Laboratory Supervisor) Date of Issue: 1/08/2022

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#### Sample Details

Sample ID MC22-01871-S04
Date Sampled 8/07/2022
Sampling Method Tested as received

Source Test Pit

Source Test P Material Sand

Soil Description Sand with trace Silt Specification AS 1289.3.6.1 Client ID 4 TP02

0.80m to 1.40m

#### **Other Test Results**

Description	Method	Result	Limits
Sample History	AS 1289.1.1	Oven-dried	
Preparation	AS 1289.1.1	Dry Sieved	
Linear Shrinkage (%)	AS 1289.3.4.1	0.0	
Mould Length (mm)		250	
Crumbling		No	
Curling		No	
Cracking		No	
Liquid Limit (%)	AS 1289.3.1.1	N/A	
Plastic Limit (%)	AS 1289.3.2.1	NP	
Plasticity Index (%)	AS 1289.3.3.1	NP	
Date Tested	:	28/07/2022	

#### **Particle Size Distribution**

 Method:
 AS 1289.3.6.1

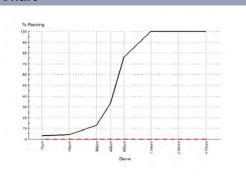
 Drying by:
 Oven

 Date Tested:
 21/07/2022

Note: Sample Washed

Sieve Size	% Passing	Limit
4.75mm	100	_
2.36mm	100	_
1.18mm	100	_
600µm	76	_
425µm	33	_
300µm	13	_
150µm	4	_
75µm	3	_

#### Chart



#### Comments

NP = Non Plastic

Form No: 18909, Report No: MAT:MC22-01871-S04

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# **Material Test Report**

Client: GGC Pty Ltd

433 Vincent Street West West Leederville WA 6007

**Project:** GGC221986 - Eastcourt Property Group, Providence East Estate

NATA

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This report replaces all previous issues of report no 'MAT:MC22-01871-S05'.

Report No: MAT:MC22-01871-S05

items/samples that

ATA Accredited
Laboratory
Number: 1763

Signatory: Alex Briggs
(Laboratory Supervisor)
Date of Issue: 3/08/20

Preliminary Report Issued - Issue:1

Number:1763 Date of Issue: 3/08/2022
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TRN: GGC221986

Sample Details

Sample ID MC22-01871-S05
Date Sampled 8/07/2022
Sampling Mathod

Sampling Method Tested as received

SourceTest PitMaterialSandSoil DescriptionSandy SiltSpecificationAS 1289.3.6.1Client ID5Sample LocationTP03

0.00m to 0.40m

Other Test Results							
	th	٥r	Ta	c+	D	001	lte

Description	Method	Result	Limits
Sample History	AS 1289.1.1 O	ven-dried	
Preparation	AS 1289.1.1 D	ry Sieved	
Linear Shrinkage (%)	AS 1289.3.4.1	3.0	
Mould Length (mm)		125	
Crumbling		No	
Curling		No	
Cracking		No	
Liquid Limit (%)	AS 1289.3.1.1	77	
Plastic Limit (%)	AS 1289.3.2.1	71	
Plasticity Index (%)	AS 1289.3.3.1	6	
Date Tested	•	1/08/2022	
Organic Matter (%)	AS 1289.4.1.1	10.1	
Date Tested	2	1/07/2022	

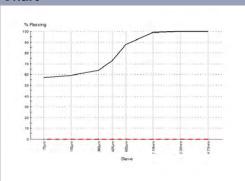
#### **Particle Size Distribution**

Method: AS 1289.3.6.1 Drying by: Oven Date Tested: 21/07/2022

Note: Sample Washed

Sieve Size	% Passing	Limits
4.75mm	100	_
2.36mm	100	_
1.18mm	99	_
600µm	88	_
425µm	73	_
300µm	64	_
150µm	59	_
75µm	57	_

#### Chart



#### Comments

Preliminary results issued on the 01/08/2022.

Replacement for Test Report MAT:MC22-01871 issue 2 dated 02.08.2022

Test Depth amended

Form No: 18909, Report No: MAT:MC22-01871-S05

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# **Material Test Report**

Client: GGC Pty Ltd

433 Vincent Street West West Leederville WA 6007

GGC221986 - Eastcourt Property Group, Providence East Estate Project:

TRN: GGC221986

### Report No: MAT:MC22-01871-S07

Preliminary Report Issued - Issue:1,1 This report replaces all previous issues of report no 'MAT:MC22-01871-S07'.



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Signatory: Alex Briggs (Laboratory Supervisor) Laboratory Number:1763 Date of Issue: 2/08/2022

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#### Sample Details

Sample ID MC22-01871-S07 Date Sampled 8/07/2022 Sampling Method Tested as received

Source Test Pit Material Sand **Soil Description** Sandy Silt Specification AS 1289.3.6.1 Client ID TP04 **Sample Location** 

0.00m to 0.40m

#### **Particle Size Distribution**

Method: AS 1289.3.6.1 Oven Drying by: Date Tested: 21/07/2022

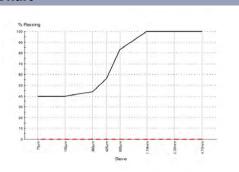
Sample Washed Note:

Sieve Size	% Passing	Limits
4.75mm	100	_
2.36mm	100	_
1.18mm	100	_
600µm	83	_
425µm	56	_
300µm	44	_
150µm	40	_
75µm	40	_

#### **Other Test Results**

Description	Method	Result	Limits
Sample History	AS 1289.1.1 O	ven-dried	
Preparation	AS 1289.1.1 D	ry Sieved	
Linear Shrinkage (%)	AS 1289.3.4.1	5.0	
Mould Length (mm)		250	
Crumbling		No	
Curling		No	
Cracking		No	
Liquid Limit (%)	AS 1289.3.1.1	70	
Plastic Limit (%)	AS 1289.3.2.1	55	
Plasticity Index (%)	AS 1289.3.3.1	15	
Date Tested		2/08/2022	
Organic Matter (%)	AS 1289.4.1.1	5.3	
Date Tested	2	1/07/2022	

#### Chart



#### Comments

Preliminary results issued on the 01/08/2022.

Form No: 18909, Report No: MAT:MC22-01871-S07

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# **Material Test Report**

Client: GGC Pty Ltd

433 Vincent Street West West Leederville WA 6007

**Project:** GGC221986 - Eastcourt Property Group, Providence East Estate

TRN: GGC221986

Report No: MAT:MC22-01871-S08

Issue No: 1



Laboratory Number:1763 Accredited for compliance with ISO/IEC
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Signatory:Alex Briggs (Laboratory Supervisor) Date of Issue: 1/08/2022

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Sample Details

Sample ID MC22-01871-S08
Date Sampled 8/07/2022
Sampling Method Tested as received

Source Test Pit

Material Sand

Soil DescriptionSand with trace SiltSpecificationAS 1289.3.6.1Client ID8Sample LocationTP04

0.60m to 1.50m

**Particle Size Distribution** 

Method: AS 1289.3.6.1 Drying by: Oven Date Tested: 21/07/2022

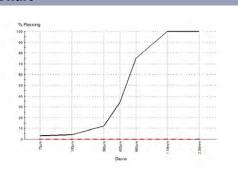
Note: Sample Washed

Sieve Size	% Passing	Limit
2.36mm	100	_
1.18mm	100	_
600µm	75	_
425µm	34	_
300µm	12	_
150µm	4	_
75um	3	_

#### **Other Test Results**

Description	Method	Result	Limits
Sample History	AS 1289.1.1 O	ven-dried	
Preparation	AS 1289.1.1 D	ry Sieved	
Linear Shrinkage (%)	AS 1289.3.4.1	0.0	
Mould Length (mm)		250	
Crumbling		No	
Curling		No	
Cracking		No	
Liquid Limit (%)	AS 1289.3.1.1	N/A	
Plastic Limit (%)	AS 1289.3.2.1	NP	
Plasticity Index (%)	AS 1289.3.3.1	NP	
Date Tested	28	3/07/2022	

#### Chart



#### Comments

NP = Non Plastic

Form No: 18909, Report No: MAT:MC22-01871-S08

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### Report No: MAT:MC22-01871-S09

Issue No: 1



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Signatory:Alex Briggs
(Laboratory Supervisor)
Number:1763
Date of Issue: 1/08/2022

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# **Material Test Report**

Client: GGC Pty Ltd

433 Vincent Street West West Leederville WA 6007

**Project:** GGC221986 - Eastcourt Property Group, Providence East Estate

TRN: GGC221986

Sample Details

Sample ID MC22-01871-S09
Date Sampled 8/07/2022
Sampling Method Tested as received

Source Test Pit Material Sand

Soil Description Sand with trace Silt Specification AS 1289.3.6.1 Client ID 9

Sample Location 7P05

0.70m to 1.60mm

Other	<b>Test</b>	Results

Description	Method	Result	Limits
Sample History	AS 1289.1.1	Oven-dried	
Preparation	AS 1289.1.1	Dry Sieved	
Linear Shrinkage (%)	AS 1289.3.4.1	0.0	
Mould Length (mm)		250	
Crumbling		No	
Curling		No	
Cracking		No	
Liquid Limit (%)	AS 1289.3.1.1	N/A	
Plastic Limit (%)	AS 1289.3.2.1	NP	
Plasticity Index (%)	AS 1289.3.3.1	NP	
Date Tested		29/07/2022	

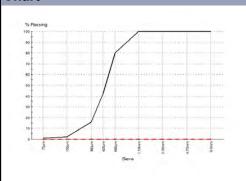
#### **Particle Size Distribution**

Method: AS 1289.3.6.1 Drying by: Oven Date Tested: 20/07/2022

Note: Sample Washed

Sieve Size	% Passing	Limits
9.5mm	100	_
4.75mm	100	_
2.36mm	100	_
1.18mm	100	_
600µm	80	_
425µm	42	_
300µm	16	_
150µm	2	_
75µm	1	_

#### Chart



#### Comments

NP = Non Plastic

Form No: 18909, Report No: MAT:MC22-01871-S09

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# Material Test Report

Client: GGC Pty Ltd

433 Vincent Street West West Leederville WA 6007

**Project:** GGC221986 - Eastcourt Property Group, Providence East Estate

**TRN:** GGC221986

Report No: MAT:MC22-01871-S10



Accredited for compliance with ISO/IEC
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Signatory:Alex Briggs
(Laboratory Number:1763 Signatory:Alex Briggs
(Laboratory Supervisor)
Date of Issue: 1/08/2022

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Sample Details

Sample ID MC22-01871-S10
Date Sampled 8/07/2022
Sampling Method Tested as received

Source Test Pit Material Sand

Soil Description Sand with Silt & trace Gravel

**Specification** AS 1289.3.6.1 **Client ID** 10

Client ID 10 Sample Location TP06

0.30m to 1.20m

# Particle Size Distribution Method: AS 1289.3.6.1

Drying by: Oven
Date Tested: 21/07/2022

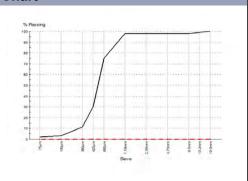
Note: Sample Washed

Sieve Size	% Passing	Limits
19.0mm	100	_
13.2mm	99	_
9.5mm	98	_
4.75mm	98	_
2.36mm	98	_
1.18mm	98	_
600µm	75	_
425µm	30	_
300µm	11	_
150µm	3	_
75µm	2	_

#### **Other Test Results**

Description	Method	Result	Limits
Sample History	AS 1289.1.1	Oven-dried	
Preparation	AS 1289.1.1	Dry Sieved	
Linear Shrinkage (%)	AS 1289.3.4.1	0.0	
Mould Length (mm)		250	
Crumbling		No	
Curling		No	
Cracking		No	
Liquid Limit (%)	AS 1289.3.1.1	N/A	
Plastic Limit (%)	AS 1289.3.2.1	NP	
Plasticity Index (%)	AS 1289.3.3.1	NP	
Date Tested		28/07/2022	

#### Chart



#### Comments

NP = Non Plastic

Form No: 18909, Report No: MAT:MC22-01871-S10

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# **Material Test Report**

Client: GGC Pty Ltd

433 Vincent Street West West Leederville WA 6007

**Project:** GGC221986 - Eastcourt Property Group, Providence East Estate

TRN: GGC221986

#### Report No: MAT:MC22-01871-S11

Preliminary Report Issued - Issue:1 Issue No: 2

This report replaces all previous issues of report no 'MAT-MC22-01871-S11'.



Accredited for compliance with ISO/IEC
The results in this report relate only to the items/samples that were tested.

Philips

ATA Accredited Laboratory Number:1763 Signatory:Alex Briggs (Laboratory Supervisor) Date of Issue: 2/08/2022

THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

#### Sample Details

Sample ID MC22-01871-S11
Date Sampled 8/07/2022
Sampling Method Tested as received

SourceTest PitMaterialSandSoil DescriptionSandy SiltSpecificationAS 1289.3.6.1

Client ID 11
Sample Location TP07

0.00m to 0.40m

#### **Particle Size Distribution**

Method: AS 1289.3.6.1 Drying by: Oven Date Tested: 20/07/2022

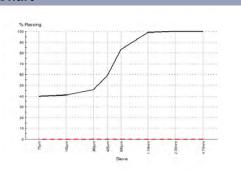
Note: Sample Washed

Sieve Size	% Passing	Limit
4.75mm	100	_
2.36mm	100	_
1.18mm	99	_
600µm	83	_
425µm	59	_
300µm	46	_
150µm	41	_
75um	40	_

#### **Other Test Results**

Description	Method	Result	Limits
Sample History	AS 1289.1.1 Ove	n-dried	
Preparation	AS 1289.1.1 Dry	Sieved	
Linear Shrinkage (%)	AS 1289.3.4.1	4.0	
Mould Length (mm)		125	
Crumbling		No	
Curling		No	
Cracking		No	
Liquid Limit (%)	AS 1289.3.1.1	72	
Plastic Limit (%)	AS 1289.3.2.1	62	
Plasticity Index (%)	AS 1289.3.3.1	10	
Date Tested	1/0	8/2022	
Organic Matter (%)	AS 1289.4.1.1	6.1	
Date Tested	21/0	7/2022	

#### Chart



#### Comments

Preliminary results issued on the 01/08/2022.

Form No: 18909, Report No: MAT:MC22-01871-S11

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# **Material Test Report**

Client: GGC Pty Ltd

433 Vincent Street West West Leederville WA 6007

**Project:** GGC221986 - Eastcourt Property Group, Providence East Estate

TRN: GGC221986

Report No: MAT:MC22-01871-S12

Issue No: 1



Accredited for compliance with ISO/IEC
The results in this report relate only to the items/samples that were tested.

frigg

Signatory:Alex Briggs
(Laboratory Supervisor)
Number:1763

Signatory:Alex Briggs
(Laboratory Supervisor)
Date of Issue: 1/08/2022

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Sample Details

Sample ID MC22-01871-S12
Date Sampled 8/07/2022
Sampling Method Tested as received

Source Tested as received

Source Test P Material Sand

Soil Description Sand with trace Silt Specification AS 1289.3.6.1 Client ID 12 Sample Location TP07

0.80m to 1.50m

**Particle Size Distribution** 

Method: AS 1289.3.6.1 Drying by: Oven Date Tested: 20/07/2022

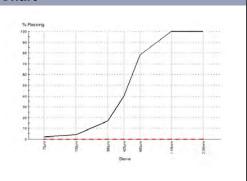
Note: Sample Washed

Sieve Size	% Passing	Limit
2.36mm	100	_
1.18mm	100	_
600µm	78	_
425µm	40	_
300µm	17	_
150µm	4	_
75µm	2	_

#### **Other Test Results**

Description	Method	Result	Limits
Sample History	AS 1289.1.1	Oven-dried	
Preparation	AS 1289.1.1	Dry Sieved	
Linear Shrinkage (%)	AS 1289.3.4.1	1 0.0	
Mould Length (mm)		250	
Crumbling		No	
Curling		No	
Cracking		No	
Liquid Limit (%)	AS 1289.3.1.1	1 N/A	
Plastic Limit (%)	AS 1289.3.2.1	1 NP	
Plasticity Index (%)	AS 1289.3.3.1	1 NP	
Date Tested		28/07/2022	

#### Chart



#### Comments

NP = Non Plastic

Form No: 18909, Report No: MAT:MC22-01871-S12

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# **Material Test Report**

Client: GGC Pty Ltd

433 Vincent Street West West Leederville WA 6007

**Project:** GGC221986 - Eastcourt Property Group, Providence East Estate

TRN: GGC221986

### Report No: MAT:MC22-01871-S13



Accredited for compliance with ISO/IEC
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frig

Signatory:Alex Briggs
(Laboratory Number:1763 Signatory:Supervisor)
Date of Issue: 2/08/2022

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#### Sample Details

Sample ID MC22-01871-S13
Date Sampled 8/07/2022
Sampling Method Tested as received

SourceTest PitMaterialSandSoil DescriptionSilty SandSpecificationAS 1289.3.6.1Client ID13Sample LocationTP08

0.00m to 0.40m

#### **Particle Size Distribution**

Method: AS 1289.3.6.1 Drying by: Oven Date Tested: 20/07/2022

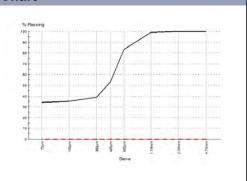
Note: Sample Washed

	Sieve Size 4.75mm	% Passing	Limits
	4.75mm	100	_
	2.36mm	100	_
	1.18mm 600µm	99	_
	600µm	83	_
	425µm	53	_
ı	300µm	39	_
	150µm	35	_
	75um	34	_

#### **Other Test Results**

Description	Method	Result	Limits
Sample History	AS 1289.1.1 O	ven-dried	
Preparation	AS 1289.1.1 D	ry Sieved	
Linear Shrinkage (%)	AS 1289.3.4.1	4.0	
Mould Length (mm)		125	
Crumbling		No	
Curling		No	
Cracking		No	
Liquid Limit (%)	AS 1289.3.1.1	47	
Plastic Limit (%)	AS 1289.3.2.1	39	
Plasticity Index (%)	AS 1289.3.3.1	8	
Date Tested	2	2/08/2022	
Organic Matter (%)	AS 1289.4.1.1	5.7	
Date Tested	2.	1/07/2022	

#### Chart



#### Comments

Preliminary results issued on the 01/08/2022.

Form No: 18909, Report No: MAT:MC22-01871-S13

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# **Material Test Report**

Client: GGC Pty Ltd

433 Vincent Street West West Leederville WA 6007

**Project:** GGC221986 - Eastcourt Property Group, Providence East Estate

Accredited for compliance with ISO/IEC

The results in this report relate only to the

The results in this report relate only to the items/samples that were tested.

NATA Accredited Laboratory Number:1763 Signatory:Alex Briggs (Laboratory Supervisor) Date of Issue: 1/08/20

Number:1763 Date of Issue: 1/08/2022
THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

Report No: MAT:MC22-01871-S14

TRN: GGC221986

Sample Details

Sample ID MC22-01871-S14
Date Sampled 8/07/2022
Sampling Method Total on receive

Sampling Method Tested as received

Source Test Pit Material Sand

Soil DescriptionSand with trace SiltSpecificationAS 1289.3.6.1Client ID14Sample LocationTP08

0.80m to 1.50m

Other Test Results

Description	Method	Result	Limits
Sample History	AS 1289.1.1	Oven-dried	
Preparation	AS 1289.1.1	Dry Sieved	
Linear Shrinkage (%)	AS 1289.3.4.1	0.0	
Mould Length (mm)		250	
Crumbling		No	
Curling		No	
Cracking		No	
Liquid Limit (%)	AS 1289.3.1.1	N/A	
Plastic Limit (%)	AS 1289.3.2.1	NP	
Plasticity Index (%)	AS 1289.3.3.1	NP	
Date Tested		29/07/2022	

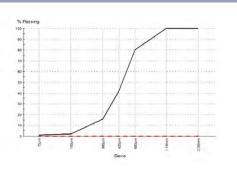
#### **Particle Size Distribution**

Method: AS 1289.3.6.1 Drying by: Oven Date Tested: 19/07/2022

Note: Sample Washed

Sieve Size	% Passing	Limit
2.36mm	100	_
1.18mm	100	_
600µm	80	_
425µm	42	_
300µm	16	_
150µm	2	_
75µm	1	_

# Chart



#### Comments

NP = Non Plastic

Form No: 18909, Report No: MAT:MC22-01871-S14

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# **Material Test Report**

Client: GGC Pty Ltd

433 Vincent Street West West Leederville WA 6007

GGC221986 - Eastcourt Property Group, Providence East Estate Project:

TRN: GGC221986

#### Report No: MAT:MC22-01871-S15



Accredited for compliance with ISO/IEC The results in this report relate only to the items/samples that were tested.

Signatory: Alex Briggs (Laboratory Supervisor) Laboratory Number:1763 Date of Issue: 1/08/2022

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#### Sample Details

Sample ID MC22-01871-S15 Date Sampled 8/07/2022 Sampling Method Tested as received

Source Test Pit Material Sand **Soil Description** Silty Sand Specification AS 1289.3.6.1 Client ID 15 TP09 **Sample Location** 

0.00m to 0.50m

### **Other Test Results**

Description	Method Result	Limits
Sample History	AS 1289.1.1 Oven-dried	
Preparation	AS 1289.1.1 Dry Sieved	
Linear Shrinkage (%)	AS 1289.3.4.1 1.5	
Mould Length (mm)	250	
Crumbling	No	
Curling	No	
Cracking	No	
Liquid Limit (%)	AS 1289.3.1.1 N/A	
Plastic Limit (%)	AS 1289.3.2.1 NP	
Plasticity Index (%)	AS 1289.3.3.1 NP	
Date Tested	29/07/2022	
Organic Matter (%)	AS 1289.4.1.1 2.0	
Date Tested	21/07/2022	

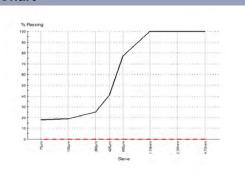
#### **Particle Size Distribution**

Method: AS 1289.3.6.1 Oven Drying by: Date Tested: 21/07/2022

Sample Washed Note:

Sieve Size	% Passing	Limit
4.75mm	100	_
2.36mm	100	_
1.18mm	100	_
600µm	77	_
425µm	41	_
300µm	25	_
150µm	19	_
75µm	18	_

#### Chart



#### Comments

NP = Non Plastic

Form No: 18909, Report No: MAT:MC22-01871-S15

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# **Material Test Report**

Client: GGC Pty Ltd

433 Vincent Street West West Leederville WA 6007

**Project:** GGC221986 - Eastcourt Property Group, Providence East Estate

TRN: GGC221986

#### Report No: MAT:MC22-01871-S17

ssue No: 1



Accredited for compliance with ISO/IEC
The results in this report relate only to the items/samples that were tested.

frings

Signatory:Alex Briggs
(Laboratory Supervisor)
Number:1763

Signatory:Alex Briggs
(Laboratory Supervisor)
Date of Issue: 1/08/20

Number:1763 Date of Issue: 1/08/2022
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#### Sample Details

Sample ID MC22-01871-S17
Date Sampled 8/07/2022
Sampling Method Tested as received

Source Test Pit Material Sand

Soil Description Sand with trace Silt Specification AS 1289.3.6.1 Client ID 17 Sample Location TP10

0.40m to 1.50m

**Other Test Results** 

Description	Method	Result	Limits
Sample History	AS 1289.1.1	Oven-dried	
Preparation	AS 1289.1.1	Dry Sieved	
Linear Shrinkage (%)	AS 1289.3.4.1	0.0	
Mould Length (mm)		250	
Crumbling		No	
Curling		No	
Cracking		No	
Liquid Limit (%)	AS 1289.3.1.1	N/A	
Plastic Limit (%)	AS 1289.3.2.1	NP	
Plasticity Index (%)	AS 1289.3.3.1	NP	
Date Tested		29/07/2022	

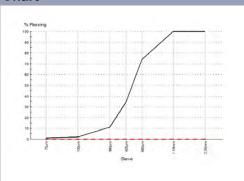
#### **Particle Size Distribution**

Method: AS 1289.3.6.1 Drying by: Oven Date Tested: 20/07/2022

Note: Sample Washed

Sieve Size	% Passing	Limit
2.36mm	100	_
1.18mm	100	_
600µm	74	_
425µm	34	_
300µm	11	_
150µm	2	_
75µm	1	_

#### Chart



#### Comments

NP = Non Plastic

Form No: 18909, Report No: MAT:MC22-01871-S17

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# Material Test Report

Client: GGC Pty Ltd

433 Vincent Street West West Leederville WA 6007

**Project:** GGC221986 - Eastcourt Property Group, Providence East Estate

NAT

TRN: GGC221986

#### Report No: MAT:MC22-01871-S18

Accredited for compliance with ISO/IEC

Issue No: 1



The results in this report relate only to the items/samples that were tested.

ccredited ratory (Laboratory Supervisor)

Laboratory (Laboratory Supervisor)
Number:1763 Date of Issue: 1/08/2022
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#### Sample Details

Sample ID MC22-01871-S18
Date Sampled 8/07/2022
Sampling Method Tested as received

Source Test Pit Material Sand

Soil Description Sand with trace Gravel & Silt

**Specification** AS 1289.3.6.1

Client ID 18 Sample Location TP11

0.00m to 0.40m

### **Other Test Results**

Description	Method	Result	Limits
Sample History	AS 1289.1.1 Ov	en-dried	
Preparation	AS 1289.1.1 Dr	y Sieved	
Linear Shrinkage (%)	AS 1289.3.4.1	0.0	
Mould Length (mm)		250	
Crumbling		No	
Curling		No	
Cracking		No	
Liquid Limit (%)	AS 1289.3.1.1	N/A	
Plastic Limit (%)	AS 1289.3.2.1	NP	
Plasticity Index (%)	AS 1289.3.3.1	NP	
Date Tested	29	/07/2022	
Organic Matter (%)	AS 1289.4.1.1	2.6	
Date Tested	21.	/07/2022	

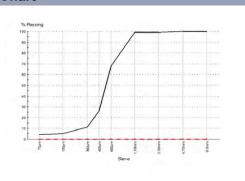
#### **Particle Size Distribution**

Method: AS 1289.3.6.1 Drying by: Oven Date Tested: 14/07/2022

Note: Sample Washed

Sieve Size	% Passing	Limits
9.5mm	100	_
4.75mm	100	_
2.36mm	99	_
1.18mm	99	_
600µm	68	_
425µm	26	_
300µm	11	_
150µm	5	_
75µm	4	_

#### Chart



#### Comments

NP = Non Plastic

Form No: 18909, Report No: MAT:MC22-01871-S18

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# **Material Test Report**

Client: GGC Pty Ltd

433 Vincent Street West West Leederville WA 6007

GGC221986 - Eastcourt Property Group, Providence East Estate Project:

TRN: GGC221986

#### Report No: MAT:MC22-01871-S19



Accredited for compliance with ISO/IEC The results in this report relate only to the items/samples that were tested.

Signatory: Alex Briggs (Laboratory Supervisor) Laboratory Number:1763 Date of Issue: 1/08/2022

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Sample Details

Sample ID MC22-01871-S19 Date Sampled 8/07/2022 Sampling Method Tested as received

Source Test Pit Material Sand

**Soil Description** Sand with trace Silt Specification AS 1289.3.6.1

Client ID 19 TP11 **Sample Location** 

0.60m to 1.50m

_	4.0		_	_		
	-	0 r	Γρς1		201	III

Description	Method	Result	Limits
Sample History	AS 1289.1.1	Oven-dried	
Preparation	AS 1289.1.1	Dry Sieved	
Linear Shrinkage (%)	AS 1289.3.4.1	0.0	
Mould Length (mm)		250	
Crumbling		No	
Curling		No	
Cracking		No	
Liquid Limit (%)	AS 1289.3.1.1	N/A	
Plastic Limit (%)	AS 1289.3.2.1	NP	
Plasticity Index (%)	AS 1289.3.3.1	NP	
Date Tested	:	29/07/2022	

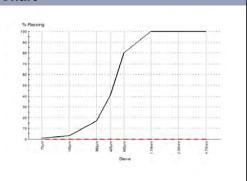
#### **Particle Size Distribution**

Method: AS 1289.3.6.1 Oven Drying by: Date Tested: 21/07/2022

Sample Washed Note:

Sieve Size	% Passing	Limit
4.75mm	100	_
2.36mm	100	_
1.18mm	100	_
600µm	80	_
425µm	41	_
300µm	17	_
150µm	3	_
75µm	1	_

#### Chart



#### Comments

NP = Non Plastic

Form No: 18909, Report No: MAT:MC22-01871-S19

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# **Maximum Dry Density Report**

Client: GGC Pty Ltd

433 Vincent Street West West Leederville WA 6007

Project: GGC221986 - Eastcourt Property Group, Providence East Estate

TRN: GGC221986

Material:

### Report No: MDD:MC22-01871-S02

Issue No: 2

port replaces all previous issues of report no 'MDD:MC22-01871-S02'



Accredited for compliance with ISO/IEC The results in this report relate only to the items/samples that were tested.

A frings

Signatory:Alex Briggs
(Laboratory Supervisor)
Number:1763

Signatory:Alex Briggs
(Laboratory Supervisor)
Date of Issue: 1/08/2022

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Sample Details

Sample ID: MC22-01871-S02 Date Sampled: 8/07/2022

Sampling Method: Tested as received

Source: Test Pit
Soil Description: Clayey Sand
Specification: AS 1289.3.6.1

Client ID: 2

**Location:** TP01, 1.60m to 2.50m

**Date Tested:** 22/07/2022

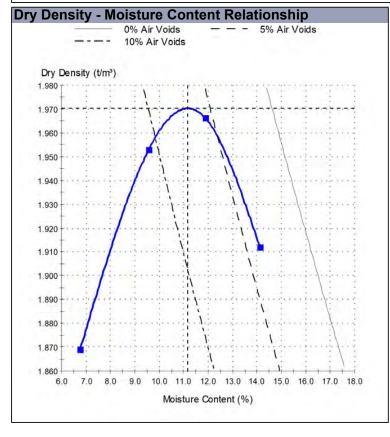
#### **Test Results**

Sand

AS 1289.5.2.1

Modified MDD (t/m³): 1.97
Modified OMC (%): 11.0
Retained Sieve (mm): 19.0
Oversize Material (%): 0
Curing Time (h): 48

LL Method: AS 1289.3.1.1



### Comments

Replacement for certificate MDD:MC22-01871-S01 issue 1 dated 28/07/2022.

As per clients request, source amended.

Form No: 18995, Report No: MDD:MC22-01871-S02

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# **California Bearing Ratio Test Report**

Client: GGC Pty Ltd

433 Vincent Street West West Leederville WA 6007

**Project:** GGC221986 - Eastcourt Property Group, Providence East Estate

TRN: GGC221986

# Report No: CBR:MC22-01871-S02

port replaces all previous issues of report no 'CBR:MC22-01871-S02'.



The results in this report relate only to the items/samples that were tested.

A Shings

Signatory:Alex Briggs
(Laboratory Supervisor)
Number:1763

Signatory:Alex Briggs
(Laboratory Supervisor)
Date of Issue: 1/08/2022

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Sample Details

Sample ID: MC22-01871-S02 Date Sampled: 8/07/2022

Sampling Method: Tested as received

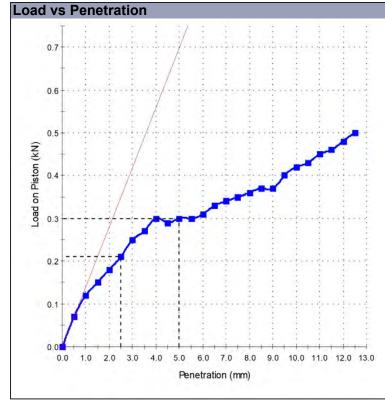
Source: Test Pit Material: Sand

Soil Description: Clayey Sand

Specification: AS 1289.3.6.1 Client ID: 2

Sample Location: TP01, 1.60m to 2.50m

**Date Tested:** 22/07/2022



	Test Results	
1	AS 1289.6.1.1	
	CBR at 2.5mm (%):	1.5
١	Dry Density before Soaking (t/m³):	1.88
	Density Ratio before Soaking (%):	95.5
١	Moisture Content before Soaking (%):	10.8
	Moisture Ratio before Soaking (%):	97.0
	Dry Density after Soaking (t/m³):	1.87
١	Density Ratio after Soaking (%):	95.0
	Swell (%):	0.5
	Moisture Content of Top 30mm (%):	23.1
	Moisture Content of Remaining Depth (%):	12.8
	Compaction Hammer Used:	Modified
		AS 1289.5.2.1
١	Surcharge Mass (kg):	4.50
	Period of Soaking (Days):	4
	Retained on 19 mm Sieve (%):	0
	CBR Moisture Content Method:	AS 1289.2.1.1
	Sample Curing Time (h):	172
	Plasticity Determination Method:	AS 1289.3.1.1
1		
١		
1		

### Comments

Replacement for certificate CBR:MC22-01871-S02 issue 1 dated 28/07/2022.

As per clients request, source amended.

Form No: 18986, Report No: CBR:MC22-01871-S02

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# **Maximum Dry Density Report**

Client:

GGC Pty Ltd

433 Vincent Street West West Leederville WA 6007

Project: GGC221986 - Eastcourt Property Group, Providence East Estate

TRN: GGC221986

#### Report No: MDD:MC22-01871-S09

Issue No: 1



8/07/2022

Sand

Date Sampled:

Material:

Accredited for compliance with ISO/IEC The results in this report relate only to the items/samples that were tested.

frigg

Signatory:Alex Briggs
(Laboratory Supervisor)
Number:1763

Signatory:Alex Briggs
(Laboratory Supervisor)
Date of Issue: 1/08/2022

THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

Sample Details

**Sample ID:** MC22-01871-S09

Sampling Method: Tested as received

Source: Test Pit

Soil Description: Sand with trace Silt Specification: AS 1289.3.6.1

Client ID: 9

1.646

1.644

6.0

7.5

9.0

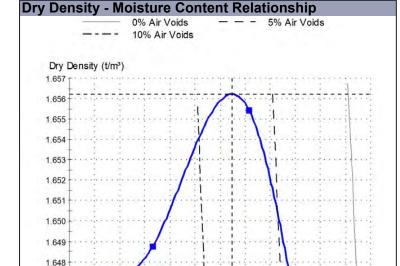
10.5

Moisture Content (%)

12.0

**Location:** TP05, 0.70m to 1.60mm

Date Tested: 15/07/2022



#### **Test Results**

AS 1289.5.2.1 Modified MDD (t/m³): 1.66

Modified OMC (%): 11.5
Retained Sieve (mm): 19.0
Oversize Material (%): 0
Curing Time (h): 19

LL Method: Visual / Tactile

Comments		
Form No: 18995, Report No: MDD:MC22-01871-S09	© 2000-2022 QESTLab by SpectraQEST.com	Page 1 of 1

15.0

16.5

1

13.5

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# **California Bearing Ratio Test Report**

Client: GGC Pty Ltd

433 Vincent Street West West Leederville WA 6007

**Project:** GGC221986 - Eastcourt Property Group, Providence East Estate

TRN: GGC221986

### Report No: CBR:MC22-01871-S09

Issue No:



The results in this report relate only to the items/samples that were tested.

Philipp

Signatory:Alex Briggs
(Laboratory Supervisor)
Number:1763

Signatory:Alex Briggs
(Laboratory Supervisor)
Date of Issue: 1/08/2022

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Sample Details

Sample ID: MC22-01871-S09 Date Sampled: 8/07/2022

Sampling Method: Tested as received

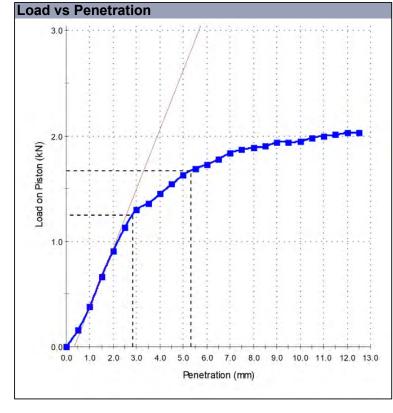
Source: Test Pit Material: Sand

**Soil Description:** Sand with trace Silt

Specification: AS 1289.3.6.1 Client ID:

Sample Location: TP05, 0.70m to 1.60mm

**Date Tested:** 1/08/2022



l	Test Results	
l	AS 1289.6.1.1	
l	CBR at 2.5mm (%):	9
l	Dry Density before Soaking (t/m³):	1.58
l	Density Ratio before Soaking (%):	95.0
l	Moisture Content before Soaking (%):	11.0
l	Moisture Ratio before Soaking (%):	96.0
l	Dry Density after Soaking (t/m³):	1.59
l	Density Ratio after Soaking (%):	96.0
l	Swell (%):	-0.5
l	Moisture Content of Top 30mm (%):	20.4
l	Moisture Content of Remaining Depth (%):	22.1
l	Compaction Hammer Used:	Modified
l		AS 1289.5.2.1
l	Surcharge Mass (kg):	4.50
l	Period of Soaking (Days):	4
l	Retained on 19 mm Sieve (%):	0
l	CBR Moisture Content Method:	AS 1289.2.1.1
l	Sample Curing Time (h):	77
l	Plasticity Determination Method:	AS 1289.3.1.1
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### Comments

Form No: 18986, Report No: CBR:MC22-01871-S09

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# **Maximum Dry Density Report**

Client: G0

GGC Pty Ltd

433 Vincent Street West West Leederville WA 6007

**Project:** GGC221986 - Eastcourt Property Group, Providence East Estate

TRN: GGC221986

#### Report No: MDD:MC22-01871-S16

Issue No: 1



Date Sampled:

Material:

Accredited for compliance with ISO/IEC The results in this report relate only to the items/samples that were tested.

frings

IATA Accredited Laboratory Number:1763 Signatory:Alex Briggs (Laboratory Supervisor) Date of Issue: 1/08/2022

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Sample Details

**Sample ID:** MC22-01871-S16

Sampling Method: Tested as received

Source: Test Pit
Specification: AS 1289.3.6.1

Client ID: 16

**Location:** TP09, 0.80m to 1.60m

**Date Tested:** 15/07/2022

### Test Results

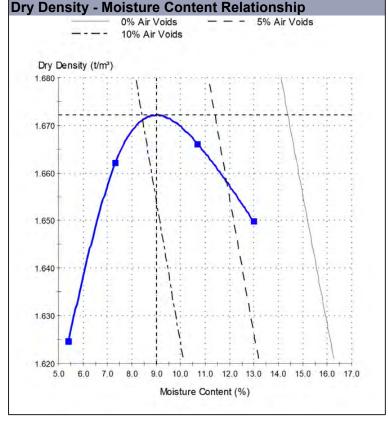
Sand

8/07/2022

AS 1289.5.2.1

Modified MDD (t/m³): 1.67 Modified OMC (%): 9.0 Retained Sieve (mm): 19.0 Oversize Material (%): 0 Curing Time (h): 24

LL Method: Visual / Tactile



### Comments

Form No: 18995, Report No: MDD:MC22-01871-S16

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# **California Bearing Ratio Test Report**

Client: GGC Pty Ltd

433 Vincent Street West West Leederville WA 6007

**Project:** GGC221986 - Eastcourt Property Group, Providence East Estate

TRN: GGC221986

### Report No: CBR:MC22-01871-S16

Issue No: 1



**Test Results** 

The results in this report relate only to the items/samples that were tested.

frigs

IATA Accredited Laboratory Number:1763 Signatory:Alex Briggs (Laboratory Supervisor) Date of Issue: 1/08/2022

THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

Sample Details

Sample ID: MC22-01871-S16 Date Sampled: 8/07/2022

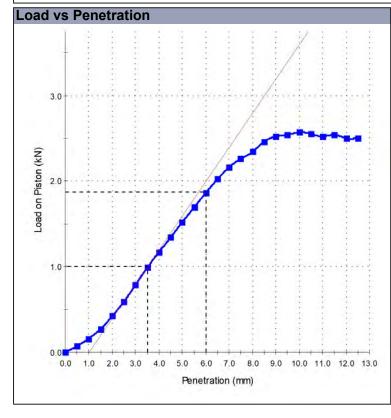
Sampling Method: Tested as received

 Source:
 Test Pit
 Material:
 Sand

 Specification:
 AS 1289.3.6.1
 Client ID:
 16

 Sample Location:
 TP09, 0.80m to 1.60m
 16

Date Tested: 22/07/2022



#### AS 1289.6.1.1 CBR at 5.0mm (%): Dry Density before Soaking (t/m³): 1.58 Density Ratio before Soaking (%): 94.5 Moisture Content before Soaking (%): 9.3 Moisture Ratio before Soaking (%): 103.0 Dry Density after Soaking (t/m³): 1.60 Density Ratio after Soaking (%): 96.0 Swell (%): -1.5 Moisture Content of Top 30mm (%): 18.7 Moisture Content of Remaining Depth (%): 20.0 Compaction Hammer Used: Modified AS 1289.5.2.1 Surcharge Mass (kg): 4.50 Period of Soaking (Days): Retained on 19 mm Sieve (%): AS 1289.2.1.1 CBR Moisture Content Method: Sample Curing Time (h):

### Comments

Form No: 18986, Report No: CBR:MC22-01871-S16

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# Appendix F

Modelling Assumption Report

Emerge Associates (2023)

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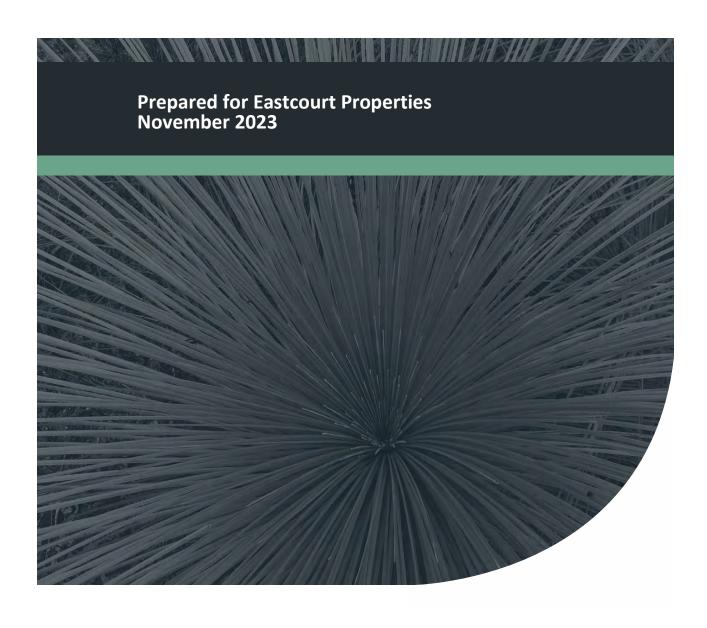
Item 17.1 - Attachment G



# Modelling Assumptions Report

**Providence East** 

Project No: EP22-062(03)



Item 17.1 - Attachment G Page 531



### **Document Control**

Doc name:	Modelling Assumptions Report Providence East						
Doc no.:	EP22-062(03)—016 JM						
Version	Date	Author		Reviewer			
1	November 2023	Joyti Mabruk	JM	David Coremans	DPC		
1	Appendix to the LWMS						

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Project number: EP22-062(03)|November 2023

Integrated Science & Design

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Doc No.: EP22-062(03)—016 JM| Version: 1

# Modelling Assumptions Report Providence East



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Doc No.: EP22-062(03)—016 JM | Version: 1

# Modelling Assumptions Report Providence East



### 1 Background

Lot 506 on DP P071000, 362 Johnson Road Wellard East (referred to herein as the 'site') is located approximately 38 km south of Perth central business district (CBD), within the suburb of Wellard. The site is approximately 7.85 hectares (ha) in size, is within the City of Kwinana (CoK) and surrounded by Johnson Road to the east, Irasburg Parade to the south and future developments to the north and the Peel Main Drain (PMD) to the west. The site currently consists of open paddocks and some remnant bushland.

This report is an appendix to the Providence East Local Water Management Plan (LWMS) and details the assumptions and calculations made in the hydrological modelling developed to determine the flood storage and water quality treatment requirements.

Project number: EP22-062(03) | November 2023

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### 2 Methodology

XPSWMM hydrologic and hydraulic modelling software (v20.1) was used to calculate the surface water runoff volumes within the road reserves and lots associated with the development of Providence East.

The hydrologic component of the software uses the Laurenson non-linear runoff-routing method to simulate runoff from design storm events. Key assumptions regarding the hydrologic model include:

- Runoff is proportional to slope, area, infiltration and percentage of imperviousness of a catchment.
- Sub-catchment areas and slopes are determined from surveyed topographical data and earthworks plans.
- Infiltration rates and percentage imperviousness have been selected based on experience with model preparation for similar soil conditions.

Runoff from each sub-catchment is routed through the catchment using the hydraulic component of XPSWMM. Generally, assumptions associated with the hydraulic component of the model include:

- Virtual links (i.e. purely for model construction, not equivalent to flow path onsite) between
  nodes within a sub-catchment are given the length of 10 m and slope of 0.05 to minimise the lag
  time of conveying the water from a sub-catchment node to a 'storage' node, a 'dummy
  intermediate' node or a conduit/link.
- Links between sub-catchment storages act as conveyance channels (e.g. sheet flow within roads in a 1% annual exceedance probability (AEP)). These links are given lengths and slopes that are representative of the site conditions and actual pathway lengths between catchments.
- All channels are designed with a width of 5 m, roughness of 0.014 (Manning's n) and are trapezoidal in shape. This allows for easy conveyance and represents concrete pipes and road surfaces within the model.
- Where relevant median swales, bio-retention areas (BRAs), and flood storage areas (FSAs) are modelled as nodal-reservoirs with infiltration depth-rating curves to account for differential infiltration rates with changing depth.

#### 2.1 Rainfall

The ensemble temporal patterns obtained from the Australian Rainfall and Runoff (AR&R) Data Hub (AR&R 2019) were used for the rainfall analysis.

Up to eight durations ranging between 1 hour and 72 hours were tested, with the peak flood elevation being assessed as the determining result.

Following the process suggested by AR&R (Ball J et al. 2019), the highest mean duration was selected as the critical duration. AR&R also recommends that when it is not practical to run the entire ensemble array, the ensemble that produces the result closest to the mean (for the critical duration) should be adopted. The 6 hour duration ensemble 8 and 3 hour duration ensemble 5 was adopted for both the 1% AEP and 20% AEP events.

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### 3 Post-development model

An initial loss continuing loss model was adopted to account for post-development catchment losses. The post-development catchment area, land types and loss values were based on the structure plan design, typical infiltration rates for the soils which occur onsite and based on project team experience. Post-development catchment areas and land types within the site were informed by subdivision plan. **Table 1** summarises the loss parameters used within the post-development model.

Table 1: Post-development parameters

Land type	Initial loss (mm)	Continual loss (mm)	Roughness	
Road Surface	1	0.1	0.02	
Road Verge	9	1	0.05	
Roof	15	0.1	0.02	
Lot paved	15	1.5	0.02	
POS	15	1.5	0.05	

A summary of post-development catchment information is provided in **Table 2** with the catchment plan and basin location shown in Figure 8 of the LWMS.

Table 2: Post-development catchment areas (ha)

Sub-catchment	Area (ha)								
	Slope	Total area	Road reserve	Road pavement	Road verge	Residential lot	Residential impervious	Residential pervious	POS
Ct_A	0.010	7.852	2.180	1.308	0.872	4.852	3.882	0.970	0.820

The following assumptions were incorporated into the model:

#### Lots

- $\circ\quad$  Lots will have 80% impervious areas including roof areas, 20% pervious garden areas.
- Soakwells on lots will retain the first 15 mm of runoff.
- Residential lots will have little slope (i.e. will be flat) and pockets of storage are likely. This
  will effectively increase the initial loss (storage) and overall infiltration rate (continual loss).
- Garden areas in lots will have high infiltration rates as it is likely that sand-based landscape mix or mulch will be used.

#### Road reserve

- There will be no infiltration on roads, pavements and driveways. There will however be some minor absorption storage loss which is accounted for in the initial and continuing loss values.
- o Road reserve contains 60% pervious verge and 40% impervious bitumen areas.
- Basin catchments and POS
  - Basin catchment areas (basin footprint and contributing open space) are assumed to be 100% pervious.
  - o Basin catchment areas will likely contain landscaped or remnant vegetation.

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**Providence East** 

#### Storage

- o BRA retains runoff from events up to and including the frequent event (i.e. first 15 mm).
- o BRA has 1:3 side slopes and maximum depth of 500 mm.
- FSA has 1/6 side slopes and maximum depth of 1.2 m.
- o FSA retains runoff from events up to and including the 1% AEP event.

#### Infiltration

- A hydraulic conductivity of 4.32 m/day is assumed.
- o BRA will be vegetated and used for treatment; therefore a 50% clogging factor is applied.
- Infiltration through base area and side slopes of the basins are considered in the overall infiltration rating curve for these areas.

#### • Evapotranspiration

 Volumes leaving the system through evapotranspiration were assumed to be negligible when compared to the total runoff volume and since the duration of the model run was comparatively short. XPSWMM default evapotranspiration assumptions are therefore used.

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# Modelling Assumptions Report Providence East



### 4 References

#### 4.1 General references

The references listed below have been considered as part of preparing this document.

Ball J, Babister M, Nathan R, Weeks W, Weinmann E, Retallick M and Testoni I (Editors) 2019, *Australian Rainfall and Runoff: A Guide to Flood Estimation*, Commonwealth of Australia (Geoscience Australia).

#### 4.2 Online references

Bureau of Meteorology (BoM) 2021a, Climate Data Online, viewed 19 October 2023, Available from, <a href="http://www.bom.gov.au/water/designRainfalls/revised-ifd/">http://www.bom.gov.au/water/designRainfalls/revised-ifd/</a>>.

Bureau of Meteorology (BoM) 2021b, Design Rainfall Data System (2016), viewed 19 October 2023, Available from, <a href="http://www.bom.gov.au/water/designRainfalls/revised-ifd/">http://www.bom.gov.au/water/designRainfalls/revised-ifd/</a>>.

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# Appendix G Groundwater Licence



Item 17.1 - Attachment G Page 539

File No: SN10771



Page 1 of 1
Instrument No. GWL96942(4)

## LICENCE TO TAKE WATER

Granted by the Minister under section 5C of the Rights in Water and Irrigation Act 1914

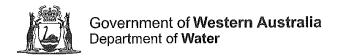
Licensee(s)	Wellard Residential Pty Ltd		-			
Description of Water Resource	Serpentine Perth - Superficial Swan	Annual Water Entitlement	43500 kL			
Location of Water Source	Lot 506 On Plan 71000 - Volume/Folio 2796/128 - Lot 506 Johnson Rd Wellard					
Authorised Activities	Taking of water for Location of Activity					
	Domestic usc Irrigation of up to 0.2 ha of lawns and gardens Irrigation of up to 5.6 ha of pasture Stock watering	Lot 506 On Plan 71000 - Volume/Folio 2796/128 - Lot 506 Johnson Rd Wellard				
Dnration of Licence	From 10 June 2015 to 9 June 2025					

#### This Licence is subject to the following terms, conditions and restrictions:

- The licensee shall not use water for gardens, lawns and pasture between 9 am and 6 pm except for the establishment of newly planted areas. For newly planted areas water may be used within these hours for a period of up to 28 consecutive days, commencing from the date of planting.
- 2 Between 1 June and 31 August in any year, the licence-holder must not water a lawn, garden, or grass-covered area ("turf") by reticulation, provided always that this restriction shall not apply to watering with a hand held hose; or watering, by way of reticulation: newly planted areas for a period of up to 28 days from the date of planting; for renovating turf; or for maintenance of reticulation systems.

End of terms, conditions and restrictions

This Licence is granted subject to the Rights in Water and Irrigation Regulations 2000





looking after all our water needs

Your ref: GWL96942 Our ref: SN10771 Enquiries: Alana Patterson Tel: 95504236

Wellard Residential Pty Ltd PO Box 456 APPLECROSS WA 6953

Attn: Sam Gill

Dear Mr Gill

Re: Issue of a licence under the Rights in Water and Irrigation Act 1914 Property: Lot 506 Johnson Rd Wellard

Please find enclosed the following:

- Your licence to take water (GWL96942 (4))
- FAQ sheet Your licence to take water

Please take time to read these documents as they contain important information about your rights and responsibilities.

You may apply to the State Administrative Tribunal (SAT) for a review of our decision. You will need to contact the SAT office directly, within 28 days.

In person

State Administrative Tribunal

4<sup>th</sup> floor, 12 St Georges Terrace Perth WA 6000

In writing:

State Administrative Tribunal

GPO Box U1991 Perth WA 6845

By telephone: Metro:

(08) 9219 3111

Regional: 1300 306 017 (for the cost of a local call)

By fax:

(08) 9325 5099

For more information about the SAT please visit their website www.sat.justice.wa.gov.au.

> Kwinana Peel Region 107 Breakwater Parade Mandurah Ocean Marina Mandurah Western Australia 6210 PO Box 332 Mandurah Western Australia 6210

If you have any queries about this or any other water licensing matter please contact Alana Patterson on telephone 95504236.

Yours sincerely

Alana Patterson

Halteson

Natural Resource Management Officer

Peel Region

12 June 2015

# ATTACHMENT 3

Engineering Services Report [JDSi]



# **SERVICING REPORT**

Lot 506 Johnson Road

JDS222081 December 2023

JD51

CONSULTING ENGINEERS

Prepared for:
Wellard Residential
Pty Ltd

P: 08 9227 0595 F: 08 9227 8617

Level 1, 432 Murray St, Perth WA 6000

> PO Box 7483 Cloisters Square PO WA 8650

> > jdsi.com.au



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DOCUMENT REVIEW					
Revision	Date Issued	Issue Type	Written By	Approved By	
Rev A	15/3/2023	Draft for Review	SB	SF	
Rev B	17/3/2023	Issued for Information	SB	SF	
Rev C	5/12/2023	Issued for Information	SB	SF	
Rev D	19/12/2023	Issued for Information	SB	SF	



#### Introduction

Wellard Residential Pty Ltd c/- Eastcourt Property Group (the Client) have engaged JDSi Consulting Engineers to assess and report on the servicing of future lots in support of an amendment to the existing Providence Structure Plan.

Lot 506 Johnson Road is owned by Wellard Residential and is proposed to be developed into approximately 145 residential green title lots. An area of public open space (POS) is proposed at the north-western corner of the site to provide community amenity and stormwater disposal. The indicative layout is indicated on the subdivision concept plan (*Appendix A*).

This report covers the engineering infrastructure requirements to service the proposed Development. JDSi have considered earthworks, roads, stormwater drainage, wastewater, potable water, fuel gas and telecommunications.

The report has been based on a desktop study of existing services information, a site visit in February 2023, aerial imagery, advice from the service authorities and in-house experience of similar projects. The information is current as of February 2023 and may be subject to change over time with the development of nearby landholdings.



Figure 1: Site Location



## 1 Key Objectives

The key objectives of this report are to:

- Summarise any existing infrastructure assets within the vicinity of the site, including roads, drainage, and utility services.
- Provide commentary on clearing and earthworks required within the site.
- Outline how the development will be serviced with sewer, water, gas and telecommunications services.
- Provide commentary on the overall stormwater drainage strategy for the proposed development.
- Determine if there are any limitations/constraints in servicing the subdivision.
- Summarise requirements for the design and construction of new public roads proposed as part of the development.



#### 2 Study Area

The Site is bounded by Private landholdings owned by LWP to the North, Johnson Road / Irasburg Parade to the east and the Water Corporation's Peel Main Drain to the west. Historical arial imagery indicate this lot has been used for rural purposes with a residence visible in the north-eastern corner of the lot in the from the late 70s and construction of additional sheds, fenced pens and horse tracks evident on aerial imagery from the late 90s. The Bollard Bullrush swamp, a conservation category wetland, is located to the north-west of the subject site.

The site is zoned as "Development" and "Rural A" under the City of Kwinana Town planning Scheme and "Urban" under the Metropolitan Region Scheme.

#### 2.1 Topography

The Site has a triangular shape with surface elevation ranging from 3.8 -10.5m AHD with the site generally sloping from the most elevated areas along the eastern boundary to the lowest point at the western corner of the site.

A feature survey of the site has been undertaken by MNG on 7/5/2015. A copy of this survey is attached to the report as *Appendix B*.

Refer to Figure 3 below for the indicative topography of the surrounding land.



Figure 2: Site Topography (Department of Primary Industries and Regional Development 2023)

#### 2.2 Groundwater

Perth Groundwater Map (provided by Department of Water and Environmental Regulation) has limited information over the project site. Historic minimum and maximum groundwater contours immediately east of the site are recorded as 5m and 10m AHD respectively. Based on the DWER records, the maximum groundwater level approximates the surface level along this boundary.



Groundwater monitoring carried out by Emerge Associates indicates that the maximum groundwater levels vary between 4.7m, 6.1m and 5.4m AHD at the western, eastern, and southern extents of the site respectively. Groundwater levels transition from highest recorded levels at the east of the subject site gradually reducing to the lowest recorded levels at the western edge of the site.

Groundwater is a relevant constraint for the development of the site and the design of earthworks and drainage infrastructure. This is especially the case for the western portion of the site where groundwater levels are highest with respect to the existing ground level. Proposed lots and POS areas are required to be designed with adequate clearance from the maximum groundwater levels to ensure serviceability and stormwater disposal functionality.

#### 2.3 Surface Water

The Peel Main Drain flows in a southerly direction and passes through several wetlands including the Bollard Bulrush swamp before discharging into the Serpentine River and ultimately into the Peel Inlet-Harvey Estuary. This drain was originally constructed to control regional groundwater and consequently the drain hydraulics is inextricably linked to groundwater.

The Department of Water and Environmental Regulation has published the "Jandakot Drainage and Water Management Plan – Peel Main Drain Catchment" to provide stormwater management advice for developers and other stakeholders in relation to the drain.

Adequate flood protection is required in the form of clearance a specified 500mm clearance between proposed floor levels and the 100 ARI water level. Flood modelling included in the management plan indicate 100-year ARI flood levels of 5.60m at the Bollard Bullrush swamp and the nearest downstream node PMD55. Consequently, a minimum design lot level of 6.10m AHD criteria is required to provide 0.5m clearance flood protection for waters in the Peel Main Drain.

#### 2.4 Geotechnical

A geotechnical investigation report has been prepared by Geotechnical and Geological Consultants (GGC) for the project site. The Site was assessed in with accordance with AS2870 as "class-P".

The site soil strata generally consist of a 3.1 to 4.4m thick sand layer overlying lower clayey/silty material. The western corner of the site currently proposed as POS was identified as a separate geotechnical zone and consists of an upper clay layer approximately 3.2m thick overlying the lower clay material.

The site classification is recommended to be improved to "Class-A" by carrying the following preparation measures:

- Remove any uncontrolled fill, structures, building pads and deleterious material
- Clear vegetation and strip all topsoil / organic material and grub out all roots and stumps
- Proof-roll and compact the exposed natural surface. Areas identified as loose will need to be tested and, if necessary, excavated and replaced with granular structural fill
- Import fill placed and compacted as required maintaining a minimum separation of 1.8m from any clayey soils where applicable.

It is recommended that bulk earthworks are carried out in the summer months of the year to avoid issues with compacting close to the groundwater table. Organic soils may be suitable to be processed and blended with structural fill however this will need to be confirmed with testing at construction.

#### 2.5 Acid Sulphate Soils

Acid Sulfate Soils (ASS) in Western Australia frequently occur in low-lying wetlands, backswamps, estuaries, salt marshes and tidal flats. Acid sulfate soils (ASS) are naturally occurring soils and sediments containing iron sulfides. When ASS are exposed to air the iron sulfides in the soil react with



oxygen and water to produce a variety of iron compounds and sulfuric acid. Without proper management, disturbing ASS can cause serious ecological damage, contaminate groundwater with heavy metals, damage sub-surface infrastructure and potentially cause harm to the health of humans and animals.

The Department of Environmental Regulation (DER) has published Acid Sulfate Soils (ASS) risk maps for low lying areas of the coastal plains in Western Australia. These maps assist in identifying high-risk soils and are used by DWER in applying conditions for managing ASS during construction of the development.

DWER mapping data classify all but the entire site as "Class 1 High to moderate risk of ASS occurring within 3m of natural soil surface". The risk rating and the anticipated scope of earthworks will require an ASS investigation is carried out in accordance with DWER's requirements to understand what measures are required to manage the ASS risks during construction.



Risk Class

- 1 High to moderate risk of ASS occurring within 3m of natural soil surface
- 2 Moderate to low risk of ASS occurring within 3m of natural soil surface but high to moderate risk of ASS beyond 3m of natural soil surface

Figure 3: ASS Risk Map (DWER Data)



#### 3 Earthworks and Demolition

#### 3.1 Demolition & Clearing

Prior to development works commencing all sheds and other structures, fencing and deleterious material will need to be removed.

All vegetation marked for clearing will also be removed from the site. Any areas of protected vegetation shall be clearly marked, and physical controls implemented to restrict access by construction machinery.

It is recommended that if there is any vegetation to be protected / retained, a suitably qualified arborist be engaged to assess and provide advice on required tree protection methodologies / zones.

#### 3.2 Bulk Earthworks

All earthworks will need to be undertaken in accordance with recommendations from a detailed Geotechnical Investigation and AS3798 "Guidelines on earthworks for commercial and residential developments".

The magnitude of earthworks to be undertaken and the final earthworks levels will be dictated by the following:

- Interface of the existing road network and utility services.
- Preparation recommendations in accordance with the geotechnical report.
- The requirement to contain stormwater drainage onsite and applicable levels for this to be achieved.
- The invert level of the existing gravity sewer mains that the development will discharge into.
- Drainage outfall levels and clearance from 100-year flood levels. This is subject to further advice by the project hydrologist and verified during preliminary design.
- Required clearance between groundwater and proposed dwelling floor levels.
- Required clearance between flood levels in the Water Corporation Peel Main drain and the proposed dwelling floor levels.
- Drainage outfall levels for the stormwater drainage system and industry standard requirements for free-board from the finished floor level to the 100 year flood level. This is subject to further advice provided by the hydrologist and will be verified during preliminary design.
- The invert level of the existing gravity sewer mains that the development will discharge into.
- The interface with proposed developments on adjacent landholdings.

With consideration of the above constraints a concept bulk earthworks design has been completed for the site (*Appendix C*). The northern boundary of the site is dictated by proposed interface levels with LWP's Oakebella development. The eastern boundary of the site is controlled by the existing road and verge levels of Johnson Road and Irasburg Parade and the western portion of the site is controlled by groundwater clearance requirements.

Based on the above items and existing level constraints the site requires structural fill to be imported into the site. Topsoil/organic material was measured as 0.2-0.6m deep across the site and will require removal and potentially disposal from site. Blending of the topsoil may be appropriate depending on the material characteristics and will be verified during construction. Sand won on site (Bassendean sand) will be suitable for reuse as structural fill.

The POS area will require the removal of clay and replacement with permeable fill to approximately 1m below the invert of the basin to ensure infiltration requirements are met.



#### 4 Roadworks

The Site is currently serviced by Johnson Road and Irasburg Parade along the south/eastern boundary which is classified as a local distributor under the Main Road's hierarchy. This road includes a three-legged roundabout at the intersection with Breccia Parade.

The site falls within the local government jurisdiction of the City of Kwinana and all roads, kerbs and footpaths to service the site will be required to be in accordance with the City's specifications and the Local Government Guidelines for Subdivisional Development (IPWEA). All roads within the site will be required to be kerbed, have an asphalt wearing course, and have a footpath located on at least one side of the road.

The anticipated road network will include modifying the Johnson Road / Irasburg Roundabout into a four-legged roundabout and construction of a major access road from this roundabout transecting the site and linking with the "Oakebella" development to the north. The remaining roads within the proposed development are anticipated to be local access roads.

Irasburg Parade and Johnson Road were upgraded in 2015 and 2016 and assumed to be suitable for the intended traffic volumes however will need to be confirmed by a Traffic Engineer's assessment.



#### 5 Stormwater Drainage

The stormwater drainage from the development will need to be designed and constructed in accordance with City of Kwinana guidelines, DWER water sensitive urban design guidelines as well as the Local Government Guidelines for Subdivisional Development (IPWEA). The stormwater management approach will need to be approved by the City of Kwinana through submission of an Urban Water Management Plan and it is recommended that a suitably qualified hydrologist is engaged to assist with the study and preparation of the Urban Water Management Plan.

Stormwater management for the development will adopt principles of Water Sensitive Urban Design (WSUD) suited to the climatic and ground conditions, including:

- The design philosophy for the development site will need to demonstrate post development flows and volumes do not exceed pre-development flows;
- Suitable landscaping to prevent direct run-off from impervious surfaces to the existing drainage network or coastal area without suitable treatment.
- Detention storage areas provided where possible to reduce peak flow rates to the capacity of downstream facilities.
- Clear overland flow path for the 100year ARI event, with a minimum 300mm free-board to habitable floors.
- Surface and groundwater quality will need to be maintained at predevelopment levels and improve the quality of water leaving the area, if possible.

It is anticipated that road drainage will be managed using a pit and pipe network conveying catchment flows to a singular retention basin located in the POS area at the western corner of the site. Earthworks and subsoil drainage is required in the POS to provide adequate clearance from groundwater and to improve basin infiltration / stormwater disposal.

During the site visit a dry open channel drain was observed along the northern boundary of the site which presumably conveys overland water flows to the small depression/pool at the western edge of the site. The pool appears to include a direct trenched connection to the Peel main drain which suggests there are pre-development flows discharging directly into the drain that should be considered as part of the overall hydraulic strategy. The project Hydrologist will be able to provide further advice in this regard.



#### 6 Sewer Reticulation

The Water Corporation (WC) owns and maintains the sewerage reticulation system around the subject area. Any connection into this system will need to be designed, approved, and constructed in accordance with standard WC requirements.

Reticulated sewerage is not immediately available to serve the subject area. WC has confirmed an external DN150 sewer main extension approximately 250m long will be required to be constructed through LWP landholdings to service the site. This sewer extension will provide a connection to existing sewer reticulation conveying flows to the Tikva Way Pumpstation located a further 250m north of the connection point.



Figure 4: Preliminary Sewer Layout (Esinet)

Other than the offsite sewer main extension discussed above there are no other reported external works/upgrades required to service the site with sewer. Within the site the developer is required to provide internal gravity sewer to service individual lots including necessary access chambers and property connections. Normal open trenching construction methodologies are assumed to be appropriate however where sewers are constructed within the underlying clay material, a specialised bedding arrangement may be required. In this case it is recommended that professional Geotechnical advice be sought to provide recommendation based on the specific material encountered during construction.

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#### 7 Water Reticulation

The Water Corporation (WC) owns and maintains the potable water reticulation network in the vicinity of the Site. Any connection into this system will need to be designed, approved and constructed in accordance with standard WC requirements.

Based on the Water Corporation EsiNET data and WC advice, water is readily available to service the site. There is an existing DN300 water main located in the Johnson Road / Irasburg Parade verge which can be utilised.

Internal water reticulation pipework will be provided by the developer including hydrants, pre-laid property connections and valves for isolation. A DN200 water main will also be required to service the site. The main is anticipated to follow the major access road and provide linkage to the LWP development to the north. There are no required external water upgrades to service the site.

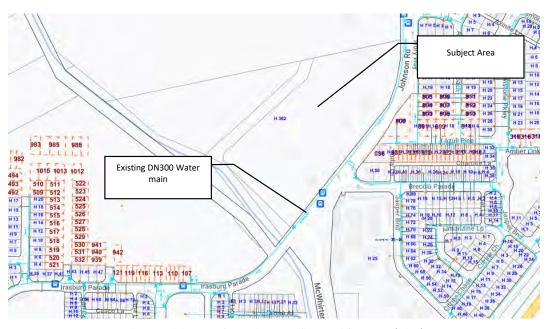


Figure 5: Existing Water Corporation surrounding water infrastructure (Esinet)



#### 8 Power Supply

Western Power (WP) owns and operates all electrical supply network assets within the development area and therefore all new electrical supply equipment and cables will need to be installed in accordance with WP, WAER (West Australian Electrical Requirements), AS3000 specifications and Standards.

The following advice is based on JDSi desktop studies and information obtained from the WP NCMT (Network Capacity Mapping Tool) online database.

Existing High Voltage (HV) Underground network has been identified within the vicinity of the development along Irasburg Parade/Johnson Road on the opposite side of the development. These HV networks are understood to be originating from the Medina Zone Substation. The Medina Zone Substation is the existing bulk electricity supply with the closest point of connection to the development site which is approximately 6km away. Based on Western Power forecasts remaining capacity for 2028, it is estimated that there is 25-30MVA available for this HV feeder from the Zone substation.



Figure 6 Western Power Network Diagram

The total load for the development has been estimated to be 557kVA and has been calculated using WP's recommended Design After Diversity Maximum Demand (DADMD). The estimated loads are summarised below:

Load Type	Volume	Load Allowance		kVA Allocated
Urban Residential	112 Dwellings	4.7kVA/dwelling		527 kVA
POS	1 Lots	30kVA/lot		30 kVA
			Total Demand	557 kVA

Table 1 Estimated Total Electrical Network Loads

Based on the estimated load the development will require a minimum of one 630kVA transformer. Furthermore, the site will require a minimum of one HV switchgear kiosks to bring the HV power network into the subdivision.

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The site will require at least two HV feeders to run through the development. It is unlikely that the development will require WP power network reinforcement / augmentation. However, this will be determined by and confirmed by WP upon project application.

Please note WP cannot reserve network capacity therefore the above advice is current as at the date of this report. Once the Development planning has been finalised it is recommended a formal Design Information Package (DIP) request is submitted to Western Power to progress the design of the first stage of the Development.



#### 9 Gas

Reticulated gas is not considered to be an essential service and as such is not required as a condition of development. However, for residential developments ATCO will generally provide gas reticulation at no cost to the developer during the construction of common trench services.

Before You Dig (BYD) information indicates that there is an existing DN110 Polyethylene (PE) natural gas Medium Pressure gas main located in the Irasburg Parade / Johnson Road verge between the southern extent of the site and Lazuli Rise. Based on the existing infrastructure it's likely that there would be no major constraints for providing natural gas reticulation to the subject area.



#### 10 Telecommunications

Dial Before You Dig (DB4YD) information indicates existing communication infrastructure provided by Telstra and NBN is currently situated in the Johnson Road / Irasburg Parade verge.

JDSi anticipate this existing infrastructure would serve as connection points for the site however this would need to be confirmed with NBNCo at the time of making an application for connection. Communications services for the development will consist of pit and pipe network which will generally be provided and funded by the developer and the internal cabling which is provided by NBNCo.

Due to the proximity of the existing communications infrastructure, it is not expected that significant service back haul would be required, however if it is this is a cost that will be borne by the Developer.



#### 11 Disclaimer

JDSi have undertaken this assessment based on a desktop study and subsequently assumptions have been made which, if incorrect, have potential to change the assessment and/or recommendations. Major cost implications exist through factors which cannot be assured at this time including upgrading and provision of utility services, WAPC conditions of development, Local Authority Scheme Requirements, ground conditions, timing of adjacent developments, etc.

While JDSi has taken all care in the preparation of the likely development requirements and has noted key assumptions, JDSi accepts no responsibility for the accuracy of this report and provides it only as an indicative summary of engineering requirements.

If any further information is required or should you wish to clarify any issue, please contact our office.



APPENDIX A
PROPOSED DEVELOPMENT LAYOUT

Ordinary Council Meeting



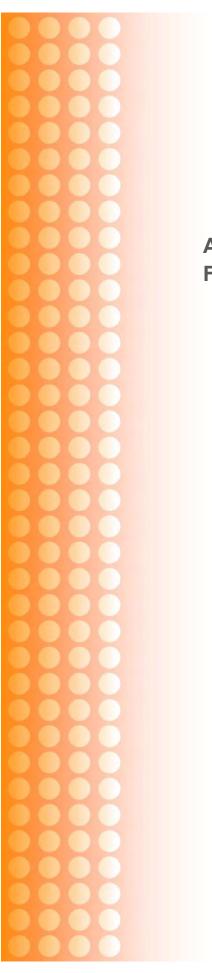
CLE Town Planning + Design

CONCEPT PLAN Lot 506 Johnson Road, Wellard

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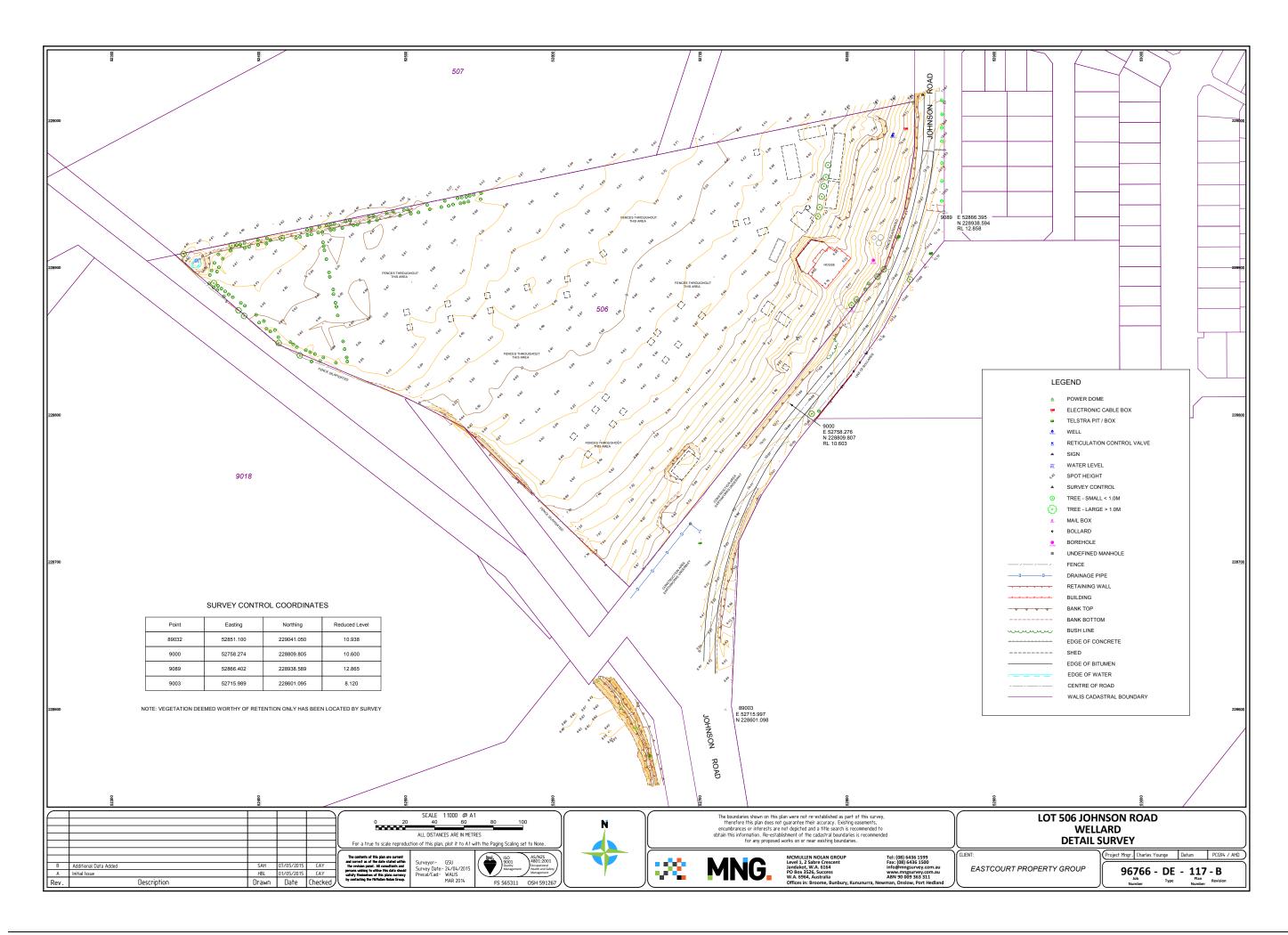
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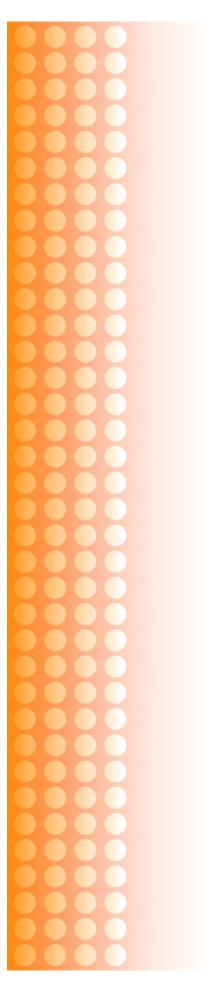




APPENDIX B
FEATURE SURVEY

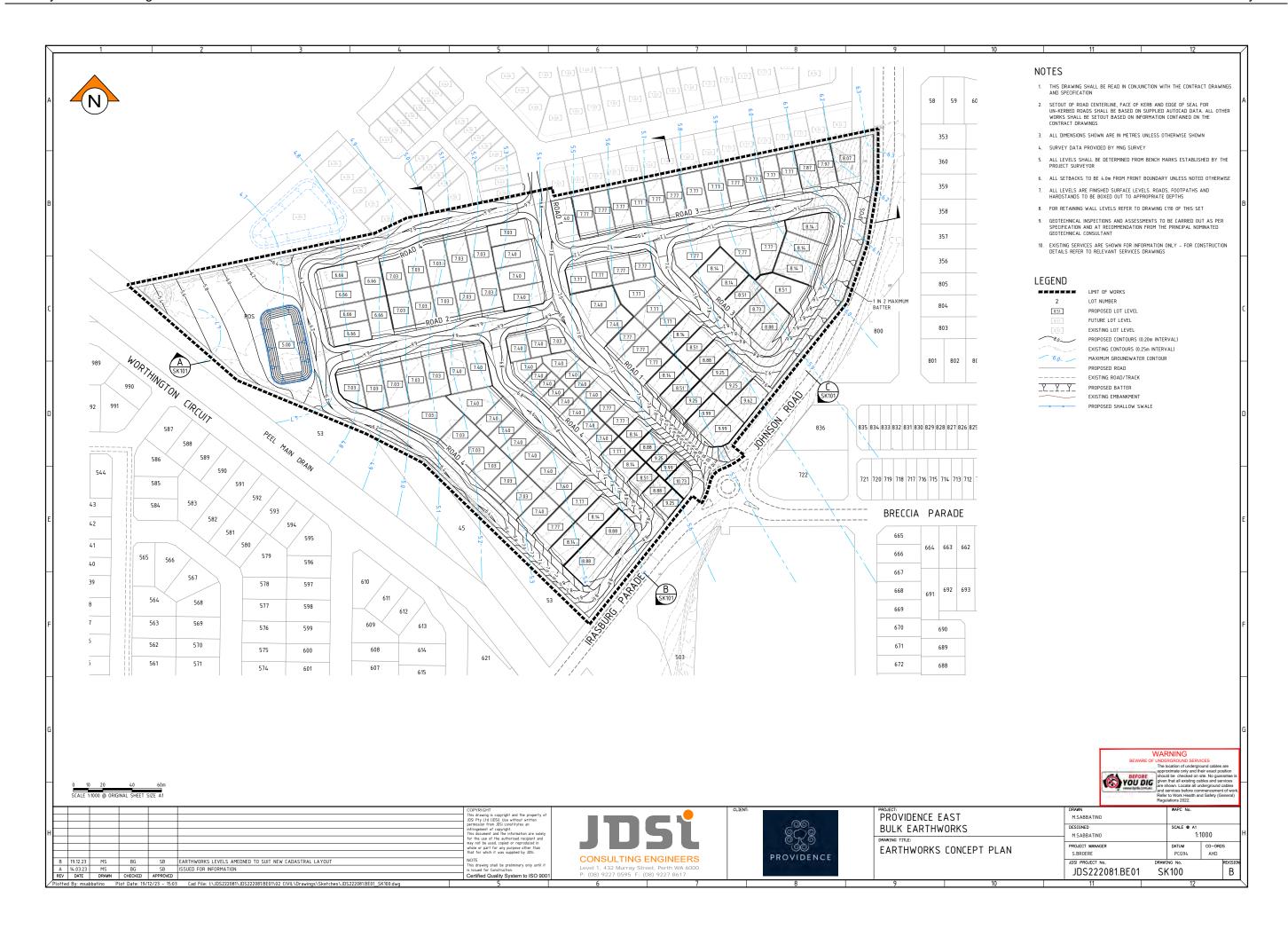
Ordinary Council Meeting 22 May 2024



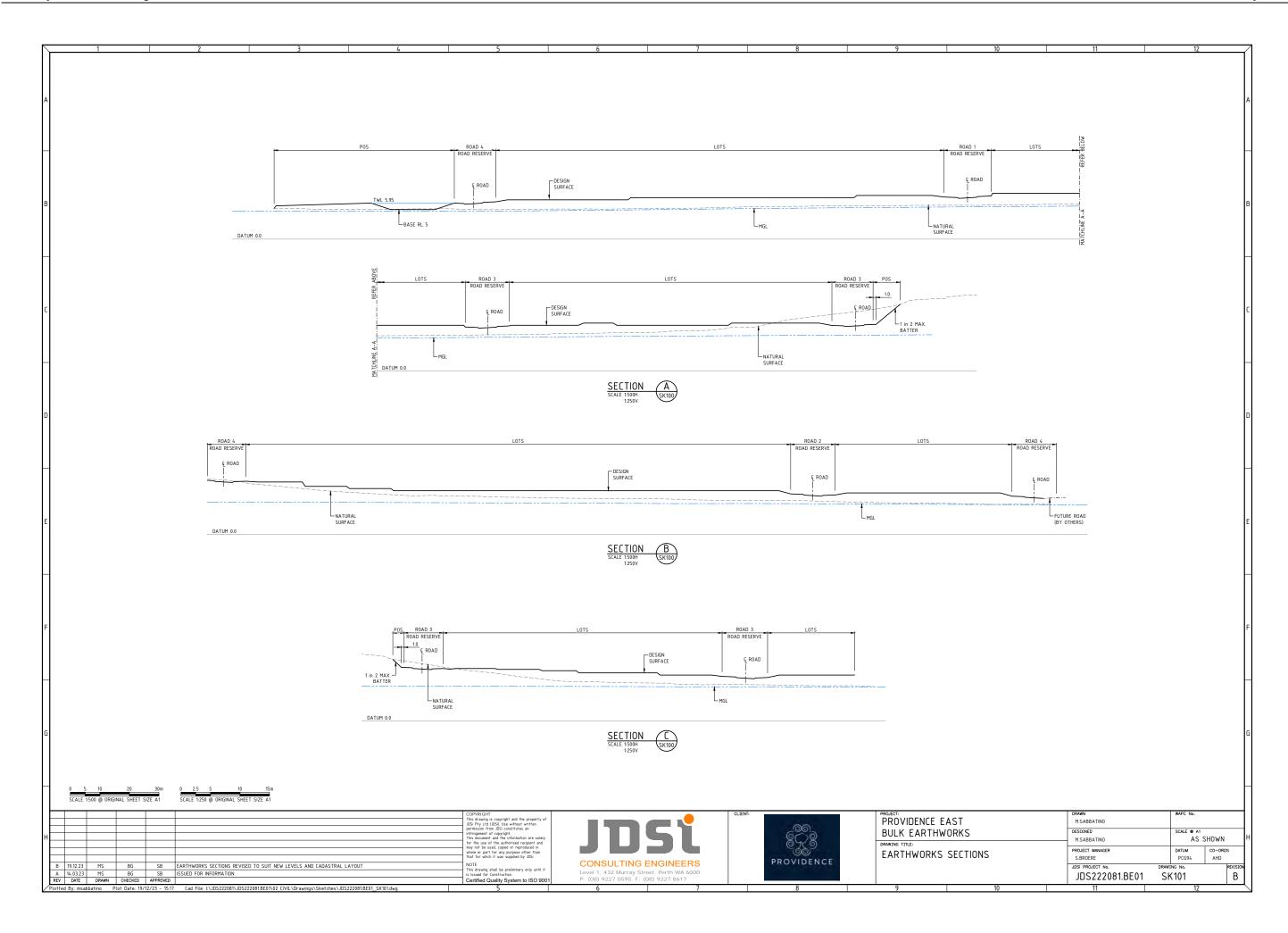


APPENDIX C
BULK EARTHWORKS
CONCEPT PLAN

Ordinary Council Meeting 22 May 2024



Ordinary Council Meeting 22 May 2024



# ATTACHMENT 4

Bushfire Management Plan [Emerge Associates]



# Bushfire Management Plan

Lot 506 Johnson Road, Wellard

Project No: EP22-062(05)



Doc No.: EP22-062(04)—017a DVB| Version: A

# Bushfire Management Plan Lot 506 Johnson Road, Wellard



#### **Document Control**

Doc name:	Bushfire Management Plan Lot 506 Johnson Road, Wellard					
Doc no.:	EP22-062(04)—01	EP22-062(04)—017a DVB				
Version	Date	Author		Reviewer		
	December 2023	Daniel Bussell	DVB	Kirsten Knox	KK	
1				Anthony Rowe	AJR	
	Report issued to client for review					
	December 2023	Daniel Bussell	DVB	Kirsten Knox	КК	
Α				Anthony Rowe	AJR	
	Minor update following client review					

#### Disclaimer:

This document has been prepared in good faith and is derived from information sources believed to be reliable and accurate at the time of publication. Nevertheless, it is distributed on the terms and understanding that the author is not liable for any error or omission in the information sources available or provided to us, or responsible for the outcomes of any actions taken based on the recommendations contained herein. It is also expected that our recommendations will be implemented in their entirety, and we cannot be held responsible for any consequences arising from partial or incorrect implementation of the recommendations provided.

This document has been prepared primarily to consider the layout of development and/or the appropriate building construction standards applicable to development, where relevant. The measures outlined are considered to be prudent minimum standards only based on the standards prescribed by the relevant authorities. The level of bushfire risk mitigation achieved will depend upon the actions of the landowner or occupiers of the land and is not the responsibility of the author. The relevant local government and fire authority (i.e. Department of Fire and Emergency Services or local bushfire brigade) should be approached for guidance on preparing for and responding to a bushfire.

Notwithstanding the precautions recommended in this document, it should always be remembered that bushfires burn under a wide range of conditions which can be unpredictable. An element of risk, no matter how small, will always remain. The objective of the Australian Standard AS 3959:2018 is to "prescribe particular construction details for buildings to reduce the risk of ignition from a bushfire" (Standards Australia 2018). Building to the standards outlined in AS 3959 does not guarantee a building will survive a bushfire or that lives will not be threatened by the effects of bushfire attack.

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#### Bushfire Management Plan Lot 506 Johnson Road, Wellard



### **Executive Summary**

Wellard Residential Pty Ltd (the proponent) are progressing a structure plan amendment and future subdivision over Lot 506 Johnson Road, Wellard (herein referred to as 'the site)' to facilitate future residential development. The site is approximately 7.85 hectares (ha) in size and is currently zoned 'Development' under the *City of Kwinana Local Planning Scheme No. 2*.

It is located approximately 38 km south of the Perth central business district (CBD) within the City of Kwinana (CoK). The site is bounded by Johnson Road and Irasburg Parade to the east, Oakebella Estate (currently progressing) to the north, Bollard Bulrush Swamp to the north-west, the Peel Main Drain to the west and residential areas currently under development further to the south.

The site is identified within a 'bushfire prone area' under the state-wide *Map of Bush Fire Prone Areas*, prepared by the Office of Bushfire Risk Management (OBRM 2021). The identification of a site within an area declared as bushfire prone necessitates further assessment of the determined bushfire risk affecting the site in accordance with *Australian Standard 3959:2018 Construction of buildings in bushfire prone areas* (AS 3959), and the satisfactory compliance of the proposal with the policy measures described in *State Planning Policy 3.7 Planning in Bushfire Prone Areas* (SPP 3.7) (WAPC 2015) and the *Guidelines for Planning in Bushfire Prone Areas Version 1.4* (the Guidelines) (DPLH & WAPC 2021).

The purpose of this bushfire management plan (BMP) is to assess the bushfire hazards, affecting the site (risk) and identify the 'management' strategies (risk treatments) required to ensure the development can achieve the intent of SPP 3.7 - to preserve life and reduce the impact of bushfire on property and infrastructure.

As part of assessing the risk, a Bushfire Attack Level (BAL) assessment involving the classification of vegetation and topography within 150 m of the site has been undertaken.

The assessment includes an identification of the transition stages and the long-term bushfire risk to the site. It includes the consideration of temporary bushfire hazards to the north that are likely to be removed in the long-term based on existing approved structure plans.

The following bushfire hazards were identified as applicable to the site:

- Forest (Class A) vegetation, associated with vegetation within the Peel Main Drain reserve and the Bollard Bulrush Wetland northwest of the site. This includes assumptions about future treatment of the wetland based on the implementation of the City of Kwinana Local Planning Policy No. 3 Bollard Bulrush East Landscape Masterplan (LPP No. 3).
- Woodland (Class B) vegetation, within the Peel Main Drain reserve adjacent to the west of the site.
- Scrub (Class D) vegetation, within the Peel Main Drain reserve adjacent to the west and south of the site.
- Grassland (Class G) vegetation adjacent to the north of the site, associated with existing cleared
  land that forms part of Oakebella Estate where residential development is progressing. Some
  management of the paddock grasses north of the site is evident (grasses generally less than 100
  mm in height); however it has been identified as an unmanaged temporary hazard for the
  purposes of this assessment. Areas of unmanaged grassland have also been identified to the

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# Bushfire Management Plan Lot 506 Johnson Road, Wellard



south and southwest within the Peel Main Drain reserve, and are associated with areas that have remained cleared for over 20 years.

#### **Compliance Assessment**

The bushfire protection criteria provided in the Guidelines represent the risk treatments applicable to achieving the intent and the objectives listed in SPP 3.7. Bushfire protection criteria are divided into four subsystems (elements), plus a standalone element for tourism. Each subsystem is provided with an intent and solution methods, either performance principle or by acceptable solution (predetermined solution). Compliance with each subsystem (as a risk treatment) is required to demonstrate to the decision-maker, that the risk is within acceptance.

The BMP has identified that as development progresses, it will comply with the acceptable solution to be adopted for each of the applicable bushfire protection criteria outlined in the Guidelines.

#### This includes:

- **Element 1 Location**: a BAL contour plan has been prepared for the site and shows that, on completion, development cells have sufficient area to accommodate habitable buildings that achieve BAL-29 or less.
- Element 2 Siting and Design: the site accommodates a suitable asset protection zone (APZ) for all proposed lots through a mix of public road reserves, areas of managed public open space and in-lot setbacks in order to achieve BAL-29 or less at habitable buildings. The BAL ratings are a result of temporary hazards to the north, which will be removed in the long-term, and the Peel Main Drain to the west/south, which is predicted to stay unmanaged in the long-term. A small portion of the development cells adjacent to the undeveloped land to the north will be subject to BAL-FZ and BAL-40 due to these temporary hazards. Where BAL-40 or BAL-FZ extend into the lots and the hazards remains at the time of subdivision, this can be managed through a range of measures, including the use of in-lot setbacks and/or by delaying the release of lots (e.g. staging of development) until the hazard is removed. A small area of BAL-40 (1 m-wide) extends into the lots adjacent to the Peel Main Drain. A public road is provided between the lots and the drain, and a 1 m in-front setback will be required to achieve BAL-29.
- Element 3 Vehicular Access: appropriate vehicle access to at least two different destinations can be provided, with the site connecting to Oakebella Estate (and the approved structure plan road layout) to the north and Irasburg Parade to the south. Irasburg Parade provides connection to the north, south and south-west and broader public road network. There is no option of access from within the site to the west given the presence of the Bollard Bullrush Swamp and the Peel Main Drain. As part of staged development within the site, temporary emergency access ways (EAW) can be used to provide for additional access to Irasburg Parade until the road network to the north is constructed.
- Element 4 Water: the development will be provided with a permanent and reticulated water supply to support onsite firefighting requirements.

The management/mitigation measures outlined as part of this BMP, ensure, the site can appropriately manage risk as demonstrated through compliance with SPP 3.7 and the Guidelines. The recommendations in this BMP should be adopted as part of the subdivision stage and can be addressed through the provision of a BMP or a Bushfire Statement.

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## Bushfire Management Plan



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# **Appendices**

#### Appendix A

Structure plan

#### Appendix B

Landscape Design Report

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### **Abbreviation Tables**

### List of Abbreviations

Table A1: Abbreviations – General terms

General terms	
AHD	Australian Height Datum
AS	Australian Standard
APZ	Asset Protection Zone
BAL	Bushfire Attack Level
ВМР	Bushfire Management Plan
BPAD	Bushfire Planning and Design
ESA	Environmentally sensitive area
FDI	Fire Danger Index
FZ	Flame Zone
TEC	Threatened ecological community

Table A2: Abbreviations – Organisations

Organisations		
DBCA	Department of Biodiversity, Conservation and Attractions	
DWER	Department of Water and Environmental Regulation	
DFES	Department of Fire and Emergency Services	
DPLH	Department of Planning, Lands and Heritage	
OBRM	Office of Bushfire Risk Management	
WAPC	Western Australian Planning Commission	

Table A3: Abbreviations – Legislation and policies

Legislation	
AS 3959	Australian Standard 3959-2018 Construction of buildings in bushfire prone areas
Guidelines	Guidelines for Planning in Bushfire Prone Areas version 1.4 (DPLH & WAPC 2021)
LPP No. 3	City of Kwinana Local Planning Policy No. 3 – Bollard Bulrush East Landscape Masterplan
SPP 3.7	State Planning Policy 3.7 Planning in Bushfire Prone Areas (WAPC 2015)

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Table A4: Abbreviations – Planning and building terms

Planning and building terms	
MRS	Metropolitan Regional Scheme
LPS	Local Planning Scheme
NCC	National Construction Code

Table A4: Abbreviations – units of measurement

Units of measurement		
cm	centimetre	
ha	hectare	
m	metre	
m²	square metre	
m AHD	m in relation to the Australian height datum	
mm	millimetre	

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# Bushfire Management Plan Lot 506 Johnson Road, Wellard



#### 1 Introduction

#### 1.1 Background

Wellard Residential Pty Ltd (the proponent) are progressing a structure plan amendment and future subdivision over Lot 506 Johnson Road, Wellard (herein referred to as 'the site)' to facilitate future residential development. The proposed structure plan layout is provided in **Appendix A**. The site is approximately 7.85 hectares (ha) in size and is bounded by Johnson Road and Irasburg Parade to the east, Oakebella Estate (currently progressing subdivision) to the north, Bollard Bulrush Swamp to the northwest, the Peel Main Drain to the west and residential areas further to the south. The site and surrounding area is shown in **Figure 1**.

The site is located within a 'bushfire prone area' under the state-wide *Map of Bush Fire Prone Areas* prepared by the Office of Bushfire Risk Management (OBRM 2021), as shown in **Plate 1**. The identification of a site within an area declared as bushfire prone necessitates a further assessment of the determined bushfire risk affecting the site in accordance with *Australian Standard 3959:2018 Construction of buildings in bushfire prone areas* (AS 3959), and the satisfactory compliance of the proposal with the policy measures described in *State Planning Policy 3.7 Planning in Bushfire Prone Areas* (SPP 3.7) (WAPC 2015) and the *Guidelines for Planning in Bushfire Prone Areas Version 1.4* (the Guidelines) (DPLH & WAPC 2021).

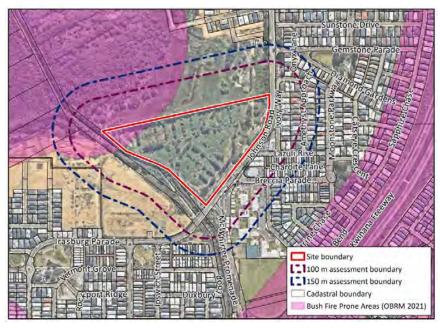


Plate 1: Areas within and surrounding the site identified as 'bushfire prone areas' (as indicated in purple) under the state-wide Map of Bush Fire Prone Areas (OBRM 2021).

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The purpose of SPP 3.7 and its policy intent is to preserve life and reduce the impact of bushfire on property and infrastructure through effective risk-based land use planning. Importantly, it is risk-based, requiring a methodical approach to identify and evaluate the hazards and provide the treatments to ameliorate these hazards to an acceptable level. SPP 3.7 requires that the determining authority give consideration to the precautionary principle (clause 6.11 in SPP 3.7), and they must be satisfied that the potential for significant adverse impacts can be adequately reduced or managed. In particular:

SPP 3.7 does not require that there be no increase at all in the threat of bushfire to people property or infrastructure. Rather, as is seen in clause 2 of SPP 3.7, the intention of the policy is to 'implement effective, risk-based land use planning and development to preserve life and reduce the impact of bushfire on property and infrastructure'. (emphasis added) <sup>1</sup>

#### 1.2 Aim of this report

The purpose of this BMP is to assess bushfire hazards both within the site and nearby and demonstrate that the threat posed by any identified hazards can be appropriately mitigated and managed. This BMP has been prepared to support the structure plan amendment for and future subdivision of the site and addresses the requirements of SPP 3.7 (WAPC 2015), the Guidelines (DPLH & WAPC 2021) and AS 3959 (Standards Australia 2018). The document includes:

- Overview of the proposed development (**Section 1.4**)
- An assessment of the existing classified vegetation in the vicinity of the site (within 150 m) and consideration of bushfire hazards that will exist in the post development scenario (**Section 3**).
- Commentary on how the future development can achieve the bushfire protection criteria
  outlined within the Guidelines including an indication of Bushfire Attack Level (BAL) ratings likely
  to be applicable to future dwellings (Section 5).
- An outline of the roles and responsibilities associated with implementing this BMP (Section 6).

#### 1.3 Statutory policy and framework

The following key legislation, policies and guidelines are relevant to the preparation of a BMP:

- Bush Fires Act 1954
- Fire and Emergency Services Act 1998
- Planning and Development Act 2005 and associated regulations
- Building Act 2011 and associated regulations
- State Planning Policy 3.7 Planning in Bushfire Prone Areas (WAPC 2015)
- Guidelines for Planning in Bushfire Prone Areas Version 1.4 (DPLH & WAPC 2021)
- Australian Standard AS 3959 2018 Construction of buildings in bushfire prone areas (Standards Australia 2018)

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<sup>&</sup>lt;sup>1</sup> Harmanis Holdings No. 2 Pty Ltd and Western Australian Planning Commission [2019] WASAT 43 (Harmanis).

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#### Bushfire Management Plan Lot 506 Johnson Road, Wellard



#### 1.4 Description of the proposed development

The site is proposed to be developed for residential purposes, with the structure plan (CLE 2023) provided in **Appendix A**. Development will include:

- Residential lots;
- An area of public open space (POS), which will support recreation and drainage purposes. It is
  intended to align with the broader landscape approach for the Bollard Bulrush Swamp (located
  adjacent to the north of the site and POS); and
- An interconnected public road network.

The structure plan has been developed in consideration of a range of planning policy prepared by the City of Kwinana, including the:

- City of Kwinana Local Planning Policy No. 1 -Landscape Feature and Tree Retention (LPP No. 1)
   (City of Kwinana 2016), which stipulates management considerations for significant landscape
   features or trees within the site. No significant landscape features or trees have been identified
   for retention, however effort will be made to retain existing trees where they are in the POS.
   Tree areas can be managed to achieve low threat; and
- City of Kwinana Local Planning Policy No. 3 Bollard Bulrush East Landscape Masterplan (LPP No. 3) (City of Kwinana 2022), which provides overarching guidance for integrated buffer and POS areas surrounding the wetland feature. The buffer for the wetland does not extend into the site, however the POS within the site is adjacent to this area and is the policy has been considered in the landscape concept approach.

#### 1.5 Description of land characteristics

The site has been historically cleared of native vegetation, with the vegetation consisting of predominantly planted trees; designed to act as shelter and windbreaks for the previous agistment land uses.

The site is generally flat, with a gentle downward slope toward Bollard Bullrush Swamp to the northwest of the site. A review of the available topographic contours indicates the site is highest in the eastern portion of the site, ranging from 10 m AHD Australian height datum (m AHD) to 4 m AHD in the north-western portion of the site. External to the site, it is generally flat. This is shown in **Figure 1**.

The site is zoned 'Urban' under the Metropolitan Region Scheme (MRS), as shown in **Plate 2** below, and 'Development' under the *City of Kwinana Town Planning Scheme No. 2*. The proposed development is in accordance with the zoning for the land.

The site is located within a broader area where previous agricultural land uses have been changing to residential uses. The land uses surrounding the site include:

Vacant land to the immediate north which is part of Oakebella Estate and is currently in the
process of being developed for residential purposes in accordance with the approved Lots 503
and 504 Tamblyn Place and Lots 505, 507 and 900 Johnson Road, Wellard Local Structure Plan
(Taylor Burrell Barnett 2016).

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- Bollard Bulrush Swamp, which is a conservation category wetland (CCW) (unique feature identifier (UFI) 15866) to the north/north-west. This wetland feature and associated buffer does not extend into the site.
- The Peel Main Drain to the south, which is a Water Corporation drain discharging to the Serpentine River at Kerulup Pool further south. Established and under construction residential areas are located further south, south-west and south-east.
- Johnson Road/Irasburg Parade and existing residential areas to the east.

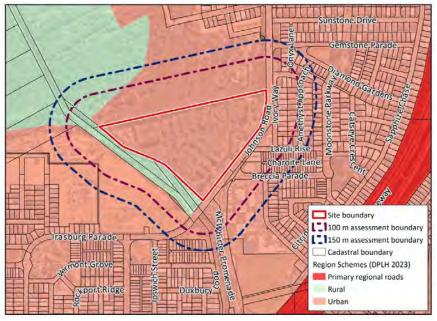


Plate 2: Metropolitan Region Scheme reservations and zoning, within and surrounding the site.

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#### 2 Environmental Considerations

In accordance with the *Bushfire Management Plan – BAL Contour* template prepared by the Department of Planning, Lands and Heritage (DPLH) (2018), this BMP has considered whether there are any environmental values that may require specific consideration through either protection, retention or revegetation and be relevant for the bushfire assessment. To support this, a review of publicly available databases has been undertaken, with particular reference to the Shared Location Information Platform (SLIP) databases, and also consideration of the *Environmental Assessment and Management Strategy* (Emerge Associates 2023a) prepared to support the structure plan. A summary of the values relevant to the site and bushfire management has been provided in **Table 1**.

The site has been historically cleared of native vegetation and is currently composed of pasture grasses with scattered planted trees. The site does not contain any environmental values of conservation significance, with Bollard Bulrush Swamp and its buffer located outside the site.

Table 1: Summary of potential environmental considerations that may be associated with the site (based on a search of the SLIP databases)

Key environmental feature (information in brackets refers to mapping data source)	Yes / no / potentially occurring within the site	If yes / potentially, describe value that may be impacted
Conservation category wetlands (CCW) and buffer (Geomorphic wetlands, Swan Coastal Plain (DBCA-019))	No	No CCW or REW are identified within the site. The site is mapped as a multiple use wetland (MUW) (UFI: 13327), however this wetland feature does not need to be retained, and no buffer or revegetation is required.
		A CCW wetland (UFI: 15866) and REW wetland (UFI: 15867) associated with Bollard Bulrush Swamp is located north-west of the site. A proposed buffer to the CCW is indicated in the Local Planning Policy No 3 Bollard Bulrush Swamp Landscape Masterplan (City of Kwinana 2022) but does not does not extend into the site (see Figure 1).
RAMSAR wetlands (DBCA-010)	No	No RAMSAR wetlands are identified within the mapping as occurring within the site or in close proximity.
Waterways (DWER-031)	No	Mapping by the Department of Water and Environmental Regulation (DWER) identifies the Peel Main Drain (a constructed drainage feature) to the immediate south and west of the site and Bollard Bulrush Swamp to the north-west of the site. An area identified as an inundation area is also identified by the mapping through the central portion of the site.
Threatened and priority flora (DBCA-036)	No	While no site specific surveys have been completed, the site has been historically cleared of native vegetation to support agricultural activities, and a site inspection confirmed vegetation now comprises planted trees and paddock grasses. Due to previous disturbances within the site threatened or priority flora is considered unlikely to occur.

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Table 1: Summary of potential environmental considerations that may be associated with the site (based on a search of the SLIP databases) (continued)

Key environmental feature (information in brackets refers to mapping data source)	Yes / no / potentially occurring within the site	If yes / potentially, describe value that may be impacted
Threatened and priority fauna (DBCA-037)	No	Due to historical clearing and lack of intact native vegetation, the site has limited natural values, apart from planted rows of predominantly non- native tree species (to Western Australia) with some occasional <i>Agonis flexuosa</i> and <i>Eucalyptus rudis</i> amongst extensive cleared areas. This planted vegetation and regrowth trees are unlikely to provide important habitat for any threatened or priority fauna species.
Threatened ecological communities (DBCA-038)	No	The site is highly modified from its natural state and is currently comprised of predominantly planted rows of various non-native trees with some occasional regrowth <i>Agonis flexuosa</i> and <i>Eucalyptus rudis</i> amongst large extents of paddock grasses and weeds. No threatened or priority ecological communities are considered likely to occur.
Clearing regulations – Environmentally Sensitive Areas (DWER-046)	No	No environmentally sensitive areas (ESA) are identified within the site. An ESA associated with the CCW wetland feature (UFI 15866) is located to the north-west of site.

#### 2.1 Native vegetation – modification and clearing

As outlined above, the site has been historically cleared and modified to support agricultural activities. The site currently comprises large areas of non-native paddock grasses and weeds and rows of predominantly planted trees. Where possible trees will be retained within the POS area, but all other vegetation will be removed from the site.

With regard to bushfire management, clearing of vegetation will include the removal of paddock trees and grasses and is required to enable the relevant siting and access requirements of the Guidelines for:

- Future lots
- Public open space (POS)
- Asset protection zones (APZs)
- Public roads
- Water infrastructure.

No native vegetation identified external to the site associated with Bollard Bulrush Swamp is proposed to be impacted as part of development or during clearing/vegetation modification.

Where clearing of native vegetation is undertaken in accordance with a subdivision approval under the *Planning and Development Act 2005*, it is exempt from requiring a clearing permit under Schedule 6 of the *Environmental Protection Act 1986* (EP Act), even when identified within an ESA. Additionally, a clearing permit will not be required where other exemptions exist pursuant to the *Environmental Protection Act 1986*, such as Section 33 of the *Bush Fires Act 1954*, or the Environmental Protection (Clearing of Native Vegetation) Regulations 2004 (where outside an ESA), such as those associated with a building licence.

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#### 2.2 Revegetation and landscape plans

While no revegetation is required within the site, in accordance with *LPP No. 3* (City of Kwinana 2022), the wetland core and wetland buffer associated with Bollard Bulrush Swamp to the north will be retained and the buffer areas are anticipated to be revegetated. Accordingly, for the purposes of this BMP the wetland buffer is assumed to be revegetated and has been factored into the bushfire assessment.

Vegetation within the site will be removed and/or modified as part of development. Where possible trees will be retained within the western most POS area. The POS areas will be landscaped to achieve a low threat in accordance with Section 2.2.3.2 of AS 3959. The specific design and approach will be detailed as part of the implementation of subdivision, but management is likely to include activities such as:

- Low pruning of trees (branches below 2 m in height removed where appropriate).
- Regular mowing/slashing of grass to less than 100 m in height.
- Regular removal of built-up dead material and weeds (such as fallen branches, leaf litter etc.)
- Re-application of surface cover, such as mulch or other non-flammable materials as required.
- Irrigation of grass and garden beds (where required).

A landscape concept plan has been prepared to illustrate the intended approach and is provided in **Appendix B**.

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#### 3 Bushfire Assessment Results

Bushfire risk for the site has been appropriately considered both in context to the site and potential impacts upon the site using AS 3959 and the Guidelines.

The objective of AS 3959 is to reduce the risk of ignition and loss of a building to bushfire. It provides a consistent method for determining a radiant heat level (radiant heat flux) as a primary consideration of bushfire attack. AS 3959 measures the Bushfire Attack Level (BAL) as the radiant heat level (kW/m²) over a distance of 100 m. AS 3959 also prescribes deemed-to-satisfy construction responses that can resist the determined radiant heat level at a given distance from the fire. It is based on six BAL ratings: BAL-LOW, BAL-12.5, BAL-19, BAL-29, BAL-40 and BAL-FZ.

#### 3.1 Assessment inputs

A BAL assessment has been undertaken in accordance with Method 1 of AS 3959. Vegetation classifications and effective slope relevant to the assessment have been detailed below in Table 2 and shown in **Figure 2**. A BAL Contour Plan has been prepared based on the assumed developed condition of the site in accordance with Appendix Three of the Guidelines and is discussed further below and is shown in **Figure 3**. A site visit was undertaken on the 22 November 2023.

#### **3.1.1** Assumptions

The BAL assessment is based on the following assumptions:

- Designated FDI: 80
- Flame temperature: 1090 K
- Vegetation classification: Forest (Class A), Woodland (Class B), Scrub (Class D) and Grassland (Class G) (Figure 2 and Table 3)
- Effective slope beneath classified vegetation: Flat/upslope (Figure 2)
- **Setback distances**: as per Table 2.5 in AS 3959 with the relevant distances used to inform the BAL contour plan summarised in **Table 3** and the BAL contour plan shown in **Figure 3**.
- Classified vegetation will be removed from within the site for future lots, public roads and the
  areas of POS. These areas maintained to achieve low threat in accordance with Section 2.2.3.2 of
  AS 3959.
- Areas of low threat vegetation outside the site will continue to be managed and/or considered to achieve low threat (in accordance with Section 2.2.3.2 of AS 3959) based on existing maintenance regimes, and/or as per the City of Kwinana Fire Break Notice.
- Classified vegetation that has been identified outside of the proponent's landholdings has been
  assumed to remain in its current state and will therefore continue to be a bushfire hazard to
  development within the site. An exception to this is to areas within the wetland buffer area
  which are expected to be revegetated and based on revegetation in adjacent areas is assumed
  to achieve a forest classification.
- Areas of grassland can include up to 10% foliage cover from shrubs and trees, per AS 3959.

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#### **3.1.2** Vegetation classification

Assessing bushfire hazards takes into account the vegetation classifications and exclusions within the site and surrounding area for a minimum of 100 m, in accordance with AS 3959 and the Guidelines. The assignment of vegetation classifications is based on an assessment of vegetation structure, which includes consideration of the various fuel layers of different vegetation types, as outlined in **Plate 3** below. All vegetation within 150m of the site was classified in accordance with Section 2.2.3 of AS 3959. Each distinguishable vegetation plot is described in **Table 2** and shown in **Figure 2**. This classification is a conservative assessment of the predominant vegetation.

Not all vegetation is a classified bushfire risk. Vegetation and ground surfaces that are exempt from classification as a potential hazard are identified as a low threat under Section 2.2.3.2 of AS 3959. Low threat vegetation includes the following:

- a) Vegetation of any type that is more than 100 m from the site.
- b) Single areas of vegetation less than 1 ha in area and not within 100 m of other areas of vegetation being classified.
- c) Multiple areas of vegetation less than 0.25 ha in area and not within 20 m of the site, or each other or of other areas of vegetation being classified.
- d) Strips of vegetation less than 20 m in width (measured perpendicular to the elevation exposed to the strip of vegetation) regardless of length and not within 20 m of the site or each other, or other areas of vegetation being classified.
- e) Non-vegetated areas, that is, areas permanently cleared of vegetation, including waterways, exposed beaches, roads, footpaths, buildings, and rocky outcrops.
- f) Vegetation regarded as low threat due to factors such as flammability, moisture content or fuel load. This includes grassland managed in a minimal fuel condition, mangroves, and other saline wetlands, maintained lawns, golf courses (such as playing areas and fairways), maintained public reserves and parklands, sporting fields, vineyards, orchards, banana plantations, market gardens (and other non-curing crops), cultivated gardens, commercial nurseries, nature strips and wind breaks.

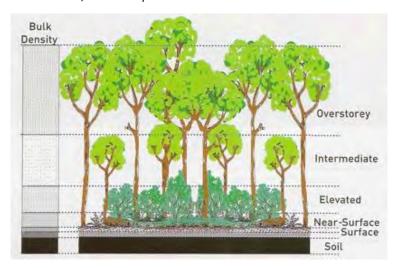


Plate 3: The five fuel layers in a forest environment that could be associated with fire behaviour (Gould et al. 2007)

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Table 2: AS 3959 vegetation classification (refer to Figure 2)

Photo ID: Plot: **Vegetation Classification or Exclusion Clause** Forest (Class A) - Flat/upslope **Description / Justification for Classification** Forest vegetation has been identified to the north-west of the site, within Bollard Bulrush Swamp (wetland core) and its associated buffer. The wetland area consists of dense tree

canopy (primarily Melaleuca rhaphyiophylla and Eucalyptus rudis) up to 15 m in height with dense understorey of sedges and grasses. The wetland buffer currently comprises areas of grassland and shrubland vegetation however is assumed to be revegetated to achieve forest in the long-term.

Photo ID:

Plot:

2

1

**Vegetation Classification or Exclusion Clause** 

Forest (Class A) - Flat/upslope

#### **Description / Justification for Classification**

Forest vegetation has been identified to the north of the site, within Bollard Bulrush Swamp (wetland core) and its associated buffer. The wetland area consists of dense tree canopy (primarily Melaleuca rhaphyiophylla and Eucalyptus rudis) up to 15 m in height with dense understorey of sedges and grasses. The wetland buffer (in foreground of photo) currently comprises areas of grassland and shrubland vegetation however is assumed to be revegetated to achieve a forest classification in the long-term.

Photo ID:

3

Plot:

#### Vegetation Classification or Exclusion Clause

Forest (Class A) - Flat/upslope

#### **Description / Justification for Classification**

A small patch of forest vegetation (in background of photo) has been identified to the north of the site, within the undeveloped portions of Oakebella Estate. The area consists of Eucalypt species over shrubs and grasses. The area is identified for future development and is considered a temporary hazard.







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Table 2: AS 3959 vegetation classification (refer to Figure 2) (continued)

Photo ID: 4 Plot: 3

Vegetation Classification or Exclusion Clause

Woodland (Class B) – Flat/upslope

#### **Description / Justification for Classification**

Woodland vegetation has been identified adjacent to the west of the site within the Peel Main Drain reserve (planted trees are also visible to the background of the photo and are within the site). The vegetation comprises predominantly *Eucalyptus rudis* 20 m in height and an understorey of grasses. Foliage cover is less than 30% with canopy separation evident. This vegetation has remained in a similar condition over a long period of time and is assumed to remain in the long-term.



Photo ID:

5

3

**Vegetation Classification or Exclusion Clause** 

Plot:

Woodland (Class B) - Flat/upslope

#### **Description / Justification for Classification**

Woodland vegetation has been identified adjacent to the western boundary of the site within the Peel Main Drain reserve (to the background of photo), comprising predominantly *Eucalyptus rudis* up to 15 m in height and a predominant understorey of grasses. Foliage cover is less than 30% with canopy separation evident. This vegetation has remained in a similar condition over a long period of time and is assumed to remain in the long-term.



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Table 2: AS 3959 vegetation classification (refer to Figure 2) (continued)

Photo ID: 6 Plot: 4

**Vegetation Classification or Exclusion Clause** 

Scrub (Class D) - Flat/upslope

#### **Description / Justification for Classification**

Scrub vegetation has been identified to the south of the site within the Peel Main Drain reserve and is dominated by shrubs approximately 4m in height (predominantly Kunzea glabrescens and Acacia spp.) and occasional trees.



Photo ID:

7

Plot:

Vegetation Classification or Exclusion Clause

Scrub (Class D) - Flat/upslope

#### **Description / Justification for Classification**

Scrub vegetation has been identified to the south of the site within the Peel Main Drain reserve and is dominated by shrubs approximately 4m in height (predominantly *Kunzea glabrescens and Acacia spp.*) and occasional trees.



Photo ID:

8

Plot:

**Vegetation Classification or Exclusion Clause** 

Shrubland (Class C) – Flat/upslope

#### **Description / Justification for Classification**

Shrubland vegetation has been identified to the south of the site, associated with a planted drainage basin located adjacent to the Peel Main Drain. The dominant vegetation form was between 1-2 m in height. This vegetation does not appear to be subject to regular maintenance and has been assumed to remain in the long-term.



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Photo ID:

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Table 2: AS 3959 vegetation classification (refer to Figure 2) (continued)

**Vegetation Classification or Exclusion Clause** 

Plot:

Grassland (Class G) - Flat/upslope

#### **Description / Justification for Classification**

Unmanaged grassland vegetation (taller than 10 cm) was identified west of the site within and adjacent to the Peel Main Drain reserve. The vegetation is characterised by open weedy pasture grass cover (of variable density/cover). This vegetation does not appear to be routinely maintained and has therefore been classified as grassland (Class G). Vegetation within the Peel Main Drain Reserve has been assumed to remain similar to its current state in the long-term.



Photo ID:

10

**Vegetation Classification or Exclusion Clause** 

Grassland (Class G) - Flat/upslope

#### **Description / Justification for Classification**

Unmanaged grassland vegetation (taller than 10 cm) was identified west of the site within and adjacent to the Peel Main Drain reserve. The vegetation is characterised by open weedy pasture grass cover (of variable density/cover). This vegetation does not appear to be routinely maintained to a low threat condition and has therefore been classified as grassland (Class G). Tis vegetation has remained in a similar condition over a long period of time and is assumed to remain in the long-term.



Photo ID:

11

Plot:

**Vegetation Classification or Exclusion Clause** 

Grassland (Class G) - Flat/upslope

#### **Description / Justification for Classification**

Grassland vegetation has been identified external to the north of the site characterised by open weedy pasture grasses in an unmanaged state. Some scattered exotic and native trees are present but form less than 10% foliage cover for the area. This vegetation will be removed in the long-term for residential development and is identified as a temporary hazard.



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Photo ID:

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Table 2: AS 3959 vegetation classification (refer to Figure 2) (continued)

Plot:

Vegetation Classification or Exclusion Clause

Grassland (Class G) - Flat/upslope

#### **Description / Justification for Classification**

Grassland vegetation has been identified external to the north of the site characterised by open weedy pasture grasses in an unmanaged state. Some scattered exotic and native trees are present but form less than 10% foliage cover for the area. This vegetation will be removed in the long-term for residential development and is identified as a temporary hazard.



Photo ID:

13

Plot:

8

**Vegetation Classification or Exclusion Clause** 

Exclusion clause 2.2.3.2 (e)

#### **Description / Justification for Classification**

Existing non-vegetated areas surrounding the site including roads, existing urban areas and exposed mineral earth have been excluded in accordance with Clause 2.2.3.2 (e) of AS 3959.



Photo ID:

14

Plot:

8

**Vegetation Classification or Exclusion Clause** 

Exclusion clause 2.2.3.2 (e)

#### **Description / Justification for Classification**

Areas surrounding the site to the west associated with future residential areas are currently under construction and comprised of exposed mineral earth and have been excluded in accordance with Clause 2.2.3.2 (e) of AS 3959.



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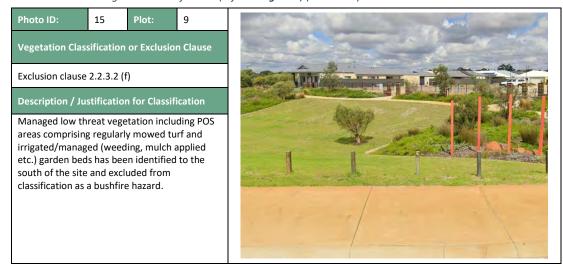
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Table 2: AS 3959 vegetation classification (refer to Figure 2) (continued)



#### 3.2 Assessment outputs

The vegetation classifications determined in **Section 3.1** are summarised in **Table 3** (and shown in **Figure 2**) and incorporate the known changes to vegetation post-development, including the revegetation of the wetland buffer external to the site. The resultant BALs are shown in **Figure 3**. BAL ratings are based on the minimum distances outlined in Table 2.5 of AS 3959, with the relevant distances summarised in

#### Table 4.

Table 3: Summary of the assumed post-development vegetation classification and associated effective slope within the site and 150 m in accordance with Table 2.5 (AS 3959)

Plot	Applied vegetation classification	Effective slope
1	Class A – Forest	Flat/upslope
2	Class A – Forest	Flat/upslope
3	Class B – Woodland	Flat/upslope
4	Class D – Scrub	Flat/upslope
5	Class C – Shrubland	Flat/upslope
6	Class G - Grassland	Flat/upslope
7	Class G - Grassland	Flat/upslope
8	Exclusion 2.2.3.2 (e), associated with existing non-vegetated areas external to the site	N/A
9	Exclusion 2.2.3.2 (f), associated with existing areas of managed low threat vegetation	N/A
10	Exclusion 2.2.3.2 (e), associated with future lots and road areas within the site	N/A
11	Exclusion 2.2.3.2 (f), associated with future areas of low threat POS areas within the site	N/A

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The BAL assessment demonstrates that all areas proposed for residential development (and therefore future habitable buildings) can achieve BAL-29 or less based on the proposed structure plan, as shown in **Figure 3**. Exceptions to this are:

- The development cells adjacent to the northern boundary, where BAL-40 and BAL-FZ extends
  into the rear of the future lots due to temporary grassland hazards to the north. This vegetation
  will be removed in the short to medium term, as residential development progresses and will no
  longer pose hazard to development within the site. There is sufficient area within the cells to
  accommodate habitable buildings within BAL-29 or below using in-lot setbacks if required,
  and/or can be managed through staging of development.
- The development cells adjacent to the Peel Main Drain, where BAL-40 extends into the front of the future lots by 1 m. This development cell is separated from the main drain by a public road.

Table 4: Setback distances based on vegetation classification and effective slope and Table 2.5 of AS 3959, as determined by the method 1 BAL assessment

Plot number (see Figure 2)	Vegetation classification (see Figure 2)	Effective slope (see Figure 2)	Distance to vegetation (from Table 2.5 of AS 3959)	BAL rating (see Figure 3)
Plot 1 and Plot 2	Forest (Class A)	Flat/upslope	< 16 m	BAL-FZ
			16 - < 21 m	BAL-40
			21 - < 31 m	BAL-29
			31 - < 42 m	BAL-19
			42 - < 100 m	BAL-12.5
			> 100 m	BAL-LOW
Plot 3	Woodland (Class B)	Flat/upslope	< 10 m	BAL-FZ
			10 - < 14 m	BAL-40
			14 - < 20 m	BAL-29
			20 - < 29 m	BAL-19
			29 - < 100 m	BAL-12.5
			> 100 m	BAL-LOW
Plot 4	Scrub (Class G)	Flat/upslope	< 10 m	BAL-FZ
			10 - < 13 m	BAL-40
			13 - < 19 m	BAL-29
			19 - < 27 m	BAL-19
			27 - < 100 m	BAL-12.5
			> 100 m	BAL-LOW

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Table 4: Setback distances based on vegetation classification and effective slope and Table 2.5 of AS 3959, as determined by the method 1 BAL assessment (continued)

Plot number (see Figure 2)	Vegetation classification (see Figure 2)	Effective slope (see Figure 2)	Distance to vegetation (from Table 2.5 of AS 3959)	BAL rating (see Figure 3)
Plot 5	Shrubland (Class C)	Flat/upslope	< 7 m	BAL-FZ
			7 - < 9 m	BAL-40
			9 - < 13 m	BAL-29
			13 - < 19 m	BAL-19
			19 - < 100 m	BAL-12.5
			> 100 m	BAL-LOW
Plot 6 and Plot 7	Grassland (Class G)	Flat/upslope	< 6 m	BAL-FZ
			6 - < 8 m	BAL-40
			8 - < 12 m	BAL-29
			12 - < 17 m	BAL-19
			17 - < 50 m	BAL-12.5
			> 50 m	BAL-LOW

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#### 4 Identification of Bushfire Hazard Issues

The key hazards with potential to impact the site include:

- Ember attack (particularly from nearby forest vegetation within the Bollard Bulrush Swamp to the north and areas of classified vegetation to the south and west of the site within the Peel Main Drain).
- Potential fire runs associated with:
  - Contiguous grassland to the north of the site (considered a hazard until development in the area progresses),
  - Contiguous forest vegetation associated with Bollard Bulrush Swamp (including its buffer) to the north,
  - Contiguous woodland, scrub and grassland vegetation associated with the Peel Main Drain to the west.

From a bushfire hazard management perspective, based on the requirements of SPP 3.7 and the Guidelines with consideration for potential hazards, future development is likely to require the following management and/or consideration:

- Provision of appropriate separation distance from bushfire hazards to ensure a BAL rating of BAL-29 or less can be achieved at future habitable buildings. This includes addressing setbacks from temporary hazards to the north, and achieving setbacks from the Peel Main Drain.
- Provision of appropriate vehicular access to ensure that egress to at least two different
  destinations will be available to future residents and emergency personnel. This is likely to
  require the use of temporary emergency access ways (EAWs) as part of internal staging of
  subdivision (where temporary no-through roads exceed 200 m in length) and to Johnson
  Road/Irasburg Parade until the connection through Oakebella Estate to the north is available.
- Ensuring that where specified/agreed, the POS areas within the site are designed, implemented and managed to achieve low threat in accordance with Section 2.2.3.2 of AS 3959.
- Ensuring the provision of water for firefighting is sufficient and accessible by firefighting services (reticulated water supply and associated hydrant network).

#### 4.1 Permanent hazards

Permanent long-term hazards relevant to development within the site are the existing classified vegetation associated with the Peel Main Drain reserve and Bollard Bulrush Swamp. Additionally, it is assumed that the wetland buffer area will be revegetated in accordance with *LPP No. 3* as urban development progresses in the areas adjoining the wetland. These areas are shown in **Figure 2**.

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#### 4.2 Temporary hazards

Urban development (associated with Oakebella Estate) is progressing to the north of the site in line with the approved local structure plan (Taylor Burrell Barnett 2016). Existing grassland and forest hazards identified in this area will be removed permanently as development is progressed. These areas of vegetation are identified as a hazard for the purposes of this BMP given the timing for completion of all works is not known. Areas identified as a temporary hazard are shown in **Figure 2**.

If the entire site is not cleared of vegetation as a single stage of works, the proponent will need to ensure the minimum area around each stage is cleared/managed to ensure BAL-29 or less can be achieved. Where this approach is undertaken, vegetation will need to be managed by the proponent until residential development in those areas progresses.

#### 4.3 Vulnerable land use

The definition of a vulnerable land use is where occupants are less able to respond in an emergency. The types of land uses considered vulnerable include "facilities that, due to the building design or use, or the number of people accommodated, are likely to present evacuation challenges." The identification of a land use as a vulnerable use is at the discretion of the decision maker.

A high-risk land use is one where practices that occur within the site may lead to a potential ignition and spread of a fire from the site or could prolong the duration or intensity of a bushfire should a fire arrive from outside the site.

No vulnerable or high-risk land uses are currently proposed as part of the development.

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### 5 Assessment Against the Bushfire Protection Criteria

This BMP provides an outline of the mitigation strategies that will ensure that as the development progresses within the site, an acceptable solution can be adopted for each of the bushfire protection criteria detailed within Appendix Four of the Guidelines. The applicable bushfire protection criteria identified in the Guidelines and addressed as part of this BMP are:

- Element 1: Location of the development
- Element 2: Siting and design of the development
- Element 3: Vehicular access
- Element 4: Water supply

As part of future development, an 'acceptable solution' will be able to address the intent of all four bushfire protection criteria as part of both structure planning and subdivision. A summary of how the criterion can be addressed has been provided in **Table 5.** 

Table 5: Assessment against the bushfire protection criteria from the Guidelines

Bushfire protection criteria	Proposed bushfire management strategies
Element 1: Location	
A1.1 Development location	Once development is progressed within the site, the entire site will be identified as a having a low or moderate hazard level, with moderate applying where within 100 m of classified vegetation adjacent to the site (including areas of temporary hazard). The site addresses Clause 6.2 (b) of SPP 3.7, which requires development to have a moderate or lower hazard level rating, either before or as part of implementing the proposed development.
	The BAL assessment ( <b>Figure 3</b> ) indicates that the majority of the site can achieve BAL-29 or less, with most of the site subject to BAL-12.5 or BAL-LOW. Small portions of the site are subject to BAL-FZ or BAL-40 but are associated with either temporary hazards that will be removed, or a minor incursion that can be addressed through a front-lot setback (and has a road interface). There is sufficient area within the development cells to accommodate habitable buildings within BAL-29 or below using in-lot setbacks. Consideration for achieving BAL-29 or less is addressed under Element 2 further below.
	The proposal complies with A1.1.
Element 2: Siting and design	
A2.1 Asset Protection Zone	All development areas/future lots are required to be managed to a low threat condition with a minimum Asset Protection Zone (APZ) equivalent to enable BAL-29 to be achieved. APZs are typically contained within a lot but can also include areas external to a lot that achieve low threat in accordance with Section 2.2.3.2 of AS 3959 where the APZ cannot be contained within the lot boundaries. It is typical for urban type development for the APZ to extend into adjacent lots, public open space and public road reserves.
	(Continued below)

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Table 5: Assessment against the bushfire protection criteria from the Guidelines (continued)

Bushfire protection criteria	Proposed bushfire management strategies
Element 2: Vehicular access (co	ontinued)
A2.1 Asset Protection Zone	(Continued from above)  All proposed development areas that are intended to support habitable buildings are
	able to achieve an APZ with sufficient separation from classified vegetation to achieve BAL-29 or below. Separation from permanent bushfire hazards is provided within the development layout through the strategic placement of public roads and areas of managed public open space (as shown in <b>Figure 4</b> ). Lots adjacent to the Peel Main Drain would only require a 1 m-wide front lot setback to achieve BAL-29. Setbacks from temporary hazards to the north are able to be accommodated in future lots based on the depth of the development cells if the hazards are still present at the time of subdivision. Overall, the development cells within the site are suitability sized, in combination with the public road network and the POS areas, to enable lots to accommodate the minimum separation distances outlined in <b>Table</b> 4 and shown in <b>Figure 3</b> .
Element 3: Vehicular access	The proposal complies with A2.1.
A3.1 Public roads	Surrounding public roads (i.e. Johson Road and Irasburg Parade) and all new internal public roads can and will be able to comply with the minimum standards outlined in Appendix Four of the Guidelines (DPLH & WAPC 2021) (refer to <b>Plate 4</b> further below). The road reserves within the site will likely vary between 13 m and 16 m wide (depending upon the road type), meeting neighbourhood connectors and access street requirements, as per the Institute of Public road Works Engineering Australasia (IPWEA) guidelines (IPWEA 2017). Therefore, the proposal complies with A3.1.
A3.2a Multiple access routes.	The proposed structure plan provides for connections to the urban development to the north (in accordance with the approved structure plan) and Johnson Road/Irasburg Parade to the south, providing multiple access routes to different destinations. Irasburg Parade/Johnson Road connect to the broader public road network which links to Bertram in the north and the locality of Baldivis in the south though connection to Millar Road and Baldivis Road, with access to the Kwinana Freeway via Mortimer Road and Kulija Road, respectively. The proposed development can comply with A3.2a.
A3.2b Emergency access way	Given the development will be able to provide egress to at least two different destinations, no permanent emergency access ways (EAWs) are required.
A3.3 Through-roads	The proposed development layout provides for a through road network and is part of a residential built out area, with internal loop roads connecting to the proposed public road network. The proposed development complies with A3.3 or the exceptions.
	Temporary no-through roads may be generated as part of staging of development and should comply with Appendix Four of the Guidelines or agreed with the City of Kwinana. This includes the provision of appropriate turning heads (see excerpt from the Guidelines in <b>Plate 5</b> ) and where longer than 200 m or do not satisfy the exemption provisions of A3.2 can be addressed through the use of an EAW. Where required, EAWs should be less than 500 m in length (unless agreed otherwise) and provide a through connection to other public roads and meet the requirements outlined in <b>Plate 4</b> .
	Until the road network within the development to the north of the site is constructed, a temporary EAW may be required to provide additional connections to the public road network. A possible EAW location has been indicated within <b>Figure 4</b> , and the need for this connection and/or location will be confirmed with the City of Kwinana as part of subdivision works within the site.

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Table 5: Assessment against the bushfire protection criteria from the Guidelines (continued)

Bushfire protection criteria	Proposed bushfire management strategies			
Element 3: Vehicular access (continued)				
A3.4a Perimeter roads	The development layout provides a perimeter road between future lots and areas of permanent bushfire hazard (see <b>Appendix A</b> and. <b>Figure 4</b> ). The development cell adjacent to the northern boundary of the site is not provided with a perimeter road at the layout is aligning with the existing approved structure plan and road layout to the north. The identified hazard at this location is also grassland vegetation and a perime road is not required adjacent to grassland.  The proposed development complies with A3.4a.			
A3.4b Fire service access route	No fire service access route is proposed or required to achieve compliance with any other criterion.			
A3.5 Battle-axe access legs	Not applicable. No battle-axe access is indicated at this stage of the planning process.  While not anticipated given the density of development and development cell configuration, while battle-axe access legs should be avoided where possible within designated bushfire prone areas, if proposed as part of future subdivision, their inclusion will need to be justified and will need to address the minimum standards outlined in Appendix Four of the Guidelines which includes technical requirements in Table 6 (reproduced in Plate 4).			
A3.6 Private driveway longer than 70 metres	In accordance with Appendix Four of the Guidelines, this criterion is not a relevant consideration for a structure plan and/or subdivision. Based on the density of the proposed residential development, private driveways longer than 70 m are unlikely to be required. If future dwellings require private driveways longer than 70 m they will need to comply with the requirements of the Guidelines, including Table 6 of the Guidelines.			
Element 4: Water				
A4.1 Identification of future water supply	The proposed development is located in an area that is to be serviced by a reticulated water supply. The reticulated water supply network will be extended to the site from the existing urban areas. The proposed development is able to comply with A4.1			
A4.2 Provision of water for firefighting purposes	hydrant connections in accordance with the specifications of the Water Corneration			

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Table 6: Vehicular access technical requirements TECHNICAL REQUIREMENTS 3 Emergency access way<sup>1</sup> **Public roads** Fire service access route<sup>1</sup> and private Minimum trafficable surface (metres) In accordance 6 4 6 with A3.1 N/A Minimum horizontal clearance (metres) 6 6 6 Minimum vertical clearance (metres) 4.5 Minimum weight capacity (tonnes) 15 1:10 (10%) Maximum grade unsealed road<sup>3</sup> As outlined Maximum grade sealed road3 1:7 (14.3%) in the IPWEA Subdivision Maximum average grade sealed road 1:10 (10%) Guidelines 8.5 Minimum inner radius of road curves (metres)

#### Notes:

- <sup>1</sup> To have crossfalls between 3 and 6%.
- <sup>2</sup> Where driveways and battle-axe legs are not required to comply with the widths in A3.5 or A3.6, they are to comply with the Residential Design Codes and Development Control Policy 2.2 Residential Subdivision.
- $^3$  Dips must have no more than a 1 in 8 (12.5% -7.1 degree) entry and exit angle

Plate 4: Excerpt of Table 6 from The Guidelines

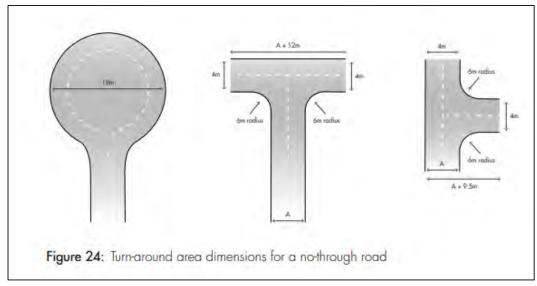


Plate 5: Excerpt of Figure 24 from the Guidelines showing turn-around areas.

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## Bushfire Management Plan Lot 506 Johnson Road, Wellard



#### 5.1 Additional management strategies

#### 5.1.1 Future approval considerations

The BAL assessment in this BMP is a conservative and cautious assessment of the potential bushfire risk posed to future habitable buildings within the site based on the proposed management of vegetation and assumptions outlined in **Section 3**. This includes consideration of future revegetation and temporary hazards.

As no future habitable buildings are likely to exceed BAL-29, additional planning or development approval will not be required to address bushfire considerations. Future Class 1, 2, 3 and 10a buildings designated bushfire prone and in an area subject to a BAL rating of BAL-12.5 or higher, will need to satisfy construction standards in accordance with the National Construction Code (NCC) (e.g., AS 3959 or the National Association for Steel-framed Housing (NASH) Standard).

Dwellings will need to be constructed in accordance with BAL ratings determined following development. If all works are implemented as outlined, this should align with those predicted in this BMP.

#### 5.1.2 Landscape management

#### 5.1.2.1 Within the site

#### Lots

All lots, once created, are required to be managed by the owner to a low threat condition (Section 2.2.3.2 of AS 3959), in accordance with this BMP and the City of Kwinana Firebreak Notice.

#### **Public road reserves**

Road pavement within public road reserves are excluded pursuant to clause 2.2.3.2(e) of AS 3959 as non-vegetated.

Nature strips (verges) within public road reserves are excluded pursuant to clause 2.2.3.2(f) of AS 3959, where they are listed as a type of use/vegetation that can be excluded. Specific management is not required.

#### Public open space

As outlined in previous sections of the BMP, the POS areas within the site will be landscaped and managed to a low threat condition. This is likely to include retention of trees within the western most POS areas. The location of the POS areas are shown in **Figure 2** and **Figure 4**, and also indicated in **Appendix B**.

To achieve low threat vegetation in accordance with Section 2.2.3.2 of AS 3959 (as shown in **Figure 4**), the detailed design of the POS areas will be determined in collaboration with the City of Kwinana as part of the standard development process. Management may include:

- Clearing/modification of existing vegetation.
- Irrigation of grass and garden beds (where required).

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- Regular maintenance including removal of weeds and dead material.
- Low pruning of trees (branches below 2 m in height removed where appropriate).
- Application of ground covers such as mulch or non-flammable materials.
- Regularly mowing/slashing of grass to less than 100mm in height.

The proponent will be responsible for the initial maintenance of these areas and following handover the City of Kwinana will be responsible for the long-term maintenance of the POS areas to achieve a low threat standard.

#### 5.1.2.2 Surrounding the site

#### Within public reserves

Bollard Bulrush Swamp and the associated buffer are assumed to remain in their existing condition and/or be revegetated to achieve a forest classification. No ongoing management is assumed in this area.

Peel Main Drain is assumed to remain in its existing condition and no ongoing management of vegetation has been assumed.

#### Within the public road reserves

Areas of existing road reserves and public open space will continue to be maintained by the relevant authorities in accordance with the existing maintenance regimes.

#### Within private landholdings

The private landholdings surrounding the site are assumed to be managed by the applicable landowners in accordance with the City of Kwinana Firebreak Notice in perpetuity and/or in accordance with existing maintenance regimes.

All other vegetation will remain in its existing condition for the foreseeable future. It is noted that land to the north (Oakebella Estate) is undergoing development and this will likely change the bushfire risk applicable to the site as part of future subdivision processes.

#### 5.1.3 City of Kwinana Firebreak Notice

The City of Kwinana releases a Firebreak Notice on an annual basis to provide a framework for bushfire management within the City. The City of Kwinana are able to enforce this notice in accordance with Section 33 of the *Bush Fires Act 1954*. In addition, Section 33 1(b) also provides the City with additional power to direct landowners to undertake works to remedy conditions conducive to the outbreak or spread of bushfire.

Following development for residential purposes, all lots will be required to comply with the most recent Firebreak Notice, which may include (but is not limited to):

- Ensuring of all long grass, weeds etc. are slashed, mowed or trimmed down by other means to a height no greater than 50 mm across the entire property; and
- Remove all flammable materials from all rooftops and gutters of buildings.

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In addition, all lots subject to an approved bushfire management plan through subdivision will be required to comply with that plan. This BMP has been prepared to support subdivision and accordingly all future lots will need to be managed to achieve low threat in accordance with Section 2.2.3.2 of AS 3959.

#### 5.1.4 Public education and preparedness

Community bushfire safety is a shared responsibility between individuals, the community, government and fire agencies. DFES has an extensive Community Bushfire Education Program including a range of publications, a website and Bushfire Ready Groups. The DFES website (<a href="https://www.dfes.wa.gov.au/bushfire/prepare/">https://www.dfes.wa.gov.au/bushfire/prepare/</a>) provides a range of materials to help the community prepare for and survive the bushfire season.

The City of Kwinana provides bushfire safety advice to residents available from their website (<a href="https://www.kwinana.wa.gov.au/community/health,-safety-and-security/fire-and-emergency-services">https://www.kwinana.wa.gov.au/community/health,-safety-and-security/fire-and-emergency-services</a>). Professional, qualified consultants also offer bushfire safety advice and relevant services to residents and businesses in high-risk areas in addition to that provided in this BMP.

In the case of a bushfire in the area, advice would be provided to residents by DFES, Department of Biodiversity Conservation and Attractions (DBCA) and/or the City of Kwinana on any specific recommendations with regard to responding to the bushfire, including evacuation if required. However, it is highly recommended that future residents make themselves aware of their responsibilities with regard to preparing for and responding to a potential bushfire that may impact them, their family and property, regardless of the BAL rating their properties are subject to.

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## 6 Responsibilities for Implementation and Management of Bushfire Measures

**Table 6** outlines the future considerations of the proponent (developer) associated with developing the site in accordance with the proposed structure plan with reference to future risk treatments to be accommodated as part of subdivision. This is a summary of the information discussed in **Section 5**.

Table 6: Considerations for the implementation of this BMP as part of structure plan approval

Proponent – to support structure plan and future subdivision			
No.	Implementation and management actions	Timing	
1	Make a copy of the BMP available to relevant decision makers to support consideration of the structure plan.	To support the structure plan approval process	
2	<ul> <li>Where applicable, as part of the subdivision process, make spatial provisions for:</li> <li>A suitable public road network that provides egress to at least two different destinations and meets the technical requirements of Appendix Four of the Guidelines and the associated Table 6 (or as otherwise determined by a bushfire consultant and relevant approval authority). This includes making provision for temporary emergency access ways where these are required.</li> <li>Where possible, avoid no through roads and battle-axe lots as part of the spatial layout. If these are proposed as part of future development, these will need to be justified from a planning/development perspective and be consistent with the minimum requirements outlined in Appendix Four of the Guidelines (or as otherwise determined by a bushfire consultant and relevant approval authority). This includes provision of suitable turnaround areas.</li> <li>Ensure future habitable buildings are able to be located in an area subject to BAL-29 or less. The minimum separation distances between habitable buildings and classified vegetation to achieve BAL-29 should be in accordance with</li> <li>Table 4 in this BMP or as specified in subsequent BAL assessments. These separation distances can be accommodated by locating public roads and/or managed POS between the habitable building/s and classified vegetation and/or ensuring proposed residential lots are adequately sized to ensure in-lot setbacks can be accommodated to achieve BAL-29 at the future dwelling.</li> <li>Provide for a water supply dedicated to firefighting purposes in the form of a reticulated network of water hydrants.</li> </ul>	To support structure plan and/or future subdivision	

#### To support subdivision:

• **Table 7** outlines the developer responsibilities to be undertaken to support the clearance of titles. These items will need to be certified by a bushfire consultant.

•

• **Table** 8 outlines the future responsibilities of the proponent (developer) and future landowners associated with implementing this BMP or future mitigation measures to be accommodated as part of the development process but not necessary for title clearances. These responsibilities will need to be considered as part of the subsequent development and implementation process.

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Table 7: Responsibilities for the implementation of this BMP to support subdivision and issue of titles

Proponent – Prior to Issue of Certificates of Title for New Lots		
No.	Implementation action	
1	As required, remove and/or manage classified vegetation within the site and areas identified to be managed by the proponent (see <b>Figure 4</b> ) to achieve low threat in accordance with Section 2.2.3.2 of AS 3959. This is only permitted in areas under the control of the proponent, or where agreement with the adjacent landowner is in place.	
2	Install the public roads to the standards outlined in Appendix Four of the Guidelines or as agreed with the City of Kwinana. Public roads reserves should be designed and maintained to achieve low threat in accordance with Section 2.2.3.2 of AS 3959.	
3	Reticulated water supply and hydrants are to be installed as per standard Water Corporation requirements, unless otherwise agreed.	
4	To support staged development:  • If required, construct and maintain any temporary emergency access ways (EAWs) in accordance with the minimum requirements of Table 6 of the Guidelines, to provide for multiple access to/from the site. This is to be in place until access through development to the north is able to be achieved.  • Temporary no-through roads should meet the minimum requirements of the Guidelines, including the provision of appropriate turning heads (Figure 24 Guidelines v1.4).	

Table 8: Responsibilities for the implementation of this BMP during development and ongoing management

Proponent – Ongoing		
No.	Implementation and management actions	
<ul> <li>Until fully developed, areas within the site including the future lots and proposed road reserves (shown 4) are to be subject to regular and ongoing management to ensure these areas achieve low threat in activities with Section 2.2.3.2 of AS 3959 (as required). This is likely to include (but is not limited to): <ul> <li>Clearing/modification of vegetation</li> <li>Regular removal of weeds and built-up dead material (such as fallen branches, leaf litter etc.)</li> <li>Where grass is present, this should be maintained at or below 100 mm in height, and there is no accurate fine fuel load.</li> </ul> </li> </ul>		
	Once lots are sold, management of the lot will be the responsibility of the landowner in accordance with this BMP and the firebreak notice. The City of Kwinana will be responsible for the management of road reserves following handover, noting nature strips can be excluded pursuant to clause 2.2.3.2 (f) of AS 3959 without specific management.	
2	Design, implement and manage areas of public open space to achieve a low threat standard (in accordance with Section 2.2.3.2 of AS 3959) until handed over to the City of Kwinana. The City will be responsible for the long-term management. Management should include (but is not limited to):  • Clearing/modification of vegetation. Trees can be retained but will form part of the managed landscape areas.  • Regular removal of weeds and built-up dead material (such as fallen branches, leaf litter etc.).  • Low pruning of trees (i.e. removal of branches less than 2 m in height) if individual trees are proposed for retention, or as trees are planted, particularly where these are located in future road reserves or public open space).  • Application/re-application of ground/surface covers such as mulch or non-flammable materials as required.  • Where grass is present, this should be regularly cut and removed/mulched or otherwise disposed of so that the grass is maintained at or below 100 mm in height, and there is no accumulation of fine fuel load.	
3	Make a copy of the BMP and BAL certification/assessment available to each lot owner within designated bushfire prone areas.	

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Table 8: Responsibilities for the implementation of this BMP during development and ongoing management (continued)

Prope	Property owner/occupier		
No.	Management action		
1	Where within a bushfire prone area, ensuring construction of new dwelling/s complies with AS 3959, as per the applicable BAL rating, determined as part of this BMP (outlined within <b>Section 5</b> ) or through a separate BAL assessment.		
2	Ensuring that their property complies with the City of Kwinana Firebreak Notice/s as published and/or in accordance with directions given by the local government. This includes maintaining the entire lot to a low threat standard, even when vacant.		
3	Ensuring fire hydrants are accessible at all times.		
Water Corporation			
No.	Management action		
1	The Water Corporation is responsible for the ongoing maintenance and repair of water hydrants.		

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# Bushfire Management Plan Lot 506 Johnson Road, Wellard



### 7 Applicant Declaration

#### 7.1 Accreditation

This assessment has been prepared by Emerge Associates who have been providing bushfire risk management advice for more than 10 years, undertaking detailed bushfire assessments (and associated approvals) to support the land use development industry. Emerge Associates have a number of team members who have undertaken Bushfire Planning and Design (BPAD) Level 1 and Level 2 training and are Fire Protection Association of Australia (FPAA) accredited practitioners.

Anthony Rowe is a FPAA Level 3 BPAD accredited practitioner (BPAD No. 36690) in accordance with clause 6.12 of the Guidelines.

#### 7.2 Declaration

I declare that the information provided is true and correct to the best of my knowledge.

Signature:

Name: Anthony Rowe

**Company:** Emerge Associates/Envision Bushfire Protection

Date: 19/12/2023

BPAD Accreditation: Level 3 BPAD no. 36690

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#### 8 References

#### 8.1 General references

The references listed below have been considered as part of preparing this document.

City of Kwinana 2016, Local Planning Policy No.1 - Landscape Feature and Tree Retention.

City of Kwinana 2022, Local Planning Policy No. 3 - Bollard Bulrush Landscape Masterplan.

(CLE) 2023, Concept Plan - Lot 506 Johnson Road, Wellard.

Department of Biodiversity, Conservation and Attractions (DBCA) 2017, Ramsar Sites (DBCA-010).

Department of Biodiversity, Conservation and Attractions (DBCA) 2022a, *Geomorphic Wetlands, Swan Coastal Plain (DBCA-019)*, Western Australia,

<a href="https://catalogue.data.wa.gov.au/dataset/geomorphic-wetlands-swan-coastal-plain">https://catalogue.data.wa.gov.au/dataset/geomorphic-wetlands-swan-coastal-plain</a>.

Department of Biodiversity, Conservation and Attractions (DBCA) 2022b, *Threatened Ecological Communities (DBCA-038)*, Perth, Western Australia

<a href="https://catalogue.data.wa.gov.au/dataset/threatened-ecological-communities">https://catalogue.data.wa.gov.au/dataset/threatened-ecological-communities</a>>.

Department of Planning, Lands and Heritage (DPLH) 2019, *Bush Forever Areas 2000 (DPLH-019)*, <a href="https://catalogue.data.wa.gov.au/org/department-of-planning-lands-and-heritage">https://catalogue.data.wa.gov.au/org/department-of-planning-lands-and-heritage</a>.

Department of Planning, Lands and Heritage, and Western Australian Planning Commission, (DPLH & WAPC) 2021, *Guidelines for Planning in Bushfire Prone Areas Version 1.4*, Perth, Western Australia.

Department of Water and Environmental Regulation (DWER) 2021, Clearing Regulations - Environmentally Sensitive Areas (DWER-046),

<a href="https://catalogue.data.wa.gov.au/dataset/clearing-regulations-environmentally-sensitive-areas-dwer-046">https://catalogue.data.wa.gov.au/dataset/clearing-regulations-environmentally-sensitive-areas-dwer-046</a>>.

Emerge Associates 2023a, Environmental Assessment and Management Stratergy - Lot 506 Johnson Road, Wellard Version 1.

Emerge Associates 2023b, Providence East, Wellard WA - Preliminary Landscape Design Report

Gould, J., McCaw, W., Cheney, N., Ellis, P. and Matthews, S. 2007, *Field Guide: Fuel Assessment and Fire Behaviour Prediction in Dry Eucalypt Forest*, CSIRO and Department of Environment and Conservation, Perth, Western Australia.

Institute of Public Works Engineering Australasia (IPWEA) 2017, Local Government Guidelines for Subdivisional Development, West Perth.

Office of Bushfire Risk Management (OBRM) 2021, Map of Bush Fire Prone Areas, Landgate, https://maps.slip.wa.gov.au/landgate/bushfireprone/.

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Standards Australia 2018, AS 3959:2018 Construction of buildings in bushfire-prone areas, Sydney.

Taylor Burrell Barnett 2016, Lots 503 and 504 Tamblyn Place and Lots 505, 507 and 900 Johnson Road, Wellard.

Western Australian Planning Commission (WAPC) 2015, *State Planning Policy 3.7 Planning in Bushfire Prone Areas*, Perth.

#### 8.2 Online references

The online resources that have been utilised in the preparation of this report are referenced in **Section 8.1**, with access date information provided in **Table R-1**.

Table R 1 Access dates for online references

Reference	Date accessed	Website or dataset name
(OBRM 2021)	17 November 2023	Bush Fire Prone Areas
(DBCA 2022a)	17 November 2023	Geomorphic Wetlands, Swan Coastal Plain
(DBCA 2017)	17 November 2023	Ramsar Sites
(DBCA 2022b)	17 November 2023	Threatened ecological communities
(DWER 2021)	17 November 2023	Environmentally Sensitive Areas
(DPLH 2019)	17 November 2023	Bush Forever areas

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# Figures



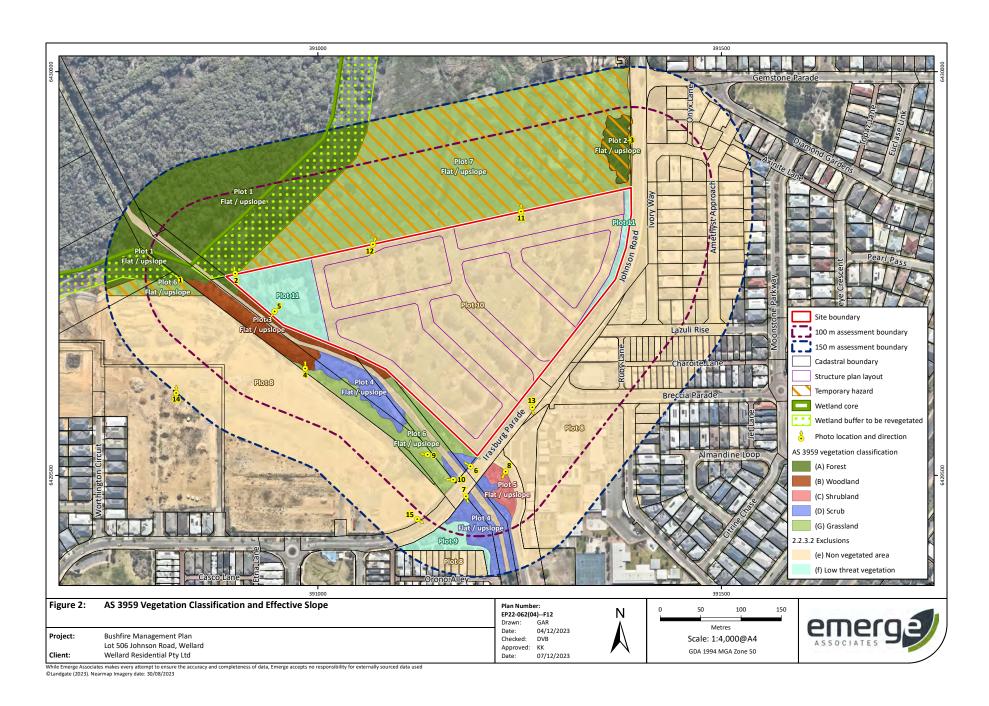
Figure 1: Site Location and Topographic Contours

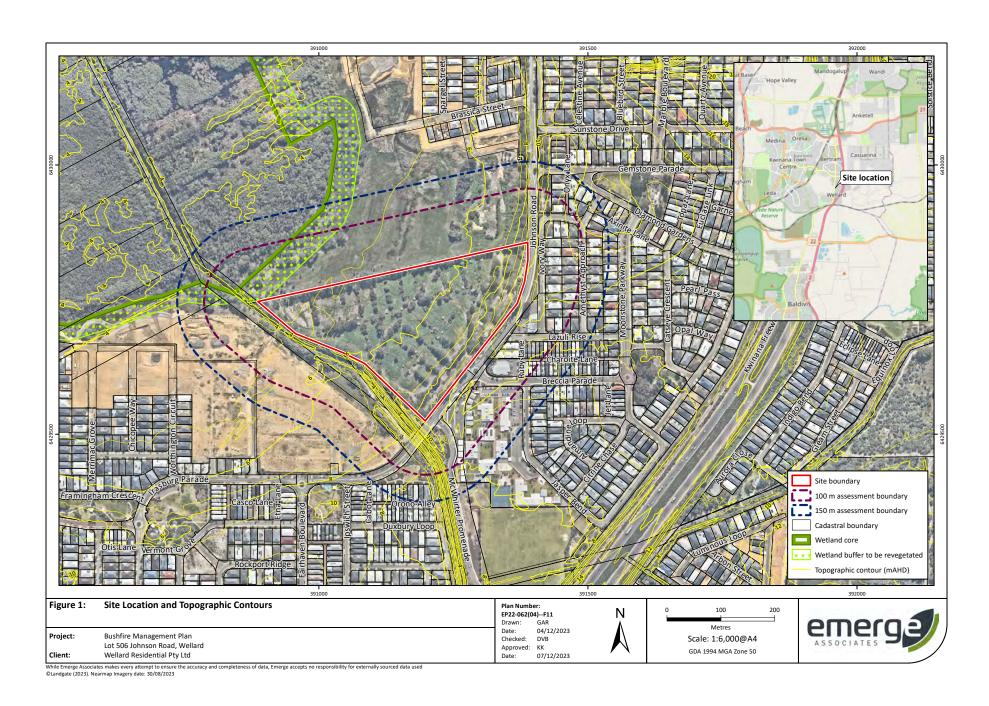
Figure 2: AS 3959 Vegetation Classifications and Effective Slope

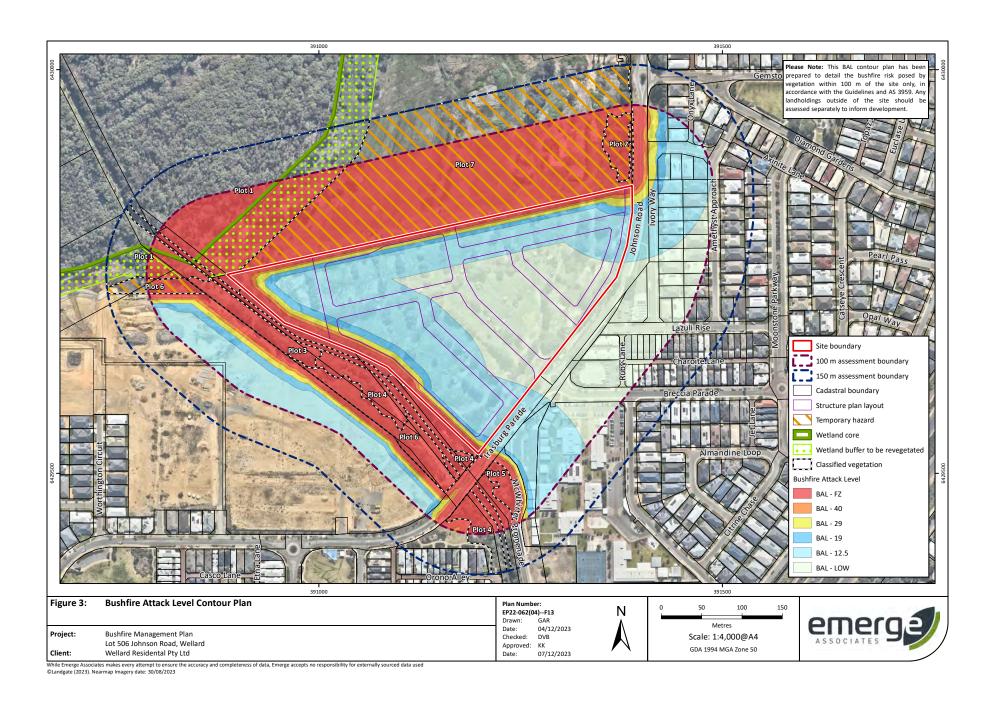
Figure 3: Bushfire Attack Level Contour Plan

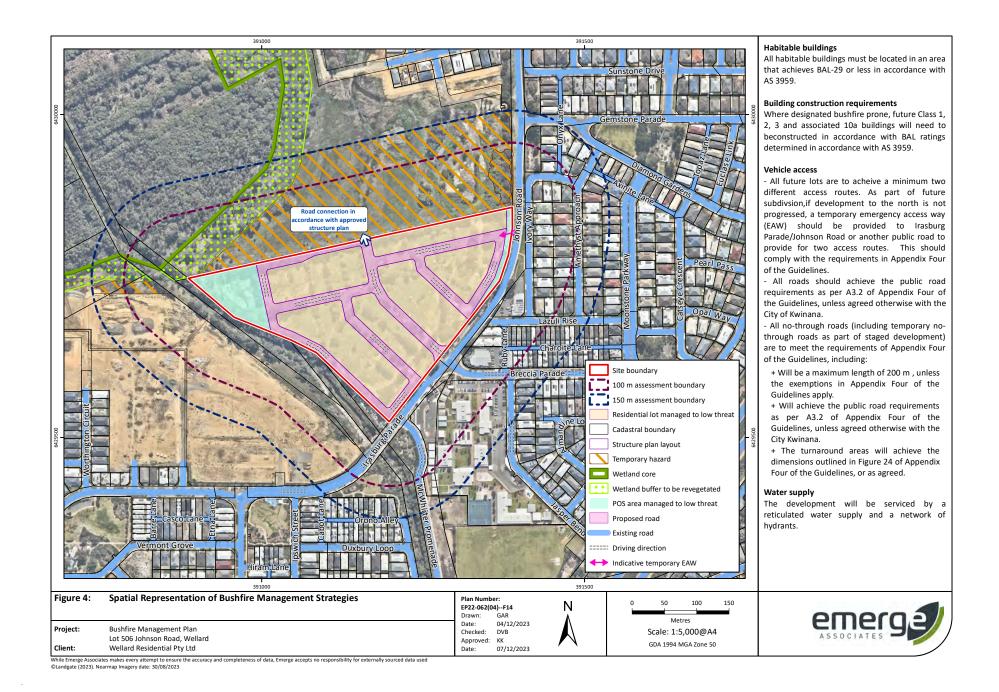
Figure 4: Spatial Representation of Bushfire Management Strategies

Item 17.1 - Attachment G Page 611









# Appendix A Structure plan





CLE Town Planning + Design

CONCEPT PLAN Lot 506 Johnson Road, Wellard

**DRAFT** 

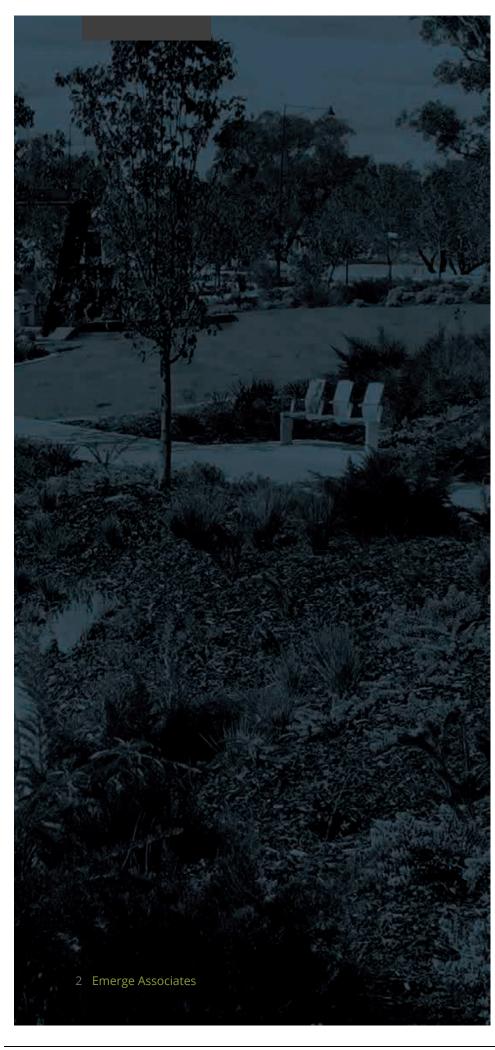
plan no: **2263-186C-01** date: 12 October 2022 scale: 1:1,500 @A3, 1:750 @A1



# Appendix B Landscape Design Report







# **Contents**

1.0	Landscape Concepts 3
1.1	Overall Masterplan
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	POS 1: Section B5
2.3	POS 2: Section C6
3.0	Street Tree Masterplan 7
4.0	Planting Palette 8
4.1	Indicative Planting Palette

REVISION	DATE	ISSUE OR AMENDMENT	BY	REVIEWE
Α	05.12.23	Issue for Comment	JW	MM
В	07.12.23	Issue for Approval	JW	MM

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# 1.0 Landscape Concepts 1.1 Overall Masterplan LEGEND EXTENT OF WORKS 2.5 WIDE RED ASPHALT DUAL USE PATH ADJACENT DEVELOPMENT BY OTHERS NATIVE SHRUB PLANTING BIORETENTION BASIN SHADE STRUCTURE AND PICNIC AREA INDICATIVE PLAY SPACE EXISTING TREES TO BE RETAINED WHERE POSSIBLE (SUBJECT TO DETAILED DESIGN) PROVIDENCE ESTATE BRECCIA PARADE WELLARD PRIMARY SCHOOL

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#### 1.2 POS 1 Detailed Plan

# LEGEND EXTENT OF WORKS BRA (FIRST 15mm RAINFALL) 1% AEP (100 YEAR STORM) DUAL USE CONCRETE PATHS 2.5 WIDE RED ASPHALT DUAL USE PATH NATIVE SHRUB PLANTING TURF BIORETENTION BASIN SHADE STRUCTURE AND PICNIC AREA FITNESS EQUIPMENT NODE INDICATIVE PLAY SPACE EXISTING TREES TO BE RETAINED WHERE POSSIBLE (SUBJECT TO DETAILED DESIGN)

#### **LEGEND**

- 01 EXISTING PEEL MAIN DRAIN
- FEATURE HARDSTAND WITH SHADE STRUCTURE AND SEATING OPPORTUNITIES OVERLOOKING PLAYSPACE
- 03 PROPOSED PLAYSPACE
- 04 PROPOSED DUAL USE PATH
- 05 DUP CROSSING TO PEEL MAIN DRAIN BY OTHERS
- 06 PROPOSED FITNESS NODE
- 07 LARGE TURF KICK-ABOUT AREA
- 08 PLANTED BIORETENTION BASIN
- 09 OVERFLOW SPILLWAY WITH ROCKWORK
- 10 PLANTED BATTER TO TIE INTO EXISTING LEVELS
- 11 RUBBISH BINS
- 12 FUTURE DUP BY OTHERS
- 13 LIMESTONE RETAINING WALLS
- 14 PARK BENCH
- 15 INDICATIVE ON STREET PARKING TO POS

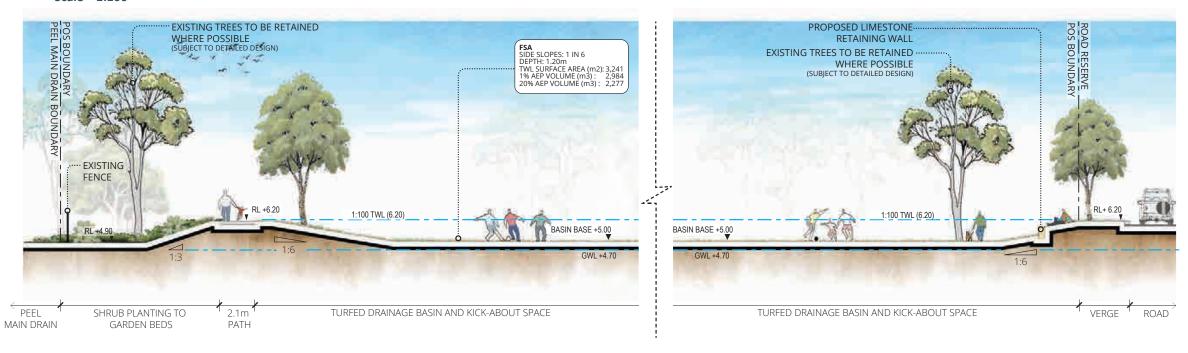


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# 2.0 Typical Site Sections

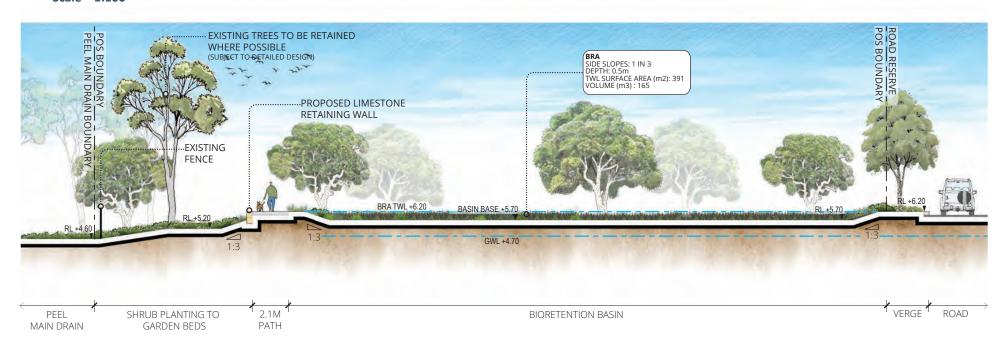
#### 2.1 POS 1: Section A

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#### 2.2 POS 1: Section B

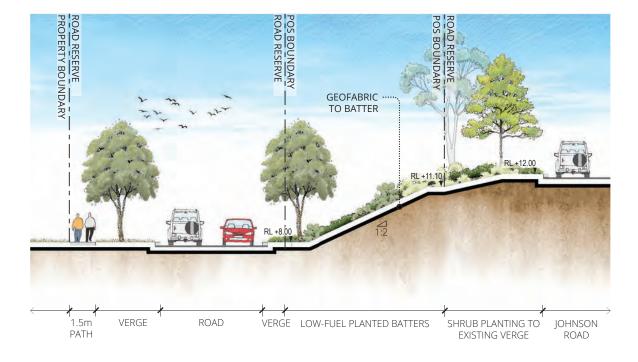
Scale 1:100



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#### 2.3 POS 2: Section C

Scale 1:100



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# 3.0 Street Tree Masterplan





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## **Planting Palette**

#### 4.1 Indicative Planting Palette

#### Trees (>3m)

Agonis flexuosa WA Peppermint Banksia littoralis Swamp Banksia Eucalyptus gomphocephala Tuart Eucalyptus rudis Flooded Gum Stout Paperbark Melaleuca preissiana Melaleuca rhaphiophylla Swamp Paperbark Ornamental Pear Pyrus calleryana

#### Large Shrubs (>1.5m)

Golden Wreath Wattle Wooley Bush Acacia saligna Adenanthos sericeus One-Sided Bottlebrush Yellow-spotted Emu Bush Calothamnus quadrifidus Eremophila maculata 'Aurea' Olive Grevillea Grevillea olivacea Chenille Honeymyrtle Melaleuca huegelii Dwarf Melaleuca Melaleuca 'Little Nessie' Coastal Daisy-Bush Olearia axillaris

#### Medium Shrubs (1 - 1.5m)

Grevillea Grevillea crithmifolia upright Elegant beaufortia Beaufortia elegans Club Rush Boobialla Ficinia nodosa Myoporum insulare Pom-Pom Myrtle Melaleuca conothamnoides Heart Leaf Flame Pea Chorizema cordatum Coastal Rosemary Westringia fruticosa 'Grey Box'

#### Small Shrubs (0.5 - 1m)

Grey Cottonhead Anigozanthos manglesii Conostylis candicans Stalked Guinea Flower White myrtle Hibbertita racemosa Cushion Bush Hypocalymma angustifolium Leucophyta brownii Lomandra Lomandra tanika Wingarra Lomandra wingarra Native Iris Patersonia occidentalis

Red & Green Kangaroo Paw

Prostrate Golden Wreath Wattle

#### Groundcovers (<0.5m)

Acacia saligna prostrate Honeypot Dryandra Banksia Nivea Common Clematis Creeping Boobialla Clematis pubescens Myoporum parvifolium Eremophila Grevillea Eremophila glabra 'Roseworthy' Grevillea crithmifolia prostrate

#### **Trees**



Agonis flexuosa **WA Peppermint** 

Melaleuca rhaphiophylla

Swamp Paperbark

Eucalyptus gomphocephala

Banksia littoralis

Swamp Banksia



**Large Shrubs** 



Eremophila maculata 'Aurea' Yellow-spotted Emu Bush



Melaleuca huegelii Chenille Honeymyrtle



Calothamnus quadrifidus One-Sided Bottlebrush

#### **Medium Shrubs**



Eremophila nivea Spring Mist



Chroizema cordatum Heart Leaf Flame Tree



Melaleuca conothamnoides Pom-Pom Myrtle



Westringia fruticosa 'Grey Box' Coastal Rosemary

#### **Small Shrubs**



Conostylis candicans **Grey Cottonhead** 



Leucophyta brownii **Cushion Bush** 



Lomandra wingarra Wingarra



Patersonia occidentalis Native Iris

#### Groundcovers



Acacia saligna prostrate Prostrate Golden Wreath Wattle



Eremophila glabra 'Roseworthy' Eremophila



Myoporum parvifolium Creeping Boobialla



Banksia Nivea Honeypot Dryandra

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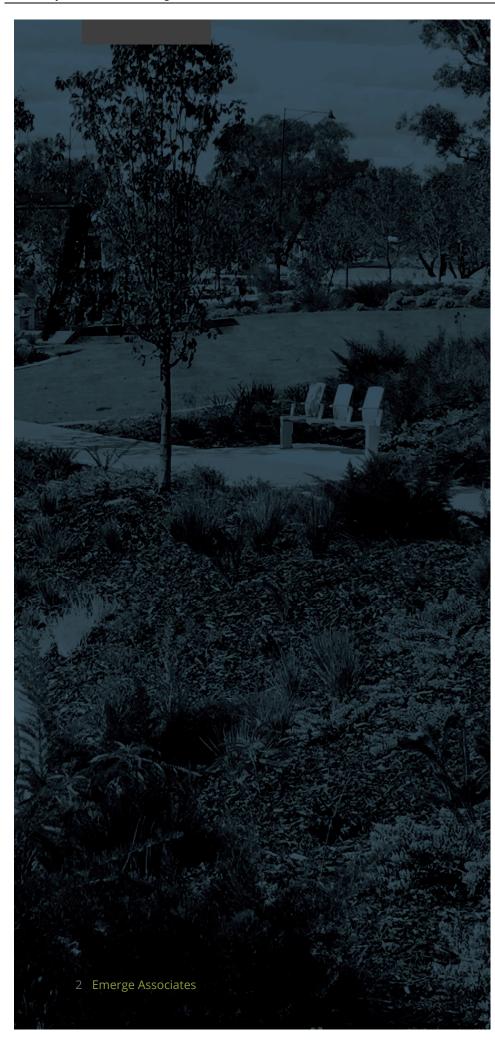
Lot 506 Johnson Rd, Wellard - Preliminary Landscape Report

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#### ATTACHMENT 5

Landscape Masterplan [Emerge Associates]





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REVISION	DATE	ISSUE OR AMENDMENT	BY	REVIEWE
Α	05.12.23	Issue for Comment	JW	MM
В	07.12.23	Issue for Approval	JW	MM

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# 1.0 Landscape Concepts

### 1.1 Overall Masterplan



Lot 506 Johnson Rd, Wellard - Preliminary Landscape Report



Emerge Associates 3

#### 1.2 POS 1 Detailed Plan

# LEGEND EXTENT OF WORKS BRA (FIRST 15mm RAINFALL) 1% AEP (100 YEAR STORM) DUAL USE CONCRETE PATHS 2.5 WIDE RED ASPHALT DUAL USE PATH NATIVE SHRUB PLANTING TURF BIORETENTION BASIN SHADE STRUCTURE AND PICNIC AREA FITNESS EQUIPMENT NODE INDICATIVE PLAY SPACE EXISTING TREES TO BE RETAINED WHERE POSSIBLE (SUBJECT TO DETAILED DESIGN)

#### **LEGEND**

- 01 EXISTING PEEL MAIN DRAIN
- FEATURE HARDSTAND WITH SHADE STRUCTURE AND SEATING OPPORTUNITIES OVERLOOKING PLAYSPACE
- 03 PROPOSED PLAYSPACE
- 04 PROPOSED DUAL USE PATH
- 05 DUP CROSSING TO PEEL MAIN DRAIN BY OTHERS
- 06 PROPOSED FITNESS NODE
- 07 LARGE TURF KICK-ABOUT AREA
- 08 PLANTED BIORETENTION BASIN
- 09 OVERFLOW SPILLWAY WITH ROCKWORK
- 10 PLANTED BATTER TO TIE INTO EXISTING LEVELS
- 11 RUBBISH BINS
- 12 FUTURE DUP BY OTHERS
- 13 LIMESTONE RETAINING WALLS
- 14 PARK BENCH
- 15 INDICATIVE ON STREET PARKING TO POS

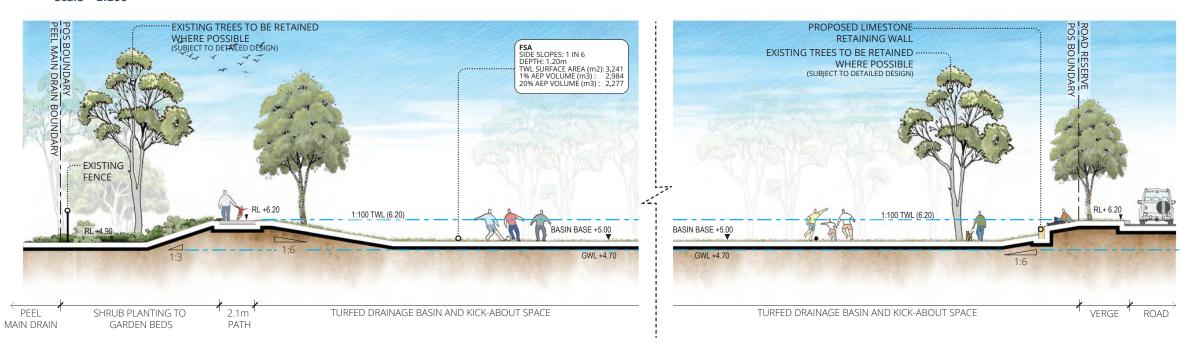


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# 2.0 Typical Site Sections

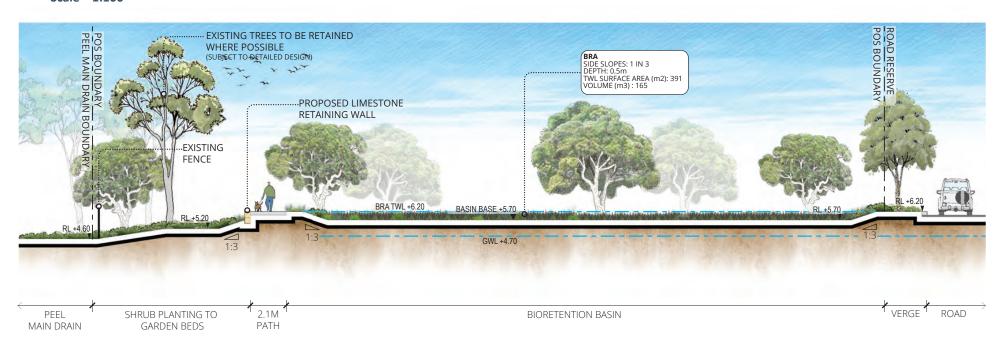
#### 2.1 POS 1: Section A

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#### 2.2 POS 1: Section B

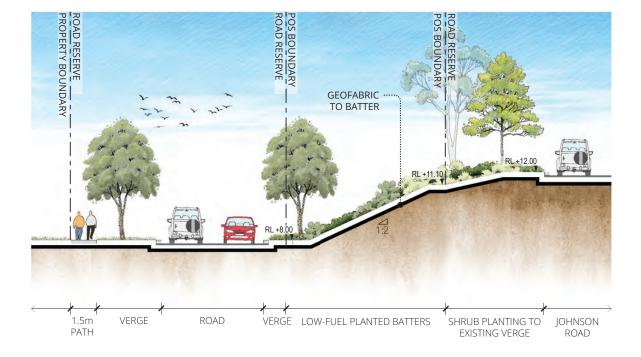
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#### 2.3 POS 2: Section C

Scale 1:100



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# 3.0 Street Tree Masterplan





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Emerge Associates 7

## **Planting Palette**

#### 4.1 Indicative Planting Palette

#### Trees (>3m)

Agonis flexuosa WA Peppermint Banksia littoralis Swamp Banksia Eucalyptus gomphocephala Tuart Eucalyptus rudis Flooded Gum Stout Paperbark Melaleuca preissiana Melaleuca rhaphiophylla Swamp Paperbark Ornamental Pear Pyrus calleryana

#### Large Shrubs (>1.5m)

Golden Wreath Wattle Wooley Bush Acacia saligna Adenanthos sericeus One-Sided Bottlebrush Yellow-spotted Emu Bush Calothamnus quadrifidus Eremophila maculata 'Aurea' Olive Grevillea Grevillea olivacea Chenille Honeymyrtle Melaleuca huegelii Dwarf Melaleuca Melaleuca 'Little Nessie' Coastal Daisy-Bush Olearia axillaris

#### Medium Shrubs (1 - 1.5m)

Grevillea Grevillea crithmifolia upright Elegant beaufortia Beaufortia elegans Club Rush Boobialla Ficinia nodosa Myoporum insulare Pom-Pom Myrtle Melaleuca conothamnoides Heart Leaf Flame Pea Chorizema cordatum Coastal Rosemary Westringia fruticosa 'Grey Box'

#### Small Shrubs (0.5 - 1m)

Red & Green Kangaroo Paw Grey Cottonhead Anigozanthos manglesii Conostylis candicans Stalked Guinea Flower White myrtle Hibbertita racemosa Cushion Bush Hypocalymma angustifolium Leucophyta brownii Lomandra Lomandra tanika Wingarra Lomandra wingarra Native Iris

# Patersonia occidentalis

Prostrate Golden Wreath Wattle Groundcovers (<0.5m) Acacia saligna prostrate Honeypot Dryandra Banksia Nivea Common Clematis Creeping Boobialla Clematis pubescens Myoporum parvifolium Eremophila Grevillea Eremophila glabra 'Roseworthy' Grevillea crithmifolia prostrate

#### **Trees**



Agonis flexuosa **WA Peppermint** 

Melaleuca rhaphiophylla

Swamp Paperbark

Eucalyptus gomphocephala

Banksia littoralis

Swamp Banksia



**Large Shrubs** 



Eremophila maculata 'Aurea' Yellow-spotted Emu Bush



Melaleuca huegelii Chenille Honeymyrtle



Calothamnus quadrifidus One-Sided Bottlebrush

#### **Medium Shrubs**



Eremophila nivea Spring Mist



Chroizema cordatum Heart Leaf Flame Tree



Melaleuca conothamnoides Pom-Pom Myrtle



Westringia fruticosa 'Grey Box' Coastal Rosemary

#### **Small Shrubs**



Conostylis candicans **Grey Cottonhead** 



Leucophyta brownii **Cushion Bush** 



Myoporum parvifolium



Lomandra wingarra

Wingarra

Patersonia occidentalis Native Iris



Groundcovers



Eremophila glabra 'Roseworthy' Eremophila



Creeping Boobialla



Banksia Nivea Honeypot Dryandra

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#### ATTACHMENT 6

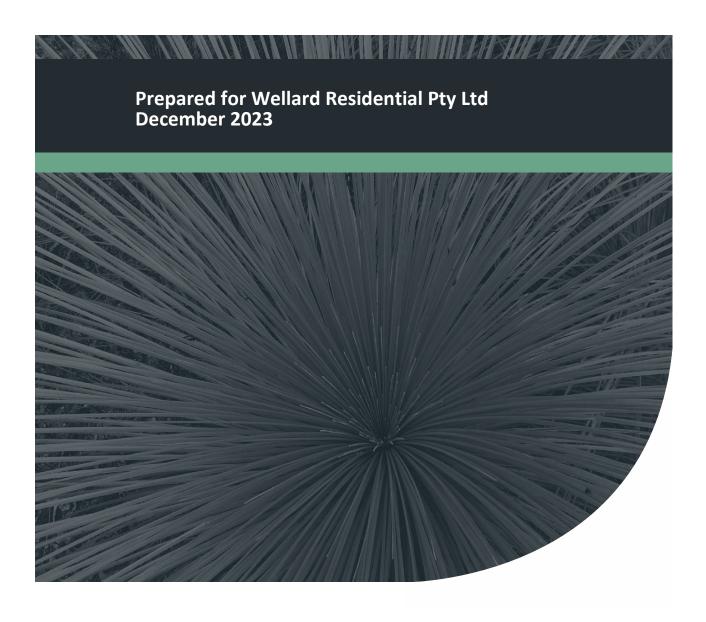
Environmental Assessment & Management Strategy [Emerge Associates]



# Environmental Assessment and Management Strategy

Lot 506 Johnson Road, Wellard

Project No: EP22-062(05)



Doc No.: EP22-062(05)—015a| Version: A

## Environmental Assessment and Management Strategy Lot 506 Johnson Road, Wellard



#### **Document Control**

Doc name:	Environmental Assessment and Management Strategy Lot 506 Johnson Road, Wellard						
Doc no.:	EP22-062(05)—015a						
Version	Date	Author		Reviewer			
4	December 2023	Daniel Bussell	DVB	Kirsten Knox	кк		
1	Issued to client for review						
^	December 2023	Daniel Bussell	DVB	Kirsten Knox	КК		
Α	Minor updates following client review						

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## Environmental Assessment and Management Strategy Lot 506 Johnson Road, Wellard



#### **Executive Summary**

This Environmental Assessment and Management Strategy (EAMS) has been prepared on behalf of Wellard Residential Pty Ltd (the proponent) to support the progression of a structure plan and future subdivision within Lot 506 Johnson Road, Wellard (herein referred to as 'the site') to facilitate residential development. The site is located within the City of Kwinana (CoK) located approximately 38 km south of the Perth central business district (CBD). The site is approximately 7.85 hectares (ha) in size and is currently zoned 'Urban' under the Metropolitan Region Scheme (WAPC 2023a) and 'Development' under the CoK Local Planning Scheme No. 2 (LPS No. 2) (DPLH 2023b).

The site is generally bounded by Johnson Road and Irasburg Parade to the east (with residential areas further east), residential areas currently under development to the south and north, the Peel Main Drain to the west (with residential areas further west) and Bollard Bulrush Swamp to the northwest.

This EAMS has been prepared to address the requirements of the Western Australian Planning Commission's (WAPC) WA Planning Manual Guidance for Structure Plans (WAPC 2023b) to support the preparation and implementation of the structure plan. This report provides a synthesis of information from a range of sources regarding the environmental features, attributes and values of the site and provides an outline of the management strategies that can be adopted as part of the future subdivision and development process to address environmental values and minimise impacts.

The relevant environmental attributes and values of the site are summarised as follows:

- Topography within the site is predominantly flat, with a gentle slope in the eastern portion of the site raising from 4 m (m AHD) to 10 m AHD at Johnson Road.
- The majority of the site is mapped as having a 'high to moderate risk' of acid sulfate soils (ASS) occurring within 3 m of the natural soil surface. The easternmost portion of the site is mapped as having a 'moderate to low risk'.
- A review of publicly available historical aerial imagery indicates the site was cleared of native vegetation prior to 1965 and maintained as such to support agricultural land uses (WALIA 2023). Vegetation within the site currently comprises of cleared paddock areas with planted non-native windbreak/shelter trees (planted between 2000 and 2003) and some remnant native scattered paddock trees. Based on the available history and the outcomes of a site visit undertaken by an environmental scientist, no threatened or priority flora species, threatened or priority ecological communities or habitat important for conservation significant fauna species is likely to occur within the site.
- Groundwater monitoring within the site has been used to determine site specific groundwater
  contours, which show levels vary from 4.4 m AHD in the west to 7 m AHD in the east. Depth to
  the calibrated maximum groundwater level (MGL) varies from approximately 5.5 m separation at
  the eastern end of the site near Johnson Road to being at the surface at the western portion of
  the site.
- Peel Main Drain, a modified drainage canal, is located directly adjacent to the western boundary of the site.
- Based on the Geomorphic Wetlands of the Swan Coastal Plain, a multiple use wetland (MUW) (unique feature identification (UFI) 13327) is mapped across the majority of the site. A

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conservation category wetland (CCW) (UFI 15866) and a resource enhancement wetland (REW) (UFI 15867) are identified to the north and north-west of the site and are associated with 'Bollard Bulrush Swamp'. These wetlands and their associated buffers do not extend into the site.

- No registered, lodged or historic Aboriginal heritage sites were mapped within or adjacent to the site. The nearest 'Registered Aboriginal Site', Site 3568, is described as a 'Camp' type feature and is located approximately 760 m to the south of the site.
- No non-indigenous heritage sites were identified within the site.
- A small portion of the site (north-western corner) is designated as a bushfire prone area within the state-wide Map of Bush Fire Prone Areas (OBRM 2021). Areas of permanent bushfire hazard have been identified to the west and north of the site, associated with the Peel Main Drain and Bollard Bulrush Swamp (and buffer), respectively. Temporary bushfire hazards have been identified to the north associated with the undeveloped portions of Oakebella Estate residential development.

As part of future development, a number of the identified environmental attributes/values will require management to minimise potential impacts in accordance with the relevant federal, state and local requirements. The key requirements of future management for the site as part of subdivision and/or future development are summarised as follows:

- Acid sulfate soils: ASS is not considered to pose a significant constraint to the proposed future
  residential development. It is only likely to require management where services extend below
  the permanent groundwater table and/or dewatering is required. Given the fill material
  required across the site to address groundwater levels, services may not be installed below the
  permanent groundwater table. ASS can be managed in accordance with the WAPC and
  Department of Water and Environmental Regulation (DWER) guidelines.
- Flora, vegetation and fauna values: The site has been historically cleared of native vegetation to support agricultural land uses. Vegetation within the site now comprises of planted windbreak trees and scattered remnant paddock trees amongst areas of pasture grasses. While significant trees have not been identified based on the City's policies, existing trees are still proposed to be retained within the western public open space (POS) area and has been discussed with the City of Kwinana as part of preparing the structure plan. The removal and retention of paddock trees can be appropriately managed through the standard subdivision process.
- Hydrology: The overarching objective for the site is to maintain the pre-development hydrological regime and is based on an at source infiltration approach to minimise the potential for nutrient impacts on Bollard Bulrush Swamp. This is further detailed within the Local Water Management Strategy (LWMS) prepared by Emerge Associates (2023). Future development will be supported by an Urban Water Management Plan(s) as per standard planning and development processes.
- Bushfire risks: The proposed structure plan layout accommodates the required setbacks
   (through public roads, public open space or within the lots) to achieve a bushfire attack level
   (BAL) rating of BAL-29 or less (as per State Planning Policy 3.7 Planning in Bushfire Prone Areas).
   The layout provides for access to multiple destinations based on the connection to Oakebella
   Estate to the north. A temporary emergency access ways may be required to manage access as
   part of staged development.

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Overall, the environmental attributes and values of the site have been accommodated within the structure plan design (in particular, management of surface water and groundwater, retention of trees where possible and separation from bushfire risks), or can be managed appropriately through the future subdivision and development phases in line with standard subdivision processes (e.g. acid sulfate soils) and the relevant state and local government legislation, policies and guidelines and best management practices.

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Plate 3			and planted windbreak trees amongst paddock grasses in the southern portion of the	
	site.			
	: Plante	ed Agonis	eak trees amongst paddock grasses throughout the central portion of the site	
Dlata (			ite.	
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#### **Figures**

Figure 1: Site Location and Topographic Contours

Figure 2: Soil Landscape Features

Figure 3: Acid Sulfate Soil Risk

Figure 4: Geormorphic Wetlands and Hydrological Features

Figure 5: Key Management Considerations

#### **Appendices**

Appendix A

Structure Plan

Appendix B

Landscape Design Report

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### **Abbreviation Tables**

Table A1: Abbreviations – Organisations

Organisations	
СоК	City of Kwinana
DBCA	Department of Biodiversity Conservation and Attractions
DCCEEW	Department of Climate Change, Energy, the Environment and Water (federal)
DPIRD	Department of Primary Industries and Regional Development
DPLH	Department of Planning, Lands and Heritage
DWER	Department of Water and Environmental Regulation
EPA	Environmental Protection Authority
OBRM	Office of Bushfire Risk Management
WALGA	Western Australian Local Government Association
WAPC	Western Australian Planning Commission

Table A2: Abbreviations – General terms

General terms				
AEP	Annual exceedance probability			
AHIS	Aboriginal Heritage Inquiry System			
ASS	Acid Sulfate Soil			
ВМР	Bushfire Management Plan			
CCW	Conservation category wetland			
DWMS	District Water Management Strategy			
EAMS	Environmental Assessment and Management Strategy			
ESA	Environmentally sensitive area			
LWMS	Local Water Management Strategy			
MGL	Maximum groundwater level			
MUW	Multiple use wetland			
Р	Priority flora or fauna			
PEC	Priority ecological community			
PDWSA	Public drinking water source area			
PMD	Peel Main Drain			
REW	Resource enhancement wetland			

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Table A2: Abbreviations – General terms (continued)

General terms	
Т	Threatened flora or fauna
TEC	Threatened ecological community
UWMP	Urban Water Management Plan
WSUD	Water sensitive urban design

Table A3: Abbreviations –Legislation, policy and guidelines

Legislation	
AH Act	Aboriginal Heritage Act 1972
AS 3959	Australian Standard 3959-2018 Construction of buildings in bushfire prone areas
BC Act	Biodiversity Conservation Act 2016
EP Act	Environmental Protection Act 1986
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999
LPP No. 1	City of Kwinana Local Planning Policy No. 1 – Landscape Feature and Tree Retention
LPP No. 3	City of Kwinana Local Planning Policy No. 3 – Bollard Bulrush East Landscape Masterplan
PD Act	Planning and Development Act 2005
SPP 3.7	State Planning Policy 3.7 – Planning in bushfire prone areas

Table A4: Abbreviations – units of measurement

Units of measurement			
ha	hectare		
km	kilometre		
m	metre		
m²	square metre		
m AHD	metres in relation to the Australian height datum		
M BGL	metres below ground level		

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# Environmental Assessment and Management Strategy Lot 506 Johnson Road, Wellard



Table A5: Abbreviations – Planning terms

Units of measurement	
LPS	Local Planning Scheme
SP	Structure Plan
SPP	State Planning Policy

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## Environmental Assessment and Management Strategy Lot 506 Johnson Road, Wellard



### 1 Introduction

### 1.1 Background

Wellard Residential Pty Ltd (the proponent) have prepared a structure plan to support residential development within Lot 506 Johnson Road, Wellard (herein referred to as 'the site'). A copy of the proposed structure plan is provided in **Appendix A**. The site is located approximately 38 km south of the Perth central business district (CBD), within the City of Kwinana (CoK). It is approximately 7.85 ha in size and is bounded by Johnson Road and Irasburg Parade to the east (with residential areas further east), residential areas currently under development to the south and north, Peel Main Drain to the west (with residential development further west), and Bollard Bulrush Swamp to the northwest. The location of the site is shown in **Figure 1**.

### 1.2 Purpose of this report

The purpose of this Environmental Assessment and Management Strategy (EAMS) is to provide a synthesis of information regarding the environmental values and attributes of the site. Specifically, this report:

- Discusses the environmental planning context for the structure plan area (Section 2).
- Identifies the existing environmental values and attributes of the site (Section 3).
- Discusses how the structure plan layout responds to the existing environmental features and values, and outlines environmental management requirements as part of the future planning and development process (Section 4).
- Provides an implementation framework for environmental management requirements as part of the future planning and development process (Section 5).

The EAMS is the key supporting environmental document for the structure plan, to ultimately facilitate consideration of relevant environmental issues by the City of Kwinana and various state government agencies and authorities. It is consistent with the requirements for environmental reporting as outlined in the Western Australian Planning Commission's (WAPC) WA Planning Manual Guidance for Structure Plans (WAPC 2023b).

### 1.3 Scope of work

Emerge Associates (Emerge) was engaged by the proponent to undertake an environmental assessment for the site, to understand the existing environmental attributes and values o and ensure any relevant environmental values can be considered and where necessary accommodated within the structure plan. Emerge have conducted a number of site-specific investigations, as well as a comprehensive desktop review and site assessment of the available information on environmental conditions within and surrounding the site. The outcomes of these findings have provided context for the following within the site:

- Landforms, topography and soils
- Flora and vegetation

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## Environmental Assessment and Management Strategy Lot 506 Johnson Road, Wellard



- Terrestrial fauna
- Hydrology
- Aboriginal and non-indigenous heritage
- Historical and existing land uses within and surrounding the site
- Bushfire hazards.

The site specific investigations undertaken to support the proposed development which include: a *Local Water Management Strategy* (Emerge Associates 2023c), and a *Bushfire Management Plan* (Emerge Associates 2023a). No site-specific vegetation and tree assessment has occurred for the site, however values have been considered based on a detailed desktop assessment and detailed site walkthrough undertaken by an environmental scientist. Due to the historical clearing and lack of native trees occurring across the site and consultation with the City of Kwinana, this approach is considered sufficient.

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## Environmental Assessment and Management Strategy Lot 506 Johnson Road, Wellard



### 2 Planning Framework and Proposal

This section outlines the planning framework applicable to the site, and how this informs the structure plan and subsequent development stages including subdivision. The current subdivision process in Western Australia provides a robust framework that enables management of most environmental values.

### 2.1 Historic planning context

In 2014, Metropolitan Region Scheme (MRS) Amendment 1188/57 for the Wellard Urban East Precinct, which included the site, rezoned approximately 70 ha of land from 'Rural' to 'Urban deferred', retaining the Bollard Bullrush Swamp in the 'Rural' zone. The amendment proposed to delineate the boundary between future urban development and Bollard Bulrush Swamp, which was protected under the *Environmental Protection (Swan Coastal Plain Lakes) Policy 1992* (EPP Lakes) at the time and mapped as a conservation category wetland (CCW).

As part of this process, MRS amendment 1188/57 was referred to the Environmental Protection Authority (EPA) (in March 2010) and was formally assessed. This assessment provided guidance for the extent of Bollard Bulrush Swamp (UFI 15866) to be retained and protected and the required wetland buffer. The EPA recommended a buffer of 50 metres (m) consistent with the WAPC draft Guideline for the Determination of Wetland Buffer Requirements (2005) and the EPA's Guidance Statement No. 33 Environmental Guidance for Planning and Development (2008). This has informed the underlying scheme provisions and subsequent local planning polices (discussed further below).

The site was subsequently rezoned from 'Urban Deferred' to its current 'Urban' MRS zoning in 2015 under MRS Amendment 1296/27. The current zoning for the site is shown in **Plate 1.** Upon Gazettal of the urban zone, the site was concurrently zoned 'Development' under the *City of Kwinana Town Planning Scheme No. 2*, by resolution of the WAPC and notice in the Government Gazette.

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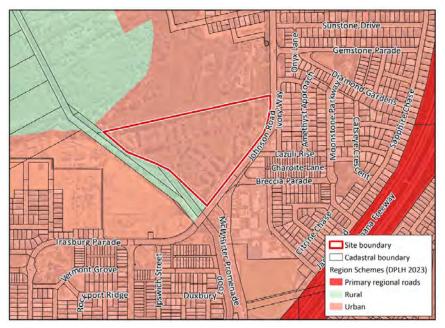


Plate 1:MRS zones and reserves within and surrounding the site.

### 2.2 Proposed structure plan

As discussed, the site is zoned 'Development' under the *City of Kwinana Town Planning Scheme No. 2* (TPS 2). In accordance with the provisions of the 'Development' zone under the Scheme, a structure plan is required as a precursor to subdivision and development. The proposed structure plan has therefore been prepared in accordance with provisions of Clause 6.17 of the Scheme.

Overall, the proposed structure plan for the site will facilitate the future subdivision and development of the site for residential purposes and is provided in **Appendix A**. The structure plan is intended to support:

- Residential lots of varying density.
- A number of public open space (POS) areas, which will support recreation, stormwater management and the retention of existing trees.
- An interconnected road network with connections to Johnson Road and Irasburg Parade to the east as well as future connections through the adjacent Oakebella Estate to the north of the site.

The proposed structure plan and development has been designed in consideration of various local policies, with the most relevant from an environmental perspective namely:

City of Kwinana Local Planning Policy No. 1 -Landscape Feature and Tree Retention (LPP No. 1) (City of Kwinana 2016). This policy sets out requirements to identify and strategically retain (where possible) significant trees and landscaping features as part of structure planning and future stages of development. Tree retention addressing the policy considerations of LPP No. 1 are outlined in Section 4.2.2. City of Kwinana Local Planning Policy No. 3 – Bollard Bulrush East Landscape Masterplan (LPP No. 3) (City of Kwinana 2022). This policy provides for an integrated approach to the treatment of the interface for Bollard Bulrush Swamp which intersects with a

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number of different structure plan areas. *LPP No.3* applies to all land within the Bollard Bulrush West urban cell zoned 'Development' under the *City of Kwinana Town Planning Scheme No. 2* (*TPS No.2*) which includes the site. The policy is intended to be applied during the preparation and assessment at the local structure planning stage as well as subsequent stages of development.

With regard to Bollard Bulrush Swamp, the proposed structure plan is supported by a Landscape Concept Plan (see **Appendix B**) which outlines the landscape approach. No portion of the site is located within the Bollard Bullrush Swamp CCW or 50 m buffer. The landscape plan identifies social, recreational and drainage facilities within the POS area adjacent to the wetland buffer and is aligned to balance needs of the future residents and the ecological values of the Bollard Bulrush Wetland.

### 2.3 Future planning approval process

Following the endorsement and approval of the structure plan by the WAPC, urban development of the site would be progressed through subdivision and/or development approvals (collectively referred to as 'future planning stages').

The key environmental values and attributes that require further consideration within the structure plan area and as part of future planning stages have been outlined in **Section 3** and **Section 4** of this report and include:

- Acid sulfate soils
- · Flora and vegetation, including tree protection/retention and landscape enhancement
- Native fauna
- Hydrological function associated with groundwater and surface water
- Bushfire risk.

The WAPC can impose conditions on subdivision applications to ensure subdivision incorporates the relevant/appropriate environmental management measures. These conditions are usually determined in accordance with WAPC's *Model Subdivision Conditions Schedule* (WAPC and DPLH 2022) (or as updated) and include those relating to environmental considerations. It is envisaged that there would be future subdivision conditions applied for any subdivision within the site, that would be the mechanism to manage environmental, hydrological and bushfire related requirements identified through the state planning process.

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### 3 Existing Environment

This section describes the environmental characteristics present within the site and considers a range of information sources, including local and regional reports, databases, mapping and site-specific investigations/reporting. Existing investigations that have informed the preparation of this report include (but are not limited to):

- Review of various publicly available databases and information sources.
- Site assessment of conditions.
- Bushfire Management Plan (BMP) (Emerge Associates 2023a).
- Local Water Management Strategy (LWMS) (Emerge Associates 2023c).

### 3.1 General location and site context

The site is located within the central-western portion of the Swan Coastal Plain (SCP), approximately 38 km south of the Perth CBD and 2.5 km south-east of the Kwinana Town Centre. The site is within an area which has historically supported agricultural activities and is situated adjacent to a wetland feature known as the 'Bollard Bullrush Swamp'. Based on publicly available historic aerial imagery, clearing of native vegetation occurred across the majority of the site prior to 1953 and further clearing occurring prior to 1965 which removed all remaining native vegetation with exception of a small patch of trees to the central-eastern portion of the site (WALIA 2023). It is understood the site has been utilised for various agricultural land uses; which more recently has included a horse agistment facility. Various shelters and single row windbreak tree plantings that separate cleared paddocks are present across the site.

The land uses surrounding the site include:

- Vacant land to the immediate north of the site which is currently in the process of being developed for residential purposes through implementation of the approved Lots 503 and 504 Tamblyn Place and Lots 505, 507 and 900 Johnson Road, Wellard Local Structure Plan (Taylor Burrell Barnett 2016).
- Bollard Bulrush Swamp (UFI 15866) and associated remnant native vegetation to the north and north-west of the site.
- The Peel Main Drain to the west of the site, a Water Corporation drain discharging to the Serpentine River at Kerulup Pool further south. Further to the west of the site is Providence Estate a residential development with ongoing subdivision being progressed.
- Johnson Road/Irasburg Parade and existing urban areas to the east.

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### 3.2 Landform and soils

### 3.2.1 Topography

A review of the available topographic contours indicates the site has an elevation ranging from around 4 m Australian height datum (mAHD) to 10 mAHD (DoW 2008), with the high point within the road reserves of Johnson Road/Irasburg Parade to the far east of the site. The site has a variation in elevation of approximately six metres, and whilst is predominantly flat, gently increases in slope toward the east of the site. Topographic contours are shown in **Figure 1**.

### 3.2.2 Landform, soils and geology

### 3.2.2.1 Regional geology

Landforms and soils influence vegetation types at regional and local scales. The site occurs on the Swan Coastal Plain, which is separated into several broad geomorphic units. These geomorphic units are defined by (McArthur and Bettenay 1974) from west to east as: Quindalup Dunes; Spearwood Dunes; Bassendean Dunes Pinjarra Plain; and Ridge Hill Shelf.

The site is identified within the Bassendean Dunes landform which formed as shoreline deposits and coastal dunes between the Spearwood Dune System and the Pinjarra Plain (Bob Gozard 2007). The system is characterised by dunes consisting of low hills of quartz sand with sandy swamps in depressions (swales) between the dunes.

Within each geomorphic unit, more detailed soil-landform mapping provides regional level assessment for soil resources and offers valuable information for planning and natural resource management. Based on a review of the regional soil mapping (DPIRD 2023), three soil-landform types are identified within the site (as shown in **Figure 2**) and include:

- 'Vasse V9 phase' (211Va\_V9) which is identified across the majority of the site and is associated
  with the low-lying portions of the site. This soil unit is described as 'areas of former swamps
  which have been artificially drained, with uniform loamy or peaty sands'.
- 'Bassendean B1 phase' (212Bs\_B1) which is identified within the easternmost portion of the
  site, largely associated with the more elevated area. This soil unit is described as 'extremely low
  to very low relief dunes, undulating sandplain and discrete sand rises with deep bleached grey
  sands sometimes with a pale yellow B horizon or a weak iron-organic hardpan at depths
  generally greater than 2 m; banksia dominant'.
- Bassendean B2 phase' (212Bs\_B2) which is identified within the south-easternmost portion of the site, largely associated with the more elevated area. This soil unit is described as 'flat to very gently undulating sandplain with well to moderately well drained deep bleached grey sands with a pale yellow B horizon or a weak iron-organic hardpan 1-2 m'.

One (1) soil morphology investigation area from historical DPIRD investigations, which have informed the soil-landscape mapping dataset, occurred approximately 370 m south of the site. These investigations identified WA soil group 444 'pale deep sands' at a depth of 1 m.

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### 3.2.2.2 Site specific investigations

A geotechnical investigation conducted by Geotechnical and Geological Consultants (GGC) (GGC 2022) was undertaken for the site and indicates that the observed subsurface soils generally align with the published regional soil-landscape information (described above).

Geotechnical investigation included excavation of 12 investigative soil pits and 25 cone penetrometer tests. The results indicate that the site predominantly comprises organic silt or organic sand (approximately up to 1.1m) over sand layers which are underlain by clayey soils (generally below approximately 3.2 m). The underlying soils identified during the geotechnical investigation within the site are summarised below (GGC 2022):

- Fill Sand: which is described as fine to coarse grained, subangular to subrounded, grey mottled
  orange, dark grey; trace nonplastic fines. Containing occasional deleterious materials. Present
  from the ground surface extending to 1.6 m over portions of the site, likely associated with
  previous buildings.
- **Organic Sand:** which is described as fine to coarse grained, subangular to subrounded, dark grey black, present from the ground surface extending to 0.4 m depth over portions of the site.
- Organic Silt: which is described as low plasticity, black mottled dark grey; trace sand, fine to
  coarse grained, subangular to subrounded. This soil extends to depths of 1.1 m where
  encountered. It was encountered over the majority of test locations.
- Clay, sandy clay: which is described as having low to medium plasticity, black mottled dark grey/yellow/grey-orange. This soil is firm and stiff, generally extending below 3.2 m, and was only encountered in the north and west portions of the site.
- **Silty clay, clayey silt:** which is described as being firm to stiff with a thin layer of sensitive fine-grained material. This soil is encountered from 3.5 m to 4.8 m across portions of the site and is considered possibly diatomaceous.
- Sand: which is described as very dense sand typically at depths below 5 m.

### 3.2.3 Acid sulfate soils

Acid sulfate soils (ASS) is the name commonly given to naturally occurring soils and sediment containing iron sulphide (iron pyrite) materials. In their natural state, ASS are generally present in waterlogged and/or anoxic conditions and do not present any risk to the environment. ASS can pose issues when oxidised, producing sulphuric acid, which can present a range of risks for the surrounding environment, infrastructure and human health.

The Department of Water and Environment Regulation (DWER) provides broad-scale mapping indicating areas of potential ASS risk (DWER 2017a). A review of the DWER mapping indicates that the majority of the site is classified as having a 'high to moderate risk' of ASS occurring within 3 m of the natural ground surface, with a small area in the eastern corner of the site classified as having a 'moderate to low risk' of ASS occurring within 3 m of the natural ground surface. Both of these areas align with the soil-landscape phases (e.g. Vasse vs Bassendean) described above and are shown in **Figure 3**.

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### 3.3 Biodiversity and natural area assets

### 3.3.1 Flora and vegetation

### 3.3.1.1 Regional context

Native vegetation is described and mapped at different scales in order to illustrate patterns in its distribution. At a continental scale, the *Interim Biogeographic Regionalisation of Australia* (IBRA) divides the Swan Coastal Plain into two floristic subregions (Environment Australia 2000). The site is located within the Perth subregion of the Swan Coastal Plain, which is characterised as mainly containing *Banksia* low woodland on leached sands with *Melaleuca* swamps where ill-drained; and woodland of *Eucalyptus gomphocephala* (tuart), *E. marginata* (jarrah) and *Corymbia calophylla* (marri) on less leached soils (Beard *et al.* 2013). This subregion is recognised as a biodiversity hotspot and contains a wide variety of endemic flora and vegetation types.

At a finer scale, native vegetation within the site and adjacent land can be classified based on regional vegetation associations. Vegetation complex mapping undertaken by Department of Biodiversity, Conservation and Attractions (DBCA) (DBCA 2018b) within the Swan Coastal Plain indicates the site is found within the Bassendean Complex-Central and South, the description of which is described as 'Woodland of Eucalyptus marginata – Casuarina fraseriana – Banksia spp. to low woodland of Melaleuca spp. and sedgelands on the moister sites.' In 2018 (the most recent review publicly available), there was estimated to be 26.87% of the pre-European extent of the Bassendean Complex-Central and South remaining on the Swan Coastal Plain (Government of Western Australia 2018). The mapped extent of this complex is illustrated in Plate 3.



Plate 2: Vegetation Complex within the site (DBCA 2018b)

The EPA'S Guidance Statement No. 10. Guidance for the Assessment of Environmental Factors – Level of Assessment for Proposals Affecting Natural Areas Within the System 6 Region and Swan Coastal

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*Plain Portion of the System 1 Region* (EPA 2006) outlines the following objectives for regional vegetation complexes:

- Retain at least 10% of the original extent of vegetation complexes within 'constrained areas',
  which the EPA (2008) define as 'an area where there is a reasonable expectation that
  development will be able to proceed. This may include urban, urban deferred or industrial zoned
  land or land with existing development approvals.'
- Retain at least 30% of the original extent of vegetation complexes within 'unconstrained areas',
   the Darling Plateau and rural zoned land of the Peel region.

On the Swan Coastal Plain, which is considered a 'constrained area', the EPA has previously applied an objective of retaining 10% of each vegetation complex (EPA 2006). Based on the 2018 extent, the Bassendean Complex-Central and South remains above the EPA's retention objective.

Intact vegetation determined to be in 'good' or better condition is considered to be representative of the overarching vegetation complex. Based on a detailed walkover assessing conditions within the site, vegetation within the site is no longer representative of the mapped regional vegetation complex. These observations align with the desktop evaluation findings which show extensive historical clearing and planting of non-native windbreak vegetation.

### 3.3.1.2 Vegetation condition

No site-specific flora and vegetation surveys have been undertaken within the site, however as outlined, a detailed site walkover assessing vegetation identified that the site is predominantly cleared of native vegetation and is composed of planted non-native trees (wind break and shelter plantings) and some scattered native trees remaining amongst extensive areas of paddock grasses and weeds. Examples of the vegetation values within the site are illustrated in **Plate 3**, **Plate 4**, **Plate 5** and **Plate 6**. This is consistent with the native vegetation mapping for Western Australia dataset (DPIRD 2020) which identifies no native vegetation within the site.

The site would likely be in a 'completely degraded condition in accordance with the (Keighery 1994) scale. 'Completely degraded' vegetation is described as "structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs". The site has been grazed historically (since at least 1953 based on publicly available historic aerial imagery) and lacks an intact native vegetation understorey apart from paddock grasses and weeds. The trees present are predominantly planted non-native species and acted as windbreak and privacy screening for livestock and the previous house structure which is no remains longer within the site.

The vegetation type across the entire site would be described as 'parkland cleared' with windbreak plantings, comprising predominately non- native tree (to Western Australia) species. Some occasional remnant scattered *Eucalyptus rudis* over non-native grassland occur in the central eastern portions of the site, with regrowth flooded gums where the public open space is located.

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Plate 3: Scattered trees and planted windbreak trees amongst paddock grasses in the southern portion of the site.



Plate 4: Planted windbreak trees amongst paddock grasses throughout the central portion of the site.

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Plate 5: Planted Agonis flexuosa (P\peppermint) trees amongst paddock grasses and weeds in the northern portion of the site.



Plate 6: Rows of Eucalyptus trees in the western portion of the site interfacing with the Peel Main Drain.

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### 3.3.2 Significant trees

The City of Kwinana LPP No. 1 defines a significant tree as: "A tree with a diameter at breast height (DBH) of 0.5 metres or greater." Under LPP No. 1, a tree may also be considered as culturally significant if it is: "A tree which has special significance because of its aesthetic, historic, scientific or social significance."

As outlined, a desktop assessment and detailed site walkover was undertaken to confirm the nature and extent the of the trees present within the site. Extensive clearing has occurred throughout the entire site since at least the 1950s. This clearing removed all native vegetation from the site with exception of a small patch of scattered trees within the central portion of the site. The site has largely remained free of vegetation until around 2000 when rows of windbreak trees were planted dividing empty paddocks and providing shelter for farm animals housed within the site (WALIA 2023).

The predominant tree species across the majority site were planted non-native (non-native to Western Australia), including:

- Eucalyptus saligna (Sydney blue gum);
- Eucalyptus sideroxylon (Iron bark);
- Eucalyptus robusta (Swamp mahogany); and
- Eucalyptus camaldulensis (River redgum).

A number of native tree species including *Agonis flexuosa* (peppermint) and some patches of *Eucalyptus rudis* (flooded gum) were planted within the site or have since regrown. These species were largely present in the western portion of the site interfacing with the Peel Main Drain or Bollard Bulrush Wetland (see **Plate 6** above). While not specifically measured, the majority of the trees were observed to generally have a DBH less than 0.5 m and therefore would not be considered significant trees. This would be reflective of the age of the trees, which are generally around 20 years old.

In consideration of the CoK *Local Planning Policy No.1 – Landscape Feature and Tree Retention*, numerous existing trees within the western most POS have been proposed to be retained. The location for the trees proposed for retention are identified in the Landscape Concept Plan in **Appendix B** and discussed further in **Section 4.2.2.1**. The tree species in this area include planted Eucalyptus species as well as some regrowth *Eucalyptus rudis*. It is noted that due to the servicing and development requirements (including separation to groundwater), fill sand will be required to be introduced across the majority of the site and due to the change in levels existing trees could not be retained. This was discussed with the City of Kwinana as part of consultation for the development. Management of trees identified for retention is considered further in **Section 4.2.2.1**.

### 3.3.3 Landscape features

In accordance with LPP No. 1, a landscape feature is defined as:

"A unique or identifiable feature of the landscape including ridgelines, rocky outcrops, vegetation, creek lines and wetlands."

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No unique landscape features were identified during the detailed site walkover or are expected to be present given the historical clearing and recent agricultural land uses for the site. As discussed, the site is not located within the area identified as a CCW or REW or associated wetland buffers.

### 3.3.3.1 Threatened and priority ecological communities

An ecological community is a naturally occurring group of native plants, animals and other organisms that are interacting in a unique habitat. An ecological community's structure, composition and distribution are determined by a range of environmental factors such as soil type, position in the landscape, altitude, climate and water availability (DBCA 2020). 'Threatened ecological communities' (TECs) are ecological communities that are recognised as rare or under threat and therefore warrant special protection.

Selected TECs are afforded statutory protection at a federal level under the *Environment Protection* and *Biodiversity Conservation Act 1999* (EPBC Act). TECs listed under the EPBC Act are assigned a conservation status and categorised as either 'critically endangered', 'endangered' or 'vulnerable'. Any action likely to have a significant impact on a TEC listed under the EPBC Act (either critically endangered or endangered TECs) requires Ministerial approval.

TECs are also listed within Western Australia under the *Biodiversity Conservation Act 2016* (BC Act) and the Biodiversity Conservation Regulations 2018 (BC Regulations). Their significance is also acknowledged through other state environmental approval processes such as 'environmental impact assessment' pursuant to Part IV of the *Environmental Protection Act 1986* (EP Act) and the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004*.

A plant community that is under consideration for listing as a TEC in Western Australia but does not yet meet survey criteria or has not been adequately defined, may be listed as a 'priority ecological community' (PEC). Listing as a PEC is similarly considered during state approval processes.

A review of the publicly available datasets, NatureMap (DBCA 2023b) and Protected Matters Search Tool (PMST) (DCCEEW 2023), indicates eight (8) known TECs or PECs occur in the general area and are outlined in **Table 1** below.

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Table 1: Summary of threatened and priority ecological communities with potential to occur in general area surrounding the site.

Community based on database search	Conservation status		
	State	Federal	
Assemblages of plants and invertebrate animals of tumulus (organic mound) springs of the Swan Coastal Plain	-	Endangered	
Banksia Woodlands of the Swan Coastal Plain	Priority 3	Endangered	
Clay Pans of the Swan Coastal Plain	Vulnerable	Critically Endangered	
Corymbia calophylla - Kingia australis woodlands on heavy soils of the Swan Coastal Plain	Critically Endangered	Endangered	
Corymbia calophylla - Xanthorrhoea preissii woodlands and shrublands of the Swan Coastal Plain	Endangered	Endangered	
Empodisma peatlands of southwestern Australia	-	Endangered	
Sedgelands in Holocene dune swales of the southern Swan Coastal Plain	Critically Endangered	Endangered	
Tuart ( <i>Eucalyptus gomphocephala</i> ) Woodlands and Forest of the Swan Coastal Plain	Priority 3	Critically Endangered	

While no detailed flora and vegetation surveys have been completed, based on the site conditions (discussed above), no threatened or priority ecological communities would occur within the site given it has remained cleared of native vegetation since the 1960s, apart from planted windbreak trees and scattered paddock trees, dominated by the non-native species described above.

### 3.3.3.2 Threatened and priority flora

Certain flora species that are considered to be rare or under threat warrant special protection under federal and/or state legislation. At a federal level, flora species may be listed as 'threatened' pursuant to the EPBC Act. Threatened flora species listed under the EPBC Act are assigned a conservation status according to attributes such as population size and geographic distribution. Any action likely to have a significant impact on a listed threatened species under the EPBC Act requires approval from the federal Minister for the Environment.

In Western Australia flora species may also be classed as 'threatened' under the BC Act. Flora species that do not currently meet the criteria for listing as threatened but are potentially rare or threatened may be added to the DBCA *Priority Flora List*. These species are classified into 'priority' levels based on threat. Whilst priority species are not under direct statutory protection, they are considered during state approval processes. It is an offence to 'take' or 'disturb' threatened flora listed under the BC Act without Ministerial approval. Section 5(1)1 of the Act defines to take as including "... to gather, pluck, cut, pull up, destroy, dig up, remove, harvest or damage flora by any means" or to cause or permit the same to be done.

To understand the extent of significant flora species that are likely to occur within the local area, searches were undertaken of the DBCA's NatureMap database (DBCA 2022) and the Protected Matters Search Tool database (DCCEEW 2022b). A total of 21 threatened and priority flora species were identified as having potential to occur in the general area. These results are shown in **Table 2** 

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below. It is important to note that these searches do not take into account the types and conditions of habitat occurring within the site, but are based on the proximity of the site to know occurrences of significant species.

Table 2: Threatened and priority flora occurring within 5 km of the site based on relevant database searches.

Threatened and priority flora species based on	pased on Conservation st		Habitat
database searches	Federal	State	
Acacia lasiocarpa var. bracteolata long peduncle variant (G.J. Keighery 5026)	-	Priority 1	Grey or black sand over clay. Swampy areas, winter wet lowlands.
Andersonia gracilis (Slender Andersonia)	Endangered	Threatened	White/grey sand, sandy clay, gravelly loam. Winter-wet areas, near swamps
Aponogeton hexatepalus (Stalked water ribbons)	-	Priority 4	Freshwater: ponds, rivers, claypans.
Boronia juncea subsp. juncea	-	Priority 1	Occurs in sand in low scrub.
Caladenia huegelii	Endangered	Threatened	Grey or brown sand, clay loam
Cyathochaeta teretifolia	-	Priority 3	Grey sand, sandy clay. Swamps, creek edges.
Dillwynia dillwynioides	-	Priority 3	Sandy soils. Winter-wet depressions.
Dodonaea hackettiana	-	Priority 4	Sand. Outcropping limestone.
Drakaea elastica (Glossy-leafed Hammer-orchid)	Endangered	Threatened	White or grey sand. Low-lying situations adjoining winterwet swamps
Diuris micrantha (Dwarf Bee-orchid)	-	Threatened	Winter-wet swamps, in shallow water.
Diuris purdiei (Purdie's Donkey-orchid)	Endangered	Threatened	Grey-black sand, moist. Winter wet swamps
Eleocharis keigheryi (Keighery's Eleocharis)	Vulnerable	Threatened	Clay, sandy loam. Emergent in freshwater: creeks, claypans.
Eucalyptus foecunda subsp. foecunda	-	Priority 4	White, grey, yellow, brown, orange or red sand over limestone. Sand dunes and plains, limestone ridges, cliffs & hills, road verges.
Pimelea calcicole (Coastal Banjine)	-	Priority 3	Sand. Coastal limestone ridges.
Synaphea sp. Fairbridge Farm (D. Papenfus 696).	Critically endangered	Threatened	Sandy with lateritic pebbles. Near winter-wet flats, in low woodland with weedy grasses.

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Table 2: Threatened and priority flora occurring within 5 km of the site based on relevant database searches.

Threatened and priority flora species based on database	Conservation status		Habitat
searches	Federal	State	
Synaphea sp. Serpentine (G.R. Brand 103)	Critically endangered	Threatened	Grey/brown sandy loams or clay in seasonally wet areas.
Stylidium ireneae	-	Priority 4	Sandy loam in valleys near creek lines, woodland, often with <i>Agonis</i> .
Stylidium longitubum (Jumping Jacks)	-	Priority 4	Sandy class, clay. Seasonal wetlands.
Stylidium paludicola	-	Priority 3	Peaty sand over clay in winter wet habitats in Marri and Melaleuca woodland, Melaleuca shrubland.
Thelymitra variegate (Queen of Sheba)	-	Threatened	Sandy clay, sand, laterite.
Verticordia lindleyi subsp. lindleyi	-	Priority 4	Sand, sandy clay. Winter-wet depressions.

As previously outlined, while no detailed flora and vegetation surveys have been completed, based on the observed condition of the site, it is unlikely that any occurrences of threatened or priority flora species identified in the database searches would be found within the site.

### 3.3.4 Bush Forever

The Government of Western Australia's *Bush Forever Policy* (Government of WA 2000) is a strategic plan for conserving regionally significant bushland within the Swan Coastal Plain portion of the Perth Metropolitan Region. The objective of Bush Forever is to protect comprehensive representations of all original vegetation complexes by targeting a minimum of 10% of each for protection. Bush Forever sites are representative of regional ecosystems and habitat and have a role in the conservation of Perth's biodiversity.

The site contains no Bush Forever sites and no Bush Forever sites have been identified either adjacent or within immediate proximity (DPLH 2019). The nearest Bush Forever site (342) is approximately 550 m to the south west and is separated by existing urban areas.

### 3.3.5 Ecological linkages

Ecological linkages are areas of native vegetation which provide a corridor or linkage (typically linear) which allow the movement of fauna, flora and genetic material between areas of remnant habitat. This exchange of genetic material between vegetation remnants improves the viability of those remnants by allowing greater access to breeding partners and food sources, refuge from disturbances such as fire and maintenance of genetic diversity of plant communities and populations. Ecological linkages are ideally continuous or near continuous as the more fractured a linkage is, the less ease flora and fauna have in moving within the corridor (Alan Tingay and Associates 1998).

The Perth Biodiversity Project, supported by the Western Australia Local Government Association (WALGA), have identified and mapped regional ecological linkages within the Perth metropolitan

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region (WALGA and PBP 2004), which is intended to rate areas based on closeness to areas with existing vegetation cover.

One ecological linkage (Linkage No. 75) (noting these do not have a defined width and are more an indication that the land contains or is in proximity to vegetated areas) is mapped to occur across the southern boundary of the site. The linkage generally extends in an east-west alignment and is associated with areas of native vegetation occurring further south of the site including vegetation within Leda Reserve. The site itself has limited connection to vegetation in the broader area and is considered to provide limited functionality from a linkage perspective due to lack of environmental values.

#### 3.3.6 Environmental sensitive areas

'Environmentally sensitive areas' (ESAs) are prescribed under the Environmental Protection (Clearing of Native Vegetation) Regulations 2004 and have been identified to protect native vegetation values of areas surrounding significant, threatened or scheduled flora, vegetation communities or ecosystems. Exemptions under the Environmental Protection (Clearing of Native Vegetation) Regulations 2004 do not apply within ESAs. However, exemptions under Schedule 6 of the EP Act still apply, including any clearing in accordance with a subdivision approval under the *Planning and Development Act 2005* (a recognised exemption under the Schedule 6 of the EP Act).

No ESAs occur within the site based upon a review of the *Clearing Regulations – Environmentally Sensitive Areas* dataset (DWER 2023a). The nearest ESA is mapped approximately 35 m north-west of the site and is associated with the Bollard Bulrush Swamp.

### 3.3.7 Terrestrial fauna

No fauna surveys have been conducted for the site, and consideration of fauna values have been based on the habitat that may be present within the site, which is closely linked with native vegetation extent and condition. As discussed in **Section 3.3.1** the site has been historically cleared of native vegetation and is largely composed of planted windbreak trees separating cleared areas of paddock grasses. The trees are generally less than 500 mm DBH. The site offers very limited and poor quality fauna habitat, particularly when compared to the broader area (within Bollard Bulrush Swamp to the north) which contains extensive areas of intact and connected remnant native vegetation.

### 3.3.7.1 Species of conservation significance

Fauna species that are considered to be rare or under threat warrant special protection under state and/or federal legislation. At a federal level, fauna species may be listed as 'threatened' pursuant to the EPBC Act and any action likely to have a significant impact on a listed threatened species requires approval from the federal Minister for the Environment.

At a state level, fauna species are listed as 'threatened' under sections 13, 19 and 26(2) of the BC Act. It is an offence to 'take' or 'disturb' threatened fauna without Ministerial approval. In addition to this, the DBCA maintains a list of priority fauna species which, while not considered threatened under the BC Act and therefore not protected directly, involve some concern over their long-term survival.

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To understand the extent of significant fauna species that are likely to occur within the local area, searches were undertaken of the DBCA's NatureMap database (DBCA 2023b) and the Protected Matters Search Tool database (DCCEEW 2023). A total of 26 conservation significant species were identified as having potential to occur in the site or local area with the results shown in **Table 3**. It is important to note that these searches do not take into account the types and condition of fauna habitat occurring on the site, but are based on the proximity of the site to known occurrence of significant species. Comments on likelihood of occurrence have been provided in **Table 3**.

Table 3: Threatened and priority fauna occurring within 5 km of the site based on relevant database searches.

Species		Conservation status		Likelihood to be present based	
Common name	Scientific name	State	Federal	on habitat within the site	
Birds					
Australasian Bittern	Botaurus poiciloptilus	Endangered	Endangered	No	
Australian Fairy Tern	Sternula nereis nereis	Vulnerable	Vulnerable	No	
Australian Painted-snipe	Rostratula australis	Endangered	Endangered	No	
Baudin's Cockatoo	Calyptorhynchus baudinii	Endangered	Endangered	Possible. Isolated individuals of Eucalyptus rudis are unlikely to provide significant roosting or breeding habitat give the tree sizes.	
Blue-billed duck	Oxyura australia	Priority 4	-	Unlikely. No permanent vegetated lakes occur within the site	
Carnaby's cockatoo	Calyptorhynchus latirostris	Endangered	Endangered	Possible. Isolated individuals of Eucalyptus rudis are unlikely to provide significant foraging, roosting or breeding habitat and would be less than 1 ha.	
Curlew Sandpiper	Calidris ferruginea	Critically endangered	Critically endangered and migratory	No	
Eastern Curlew	Numenius madagascariensis	Critically endangered	Critically endangered and migratory	No	
Forest Red-tailed Black Cockatoo	Calyptorhynchus banksii naso	Vulnerable	Vulnerable	Possible. Isolated individual Eucalyptus rudis are unlikely to provide significant roosting or breeding habitat given the tree sizes.	
Fork-tailed Swift	Apus pacificus	Migratory	Migratory	Possible. May occur in airspace over the site or in transit whilst in search of prey.	
Grey wagtail	Motacilla cinereal	Migratory	Migratory	No	

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Table 3: Threatened and priority fauna occurring within 5 km of the site based on relevant database searches. (continued)

Species		Conservation status		Habitat likely to be present
Common name	Scientific name	State	Federal	within the site
Birds (continued)				
Osprey	Pandion haliaetus	Migratory	Migratory	No
Painted snipe	Rostratula benghalensis (sensu lato)	-	Endangered	No
Pectoral Sandiper	Calidris melanotos	Migratory	Migratory	No
Peregrine falcon	Falco peregrinus	Other specially protected	-	Possible. May fly over site in search of prey.
Rainbow Bee-eater	Merops ornatus	Migratory	Migratory	Habitat widespread in region.
Red Knot	Calidris canutus	Endangered	Endangered and migratory	No
Sharp-tailed Sandpiper	Calidris acuminata	Migratory	Migratory	No
Red-necked stint	Calidris ruficollis	Migratory	Migratory	No
Mammals		•	•	
Chudtich	Dasyurus geoffroii	Vulnerable	Vulnerable	No. Is reliant on large patches of connect vegetation.
Water Rat	Hydromys chrysogaster	Priority 4	-	Unlikely. No permanent lakes occur within the site.
Quenda	Isoodon obesulus fusciventer	Priority 4	-	Unlikely. Is reliant on dense understory vegetation which doesn't occur within the site.
South-western brush- tailed phascogale, wambenger	Phascogale tapoatafa wambenger	Critically endangered	-	Unlikely. Is reliant on intact forest or woodland vegetation which does not occur within the site.
Tammar wallaby	Notamacropus eugenii derbianus	-	Priority 4	Unlikely. Only one record is present within 5km of the site. The species Is reliant on intact sclerophyll forest or coastal scrub vegetation which doesn't occur within or nearby the site.
Western Ringtail Possum	Pseudocheirus occidentalis	Critically endangered	Critically endangered	Unlikely. Western ringtail possum are restricted to the southern portions of the Swan Coastal Plain and lower South West region. Vegetation within the site does not contain preferred habitat in any density that would support a home range for the species.

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Table 3: Threatened and priority fauna occurring within 5 km of the site based on relevant database searches. (continued)

Species		Conservation status		Habitat likely to be present	
Common name	Scientific name	State	Federal	within the site	
Invertebrate/other					
Carters freshwater mussel	Westralunio carteri	Vulnerable	Vulnerable	No. A waterway or water body with water year round is not identified within the site.	
Black-striped snake	Neelaps calonotos	Priority 3	-	Unlikely. Associated with Banksia woodlands (not present) and sandy areas.	
Graceful sunmoth	Synemon gratiosa	Priority 4	Endangered	Unlikely. Associated with Banksia woodlands and Coastal heathlands which provide host plants for the species. The site is not associated with either of these habitat types.	

With regard to black cockatoos, the site is partly mapped within the buffer for a known roosting site for Carnaby's Black Cockatoo (DBCA 2019), and therefore they may occur within the site or nearby. Emerge Associates identified that the planted rows of trees and scattered paddock trees within the site (predominantly *Eucalypt spp.*) would be unlikely to provide important habitat for the three black cockatoo species given they are predominantly non-native species and the trees are not advanced to a stage likely to support breeding.

Current distribution of western ringtail possum is considered to be restricted to areas south of Dawesville, with main populations occurring between Binningup and Dunsborough (E. Shedley and Williams 2014). Given the site is outside of the current distribution range for western ringtail possum and the lack of understorey and connectivity between the scattered paddock trees found within the site, it is considered unlikely that western ringtail possums would be present.

The site is considered to have overall low biodiversity value from a fauna perspective due to the lack of native vegetation within the site, when compared to surrounding remnant vegetation within Bollard Bulrush Swamp, particularly given the lack of understorey and connectivity between the planted windbreak trees and scattered remnant native trees. Whilst fauna can exist in areas of poor quality vegetation, the fauna identified in the searches are typically associated with intact habitat and therefore based on the fauna habitat values identified within the site are likely restricted to more common and/ or avian species.

### 3.4 Hydrology

#### 3.4.1 Groundwater

A review of the Water Register (DWER 2023b) indicates the site is found within the 'Jandakot' groundwater area. This groundwater area is composed of three aquifers, the superficial Swan (unconfined), Leederville (confined) and the Yarragadee North (confined).

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Five groundwater monitoring bores were installed in June 2022 and have been subject to a levels monitoring program by Emerge Associates from June to November in both 2022 and 2023. The location of the bores is shown in **Figure 4**, and includes two wells made available from the development to the north. The monitoring results are outlined in **Table 4**.

The maximum groundwater level (MGL) throughout the site occurred from months July to August and varied from 3.75 to 6.12 mAHD. When compared to ground surface levels, results suggest that groundwater may be located close to the surface (particularly during winter) across the majority of the western portion of the site and be 5.5 m below the surface at Johnson Road.

The maximum groundwater level (MGL) contours have been determined for the site by calibrating the measured maximum level to the nearest regional DWER bore (ID 61410095) and are shown in **Figure 4**. They indicate maximum groundwater level contours vary from 4.4 m AHD in the west to 7 m AHD in the east. Depth to the calibrated maximum groundwater level (MGL) varies from approximately 5.5 m separation at the eastern end of the site near Johnson Road to being at the surface at the western portion of the site.

The proponent has secured a groundwater allocation of 43,500 kL/year from the Superficial Swan to support irrigation within the site.

Further information pertaining to groundwater conditions within the site can be found within the Local Water Management Strategy (Emerge Associates 2023c).

Table 4: Annual winter peak (mAHD), collected between June 2022 and November 2023 (Emerge Associates 2023c).

Monitoring location (Bore ID)	Depth to groundwater (mAHD)											
	June		July		August		September		October		November	
	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023
MB01	4.26	4.29	4.3	4.41	4.66	4.42	4.53	4.40	4.40	4.29	4.25	
MB02	4.17	4.17	4.2	4.31	4.69	4.34	4.44	4.29	4.32	4.23	4.19	4.02
MB03	4.46	4.44	4.54	4.67	5.3	4.85	4.96	4.75	4.83	4.68	4.83	4.49
MB04	4.76	4.73	4.77	4.89	5.4	4.98	5.16	4.88	5.02	4.82	5.02	4.64
MB05	5.03	5.05	5.14	5.29	6.12	5.51	5.71	5.43	5.53	5.35	5.53	5.13
MB-1		4.35	4.38	4.46	4.62	4.46	4.58		4.58	4.36	4.31	3.75
MB-2			4.51		4.9		4.75		4.75		4.48	

Highlighted values – Indicates the groundwater level monitoring round where the annual winter peak was recorded. Black cells – Indicate that groundwater level could not be obtained as wells were inaccessible.

### 3.4.2 Surface water

The site is located within the Serpentine River catchment, which drains to the south-east before meeting the Peel-Harvey estuary further south. A review of the DWER *Hydrography Linear dataset* indicates the presence of the perennial Bollard Bulrush Swamp (discussed previously and below) which has a 'subject to inundation' buffer placed around it that covers the majority of the site. This would correlate with the observation of groundwater at the surface during winter.

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The Peel Main drain is located adjacent to the western boundary of the site and is managed by the Water Corporation. The Peel Main Drain flows through the Bollard Bulrush Swamp in a southerly direction connecting to the Serpentine River and discharges to the Peel-Harvey estuary. Surface water flows from the site with discharge to the Peel Main Drain.

### 3.4.3 Wetlands

Wetlands are areas which are permanently, seasonally or intermittently waterlogged or inundated with water. Naturally occurring wetland features are common across the Swan Coastal Plain and can contain fresh or salty water, which may be flowing or still. Wetlands can be further categorised based on their hydrological characteristics and physical structure.

A review of the Ramsar sites dataset (DBCA 2017) indicates that no Ramsar wetlands are located within or nearby the site.

At a state level, the location, mapped boundaries and management categories of wetlands across the Swan Coastal Plain were originally identified in the *Wetlands of the Swan Coastal Plain: Wetland Mapping, Classification and Evaluation* (Hill et al. 1996). This information was subsequently converted into the publicly available *Geomorphic Wetlands of the Swan Coastal Plain* database, which is maintained by the DBCA. The management categories of wetlands are conservation, resource enhancement and multiple use, and are detailed in **Table 5**.

Table 5: Geomorphic Wetlands of the Swan Coastal Plain management categories (Hill et al. 1996)

Management category	Description of wetland	Management objectives
Conservation (CCW)	Support high levels of attributes	Preserve wetland attributes and functions through reservation in national parks, crown reserves and state-owned land. Protection provided under environmental protection policies.
Resource Enhancement (REW)	Partly modified but still supporting substantial functions and attributes	Restore wetland through maintenance and enhancement of wetland functions and attributes. Protection via crown reserves, state or local government owned land, environmental protection policies and sustainable management on private properties.
Multiple Use (MUW)	Few wetland attributes but still provide important hydrological functions	Use, development and management considered in the context of water, town and environmental planning through land care.

Based on the *Geomorphic Wetlands of the Swan Coastal Plain* mapping (DBCA 2023a), a multiple use wetland (MUW) (unique feature identification (UFI) 13327) is mapped across the majority of the site.

To the north of the site, a conservation wetland (CCW) (UFI 15866) and resource enhancement wetland (REW) (UFI 15867) have been identified and are associated with 'Bollard Bulrush Swamp' (as discussed in **Section 2.1**). Neither the CCW or REW (or potential buffers) extend within the site. The existing geomorphic wetland mapping is shown in **Figure 4**.

It is noted that the *Geomorphic Wetlands of the Swan Coastal Plain* (DBCA 2023a) wetland boundary varies slightly from the wetland boundaries specified by the Bollard Bulrush Landscape Masterplan identified in the CoK *Local Planning Policy No. 3* (LPP. No 3) (City of Kwinana 2022). The boundary within LPP. No. 3 represents the agreed boundary through the scheme amendment process

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(discussed in **Section 2.1**) and is shown in **Figure 4** as 'core wetland' and 'wetland buffer'. These are the wetland and buffer extents relevant for the development of the structure plan.

### 3.4.4 Public drinking water source area

Public drinking water source areas (PDWSAs) are proclaimed by the DWER to protect identified drinking water sources, including surface water and groundwater sources (DoW 2009). They are proclaimed under the *Metropolitan Water Supply, Sewerage and Drainage Act 1909* or the *Country Areas Water Supply Act 1947* as Water Reserves, Catchment Areas or Underground Water Pollution Control Areas. PDWSAs provide the population with the majority of its drinking water supplies and can be vulnerable to contamination from a range of land uses. Once an area is identified as a PDWSA, consideration needs to be given to the intended land use and associated activities to ensure that they are appropriate in meeting the water protection quality objectives of the area.

The site is not within or in proximity to a PDWSA or wellhead protection zone. The nearest PDWSA is approximately 2.9 km to the north east of the site (DWER 2020b).

### 3.5 Heritage

### 3.5.1 Aboriginal heritage

The Aboriginal Heritage Inquiry System (AHIS) is maintained pursuant to Section 38 of the *Aboriginal Heritage Act 1972* (AH Act) by the Department of Planning, Lands and Heritage, containing information on registered, lodged or historic Aboriginal Heritage Sites and Heritage Places throughout Western Australia. In accordance with the *Aboriginal Heritage Act 1972 Guidelines November 2023* (DPLH 2023) a search of the AHIS online database (DPLH 2023a) was undertaken.

No registered, lodged or historic Aboriginal Heritage Sites or Aboriginal Heritage Places have been identified within or adjacent to the site. A 'Registered Aboriginal Site', Site: 3568, described as a 'Camp' is located approximately 760 m to the south of the site.

### 3.5.2 Non-Indigenous heritage

In order to determine the actual or potential presence of sites or features of non-indigenous heritage significance within the site, a review of readily available information at a federal, state and local government level was undertaken to determine if any of the following occur within the site:

- World Heritage Sites.
- National Heritage Places.
- Commonwealth Heritage Places.
- Sites listed in the State Register of Heritage Places.

A search of the State Heritage Office database, which includes state and local lists (Heritage Council WA 2022) and the Australian Heritage Database, which includes the National and Commonwealth Heritage Lists (DCCEEW 2022a), indicates that the site and adjacent areas do not contain any non-indigenous heritage sites.

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### 3.6 Other land use considerations

### 3.6.1 Historic and existing land uses

As outlined previously a review of available historical aerial imagery indicates that a majority of the site was cleared of native vegetation prior to 1953. The site has been used for grazing and horse agistment. No significant excavation or similar was observed in available aerials, nor visible based on current land form features. Houses and sheds previously present within the site were removed between 2015 and 2018 based on historic aerials.

#### 3.6.2 Potential site contamination

A review of the DWER *Contaminated Sites Database* (DWER 2022) indicates that the site is not registered as a contaminated site pursuant to the *Contaminated Sites Act 2003*, nor are any other registered sites located nearby. In addition, a review of the Department of Defence Unexploded Ordinance (UXO) search tool did not identify any potential risk of UXO occurring within the site (Department of Defence 2022).

The historic agricultural (grazing) land use across the site is not identified as a potentially contaminating land use, and therefore in accordance with *Assessment and management of contaminated sites: Contaminated sites guidelines* (DER 2014), is not considered to represent any significant risk of potential for contamination within the site.

### 3.6.3 Surrounding land uses

As outlined in **Section 3.1**, a review of surrounding land uses and observations during the site visit indicate the land uses surrounding the site include residential development (i.e. public open space, footpaths, roads, dwellings, commercial enterprises to the north-east, east, south and west, with a wetland feature (Bollard Bulrush Swamp) with extensive areas of native vegetation present to the north. None of these land uses raise concerns with regard to potential impacts on amenity (noise, vibration, odour, dust etc.) either from or on the proposed development. Any potential amenity impacts during construction can be managed through the subdivision process and would be typical for residential development.

### 3.7 Bushfire hazard

The a small portion of the site is designated bushfire prone under the *Map of Bush Fire Prone Areas* (OBRM 2021), as shown in **Plate 7**. This area generally aligns with the location of the proposed western POS area.

A Bushfire Management Plan (BMP) (Emerge Associates 2023a) has been prepared in conjunction with the structure plan to support the proposed development and considers the potential mitigation and management of the bushfire risks to the site in accordance with State Planning Policy 3.7 Planning in Bushfire Prone Areas (SPP 3.7) (WAPC 2015a) and the Guidelines for Planning in Bushfire Prone Areas Version 1.4 (the Guidelines) (DPLH & WAPC 2021).

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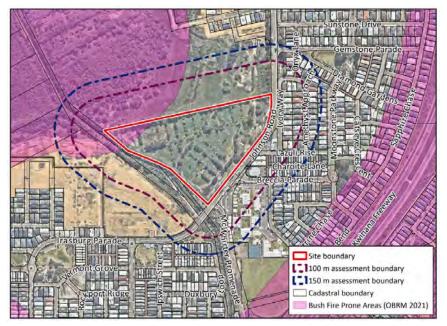


Plate 7: Areas within and surrounding the site identified as "bushfire prone areas" (as indicated in purple) under the state-wide Map of Bush Prone Areas (OBRM 2021).

In accordance with SPP 3.7 and the Guidelines. Bushfire hazards within and/or nearby to the site post development have been identified in accordance with *Australian Standard 3959-2018 Construction of buildings in bushfire prone areas* (AS 3959) (Standards Australia 2018). The areas of bushfire hazard include:

- Temporary grassland vegetation, identified to the north of the site, associated with the Oakebella Estate development that is under construction.
- Woodland and scrub vegetation within the Peel Main Drain reserve to the west of the site. This vegetation is a narrow strip but is connected to Bollard Bulrush Swamp.
- Forest vegetation to the north of the site associated with Bollard Bulrush Swamp (the core wetland) and the anticipated revegetation of the associated wetland buffer area.

The identification of bushfire hazards within 100 m of the site means bushfire attack level (BAL) ratings are likely to apply to the site, and the structure plan layout and development process will need to consider how appropriate separation can be provided. This is discussed further in **Section 4.6**.

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### 3.8 Summary of relevant environmental factors

**Table 6** provides a summary of the environmental values/factors that have been investigated for the site and outlines those that will require further specific consideration (and management) as part of future development within the site, and if applicable these are discussed further in **Section 4**.

Table 6: Relevant environmental values/factors and considerations for the site

Environmental value/factor	Relevant considerations		
Landform and soils	Regional ASS risk mapping indicates the majority of the site is mapped as having a 'high to moderate' risk of ASS occurring within 3 m of the natural soil surface. The management of ASS as part of the development process is addressed in <b>Section 4.1</b> .		
Flora and vegetation	No conservation significant flora and vegetation values have been identified within the site. However, the retention of trees and improvement of vegetation values within the site is a relevant consideration and is addressed further in <b>Section 4.2</b> .		
Ecological linkages	A portion of a regional ecological linkage has been identified across the southern boundary of the site. The site itself has limited connection to vegetation in the broader area and is considered to provide limited functionality from a linkage perspective due to lack of environmental values. No further consideration of this factor is required as part of this EAMS.		
Environmentally sensitive areas (ESAs)	There are no ESAs mapped as being present within the site or surrounding land.  Development within the site is not proposed to impact on any identified ESAs, and accordingly no further consideration of this factor is required as part of this EAMS.		
Terrestrial fauna	The site is predominantly cleared of native vegetation and comprises rows of planted trees and scattered paddock trees amongst cleared areas. Accordingly, the site has low fauna habitat value and is unlikely to impact conservation signification fauna species. However, as common fauna species may be present, management of fauna and improvement of habitat values is addressed further in <b>Section 4.3</b> .		
Groundwater	Groundwater monitoring results indicate groundwater is close to the surface throughout the western portions of the site with the depth ranging between 3.75 to 6.12 mAHD. Management of groundwater is considered as part of the LWMS (Emerge Associates 2023b) and is discussed further in <b>Section 4.5.</b>		
Surface water	No surface water features are within the site (except for wetlands, discussed below). Stormwater within the site is currently generally directed towards the west and the Peel Main Drain. Management of flooding and stormwater will be a consideration for future development and is discussed further in the LWMS (Emerge Associates 2023b) and summarised in Section 4.5.		
Wetlands	A MUW wetland feature occurs within the western portion of the site. This wetland feature has not been identified as requiring retention or specific protection. The nearby CCW and REW (and associated buffers) do not extend into the site. Therefore, management or conservation or buffer values is are not relevant. The hydrological function of the MUW feature will need to be considered/maintained and is discussed further in the LWMS (Emerge Associates 2023b) and summarised Section 4.5.		
Public Drinking Source Areas (PDWSA)	The site is not located within a PDSWA nor are there any wellhead protection zones in the vicinity of the site, and accordingly no further consideration of this factor is required as part of this EAMS.		

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Table 6: Relevant environmental values/factors and considerations for the site (continued).

Environmental value/factor	Relevant considerations		
Aboriginal heritage	No registered, lodged or known historic Aboriginal sites were identified within the site. The nearest registered site (Site: 3568) has been identified 760m to the south and is described as a 'Camp'.		
	Under the <i>Aboriginal Heritage Act 1972</i> , all Aboriginal sites are protected whether they are known or not. Therefore, as part of future ground disturbing activities, if Aboriginal artefacts or sites (not previously identified) are uncovered, works will need to cease and a suitably qualified expert be brought in to survey the potential site, with additional consent pursuant to the <i>Aboriginal Heritage Act 1972</i> sought if necessary. This can be managed throughout the standard development process. No further consideration is required as part of this EAMS.		
Non-indigenous heritage	No non-indigenous heritage values have been identified within, or in close proximity to the site and therefore no further consideration of the factor is provided as part of the EAMS.		
Historical and existing land uses	The site has been identified to have historically been used for agricultural land uses including grazing and horse agistment which hare low risk activities. No further consideration of this factor is provided as part of this EAMS.		
Potential site contamination	No registered contaminated sites were identified within or in proximity to the site, and previous land uses are not likely to have resulted in contamination. No further consideration of this factor is required as part of the EAMS.		
Bushfire hazard	The site is identified as bushfire prone by the <i>Map of Bush Fire Prone Areas</i> (OBRM 2021), and classified vegetation has been identified nearby to the site (Emerge Associates 2023a). Management of these hazards is further considered in the BMP and summarised <b>Section 4.6</b> .		

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### 4 Impact Assessment and Management Approach

This section outlines spatial layout considerations that should be (or have been) accommodated within the structure plan to respond to the relevant environmental attributes and values within the site, as well as any future environmental management requirements that will need to be accommodated within future planning and development stages. Only those environmental values and attributes that require specific consideration based on their presence within the site, and/or the applicable legislation and policy requirements have been included in this section (as summarised in **Table 6**).

### 4.1 Acid sulfate soils

### 4.1.1 Policy framework, site context and management objectives

The DWER, through the WAPC, ensures ASS are adequately managed during the land use planning and development process. The objective of the DWER's ASS policy framework is to manage ASS appropriately to prevent the release of metals, nutrients and acidity into the soil and groundwater system that may adversely affect the natural and built environment and human health.

The DWER mapping indicates that the majority of the site is classified as having a 'high to moderate risk' of ASS occurring within 3 m of the natural soil, with a small area in the eastern portion of the site classified as having 'moderate to low risk', of ASS occurring within 3 m of the natural soil surface. This is shown within **Figure 3.** 

The principal management objective for ASS within the site is to ensure that any future development that may disturb ASS is appropriately managed to avoid impacts on the environment.

### 4.1.2 Structure plan layout considerations for acid sulfate soils

ASS management does not require any spatial consideration within the structure plan, and any ASS risk can be appropriately managed through the future development process.

### 4.1.3 Future management requirements

While the risk of ASS is 'high to moderate' within the site, ASS is only likely to be a consideration if excavation (primarily for services) extends below the permanent groundwater table and or dewatering is required.

Once detailed earthworks designs and depths of trenching/excavation are known, and therefore the likelihood of disturbance below 3 m of the natural soil as part of the construction process is known, an investigation to determine the actual presence of ASS can be undertaken. If ASS is likely to be disturbed due to the proposed works an ASS and dewatering management plan (ASSDMP) can be prepared and implemented to support future subdivision or development.

This is addressed through the subdivision process as a standard consideration. For subdivision applications where the subject land is identified as having a high to moderate risk of ASS occurring

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within 3 m of the natural soil surface (based on regional ASS risk mapping), the WAPC typically imposes model subdivision condition EN8 (WAPC and DPLH 2022) which states:

"An acid sulphate soils self-assessment form and, if required as a result of the self-assessment, an acid sulphate soils report and an acid sulphate soils management plan shall be submitted to and approved by the Department of Water and Environmental Regulation before any subdivision works or development are commenced. Where an acid sulphate soils management plan is required to be submitted, all subdivision works shall be carried out in accordance with the approved management plan. (Department of Water and Environmental Regulation)"

The requirement for further ASS management will be confirmed and managed in accordance with any subdivision conditions as part of detailed design.

### 4.2 Flora and vegetation

### 4.2.1 Policy framework, site context and management objectives

In the context of environmental impact assessment (and applied to the land use planning process), the EPA objective for flora and vegetation is 'to protect flora and vegetation so that biological diversity and ecological integrity are maintained' (EPA 2016). Where a proposal may potentially impact upon flora and vegetation values, the following mitigation hierarchy should be applied to minimise potential impacts:

- Avoid impacts
- 2. Minimise impacts
- 3. Offset impacts.

The City of Kwinana also identifies objectives for the retention and enhancement of significant trees and landscape features through LPP No. 1. As outlined in **Section 3.3.2**, significant trees are defined as "a tree with a diameter at breast height (DBH) of 0.5 metres or greater". Under LPP No. 1, a tree may also be considered as Culturally significant if it is: "A tree which has special significance because of its aesthetic, historic, scientific or social significance."

The site is largely cleared of remnant native vegetation and is composed of non-native grasses/weeds with windbreak plantings (predominantly non-native Eucalypt species) and a number of scattered remnant native trees (predominantly *Eucalyptus rudis*). No vegetation within the site has been identified as containing conservation significant values (i.e. TEC or threatened flora) given the highly disturbed nature of the site and no significant trees as defined by LPP No. 1 have been identified (with trees generally around 20 years old).

The objective for future management of flora and vegetation within the site will be principally focused around maximising the retention of existing trees within public open space areas which will be subject to future detailed design. This will need to be balanced with the significant sand fill required across the site to address hydrological and engineering considerations.

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### 4.2.2 Structure plan layout considerations for flora and vegetation

The spatial layout of the structure plan has considered the CoK LPP No. 1 with the POS located to maximise retention of existing trees, which are a mix of planted non-native trees and regrowth natives (Eucalyptus rudis) which have grown in the last 20 years. This was discussed with the City of Kwinana as part of consultation for the structure plan. Locations of trees to be retained (where possible, subject to detailed design) are shown in **Figure 5**.

Due to the civil engineering requirements, which require changes in levels and the importation of fill, it is not possible to retain all trees throughout the site.

### 4.2.3 Future management requirements

Planted and/or remnant scattered paddock trees proposed to be retained within the westernmost POS area (where possible, subject to detailed design), are shown in **Figure 5**. Retained trees will be protected as part of future development.

It is expected a tree protection zone (TPZ) will be defined and maintained for the duration of the works surrounding any retained trees, ven though none of the trees are currently identified as 'significant trees' as per LPP No.1. This is a requirement of LPP No.1, to ensure the appropriate protection of retained vegetation. Within the TPZ tree protection measures should include:

- Retaining the existing ground levels,
- Limit excavations and ground disturbance,
- Monitoring tree health and structure during works.

Where works are proposed within the TPZ, activities should be supervised and documented by a suitably qualified arborist in keeping with the Australian Standard (AS) 4970-2009 'Protection of Trees and Development Sites'. Where canopy pruning is required for retained trees, all works should be completed in accordance with AS 4373-2007 'Pruning of Amenity Trees' by a suitably qualified arborist.

Furthermore, extensive new planting will occur within the proposed POS areas which based on the current landscape concept plan (**Appendix B**) which will contain overstorey tree species over grass/low planting and occasional shrubs. This area will be sued for a mix of recreation and drainage purposes.

It is expected that a number of future subdivision approval conditions will ensure protection of the remnant vegetation proposed for retention, including model subdivision condition EN1 and EN2 (WAPC and DPLH 2022), which requires:

EN1 - Prior to the commencement of subdivisional works a foreshore/ environmental/ bushland/tree/ wetland/wildlife protection [DELETE AS APPLICABLE] management plan for [INSERT VALUE] is to be prepared and approved to ensure the protection and management of the sites environmental assets with satisfactory arrangements being made for the implementation of the approved plan.

Department of Water and Environmental Regulation) OR (Local Government) OR (Department of Biodiversity, Conservation and Attractions) [DELETE AS APPLICABLE]

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EN2 - Prior to the commencement of subdivisional works, measures being taken to ensure the identification and protection of any vegetation on the site worthy of retention that is not impacted by subdivisional works, prior to commencement of subdivisional works. (Local Government)

This is also addressed through the application of LPP No. 1.

### 4.3 Native fauna

### 4.3.1 Policy framework, site context and management objectives

In the context of environmental impact assessment (and applied to the land use planning process), the EPA's objective for terrestrial fauna is 'to protect fauna so that biological diversity and ecological integrity are maintained' (EPA 2016). The application of the mitigation hierarchy should be applied to avoid or minimise impacts to terrestrial fauna where possible.

The EPBC Act also provides protection for listed 'threatened' species, including black cockatoos. Any proposed action which is considered likely to result in a 'significant' impact upon these species, which are identified as Matters of National Environmental Significance (MNES), should be referred to the Commonwealth Department of Agriculture, Water and Environment (DAWE). The habitat within the site is not significant and EPBC Act requirements are highly unlikely to be relevant.

While conservation significant fauna species are known to occur in the broader area, none are likely to utilise the site to any important or significant level given appropriate habitat is generally not present (e.g. completely degraded vegetation condition, predominantly non-native species and the general age of the trees that are present e.g. around 20 years old).

The management objective for fauna within the site will be principally focused around maximising retention of existing vegetation values within public open space and ensuring development works are undertaken in a manner that minimises harm to native fauna.

### 4.3.2 Structure plan layout considerations for terrestrial fauna

As per **Section 4.2**, the spatial layout of the structure plan has considered LPP No.1 with the POS located to maximise tree retention. The POS area is located in proximity to Bollard Bulrush Swamp and the proposed buffer area that will be revegetated. The interface between the POS and wetland buffer can be designed sensitively to maximise habitat connection, with additional planting proposed which will enhance the structure and quality of fauna habitat available within the site.

### 4.3.3 Future management requirements

The location of proposed public open space areas within the site maximises the retention of existing paddock trees, particularly larger groupings of trees to increase fauna habitat values within the site.

In addition to increasing fauna habitat values within the site, the management of fauna as part of the detailed design and construction for the proposed development will be based on minimising harm to fauna (such as birds visiting the area, or fauna that might be present utilising existing areas such as kangaroos or similar. Measures to be implemented may include:

• Bunting/flagging of trees to be retained so that it is clear which trees are to be avoided.

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- Undertaking pre-clearing inspection of tree/vegetation proposed for removal/modification.
- Using a fauna spotter during clearing works to avoid impacts to fauna wherever possible and to
  rescue trans-locatable fauna that are disturbed during clearing works to assist them to disperse
  safely or capture them for later translocation as appropriate.
- Application of correct fauna handling procedures to reduce stress on any captured animals.

It is likely that this will be a condition of future subdivision approval, based on application of model subdivision condition EN1 (WAPC and DPLH 2021), which requires:

EN1 - Prior to the commencement of subdivisional works a foreshore/ environmental/ bushland/ tree/wetland/wildlife protection [DELETE AS APPLICABLE] management plan for [INSERT VALUE] is to be prepared and approved to ensure the protection and management of the sites environmental assets with satisfactory arrangements being made for the implementation of the approved plan. (Department of Water and Environmental Regulation) OR (Local Government) OR (Department of Biodiversity, Conservation and Attractions) [DELETE AS APPLICABLE]

### 4.4 Hydrology

### 4.4.1 Policy framework, site context and management objectives

In the context of environmental impact assessment, the EPA's objective for inland waters (and applied to the land use planning process) is 'to maintain the hydrological regimes and quality of groundwater and surface water so that environmental values are protected' (EPA 2018).

In addition, the State Water Strategy for Western Australia (Government of WA 2003) and Better Urban Water Management (WAPC 2008) endorses the promotion of integrated water cycle management and application of water sensitive urban design (WSUD) principles to provide improvements in the management of stormwater, and to increase the efficient use of other existing water supplies. Of particular relevance to the nearby CCW and REW features to the north is the Better Urban Water Management criteria for ecological protection, which requires management to maintain or restore desirable environmental flows and/or hydrological cycles.

As outlined, based on the *Geomorphic Wetlands of the Swan Coastal Plain* dataset, a MUW (UFI 13327) is mapped across the majority of the site, supporting the groundwater monitoring observations that groundwater occurs at or in proximity to the ground surface. A CCW (UFI 15866) and a REW (UFI 15867) are identified to the north and north-west of the site and are associated with 'Bollard Bulrush Swamp'. These wetlands and their associated buffers do not extend into the site. The Peel Main Drain is located adjacent to the west of the site, with the site having a direct connection/interaction. These features are not in the site and therefore do not require specific management or consideration through buffers or similar, but managing the hydrological function of the site will be important.

The principal management objective for hydrology in the site will be to ensure that groundwater and surface water is appropriately infiltrated and treated to not impact on the broader area, particularly both the Bollard Bulrush Swamp and the Peel Main Drain, based on water sensitive design. Separation to groundwater will also be relevant and will require final lot levels to be at least 1.2 m above the MGL.

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## 4.4.2 Structure plan layout considerations for hydrology

In accordance with the LWMS (Emerge Associates 2023b) that has been prepared for the site, the structure plan has accommodated flood mitigation, flow management and treatment of surface water by providing appropriately sized road reserves to convey, treat and store stormwater, as well as POS areas of a suitable width to accommodate required bioretention areas and flood storage areas, to manage water quality and to enable the predevelopment hydrology conditions to be maintained.

The management strategies proposed to protect hydrology of the Bollard Bulrush Swamp and Peel Main Drain include:

- Maintaining the existing hydrology of the Bollard Bulrush Swamp by directing major event stormwater runoff as overland flow to the bio-retention area which interfaces the Peel Main Drain in the existing environment and will support groundwater control and maintaining predevelopment flows.
- Minimising pollutant loads within stormwater runoff and infiltrating to shallow groundwater.
- Treating the small event stormwater runoff within the developable portion of the site.

The road network, footpaths and opens space areas will be graded towards bioretention areas integrated into the POS in the western portion of the site. No drainage from the site will be directly connected or piped into the wetland, and no drainage infrastructure from the site will be located within the wetland buffer.

## 4.4.3 Future management requirements

The LWMS provides a framework for the future delivery of a best practice approach to integrated water cycle management utilising water sensitive urban design (WSUD) principles and provides for the management of groundwater and surface water within the site. It has been prepared in accordance with relevant DWER requirements, the previous DWMS, and considers the site-specific values. The LWMS will be a key document guiding future development and can be referred to for further detail, particularly with regard to determined water management criteria and water quality management objectives.

The LWMS (Emerge Associates 2023b) proposes water supply and conservation, stormwater management and groundwater management strategies to ensure water values are managed appropriately within the site. The principal elements of the LWMS have been summarised below.

## Water supply and conservation

The overall approach to water supply is to utilise scheme water provided via Water Corporation for all in-house uses and implement best practise water conservation measures (e.g. water efficient fixtures, use of WSUD measures, and planting of water wise plant species) to reduce water demand. POS areas are predicted to require approximately 6,141 kL/year, which is below the existing groundwater allocation of up to 43,500 kL.

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#### Stormwater management

The underlying principles of the stormwater management strategy for the site are to retain and treat runoff from small events (first 15 mm) as close to the source as possible. Runoff from roof, impervious areas within lots and road reserves will be treated as close to source as possible using a treatment train approach, which incorporates soakwells, and vegetated bio retention areas (BRA). Treatment will occur via contact with vegetation and the underlying soil profile (which will absorb nutrients, or through the introduction of high phosphorus retention index (PRI) media).

Water quality and flood detention will be managed at a lot scale and within POS areas adjacent to the Peel Main Drain. While existing connection to the Peel Main Drain is likely, a conservative retention at source approach has been taken within the LWMS. There will be no offsite discharge from the FSA.

#### Groundwater management

Due to the proximity of the groundwater table to the existing surface, the importation of sand fill will be required over the site, to ensure appropriate separation distances between existing (or future) surface levels and groundwater and allow stormwater to infiltrate at the source where possible. This will also include ensuring the invert level of bioretention area and flood storage areas will have a minimum of 300 mm clearance above the maximum groundwater level.

To maintain groundwater levels and minimise risk of nutrient enrichment further objectives for groundwater management are based on the following:

- Retention of existing trees within POS where possible.
- Minimising fertiliser use to establish and maintain vegetation/turf.
- Utilising drought tolerant turf species that require minimal water and nutrients.
- Roll-on turf will be used within the POS areas and road verges, to prevent the high nutrient input requirement during establishment of the turf.

Further detail on the groundwater and surface water management strategy for the site is provided in the LWMS (Emerge Associates 2023b).

#### Overall

The WAPC typically apply a standard condition on subdivision approval (model subdivision condition D2 (WAPC and DPLH 2022), requiring the preparation of an Urban Water Management Plan (UWMP) which states:

Prior to the commencement of subdivisional works, an urban water management plan is to be prepared and approved, in consultation with the Department of Water and Environmental Regulation, consistent with any approved Local Water Management Strategy. (Local Government).

Generally, an UWMP will address the following considerations specific to subdivision and development stages in close consideration of the engineering design:

- The detailed drainage design based on civil designs
- Imported fill specifications and requirements
- Implementation of water conservation strategies

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- Non-structural water quality improvement measures
- Management and maintenance requirements
- Construction period management strategy
- Monitoring and evaluation program.

The LWMS has been prepared with this requirement in mind, and it is possible that a separate UWMP may not be required.

## 4.5 Bushfire management

## 4.5.1 Policy framework, site context and management objectives

State Planning Policy 3.7 Planning in Bushfire Prone Areas (SPP 3.7) (WAPC 2015) stipulates that any development proposal which occurs partly or wholly within a designated bushfire prone area is required to be accompanied by a bushfire management plan (BMP). The preparation of a BMP is required to incorporate the following tasks:

- Classification of existing vegetation and effective slope within the site and surrounding 150 m, in accordance with *Australia Standard 3959-2018 Construction of buildings in bushfire-prone areas* (AS 3959) (Standards Australia 2018).
- Assessment of bushfire hazard levels within the site and surrounding 150 m, in accordance with the Guidelines for Planning in Bushfire Prone Areas (WAPC and DFES 2021).
- Completion of an indicative Bushfire Attack Level (BAL) assessment and preparation of an associated BAL contour plan.
- Assessment of the structure plan design against the bushfire protection criteria, in accordance with the Guidelines for Planning in Bushfire Prone Areas (WAPC and DFES 2021) the Guidelines).

Policy objective 5.4 of SPP 3.7 specifies that development is required to:

'...achieve an appropriate balance between bushfire risk management measures and biodiversity conservation values, environmental protection and biodiversity management and landscape amenity'.

This policy objective ensures that future development appropriately considers the bushfire risks and provides appropriate separation from any identified risks without negatively impacting existing environmental values (or introduced values).

The areas of bushfire hazard have been identified within 150 m of the site and include:

- Temporary grassland vegetation, identified to the north of the site, associated with the Oakebella Estate development that is under construction.
- Woodland and scrub vegetation within the Peel Main Drain reserve to the west of the site. This vegetation is a narrow strip but is connected to Bollard Bulrush Swamp.
- Forest vegetation to the north of the site associated with Bollard Bulrush Swamp (the core wetland) and the anticipated revegetation of the associated wetland buffer area.

No management of vegetation/bushfire hazards external to the site has been assumed.

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The principal management objective for the bushfire risk to the site is to ensure that the risk to future people, property and infrastructure is appropriately minimised without negatively impacting on environmental values within or surrounding the site that have been identified for retention and/or protection.

### 4.5.2 Structure plan layout considerations for bushfire management

In accordance with the BMP (Emerge Associates 2023a) prepared for the site, the structure plan has provided an appropriate spatial response to bushfire risk through:

- Ensuring future development areas will be able to accommodate the separation necessary to ensure habitable buildings are able to achieve a bushfire attack level (BAL) rating of BAL-29 or less. This has been achieved through the location of proposed roads and/or ensuring public open spaces areas where specified are managed to low threat, or providing development cells of an appropriate size to accommodate necessary separation. The portions of the site adjacent to the western and northern boundaries have been identified as having areas subject to BAL-FZ and BAL-40, and are shown in in Figure 5. These are generated by temporary hazards (to the north) and predicted permanent hazards (Peel Main Drain to the west). Figure 5 demonstrates that large portions of the site would be available for habitable buildings.
- An integrated internal road network that connects with the existing or proposed external public road network allowing for access to multiple destinations, supporting appropriate emergency evacuation and response.

## 4.5.3 Future management requirements

The BMP (Emerge Associates 2023a) demonstrates that SPP 3.7 and the bushfire protection criteria (outlined within the Guidelines(WAPC and DFES 2021)) can be satisfied through an 'acceptable solution' approach without compromising environmental values within (retained trees) or nearby (Bollard Bulrush Swamp and the associated buffer; and Peel Main Drain) to the site.

Going forward and based on satisfying the bushfire protection criteria, detailed design and construction will need to consider the following:

- Element 1 Location: the site will be subject to a low bushfire hazard level rating (or moderate
  where within 100 m of extreme hazards in Bollard Bulrush Swamp and the Peel Main Drain). All
  future habitable buildings can be located in an area subject to a BAL rating of BAL-29 or less.
- *Element 2 Siting and Design*: appropriate separation to ensure habitable buildings can achieve a BAL rating of BAL-29 or less, is achieved through the location of managed public road reserves, the design of POS (see landscape master plan which has considered extent of managed areas in **Appendix B**), and /or provision of appropriately sized lots enabling in-lot setbacks. This can be achieved even though portions of the site are identified to contain areas subject to BAL-FZ or BAL-40 (see **Figure 5**).
- Element 3 Vehicular Access: provision of access to multiple destinations, with connections to the
  existing public road network. This is currently accommodated by the structure plan with
  connections to Johnson Road/Irasburg Parade and Oakebella Estate to the north. A perimeter
  road is provided between proposed development cells and permanent bushfire hazards (e.g.
  Peel Main Drain). Emergency access ways may be required to manage provision of multiple

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access and or no through road lengths until the road network within development occurring north of the site is constructed.

• **Element 4 Water:** the site will be serviced by a reticulated water supply network with provision of hydrants, meeting water supply requirements dedicated to firefighting purposes.

Further detail on the bushfire management approach for the site is provided in the BMP (Emerge Associates 2023a).

The BMP has been prepared to support both structure planning and subdivision, but a revised BMP may be required to support future subdivision applications, particularly if development to the north is progressed or the development layout changes significantly. Any updated BMP will need to respond to the subdivision design (and/or stage of development). It is likely that the WAPC will include a number of standard conditions on the subdivision approval, including F1, F2 and F3 (WAPC and DPLH 2021) which states:

F1- Information is to be provided to demonstrate that the measures contained in the bushfire management plan [NAME/DATE] that address the following [LIST AS REQUIRED] have been implemented during subdivisional works. This information should include a notice of 'Certification by Bushfire Consultant'.

F2 – Notification, pursuant to Section 165 of the Planning and Development Act 2005, is to be placed on the certificate(s) of title of the proposed lot(s) with a Bushfire Attack Level (BAL) rating of 12.5 or above, advising of the existence of a hazard or other factor. Notice of this notification is to be included on the diagram or plan of survey (deposited plan). The notification is to state as follows:

"This land is within a bushfire prone area as designated by an Order made by the Fire and Emergency Services Commissioner and is/ may be subject to a Bushfire Management Plan [RENAME/DELETE AS APPLICABLE]. Additional planning and building requirements may apply to development on this land" (Western Australian Planning Commission)

F3 – A plan is to be provided to identify areas of the proposed lot(s) that have been assessed as BAL-40 or BAL-Flame Zone.

A restrictive covenant to the benefit of the local government, pursuant to section 129BA of the Transfer of Land Act 1893, is to be placed on the certificate(s) of title of the proposed lot(s) advising of the existence of a restriction on the use of the land within areas that have been assessed as BAL-40 or BAL-Flame Zone. Notice of this restriction is to be included on the diagram or plan of survey (deposited plan). The restrictive covenant is to state as follows:

"No habitable buildings are to be built within areas identified as BAL-40 or BAL-Flame Zone". (Local Government)

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## 5 Implementation Framework

A summary of how the structure plan responds to the environmental values and attributes within the site is provided in **Table 7**. The table also outlines the future management likely to be required as part of the subdivision and development process, including recommended management plans.

Table 7: Environmental management framework implementation table

Factor	Structure plan phase (completed)	Subdivision phase	Development works
Acid sulfate soils	Consider ASS risk mapping as prepared by DWER. No spatial response in structure plan required.	If required, completion of the ASS self-assessment form (as prepared by the DPLH). If required, preparation of an Acid Sulfate Soil and Dewatering Management Plan, only likely where excavation extends below the permanent (not perched) groundwater table or dewatering is required.	If required, implementation of an Acid Sulfate Soil and Dewatering Management Plan.
Native vegetation	Assessment of flora and vegetation values and consideration of tree retention opportunities.     Provision for POS areas to maximise retention of vegetation and create recreation opportunities.	Undertake detailed analysis of final subdivision layout and engineering design to determine further possible tree retention opportunities.     If required, prepare management plans for retention/protection of trees.	Where required, implement relevant management plan(s).     Ensure trees proposed for retention (in public open space or road reserve) are protected, and are accommodated as part of construction and landscaping works.
Native fauna	Assessment of fauna habitat and preliminary consideration of habitat retention opportunities.	Undertake detailed analysis of final subdivision layout and engineering design to determine further potential tree retention opportunities.     If required, prepare management plans for retention/protection of trees and fauna.	Where require, ensure trees proposed for retention are protected, accommodate these as part of construction and landscaping works.     Implement pre-clearance checks and ensure fauna is managed appropriately to minimise harm.     If required, obtain and implement licences pursuant to the Biodiversity Conservation Act 2016 to disturb/relocate fauna prior to works commencing.
Hydrology – surface water and groundwater	Preparation of a Local Water Management Strategy (LWMS).     Spatial provision for drainage features to accommodate stormwater and flood events.	If required, preparation of an Urban Water Management Plan (UWMP).     Provision for drainage areas and flood storage areas.	Implementation of the UWMP.     Design and implementation of water management features as per the requirements of the UWMP.

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Table 7: Environmental management framework implementation table (continued)

Factor	Structure plan phase (completed)	Subdivision phase	Development phase
Bushfire risk	Preparation of a Bushfire     Management Plan (BMP) in     accordance with SPP 3.7 and the     Guidelines.     Determining a spatial layout     that reduces the bushfire hazard     to future development.     Including provision for road     reserves and appropriately sized     development areas to     accommodate setbacks to     achieve BAL-29 or less. Provision     for a road network that     connects the site to the existing     public road network and     provides access to multiple     destinations.	Provision for separation between habitable buildings and identified bushfire hazards (existing and introduced), including through use of road reserves, managed public open space and/or appropriately sized lots. Provision for an appropriate road network that provides access to at least two destinations. If required, prepare an updated BMP or BAL assessment to support subdivision application(s).	<ul> <li>Demonstrate compliance with any applicable BMP in accordance with SPP 3.7 and the Guidelines.</li> <li>Where identified as low threat in the BMP, design, implement and maintain public areas to achieve low threat in accordance with Section 2.2.3.2 of AS 3959.</li> <li>Where designated bushfire prone, as part of building licence (by future lot owners) ensure buildings are constructed to appropriate BAL requirements.</li> </ul>

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## 6 Conclusions

This EAMS has been prepared on behalf of the proponent to support the structure plan prepared for Lot 506 Johnson Road, Wellard (the site), to guide the proposed residential development. This EAMS has been prepared to support the structure plan, together with:

- Bushfire Management Plan (BMP) (Emerge Associates 2023a)
- Local Water Management Strategy (LWMS) (Emerge Associates 2023b)

The structure plan design has responded to site-specific environmental considerations where necessary and possible, including: retention and protection of existing trees within the POS areas; accommodation of flooding and stormwater management within road reserves and POS areas consistent with the LWMS; and providing appropriate separation between future habitable buildings and areas of bushfire hazard identified external to the site.

This document provides an outline of the management requirements that will need to be considered as part of future subdivision and development stages, which can all be managed in accordance with the typical subdivision and development process with minimal risk to the environment. The key management considerations are summarised as follows:

- Acid sulfate soils: ASS is not considered to pose a significant constraint to the proposed future
  residential development. It is only likely to require management where services extend below
  the permanent groundwater table and/or dewatering is required. Given the fill material
  required across the site to address groundwater levels, services may not be installed below the
  permanent groundwater table. ASS can be managed in accordance with the WAPC and DWER
  guidelines.
- Flora, vegetation and fauna values: the site has been historically cleared of native vegetation to
  support agricultural land uses. Vegetation within the site now comprises of planted windbreak
  trees and scattered remnant paddock trees amongst areas of pasture grasses. While significant
  trees have not been identified based on the City's policies, existing trees are proposed to be
  retained within the western POS area and has been discussed with the City of Kwinana as part of
  preparing the structure plan. The removal of paddock trees can be appropriately managed
  through the standard subdivision process.
- Hydrology: The overarching objective for the site is to maintain the pre-development
  hydrological regime and is based on an at source infiltration approach to minimise the
  potential for nutrient impacts on Bollard Bulrush Swamp. This is further detailed within the
  LWMS prepared by Emerge Associates (2023). Future development will be supported by an
  UWMP as per standard planning and development processes.
- Bushfire risks: The proposed structure plan layout accommodates the required setbacks
   (through public roads, public open space or within the lots) to achieve a bushfire attack level
   (BAL) rating of BAL-29 or less (as per SPP 3.7). The layout provides for access to multiple
   destinations based on the connection to Oakebella Estate to the north. A temporary emergency
   access way may be required to manage access as part of staged development.

Overall, the environmental attributes and values of the site have been accommodated within the structure plan design (in particular, management of surface water and groundwater, retention of

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trees where possible and separation from bushfire risks), or can be managed appropriately through the future subdivision and development phases in line with standard subdivision processes (e.g. acid sulfate soils) and the relevant state and local government legislation, policies and guidelines and best management practices.

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## 7 References

## 7.1 General references

The references listed below have been considered as part of preparing this document.

Alan Tingay and Associates 1998, A Strategic Plan for Perth's Greenways - Final Report. December 1998.

Bob Gozard 2007, *Geology and landforms of the Perth Region: Western Australia Geological Survey*, Perth, Western Australia

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City of Kwinana 2022, Local Planning Policy No. 3 - Bollard Bulrush Landscape Masterplan.

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# Environmental Assessment and Management Strategy Lot 506 Johnson Road, Wellard



## 7.2 Online references

The online resources that have been utilised in the preparation of this report are referenced in **Section 8.1**, with access date information provided in **Table R1**.

Table R 1 Access dates for online references

Reference	Date accessed	Website or dataset name
(DWER 2022)	9 November 2023	Contaminated sites (DWER-059)
(DWER 2021)	9 November 2023	Water Register
(DCCEEW 2023)	9 November 2023	Protected Matters Search Tool
(DBCA 2017)	9 November 2023	Wetland Ramsar sites
(Landgate 2022)	9 November 2023	Landgate Historical maps
(DWER 2017b)	9 November 2023	Acid Sulfate Soils (DWER-055)
(DBCA 2023b)	9 November 2023	NatureMap search
(Department of Defence 2022)	9 November 2023	Unexploded Ordnance
(DWER 2020b)	9 November 2023	Public Drinking Water Source (DWER-033)
(DWER 2020a)	9 November 2023	Hydrography linear (hierarchy)
(DBCA 2019)	9 November 2023	Black Cockatoo Roosting Sites – Buffered (DBCA-064)
(DBCA 2018a)	9 November 2023	Geomorphic Wetlands Swan Coastal Plain (DBCA-019)
(DBCA 2018b)	9 November 2023	Vegetation Complex's – Swan Coastal Plain (DBCA-046)
(DPLH 2019)	9 November 2023	Bush Forever Areas
(OBRM 2021)	9 November 2023	Bush fire prone areas map
(DPLH 2023a)	9 November 2023	Aboriginal Heritage Inquiry System

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# Figures



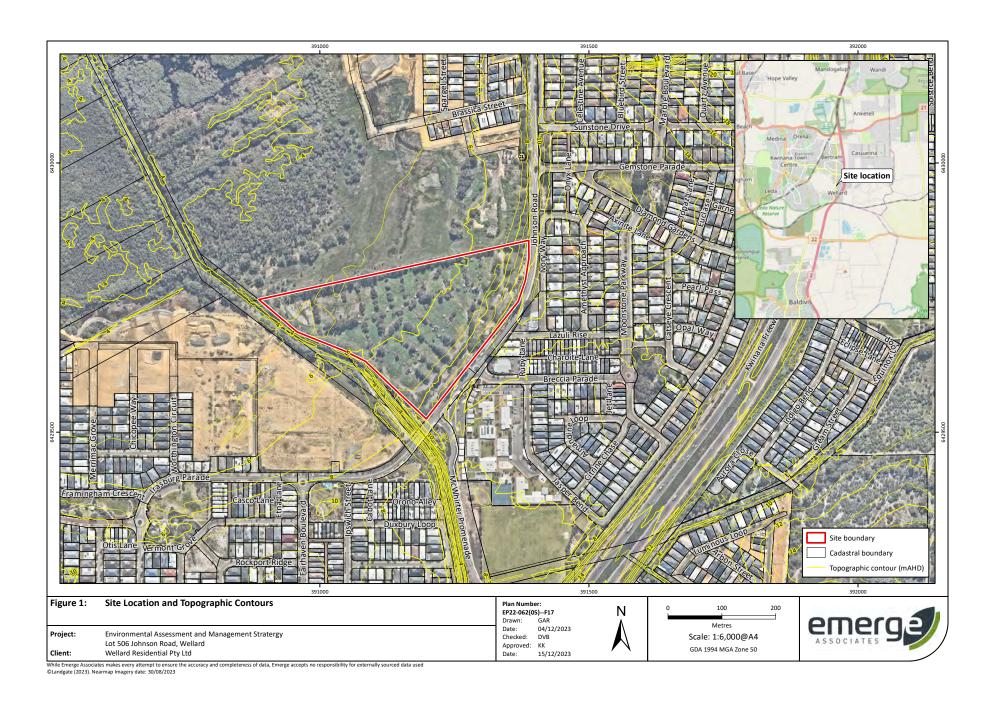
Figure 1: Site Location and Topographic Contours

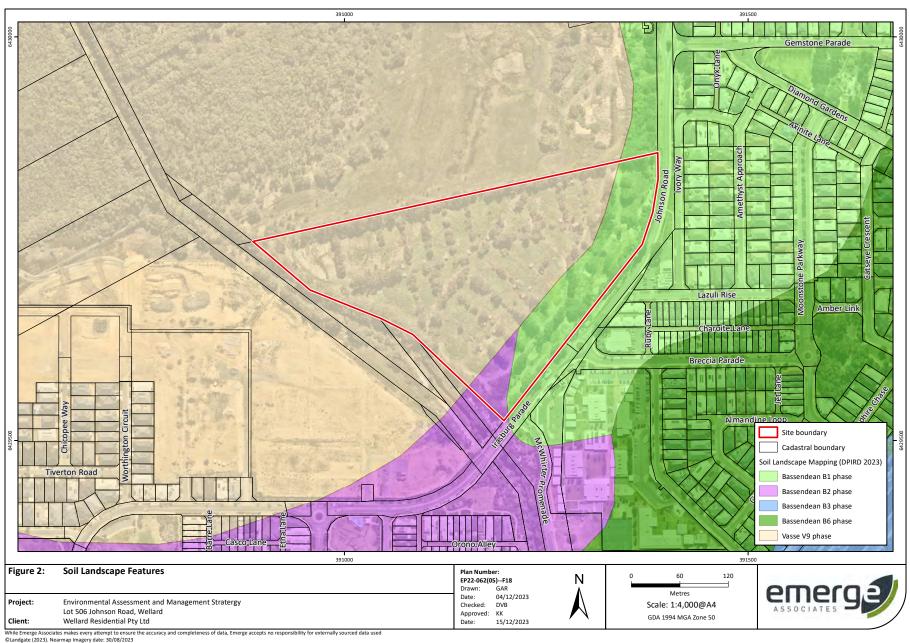
Figure 2: Soil Landscape Features

Figure 3: Acid Sulfate Soil Risk

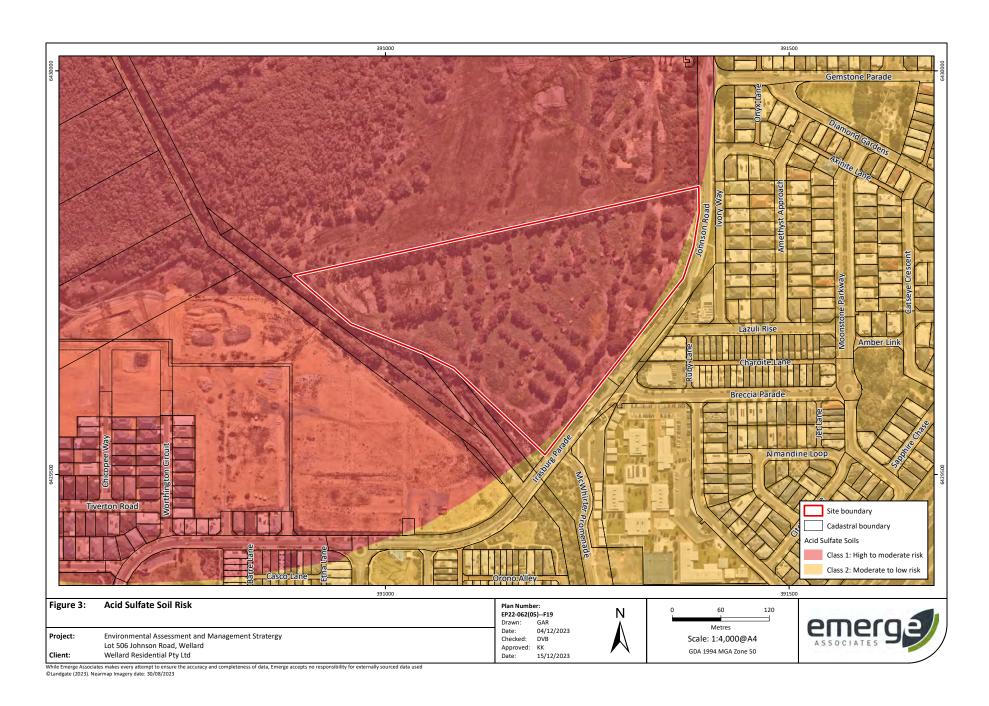
Figure 4: Geormorphic Wetlands and Hydrological Features

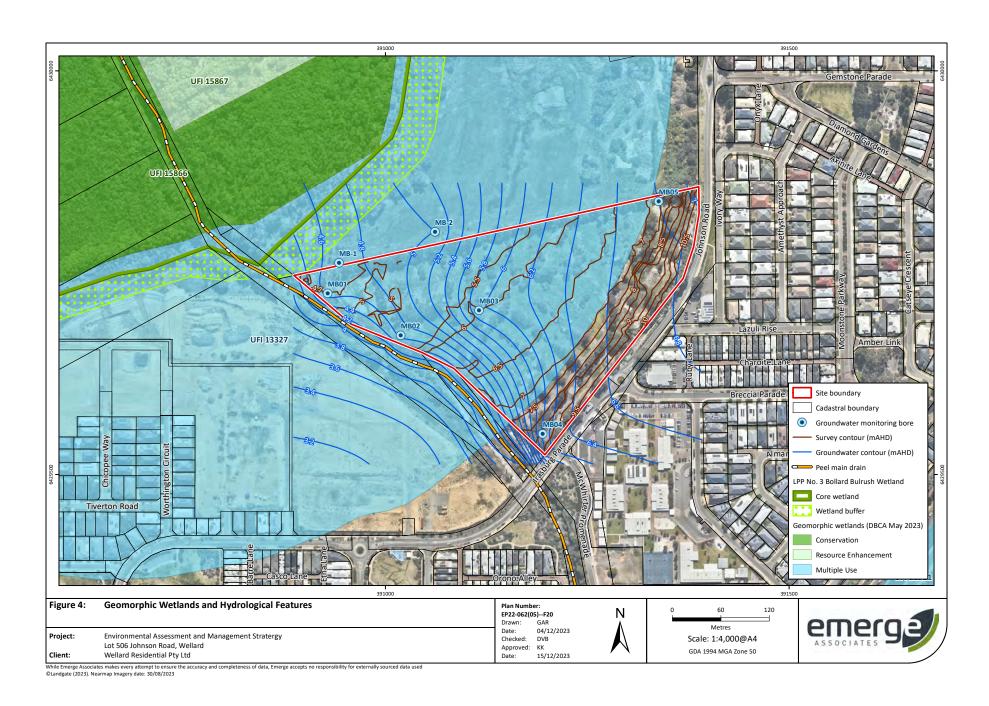
Figure 5: Key Management Considerations

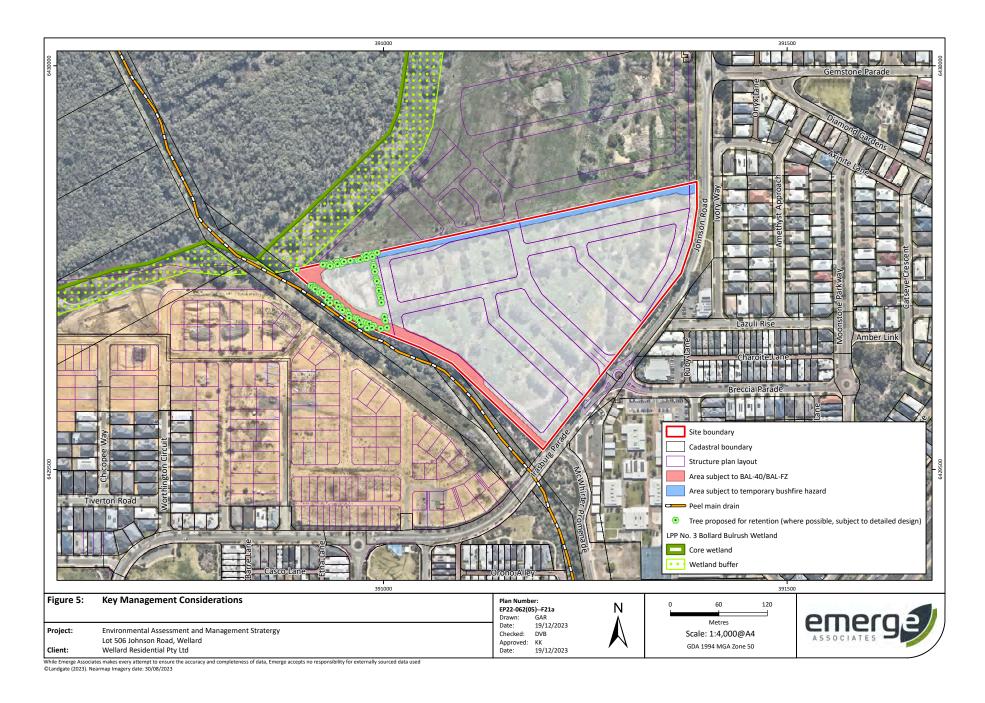




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# Appendix A Structure Plan





CLE Town Planning + Design

CONCEPT PLAN Lot 506 Johnson Road, Wellard

plan no: **2263-186C-01** date: 12 October 2022 scale: 1:1,500 @A3, 1:750 @A1



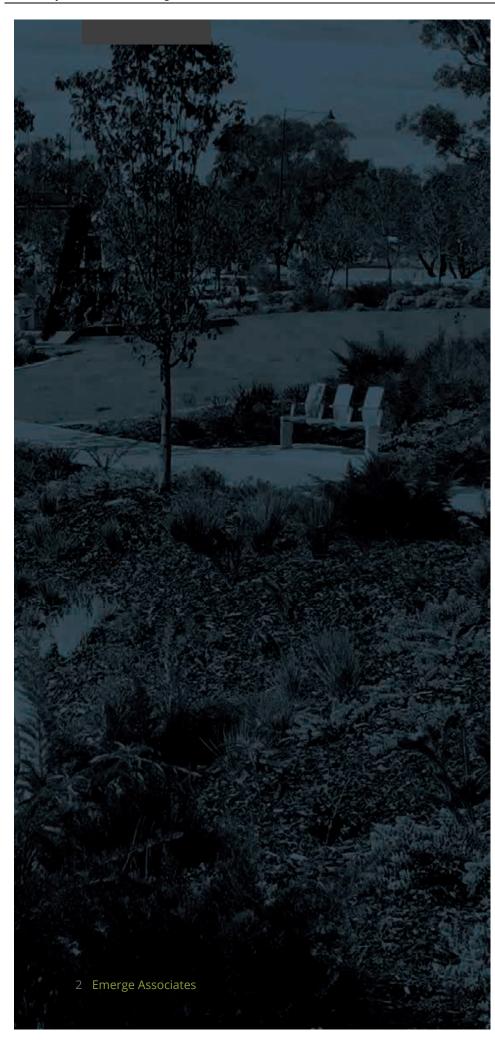
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# Appendix B Landscape Design Report





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4.1	Indicative Planting Palette

REVISION	DATE	ISSUE OR AMENDMENT	BY	REVIEWED
Α	05.12.23	Issue for Comment	JW	MM
В	07.12.23	Issue for Approval	JW	MM

Lot 506 Johnson Rd, Wellard - Preliminary Landscape Report

# 1.0 Landscape Concepts 1.1 Overall Masterplan LEGEND EXTENT OF WORKS 2.5 WIDE RED ASPHALT DUAL USE PATH ADJACENT DEVELOPMENT BY OTHERS NATIVE SHRUB PLANTING BIORETENTION BASIN SHADE STRUCTURE AND PICNIC AREA INDICATIVE PLAY SPACE EXISTING TREES TO BE RETAINED WHERE POSSIBLE (SUBJECT TO DETAILED DESIGN) PROVIDENCE ESTATE BRECCIA PARADE WELLARD PRIMARY SCHOOL

Lot 506 Johnson Rd, Wellard - Preliminary Landscape Report



Emerge Associates 3

## 1.2 POS 1 Detailed Plan

# LEGEND EXTENT OF WORKS BRA (FIRST 15mm RAINFALL) 1% AEP (100 YEAR STORM) DUAL USE CONCRETE PATHS 2.5 WIDE RED ASPHALT DUAL USE PATH NATIVE SHRUB PLANTING TURF BIORETENTION BASIN SHADE STRUCTURE AND PICNIC AREA FITNESS EQUIPMENT NODE INDICATIVE PLAY SPACE EXISTING TREES TO BE RETAINED WHERE POSSIBLE (SUBJECT TO DETAILED DESIGN)

## **LEGEND**

- 01 EXISTING PEEL MAIN DRAIN
- FEATURE HARDSTAND WITH SHADE STRUCTURE AND SEATING OPPORTUNITIES OVERLOOKING PLAYSPACE
- 03 PROPOSED PLAYSPACE
- 04 PROPOSED DUAL USE PATH
- 05 DUP CROSSING TO PEEL MAIN DRAIN BY OTHERS
- 06 PROPOSED FITNESS NODE
- 07 LARGE TURF KICK-ABOUT AREA
- 08 PLANTED BIORETENTION BASIN
- 09 OVERFLOW SPILLWAY WITH ROCKWORK
- 10 PLANTED BATTER TO TIE INTO EXISTING LEVELS
- 11 RUBBISH BINS
- 12 FUTURE DUP BY OTHERS
- 13 LIMESTONE RETAINING WALLS
- 14 PARK BENCH
- 15 INDICATIVE ON STREET PARKING TO POS

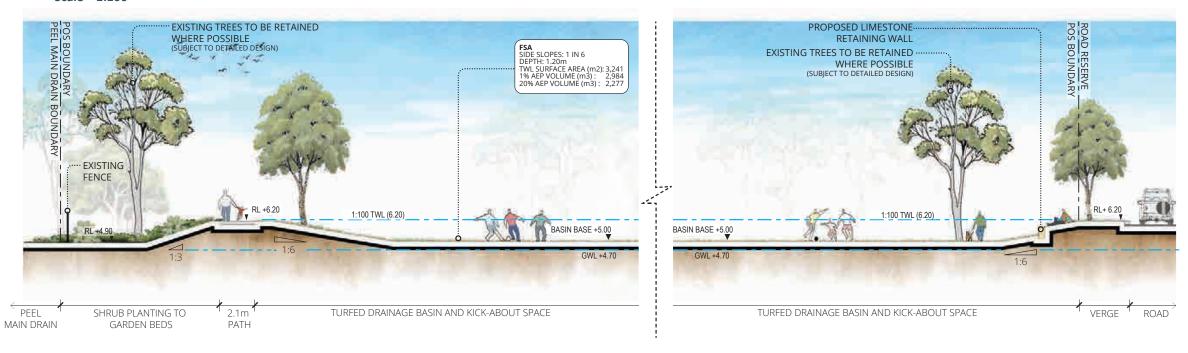


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# 2.0 Typical Site Sections

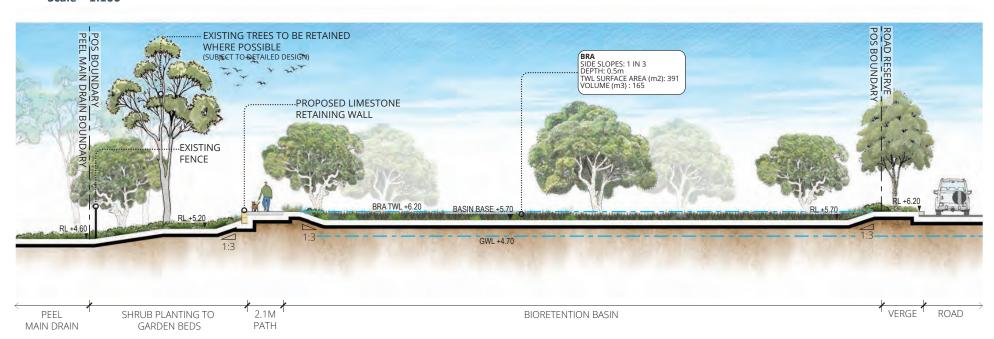
## 2.1 POS 1: Section A

Scale 1:100



## 2.2 POS 1: Section B

Scale 1:100

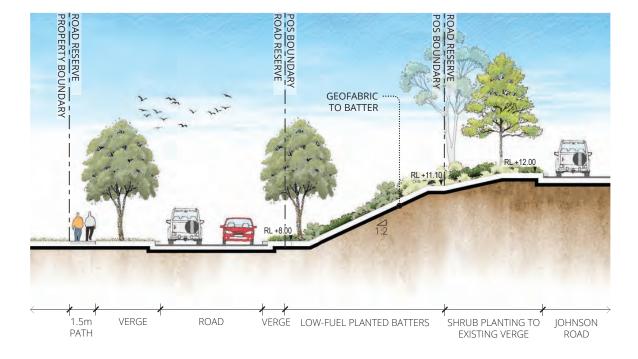


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## 2.3 POS 2: Section C

Scale 1:100



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# 3.0 Street Tree Masterplan





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# **Planting Palette**

## 4.1 Indicative Planting Palette

#### Trees (>3m)

Agonis flexuosa WA Peppermint Banksia littoralis Swamp Banksia Eucalyptus gomphocephala Tuart Eucalyptus rudis Flooded Gum Stout Paperbark Melaleuca preissiana Melaleuca rhaphiophylla Swamp Paperbark Ornamental Pear Pyrus calleryana

## Large Shrubs (>1.5m)

Golden Wreath Wattle Acacia saligna Adenanthos sericeus One-Sided Bottlebrush Yellow-spotted Emu Bush Calothamnus quadrifidus Eremophila maculata 'Aurea' Grevillea olivacea Melaleuca huegelii Melaleuca 'Little Nessie' Olearia axillaris

## Medium Shrubs (1 - 1.5m)

Grevillea Grevillea crithmifolia upright Elegant beaufortia Beaufortia elegans Club Rush Boobialla Ficinia nodosa Myoporum insulare Pom-Pom Myrtle Melaleuca conothamnoides Heart Leaf Flame Pea Chorizema cordatum Coastal Rosemary Westringia fruticosa 'Grey Box'

## Small Shrubs (0.5 - 1m)

Red & Green Kangaroo Paw Grey Cottonhead Anigozanthos manglesii Conostylis candicans Stalked Guinea Flower White myrtle Hibbertita racemosa Cushion Bush Hypocalymma angustifolium Leucophyta brownii Lomandra Lomandra tanika Wingarra Lomandra wingarra Native Iris Patersonia occidentalis

Prostrate Golden Wreath Wattle

Honeypot Dryandra

## Groundcovers (<0.5m) Acacia saligna prostrate

Banksia Nivea Common Clematis Creeping Boobialla Clematis pubescens Myoporum parvifolium Eremophila Grevillea Eremophila glabra 'Roseworthy' Grevillea crithmifolia prostrate

## **Trees**



Agonis flexuosa **WA Peppermint** 

Wooley Bush

Olive Grevillea

Dwarf Melaleuca

Coastal Daisy-Bush

Chenille Honeymyrtle



Melaleuca rhaphiophylla Swamp Paperbark



Eucalyptus gomphocephala



Banksia littoralis Swamp Banksia

## **Large Shrubs**



Acacia saligna Golden Wreath Wattle



Eremophila maculata 'Aurea' Yellow-spotted Emu Bush



Melaleuca huegelii Chenille Honeymyrtle



Calothamnus quadrifidus One-Sided Bottlebrush

## **Medium Shrubs**



Eremophila nivea Spring Mist



Chroizema cordatum Heart Leaf Flame Tree



Melaleuca conothamnoides Pom-Pom Myrtle



Westringia fruticosa 'Grey Box' Coastal Rosemary

## **Small Shrubs**



Conostylis candicans **Grey Cottonhead** 



Leucophyta brownii **Cushion Bush** 



Lomandra wingarra Wingarra



Patersonia occidentalis Native Iris

Groundcovers



Acacia saligna prostrate Prostrate Golden Wreath Wattle



Eremophila glabra 'Roseworthy' Eremophila



Myoporum parvifolium Creeping Boobialla



Banksia Nivea Honeypot Dryandra

8 Emerge Associates

Lot 506 Johnson Rd, Wellard - Preliminary Landscape Report

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# ATTACHMENT 7

Transport Impact Assessment [PJA]

Ordinary Council Meeting

# Wellard Residential Pty Ltd

# Lot 506 - Johnson Road, Wellard

# **Transport Impact Assessment – Structure Plan**

November 2023

Project Code: 07576

PJA
Level 27
St Martins Tower
44 St Georges Terrace
Perth
WA 6000
Australia
pja.com.au

Ordinary Council Meeting



# **Version Control and Approval**

Version	Date	Main Contributor	Issued by	Approved by
A – DRAFT	08 November 2023	Richard Spencer	Richard Spencer	-
B – FINAL	21 November 2023	Richard Spencer	Richard Spencer	Rodney Ding
C – UPDATED	22 November 2023	Richard Spencer	Richard Spencer	Rodney Ding

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WA 6953

Australia

Lot 506 Johnson Road, Wellard 2 Wellard Residential Pty Ltd

 ${\bf Transport\ Impact\ Assessment-Structure\ Plan}$ 



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# I Introduction

# I.I Background

Wellard Residential Pty Ltd (The Applicant) has commissioned PJA Australia Pty Ltd to prepare this Transport Impact Assessment (TIA) in relation to the proposed residential development of land to the west of Johnson Road in Wellard, (City of Kwinana), Western Australia. Specifically, this TIA has been prepared to accompany an amendment to the existing Providence Structure Plan.

This assessment has been prepared in accordance with the Western Australian Planning Commission's (WAPC) *Transport Impact Assessment Guidelines Volume 2 – Planning Schemes, Structure Plans & Activity Centre Plans (2016).* 

This report aims to assess the impacts of the proposed development upon the adjacent road network, with a focus on access requirements to/from Johnson Road and the surrounding local road network.

The potential yield of the development site (the Site) in terms of developable land use, which this TIA is based upon, is expected to be:

• Residential Lots = 128 dwellings.

The location of the site in relation to the immediate surrounding road network is shown on Figure 1-1.

Figure 1-1: Site Location



Source: Nearmap August 2023

Wellard Residential Pty Ltd

Lot 506 Johnson Road, Wellard

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# 1.2 Structure Plan Proposal

This proposal, which is being presented to accompany an amendment to the existing Providence Structure Plan, proposes a residential development with public open space. Based on the Concept Plan (Figure 1-2 and Appendix A), the potential yield of the site comprises 128 residential lots.

Figure 1-2: Proposed Concept Structure Plan



# 1.3 Summary of TIA

In accordance with WAPC Guidelines for Transport Impact Assessments, this report sets out the details of the proposed Structure Plan, the key transport issues and impacts related to the development of the Site from a residential and traffic generation perspective including the current level of accessibility by road, public transport, cycle and on foot. This TIA identifies where the level of accessibility and infrastructure is acceptable and where it is found to be deficient, sets recommendations to improve these areas to a suitable level where required and appropriate for this development.

This TIA also considers the proposed modifications to the surrounding transport networks including local and state Government projects and initiatives, such as the planned widening of Wellard Road and Mortimer Road, and the minor road network yet to be completed at the Oakabella (north) and Providence Estates (west) which are currently under construction.

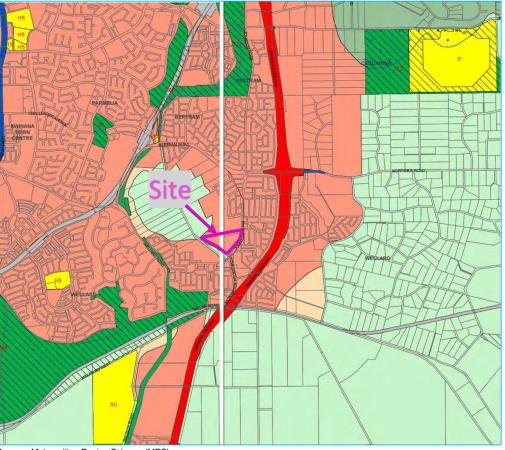
Extensive consultation has been undertaken with City of Kwinana throughout the scoping and production of this TIA. All information received from City of Kwinana has been used where appropriate.

# I.4 Regional and Local Policy Context

#### Metropolitan Region Scheme (MRS)

The Site area is currently zoned 'Urban' under the MRS and is immediately surrounded to the north, east, south and southwest by land currently zoned as 'Urban'. Land immediately to the north-west is currently zoned as 'Rural'. **Figure 1-3** illustrates the site area's current MRS zoning, (Across Map Sheets 27 and 28).

Figure 1-3: MRS Zone Map Sheet 27 and 28 – Map Name: Rockingham and Mundijong (respectively)



Source: Metropolitan Region Scheme (MRS)



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Transport Impact Assessment – Structure Plan



#### City of Kwinana Local Planning Scheme No.2

Under the provisions of *the City of Kwinana Local Planning Scheme No.2* (LPS No.2) the site area is currently zoned as 'Development'. Land situated immediately to the north, south and west is zoned as 'Development', to the east as 'Residential' and to the north-west as 'Rural A'.

The site is also situated within a Special Control Area being designated as an 'Area of Landscape Protection'. The LSP sets out:

Council's objective in setting aside Areas of Landscape Protection is to conserve areas of natural ecological value or landscape amenity whilst at the same time allowing development as provided in the Zoning Table No. 1 of the Scheme.

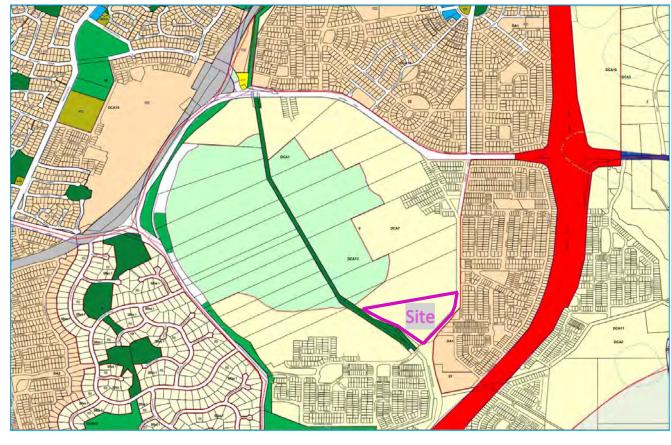
No person shall, in any Area of Landscape Protection, without Council's Planning Approval in writing.

- (a) Carry out clearing of trees or other vegetation.
- (b) Carry out any filling, dredging or changes to the contour of the land.
- (c) Erect any advertising sign,
- (d) Erect or construct any building or outbuilding, Town of Kwinana L PS 2 Page No. 59
- (e) Degrade any natural wetland system,
- (f) Detract from the amenity of the locality.

In considering an application for Planning Approval in respect of any land within an Area of Landscape Protection, Council shall have regard to the following:

- (a) The overall impact of the proposed development on the landscape amenity of the area and the desirability of limiting or modifying the siting, construction, design or materials of any building or associated services.
- (b) The need for an overall management plan prepared .by Council in consultation with the affected owners as a prerequisite to any Planning Approval being issued.
- (c) The extent to which any subdivision proposal should guarantee the protection of natural ecological features or areas of landscape amenity.
- (d) The desirability of minimising the effect of new road construction including earthworks and clearing of vegetation within road reserves.

Figure 1-4: City of Kwinana's Local Planning Scheme No.2



#### LEGEND:

#### OTHER CATEGORIES



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Lot 506 Johnson Road, Wellard

Transport Impact Assessment – Structure Plan



# 2 Existing Situation

# 2.1 Existing Site Context and Land Uses

The Site is located on the western side of Johnson Road and Irasburg Parade, immediately opposite the existing three-arm roundabout intersection with Breccia Parade. Johnson Road runs in a north-south direction, connecting with Mortimer Road and Bertram Road to the north, some 430m west of the Mortimer Road intersection with the Kwinana Freeway.

Irasburg Parade, to the southern side of the site, predominantly runs in an east-west direction and connects with Cavendish Boulevard and Wellard Road to the west.

The Site is bounded to the north by existing vacant land, to the east and south by existing residential development, Wellard Primary school and a Child Care Centre. To the west of the site is the Peel Main Drain which separates the site from the existing 'Providence' residential development of which the balance of the estate area is currently under construction.

The land uses on the site currently consist of small agricultural holdings with small outbuildings within the vacant bushland. There are currently two informal vehicle access points to the site at the interface with Johnson Road, which are both designated with flush kerb crossover infrastructure and are assumed only for infrequent access to the land.

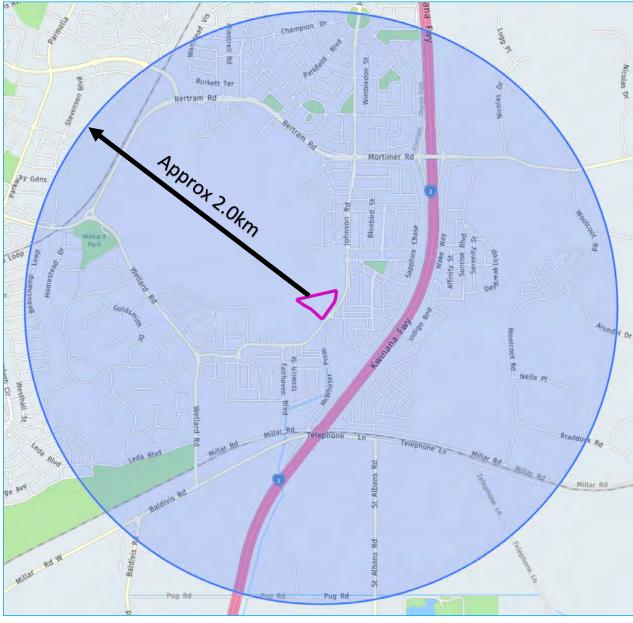
The location of the Site in relation to the surrounding road network is illustrated in Figure 2-1.

# 2.2 Existing Road Network

Within an approximate area of 2.0 kilometres from the site boundaries, the existing road network comprises the main routes of:

- Johnson Road
- Irasburg Parade
- McWhirter Promenade and Millar Rd
- Wellard Road
- Betram Road
- Mortimer Road
- Kwinana Freeway.

Figure 2-1: Site Location in Context of Surrounding Road Network



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#### Johnson Road:

Along the eastern boundary of the site Johnson Road runs in a north/south alignment, is a single carriageway undivided road, typically 7.5m pavement width, with no on-road cycle lane facilities and a single footpath on eastern side of the road with lighting. Johnson Road is classified as a 'Local Distributor' road within Main Roads WA's Functional Hierarchy and is under the care and control of City of Kwinana.

Figure 2-2: Typical Layout of Johnson Road – Looking north (north of Breccia Parade)



Source: Google Street View

# Irasburg Parade (south of the Site):

To the south of the Site (south of McWhirter Promenade) Irasburg Parade extends to provide access to Wellard Road via Cavendish Boulevard. In this area, Irasburg Parade runs in a predominantly east/east alignment, is a single carriageway divided road between McWhirter Promenade and Fairhaven Boulevard and undivided thereafter (except at intersections), Irasburg Parade pavement ranges in width between 7.3m to 10.3m, has no on-road cycle lane facilities and a single footpath on southern side of the road with lighting. Irasburg Parade in this location is classified as a 'Access Road' within Main Roads WA's Functional Hierarchy and is under the care and control of City of Kwinana.

Figure 2-3: Typical Layout of Irasburg Parade – Looking west (west of Cabot Lane)



Source: Google Street View

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# McWhirter Promenade and Millar Road (south of the Site):

To the south of the Site (south of McWhirter Promenade) Irasburg Parade extends to provide access to Millar Road and ultimately Wellard Road to the south-west. McWhirter Promenade runs in a north/south alignment, is a single carriageway road, typically between 5.8m to 6.0m pavement width, has no on-road cycle lane facilities and a single footpath on the eastern side of the road with lighting. McWhirter Promenade is classified as a *'Local Distributor'* road within Main Roads WA's Functional Hierarchy and is under the care and control of City of Kwinana.

Figure 2-4: Typical Layout of McWhirter Promenade – Looking south (south of Johnson Road)



Source: Google Street View

Transport Impact Assessment – Structure Plan

# Millar Road:

Millar Road provides access to Wellard Road, to the west of McWhirter Promenade. Millar Road runs in an east/west alignment, is a single carriageway road, typically 7.3m pavement width (not including cycle lanes), has on-road cycle lane provision in both directions and only minimal footpath provision at intersections. Millar Road meets Wellard Road at a priority controlled T-intersection and is classified as a *'Local Distributor'* road within Main Roads WA's Functional Hierarchy and is under the care and control of City of Kwinana.

Figure 2-5: Typical Layout of Millar Road – Looking west (west of McWhirter Promenade)



Source: Google Street View

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#### Wellard Road:

To the west of the site, Wellard Road runs in a north/south alignment, is a single carriageway undivided road, typically 7.5m pavement width, with on road cycle lanes in each direction (defined with red asphalt) converging into footpath cycle provision at roundabout intersections. Wellard Road meets Bertram Road at a roundabout intersection providing access to Wellard Centre, including Wellard Train Station. Wellard Road, is classified as a 'Distributor B' road within Main Roads WA's Functional Hierarchy and is under the care and control of City of Kwinana.

Figure 2-6: Typical Layout of Wellard Road – Looking north (north of Cavendish Boulevard)



Source: Google Street View

#### **Bertram Road:**

To the north of the site, Bertram Road is a divided dual carriageway road, with no on-road cycle lane facilities and footpaths on both sides of the road at intermittent locations and has lighting. Bertram Road meets Johnson Road at a major roundabout intersection with two-lane approaches in the east and westbound directions. Bertram Road is classified as a 'Distributor A' road within Main Roads WA's Functional Hierarchy and is under the care and control of City of Kwinana.

Figure 2-7: Typical Layout of Bertram Road – Looking west (west of Johnson Road)



Source: Google Street View

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#### **Mortimer Road:**

Mortimer Road is a continuation of Bertram Road, which extends to provide northbound and southbound vehicle access to the Kwinana Freeway at traffic signal-controlled intersections with the on ramps/off ramps. In this location, Mortimer Road is a divided dual carriageway road, with no on-road cycle lane facilities and footpaths on both sides of the road and has lighting. In this location, Mortimer Road is classified as a 'Distributor A' road within Main Roads WA's Functional Hierarchy and to the east of the Freeway is classified as a 'Regional Distributor'. Mortimer Road is under the care and control of City of Kwinana.

Figure 2-8: Typical Layout of Mortimer Road – Looking east (east of Johnson Road)



Source: Google Street View

# Kwinana Freeway:

Approximately 1.5 kilometres distance to the north-east of the site, Mortimer Road provides northbound and southbound vehicle access to the Primary Road network of the Kwinana Freeway, which in this location is dual carriageway in both north and southbound directions. The Kwinana Freeway is classified as a *'Primary Distributor'* within Main Roads WA's Functional Hierarchy and is under the care and control of Main Roads Western Australia.

Figure 2-9: Kwinana Freeway – Looking north (north of Mortimer Road)



Source: Google Street View

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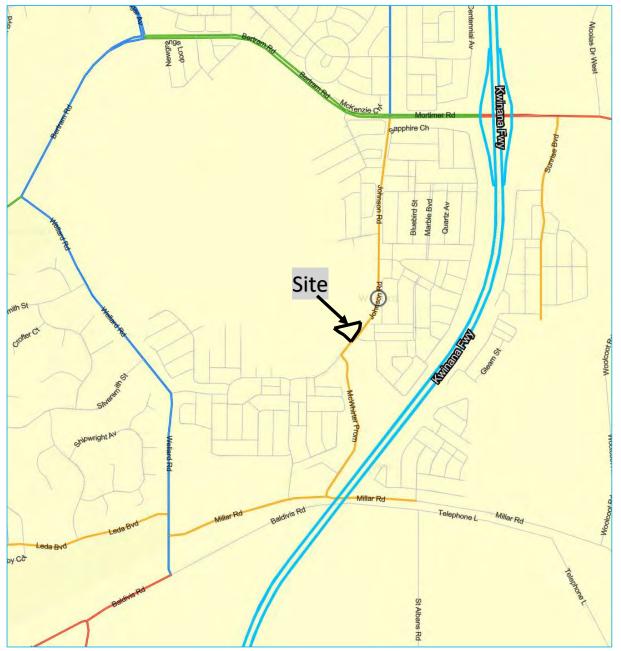
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#### **Road Hierarchy:**

Figure 2-10 shows the layout and classification of the roads surrounding the site, including the primary road network.

Figure 2-10: Main Roads WA Functional Road Hierarchy



Hierarchy
Primary Distributor
Regional Distributor
Distributor A
Distributor B
Local Distributor
Access Road

Road classifications are defined in the Main Roads Functional Hierarchy as follows:

**Primary Distributors** (light blue): Form the regional and inter-regional grid of MRWA traffic routes and carry large volumes of fast-moving traffic. Some are strategic freight routes, and all are National or State roads. They are managed by Main Roads

**Regional Distributors (red):** Roads that are not Primary Distributors, but which link significant destinations and are designed for efficient movement of people and goods within and beyond regional areas. They are managed by Local Government.

**District Distributor A** (green): These carry traffic between industrial, commercial, and residential areas and connect to Primary Distributors. These are likely to be truck routes and provide only limited access to adjoining property. They are managed by Local Government.

**District Distributor B (dark blue):** Perform a similar function to "District Distributor A" but with reduced capacity due to flow restrictions from access to and roadside parking alongside adjoining property. These are often older roads with traffic demand in excess of that originally intended. District Distributor A and B roads run between land-use cells and not through them, forming a grid that would ideally be around 1.5 kilometres apart. They are managed by Local Government.

**Local Distributors (orange):** Carry traffic within a cell and link District Distributors at the boundary to access roads. The route of the Local Distributor discourages through traffic so that the cell formed by the grid of District Distributors only carries traffic belonging to or serving the area. These roads should accommodate buses but discourage trucks. They are managed by Local Government.

Access Roads (grey): Provide access to abutting properties with amenity, safety and aesthetic aspects having priority over the vehicle movement function. These roads are bicycle and pedestrian friendly. They are managed by Local Government.

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Lot 506 Johnson Road, Wellard

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#### **Speed Zoning:**

**Figure 2-11** shows the zoning of speeds on the roads surrounding the site including School Zones on Breccia Parade and Jasper Bend to the east of the site, shown coloured orange, with Johnson Road being subject to a 60km/h speed limit north of McWhirter Promenade.

Figure 2-11: Main Roads WA Speed Classifications



Lot 506 Johnson Road, Wellard

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# 2.3 Existing RAV Network

In terms of the roads surrounding the site, Johnson Road and McWhirter Promenade form part of Main Roads WA's Restricted Access Vehicle (RAV) Network up to level 4.

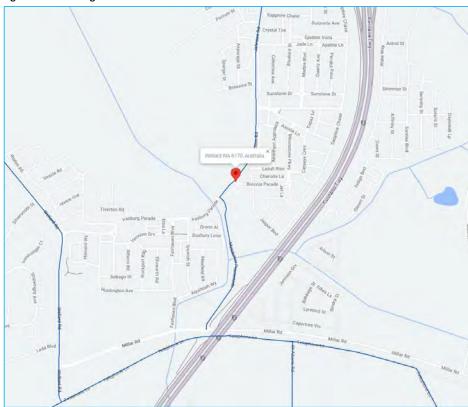
The RAV 4 network generally permits heavy vehicles with the following specifications:

- Gross Vehicle Mass (GVM) up to 88.5 tonnes
- Overall vehicle length including any trailers is limited to 27.5 metres and maximum width of 2.5 metres (without an oversize / over mass permit).

It is noted that this RAV route ceases at the intersection with Millar Road to the south of the site and does not connect thereafter. When reviewing this RAV route, and in relation to the past Johnson Road and Irasburg Parade road upgrades (circa September 2016) including the construction of the Johnson Road/Breccia Parade roundabout intersection, the realignment of Johnson Road, and the creation of McWhirter Promenade, this RAV route is expected to no longer serve its original purpose. These significant road modifications were undertaken as part of the Providence Estate development and other nearby residential developments.

PJA has contacted Main Roads WA to understand the current status of this RAV route, who have in turn spoken to the City of Kwinana regarding this. City of Kwinana will be investigating the matter and undertaking surveys on Johnson Road and McWhirter Promenade to determine if any RAVs are operating on these roads. They have advised that an outcome will be available at the end of November 2023.

Figure 2-12: Existing RAV Network



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Item 17.1 - Attachment G

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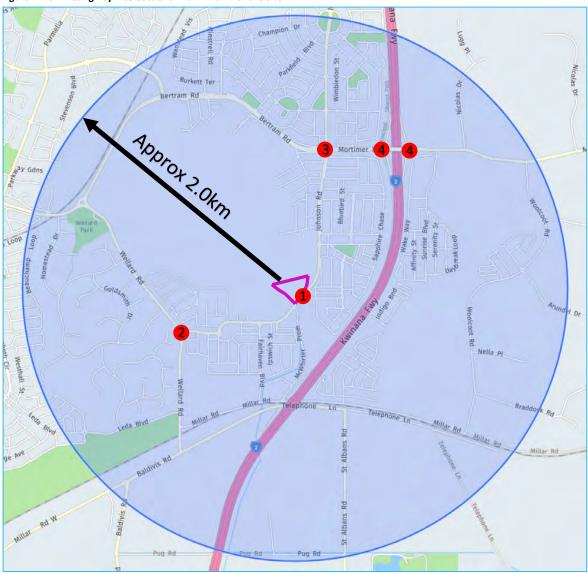


# 2.4 Existing Key Intersections on Surrounding Road Network

The following key intersections, providing access to the wider road network, are located within a 2.0km radius of the site:

- 1. Johnson Road / Breccia Parade Roundabout Intersection.
- 2. Wellard Road / Cavendish Boulevard Roundabout Intersection.
- 3. Bertram Road / Mortimer Road / Johnson Road Roundabout Intersection.
- 4. Mortimer Road / Kwinana Freeway Northbound & Southbound On/Off Ramps Signal Controlled Intersections.

Figure 2-13: Existing Key Intersections within 2.0km of the Site



Existing Key Intersections Surrounding Site

# 2.5 Existing Traffic Volumes

Existing traffic count data has been obtained from Main Roads WA's online Traffic Map, where available, and City of Kwinana kindly provided traffic volume data from their records for Irasburg Parade, McWhirter Promenade and Johnson Road

**Table 2-1 and Table 2-2 s**how the average Monday to Friday two-way daily and peak hour traffic volumes on the key roads identified within 2.0km of the Site.

Table 2-1: Existing Traffic Volumes – Johnson Road, Wellard Road and Kwinana Freeway

Road Name	Daily Average Mon to Fri	% Heavy Vehs	AM Pea	AM Peak Hour		PM Peak Hour		
	(Two-Way)	• • • • • • • • • • • • • • • • • • • •	Northbound	Southbound	Northbound	Southbound		
Johnson Road (north of Breccia Parade)	6,000	2%	334	269	267	251		
Johnson Road (south of Breccia Parade)	5,200	3%	285	238	224	261		
Kwinana Freeway (south of Mortimer Road)	73,338	14%	3,156	2,220	2,373	3,313		
			Two-	Way	Two	-Way		
Wellard Road (north of Cavendish Blvd)	4,500	10%	445		380			
Wellard Road (south of Cavendish Blvd)	4,400	10%	370		370			

Table 2-2: Existing Traffic Volumes – Breccia Parade, Bertram Road and Mortimer Road

Road Name	Daily Average Mon to Fri	% Heavy Vehs	AM Pea	k Hour	PM Pea	ak Hour
	(Two-Way)		Eastbound	Westbound	Eastbound	Westbound
Breccia Parade (east of Site)	3,600	1%	175	193	131	184
Bertram Road	15,491	5%	711	498	617	629
Mortimer Road	13,764	6%	595	464	530	629

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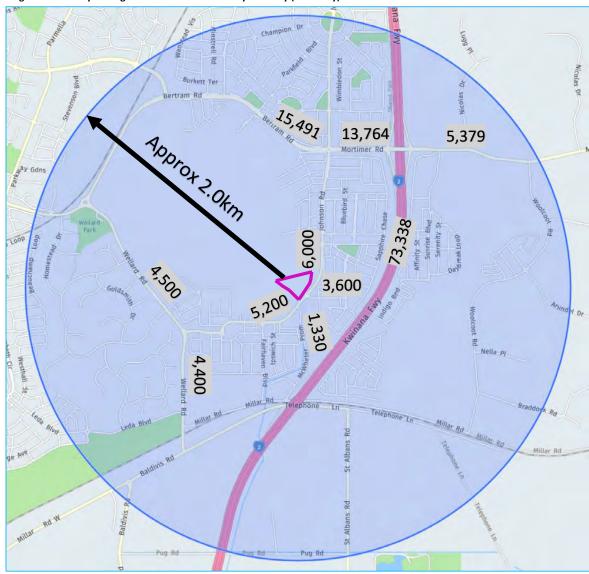
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For ease of reference the daily average traffic volumes have been transposed onto **Figure 2-14** over the page.

Figure 2-14: Daily Average Traffic Volume – Monday to Friday (Two-Way)

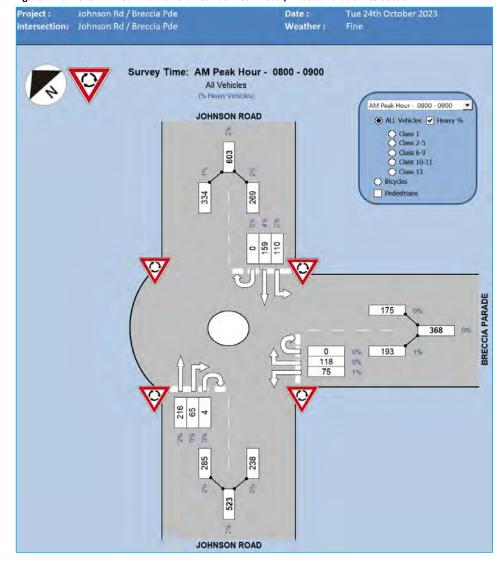


# Johnson Road / Irasburg Parade / Breccia Parade Roundabout Intersection 2023 Existing Traffic Volumes

The No.1 key existing intersection in relation the Site is the Johnson Road/Breccia Parade single lane roundabout. This intersection carries traffic volumes to/from Wellard Primary School and is planned to be modified by this subdivision proposal to create access to the Lot 506 site via a new fourth arm into the Site. PJA commissioned a fully classified turning traffic count (Tuesday 24 October 2023) at this intersection to cover both commuter and school peaks for the purpose of the TIA.

The 2023 AM and PM peak hour traffic volumes at this intersection are provided at **Figure 2-15 and Figure 2-16** and the intersection has been tested for operational capacity and performance within the computer modelling software, SIDRA. The results of this capacity assessment are given in **Table 2-3**.

Figure 2-15: 2023 AM Peak Traffic Volumes – Johnson Road / Breccia Parade Intersection

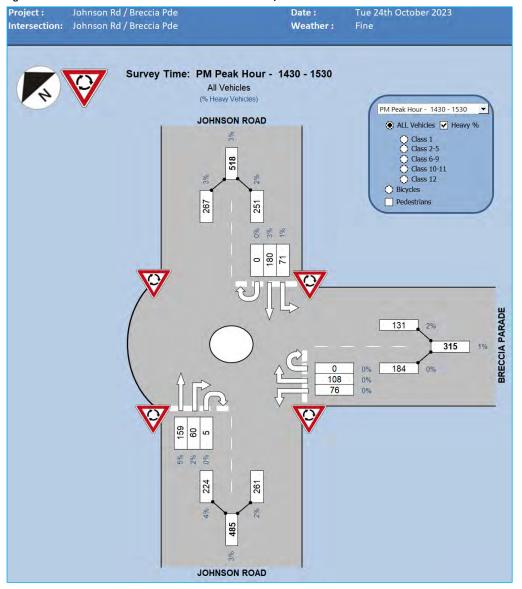


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Figure 2-16: 2023 PM Peak Traffic Volumes – Johnson Road / Breccia Parade Intersection



The traffic survey indicates that heavy vehicle volumes comprise approximately 2% to 3% of all vehicles recorded. Interestingly, there were no Restricted Access Vehicle (RAV) movements (Austroads class 10 or above) recorded on this section of Johnson Road/Irasburg Parade which may alleviate some of the uncertainty surrounding the status of this RAV 4 route.

The survey event log showed that in the morning school peak period, there were only two instances (at 08:25 and 08:30) of vehicles stopping on Breccia Road for the Children's crossing combined with the vehicle queue extending back into the roundabout. In the afternoon school peak period there was only one instance of this occurring. In relation to the benefit that stoppages to traffic for crossing children contributes to overall road safety, this situation is considered acceptable because it prioritises vulnerable road users in this location.

Table 2-3: SIDRA Intersection Capacity Results – Johnson Road / Irasburg Parade Breccia Parade Intersection – 2023 AM and PM Peaks

		AM Pe	eak		PM Peak				
Lane	Degree of Saturation	Average Delay (s)	Int. Level of Service	95 <sup>th</sup> %ile Q (m)	Degree of Saturation	Average Delay (s)	Int. Level of Service	95 <sup>th</sup> %ile Q (m)	
Johnson Road / Irasburg Parade / Breccia Parade - Existing Roundabout Layout 2023 Existing Traffic Volumes									
Breccia Parade – Sou	uth-East Appro	ach							
Through/Left/Right	0.189	5.3	Α	8.1	0.183	5.3	А	7.8	
Johnson Road – Nor	th-East Approa	ch							
Through/Left/Right	0.207	4.6	Α	9.8	0.193	4.6	А	8.9	
Irasburg Parade – South-West Approach									
Through/Left/Right	0.232	6.0	Α	10.9	0.185	6.2	А	8.6	
Intersection	0.232	6.0	Α	10.9	0.193	6.2	Α	8.9	

The SIDRA intersection assessment results shown above indicate that the existing Johnson Road / Irasburg Parade / Breccia Parade single lane roundabout currently operates within recognised thresholds of acceptable performance with degree of saturation less than 0.8, average delays less than 35 seconds for any approach and less than 45 seconds for any individual movement and levels of service 'A' within both AM and PM peak periods. The existing roundabout has spare capacity to accommodate future traffic growth on the road network.

#### 2.7 Existing Pedestrian / Cycle Networks

In the vicinity of the Site, Johnson Road has a single footpath on the eastern side which may be legally shared by pedestrians and cyclists, however Johnson Road itself does not feature any on road cycle facilities. At posted 60km/h near a primary school, this is a safer outcome unless the on-road cycle lanes are physically separated from through vehicles. At the roundabout intersection of Johnson Road/Breccia Road, there are pedestrian crossing points across Johnson Road on the northern arm of the roundabout, including pedestrian ramps and tactile ground surface indicators. However, this crossing point does not currently lead to anywhere on the western side of Johnson Road and it is assumed this has been provided for the future development of land on the western side given is zoning as 'Urban' in the MRS and LPS No.2.

To the south of the intersection with McWhirter Promenade, footpaths exist on both sides of Johnson Road, however the northern side is intermittent and is expected to be completed as part of the adjacent 'Providence Estate' residential development which is currently under construction.

Existing cycle networks are illustrated in

# Figure 2-17.

To the south and west of the site, Wellard Road and Millar Road include on road cycle lanes in each direction converging into footpath cycle provision at intersections along their length. To the west of the site and en-route to Wellard Train Station, Silversmith Street and Homestead Drive provide an alternative 'Good Road Riding Environment' and Shared Path access to Wellard Road (west of Bertram Road). Wellard Train Station provides bike lockers and shelters.

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Further, the posted speed limit on Millar Road and Wellard Road of 80km/h are well above Safe System principles for vulnerable road users sharing the carriageway without any physical separation, noting 10% heavy vehicles along this road.

The closest access the Kwinana Freeway Principal Shared Path (PSP) from the site is approximately 800 metres south via McWhirter Promenade upon which cyclists are able to use the wide footpath. The access to the PSP is located adjacent to the intersection of McWhirter Promenade/Millar Road.

Figure 2-17: Existing pedestrian / cycle networks





# 2.8 Existing Public Transport

# **Bus Service 544**

The existing bus route within close vicinity of the Site includes the 544, which operates on Johnson Road, stopping in both directions some 30m to 60m south of the intersection with Breccia Parade a distance which is within a five-minute walk of the entre site. Bus service 544 provides a link between the site and Wellard Train Station and Town Centre to the west.

The frequency of service 544 during the week (Mon to Fri) is at an excellent 15 to 20 minute interval in the morning peak period between 06:05am and 08:42am, increasing to an hourly frequency between 09:00am and 2:30pm and then between 20 to 30 minutes frequency between 3:15pm and 7:00pm. The frequency of service on Saturdays and Sundays is hourly during the main part of the day time (08:00am to 8:00pm).

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Figure 2-18: Bus Service 544 Timetable (Mon to Fri)

Timed Stops Stop No.  Stop No.  Stand 4  Route No.  Kwinana Stn		0	(HP	
		23801/	23102	23781 / Stand 4
			Johnson Rd / Bertram Rd	Wellard Stn
Мо	nday to	Friday	- 1	
am	544	6:05	6:07	6:20
	544	6:25	6:27	6:40
	544	6:40	6:42	6:55
	544	7:00	7:02	7:15
	544	7:24	7:27	7:40
	544	7:44	7:47	8:00
	544	8:07	8:10	8:23
	544	8:27	8:30	8:43
	544	8:42	8:45	8:58
	544	9:27	9:30	9:43 10:40
	544	10:24	10:27	
	544	11:24	11:27	11:40
pm	544	12:24	12:27	12:40
pili	544	1:24	1:27	1:40
	544	2:24	2:27	2:40
	544	3:14	3:17	3:30
	544 A	3:24	3:30	3:53
	544	3:54	3:57	4:10
	544	4:24	4:27	4:40
	544	4:45	4:48	5:01
	544	5:05	5:08	5:21
	544	5:25	5:28	5:41
	544	5:46	5:49	6:02
	544	6:06	6:09	6:22
	544	6:26	6:29	6:42
	544	6:45	6:48	7:01
	544	7:04	7:07	7:20
	544	7:39	7:42	7:55
	544	8:39	8:42	8:55

Source: Public Transport Authority

Figure 2-19: Bus Service 537 Route Map



Source: Public Transport Authority

# **Rail Services**

Wellard Train Station is accessible via bus service 544 and provides access to the Mandurah Railway Line and alternate bus services 541 and 542.

During the week, the Mandurah railway line carries passenger rail services between Perth city and stations in between, stopping at Wellard Train Station at intervals of approximately 5 to 10 minutes during the morning peak period and every 10 to 15 minutes during the remainder of the day. The frequency of services from Perth Station to Wellard Train Station are very similar during the evening peak period. The frequency reduces past 10:00pm to every 30 minutes until 12:30am.

Wellard Residential Pty Ltd

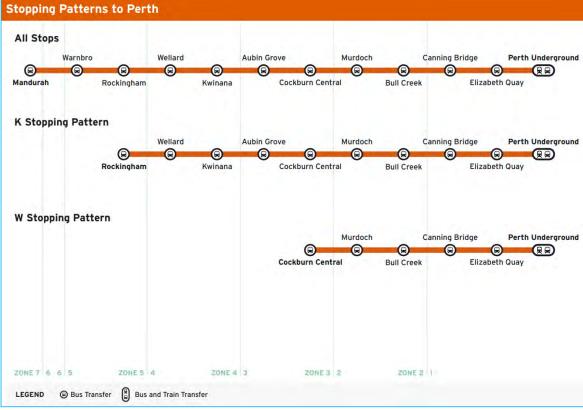
Lot 506 Johnson Road, Wellard

Transport Impact Assessment – Structure Plan

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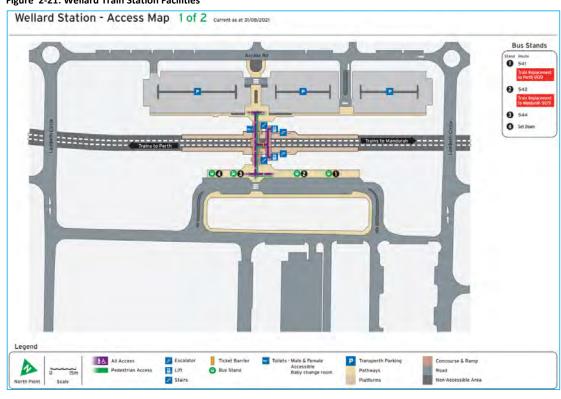
Figure 2-20: Stopping Pattern on the Mandurah Rail Line to/from Perth.

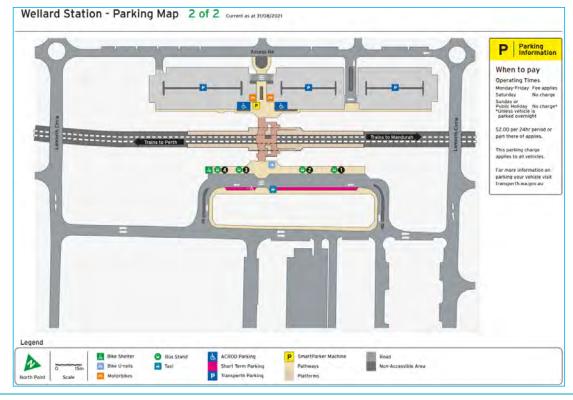


Source: Public Transport Authority

The facilities at Wellard Train Station include a total of 263 long-term parking bays and 13 short-term parking bays with provision for motorcycle parking. The station is listed as 'Independent Access', meaning it meets higher accessibility standards for universal access and access to the station is not via a pedestrian crossing.

Figure 2-21: Wellard Train Station Facilities





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#### 2.9 Crash Assessment

A search of the Main Roads WA Reporting Centre for crash data surrounding the site was undertaken for the 2.0 kilometre section of Johnson Road/Irasburg Parade/Cavendish Boulevard between and including the intersections with Wellard Road and Mortimer Road.

This search covered all recorded traffic accidents for the most recently available five-year reporting period between 1 January 2018 and 31 December 2022: The recorded crash statistics are summarised in **Table 2-4 and Table 2-5.** 

No crashes are recorded as occurring at the existing roundabout intersection of Johnson Road/Breccia Parade. In addition, no crashes are recorded as occurring at the existing roundabout intersection of Wellard Road/Cavendish Boulevard.

A total of 10 crashes have been recorded on Johnson Road/Irasburg Parade/Cavendish Boulevard between Wellard Road and Mortimer Road, 8 of which involved property damage only type crashes and 2 which involved hospitalisation of those involved as follows:

A summary of the crash types recorded on this section of road are included in **Table 2-4** below.

Table 2-4: Crash Data for Johnson Road/Irasburg Parade/Cavendish Boulevard, between Wellard Road and Mortimer Road.

			,,	5 : 0:000, 00	venaisii boai	
Type of Crash	Fatal	Hospital	Medical	Major PDO*	Minor PDO*	Total
Rear End	-	-	-	1	1	-
Sideswipe	-	-	-	-	-	-
Hit Object	-	-	-	1	-	-
Head On	-	1	-	-	-	-
Right Angle	-	1	-	3	2	-
Right Turn Thru	-	-	-	-	-	-
Other	-	-	-	-	-	-
Total	-	-	-	-	-	-
*D=====	<u> </u>					

\*Property Damage Only

The crash which involved a 'head-on' impact with hospitalisation required, occurred on Irasburg Parade 43 metres east of Fairhaven Boulevard. The crash involved a police pursuit of a stolen vehicle which crashed in this location and struck a private car which had stopped to give way to the police. This crash may be considered a 'one-off' incident in this location and is not attributable to the road environment or geometry of this location.

The crash which involved a 'right-angle' impact with hospitalisation required, occurred on Cavendish Boulevard at the intersection with Huntington Avenue. The right turning vehicle into Huntington Drive failed to give way to a vehicle on Cavendish Boulevard which flipped the vehicle onto its side. Forward sight lines at this intersection are good with the

alignment of Cavendish Boulevard relatively straight in this location, so the road environment does not to have been a contributing factor.

In relation to the above crashes and the remaining eight crashes, there appears to be no specific pattern or trend of crash types occurring in one identified location, with most crashes spread across the study area.

A total of 16 crashes have been recorded at the roundabout intersection of Bertram Road/Mortimer Road/Johnson Road.

A summary of the crash types recorded at these intersections are included in **Table 2-5**.

Table 2-5: Crash Data for the Roundabout Intersection of Bertram Road/Mortimer Road/Johnson Road

Type of Crash	Fatal	Hospital	Medical	Major PDO*	Minor PDO*	Total
Rear End	-	-	2	6	2	-
Sideswipe	-	-	-	-	-	-
Hit Object	-	1	-	-	-	-
Head On	-	-	-	-	1	-
Right Angle	-	-	1	3	-	-
Right Turn Thru	-	-	-	1	2	-
Other	-	-	-	-	-	-
Total	-	-	-	-	-	-

\*Property Damage Only

Severity	No.	%
Fatal	0	0
Hospital	0	
Medical	2	12.50
PDO Major	10	62.50
PDO Minor	4	25.00
Year	No.	%
2018	5	31.25
2019	4	25.00
2020	3	18.75
2021	2	12.50
2022	2	12.50

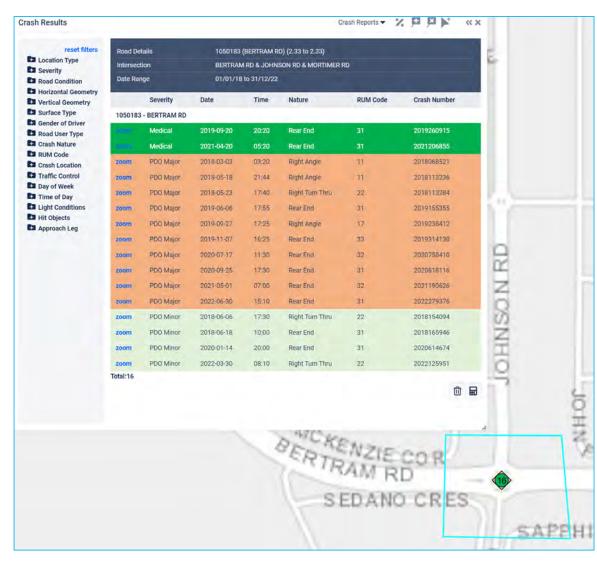
Nature	No.	%
Head On	0	0
Hit Animal	0	0
Hit Object	0	0
Hit Pedestrian	0	0
Non Collision	0	0
Not Known	0	0
Rear End	10	62.50
Right Angle	3	18.75
Right Turn Thru	3	18.75
Sideswipe Opposite Dirn	0	0
Sideswipe Same Dirn	0	0

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The majority of the crashes (63%) which have occurred at this intersection are of a 'rear-end' type, which appears to be a significant trend, with 2 of the 10 rear-end crashes resulting in medical attention being required. Right turning crashes account for the remaining 37% of crashes in this location.

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Proposed Structure Plan Development (Internal Transport Network)

# 3 Proposed Structure Plan Development (Internal Transport Network)

#### 3.1 Proposed Residential Development

The Site area is currently zoned 'Urban' under the MRS. Under the provisions of *the City of Kwinana Local Scheme No.2* (LPS No.2) the site area is currently zoned as 'Development'.

The concept structure plan (Appendix A) proposes a residential development only. The potential yield of the development site in terms of its developable land use is expected to be:

Table 3-1: Proposed Land Use Yield

Land Use	Yield
Residential	128 lots

Table 3-1: Proposed Development Summary

# 3.2 Vehicular Access Arrangements

There are currently two informal vehicle access points to the site at the interface with Johnson Road, which are both designated with flush kerb crossover infrastructure and are assumed only for infrequent access to the land. The land uses on the site currently consist of small agricultural holdings with outbuildings within the vacant bushland.

The proposed site Concept Plan (Figure 3-1) sets out the indicative future access strategy from Johnson Road. It is intended to construct a fourth road arm at the existing Johnson Road/Breccia Parade roundabout intersection to access the site. The site is also intended to include through vehicular movement from the adjacent Oakabella development to the north via Latitude Drive

A desktop assessment indicates that the proposed access point at the existing roundabout intersection of Johnson Road/Breccia Parade/Irasburg Parade would comply with the Austroads requirements of Safe Intersection Stopping Sight Distance.

# 3.3 Proposed Internal Transport Networks

Figure 3-1: Proposed Vehicle Access Arrangements - Concept Plan



#### 3.4 Assessment Years and Time Periods

The WAPC Guidelines for TIAs states that because Structure Planning is usually a longer-term process, the development of a structure plan area may occur over a number of years, often 15 to 20 years into the future. The WAPC guidelines also suggest that the analysis of the analysis of the transport network should therefore be undertaken for the assumed year of full development.

The developer, Wellard Residential Pty Ltd, has confirmed that it is their expectation that Lot 506 will be fully built out and occupied within the next five-year timeframe, based on the progression of their adjacent development site, Providence Estate. In addition, the Oakabella Estate is also already established and has a proposed future vehicle linkage through Lot 506, which is likely required to be completed within this same timeframe. Section 6.1 of this assessment has further details on this situation.

Wellard Residential Pty Ltd

Lot 506 Johnson Road, Wellard

Transport Impact Assessment – Structure Plan



Proposed Structure Plan Development (Internal Transport Network)

Assessment time periods will be in line with the existing recognised AM and PM peak periods 08:00 – 09:00 and 14:30 – 15:30 respectively. Section 6 of this report discusses the assessment years, times and development traffic generation in more detail.

#### 3.5 Road Cross Sections and Intersection Controls

As shown in **Figure 3-1**, there is one proposed Access Street C. This will feature a 16m wide road reserve and at least footpaths on both sides as per the requirement of *Liveable Neighbourhoods*. The remaining Local Access Roads (Access Street D) will include a 13m to 15m wide road reserve with at least one footpath on one side of the roads as per current guidelines. Laneway access to properties will have a 6m wide road reserve.

The intersections within the site where two roads meet will take the form of T-Intersections spaced at or more than the appropriate distance criteria of 20m as per Liveable Neighbourhoods guidance for an Access Street.

#### 3.6 Pedestrian and Cyclist Access

Pedestrian and cyclist access has not yet been fully defined for this site, however it should be provided generally in accordance with the requirements of the guidance for *Liveable Neighbourhoods*. The approved Oakabella site immediately to the north of Lot 506 will feature pedestrian and cyclist infrastructure which is expected to seamlessly integrate and extend through Lot 506.

As part of the Oakabella Estate Local Structure Plan, prepared by TBB in July 2016, the Movement Network Diagram (refer to **Figure 4-4** – page 27) shows the introduction of a Shared Path network through the Oakabella Estate and extending through the Lot 506 site (by others). It is understood that the developer of Lot 506 could deliver the extension of this planned cycle and footpath infrastructure through the site to connect with Johnson Road at the Breccia Parade roundabout.

Following the guidance of the WAPC *Liveable Neighbourhoods* Policy, the proposed pedestrian and cyclist facilities aim to provide a permeable road network within the subject site and create excellent opportunities for the provision of good pedestrian and cyclist facilities that maximise the use of non-motorised transport modes. Section 5 of this report discuss access to public transport and recommended improvements.

#### 3.7 Safe Walk/Cycle to School Assessment

As discussed previously, the Site is bounded to the east and south by existing residential development, Wellard Primary School and a child care centre.

The likely routes that residents may take from the site to access the school and the child care centre will likely be via the internal street network and across Johnson Road using the Breccia Parade roundabout intersection. There is an existing Children's Crossing on Breccia Parade approximately 30 metres east of Johnson Road.

However, the current posted speed limit on Johnson Road and Irasburg Parade (north of McWhirter Promenade) is 60km/h and this section of road is not covered by a peak period Schol Zone Speed Limit, which currently is limited to Breccia Parade. This current situation may present a barrier to movement for school trips by foot and cycle between the Lots 506, Oakabella Estate and Wellard Primary School as well as road safety concerns during the school peak periods

following the build out of these sites and the completion of the road and footpath connections to Johnson Road. Section 5.4 of this assessment discusses recommendations to improve this situation.

Figure 3-2: Walking Route to Wellard Primary School and Day Care Centre from Lot 506



Further afield to the south-west of the site is Wellard Village Primary School which is accessible using bus service 544 and Bertram Primary School and St Vincent's School to the north and north-west respectively of which both are unlikely to be accessed on foot or by cycle.

It is concluded that the likely routes that will be taken by residents of the proposed development area to access the nearby Wellard Primary School should be suitable, as continuous footpaths will likely be provided along all of the sections with crossing facilities already provided on Breccia Parade.

However, it is a recommendation of this report that prior to the full build out of the Oakabella and Lot 506 sites, City of Kwinana in conjunction with Main Roads WA (custodian of speed zoning in Western Australia) should investigate the extension of the Breccia Parade School Speed Zone to include a length of Johnson Road specifically surrounding the likely crossing point at the Breccia Parade roundabout intersection. It is expected that this will improve road safety for school children and parents crossing Johnson Road in the future.

# 3.8 Public Transport Routes

There are no proposed public transport routes intended through the development site. Section 2.8 of this report details the existing public transport bus route 544 on Johnson Road which is within easy walking distance of the site and integrates well with the proposed residential development.

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Transport Impact Assessment – Structure Plan



Changes to External Transport Network

# 4 Changes to External Transport Network

#### 4.1 Changes to Road Network

A thorough review of proposed changes to the surrounding local and primary road network has been undertaken by exploring current and future projects with City of Kwinana and Main Roads WA. Extensive consultation has been undertaken with City of Kwinana regarding road upgrade projects which will directly affect Johnson Road or any of the roads immediately surrounding the site with a 2.0km radius. An appraisal of State Government road projects in the area has been undertaken using the Main Roads WA website, which contains an extensive library of current and future road projects. At the present time there are no significant Main Roads WA projects within the area.

Other projects, these being City of Kwinana projects are noted below.

### 4.1.1 Wellard Road Upgrade – Bertram Road to Cavendish

City of Kwinana has confirmed that the Wellard Road Upgrade is scheduled to take place with the next five-year time period. The carriageway will be widened to include two lanes on each side (dual carriageway) with a central median island along its length.

#### 4.1.2 Mortimer Road MRS Widening Works

City of Kwinana has also confirmed that the Mortimer Road MRS widening works are in progress under the Department of Planning, Lands and Heritage. The upgrades to Mortimer Road will be limited to realignment and reconstruction of the current road to a 7.4m pavement width, as well as the installation of a 2.5m wide dual use path. Additional items include:

- Construction of two roundabouts at the junctions of Woolcoot Road and the Neighbourhood Connector.
- Drainage to both sides of Mortimer Road.
- Street lighting
- The undergrounding of power.

# 4.1.3 Recent Significant Works

Prior to September 2016, Johnson Road was under a different alignment more suited to heavy vehicles movements than is currently the case today. Around September 2016, the Johnson Road/Breccia Parade roundabout intersection was constructed together with the realignment of Johnson Road, the creation of McWhirter Promenade and the connection of Irasburg Parade. These significant road modifications were undertaken as part of the Providence Estate development access from Irasburg Parade and other nearby residential developments off Breccia Parade.

These changes to the local road network over the past 7 to 8 years represent the most significant recent changes surrounding this site in terms of public works. This TIA is based upon these changes which are now fully operational, with the exception of the completion of the Providence and Oakabella sites which are discussed further below.

# 4.2 Oakabella Estate - Residential Development

The Oakabella Estate in Wellard is located immediately to the north of Lot 506 Johnson Road. The Oakabella Estate is an approved residential development comprising a total of 400 new homes. The site is currently under construction and an appraisal of current aerial imagery (August 2023), the site appears to be approximately 50% constructed with approximately 223 houses constructed or under-construction, with an estimated 182 homes currently occupied. Therefore, an estimated 218 homes in the Oakabella Estate are yet to be occupied and generate traffic movements.

The Oakabella Estate is intended to extend through and integrate with the Lot 506 site via an extension of Lattuge Drive which will ultimately connect with Johnson Road at the existing Breccia Parade roundabout. Consideration of the Oakabella Estate as a committed development and its vehicular connections through the Lot 506 site are included in this Transport Impact Assessment. The Oakabella Estate and its intended connections with Lot 506 are shown on **Figure 4-1**.



Figure 4-1: Oakabella Estate - Wellard

Wellard Residential Pty Ltd

Lot 506 Johnson Road, Wellard

Transport Impact Assessment – Structure Plan



Changes to External Transport Network

# 4.3 Providence Estate - Residential Development

The Providence Estate in Wellard is located immediately to the west of Lot 506 Johnson Road and is accessed off Irasburg Parade and Cavendish Boulevard. The Providence Estate is an approved residential development comprising a total of 787 new homes. The site is currently under construction and an appraisal of current aerial imagery (August 2023), the site appears to be approximately 70% constructed, with approximately 572 houses constructed or under-construction, with an estimated 534 homes currently occupied. Therefore, an estimated 253 homes in the Providence Estate are yet to be occupied and generate traffic movements.

Consideration of the Providence Estate as a committed development and its vehicular connections to Irasburg Parade and Cavendish Boulevard are included in this TIA. The Providence Estate is shown on **Figure 4-2.** 

Figure 4-2: Providence Estate - Wellard



# 4.4 Changes to Pedestrian and Cycle Network

#### Pedestrian Footpath Network:

There are currently no City of Kwinana planned pedestrian footpath improvement works in the area other than the minor footpath projects completed in recent years. However, as part of the future Oakabella Estate and Providence Estate residential developments, the footpath network on the future Lattuge Drive (internal to Oakabella) and footpaths along the eastern section of Irasburg Parade will be constructed to improve footpath connectivity to surrounding services and areas.

#### Long-Term Cycling Network – Perth and Peel:

The Department of Transport's (DoT) Long-Term Cycling Network (LTCN) was endorsed by the City of Kwinana in 2020. In terms of the Long-Term Cycle Network (past the proposed site access), Johnson Road is classified as a 'Local Route' meaning:

"Lower level of demand providing critical access to higher order routes, local amenities, and recreational spaces. Predominantly located in local residential areas, local routes often support the start or end of each trip, and as such need to cater for the needs of users of all ages and abilities."

Local Routes are often characterised by integrated cycle facilities i.e., sharing the same space as vehicles, with lower order speed limits typically 50km/h of less. Johnson Road in the location of Lot 506 is currently subject to a 60km/h speed limit.

Most significantly, Wellard Road and Millar Road are classified as a 'Secondary Route' meaning:

"moderate level of demand, providing connectivity between primary routes and major activity centres such as shopping precincts, industrial areas or major health, education, sporting and civic facilities."

Wellard Road and Millar Road currently include on-road cycle lanes in both directions, which are not separated from vehicular traffic with a prevailing speed limits of 80km/h on both roads.

When comparing existing and proposed future cycle infrastructure in the area of Lot 506, two key additions are included in the Long-Tern Cycling Network Plan.

- A new Secondary Route via Leda Boulevard and Lambeth Circle to the west of Lot 506 providing linkages to/from Wellard Town Centre and Wellard Train Station.
- A new Primary Route is proposed along the Mandurah Train Line, south of Wellard Road and passing through Wellard Train Station and beyond.

The development site Lot 506 is well placed to take advantage of the DoT's Long-Term future strategy for the cycling network which would encourage trips by cycle for commuting and recreational purposes.

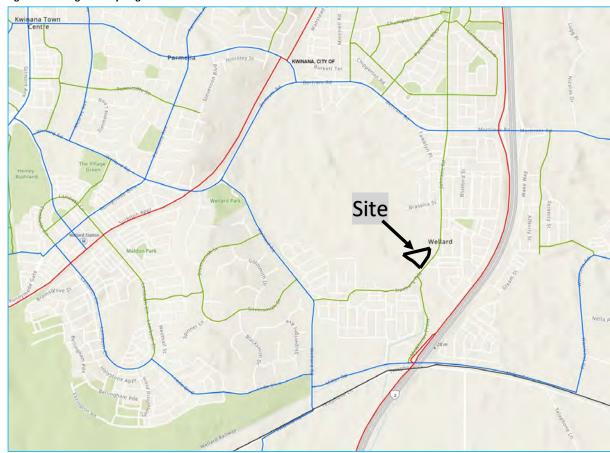
Lot 506 Johnson Road, Wellard Residential Pty Ltd

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Changes to External Transport Network

Figure 4-3: Long-Term Cycling Network – Perth and Peel



#### rimary Routes

High demand corridors that connect major destinations of regional importance. They form the spine of the cycle network and are often located adjacent to major roads, rail corridors, rivers and ocean foreshores. Primary routes are vital to all sorts of bike riding, including medium or long-distance commuting / utility, recreational training and tourism time.

#### Secondary Rout

Moderate level of demand, providing connectivity between primary routes and major activity centres such as shopping precincts, industrial areas or major health, education, sporting and civic facilities.

#### Local Routes

Lower level of demand providing critical access to higher order routes, local amenities, and recreational spaces. Predominantly located in local residential areas, local routes often support the start or end of each trip, and as such need to cater for the needs of users of all ages and splitting.

#### Oakabella Estate and Johnson Road Shared Path Network:

As part of the Oakabella Estate Local Structure Plan, prepared by TBB in July 2016, the Movement Network shows the introduction of a Shared Path network through the Oakabella Estate and extending through the Lot 506 site (by others). It is understood that the developer of Lot 506 has the potential to deliver the extension of this planned cycle and footpath infrastructure through the site to connect with Johnson Road at the Breccia Parade roundabout.

In addition, the existing footpath network on the eastern side of Johnson Road, is shown as allocated for upgrade to a Shared Path standard, connecting to Mortimer Road in the north and along the Lot 506 frontage (eastern side) in the south. The Lot 506 site is ideally located to take advantage of this planned infrastructure improvement.

Figure 4-4: Oakabella Estate Local Structure Plan 2016 – Movement Network



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Lot 506 Johnson Road, Wellard

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Changes to External Transport Network

# 4.5 Changes to Public Transport Network

PJA contacted the Public Transport Authority and was advised that there are no changes likely in the area to bus services.

Section 2.8 noted there is an existing bus route 544 within close vicinity of the site, which operates on Johnson Road, stopping in both directions some 30m to 60m south of the intersection with Breccia Parade a distance which is within a five-minute walk of the entre site. Bus service 544 provides a link between the site and Wellard Train Station and Town Centre to the west.

The existing frequency of service 544 during the week (Mon to Fri) is at an excellent 15-to-20-minute interval in the morning peak period between 06:05am and 08:42am, increasing to an hourly frequency between 09:00am and 2:30pm and then between 20 to 30 minutes frequency between 3:15pm and 7:00pm. The frequency of service on Saturdays and Sundays is hourly during the main part of the day time (08:00am to 08:00pm). It is considered that these excellent frequencies will continue to encourage trips by public transport as the development site continues to build out.

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Integration with Surrounding Area

# 5 Integration with Surrounding Area

# 5.1 Surrounding Attractors / Generators

The surrounding area primarily consists of residential land use and Wellard Primary School immediately to the east of Johnson Road opposite the site.

The Bertram Shopping Centre is located approximately 2.0km north via Johnson Road. The Kwinana Town Centre is approximately 5.0km north-west of the site. The Wellard Village Centre is located surrounding the Wellard Train Station, which his approximately 4.0km west of the site.

The primary traffic generator in the surrounding area is the expanding residential development and Wellard Primary School.

The Kwinana Freeway, accessible some 1.5km north-east from the Site, providing access to the major employment areas to the north and south of Wellard, with strategic road links to the remaining metropolitan area.

#### 5.2 Proposed Changes to Surrounding Land Uses

The key proposed change to the surrounding land uses within an approximate 2.0km of the site is shown on the MRS, being the allocation of land to the east of the Kwinana Freeway and bounded by Millar Road and Woolcoot Road. The MRS designates this land for further development 'Urban' and 'Urban Deferred'. City of Kwinana's Town Planning Scheme designates this area of land as 'Development' and 'Cluster/Communal Rural Settlement', the development of which are <u>unlikely</u> to significantly impact on Johnson Road and the immediate local network of Lot 506.

Figure 5-1 illustrates the site area's current MRS zoning, (Map Sheet 24).

# **Baldivis (North) District Structure Plan:**

To the south of Telephone Lane and immediately west of the Kwinana Freeway, a change to the current land use is the MRS designated 'Urban' zone along the corridor between the Freeway and Baldivis Road. The Millars Landing Estate is already in development in this area. In addition, the west of Baldivis Road, the MRS designates a large area of land as 'Special Use' (SU). The increased traffic flow resulting from this area will need to be monitored and addressed in the planning and development of the area.

# North-East Baldivis District Structure Plan:

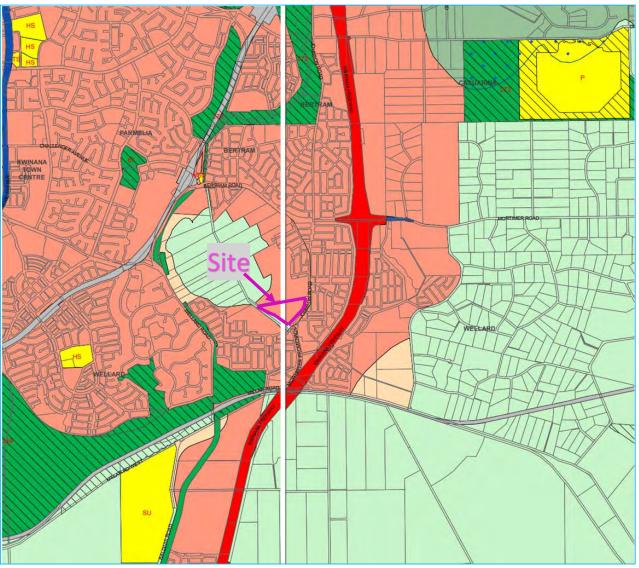
Whilst not currently shown on the MRS (currently allocated as 'Rural' land use), the 'North-East Baldivis District Structure Plan' is located immediately to south of Telephone Lane and to the east of the Kwinana Freeway. This Planning Investigation Area (PIA) was approved by the Transport Minster in September 2022 as 'Urban Investigation' and includes proposed land uses such a primary school, high school, local centre, residential and employment. A DSP is currently underway for this area led by the proponent and has not been advertised at the time of writing this report. The increased traffic flow resulting from this DSP will need to be carefully managed and addressed in the planning and development of the area.

**Figure 5-2** illustrates the North-East Baldivis District Structure Plan location. Figure 5-3 illustrates the overall Planning Investigation Area.

# 5.3 Level of Overall Accessibility

When the land is fully developed, the Site will form part of a wholly integrated residential suburban area with appropriate and ideal vehicular connections to the primary and road network, including the Kwinana Freeway, Thomas Road, Mundijong Road and Safety Bay Road providing an excellent level of vehicular access to and from the Site.

Figure 5-1: MRS Zone Map Sheet 27 and 28 – Map Name: Rockingham and Mundijong (respectively)



Source: Metropolitan Region Scheme

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Lot 506 Johnson Road, Wellard

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Integration with Surrounding Area

Figure 5-2: North-East Baldivis District Structure Plan Location

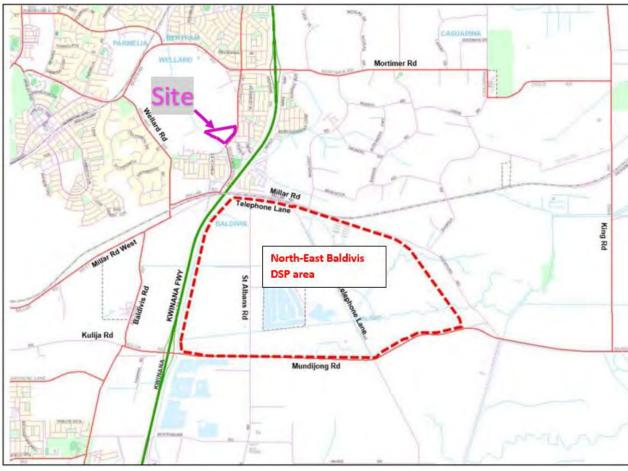
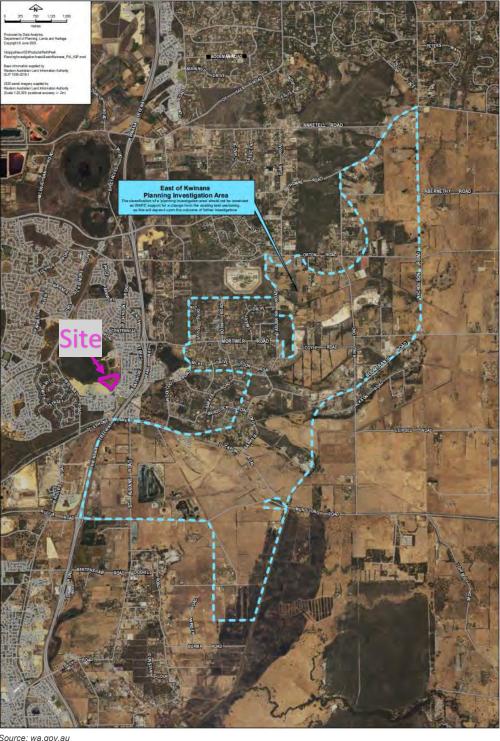


Figure 5-3: East of Kwinana Planning Investigation Area



Source: wa.gov.au

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# 5.4 Pedestrian and Cyclist Accessibility (Lot 506 Johnson Rd)

The existing footpath network on the eastern side of Johnson Road provides good links to the surrounding residential area and local centres. To the south of the intersection with McWhirter Promenade, footpaths exist on both sides of Johnson Road, however the northern side is intermittent and is expected to be completed as part of the adjacent 'Providence' residential development which is currently under construction.

However, there is no existing footpath on the western side of Johnson Road (fronting the Site), which will create a barrier to pedestrian and cycle trips to/from the development Site. It is a recommendation of this report that investigations be undertaken to extend the existing footpath network on the western side of Johnson Road to link in with the crossing location at the Breccia Parade roundabout and also to continue south and link in with the proposed footpath to be constructed adjacent to the Providence Estate. A footpath in this location will also connect with the existing bus stop on Johnson Road, just south of Breccia Parade. If feasible, this would encourage trips on foot and micro-mobility to local centres, Wellard Primary School and access to bus stops to help increase public transport usage and reduce the reliance on private vehicle modes. The funding mechanisms for which these improvements could be budgeted, would be with the City of Kwinana.

Furthermore, it is a recommendation of this Transport Impact Assessment that City of Kwinana in consultation with Main Road WA (custodians of speed zoning in WA), investigate the potential to reduce the prevailing speed limit of Johnson Road and Irasburg Parade on both approaches to the Breccia Parade roundabout from 60km/h to 50km/h and introduce a School Zone Speed Limit (40km/h) on Johnson Road and Irasburg Parade, to include the roundabout at Breccia Parade, with the intention of improving road safety for vulnerable road users crossing Johnson Road between Lot 506 site, Oakabella Estate and Wellard Primary School once these developments are significantly occupied.

This recommended speed limit change would effectively comprise an extension of the existing 50km/h speed zone on Irasburg Parade, south of McWhirter Promenade, which was implemented following the Providence Estate development and would therefore be a natural extension of the 50km/h limit as the land along Irasburg Parade and Johnson Road develops into the future.

In terms of cyclist accessibility, it is also a recommendation of this report that in light of the DoT's Long-Term future strategy for the cycling network (LTCN), specifically the allocation of Wellard Road and Millar Road as 'Secondary Cycling Routes', City of Kwinana should be encouraged to investigate improving the safety of cycling facilities along these roads both in terms of potentially reducing the speed limit of each road down from 80km/h and/or segregate the cycling infrastructure from the carriageway and speed of passing traffic.

Such measures would work towards 'Safe System Principles' with the aim of improving safety for vulnerable road users and improve road user collision outcomes. It is recommended that City of Kwinana investigate the integration of the need for cycle segregation along Wellard Road as part of their proposed widening works within the next five-year timeframe.

The development site is well placed to take advantage of the DoT's Long-Term future strategy for the cycling network (LTCN) and the future Shared Path network upgrades in the Oakabella Estate and on the eastern side of Johnson Road, which would all combine to encourage trips by cycle for commuting and recreational purposes.

Wellard Residential Pty Ltd

Lot 506 Johnson Road, Wellard

Transport Impact Assessment – Structure Plan



# 6 Analysis of Transport Network

#### 6.1 Assessment Years and Time Period

The WAPC Guidelines for Transport Impact Assessment states that because structure planning is usually a longer-term process, the development of a structure plan area may occur over a number of years, often 15 to 20 years into the future. The WAPC guidelines suggest that the analysis of the analysis of the transport network should therefore be undertaken for the assumed year of full development.

Whilst the above is acknowledged, given the Lot 506 site is a relatively small development area and is an extension of the existing Providence Estate west and is located in close proximity to the Oakabella Estate to the north, both of which are currently under construction, an appropriate and realistic sense of the likely timeframe for full build out and occupancy of Lot 506 has been investigated.

The developer, Wellard Residential Pty Ltd, has confirmed that it is their expectation that Lot 506 will be fully built out and occupied within the next five-year timeframe, based on the existing progression of the Providence Estate. In addition, the Oakabella Estate is also already established and has a proposed future vehicle linkage through Lot 506, which is likely required to be completed within this same timeframe.

As such, it is reasonable to assume the future year assessment of full build out and occupancy of the Lot 506 site will be within the next five-year timeframe and therefore the likely main traffic growth along the Johnson Road/Irasburg Parade corridor into the future will be as a result of the neighbouring Providence and Oakabella residential developments in addition to the Lot 506 site. This is particularly applicable given the location of Johnson Road, between Wellard Road and Mortimer Road and the nearby alternative major transport routes of the Kwinana Freeway and Bertram Road.

Therefore, given the establishment of the above and the acknowledgement that the WAPC guidance is perhaps more suited to larger structure plan areas, to test the adequacy of the road network at this 'Structure Plan' stage of the planning process, based on the assumed year of full development, the future site access intersection at Johnson Road/Breccia Parade roundabout has been assessed for capacity under the following scenario:

• Assessment Scenario - Ultimate 2029 Traffic Volumes with full build out of Lot 506 residential development.

Assessment time periods will be in line with the existing recognised AM and PM peak periods 08:00 – 09:00 and 14:30 – 15:30 respectively.

# 6.2 Background Traffic

The background traffic for this assessment has been derived from existing traffic data provided by City of Kwinana for surrounding roads and also PJA has commissioned a fully classified traffic count of the Johnson Road/Breccia Parade roundabout intersection, undertaken on Tuesday 24 October 2023, to establish up to date traffic volume data for Johnson Road and Breccia Parade.

The capture of traffic data within this survey accounts for the traffic generation of the previously identified 182 occupied homes in the Oakabella Estate and 534 occupied homes in the Providence Estate. The traffic generation associated with the remaining 218 and 253 homes respectively (417 total) will be added to the road network for assessment purposes as detailed further in Section 6.5, 6.6 and 6.7 of this report.

#### 6.3 Traffic Growth

Furthe to the information contained in Section 6.1, an assessment of the expected traffic growth on Johnson Road and Irasburg Parade over the next five year timeframe (development full build out horizon), and in consideration of the surrounding land use allocations and the level of residential development currently under construction at sites off Johnson Road and Irasburg Parade such as Providence Estate and Oakabella Estate, it is considered that together with the development of Lot 506, the main element of traffic growth over this time period will be the afore mentioned residential developments.

As such, the future traffic growth assessment assumed on Johnson Road will include 100% build out and occupancy Providence Estate and Oakabella Estate, a total of 1,200 new homes. The expected traffic generation of the Lot 506 site will be added to the background traffic and this traffic growth for assessment purposes within this TIA.

#### 6.4 Traffic Generation - Lot 506 Johnson Road

The traffic generation rates in **Table 6-1**, sourced from the WAPC Guidelines, have been used to calculate an estimate of the traffic generated in the AM and PM peak periods by the proposed Lot 506 residential development. Given the location of the site, the above is considered a robust trip rate, with no reductions applied to account for linked or internal trips.

Table 6-1: WAPC Trip Generation Rates

Land Use	AM Peak Hour		PM Peak Hour			
	IN	OUT	IN	OUT		
Residential	0.2 trips per	0.6 trips per	0.5 trips per	0.3 trips per		
	dwelling	dwelling	dwelling	dwelling		

Table 6-2 and Table 6-3 summarises the trip volumes derived from the adopted generation rates.

Table 6-2: Peak Hour Proposed Development Traffic Generation – Lot 506 Johnson Road

No of Dwellings	AM Peak Hour PN		PM Pea	M Peak Hour	
Dweilings	IN	OUT	IN	OUT	
128	26	77	64	39	

Table 6-3: Estimated All Day Proposed Development Traffic Generation – Lot 506 Johnson Road

		•
No of Dwellings	All Day Traffic Volume	
5	Two-Way	
128	1,000 – 1,100 vpd*	

<sup>\*</sup>Based on 8 trips per dwelling per day.

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# 6.5 Traffic Generation - Oakabella Estate

The traffic generation associated with the remaining 218 homes yet to be occupied at the Oakabella Estate has been calculated for assessment purposes based on the rates in Table 6-1. These rates have been used to calculate an estimate of the future committed traffic yet to be generated in the AM and PM peak periods by the Oakabella Estate. The traffic generation has been distributed onto the road network as shown in Section 6.7 of this report.

Table 6-4: Remaining (Future) Development Traffic Generation – Oakabella Estate

No of Dwellings			PM Peak Hour	
	IN	OUT	IN	OUT
218	44	131	109	65

# 6.6 Traffic Generation – Providence Estate

The traffic generation associated with the remaining 253 homes yet to be occupied at the Providence Estate has also been calculated for assessment purposes based on the rates in Table 6-1. These rates have been used to calculate an estimate of the future committed traffic yet to be generated in the AM and PM peak periods by the Providence Estate. The traffic generation has been distributed onto the road network as shown in Section 6.7 of this report.

Table 6-5: Remaining (Future) Development Traffic Generation – Providence Estate

No of	AM Peak Hour		PM Peak Hour	
Dwellings	IN	OUT	IN	OUT
253	51	152	127	76

# 6.7 Traffic Distribution and Assignment

# Lot 506, Johnson Road

The distribution of trips to and from the site via the future fourth arm (site access) of the Johnson Road/Breccia Parade roundabout intersection has been estimated based on the recorded existing traffic flow percentage split travelling northbound and southbound on Johnson Road in the AM and PM peak periods passing the site on Johnson Road (not including traffic turning to/from Wellard Primary School).

The percentage split of traffic is in keeping with the expectation that a greater proportion of trips generated by the site will travel north in the morning to the Kwinana Freeway and the employment areas it gives access to with others travelling south given the attractiveness and proximity of Wellard Train Station. The estimated distribution is presented in **Figure 6-1.** 

Figure 6-1: Proposed Development Traffic Distribution - Lot 506 Johnson Road



Given the future road linkage (Lattuge Drive) between Lot 506 and the Oakabella Estate (refer Section 4.2) and in the absence of a Transport Impact Assessment for the Oakabella Estate (confirmed by City of Kwinana), the assumed proportional impact along Lattuge Drive is considered to be a 60/40 split of traffic generation from Lot 506 in favour of Johnson Road. i.e., 60% of Lot 506 traffic generation will utilise the Johnson Road access and the remaining 40% will travel to/from the site via Lattuge Drive to the north through the Oakabella Estate.

This assumption is based on the proximity of the Lot 506 site to Johnson Road, the recorded proportional split of north/south traffic on Johnson Road and the relative attractiveness of Lattuge Drive, through Oakabella Estate, for access to/from the north including the options for traffic to access Mortimer Road or Bertram Road from either Johnson Road or Tamblyn Place. The assignment of 60% of the Lot 506 site peak hour traffic generation is presented in **Figure 6-2.** 

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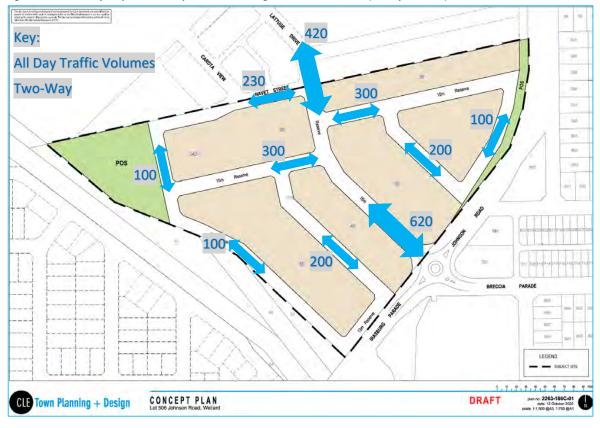
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Figure 6-2: Proposed Peak Hour Development Traffic Assignment – Lot 506 Johnson Road



In reference to the 'all-day' traffic generating potential of the Lot 506 site only, the estimated assignment of all proposed development traffic generation within the Lot 506 site is presented in **Figure 6-3** in terms of 'all-day' two-way traffic flow.

Figure 6-3: Two-Way Proposed Development Traffic Assignment Within Lot 506 (All Day Volumes)



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#### Oakabella Estate

In regard to the attractiveness of the future road linkage (Lattuge Drive) through the Lot 506 site for traffic associated with the Oakabella Estate, the proportional split is expected to be in the region of 70/30 in favour of the vehicle linkages to Johnson Road intersections to the north.

This assumption is based upon the relative distance of the Oakabella Estate from the Johnson Road/Breccia Parade roundabout intersection and the alternate ease of access of the Oakabella Estate to Johnson Road via the purpose built intersections at Brassica Street and Lattuge Drive, plus the relative attractiveness of Lattuge Drive for access to/from the north including the options for traffic to access Mortimer Road or Bertram Road from either Johnson Road or Tamblyn Place.

Therefore 30% of the remaining traffic generated by the Oakabella Estate, given in **Table 6-4**, will be assigned to the Johnson Road/Breccia Parade/Site Access intersection for assessment purposes. The assignment of 30% of the remaining Oakabella Estate site traffic generation is presented in **Figure 6-4**.

Figure 6-4: Oakabella Estate Peak Hour Traffic Assignment at Johnson Rd/Breccia Pde Roundabout



#### **Providence Estate**

In regard to the remaining traffic generation from the remaining 253 houses yet to be constructed and occupied at the Providence Estate, this will be distributed onto Johnson Road and pass through the existing roundabout intersection with Breccia Parade in the same proportions as the existing north/south directional split of traffic on Johnson Road, i.e. 58% north / 42% south in the AM peak and 47% north / 53% south in the PM peak for assessment purposes. The assignment of the remaining Providence Estate site traffic generation is presented in **Figure 6-5**.

Figure 6-5: Providence Estate Peak Hour Traffic Assignment at Johnson Rd/Breccia Pde Roundabout



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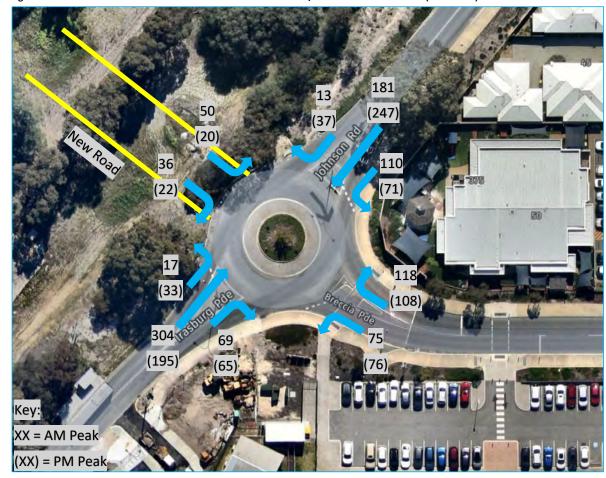
#### **Combined Peak Hour Traffic Demand**

The 2023 background traffic volumes have been combined with full build out of the Lot 506 residential development and the remaining traffic generation from the developing Oakabella and Providence Estates at the intersection of Johnson Road/Breccia Road/Lot 506 Site Access.

It should be noted that the network PM peak period of 14:30 – 15:30 on this section of Johnson Road is such because of Wellard Primary School, which does not necessarily coincide with the traditional PM peak traffic generating period for residential development, which is traditionally around 17:00 to 18:00. However, for the purposes of this robust assessment, both the AM and PM peak traffic generation from the residential developments have been combined with the road network peaks, which demonstrates a worst-case assessment in terms of traffic volume and impact.

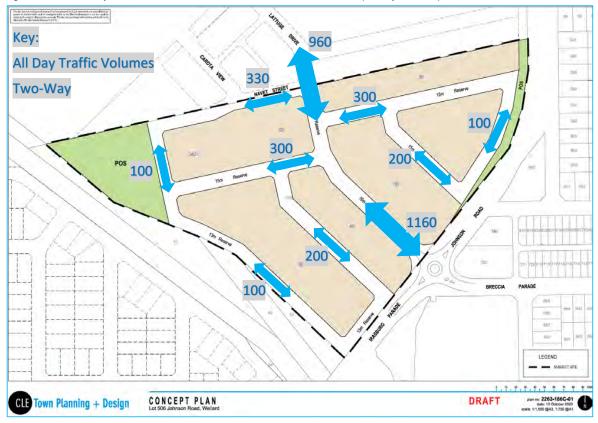
The following traffic volumes (Figure 6-6) have been analysed within a SIDRA intersection model to test the operational capacity and performance of the intersection in the 2029 design year, the results of which are provided in Section 6.8.

Figure 6-6: Estimated Ultimate 2029 Traffic Voumes at Johnson Rd/Breccia Pde Roundabout (Peak Hour)



In reference to the combined Lot 506 and Oakabella 'all-day' traffic movements within the Lot 506 site, the estimated assignment in the future 2029 design year is presented in **Figure 6-7** in terms of 'all-day' two-way traffic flow.

Figure 6-7: Two – Way Estimated Ultimate 2029 Traffic Voumes Within Lot 506 (All Day Volumes)



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#### 6.8 Intersection Performance

SIDRA analysis has been undertaken to estimate the impact of the Lot 506 development generated traffic and the committed development traffic (Oakabella and Providence Estates) at the proposed Johnson Road/Breccia Parade/Lot 506 Site Access roundabout intersection.

SIDRA results for each approach are presented below in the form of Degree of Saturation (DOS), Average Delay, Level of Service (LOS) and 95th Percentile Queue. These characteristics are defined as follows:

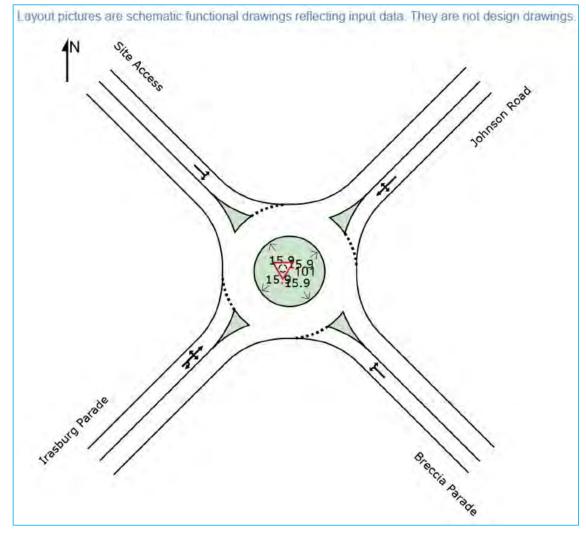
- **Degree of Saturation (DOS)**: is the ratio of the arrival traffic flow to the capacity of the approach during the same period. The theoretical intersection capacity is exceeded for an un-signalised intersection where DOS > 0.80.
- 95% Queue: is the statistical estimate of the queue length up to or below which 95% of all observed queues would be expected.
- Average Delay: is the average of all travel time delays for vehicles through the intersection. An unsignalised intersection is considered to be operated at capacity where the average delay exceeds 35 seconds for an approach and 45 seconds for any individual movement; and
- Level of Service (LOS): is the qualitative measure describing operational conditions within a traffic stream and the perception by motorists and/or passengers.

## 6.9 Scenario – Ultimate 2029 Traffic Volumes

The following presents the analysis of the proposed Johnson Road/Irasburg Parade/Breccia Parade/Site Access roundabout intersection, including the future fourth-arm for access to Lot 506. The results assume a future year horizon to 2029 with full built out of the Lot 506 site and the remaining traffic generation associated with the Oakabella and Providence Estate developments for a comprehensive assessment.

**Figure 6-8** is a SIDRA layout representation of the proposed intersection and **Figure 6-9** shows the modelled traffic volumes analysed.

Figure 6-8: Johnson Road/Irasburg Parade/Breccia Parade/Site Access: Proposed four-way single lane roundabout layout.



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Figure 6-9: Johnson Road/Irasburg Parade/Breccia Parade/Site Access: Capacity Results (2029 Traffic Volumes)

		AM Pe	ak		PM Peak						
Lane	Degree of Saturation	Average Delay (s)	Int. Level of Service	95 <sup>th</sup> %ile Q (m)	Degree of Saturation	Average Delay (s)	Int. Level of Service	95 <sup>th</sup> %ile Q (m)			
Johnson	n Road / Irasbu			•			out Layout				
	2	2029 Ultimat	e Traffic Vo	lumes (With	n Developmen	t)					
Breccia Parade – So	uth-East Appro	ach									
Through/Left/Right	0.204	5.8	Α	8.8	0.208	6.3	Α	9.0			
Johnson Road – Nor	th-East Approa	ch									
Through/Left/Right	0.247	5.1	Α	11.8	0.278	5.3	А	13.9			
Site Access – Nort- \	Nest Approach										
Through/Left/Right	0.115	6.9	Α	4.8	0.050	6.1	А	2.0			
Irasburg Parade – So	outh-West App	roach									
Through/Left/Right	0.320	5.9	Α	16.5	0.251	6.2	А	12.2			
Intersection	0.320	6.9	Α	16.5	0.278	6.2	Α	13.9			

Analysis of the proposed Johnson Road/Irasburg Parade/Breccia Parade/Site Access roundabout intersection at the 2029 design horizon shows that there are predicted to be no issues with respect to traffic queuing and delays for any movement in both the AM and PM peak periods. All parameters of this capacity assessment are within recognised thresholds for acceptable intersection operation with the intersection predicted to operate around 30% of its theoretical maximum in both peak periods and a 95%ile vehicle queue of approximately 2 to 3 vehicles in the AM peak on the busiest approach road (Irasburg Parade).

## 6.10 Proportional Impact of Development on Surrounding Road Network

In accordance with advice given in the WAPC Guidelines, all parts of the transport network that are likely to be materially affected by the proposed land use should be considered. As a general guide, an increase in traffic of less than 10 per cent of capacity would not normally be likely to have a material impact on any particular section of road, but increases of over 10 per cent may.

An intersection would generally be considered to be materially affected if flows on any leg increase by more than 10 per cent or any individual movement would increase by more than 20 per cent. For already congested intersections, lower thresholds may again trigger the need for assessment.

Other factors that should be taken into consideration when determining the study area include:

- Change of intersection control type (for example, from priority to traffic signals).
- New or modified intersections or crossovers.
- New or widened roads, shared paths, etc.; and
- New or modified bus routes or bus stop locations

Therefore, from an assessment the impact of the Lot 506 traffic generation on the local road network and surrounding intersections with in a 2.0km radius of the site, it has been determined that only the Johnson Road/Irasburg Parade/Breccia Parade roundabout intersection would experience an increase of approximately 10% of the existing traffic volumes and 2029 traffic volumes. Other intersections would have traffic volumes increases less than this and thus not require analysis on this basis.

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#### 7 Conclusions & Recommendations

#### 7.1 Summary of TIA

This assessment has been prepared in accordance with the Western Australian Planning Commission's (WAPC) *Transport Impact Assessment Guidelines Volume 2 – Planning Schemes, Structure Plans & Activity Centre Plans (2016)*. In accordance with WAPC Guidelines for Transport Impact Assessments, this report sets out the details of the proposed structure plan, the key transport issues and impacts related to the development of the Site from a residential and traffic generation perspective including the current level of accessibility by road, public transport, cycle and on foot. This TIA identifies where the level of accessibility and infrastructure is acceptable and where it is found to be deficient, sets recommendations to improve these areas to a suitable level where required and appropriate for this development.

Extensive consultation has been undertaken with City of Kwinana throughout the scoping and production of this Transport Impact Assessment. All information received from City of Kwinana has been used where appropriate.

The site, which is the subject of this assessment, is currently zoned 'Urban' under the MRS and is immediately surrounded to the north, east, south and south-west by land currently zoned as 'Urban'. Land immediately to the north-west is currently zoned as 'Rural'.

This report assesses the impacts of the proposed development upon the adjacent road network, with a focus on access requirements to/from Johnson Road and the surrounding local road network. The potential yield of the development site (the Site) in terms of developable land use, which this TIA is based upon, is expected to be 128 residential lots.

The following conclusions and recommendations have been made regarding the proposed development with respect to this TIA:

#### 7.2 Overall Integration with Surrounding Attractors / Generators

The proposed Site integrates well with the existing and proposed land uses immediately surrounding the site which consists primarily of residential land use and Wellard Primary School immediately to the east of Johnson Road opposite the site.

The Bertram Shopping Centre is located approximately 2.0km north via Johnson Road. The Kwinana Town Centre is approximately 5.0km north-west of the site. The Wellard Village Centre is located surrounding the Wellard Train Station, which his approximately 4.0km west of the site.

The primary traffic generator in the surrounding area is the expanding residential development and Wellard Primary School.

The Kwinana Freeway, accessible some 1.5km north-east from the Site, providing access to the major employment areas to the north and south of Wellard, with strategic road links to the remaining metropolitan area.

The key proposed change to the surrounding land uses within an approximate 2.0km of the site is shown on the MRS, being the allocation of land to the east of the Kwinana Freeway and bounded by Millar Road and Woolcoot Road. The MRS designates this land for further development 'Urban' and 'Urban Deferred'. City of Kwinana's Town Planning Scheme designates this area of land as 'Development' and 'Cluster/Communal Rural Settlement', the development of which are unlikely to impact on Johnson Road and the immediate local network.

To the south of Telephone Lane and immediately west of the Kwinana Freeway, a change to the current land uses is the designated 'Urban' zone along the corridor between the Freeway and Baldivis Road. In addition, the west of Baldivis Road, the MRS designates a large area of land as 'Special Use' (SU), the development of which are unlikely to impact on Johnson Road and the immediate local network.

When the land is fully developed, the Site will form part of a wholly integrated residential suburban area with appropriate and ideal vehicular connections to the primary and road network, including the Kwinana Freeway, Thomas Road, Mundijong Road and Safety Bay Road providing an excellent level of vehicular access to and from the Site.

## 7.3 Road Network Accessibility

The site at 506 Johnson Road is well located in relation to the existing local and primary state road network and the future road modifications and amenities associated with the Oakabella Estate. This site is well located to take advantage of close access to the local and primary state road network and access to employment areas and the wider strategic road network.

In relation to the internal site road network accessibility, due to the relatively low volume and low speed residential nature of the proposed development area, all intersections within the site are intended to be constructed as priority-controlled T-intersections, where three road arms meet.

#### 7.4 Pedestrian and Cycle Accessibility

The Site currently has poor accessibility in relation to the existing intermittent footpath network on the western side of Johnson Road, which is required to be improved. The existing footpath network on the eastern side of Johnson Road provides good links to the surrounding residential area and local centres. To the south of the intersection with McWhirter Promenade, footpaths exist on both sides of Johnson Road, however the northern side is intermittent and is expected to be completed as part of the adjacent 'Providence' residential development which is currently under construction.

Planned upgrades, are due including a new shared path network through the Oakabella Estate with the potential to extend through the Lot 506 site. It is understood that the developer of Lot 506 could deliver the extension of this planned cycle and footpath infrastructure through the site to connect with Johnson Road at the Breccia Parade roundabout. In addition, the existing footpath network on the eastern side of Johnson Road, is allocated for upgrade to a shared path standard, connecting to Mortimer Road in the north and along the Lot 506 frontage (eastern side) in the south.

However, there is no existing footpath on the western side of Johnson Road (flanking the Site), which will create a barrier to pedestrian and cycle trips to/from the development Site. It is a recommendation of this report that investigations be undertaken to extend the existing footpath network on the western side of Johnson Road to link in with the crossing location at the Breccia Parade roundabout and also to continue south and link in with the proposed footpath to be constructed adjacent to the Providence Estate. A footpath in this location will also connect with the existing bus stop on Johnson Road, just south of Breccia Parade. If feasible, this would encourage trips on foot and micro-mobility to local centres, Wellard Primary School and access to bus stops to help increase public transport usage and reduce the reliance on private vehicle modes. The funding mechanisms for which these improvements could be budgeted, would be with the City of Kwinana.

In terms of cyclist accessibility, it is also a recommendation of this report that in light of the DoT's Long-Term future strategy for the cycling network (LTCN), specifically the allocation of Wellard Road and Millar Road as 'Secondary Cycling Routes',

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City of Kwinana should be encouraged to investigate improving the safety of cycling facilities along these roads both in terms of potentially reducing the speed limit of each road down from 80km/h and/or segregate the cycling infrastructure from the carriageway and speed of passing traffic. This is considered to be very important for the safety of cyclists.

Such measures would work towards 'Safe System Principles' with the aim of improving safety for vulnerable road users and improve road user collision outcomes. It is recommended that City of Kwinana investigate the integration of the need for cycle segregation along Wellard Road as part of their proposed widening works within the next five-year timeframe.

However, the development site is well placed to take advantage of the DoT's Long-Term future strategy for the cycling network (LTCN) and the future Shared Path network upgrades in the Oakabella Estate and on the eastern side of Johnson Road, which would all combine to encourage trips by cycle for commuting and recreational purposes.

#### 7.5 Public Transport Accessibility

The site benefits from nearby public transport facilities with an existing bus route within close vicinity of the Site includes the 544, which operates on Johnson Road, stopping in both directions some 30m to 60m south of the intersection with Breccia Parade a distance which is within a five-minute walk of the entre site. Bus service 544 provides a link between the site and Wellard Train Station and Town Centre to the west.

The frequency of service 544 during the week (Mon to Fri) is at an excellent 15-to-20-minute interval in the morning peak period between 06:05am and 08:42am, increasing to an hourly frequency between 09:00am and 2:30pm and then between 20 to 30 minutes frequency between 3:15pm and 7:00pm. The frequency of service on Saturdays and Sundays is hourly during the main part of the day time (8:00am to 8:00pm). It is considered that these excellent frequencies during peak period times will continue to encourage trips by public transport as the development Site continues to build out.

Wellard Train Station is accessible via bus service 544 and provides access to the Mandurah Railway Line and alternate bus services 541 and 542.

During the week, the Mandurah railway line carries passenger rail services between Perth city and stations in between, stopping at Wellard Train Station at intervals of approximately 5 to 10 minutes during the morning peak period and every 10 to 15 minutes during the remainder of the day. The frequency of services from Perth Station to Wellard Train Station are very similar during the evening peak period. The frequency reduces past 10:00pm to every 30 minutes until 12:30am.

The facilities at Wellard Train Station include a total of 263 long-term parking bays and 13 short-term parking bays with provision for motorcycle parking. The station is listed as 'Independent Access', meaning it meets higher accessibility standards for universal access and access to the station is not via a pedestrian crossing.

#### 7.6 Road Safety Considerations

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A search of the Main Roads WA Reporting Centre for crash data surrounding the site was undertaken for the 2.0 kilometre section of Johnson Road/Irasburg Parade/Cavendish Boulevard between and including the intersections with Wellard Road and Mortimer Road for the period between 1 January 2018 and 31 December 2022

No crashes are recorded as occurring at the existing roundabout intersection of Johnson Road/Irasburg Parade/Breccia Parade. In addition, no crashes are recorded as occurring at the existing roundabout intersection of Wellard Road/Cavendish Boulevard.

A total of 10 crashes have been recorded on Johnson Road/Irasburg Parade/Cavendish Boulevard between Wellard Road and Mortimer Road, 8 of which involved property damage only type crashes and 2 which involved hospitalisation of those involved as follows:

The crash which involved a 'head-on' impact with hospitalisation required, occurred on Irasburg Parade 43 metres east of Fairhaven Boulevard. The crash involved the police pursuit of a stolen vehicle which crashed in this location and struck a private car which had stopped to give way to the police. This crash may be considered a 'one-off' incident in this location and is not attributable to the road environment or geometry of this location.

The crash which involved a 'right-angle' impact with hospitalisation required, occurred on Cavendish Boulevard at the intersection with Huntington Avenue. The right turning vehicle into Huntington Drive failed to give way to a vehicle on Cavendish Boulevard which flipped the vehicle onto its side. Forward sight lines at this intersection are good with the alignment of Cavendish Boulevard relatively straight in this location and as such the road environment is not considered to be a contributing factor.

In relation to the above crashes and the remaining eight crashes resulting in property damage only, there appears to be no specific pattern or trend of crash types occurring in one identified location, with most crashes spread across the study area.

A total of 16 crashes have been recorded at the roundabout intersection of Bertram Road/Mortimer Road/Johnson Road. The majority of these crashes (63%) which have occurred at this intersection are of a 'rear-end' type, which appears to be a significant trend, with 2 of the 10 rear-end crashes resulting in medical attention being required. Right turning crashes account for the remaining 37% of crashes in this location.

It is unlikely that the proposed development site has the potential to significantly exacerbate the recorded crash types, due to the associated traffic generation of the site being less than 10% increase of traffic volumes at all locations other than the roundabout intersection of Johnson Road/Irasburg Parade/Breccia Parade.

#### 7.7 Speed Limit and School Zones

Furthermore, it is a recommendation of this Transport Impact Assessment that City of Kwinana in consultation with Main Road WA (custodians of speed zoning in WA), investigate the potential to reduce the prevailing speed limit of Johnson Road and Irasburg Parade on both approaches to the Breccia Parade roundabout from 60km/h to 50km/h and introduce a School Zone Speed Limit on Johnson Road and Irasburg Parade, to include the roundabout at Breccia Parade, with the intention of improving road safety for vulnerable road users crossing Johnson Road between Lot 506 site, Oakabella Estate and Wellard Primary School once these developments are significantly occupied.

This recommended speed limit change would effectively comprise an extension of the existing 50km/h speed zone on Irasburg Parade, south of McWhirter Promenade, which was implemented as part of the Providence Estate development and would therefore be a natural extension of the 50km/h limit as land along Irasburg Parade and Johnson Road develops into the future.

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## 7.8 Analysis of the Transport Network

The existing Johnson Road / Irasburg Parade / Breccia Parade single lane roundabout currently operates within recognised thresholds of acceptable performance with degree of saturation less than 0.8, average delays less than 35 seconds for an approach and less than 45 seconds for any individual movement and levels of service 'A' within both AM and PM peak periods under the 2023 existing traffic demands. The existing roundabout has significant spare capacity to accommodate future traffic growth on the road network.

Following full development of the Lot 506 Johnson Road site and including the remaining traffic to be generated by the Oakabella and Providence Estate development, analysis of the proposed Johnson Road/Irasburg Parade/Breccia Parade/Site Access roundabout intersection at the 2029 design horizon shows that there are predicted to be no issues with respect to traffic queuing and delays for any movement in both the AM and PM peak periods. All parameters of this capacity assessment are within recognised thresholds for acceptable intersection operation with the intersection predicted to operate around 30% of its theoretical maximum in both peak periods and a 95%ile vehicle queue of approximately 2 to 3 vehicles in the AM peak on the busiest approach road (Irasburg Parade).

From an assessment the impact of the Lot 506 traffic generation on the local road network and surrounding intersections with in a 2.0km radius of the site, it has been determined that only the Johnson Road/Irasburg Parade/Breccia Parade roundabout intersection would experience an increase of approximately 10% of the existing traffic volumes and 2029 traffic volumes, i.e. the only intersection to be materially affected by the proposed development generated traffic. Traffic impacts at other intersections would not have a material impact and typically not be discernible to the average motorist driving through these other intersections.

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## Appendix A TIA Checklist

ltem	Provided	Comments/Proposals
Summary	Υ	
Introduction / Background	Y	
Structure Plan Proposal	Y	
Regional context	•	
	Y	
Proposed land uses	Y	
Table of land uses and quantities	Y	
Major attractors / generators	Υ	
Specific issues	Υ	
Existing Situation	Υ	
Existing land uses within structure plan	Υ	
Existing land uses within 800m of structure	Υ	
plan area		
Existing road network within structure plan	Υ	
area		
Existing pedestrian / cycle network within	Υ	
structure plan area	Υ	
Existing public transport services within structure plan area	Y	
Existing road network within 2 (or 5) km of	Υ	
structure plan area	•	
Traffic flows on roads within structure plan	Υ	
area (PM and/or AM peak hours)		
Existing pedestrian / cycle networks within	Υ	
800m of structure plan area.	.,	
Existing public transport services within 800m of structure plan area.	Y	
Proposed Internal Transport Networks	Υ	
Changes / additions to existing road	Υ .	
network or proposed new road network	ī	
Road reservation widths	Υ	_
Road cross-sections & speed limits	Υ	
Intersection controls	Y	
Pedestrian / cycle networks and crossing	Y	
facilities	'	
Changes to External Transport Networks	Y	
Road network	Y	
Intersection controls	Y	
Pedestrian/cycle networks and crossing	Υ	
facilities		
Public transport services	Y	

Integration with surrounding area	Υ	
Trip attractors / generators within 800 metres	Y	
proposed changes to land uses within 800 metres	Y	
travel desire lines from development to these attractors/ generators	Y	
adequacy of external transport networks	Y	
deficiencies in external transport networks	Υ	
remedial measures to address deficiencies	Υ	
Analysis of internal transport networks	Υ	
assessment years	Υ	
time periods	Υ	
Structure plan generated traffic	Υ	
Extraneous (through) traffic	Υ	
Design traffic flows (that is, total traffic)	Υ	
Road cross-sections	Υ	
Intersection controls	Υ	
Access strategy	Υ	
Pedestrian / cycle networks	Υ	
Safe routes to schools	Υ	
Pedestrian permeability & efficiency	Υ	
Access to public transport	Υ	
Analysis of external transport networks	Υ	
Extent of analysis	Υ	
Base flows for assessment year(s)	Υ	
Total traffic flows	Υ	
Road cross-sections	Υ	
Intersection layouts and controls	Υ	
Pedestrian / cycle networks	Υ	
Conclusions	Υ	

Lot 506 Johnson Road, Wellard 42

Transport Impact Assessment – Structure Plan



Appendix B Proposed Concept Structure Plan

Wellard Residential Pty Ltd

Lot 506 Johnson Road, Wellard

Transport Impact Assessment – Structure Plan



Item 17.1 - Attachment G

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**Appendix C SIDRA Intersection Assessment Results** 

Transport Impact Assessment – Structure Plan

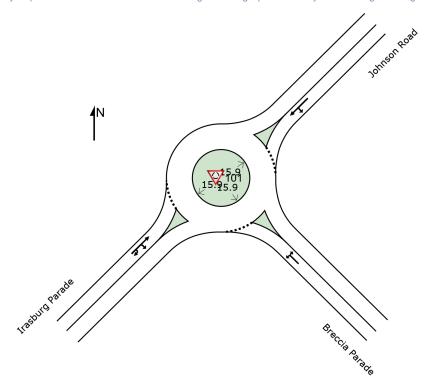
Lot 506 Johnson Road, Wellard Wellard 44

## **SITE LAYOUT**

## **▼** Site: 101 [JohnsonRoad\_BrecciaParade 2023 AM Peak (Site Folder: General)]

128 houses off Johnson Road in Wellard Site Category: Existing Design Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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## LANE SUMMARY

▼ Site: 101 [JohnsonRoad\_BrecciaParade 2023 AM Peak (Site)

Folder: Existing)]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

128 houses off Johnson Road in Wellard

Site Category: Existing Design

Roundabout

Lane Use	and P	erfor	mance												
	Dem Flov [Total	ws HV]	Arrival [ Total		Cap.	Deg. Satn	Util.	Aver. Delay	Level of Service	95% B Que [ Veh		Lane Config	Lane Length	Cap. F Adj. E	Block.
	veh/h	%	veh/h	%	veh/h	v/c	%	sec			m		m	%	%
SouthEast	: Breccia	a Para	ıde												
Lane 1 <sup>d</sup>	203	0.5	203	0.5	1077	0.189	100	5.3	LOSA	1.1	8.1	Full	280	0.0	0.0
Approach	203	0.5	203	0.5		0.189		5.3	LOSA	1.1	8.1				
NorthEast:	Johnso	n Roa	ıd												
Lane 1 <sup>d</sup>	283	2.2	283	2.2	1369	0.207	100	4.6	LOSA	1.3	9.8	Full	380	0.0	0.0
Approach	283	2.2	283	2.2		0.207		4.6	LOSA	1.3	9.8				
SouthWes	t: Irasbu	ırg Paı	rade												
Lane 1 <sup>d</sup>	300	1.8	300	1.8	1294	0.232	100	6.0	LOSA	1.5	10.9	Full	380	0.0	0.0
Approach	300	1.8	300	1.8		0.232		6.0	LOS A	1.5	10.9				
All Vehicles	786	1.6	786	1.6		0.232		5.3	LOSA	1.5	10.9				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

Lane LOS values are based on average delay per lane.

Intersection and Approach LOS values are based on average delay for all lanes.

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

d Dominant lane on roundabout approach

Approach L	ane Flo	ows (v	eh/h)								
SouthEast: Br	reccia P	arade									
Mov. From SE To Exit:	L2 SW	R2 NE	Total	%HV		Cap. veh/h	Deg. Satn v/c		Prob. SL Ov. %	Ov. Lane No.	
Lane 1	79	124	203	0.5		1077	0.189	100	NA	NA	
Approach	79	124	203	0.5			0.189				
NorthEast: Jo	hnson F	Road									
Mov. From NE To Exit:	L2 SE	T1 SW	Total	%HV		Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	116	167	283	2.2		1369	0.207	100	NA	NA	
Approach	116	167	283	2.2			0.207				
SouthWest: In	asburg	Parade									
Mov. From SW To Exit:	T1 NE	R2 SE	U SW	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	227	68	4	300	1.8	1294	0.232	100	NA	NA	

Approach	227	68	4	300	1.8	0.232	
	Total	%HV De	g.Satn	(v/c)			
All Vehicles	786	1.6	(	0.232			

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Merge Analysis								
Exit	Short	Percent Opposing	Critical	Follow-up Lane C	Capacity	Deg.	Min.	Merge
Lane	Lane	Opng in Flow Rate	Gap	Headway Flow		Satn [	Delay	Delay
Number	Length	Lane		Rate				
		% veh/h pcu/h	sec	sec veh/h	veh/h	v/c	sec	sec
There are no Exit Short Lan	es for Me	erge Analysis at this Si	te.					

Variable Demar	nd Analysis			
	Initial Queued	Residual Queued	Time for Residual	Duration of
	Demand	Demand	Demand to Clear	Oversatn
	veh	veh	sec	sec
SouthEast: Brecc	ia Parade			
Lane 1	0.0	0.0	0.0	0.0
NorthEast: Johns	on Road			
Lane 1	0.0	0.0	0.0	0.0
SouthWest: Irasb	urg Parade			
Lane 1	0.0	0.0	0.0	0.0

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## **MOVEMENT SUMMARY**

Folder: Existing)]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

128 houses off Johnson Road in Wellard Site Category: Existing Design

Roundabout

Vehic	cle Mo	ovemen	t Perfo	rmai	nce										
Mov ID	Turn	Mov Class	[ Total	lows HV]	Fl [ Total		Deg. Satn	Aver. Delay	Level of Service	95% B Que [ Veh.		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
South	Foot:	Breccia F	veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
21	L2	All MCs	79	1.3	79	1.3	0.189	3.1	LOS A	1.1	8.1	0.41	0.52	0.41	36.4
23	R2	All MCs	124	0.0	124	0.0	0.189	6.7	LOS A	1.1	8.1	0.41	0.52	0.41	36.1
Appro	ach		203	0.5	203	0.5	0.189	5.3	LOS A	1.1	8.1	0.41	0.52	0.41	36.2
North	East: 、	Johnson I	Road												
24	L2	All MCs	116	0.0	116	0.0	0.207	4.4	LOS A	1.3	9.8	0.26	0.45	0.26	50.8
25	T1	All MCs	167	3.8	167	3.8	0.207	4.8	LOS A	1.3	9.8	0.26	0.45	0.26	51.3
Appro	ach		283	2.2	283	2.2	0.207	4.6	LOS A	1.3	9.8	0.26	0.45	0.26	51.1
South	West:	Irasburg	Parade	!											
31	T1	All MCs	227	2.3	227	2.3	0.232	5.0	LOS A	1.5	10.9	0.34	0.50	0.34	50.3
32	R2	All MCs	68	0.0	68	0.0	0.232	9.1	LOS A	1.5	10.9	0.34	0.50	0.34	48.7
32u	U	All MCs	4	0.0	4	0.0	0.232	11.0	LOS B	1.5	10.9	0.34	0.50	0.34	49.9
Appro	ach		300	1.8	300	1.8	0.232	6.0	LOS A	1.5	10.9	0.34	0.50	0.34	50.0
All Ve	hicles		786	1.6	786	1.6	0.232	5.3	LOS A	1.5	10.9	0.33	0.48	0.33	46.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab). Roundabout LOS Method: SIDRA Roundabout LOS.

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

 $\label{eq:holes} \mbox{HV (\%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.}$ 

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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## LANE SUMMARY

▼ Site: 101 [JohnsonRoad\_BrecciaParade 2023 PM Peak (Site)

Folder: Existing)]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

128 houses off Johnson Road in Wellard

Site Category: Existing Design

Roundabout

Lane Use	and P	erfor	mance												
	Dem Flov [ Total	ws HV]	Arrival [ Total	HV]	Сар.	Deg. Satn	Util.	Aver. Delay	Level of Service	95% Ba Que [ Veh		Lane Config	Lane Length	Cap. F Adj. B	Block.
	veh/h	%	veh/h	%	veh/h	v/c	%	sec			m		m	%	%
SouthEast	: Brecci	a Para	ide												
Lane 1 <sup>d</sup>	194	0.0	194	0.0	1056	0.183	100	5.3	LOSA	1.1	7.8	Full	280	0.0	0.0
Approach	194	0.0	194	0.0		0.183		5.3	LOSA	1.1	7.8				
NorthEast	Johnso	n Roa	ıd												
Lane 1 <sup>d</sup>	264	2.4	264	2.4	1371	0.193	100	4.6	LOSA	1.2	8.9	Full	380	0.0	0.0
Approach	264	2.4	264	2.4		0.193		4.6	LOSA	1.2	8.9				
SouthWes	t: Irasbu	ırg Paı	ade												
Lane 1 <sup>d</sup>	236	4.0	236	4.0	1274	0.185	100	6.2	LOSA	1.1	8.6	Full	380	0.0	0.0
Approach	236	4.0	236	4.0		0.185		6.2	LOSA	1.1	8.6				
All Vehicles	694	2.3	694	2.3		0.193		5.4	LOSA	1.2	8.9				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

Lane LOS values are based on average delay per lane.

Intersection and Approach LOS values are based on average delay for all lanes.

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

d Dominant lane on roundabout approach

Approach L	ane Flo	ows (v	eh/h)								
SouthEast: Br	eccia P	arade									
Mov. From SE To Exit:	L2 SW	R2 NE	Total	%HV		Cap. veh/h	Deg. Satn v/c		Prob. SL Ov. %	Ov. Lane No.	
Lane 1	80	114	194	0.0		1056	0.183	100	NA	NA	
Approach	80	114	194	0.0			0.183				
NorthEast: Jo	hnson F	Road									
Mov. From NE To Exit:	L2 SE	T1 SW	Total	%HV		Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	75	189	264	2.4		1371	0.193	100	NA	NA	
Approach	75	189	264	2.4			0.193				
SouthWest: In	asburg l	Parade									
Mov. From SW	T1	R2	U	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
To Exit: Lane 1	NE 167	SE 63	SW 5	236	4.0		0.185	100	NA	NA	

Approach	167	63	5	236	4.0	0.185	
	Total	%HV De	g.Satr	ı (v/c)			
All Vehicles	694	2.3	(	0.193			

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.



Variable Demar	nd Analysis			
	Initial Queued	Residual Queued	Time for Residual	Duration of
	Demand	Demand	Demand to Clear	Oversatn
	veh	veh	sec	sec
SouthEast: Brecc	ia Parade			
Lane 1	0.0	0.0	0.0	0.0
NorthEast: Johns	on Road			
Lane 1	0.0	0.0	0.0	0.0
SouthWest: Irasb	urg Parade			
Lane 1	0.0	0.0	0.0	0.0

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## **MOVEMENT SUMMARY**

Folder: Existing)]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

128 houses off Johnson Road in Wellard Site Category: Existing Design

Roundabout

Vehic	cle Mo	ovemen	t Perfo	rma	nce										
Mov ID	Turn	Mov Class		lows HV]		rival lows HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service		ack Of eue Dist ] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South	East:	Breccia F	Parade												
21	L2	All MCs	80	0.0	80	0.0	0.183	3.3	LOS A	1.1	7.8	0.43	0.52	0.43	36.4
23	R2	All MCs	114	0.0	114	0.0	0.183	6.8	LOS A	1.1	7.8	0.43	0.52	0.43	36.1
Appro	ach		194	0.0	194	0.0	0.183	5.3	LOS A	1.1	7.8	0.43	0.52	0.43	36.2
North	East: 、	Johnson	Road												
24	L2	All MCs	75	1.4	75	1.4	0.193	4.4	LOS A	1.2	8.9	0.24	0.44	0.24	50.5
25	T1	All MCs	189	2.8	189	2.8	0.193	4.7	LOS A	1.2	8.9	0.24	0.44	0.24	51.5
Appro	ach		264	2.4	264	2.4	0.193	4.6	LOS A	1.2	8.9	0.24	0.44	0.24	51.3
South	West:	Irasburg	Parade												
31	T1	All MCs	167	5.0	167	5.0	0.185	5.0	LOS A	1.1	8.6	0.32	0.51	0.32	49.6
32	R2	All MCs	63	1.7	63	1.7	0.185	9.0	LOS A	1.1	8.6	0.32	0.51	0.32	48.3
32u	U	All MCs	5	0.0	5	0.0	0.185	10.9	LOS B	1.1	8.6	0.32	0.51	0.32	49.9
Appro	ach		236	4.0	236	4.0	0.185	6.2	LOS A	1.1	8.6	0.32	0.51	0.32	49.3
All Ve	hicles		694	2.3	694	2.3	0.193	5.4	LOSA	1.2	8.9	0.32	0.48	0.32	45.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab). Roundabout LOS Method: SIDRA Roundabout LOS.

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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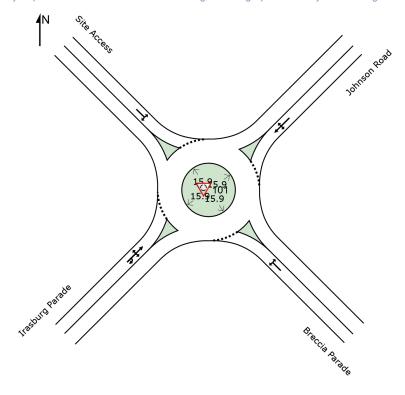
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## **SITE LAYOUT**

## **▼** Site: 101 [JohnsonRoad\_BrecciaParade 2029 w dev AM (Site Folder: Proposed)]

128 houses off Johnson Road in Wellard Site Category: Existing Design Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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## LANE SUMMARY

▼ Site: 101 [JohnsonRoad\_BrecciaParade 2029 w dev AM (Site)

Folder: Proposed)]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

128 houses off Johnson Road in Wellard

Site Category: Existing Design

Roundabout

Lane Use	and P	erfor	mance												
	Dem Flo	ws HV]	Arrival	HV]	Cap.	Deg. Satn	Util.	Delay	Level of Service	95% Ba Que [ Veh	ue Dist ]	Lane Config	Lane Length	Cap. F Adj. E	Block.
SouthEast	veh/h : Brecci	% ia Para	veh/h ide	%	veh/h	v/c	%	sec			m		m	%	%
Lane 1 <sup>d</sup>	203	0.5	203	0.5	995	0.204	100	5.8	LOSA	1.2	8.8	Full	280	0.0	0.0
Approach	203	0.5	203	0.5		0.204		5.8	LOSA	1.2	8.8				
NorthEast	Johnso	on Roa	ıd												
Lane 1 <sup>d</sup>	320	2.3	320	2.3	1297	0.247	100	5.1	LOSA	1.6	11.8	Full	380	0.0	0.0
Approach	320	2.3	320	2.3		0.247		5.1	LOSA	1.6	11.8				
NorthWest	: Site A	ccess													
Lane 1 <sup>d</sup>	91	0.0	91	0.0	786	0.115	100	6.9	LOSA	0.7	4.8	Full	280	0.0	0.0
Approach	91	0.0	91	0.0		0.115		6.9	LOSA	0.7	4.8				
SouthWes	t: Irasbu	urg Par	rade												
Lane 1 <sup>d</sup>	411	1.8	411	1.8	1283	0.320	100	5.9	LOSA	2.2	16.5	Full	380	0.0	0.0
Approach	411	1.8	411	1.8		0.320		5.9	LOSA	2.2	16.5				
All Vehicles	1024	1.5	1024	1.5		0.320		5.7	LOSA	2.2	16.5				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

Lane LOS values are based on average delay per lane.

Intersection and Approach LOS values are based on average delay for all lanes.

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

d Dominant lane on roundabout approach

Approach l	_ane Fl	ows (v	eh/h)							
SouthEast: B	reccia P	arade								
Mov. From SE To Exit:	L2 SW	R2 NE	Total	%HV		Cap. veh/h	Deg. Satn v/c	Lane Pro Util. SL C %		
Lane 1	79	124	203	0.5		995	0.204	100 N	IA NA	
Approach	79	124	203	0.5			0.204			
NorthEast: Jo	ohnson F	Road								
Mov. From NE To Exit:	L2 SE	T1 SW	R2 NW	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Pro Util. SL C %		
Lane 1	116	191	14	320	2.3	1297	0.247	100 N	IA NA	
Approach	116	191	14	320	2.3		0.247			
NorthWest: S	Site Acce	ss								

Mov. From NW To Exit:	L2 NE	R2 SW	Total	%HV			Cap. veh/h	Deg. Satn v/c		Prob. SL Ov. %	Ov. Lane No.	
Lane 1	53	38	91	0.0			786	0.115	100	NA	NA	
Approach	53	38	91	0.0				0.115				
SouthWest: I	rasburg	Parade	<b>;</b>									
Mov. From SW To Exit:	L2 NW	T1 NE	R2 SE	U SW	Total	%HV	Cap. veh/h	Deg. Satn v/c		Prob. SL Ov. %	Ov. Lane No.	
Lane 1	18	320	68	4	411	1.8	1283	0.320	100	NA	NA	
Approach	18	320	68	4	411	1.8		0.320				
	Total	%HV [	eg.Sat	n (v/c)								
All Vehicles	1024	1.5		0.320								

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Merge Analysis						
Exit Lane Number		Percent Opposing Opng in Flow Rate Lane	Critical Gap	Follow-up Lane Capacity Headway Flow Rate	Deg. Min. Satn Delay	
	m	% veh/h pcu/h	sec	sec veh/h veh/h	v/c sec	sec
There are no Exit Short Lan	es for Me	erge Analysis at this Si	te.			

Variable Dema	nd Analysis			
	Initial Queued Demand	Residual Queued Demand	Time for Residual Demand to Clear	Duration of Oversatn
	veh	veh	sec	sec
SouthEast: Brec	cia Parade			
Lane 1	0.0	0.0	0.0	0.0
NorthEast: John	son Road			
Lane 1	0.0	0.0	0.0	0.0
NorthWest: Site	Access			
Lane 1	0.0	0.0	0.0	0.0
SouthWest: Irasl	ourg Parade			
Lane 1	0.0	0.0	0.0	0.0

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## **MOVEMENT SUMMARY**

▼ Site: 101 [JohnsonRoad\_BrecciaParade 2029 w dev AM (Site)

Folder: Proposed)]

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128 houses off Johnson Road in Wellard Site Category: Existing Design

Roundabout

Vehi	cle Mo	ovement	Perfo	rmai	nce										
Mov ID	Turn	Mov Class		lows HV]		rival lows HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Ba Que [ Veh. veh		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South	East:	Breccia F	arade												
21	L2	All MCs	79	1.3	79	1.3	0.204	3.7	LOS A	1.2	8.8	0.49	0.55	0.49	36.2
23	R2	All MCs	124	0.0	124	0.0	0.204	7.2	LOS A	1.2	8.8	0.49	0.55	0.49	36.0
Appro	ach		203	0.5	203	0.5	0.204	5.8	LOS A	1.2	8.8	0.49	0.55	0.49	36.1
North	East: 、	Johnson I	Road												
24	L2	All MCs	116	0.0	116	0.0	0.247	4.7	LOS A	1.6	11.8	0.33	0.47	0.33	50.3
25	T1	All MCs	191	3.9	191	3.9	0.247	5.0	LOS A	1.6	11.8	0.33	0.47	0.33	50.8
26	R2	All MCs	14	0.0	14	0.0	0.247	9.1	LOS A	1.6	11.8	0.33	0.47	0.33	49.6
Appro	ach		320	2.3	320	2.3	0.247	5.1	LOS A	1.6	11.8	0.33	0.47	0.33	50.6
North	West:	Site Acce	ess												
27	L2	All MCs	53	0.0	53	0.0	0.115	5.4	LOS A	0.7	4.8	0.63	0.63	0.63	35.7
29	R2	All MCs	38	0.0	38	0.0	0.115	8.9	LOS A	0.7	4.8	0.63	0.63	0.63	35.5
Appro	ach		91	0.0	91	0.0	0.115	6.9	LOS A	0.7	4.8	0.63	0.63	0.63	35.6
South	West:	Irasburg	Parade												
30	L2	All MCs	18	0.0	18	0.0	0.320	4.9	LOS A	2.2	16.5	0.40	0.50	0.40	49.3
31	T1	All MCs	320	2.3	320	2.3	0.320	5.2	LOS A	2.2	16.5	0.40	0.50	0.40	50.3
32	R2	All MCs	68	0.0	68	0.0	0.320	9.2	LOS A	2.2	16.5	0.40	0.50	0.40	48.7
32u	U	All MCs	4	0.0	4	0.0	0.320	11.1	LOS B	2.2	16.5	0.40	0.50	0.40	49.9
Appro	ach		411	1.8	411	1.8	0.320	5.9	LOS A	2.2	16.5	0.40	0.50	0.40	50.0
All Ve	hicles		1024	1.5	1024	1.5	0.320	5.7	LOS A	2.2	16.5	0.41	0.51	0.41	45.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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## LANE SUMMARY

▼ Site: 101 [JohnsonRoad\_BrecciaParade 2029 w dev PM (Site

Folder: Proposed)]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

128 houses off Johnson Road in Wellard

Site Category: Existing Design

Roundabout

Lane Use	and F	erfor	mance												
	Dem Flo	WS	Arrival		Сар.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	95% B	eue	Lane Config	Lane Length	Cap. F Adj. E	
	[ Total veh/h	HV J %	[ Total veh/h	HV] %	veh/h	v/c	%	sec		[ Veh	Dist ] m			%	%
SouthEast	: Brecci	ia Para	ide												
Lane 1 <sup>d</sup>	194	0.0	194	0.0	932	0.208	100	6.3	LOSA	1.2	9.0	Full	280	0.0	0.0
Approach	194	0.0	194	0.0		0.208		6.3	LOSA	1.2	9.0				
NorthEast	: Johnso	on Roa	nd												
Lane 1 <sup>d</sup>	374	2.3	374	2.3	1344	0.278	100	5.3	LOSA	1.9	13.9	Full	380	0.0	0.0
Approach	374	2.3	374	2.3		0.278		5.3	LOSA	1.9	13.9				
NorthWest	t: Site A	ccess													
Lane 1 <sup>d</sup>	44	0.0	44	0.0	883	0.050	100	6.1	LOSA	0.3	2.0	Full	280	0.0	0.0
Approach	44	0.0	44	0.0		0.050		6.1	LOSA	0.3	2.0				
SouthWes	t: Irasbu	urg Pai	rade												
Lane 1 <sup>d</sup>	308	3.4	308	3.4	1229	0.251	100	6.2	LOSA	1.6	12.2	Full	380	0.0	0.0
Approach	308	3.4	308	3.4		0.251		6.2	LOSA	1.6	12.2				
All Vehicles	920	2.1	920	2.1		0.278		5.8	LOSA	1.9	13.9				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

Lane LOS values are based on average delay per lane.

Intersection and Approach LOS values are based on average delay for all lanes.

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

d Dominant lane on roundabout approach

Approach l	Lane Flo	ows (v	eh/h)								
SouthEast: E	Breccia P	arade									
Mov. From SE To Exit:	L2 SW	R2 NE	Total	%HV		Cap. veh/h	Deg. Satn v/c	Lane P Util. SL %	rob. . Ov. %	Ov. Lane No.	
Lane 1	80	114	194	0.0		932	0.208	100	NA	NA	
Approach	80	114	194	0.0			0.208				
NorthEast: J	ohnson F	Road									
Mov. From NE To Exit:	L2 SE	T1 SW	R2 NW	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane P Util. SL %		Ov. Lane No.	
Lane 1	75	260	39	374	2.3	1344	0.278	100	NA	NA	
Approach	75	260	39	374	2.3		0.278				
NorthWest: S	Site Acce	SS									

Mov. From NW To Exit:	L2 NE	R2 SW	Total	%HV			Cap veh/r			Prob. SL Ov. %	Ov. Lane No.	
Lane 1	21	23	44	0.0			883	0.050	100	NA	NA	
Approach	21	23	44	0.0				0.050				
SouthWest: In	rasburg	Parade	<b>;</b>									
Mov. From SW To Exit:	L2 NW	T1 NE	R2 SE	U SW	Total	%HV	Cap veh/r			Prob. SL Ov. %	Ov. Lane No.	
Lane 1	35	205	63	5	308	3.4	1229	0.251	100	NA	NA	
Approach	35	205	63	5	308	3.4		0.251				
	Total	%HV [	eg.Sat	n (v/c)								
All Vehicles	920	2.1		0.278								

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Merge Analysis							
Exit Lane Number		Percent Opposing Opng in Flow Rate Lane	Critical Gap	Follow-up Lane Capa Headway Flow Rate		Min. Delay	Merge Delay
	m	% veh/h pcu/h	sec	sec veh/h ve	h/h v/c	sec	sec
There are no Exit Short Lan	es for Me	erge Analysis at this Si	ite.				

Variable Demand Analysis								
	Initial	Residual	Time for	Duration				
	Queued	Queued	Residual	of				
	Demand	Demand	Demand to Clear	Oversatn				
	veh	veh	sec	sec				
SouthEast: Breccia Parade								
Lane 1	0.0	0.0	0.0	0.0				
NorthEast: Johnson Road								
Lane 1	0.0	0.0	0.0	0.0				
NorthWest: Site Access								
Lane 1	0.0	0.0	0.0	0.0				
SouthWest: Irasburg Parade								
Lane 1	0.0	0.0	0.0	0.0				

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## **MOVEMENT SUMMARY**

▼ Site: 101 [JohnsonRoad\_BrecciaParade 2029 w dev PM (Site)

Folder: Proposed)]

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128 houses off Johnson Road in Wellard Site Category: Existing Design

Roundabout

Vehicle Movement Performance															
Mov ID	Turn	Mov Class		lows HV]		rival lows HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% B Que [ Veh. veh	ack Of eue Dist ] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South	SouthEast: Breccia Parade														
21	L2	All MCs	80	0.0	80	0.0	0.208	4.2	LOS A	1.2	9.0	0.55	0.59	0.55	36.0
23	R2	All MCs	114	0.0	114	0.0	0.208	7.8	LOS A	1.2	9.0	0.55	0.59	0.55	35.8
Appro	ach		194	0.0	194	0.0	0.208	6.3	LOSA	1.2	9.0	0.55	0.59	0.55	35.9
NorthEast: Johnson Road															
24	L2	All MCs	75	1.4	75	1.4	0.278	4.6	LOS A	1.9	13.9	0.31	0.47	0.31	49.8
25	T1	All MCs	260	2.8	260	2.8	0.278	4.9	LOS A	1.9	13.9	0.31	0.47	0.31	50.9
26	R2	All MCs	39	0.0	39	0.0	0.278	9.0	LOS A	1.9	13.9	0.31	0.47	0.31	49.4
Appro	ach		374	2.3	374	2.3	0.278	5.3	LOS A	1.9	13.9	0.31	0.47	0.31	50.5
North	West:	Site Acce	ess												
27	L2	All MCs	21	0.0	21	0.0	0.050	4.3	LOS A	0.3	2.0	0.54	0.58	0.54	36.1
29	R2	All MCs	23	0.0	23	0.0	0.050	7.8	LOS A	0.3	2.0	0.54	0.58	0.54	35.8
Appro	ach		44	0.0	44	0.0	0.050	6.1	LOS A	0.3	2.0	0.54	0.58	0.54	36.0
SouthWest: Irasburg Parade															
30	L2	All MCs	35	0.0	35	0.0	0.251	4.9	LOS A	1.6	12.2	0.39	0.51	0.39	49.2
31	T1	All MCs	205	4.6	205	4.6	0.251	5.3	LOS A	1.6	12.2	0.39	0.51	0.39	49.7
32	R2	All MCs	63	1.7	63	1.7	0.251	9.3	LOS A	1.6	12.2	0.39	0.51	0.39	48.3
32u	U	All MCs	5	0.0	5	0.0	0.251	11.2	LOS B	1.6	12.2	0.39	0.51	0.39	49.8
Appro	ach		308	3.4	308	3.4	0.251	6.2	LOS A	1.6	12.2	0.39	0.51	0.39	49.4
All Ve	hicles		920	2.1	920	2.1	0.278	5.8	LOSA	1.9	13.9	0.40	0.51	0.40	45.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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JohnsonRoadBrecciaParade.sip9

# 17.2 CASUARINA CENTRAL PRECINCT STRUCTURE PLAN AMENDMENT CONSIDERATION OF SUBMISSIONS AND RECOMMENDATION TO THE WESTERN AUSTRALIAN PLANNING COMISSION

#### SUMMARY

A proposed amendment to the Casuarina Central Precinct Structure Plan (CCPSPA) has been lodged with the City of Kwinana (the City) in accordance with Schedule 2, Clause 29(1) of the *Planning and Development Regulations 2015* (P&D Regulations). The proposed CCPSPA is shown in Figures 3 and 4. Once approved, the CCPSPA will guide and coordinate development of the Casuarina Central Cell including the additional lots that are subject to this amendment.

The Western Australian Planning Commission (WAPC) is the determining authority for approval of structure plans and structure plan amendments, including the proposed CCPSPA. As a local government, the City is required to provide a report to the WAPC within 60 days of the end of advertising (by 2<sup>nd</sup> May). Due to the complexity of the CCPSPA the WAPC agreed to extend the assessment period to 28 May 2024.

The report to WAPC is required to:

- List and respond to submissions received on the CCPSPA;
- Provide an assessment of the CCPSPA based on planning principles; and
- Provide a recommendation on whether the CCPSPA should be approved or not, with or without modification.

The proposed CCPSPA is situated within the Casuarina Urban Cell. The proposed amendment (Amendment No. 1) is an expansion of the approved structure plan area to include approximately 22ha of additional land (the 'Expansion Area') located south of the approved Casuarina North Local Structure Plan and north of Orton Road. There are also consequential modifications to land within the approved Structure Plan area to accommodate a revised road hierarchy.

The following changes are proposed by the CCPSPA:

- Expansion of the approved Structure Plan area to include Lots 1,2,23,24, the MRS Urban zoned portion of Lot 25 Orton Road, Casuarina and part of the Peel sub-regional drain P1 and P1A (the eastern part of Lot 44,500 and the western part of Lot 45) and designation of this land as 'Residential' 'Special Use', 'Parks, Recreation and Drainage', 'Public Purpose' and roads.
- Modification to road classification, intersection treatments and road reservation width for 'Major Access Street' (18m reserve) west of Primary School and playing fields to a 'Neighbourhood Connector' (25m reserve).
- Modifications to Landgren Road intersection treatments and classification from 'Neighbourhood Connector' to 'Major Access Street' and removal of any road widening requirement consequently.
- Change in land use designation of Local Centre site to Residential (R40-R60).

Although the development of the CCPSPA will be subject to later subdivision and development approval processes that will refine the land area and built form for each use, the zoning and land uses proposed in the CCPSPA will facilitate eventual development indicative of that described in Table 1.

Table 1: Summary of land use intended for Casuarina Central Precinct as amended

Zoning / Land Use	Current Casuarina Central LSP	Amended Casuarina Central LSP	Comprising (as amended)
Total LSP area	96.12ha	121.45ha	
Residential	48.91ha (952 lots)	54.72ha	1,103 residential lots equating to 20.16 dwellings per site hectare and 26.66 dwellings per site hectare of residential.
Service	7.81ha	7.10ha	
Commercial			
Commercial (Local Centre)	0.07ha	Nil	
Creditable Public Open Space (as per Liveable Neighbourhoods)	12.61ha (18.37%)	14.34ha (18.70%)	Due to extent of REW and buffers, the power easement and the area required for passive and active recreation.
Public Open Space Reserves (includes drainage, wetlands)	28.73ha	39.28ha	Includes District Hard Courts land.
Primary School	3.5ha	3.5ha	

The City advertised the CCPSPA between January 11 and February 27, 2024, and held a public meeting on 12 February 2024 at Casuarina Wellard Community Hall. The City received eleven submissions.

The CCPSPA involves critical implementation issues that have not been addressed to the City's satisfaction, resulting in a recommendation that the CCPSPA is not approved. In summary, the City's reasons for not supporting the CCPSPA are:

- 1. The proponent does not own any land in the Expansion Area and the majority landowner does not support the proposed amendment indicating their reluctance to sell or to develop their land.
- 2. The City is not satisfied that the Resource Enhancement Wetland (REW) across Lots 24 and 25 has been mapped to show its full extent which casts doubt on the ability of the CCPSPA to deliver the District Hard Courts in their proposed location (Figure 5).
- 3. There is a significant amount of environmental information lacking within the EAR with Spring flora and fauna surveys and black cockatoo habitat surveys yet to be carried out.
- 4. The City does not support the removal of the Local Centre shown in the approved Casuarina Central Structure Plan (see Figure 8).
- 5. Finally, the City considers the provision of a north south access road to run alongside the High Voltage Transmission Line north of Orton Road connecting with the existing road in the Casuarina North Structure Plan to be critical to the successful planning of the Casuarina Central Cell. The omission of this road is further reason not to support this amendment.

## OFFICER RECOMMENDATION

## **That Council:**

1. Advise the Western Australian Planning Commission (WAPC) pursuant to Schedule 2 Regulation 20 of the *Planning and Development (Local Planning Schemes) Regulations 2015*, that the City of Kwinana does not support the proposed Casuarina Central Precinct Structure Plan Amendment No. 1 (CCPSPA) for the following reasons:

- a) Implementation of the CCPSPA is uncertain due the proponents lack of land ownership in the Expansion Area and the lack of support for the CCPSPA from the majority land owner in the Expansion Area.
- b) Inadequate mapping of the REW across Lots 24 and 25 and the potential implications for the provision of District Hard Courts on Lot 24.
- c) The environmental information provided in the Environmental Assessment Report is lacking. No spring surveys or black cockatoo habitat surveys have been carried out in the Expansion Area.
- d) Change in land use designation of Local Centre to Residential (R40-R60) is contrary to the City's Local Commercial and Activity Centre Strategy (2023).
- e) No access road has been provided through the Expansion Area to access the Service Commercial Lots south of Orton Road providing a continuation of the service road shown on the approved Casuarina Central Structure Plan and approved Casuarina North Local Structure Plan.
- 2. Adopt the Schedule of Submissions (Attachment C) and advise the Submitters of Council's decision.
- 3. Advise the WAPC that, in the event the WAPC considers the proposed Casuarina Central Precinct Structure Plan Amendment No. 1 should be approved, the following modifications and additional information should be undertaken or considered further:
  - (a) Subject to the outcome of Resource Enhancement Wetland mapping and associated buffer, a viable location for District Hard Courts must be identified within the Casuarina Central Precinct and agreed with the City of Kwinana.
  - (b) Further Flora and Fauna survey work and habitat assessment is required to address substantial gaps in the Environmental Report prepared.
  - (c) The Applicant's response to Main Roads Western Australia (MRWA) comments on the Traffic Impact Assessment should be referred to MRWA in order for MRWA to assess whether the TIA is sufficient.
  - (d) The Applicant's response to the Department of Water and Environmental Regulation (DWER) comments on the Local Water Management Strategy (LWMS) should be referred to DWER in order for DWER to assess whether the LWMS is sufficient.
  - (e) The Department of Fire and Emergency Service has not provided comment on the Bushfire Management Plan or CCPSPA at the time of preparing this report.
  - (f) The proposed 100m separation distance from the Mushroom Farm should be specifically endorsed by the WAPC and that notifications be placed on land within the 100m separation distance that notifies current and prospective occupiers of the potential for odour and allergies due to the proximity of the Mushroom Farm.
  - (g) Further opportunities should be considered to increase residential density within the CCPSPA to meet the minimum requirement set out in Liveable Neighbourhoods (2015) and *Perth and Peel* @ 3.5 million.

## **VOTING REQUIREMENT**

Simple majority.

## **DISCUSSION**

#### **BACKGROUND**

## **Casuarina Central Structure Plan**

The Casuarina Central Structure Plan was adopted by WAPC in May 2021. Council considered the proposed Structure Plan at their meeting held on 12 September 2019 when Council resolved to support the proposed Structure Plan with modifications. The full council resolution can be found at **Attachment A.** 

The approved Structure Plan has yet to be implemented.

## **Site Description**

The approved Casuarina Central Structure Plan (CCSP) area consists of 15 separate landholdings totalling 96.1223 ha south of Orton Road, east of the Kwinana Freeway and west of Bush Forever Site no. 273. Much of this land is owned by Department of Housing. The site currently comprises mostly rural residential and vacant rural land and includes a Western Power High Voltage Transmission Line which is protected by an easement.

The proposed Expansion Area comprises 5 separate landholdings totalling 21.93 ha, south of the Peel Sub Drain and north of Orton Road. The Expansion Area includes existing rural residential dwellings and remnant vegetation. Lot 1 is the Costa Mushroom Farm and a Western Power High Voltage transmission line protected by an easement is located within Lot 2. A Resource Enhancement Wetland (REW) is located across parts of Lots 23, 24 and 25.

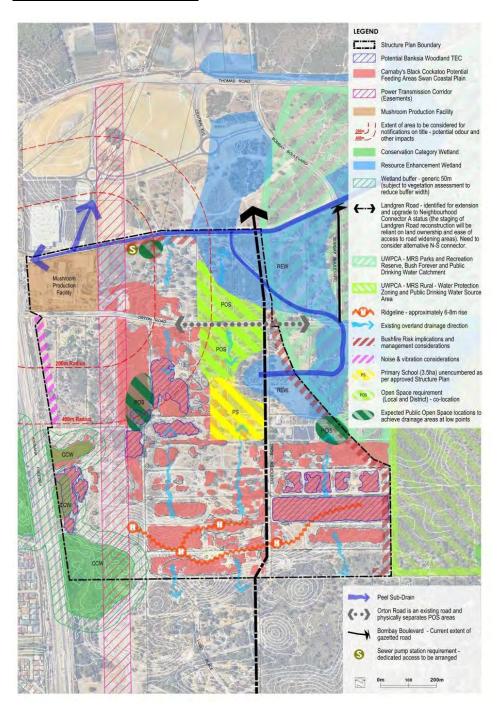
Figure 1: Expanded Structure Plan Boundary



Several constraints have impacted the design options for the Expansion Area (Figure 2) including:

- Two existing 330kW High Voltage Overhead Transmission Line are located parallel to the western boundary of the Expansion Area. These are protected by an easement.
- Odour buffer to the Costa Mushroom Farm affecting the northwestern corner of the Expansion Area.
- Two geomorphic wetlands intersect the Expansion Area: one Resource Enhancement Wetland (REW) across part of Lots 23, 24 and 25 and one Multiple Use Wetland (MUW) on Lot 2.
- Potential black cockatoo habitat on Lot 25 in the east of the Expansion Area.

Figure 2: Constraints map.



#### Planning Framework

The Expansion Area is zoned 'Development' under the City of Kwinana Planning Scheme No. 2 (LPS2).

The Expansion Area is included within the Jandakot District Structure Plan, which was adopted in 2007 and outlines the physical framework for the future development of the land immediately surrounding the Jandakot Underground Water Pollution Control Area. The Expansion Area is identified as 'Medium-Term Urban'; 'Parks and Recreation Reservation' and 'Mixed Use'.

The draft Eastern Residential Intensification Concept Plan (ERIC) drafted in 2005 (but never adopted by WAPC) identifies structure planning across the Expansion Area with land uses including Residential R20, Mixed Business, Recreation, and a Distributer Road. The ERIC Plan identifies Landgren Road as extending north from Orton Road through Lot 25 and a need to provide for District Recreation within the Expansion Area. The requirement for District Recreation in the general location of Lots 23 and 24 Orton Road is also reflected in the City's Community Infrastructure Plan (2022).

The City of Kwinana's Local Planning Policy No. 6 (LPP6) Guidelines for Structure Planning in the Casuarina Cell (adopted in 2018) provides guidance on the district planning matters to be considered during the preparation of Local Structure Plans within the Casuarina Urban Cell to ensure that subdivision and development occurs in an orderly and proper manner.

The Casuarina Cell comprises three precincts: the northern, central and southern precinct. The approved Casuarina Central Structure Plan is within the central precinct however the Expansion Area is located within the northern precinct. LPP6 identifies matters that structure plans should address within each precinct. The specific requirements to be addressed within the Expansion Area are as follows:

- Bulky Goods and showroom uses should be located adjacent to Thomas Road and the Kwinana Freeway to make best use of the access and exposure from these roads.
- Development of a District Sporting Ground located on land to be acquired by the Development Contribution Plan in accordance with the adopted Community Infrastructure Plan (or most recent version of).
- A maximum of 80% of the total POS requirement in the North Precinct shall be provided within the precinct with the shortfall (maximum 20%) being provided as a cost contribution through the DCP.
- The identification of a site for a Local Centre (Commercial and activity centre) (800m2 retail floor space) should be provided at the intersection of Landgren Road and Orton Road either in the North Precinct or the Central precinct.

The City of Kwinana's draft Local Planning Strategy, advertised by the City in mid-2023, includes a notation for a proposed recreation facility in the Expansion Area and the provision of a local centre within the existing approved Structure Plan Area.

The City's Local Commercial and Activity Centre Strategy 2023 (LCACS) seeks to ensure the provision and evolution of a viable and convenient network of activity centres to serve the needs of the City's population over time. The Strategy is based upon a Needs Assessment to identify suitable locations to provide for new demand as residential areas develop. The Activity Centre hierarchy in the adopted LCACS includes a local centre in Casuarina Central with up to 1300 m² of retail floorspace.

The Expansion Area (and approved Structure Plan area) is within two Development Contribution Plan Areas – Development Contribution Area 3 and Development Contribution Area 10. The proponent has submitted a Local Planning Scheme Amendment Request to include additional infrastructure items in DCP 3 as follows:

- Land acquisition and construction of the Neighbourhood Connector from the constructed roundabout north of the Structure Plan area to the southern extent of the Structure Plan Area generally as depicted on the Structure Plan Map and including land within the Casuarina North – East of Freeway Structure Plan (SPN2197), required to serve the Casuarina Urban Cell, and;
- 2. Land acquisition costs for the Sewer Pump Station within Lot 2 Orton Road, required to serve the Casuarina Urban Cell.

The proposed Scheme Amendment request is currently being considered by the City and will be reported separately.

#### Proposal

This proposed amendment to the CCSP represents an extension of the approved Structure Plan area (the Expansion Area), in addition to minor consequential modifications to land within the approved CCSP area. The proposed modifications to both the Expansion Area and approved CCSP Area are summarised as follows:

- 1. Expansion Area: Expansion of the approved Structure Plan area to include Lots 1, 2, 23, 24 and portion of Lot 25 Orton Road, Casuarina and designation of land as 'Residential', 'Special Use', 'Parks, Recreation and Drainage' and 'Public Purpose'.
- 2. Approved Structure Plan Area: Modification to road classification and increase in road reservation width of 'Major Access Street' (18m reserve) west of Primary School and playing fields to a 'Neighbourhood Connector' (25m reserve).
- 3. Approved Structure Plan Area: Modification to Landgren Road intersection treatments and classification from 'Neighbourhood Connector' to 'Major Access Street' and removal of any road widening requirement consequently.
- 4. Approved Structure Plan Area: Change in land use designation of Local Centre site to Residential (R40-R60).

The CCPSPA establishes a set of land use, development and subdivision requirements to guide a form of development that is consistent with the accepted urban design principles of the approved CCSP. Proposed land use designations and reservations within the Expansion Area include:

- The existing Costa Mushroom Farm (Lot 1) has been designated as "Special Use" with a proposed permissible land use of Mushroom Production Facility and to allow an incidental office.
- The western portion of Lot 2 has been designated as "Parks, Recreation and Drainage" and has a Power Easement notation over the area to support the protection of the Western Power easement.
- A portion of Lot 2 is designated for "Public Purpose Water Supply Sewerage and Drainage" to allow a sewer pump station to support the Casuarina North and Casuarina Central cells.
- The remainder of Lot 2 and the entire Lot 23 Orton Road have been designated as "Residential" with a proposed density coding range of R25-R40.
- Lot 24 and a portion of Lot 25 Orton Road are designated as "Parks, Recreation and Drainage" and will accommodate the District Sporting Ground and support the retention of the REW on the land including the provision of a 30m buffer.

The proponent also proposes the following modifications to the approved Structure Plan.

- The alignment of the neighbourhood connector is proposed to move further west from Landgren Road. Accordingly, modification to the road classification, intersection treatments and road reservation width from west of Primary School and playing fields from a 'Major Access Street' (18m reserve) to a 'Neighbourhood Connector' (25m reserve) is proposed. As a result of these changes to the district movement network, it is proposed that Landgren Road be downgraded to a 'major access street'.
- The Local Centre is proposed to be removed from the Structure Plan area and replaced with Residential, with the density of the Lots designated as R40-R60 to align with the surrounding R40-R60 density coding adjacent to the future primary school.
- A north-south neighbourhood connector will provide access to lots within the Expansion Area and will continue to a constructed roundabout that connects to Thomas Road, north of the proposed CCPSPA. Orton Road will remain as an east-west major access road.

No other changes to residential density designations, Public Open Space (POS), School Sites or Service Commercial areas are proposed within the approved Structure Plan area.



Figure 3 Proposed Casuarina Central Structure Plan Amendment No. 1



Figure 4- Modified Casuarina Central Precinct Development Concept Plan

The City has assessed the CCPSPA against a range of statutory and strategic planning documents as well as sought comments from the public and from government agencies. From this assessment 14 key matters have been identified:

- 1. Land Ownership and Acquisition
- 2. Environmental Considerations
- 3. Realignment of the Neighbourhood Connector
- 4. Location of the District Hard Courts
- 5. Removal of the Local Centre
- 6. Traffic Impact Assessment
- 7. Access/ Egress from Thomas Road to the Service Commercial Lots South of Orton Road
- 8. Management of Water Quality and Quantity
- 9. High Voltage Power Lines
- 10. Mushroom Farm
- 11. Adequacy of Public Primary School Site
- 12. Bush Fire Management
- 13. Residential Density
- 14. Public Open Space

Each of these matters are discussed separately with a recommendation on how the city should respond.

## 1. Land Ownership and Acquisition

The Expansion Area is in five separate landholdings none of which are owned by the proponent. It is understood that an agreement is in place with the owner of Lot 23 to secure land for part of the proposed road reserve.

The remaining Lots in the Expansion Area, with the exception of the Mushroom Farm, (Lots 2,24 and 25) are held by three different entities but are owned by the same people. These properties form the majority of the Expansion Area with the proposed Neighbourhood Connector running through the north west corner of Lot 24 and the District Hard Courts located on the remainder of the Lot. Lot 25 is predominantly a Resource Enhancement Wetland (REW) and Lot 2 predominantly comprises the Western Power easement adjacent to the Mushroom Farm.

The owners of Lots 2,24 and 25 do not support the proposed CCPSPA (See **Attachment C**) submitting:

"A lack of pre-lodgement consultation has resulted in the inequitable placement of facilities. That is, Lots 2,24 and 25 Orton Road have been encumbered by a sewer pump station, a portion of the district road access [neighbourhood connector] and the District Open Space [District hard courts]. Whilst it is noted that some compensation has/will be provided the location of these items solely on land not controlled by the applicant is concerning and does not represent an equitable approach to planning in this area"

Further, and importantly for the implementation of the CCPSPA, the landowners note in their submission that "at this time the landowner of Lot 24 has no desire to develop or sell their property". In their view, the proposed location of the district hard courts and road reserve on Lots 24 and 25 provides them with no incentive to develop these parcels.

The City understands that the proponent has made attempts to negotiate with the owners of Lots 2,24 and 25 but to date these negotiations have not been successful.

The alignment of the Neighbourhood Connector north-south through Casuarina Central to Thomas Road is critical to the implementation of the CCPSPA. A portion of the road has already been constructed within Casuarina North Local Structure Plan area. Accordingly, the alignment of the Neighbourhood Connector south through the Expansion Area and through the approved CCSP Area has been designed to tie into the existing road at the roundabout north of the Peel sub drain. For this reason, the proposed road alignment cannot move any further west than shown and must bisect the north eastern corner of Lot 24.

The City has received a scheme amendment request from the CCPSPA proponents to incorporate two additional infrastructure item into Development Contribution Plan 3 (DCP3); the North-South Neighbourhood Connector and sewer pump station. The proponent believes that this will facilitate development within the North and Central precincts of the Casuarina Urban Cell and support orderly and proper planning. The inclusion of these items in the DCP would be recognition of their importance to the development of the Casuarina Central urban cell. The City is currently assessing this Scheme Amendment Request.

The proponent, recognising that the landowner of Lots 2, 24 and 25 is reluctant to sell, has indicated to the City that they would be keen for the City to explore options to resume Lot 24 for the road reserve. It is the City's understanding that the proponents believe inclusion of the road into DCP3 strengthens the case for this. Inclusion of the road in DCP3 would allow the City to recoup costs through developer contributions as the Casuarina Cells develop, although it would be years before this would be realised.

The proponent believes that it would be in the City's interest to secure this land to ensure the timely provision of the District Hard Courts which are proposed to be located on Lot 24. The City disputes this view. The City's Community Infrastructure Plan (2022) states that the District Hard Courts would not be required until at least 2033 therefore there is no urgency for the City to acquire Lot 24. Further, the City has concerns regarding the suitability of Lot 24 for that purpose (see 2. Environmental Issues) and would be open to investigating alternative locations for the District Hard Courts.

Should it be agreed that the land should be compulsorily acquired, the acquisition would typically follow a legal process outlined in the Land Administration Act 1997 and the Land Acquisition Act 1969. There is provision within these acts for State or Local Governments to purchase land if it is in the public interest. Therefore, should the State consider the resumption of Lot 24 to be in the public interest then the State could pursue the matter rather the City. The Land administration Act (section 170) sets out how land may be required by the Minister of lands with or without the agreement of the landowner.

It is recommended that the proposed CCPSPA is not supported due the uncertainty over its implementation given the proponent does not own any land with the Expansion Area and the majority landowner does not support the proposed Structure Plan Amendment and has specified their reluctance to sell or develop their land at this time.

#### 2. Environmental issues

In the Expansion Area a Multiple Use Wetland (MUW) is mapped on the northern portion of Lot 2. Given its location primarily in the Western Power easement this MUW is not considered to be an environmental constraint to development.

A REW is mapped across both Lots 24 and 25 Orton Road with a small portion located in the northwest corner of Lot 23. Development on REWs is not typically supported by the Department of Biodiversity, Conservation and Attractions (DBCA) or the City's environmental planners, which has potential implications for the delivery of the District Hard Courts which are proposed to be located on Lot 24 (please refer to annotation 3 on Figure 4).

The CCPSPA shows a 30m buffer surrounding the REW (See Figure 5) with the District Hard Courts located directly to the west of the buffer, sandwiched in-between the proposed wetland buffer and the Neighbourhood Connector. Advice received from Department of Water and Environmental Regulation (DWER) states that any development (including drainage infrastructure) should be located outside of the REW and a 50m buffer area. Further, DBCA has noted in their submission that the wetlands and buffers shown in the proposed CCPSPA have not been correctly mapped using the boundaries of the current *Geomorphic Wetland Swan Coastal Plain* (GWSCP) dataset. DBCA recommends a review all wetland mapping in the expansion area in accordance with 'A Methodology for the Evaluation of Wetlands of the Swan Coastal Plain (DBCA, 2017).

The comments from DBCA and DWER reflects the view of the City's environmental officer. The CCPSPA appears to show an unofficial realignment of the REW and a reduction in buffer width from 50m to 30m. This results in a disputed area in the order of 4ha. Figure 5 below demonstrates this issue with the Geomorphic Wetland Swan Coastal Plain dataset overlayed over the proposed CCPSPA.

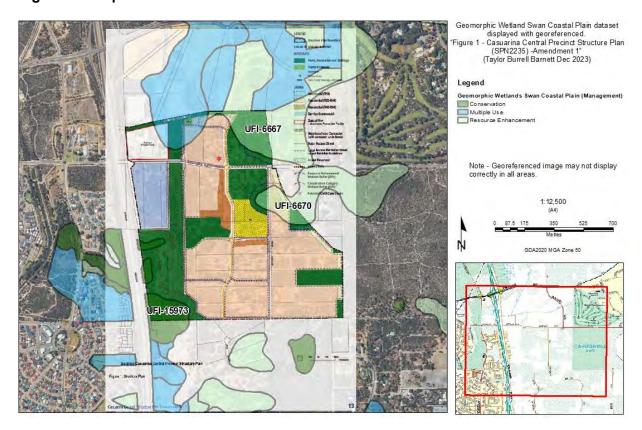


Figure 5: Disputed areas of wetland

The advice received from DBCA, DWER and the City's Environmental Officers means that the District Hard Courts are undeliverable in their proposed location. Should the REW boundary be located further into Lot 24 and a 50m buffer required rather than a 30m buffer as shown on the structure plan map, then the amount of land remaining east of the Neighbourhood Connector would be insufficient to meet the 3ha required for the delivery of the District Hard Courts (as specified in the City's Community Infrastructure Plan; 2022.)

The City raised the incorrect mapping of the REW with the proponent in December 2023 when the CCPSPA was lodged. The proponent's response is that they intend to apply to DBCA to reclassify the REW to a MUW however, to date this process has not commenced.

It is therefore recommended that the City does not support the proposed CCPSPA because of the incorrect mapping of the REW. Advice from DBCA shows the extent of the REW, with an additional requirement of a 50m buffer makes the delivery of District Hard Courts in this location impossible.

## Flora and Fauna Surveys

The CCPSPA states that no threatened or priority flora were found in the Expansion area during three historical surveys undertaken over the undeveloped portions of the Expansion Area (Lots 2,23,24 and 25). Previous surveys included in the JBS&G Environmental Assessment Report (EAR) (Appendix F2) indicate that much of the native vegetation in Lot 2 is cleared or parkland cleared, Lot 23 has been predominantly cleared and planted with introduced trees or parkland cleared, Lot 24 contains patches of native vegetation, and that most of Lot 25 contains native vegetation although in a degraded condition. DBCA consider it likely that the eastern portion of the Expansion Area (Lots 24 & 25) is more likely to have higher flora and vegetation values, however it is unclear to the current condition of vegetation on these Lots as no results for Spring survey 2023 have been included in the EAR.

It is the City's opinion that the information presented in the EAR prepared by JBS&G (2023) is confusing and refers to surveys which are outdated, incomplete or insufficient, see Table 2.

Table 2: Evaluation of the EAR Surveys

Reference	Description	Dates	Lots Covered	City of Kwinana Comments
PGV (2017)	Environmental assessment report incorporating flora, fauna and black cockatoo studies across	November 2016	Lots 2, 24 and 25 only. (referred to in study as Lot 73,105 and 115)	This survey is 7 years old. EIA surveys should be undertaken within the last 5 years.
Strategen  – JBS and G (2022)	Reconnaissance Survey and black cockatoo habitat assessment	July 2022	Lot 23 only	This survey isn't a spring survey and only covers one Lot.
Attexo (2023)	DRAFT Flora Vegetation and black cockatoo assessment a	October 2023	Lot 2,24 and 25	Treated by JBS&G as 'Null and void' however consistently referred to throughout the EAR. Further, the EAR provides several references to the need for further survey work to be carried out and recognises that the Attexo survey work is insufficient

The EAR 2023 (appendix F2) outlines that a follow up black cockatoo habitat assessment will be undertaken to determine quality of foraging habitat on site and confirm significant breeding trees and will be provided in a supplementary EAR. DBCA consider however that as the final number of trees able to be retained and cleared will be determined by the additional survey and through a follow up arboriculture assessment, it is difficult to accurately determine the importance of the habitat proposed to be cleared and likely level of significance.

Given the likely environmental significance of both Lots 24 and 25 the City is not satisfied that the information provided is sufficient to evaluate the environmental impacts of the CCPSPA. Comments from DBCA and from the City's Environmental Officers state that it is difficult to assess potential impacts upon flora and fauna due to the insufficient information provided and state the need for further spring surveys to be undertaken in the Expansion Area. The proponent has stated their commitment to carry out these surveys in Spring 2024, however given the fractured nature of their relationship with the landowners of Lots 24 and 25 it seems unlikely they will be able to gain access to the land.

It is the City's opinion that there remains a large gap in the environmental reporting provided in the CCPSPA which results in uncertainty of an area equivalent to 4 hectares in the Expansion Area. It is therefore recommended that, should the Structure Plan be supported, the WAPC be advised that further flora and fauna survey work and habitat assessment work is required.

## 3. Realignment of the Neighbourhood Connector

The CCPSPA proposes a realignment of the Neighbourhood Connector in the approved CCSP further west from Landgren Road (see Figures 3 and 4). The realignment means that the Neighbourhood Connector will no longer run through the REW and will provide a more central connection through the Casuarina Central urban cell.

The draft Eastern Residential Intensification Concept Plan (ERIC) (2005) shows the neighbourhood connector running along Landgren Road north to Casuarina North and south to Casuarina South where it borders the eastern boundary of the proposed high school on Lot 123 Mortimer Road.

The city, in principle, supports the realignment of the neighbourhood connector to a more central location, particularly given the environmental values of Lot 123 Mortimer (which is no longer the proposed site for the High School in Casuarina South) and the location of the REW on Lots 24 and 25 Orton Road.

## 4. Location of the District Hard Courts

The proposed location of the District Hard Courts in Lot 24, (see Figure 4) reflects the general location set out in the City's Community Infrastructure Plan (2022) and in the City's draft Local Planning Strategy (2023). Lateral Planning, on behalf of the landowners of Lots 2,24 and 25 Orton Road, highlight that this Lot is not owned by the applicant and notes that the proposed location of the District Hard Courts, combined with a lack of land available for residential development means that there is now no incentive for the landowner of Lots 24 and 25 to develop these parcels. Notwithstanding the landowners' reluctance to develop their land, Lateral planning proposes two alternate locations for the District Hard Courts both of which they consider achieve the requirement for at least 75% of the frontage of the courts to be road frontage which is set out in the Community Infrastructure Plan (2022).

The City is willing to consider alternate sites within the Casuarina Central precinct for the provision of the hard courts, particularly given the constraints discussed in the Environmental Issues section of this report however any alternate site would need to be subject to significant testing and assessment and would require a complete revision of the CCPSPA.

The two alternate locations proposed by Lateral Planning have been preliminary assessed by the City;

The first alternate site proposed is located to the southeast of Lots 24 and 25 located within the Jandakot Water Mound (see Figure 6) within a priority 2 (P2) area. Lateral Planning consider that the hard court component would be unlikely to impact on groundwater and would be permissible in the Groundwater Protection Mound. This may be the case but would be subject to assessment by DWER. The District Hard Courts proposal however also includes the provision of a clubroom which is an incompatible use within the P2 area as per DWERs Water Quality Protection Note 25.

The second alternate site (Figure 7) requires realignment of the Neighbourhood Connector into the REW and is therefore also not suitable.

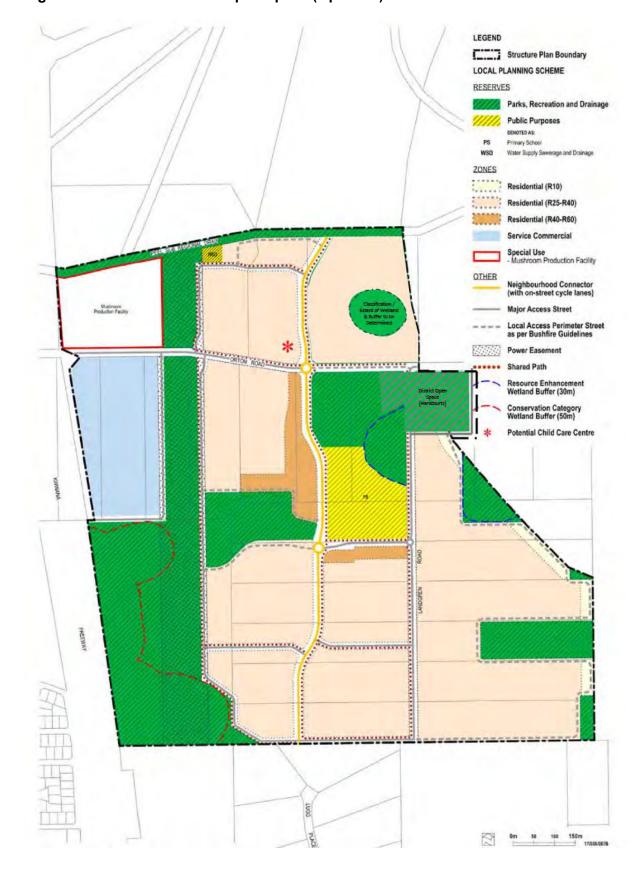


Figure 6: Relocated District Open Space (Option A)

LEGEND Structure Plan Boundary LOCAL PLANNING SCHEME RESERVES Parks, Recreation and Drainage **Public Purposes** DENOTED AS: Primary School WSD Water Supply Sewerage and Drainage ZONES Residential (R10) Residential (R25-R40) Residential (R40-R60) Service Commercial Special Use - Mushroom Production Facility OTHER Neighbourhood Connector (with on-street cycle lanes) Major Access Street Local Access Perimeter Street as per Bushfire Guidelines Shared Path Resource Enhanceme Wetland Buffer (30m) Conservation Category Wetland Buffer (50m) Potential Child Care Centre /~..... ......

Figure 7: Related District Hard Courts (Option B)

It is recommended that should the CCPSPA be supported and the extent of the REW and 50m buffers make the District Hard Courts undeliverable in this location then an alternate location must be found within the Casuarina Central Precinct and agreed with the City.

## 5. Removal of the Local Centre

Appendix A of the CCPSPA, Needs Assessment in accordance with SPP 4.2 (2023) sets out the proponent's rationale for the removal of the Casuarina Central Local Centre from the approved CCSP. The Assessment finds that the Casuarina Central Local Centre is not expected to be commercially viable in either the short or longer term.

The City disagrees with this finding based upon the robust modelling and analysis carried out in order to prepare the City's Local Commercial and Activity Centre Strategy (LCACS), adopted by Council in December 2023.

The LCACS ensues that a hierarchy of activity centres is distributed throughout the City to ensure that frequently required retail and service needs are situated in local centres (within walkable catchments) and less frequently required retail needs and services are situated in convenient higher order centres distributed through the City. It facilitates the provision and responsive evaluation of a viable and conveniently accessible network of functional and attractive activity centres that meet the day to day needs of residents and are places where people can meet and interact. The Casuarina Central Local Centre is identified in the LCACS hierarchy which has been integrated into the City's draft Local Planning Strategy.

LCACS 2023 states that analysis indicates that demand in the Casuarina cell could support a smaller local centre up to 1,300 m² Shop/Retail floorspace providing for daily and weekly household shopping needs, community facilities and a small range of other convenience services. The centre would provide the local offering located between the Thomas Road and Mortimer Road neighbourhood centre.

It is recommended that the City does not support the removal of the local centre in the CCPSPA because it is incompatible with the activity centre hierarchy in the City's LCACS.

## 6. Traffic Impact Assessment

Main Roads Western Australia (MRWA) have advised that it is unable to provide a comment on the CCPSPA due to insufficient information. Main Roads require a revised Transport Impact Assessment (TIA) to be provided in accordance with *Transport Impact Assessment Guidelines (August 2016)* and electronic SIDRA Intersection Files. The additional information requested by MRWA is set out in the schedule of submissions (**Attachment C**).

The Applicants traffic consultant has responded to the MRWA's comments stating that much of the additional modelling requires has already been considered as part of the approved CCSP. The applicant does not consider the proposed amendment will significantly change the road network or the development yield.

The City's engineer agrees that the information provided by the applicant is insufficient and requests the SIDRA outputs be provided. In addition, the City's engineer provided the following comments:

- The extension of Central Avenue is classified as a Neighbourhood Connector road, but strategically, the road will expand from Thomas Road to Mortimer Road. This road extension should be treated as a distributor road.
- For traffic safety considerations, all the service commercial lots, including the Mushroom farm, should have a dedicated service road that traverses through the Peel Main sub-drain (PMD) and connects through the service access road of the Costco development.
- The intersection of Landgren Road and Orton Road should be designed as a roundabout intersection rather than a 90-degree intersection.
- Provide a conceptual detail of how Central Avenue connects through the PMD drain and provide a swept path analysis for a 19m vehicle.

- Regarding the kerb turning radius, use a 9m radius for Access-Access road intersections, a 12m radius for distributor to access road intersections, and a 6m radius for laneway to access road intersections.
- All Access road type D should have a carriageway width of 6m, not 5.5m, due to high-density housing with smaller frontages.

It is recommended that should the Structure Plan be supported, the WAPC be notified that the TIA and additional information from the proponent should be referred to MRWA for additional assessment.

# 7. Access / Egress from Thomas Road to the Service Commercial Lots South of Orton Road

During assessment of the CCSP approved in 2021, the City noted that a north – south connector road should be provided to run alongside, or potentially within the alignment of the High Voltage Transmission Line to Orton Road and beyond. The purpose of this road is to ensure that traffic associated with the Mushroom Farm and Service Commercial Zones to the south of Orton Road have access/egress to Thomas Road without the need to move through future residential land uses. This recommendation was included in the Council Report for the meeting held on 11 September 2019.

The CCPSPA makes no provision for this north -south connector road, despite it being identified in both the approved CCSP and the approved Casuarina North Local Structure Plan as shown in Figures 8 and 9.

It is recommended that the City do not support the CCPSPA without the provision of this north south connecter to service the Mushroom Farm and Service Commercial Zone preventing traffic associated with the Mushroom Farm and Service Commercial Lots south of Orton Road moving through future residential areas.

Figure 8 Approved Casuarina Central Structure Plan with the north south connector circled.



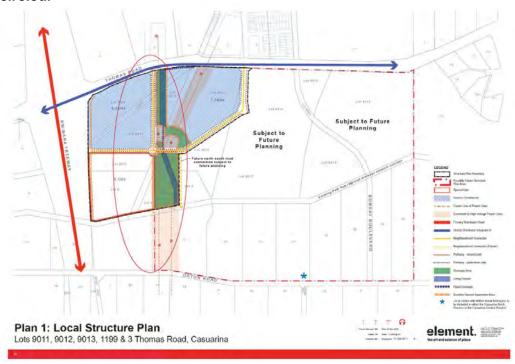


Figure 9 Approved Casuarina North Local Structure Plan with the north south connector circled.

## 8. Management of Water Quality and Quantity

The Department of Water and Environmental Regulation (DWER) has reviewed the Local Water Management Strategy (LWMS) and advised that whilst it does not object to the proposed CCPSPA, amendments to the LWMS are required prior to the finalisation and adoption of the Structure Plan amendment. These amendments are summarised as follows:

- Pre-development surface water quality sampling results are required for Peel Main Drain P1 drain and Peel Main Drain SubP1A drain.
- Incomplete groundwater modelling for the expansion area.
- Inclusion of cross-sectional drainage conceptual designs.
- Include a table indicating pre- and post-development flow rates.
- Provide indicative locations of roadside median swales, tree pits, and rain gardens. And provide landscape plans.
- Provision of the design for groundwater management systems.
- Inclusion of information on the proposed ground and surface water monitoring program.
- Proposed invert levels for the drainage infiltration areas are to be reviewed and amended to provide an adequate separation distance to the MGL to reflect more recent winter peaks.
- Inclusion of the location of stormwater management areas.

The City's engineer has agreed that there are issues with the LWMS and requires consideration of the following in addition to DWERs comments:

- Ensure that the proposed basin in the Western Power corridor has an invert with a 500mm clearance to the AAMGL levels.
- A section of the PMD drain abutting the Mushroom farm needs to be piped, which should be highlighted in the LWMS report.
- Conduct a hydraulic assessment for the improved PMD drain (piped and living stream) to confirm the TWL levels for 10% and 1% AEP and the associated peak discharge rates in the critical nodes, as highlighted in the Jandakot Drainage Management Plan.

- Manage small events treatment (first 15mm) at the source rather than at the end treatment. This approach is greatly encouraged by the DWER.
- Provide a hydrograph for the proposed basin outflows.
- After modifying the proposed basin layout, obtain Western Power's approval for the new amendment.

The applicant has provided a response to DWER's comments on the LWMS which should be referred to DWER for further consideration, in consultation with the City. It is therefore recommended that should the CCPSPA be supported, WAPC be advised that DWER's comments should be sought on the applicant's response to the LWMS.

## 9. High Voltage Power Lines

At the time of writing this report, a submission from Western Power has not been received on the CCPSPA. However, the proponent has addressed available power in the area and the potential impacts of development on existing infrastructure and specific requirements to be addressed by the proponent of such development in Section 3.6.4 of the CCPSPA Report (**Attachment B**).

It is recommended that should the CCPSPA be supported, the WAPC be clearly notified that a submission from Western Power has not been received, however will be provided to WAPC on receipt.

## 10. **Mushroom Farm**

The proximity of the existing mushroom farm (Lot 1) to sensitive land uses, in this case residential lots, in the CCPSPA is within the recommended separation distance of 500-1000m (*Guideline – Separation Distances between Industrial and sensitive Land Uses,* EPA 2005). The proposed separation distance in the CCPSPA is 100m, which the same separation distance as in the approved CCSP

The advice received from both DWER and Department for Health is to ensure that the proposed 100m buffer be endorsed as a requirement and that future occupants be advised of the potential occasional odours and for allergies to be triggered in sensitive individuals.

It is recommended that, should the CCPSPA be supported, the proposed separation distance from the Mushroom Farm be endorsed by the WAPC and the future occupiers are notified regarding the potential for odour and allergies because of the proximity of the Mushroom Farm

## 11. Adequacy of Public Primary School Site

Whilst the location of the Public Primary Site in the approved Structure Plan has not changed in the CCPSPA, the amendment indicates that the Lot yield for the Central Precinct will increase from 952 Lots in the approved Structure Plan to 1103 Lots. Coupled with the potential residential development in Casuarina South, the Department of Education (DoE) has expressed concern that the proposed primary school site in the approved CCSP may not be adequate to serve the future student population across the Northern, Central and Southern precincts. DoE anticipate the total dwelling yield would significantly exceed the prescribed ratio of one public primary school for every 1500 dwellings under Operational Policy 2.4.

The proposed public primary school site is heavily constrained being on an irregular shaped lot and with a REW (drainage basin) in the northeastern corner. This severely limits the potential for any school expansion on this site. DoE seeks to ensure that the reclassification of the road adjacent to the school site to a 'Neighbourhood Connector does not result in the loss of any land because of road widening.

DoE does not object to the CCPSPA subject to further analysis of public primary school demand being undertaken as part of future structure panning of the Southern Precinct and that additional public primary school sites may be required in the locality.

It is recommended that the City recommend early discussions with DoE to any proponents undertaking structure planning in the Casuarina South cell.

## 12. Bushfire Management

The CCPSPA has been refereed to Department of Fire and Emergency Services (DFES) for comment however at the time of preparing this report comment has not been received.

It is recommended that should the CCPSPA be supported, the WAPC be clearly notified that a submission from DFES has not been received, however will be provided to WAPC on receipt.

## 13. Residential Density

The CCPSPA proposes a variety of residential density codings of R10 which will apply to residential zoned land on the eastern edge of the Structure Plan, R25-R40 which will apply to the majority of land within the structure plan and R40-R60 to be located adjacent to the Neighbourhood Parks and the Primary School in the central portion of the Structure Plan area (Refer to Figure 4).

The CCPSPA will deliver 1,103 dwellings within 54.75ha of land designated residential on the CCPSPA Plan. The number of dwellings has been determined using a 375m<sup>2</sup> average Lot sites which the CCPSPA states is the expected Lot average across the precinct.

Perth and Peel @ 3.5 million sets a residential site density per hectare target of 26 dwellings per residential site hectare. The CCPSPA proposes residential density of 20.16 dwellings per hectare, less than the above target. Although the CCPSPA contains several constraints, should the structure plan be supported by the WAPC, it should be modified to accommodate residential development at a density consistent with the State government's density targets.

## 14. Public Open Space

The CCPSPA report states a total of 14.3ha has been provided in accordance with the calculation methodology set out in Liveable Neighbourhoods (2015). The City is of the opinion that a number of the areas classified as unrestricted POS should not be attributed as unrestricted POS because they do not meet the criteria set out in Liveable Neighbourhoods. These areas are as follows and are identified in the POS summary Plan in **Attachment D**.

- Area 3 Impractical Size and shape (1,745m²) which abuts a CCW buffer which is described as restricted POS
- Area 4 the area is surrounded by CCW and a high voltage power easement causing it to be isolated from adjoining residential Area (10,091m²)
- Area 5 Impractical size and shape (3,165m²)
- Area 7 The area of open space (24,363m²) is intended to conserve an intact area of remnant vegetation and will not usable for recreation purposes.

However, even without those areas being included as unrestricted POS the amount of unrestricted POS alone would be 11.75% which is in excess of the 10% of the gross subdivisible area required under Liveable Neighbourhoods.

## STRATEGIC IMPLICATIONS

This proposal will support the achievement of the following outcome/s and objective/s detailed in the Strategic Community Plan and Corporate Business Plan.

	Strategic Community Plan				
Outcome	Strategic Objective	Action in CBP (if applicable)	How does this proposal achieve the outcomes and strategic objectives?		
1 – A naturally beautiful environment that is enhanced and protected	1.2 – Maintain and enhance our beautiful, natural environment through sustainable protection and conservation	1.2.1 – Implement the Local Biodiversity Strategy  1.2.4 – Implement the Local Planning Strategy	The CCPSPA seeks to protect MUW and REW wetlands from development.		
2 – A resilient and thriving economy and exciting opportunities	2.1 – Enable a thriving and sustainable local economy that supports and sustains quality jobs and economic opportunities	2.1.4 – Implement the Local Planning Strategy	The Casuarina Central Local Centre is identified in the Local Planning Strategy		
3 – Infrastructure and services that are affordable and contribute to health and wellbeing	3.1 – Develop quality, affordable infrastructure and services designed to improve the health and wellbeing of the community	3.1.1 – Implement the Community Infrastructure Plan	The District Hard Courts are identified in the Community Infrastructure Plan		
4 – A unique, vibrant and healthy City that is safe, connected and socially diverse	4.1 – Create, activate and manage places and local centres that are inviting, unique and accessible	Implement the Local Planning Strategy	The Casuarina Central Local Centre is identified in the Local Planning Strategy.		

## **SOCIAL IMPLICATIONS**

This proposal will support the achievement of the following social outcome/s, objective/s and strategic priorities detailed in the Social Strategy.

	Social Strategy					
Social Outcome	Objective	Strategic Priority	How does this proposal achieve the social outcomes, objectives and strategic priorities?			
1 – Healthy and Active	1.0 – A physically and mentally healthy and active community	1.1 – Facilitate a diverse range of active lifestyle opportunities  1.5 – Provide infrastructure that enhances opportunities for recreation, play and relaxation	The CCPSPA proposes the inclusion of District Hard Courts and a networks of Public Open Spaces for recreation.			

		1.7 – Promote active transportation including walking and cycling	
2 – Connected and Inclusive	2.0 – Equitable and inclusive social connection and engagement with community life	2.2 – Plan for open and accessible community spaces when developing suitable facilities to facilitate community interaction  2.4 – Facilitate initiatives that encourage social interaction and connection at both a local and community wide level	The CCPSPA proposes District Hard Courts which offer the opportunity for community interaction.

## **LEGAL/POLICY IMPLICATIONS**

For the purposes of Elected Members considering a financial or impartiality interest only, the proponent is Taylor Burell Barnett acting on behalf of Housing Authority (Development WA) and Anstey Road Developments Pty Ltd.

Landowners within the CCPSPA Extension Area are: Mushroom Exchange Pty Ltd Greensmith, Manie Anne Sephton Craig Mark, Smadkaroo Pty Ltd Mel & Mark Super Custodian Pty Ltd Citythrill Pty Ltd

The CCPSPA has been lodged with the City in accordance with Schedule 2, Part 4 of the Planning and Development Regulations 2015.

The CCPSPA has been assessed in accordance with the following policies and strategies:

- Planning and Development Regulations 2015
- Draft Liveable Neighbourhoods (WAPC, 2015)
- State Planning Policy 7.2 Precinct Design Guidelines (WAPC, 2021)
- Draft Local Planning Strategy (City of Kwinana, 2023)
- Local Commercial and Activity Centre Strategy (City of Kwinana, 2023)
- Local Biodiversity Strategy (City of Kwinana, 2023)
- Community Infrastructure Plan (City of Kwinana, 2022)
- Local Planning Policy No 6 (City of Kwinana, 2018)
- Separation Distances between Industrial and sensitive Land Uses (EPA 2005)

## FINANCIAL/BUDGET IMPLICATIONS

The cost of preparing CCPSPA has been borne by the applicant.

Reg 48 of the Planning and Development Regulations 2015 enables the City to charge a fee to the applicant for the assessment of a structure plan, based on hourly rates prescribed in the Regulations. In addition, the City can seek reimbursement for costs incurred advertising the structure plan. following Council's consideration of this matter, the City will charge the applicant an assessment fee in accordance with these Regulations.

## **ASSET MANAGEMENT IMPLICATIONS**

The CCPSPA establishes a framework for subdivision and development of the area. The City will be financially responsible for maintaining public open space, roads, verge trees, District Hard Courts and footpaths within the CCPSPA once the area has been developed.

## **ENVIRONMENTAL/PUBLIC HEALTH IMPLICATIONS**

Environmental implications have been identified and discussed earlier in this report.

## **COMMUNITY ENGAGEMENT**

The City advertised the CCPSP for 47 days between the 11 January and 27 February 2024. In accordance with the 2015 Regulation and involved:

- Notifying nearby landowners and State Government agencies in writing and invited comment on the proposal;
- Information signs posted on site providing advice of the proposal; and
- Utlising 'Love my Kwinana' community engagement page.

Following public interest, a Public Meeting was held on 12 February at Casuarina Wellard Community Hall where approximately 60 people attended.

Eleven submissions were received comprising:

- Seven government agency submissions DWER, DBCA, MRWA, EPA, Water Corp, Department of Health and Department of Education.
- One nearby resident
- One landowner in the Casuarina North Precinct
- Two landowners in the 'Expansion Area'

The City is expecting further submission from DFES and Western Power.

**Attachment C** provides the comments and issues raised in the submissions as well as the City's and the proponent's response to the submissions.

The key points raised by the residents and landowners are summarised in Table 3.

Table 3: Summary of Issues raised by the Submissions.

Submitter         Submitter comment			
Roy McKernan, 21 Newbold	<ul> <li>Consider a public community with a library</li> <li>Consider a walk trail with firebreak easements</li> </ul>		
Road,	- Consider a waik trail with medicak casements		
Casuarina			
Kris Kennedy,	Supports the proposed amendment, including the following specific elements:		
Aigle Royal Group	<ul> <li>Alignment of the southern extension of Central Avenue, including via the Aigle Royal funded roundabout within our holdings, north of the Peel sub regional drain.</li> <li>Inclusion of the land south of the Peel sub regional drain (including the drain) in the Central Precinct</li> <li>Support for the neighbourhood connector road alignment and</li> </ul>		
	indicative design		
	<ul> <li>Location of the district hard courts; and</li> </ul>		
	<ul> <li>The proposed boundary of the REW and 30m buffer.</li> </ul>		
Craig Sephton,	Supports the CCPSPA		
Lot 23 Orton			
Road			
Lateral Planning	Object to the CCPSPA and request deferral		
on behalf of the			
owners of Lot 2,	<u>Process</u>		
24 and 25 Orton	Disappointment in the lack of meaningful engagement with the		
Road Casuarina	proponent resulting in the inequitable distribution of infrastructure and facilities.		
	North- South Road Connection		
	<ul> <li>The proposed road connection utlises a portion of Lot 24. The landowner of Lot 24 has no desire to sell or develop at this time. The relocation across Lot 24 could be supported should the District open space be relocated, allowing for greater equity in the sharing of the required infrastructure.</li> </ul>		
	District Open Space  — Both Lots 24 and 25 are beyond the applicant's ownership and therefore they are unable to guarantee the delivery of the District Open Space.		
	<ul> <li>The proposed location of the public open space ensures that it is unable to achieve one of the key requirements as outlined within the City's CIP being the provision of road frontages for at least 75% of the frontage. Lack of access may result in increased traffic congestion.</li> <li>Residential development would be the best use of this urban land</li> <li>Two alternative sites for the District Open Space have been provided.</li> </ul>		
	Environment		
	<ul> <li>The structure plan report lacks detail on vegetation conditions and the extent of the REW on Lots 24 and 25. The landowner previously engaged Strategen to undertake a review of the notional REW area and Strategen reported that the wetland on both Lots 24 and 25 were not worthy of the REW classification.</li> <li>Recommends that further investigation occurs into the extent and condition of the REW</li> <li>A 30m buffer around the REW is not necessary or appropriate due to cleared fire breaks on the western side of the REW area.</li> </ul>		
	Sicarca inc broaks on the western side of the INEW area.		

EPA	EPA is unable to provide comment on structure plans. Please send your request to DWER.	
Main Roads WA	Main roads are unable to provide a recommendation due to insufficient information. Further information sought from the applicant. A revised Transport Impact Assessment (TIA) is required to be provided in accordance with Transport Impact Assessment Guidelines (August 2016) and electronic SIDRA Intersection Files in version 9.	
Department of Health	Chemical Hazards: Vision evidence of widespread low level dereliction and illegal dumping which has a low level contamination risk.	
	Separation Distance to Mushroom: The proximity of the existing mushroom farm in the development proposal is within the recommended separation distances (EPA 2005, Guideline – Separation Distances between Industrial and sensitive Land Uses). If homes are built within this area future occupants should be informed of the potential for allergies to be triggered in sensitive individuals and that there will be occasional odours impacting amenity	
	The site lies within an area of High acid sulphate soils risk.	
	The extent of risk from mosquitos and mosquito borne disease must be determined by the City of Kwinana.	
	Drinking water supply: it is recommended that all drinking water is connected to the Water Corporation's mains water supply.	
	The subject site must be connected to reticulated sewerage.	
DWER	The Department has identified that the Structure Plan has the potential for impact on environment and water resource values and/or management. In principle the Department does not object to the proposal however key issues, recommendation and advice are provided.	
	LWMS The LWMS and the Addendum has been reviewed and amendments are required. These are detailed in the schedule of submissions.	
	Native Vegetation Seek advice from DBCA	
	Wetland Development (including drainage infrastructure) is to be located outside of the wetlands and 50m buffer areas. Advice is to be sought from the DBCA.	
	Groundwater Availability Noting that the site holds an existing groundwater licence for construction and dust suppression purposes only, an amendment to the licenced allocation would be required for irrigating landscaped areas	
	Separation Distance Determination of the separation distance from an existing activity to a proposed development is under the jurisdiction of the Department of Planning, Lands and Heritage.	
	EPA guidance statement No.3 'separation distances between industrial and sensitive land uses; states that the measurement of separation distance is from the boundary of the area that may potentially be used by an industrial land use. The recommended separation distance from mushroom farms is 500-1000m	

Water Corporation	Major upgrades are required to provide this area with a water service.
Department of Education	Department has concerns that the proposed primary school site identified in the Central Precinct may not be adequate to serve the future student population across the Northern, Central and Southern Precincts. It is anticipated that the total dwelling yield would significantly exceed the prescribed ratio of one public primary school for every 1500 dwellings under the OP 2.4.
DBCA	Buffers for wetlands UFI-6670, UFI-6667 and UFI-15973 displayed in Figure 1 of "Casuarina Central Precinct Structure Plan (SPN2235) -Amendment 1" (Attached Figure 1), and other supplied documents, are not calculated from the boundaries of the current Geomorphic Wetland Swan Coastal Plain (GWSCP) dataset.
	There are no results for the proposed Spring 2023 survey included in the Structure Plan (Dec 2023) so it makes it difficult to assess potential flora, fauna and vegetation values.

## **ATTACHMENTS**

- Council Resolution Casuarina Central Structure Plan 11 September 2019  $\underline{\mathbb{J}}$  Casuarina Central Precinct Structure Plan Amendment No. 1 Part One  $\underline{\mathbb{J}}$
- В.
- C. Schedule of Submissions &
- D. Public Open Space Summary Plan &

## Attachment 1: Council Resolution 11 September 2019.

## COUNCIL DECISION 543 MOVED CR C ADAMS

## SECONDED CR W COOPER

That Council makes the following recommendations to the Western Australian Planning Commission (WAPC) in respect to the proposed Casuarina Central Local Structure Plan (CCLSP):

- 1. Council advises the WAPC that it supports the CCLSP on the following basis: a) That the CCLSP be modified as follows:
  - i. An Investigation Area, 500m in radius (measured from the Phase Three buildings and the wastewater pond), be shown on the CCLSP.

The purpose of the Investigation Area would be to:

- Ensure that extensive Field Odour Assessments (FOA) are conducted over a 12 month period (including late February to early April); and
- Enable a comprehensive FOA data set to be collected across different wind and weather conditions so that adverse odour impacts can be assessed.
- Ensure that noise assessments are conducted within the CCLSP area to determine the extent of noise emissions originating from the mushroom farm on the nearest proposed noise sensitive developments in accordance with the regulation 8, 9 and 10 of the Environmental Protection (Noise) Regulations 1997 relating to assigned noise levels, non – conforming uses and rural activities.
- Ensure that a precautionary approach is taken when considering potential noise and odour impacts and determining separation distances between the mushroom farm and future sensitive land uses.
- ii. Remove the Odour Investigation Area adjacent to the mushroom farm as shown in the advertised version of the CCLSP;
- iii. Show a Local Centre (650m2 to 750m2) in the CCLSP adjacent to Landgren Road, immediately south of the Primary School site.
- iv. Identify on the CCLSP those areas of open space that are required by the City of Kwinana and Department of Biodiversity Conservation and Attractions (DBCA) to be managed as conservation areas.
- v. Show the maximum residential density at the interface with the Rural zone along the eastern boundary of the CCLSP as R5 coding.

- B) Inclusion of the following in Part 1 of the CCLSP to the City's satisfaction:
  - i. Preparation of a Traffic Noise Assessment (TNA) assessing the impact of traffic noise from the Kwinana Freeway on the residential areas in the CCLSP. This assessment must include consideration of appropriate noise mitigation measures such as acoustic barriers and/or quiet house design requirements and an implementation plan to the satisfaction of Main Roads and the City of Kwinana. The TNA shall be prepared and adopted so as to inform subdivision design and/or any development approvals for the area the subject of the CCLSP.
  - ii. That a Local Water Management Strategy (LWMS) is to be prepared to the satisfaction of the Department of Water and Environmental Regulation (DWER) and the City of Kwinana.

The LWMS shall be prepared and adopted so as to inform subdivision design and/or any development approvals for the area of the CCLSP.

Note: The DBCA has advised that it does not support the proposal to locate drainage Basin B within the buffer to the Resource Enhancement Wetland. Any drainage infrastructure should be located outside wetland buffers to minimise hydrological impacts in accordance with Decision Process for Stormwater Management in WA (2005). This is particularly relevant if the subsequent wetland assessment undertaken results in an upgrade of the management category of this wetland to a Conservation Category Wetland.

- iii. A Wetland Management Plan is to be prepared to the satisfaction of the DBCA in consultation with the City of Kwinana prior to subdivision to enable confirmation of mapping and management actions including rehabilitation requirements and interface treatments.
- iv. A Bushland Management Plan for bushland within Public Open Space (POS) in the CCLSP is to be prepared to the satisfaction of the DBCA in consultation with the City of Kwinana prior to subdivision to enable confirmation of mapping and management actions including rehabilitation requirements and interface treatments.
- v. A Landscape Feature and Tree Retention Strategy is to be prepared in accordance with City of Kwinana's Local Planning Policy No 1, to ensure that the retention of significant trees is optimised as part of the subdivision design, civil design and earthworks. The Landscape Feature and Tree Retention Strategy should be developed in consultation with the City of Kwinana to inform subdivision design and/or any development approvals for the area of the CCLSP.
- vi. A Bushfire Management Plan should be prepared in accordance with State Planning Policy 3.7 Planning in Bushfire Prone Areas (SPP3.7) to the satisfaction of the Department of Fire and Emergency Services.
- vii. All development shall be designed and constructed to protect Western Power infrastructure and interests from potential land use conflict. No development (including fill, fencing, storage or parking) will be permitted within Western Power

registered easements without the prior written approval of Western Power or the relevant power line operator.

- 2. Request that the WAPC impose conditions on future subdivision applications within the area of CCLSP requiring:
  - The provision of Section 70A Notifications on all proposed lots adjoining the existing Western Power registered easement advising prospective purchasers that they are in close proximity to power infrastructure which will be maintained, upgraded and expanded on a regular basis.

All development shall be designed and constructed to protect Western Power infrastructure and interests from potential land use conflict.

No development (including fill, fencing, storage or parking) will be permitted within Western Power registered easements without the prior written approval of Western Power or the relevant power line operator.

- ii. The provision of Section 70A Notifications on all proposed lots that may be subject to excessive noise levels from Kwinana Freeway advising prospective purchases that the lot is situated in the vicinity of Kwinana Freeway and is currently affected and/or may in the future be affected by transport noise.
- iii. Preparation of an Urban Water Management Plan for the area the subject of CCLSP in consultation with the City of Kwinana and DWER.
- iv. Preparation of a Bushland Management Plan for bushland within POS in the CCLSP to the satisfaction of the DBCA in consultation with the City of Kwinana.
- v. Preparation of a Landscape Feature and Tree Retention Plan in accordance with Local Planning Policy 1, to ensure that the retention of significant trees is optimised as part of the civil design and earthworks.
- vi. The provision of Section 70A Notifications on all proposed lots within 500 metres of the Mushroom Farm on Lot 1 Orton Road (measured from the Phase Three buildings and the wastewater pond) that advises lot owners that they may be impacted by odour and noise resulting from the operations of the Mushroom Farm.
- 3. Recommend that the proponent consult with the DBCA in relation to conducting an:
  - Additional targeted flora survey within bushland where threatened ecological species may occur within the CCLSP, prior to the final adoption of the CCLSP by the WAPC.
  - Assessment of the wetlands within the CCLSP area, prior to the approval of the CCLSP, to accurately map, protect and manage the wetlands within the CCLSP.

The City of Kwinana acknowledges that not all of the bushland on Lots 36 and 48 is included within open space as recommended by DBCA. The City also acknowledges that the DBCA has advised that further flora surveys and wetland assessments are required to enable an accurate assessment of environmental

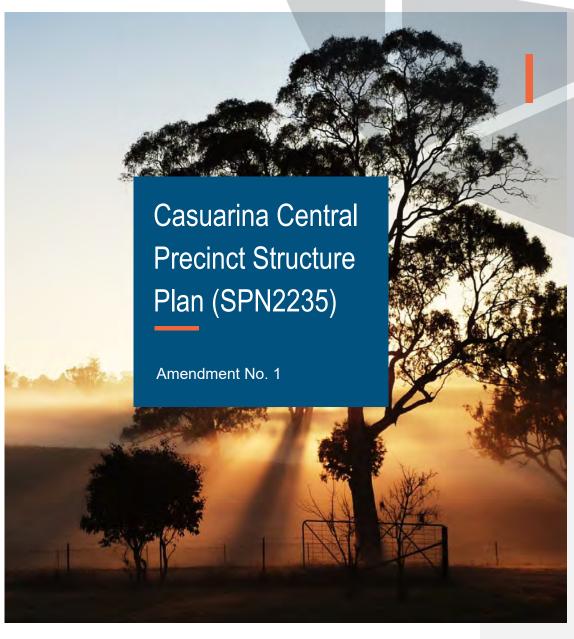
values on site to inform the structure plan design. However, City Officers are cognisant that 24% of the CCLSP area is identified as open space which is already in excess of the 10% Public Open Space (POS) contribution required under Liveable Neighbourhoods. City Officers are of the view that the configuration of open space shown in the CCLSP protects a significant area of Carnaby's Black Cockatoo habitat (including habitat bushland, and significant foraging and breeding trees) as shown in Confidential Attachment N in this report. Carnaby's Black Cockatoos are a Threatened Ecological Species and some of the areas of Carnaby's Black Cockatoo habitat are a Threatened Ecological Community under Commonwealth environmental legislation.

The City is responsible for ensuring that there is a balance between providing land for recreation, conservation of environmental values and retention of significant trees during the preparation of local structure plans for Urban zoned land. The City is satisfied that significant areas of bushland and wetlands within the CCLSP area, have been included within large consolidated areas of open space. City Officers recommend that these areas be identified in the CCLSP for conservation purposes.

- 4. Request that the concerns raised by the Department of Education (DoE) about the future size and configuration of the Primary School be the subject of further consideration and discussions between the Department of Planning, Lands and Heritage, DoE and the City of Kwinana prior to the final adoption of the CCLSP by the WAPC.
- 5. Endorse the Schedule of Submissions (Attachment C) pursuant to Schedule 2, Part 4, Clause 20(2) of the *Planning and Development Regulations 2015*.
- 6. Require the Casuarina North Concept Plan be amended to show the proposed closure of Orton Road and provision of a new road around the perimeter of the District Open Space (DOS) (Attachment D) which will:
  - Facilitate integration of the DOS, Local Sporting Ground and Primary School to optimise the availability of these facilities for the community; and
  - Provide a road network that limits commercial traffic mixing with residential traffic.
- Council requests City Officers to review Local Planning Policy No. 6 Guidelines for Structure Planning in the Casuarina Cell to reflect the proposed closure of Orton Road and provision of a new road around the perimeter of the DOS.
- 8. Forward this Ordinary Council Meeting Report, Council's recommendations and the Schedules of Submissions for the CCLSP to the WAPC pursuant to Schedule 2, Clause 20 of the Planning and Development Regulations 2015.

CARRIED 8/0

NOTE – That the Officer Recommendation has been amended at point 2 to include point vi, so that notifications are on title for all lots within 500 metre radius of noise and odour sources of the Mushroom Farm.



Prepared for Housing Authority (DevelopmentWA) and Anstey Road Developments Pty Ltd Prepared by Taylor Burrell Barnett December 2023



## **Document Information**

#### Structure Plan Amendment

Casuarina Central Precinct Structure Plan

Housing Authority (DevelopmentWA) and Anstey Road Developments Pty Ltd

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Doc ID: 17~038 DRAFT Casuarina Central Precinct Structure Plan Amendment No. 1

- 1.3				
Revision	Status	Author	Approved by	
1.2	Draft	B, Didcoe	R, Chapman	1
4.0	F	D. Distance	D. Ob	

Revision	Status	Author	Approved by	Date issue
1.2	Draft	B, Didcoe	R, Chapman	14/08/2023
1.3	For Lodgement	B, Didcoe	R, Chapman	13/10/2023
2	Modified Draft	C, Barrow	R, Chapman	20/12/2023

This document was prepared for the Housing Authority and Anstey Road Developments for the purposes of Casuarina Central Structure Plan Amendment No. 1 and may only be used in accordance with the executed agreement between Taylor Burrell Barnett and the Client.

The report may contain information gathered from several sources using a variety of methods. Taylor Burrell Barnett does not attempt to verify the accuracy, validity or comprehensiveness of any information supplied to Taylor Burrell Barnett by third parties.

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Casuarina Central | Structure Plan Amendment No. 1

Endorsement
This Structure Plan is prepared under the provisions of the City of Kwinana Local Planning Scheme No. 2.
IT IS CERTIFIED THAT THIS STRUCTURE PLAN WAS APPROVED BY RESOLUTION OF THE WESTERN AUSTRALIAN PLANNING COMMISSION ON:
Date
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, in the presence of:
Witness
Date
Date of Expiry
Casuarina Central   Structure Plan Amendment No. 1

Page 814 Item 17.2 - Attachment B

## **Table of Amendments**

Amendment No.	Description of Amendment	Date Endorsed by Council	Date Endorsed by WAPC
	Structure Plan modifications including:		
	<ul> <li>Expansion of Structure Plan Area to include Lots 1, 2, 23, 24, theMRS Urban zoned portion of Lot 25 Orton Road, Casuarina, and part of the Peel sub-regional drain P1 and P1A (the eastern part of Lot 44, 500 and the western part of Lot 45) and designation of this land as 'Residential', 'Special Use', 'Parks, Recreation and Drainage', 'Public Purpose' and roads.</li> </ul>		
1	<ul> <li>Modification to road classification, intersection treatments and road reservation width for 'Major Access Street' (18m reserve) west of Primary School and playing fields to a 'Neighbourhood Connector' (25m reserve).</li> </ul>		
	<ul> <li>Modification to Landgren Road intersection treatments and classification from 'Neighbourhood Connector' to 'Major Access Street' and removal of any road widening requirement consequently.</li> </ul>		
	<ul> <li>Change in land use designation of Local Centre site to Residential (R40-R60).</li> </ul>		

Casuarina Central | Structure Plan Amendment No. 1

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## **Forward Note**

The Casuarina Central Precinct Structure Plan ("the Structure Plan") was initially approved by the Western Australian Planning Commission on 11 May 2021. As the proposed Structure Plan Amendment ('Amendment 1') is an expansion of the existing structure plan area to include additional land (the 'Expansion Area'), with only minor consequential modifications to land within the existing Structure Plan area to accommodate a revised road hierarchy, this document has been prepared as follows:

Part One: Implementation - replaces the approved Structure Plan Part One and incorporates necessary amendments to apply to the entire Structure Plan area, as amended.

Part Two: Explanatory Information – Provides the rationale for Amendment 1 to the Structure Plan and shall be read in conjunction with Part Two of the approved Structure Plan.

Appendices - Addendums have been prepared to the approved Technical Reports in support of the Structure Plan Amendment as they relate to modifications to the approved Structure Plan area. They should be read in conjunction with the approved Structure Plan Technical Reports. In addition, new Technical Reports has been prepared for the Expansion Area in support of the inclusion of this land.

Casuarina Central | Structure Plan Amendment No. 1

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## **Executive Summary**

#### Amendment 1

This Structure Plan Amendment has been prepared as an amendment to the Casuarina Central Precinct Structure Plan (SPN 2235) which was approved by the Western Australian Planning Commission (WAPC) on 11 May 2021. The aim of the amendment is to coordinate structure planning across the Casuarina Precincts as identified in Local Planning Policy 6 - Guidelines for Structure Planning in Casuarina Urban Cell (LPP 6). The northern boundary of the approved Structure Plan area is Orton Road and it is now proposed to include approximately 21.93ha of land north of Orton Road and south of the Peel Sub-Regional Drain (the 'Expansion Area'), which is zoned 'Development' under City of Kwinana Local Planning Scheme No. 2 and not currently subject to any structure planning, in order to facilitate comprehensive road planning and coordinated development of this urban precinct.

As a result of detailed planning to include the Expansion Area and connect the central and northern urban precincts, minor modifications were required to be undertaken to the Casuarina Central Precinct Structure Plan. Further investigations of the district movement network have identified the need to shift the alignment of the neighbourhood connector further west from Landgren Road to improve opportunities to coordinate and implement a connection between Thomas and Mortimer Roads whilst retaining high quality wetland and vegetation mapped within the Expansion Area. As a result of these changes to the district movement network, there is the need to downgrade the classification of Landgren Road to a 'major access street'. In investigations for the amendment, a retail needs assessment also identified that the planned Casuarina Central Local Centre is not expected to be commercially viable in either the short term or longer term and should be removed from the

The modifications to the approved Casuarina Central Precinct Structure Plan are summarised as follows:

- Expansion of the Structure Plan Area to include Lots 1, 2, 23, 24, MRS Urban zoned portion of Lot 25 Orton Road, Casuarina and part of the Peel sub-regional drain P1 and P1A (the eastern part of Lot 44, 500 and the western part of Lot 45) and designate the land as 'Residential', 'Special Use', 'Parks and Recreation', 'Public Purpose' and roads.
- Modification to road classification, intersection treatments and road reservation width for 'Major Access Street' (18m reserve) west of Primary School and playing fields to a 'Neighbourhood Connector' (25m reserve).
- Modification to Landgren Road intersection treatments and classification from 'Neighbourhood Connector' to 'Major Access Street' and removal of any road widening requirement consequently.
- Change in land use designation of Local Centre site to Residential (R40-R60)

Local structure planning for the inclusion of the Expansion Area had due regard to district level planning for the Casuarina Urban Cell, including the need to accommodate district hard courts adjacent to the proposed senior planning fields. Due regard has also been given to coordination of infrastructure between the northern and central precincts through the provision of land for a waste water pump station to service both precincts and the southern extension of the Neighbourhood Connector from the constructed round-about to the north of Orton Road on an alignment which significantly reduces the impact on the Resource Enhancement Wetland (REW) within Lot 25, when compared to the previously planned northem extension of Landgren Road. The Costa Mushroom Production facility has been recognised as a continuing use within the Structure Plan Expansion Area in addition to the Western Power aboveground transmission lines and associated easement.

The updated Structure Plan map and additional reporting have been included in this Amendment 1 report. Part One – Implementation, has been prepared to replace the entire Part One in the approved Casuarina Central Structure Plan, while Part Two – Explanatory Information, has been prepared to explain Amendment 1, highlighting changes to the approved Casuarina Central Structure Plan, but does not replace Part Two in the approved Casuarina Central Structure Plan.

Casuarina Central | Structure Plan Amendment No. 1

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# Structure Plan Summary

ltem	Data	Section number referenced within the Structure Plan Report
Total area covered by the Structure Plan	121.45 ha (including existing roads and portion of Peel sub-drain)	Plan 1 - Structure Plan
Area of each proposed Land Use: Zones		
Residential (including potential Child Care)	54.72 ha	
Service Commercial	7.10 ha	
Special Use	4.87 ha	
Reserves		
Road Reserve	11.3654	Plan 1 – Structure Plan
Public Purpose – Primary School	3.5 ha	
<ul> <li>Public Purpose – Water Supply Sewerage and Drainage</li> </ul>	0.19 ha	
Parks, Recreation and Drainage	39.28 ha* *includes drainage and hard courts	
Estimated Lot and Dwelling Yield	1,103 lots or dwellings (based on 375m2 lot average)	Part 2, Section 4.3
Estimated Residential Density  Dwellings per site hectare (as per Liveable Neighbourhoods)	20.16 dwellings per site hectare of land designated Residential in the Structure Plan 26.66 dwellings per site hectare of residential (excluding all local roads	Part 2, Section 4.3
Estimated Population Based on average 2.8 people/household	proposed in Structure Plan)  3,088 people in single residential dwellings	Part 2, Section 4.3
Amount of Public Open Space: Amount of credited Public Open Space (As per Liveable Neighbourhoods)	14.34ha	
Amount of creditable restricted Public Open Space: (As per Liveable Neighbourhoods)	1.5341ha	
Composition of Public Open Space		Part 2, Section 4.4
<ul> <li>Neighbourhood</li> </ul>	6.6ha	
Local Parks	3.18ha	
• District	3.217ha	
Conservation	12.67ha	
Power Easement	8.3ha	

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## Part 1 Implementation

## 1 Structure Plan Area

This Structure Plan applies to the land contained within the inner edge of the line denoting the Structure Plan boundary on the Structure Plan Map.

## 2 Operation

The Structure Plan commences operation on the date it is approved by the Western Australian Planning Commission (WAPC) pursuant to Section 16 of the *Planning and Development Act 2005* and for a period of 10 years.

## 3 Staging

Staging will start with construction of the Neighbourhood Connector between the roundabout north to Orton Road to the south with development commencing in Lot 23 from the Neighbourhood Connector and then extend south into central precinct. Subdivision will be undertaken in 40-60 lot stages depending on market conditions at the time.

Wastewater Pump Station to be constructed within Lot 2 prior to any subdivision and development to service the precinct.

Staging of roads, connections and accessways is anticipated, with new public roads being provided generally in accordance with this Structure Plan and as identified on Plan 1, to service staged development.

Upgrade of the Peel sub-regional drain P1 and P1A will be undertaken in a staged manner by adjoining landowners/developers, prior to implementation of subdivision or development approval adjacent to the drain.

## 4 Subdivision and Development Requirements

- a) The Structure Plan Map defines the broad residential density ranges that apply to different areas within the Structure Plan. Lot specific residential densities, generally in accordance with the defined residential density ranges, are to be assigned in accordance with a Residential Density Code Plan determined by the WAPC.
- b) A Residential Density Code Plan is to be submitted at the time of application for subdivision approval to the WAPC and shall indicate the residential density code applicable to each lot within the proposed subdivision. The Residential Density Code Plan shall be generally consistent with the residential density ranges identified in the Structure Plan.
- c) The Residential Density Code Plan is to include a summary of the dwelling yield of the proposed subdivision
- d) Determination of the Residential Density Code Plan shall be undertaken at the time of determination of a subdivision application by the WAPC. An approved Residential Density Code Plan shall then form part of the Structure Plan and be used for the determination of future development applications and building permit applications.
- e) Variations to the Residential Density Code Plan will require the approval of the WAPC. A revised Residential Density Code Plan shall generally be consistent with the approved plan of subdivision issued by the WAPC. The revised Residential Density Code Plan shall be consistent with residential density ranges identified on the Structure Plan Map.
- f) A revised Residential Density Code Plan, consistent with clause (e) above will replace, wholly or partially, the previously approved Residential Density Code Plan, and shall form part of the Structure Plan as outlined in clause (d) above
- g) A Residential Density Code Plan is not required if the WAPC considers that subdivision is for one or more of the following:
  - i. the amalgamation of lots;
  - ii. consideration of land for 'super lot' purposes to facilitate land assembly for future development;
  - iii. the purposes of facilitating the provision of access, services or infrastructure; or

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- iv. land which by virtue of its zoning or reservation under the Structure Plan cannot be developed for residential purposes.
- h) The residential density code ranges are:
  - i. R10
  - ii. R25 R40
  - iii. R40 R60
- i) Where density code ranges are depicted on the Structure Plan Map, the designation of R-Codes shall be in accordance with the criteria outlined below:
  - R10 provides for suitable gradation for lots within the eastern cells of the structure plan area between the Rural Water Protection zone to the east and the R25-R40 development within the cells.
  - ii. R25 R40 provides the main density code range to accommodate a variety of traditional and smaller sized lots with front access. The subdivision design will accommodate a range of opportunities for future homeowners by incorporating residential densities which offer flexibility for traditional homes which are likely to be built by project home builders.
  - iii. R40 R60 provides for a variety of lot types to achieve single, grouped and multiple dwellings with front or rear access adjacent to areas of amenity including POS and the Primary School. Detached, semi-detached and attached housing (terrace) can be provided within this density code range.
- j) Land use permissibility within the Structure Plan area shall accord with the corresponding land use classification in the City of Kwinana Local Planning Scheme No. 2 (as amended).
- k) A potential location for a Child Care Centre is shown on the Structure Plan Map. Land use permissibility and development requirements for a Child Care Centre shall be in accordance with the City of Kwinana Local Planning Scheme No.2 and any relevant Local Planning Policies. When considering any application for development approval, due regard shall be given to the approved location identified for a potential Child Care Centre on the Structure Plan Map.
- I) The following uses are permitted (P) within the 'Special Use' zone:
  - Mushroom Production Facility
- m) The following uses are incidentally permitted (IP) within the 'Special Use' zone:
  - Office
- n) Public Open Space is to be provided in accordance with the Structure Plan Map
- o) This Structure Plan is supported by Bushfire Management Plans (BMP) Casuarina Central Precinct (December 2018), Casuarina Structure Plan Extension Area (August 2023) and Casuarina Central Precinct Addendum (August 2023) all prepared by Eco Logical Australia. Subdivision applications are required to be supported by an additional BMP which addresses issues raised in subsequent development stages in accordance with State Planning Policy 3.7 – Planning in Bushfire Prone Areas.
- p) This Structure Plan is supported by a Transportation Noise Assessment, Transportation Noise Assessment Casuarina Central Precinct (December 2018) prepared by Lloyd George Acoustics. Any land with a noise level in excess of 55dB is subject to the Transportation Noise Assessment.
- q) Notifications on Title

The City of Kwinana shall recommend to the WAPC that a condition be imposed on the grant of subdivision approval for a notification to be placed on the Certificate of Title to suitably respond to the following:

- That a lot with a Bushfire Attack Level (BAL) rating of 12.5 or higher is subject to a Bushfire Management Plan.
- ii. That a lot with a noise level of 55dB or higher is subject to the Transportation Noise Assessment.
- iii. That residential lots located within 200 metres of the mushroom production facility on Orton Road are subject to potential amenity impacts due to odour and/or noise from the facility.

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- iv. That lots abutting the Western Power easement are subject to amenity impacts associated with the maintenance, upgrade and expansion of power infrastructure.
- r) Management Plans

The City of Kwinana shall recommend to the WAPC that a condition be imposed on the grant of subdivision approval to respond to the following as identified by the Structure Plan:

- i. Landscape Plan for POS areas including areas to be managed for conservation purposes.
- Wetland management plan providing for the protection of the conservation category and resource enhancement wetlands.
- iii. Urban Water Management Plan/s.
- iv. Prior to subdivision, a Landscape Feature and Tree Retention Strategy to be prepared in accordance with the City of Kwinana's Local Planning Policy No.1 to ensure the retention of significant trees is optimised as part of the subdivision design, civil design and earthworks.
- Boundary fencing is to be provided between the school site and adjacent wetland in accordance with Department of Education requirements.

## 5 Local Development Plans

Local Development Plan(s) are to be prepared for lots with one or more of the following attributes:

- a) smaller than 260m<sup>2</sup>;
- b) rear vehicle access;
- c) with frontages of less than 10.5 metres; and
- d) abutting POS

## 6 Other Requirements

a) Infrastructure Contributions

An Amendment to the City of Kwinana Local Planning Scheme No. 2 will be required to include additional infrastructure items in the Development Contribution Plan No. 3, as follows:

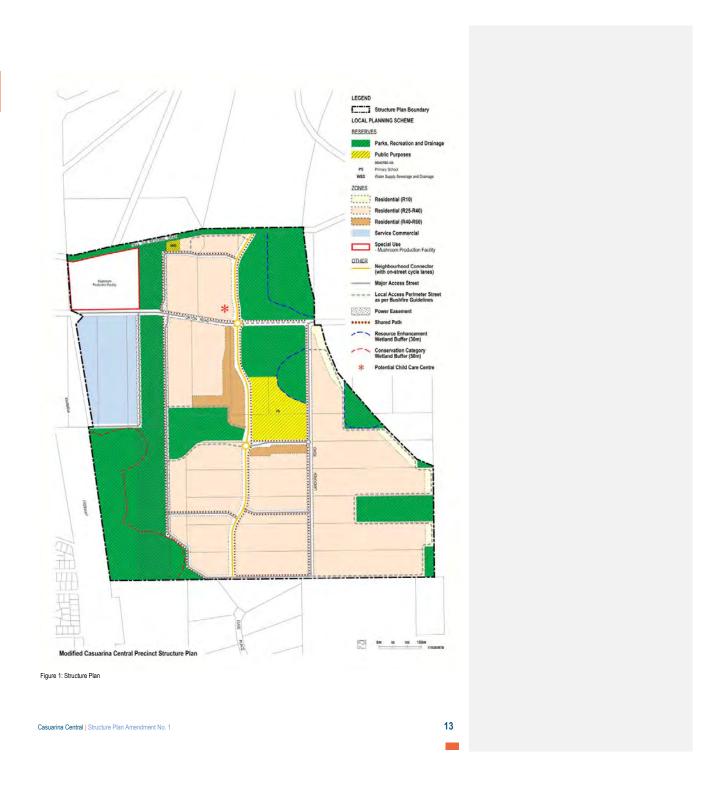
- Land acquisition and construction of the Neighbourhood Connector from the constructed roundabout north of the Structure Plan area to the southern extent of the Structure Plan Area generally as depicted on the Structure Plan Map and including land within the Casuarina North – East of Freeway Structure Plan (SPN2197), required to serve the Casuarina Urban Cell, and;
- Land acquisition costs for the Sewer Pump Station within Lot 2 Orton Road, required to serve the Casuarina Urban Cell.
- b) Costa Mushroom Production Facility

Supporting odour and noise studies are required prior to subdivision should any modification to the requirement for Notification on Title regarding amenity be sought.

c) Upgrade of the Peel Sub-Regional Drain P1 and P1A

As part of subdivision or development of the individual parcels of land adjacent to the drain, necessary works to upgrade the drain to a living stream, commensurate with its urban setting, will be undertaken in consultation with the City of Kwinana and the Water Corporation.

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# Schedule of submissions: Casuarina Central Structure Plan Amendment Advertising period: January 16 – February 27<sup>th</sup> 2024

Submitter	Summary of Submission	Proponents Response	Recommended City Response
Government Age	encies		
EPA	The EPA is unable to provide comment on structure plans. Please send your request to the Department of Water and Environmental Regulation Kwinana/Peel Office.	Noted. Please refer to DWER comments	Noted.
Main Roads WA	Main roads are unable to provide a recommendation due to insufficient information. Further information sought from the applicant. A revised Transport Impact Assessment (TIA) is required to be provided in accordance with Transport Impact Assessment Guidelines (August 2016) and electronic SIDRA Intersection Files in version 9 addressing the following:  • Section 3.11 and 3.12 - Bombay Boulevard no longer joins Thomas Road and no longer provides a direct link to the Structure Plan area. Traffic analysis will need to be amended given all development traffic will be required to use Central Avenue and Discovery Street intersections to access Thomas Road.	Extensive modelling has been undertaken to inform the detailed planning of the surrounding areas and the future traffic demands, impacts on the regional network and the design of access to Thomas Road.  The approved structure plan considered this work and was designed accordingly. The amendment does not significantly change the road network or the development yield and therefore, there is little need to undertake a SIDRA Assessment	The City's engineer agrees that the TIA requires revision and that SIDRA files are required.  It is recommended that the proponents response is forwarded to MRWA for review and response prior to approval should the CCPSPA be supported.
	Section 4.2 - Anticipated capacity of the proposed Primary School. Details	The primary school is based on 0.51 trips per dwelling applied to all primary schools with the closest school receiving the vehicle trips from that	

1

Submitter	Summary of Submission	Proponents Response	Recommended City Response
	are required for the assessment of trip generation in the Structure Plan area.	catchment. The Department of Education advised the applicant to plan for 0.35 pupils per dwelling and based on 4 trips per public per day. This use of 0.51 trips is therefore higher than might be expected and takes no account of other travel modes.	
	<ul> <li>Sections 7.2 and 7.9 - Modelling assumptions/report are to be provided for the Saturn traffic model.</li> </ul>	The Structure Plan concept has been inputted into the model, along with road speeds, lengths and capacity outlined in the traffic report.	
		Further information can be provided if required.	
	<ul> <li>Section 7.4 - Clarification is to be provided for the overall area of the Service Commercial area and trip generation data associated.</li> </ul>	The area identified for service commercial totals 7.10ha. it is noted that this is not proposed through the amendment and is within the current approved Structure Plan.	
		Trip rates for the commercial activities are based on the Road Traffic Authority (NSW) Guide to Traffic Generating Developments.	
	<ul> <li>Section 7.5 - Provide source for the 9 trips per dwelling per day rate used.</li> </ul>	Residential and commercial trip generation rates are taken from the WAPC Transport Assessment Guidelines.	

2

Submitter	Summary of Submission	Proponents Response	Recommended City Response
	Section 7.6 - Provide calculations and/or assumptions for commercial trip generation. If the Saturn model is being used, clarify how internal and external trip generations are calculated.	Further information can be provided if required.	
	<ul> <li>Section 7.7 - Clarification is to be provided for the inbound/outbound trip distribution assumptions during peak hours for each land use type (commercial and residential).</li> <li>Section 7.7 - Residential trip generation rate consists of all trip purposes including school related trips. There is no requirement to break-down the residential trip generation as the 'population' information is not available.</li> </ul>	Further information can be provided if required to clarify inbound/outbound trip distribution assumptions during peak hours if required.	
	Section 7.13 and Appendix C - Traffic demand (background traffic and development traffic) should be provided for AM and PM peaks. The information provided is not sufficient to determine the impacts of the traffic generated by the structure plan area on the surrounding transport networks.	The modelling is based on daily overall demands, to ensure the network is designed appropriately to achieve best outcomes, as well as accommodate peak demands  The surrounding transport networks have been developed with consideration for the growth within the Casuarina Cell and the amendment proposes yield in accordance with what the planning framework envisions.	

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Submitter	Summary of Submission	Proponents Response	Recommended City Response
	<ul> <li>Analysis of the external road network was not provided. The TIA provided indicates that an additional 5000 to 7000 vehicles per day would be added to Central Avenue. An analysis of the Thomas Road/Treeby Road/Central Avenue roundabout, as a minimum, should also be undertaken given that this would be the main entry/exit point of the Structure Plan area. The analysis should also consider the additional traffic from nearby Structure Plans.</li> <li>The analysis was not fully explained to allow Main Roads to trace the steps followed in the assessment process. Select data sources used were not referenced to allow for retrieval of relevant information if required at a later date.</li> </ul>	As above the assessment has considered daily overall demands. Peak hour assessment is provided with traffic impact assessment required by local government for all subdivisions and development applications.  As noted above, the amendment has a similar yield to the approved Structure Plan.  The subject land does not bound any external road network. However, full modelling has been provided by the adjacent landholdings/structure plan areas, and traffic assessments for the central precinct have taken this into account.	
Department of Health	Chemical Hazards There is visual evidence of widespread low-level dereliction and illegal dumping across the area which the consultant assessed as having a low-level contamination risk. Under section 11 of the Contaminated Sites Act 2003 if a site is 'known of suspected' of being	There is no known or suspected contamination, only a low -level risk which could apply to any property in an area that is transitioning from rural to urban. In relation to the lots under the Department of Communities/	DWER have not picked up any suspected contamination in the Expansion Area.

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a contaminated site, it should be reported to DWER to ensure appropriate assessment.  Development WA ownership, it is noted that the landowner actively manages the land, clearing up dumped material where illegal dumping is observed. Derelict housing is also progressively being demolished over time to make way for future development.  The proximity of the existing mushroom farm in the development proposal is within the recommended separation distances (EPA 2005, Guideline – Separation Distances between Industrial and sensitive Land Uses). If homes are built within this area future occupants should be informed of the potential for allergies to be triggered in sensitive individuals and that there will be occasional odours impacting amenity. The proposed vegetation buffer will likely reduce these risks and is endorsed as a requirement.  Development WA ownership, it is noted that the landowner actively manages the land, clearing up dumped material where illegal dumping is observed. Derelict housing is also progressively being demolished over time to make way for future development.  Odour field assessments have demonstrated that dodour impacts can occur within the Amendment/Expansion. Area but the risk of adverse impact on amenity at sensitive receptors is likely to be mitigated by the low frequency of prevailing winds which impact at those locations. A Medium risk rating was assigned to locations up to 100m from the mushroom production facility and found the majority of the Expansion. Area the	Submitter	Summary of Submission	Proponents Response	Recommended City Response
in the development proposal is within the recommended separation distances (EPA 2005, Guideline – Separation Distances between Industrial and sensitive Land Uses). If homes are built within this area future occupants should be informed of the potential for allergies to be triggered in sensitive individuals and that there will be occasional odours impacting amenity. The proposed vegetation buffer will likely reduce these risks and is endorsed as a requirement.  demonstrated that odour impacts can occur within the Amendment/Expansion Area but the risk of adverse impact on amenity at sensitive receptors is likely to be mitigated by the low frequency of prevailing winds which impact at those locations. A Medium risk rating was assigned to locations up to 100m from the mushroom production facility and found the majority of the Expansion Area had a low risk from odour impacts.			that the landowner actively manages the land, clearing up dumped material where illegal dumping is observed. Derelict housing is also progressively being demolished over time to make	
Western Power easement provides a 100m buffer between the mushroom production facility and future residential development. A landscaping package to include the retention of existing mature trees, planting of new trees and flowering shrubs at locations between the mushroom production facility and the residential areas is proposed to reduce potential odour impacts. Consistent with the approved Structure		in the development proposal is within the recommended separation distances (EPA 2005, Guideline – Separation Distances between Industrial and sensitive Land Uses). If homes are built within this area future occupants should be informed of the potential for allergies to be triggered in sensitive individuals and that there will be occasional odours impacting amenity. The proposed vegetation buffer will likely reduce these risks	demonstrated that odour impacts can occur within the Amendment/Expansion Area but the risk of adverse impact on amenity at sensitive receptors is likely to be mitigated by the low frequency of prevailing winds which impact at those locations. A Medium risk rating was assigned to locations up to 100m from the mushroom production facility and found the majority of the Expansion Area had a low risk from odour impacts.  Within the Expansion Area, the Western Power easement provides a 100m buffer between the mushroom production facility and future residential development. A landscaping package to include the retention of existing mature trees, planting of new trees and flowering shrubs at locations between the mushroom production facility and the residential areas is proposed to reduce potential odour impacts.	100m buffer is endorsed should the CCPSPA be supported and that residents are notified of the potential for odour emissions from the

Submitter	Summary of Submission	Proponents Response	Recommended City Response
		Plan, it is expected that the requirement for notification on title for residential lots at the subdivision stage will be imposed by WAPC. Despite the low frequency and low intensity of odour detected within 200m and 400m of the mushroom production facility, on the basis that odours during compost delivered were detected on very infrequent occasions at an intensity of 2,3 and above at a distance of 150-200m from the compost building, it is considered that there may be a planning rationale for a notification on title within 200m to inform prospective purchasers of those infrequent occasions where amenity may be impacted. Given the consistency in results between the original odour field assessments and the more recent odour field assessments it is considered that the scientific evidence supports application of a notification on title for a maximum distance of 200m and this should be consistently applied to the entire structure pan amendment area.	
	The site lies within an area of high acid sulphate soils risk and any disturbance of soils and shallow groundwater will be required to be managed to minimise groundwater impacts. In additional parts of the site are within low-lying land and the	The Department of Water and Environmental Regulation's Acid Sulphate Soils (ASS) risk mapping shows the majority of the site as having 'moderate to low risk of acid sulphate	It is recommended that an ASS investigation takes place prior to subdivision should the CCPSPA be supported.

6

Submitter	Summary of Submission	Proponents Response	Recommended City Response
	impacts and public health risks from flooding, now and into the future will need to be assessed and managed.	soils within 3 metres of the natural soil surface"  There is a small portion to the south of Lots 24 and 25 which is classed as having 'high to moderate risk' of ASS occurring within 3m of the natural soil surface which may require an ASS investigation to advise appropriate management measures prior to subdivision or development for the district sporting ground.	
	Medical Entomology The extent of risk from mosquitos and mosquito-borne disease for future development must be determined by the City of Kwinana.	JBS&G's EAR refers to a Midge and Mosquito Management Strategy being prepared by the City of Kwinana in consultation with the developer prior to subdivision, if required.	The City's health officers agree. It is therefore recommended that the proponent prepare a Midge and Mosquito management plan prior to subdivision should the CCPSPA be supported.
	Drinking Water Supply The DoH recommends all drinking water is connected to the Water Corporation's mains water supply. All drinking water provided onsite must meet criteria set out in the Australian Drinking Water Guidelines. Any non-drinking water must be managed to ensure it cannot be confused with or contaminate the drinking water supply.  Wastewater Management.	Noted.	Agreed.

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Submitter	Summary of Submission	Proponents Response	Recommended City Response
	The subject site must be connected to reticulated sewerage in accordance with the Government Sewerage Policy 2019.	Noted.	Agreed.
Department of Water and Environmental Regulation	The Department has identified that the Structure Plan has the potential for impact on environment and water resource values and/or management. In principle the Department does not object to the proposal however key issues, recommendation and advice are provided in the submission.		
	Local Water Management Strategy (LWMS) The LWMS and the Addendum has been reviewed and amendments are required. It is recommended that the report is revised consistent with advice from the Department and the City of Kwinana prior to the finalisation and adoption of the Structure Plan amendment. Further advice on amendment to the LWMS is provided in an addendum to the submission.  4.7 Groundwater: Recent aerial imagery indicates large areas of inundation on Lot 2. Therefore, winter peak and maximum groundwater levels (MGL) are at or above surface. On-site groundwater monitoring conducted July 2017 to July 2018 has not picked up more recent winter peaks from 2021-2023 as illustrated by T200 which indicates more recent higher winter peaks. Proposed invert levels for the drainage infiltration areas are to be reviewed and	Hyd2o mapping at bore CS1 has already determined the AAMGL/MGL to be at natural surface in this area and groundwater mapping is consistent with aerial imagery.  Bore T200's hydrograph is included as Appendix E of the LWMS and shows the maximums since the period to 2017 used by Hyd2o for assessment to be below the AAMGL. If the period since 2017 had been used in the assessment a lower site AAMGL would result.  Biofiltration and flood storage areas are established 0.5m above AAMGL/MGL.  Surface water quality sampling will be undertaken in winter 2024 and used to supplement data previously undertaken as part of various previous reporting.	It is recommended that the Proponent's response is forwarded to DWER for review and response prior to approval of the CCPSPA should it be supported.

Submitter	Summary of Submission	Proponents Response	Recommended City Response
	amended to provide an adequate separation distance to the MGL.		
	4.6 Surface Water: Please provide pre-development surface water quality sampling results for Peel Main Drain P1 drain and Peel Main Drain Sub P1A drain as well as the location of sampling points.		
	4.7.2 Groundwater Quality This section states that groundwater was sampled from 4 bores from July 2017 to July 2018 and CS03 is the bore located on this subject site. However, bores CS01 and CS02 are located at this site. Please include all the monitoring results from these two bores		
	Section 6 Stormwater Management Strategy As detailed in Better Urban Water Management (WAPC, 2008), Interim: Developing a Local Water Management Strategy (DWER, 2008) and Draft State Planning Policy 2.9 – Planning for Water (WAPC, 2021), the LWMS is to contain cross-sectional drainage conceptual designs and these can be further refined in the future urban water management plans (UWMPs). This includes, but not limited to: • Temporary stormwater storages; • Critical inverts including MGL, base inverts, inlets/outlets, weirs, etc;	Indicative cross sections can be prepared if required to support the LWMS or future UWMPs.  A landscape masterplan has been prepared by Emerge and is included as an appendix to the LWMS as well as being appended to the Structure Plan Amendment. Furthermore, Figures 19 and 20 in the Structure Plan Amendment Part 2 demonstrate potential drainage concepts. This is considered sufficient for this stage in the planning and design of the Precinct.	

Submitter Summary	of Submission	Proponents Response	Recommended City Response
Top water major rainfa Bioretentir their integra Batters; Interface I wetlands an Include pre illustrating I systems an interface with This can be stage.  This section Drain Sub I upgraded in opportunity into a living with other under the Main Drain catchment. This will impersal their will impersal to the stage.	levels for the small, minor and	It is important to note that no widening or deepening of either of the existing Peel Main Drain Sub P1 drain will be needed to meet level of service requirements for these drains to support development. Upgrade of the drain to a living stream commensurate with an urban setting can therefore be undertaken separately and in a staged manner within its existing 20m wide corridor.  Part 1 Section 6c includes a provision as follows:  Upgrade of the Peel Sub-Regional Drain P1 and P1A  As part of subdivision or development of the individual parcels of land adjacent to the drain, necessary works to upgrade the drain to a living stream, commensurate with its urban setting, will be undertaken in consultation with	

Submitter	Summary of Submission	Proponents Response	Recommended City Response
		the City of Kwinana and the Water Corporation.	
		Furthermore, DCP 3 includes the upgrade of the drain as an infrastructure item, enabling the equitable collection of funds to deliver the upgrades.	
	Section 6.2 Flood Protection (1% AEP Event) Include a table indicating pre- and post-development flow rates. Also, as the Peel Main Drain P1 flows into culverts under the Kwinana Freeway, the LWMS is to be sent to	The LWMS has been prepared on the basis of maintaining allowable post development flow rates as specified in DWERs Jandakot DWMP. Table 8 in Section 6.1 of the LWMS details the pre and post development flow rates.	
	Section 6.3 Ecological Protection (15mm) Please include indicative locations of roadside median swales, tree pits, and rain gardens at Figure 8 and landscape plans at Appendix F. The locations can be further refined at the UWMP stage Also, local endemic species are to be used for drainage systems.	This detail can be provided when engineering deign has been progressed.	
	Section 7: Groundwater Management Strategy As detailed in Better Urban Water Management (WAPC, 2008), Interim: Developing a Local Water Management Strategy (DWER, 2008) and Draft State Planning Policy 2.9 – Planning for Water (WAPC, 2021), design of groundwater	Key subsoils inverts can be included on a plan to demonstrate the viable earthworks strategy if required.	

Item 17.2 - Attachment C

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Submitter	Summary of Submission	Proponents Response	Recommended City Response
	management systems (subsoil drainage) is required in LWMS. This includes system layout, critical invert levels, demonstration of a free-draining outlet, integration with stormwater management and a workable earthworks strategy.		
	Section 8: Urban Water Management Plan As detailed above, amend this section for detail that is required in a LWMS.	See previous comments	
	Section 9: Monitoring Program As detailed in all of the above reference documents, the LWMS is to include the proposed ground and surface water monitoring program and trigger values (from updated monitoring). Table 10 to include surface water monitoring, trigger values and groundwater levels are to be monitored monthly. Further guidance at Water Monitoring Guidelines for Better Urban Water Management Strategies and Plans (DWER, 2012) and Interim: Developing a Local Water Management Strategy (DWER, 2008).	The monitoring program was established on the basis of the previously approved Casuarina Central Precinct LWMS specified program which only included quarterly groundwater level monitoring. Trigger values will be established following winter 2024 monitoring.	
	Figure 6: Surface Water Plan Include surface water monitoring locations	Surface water monitoring locations can be added, if required.	
	Figure 8: Stormwater Management Plans The proposed stormwater management areas are to be illustrated in their planned	Figure 8 already shows the biofiltration and flood storage areas in there intended locations. Potential locations	

Item 17.2 - Attachment C

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Submitter	Summary of Submission	Proponents Response	Recommended City Response
	locations to ensure that adequate land is set aside for water management. This includes bioretention areas (tree pits, median swales, rain gardens, etc) and FSAs. These can be refined in the UWMP.	for use of tree pits, median swales and rain gardens can be added when detailed engineering design has progressed.	
	Native Vegetation Advice is to be sought from the department of Biodiversity Conservation and Attractions (DBCA) and referral may be required under the Environment Protection and Biodiversity Conservation Act 1999.	The EAR confirms referral may be required following further survey work  See comments below from EBCA and EPA.	It is recommended that the Proponent's response is forwarded to DWER for review and response prior to approval of the CCPSPA should it be supported.
	Wetland The Geomorphic Wetlands Database indicates the structure plan area contains conservation category and resource enhancement wetlands. Development (including drainage infrastructure) is to be located outside of the wetlands and 50m buffer areas. Advice is to be sought from the DBCA.	The EAR proposes a 3.9ha wetand retention area, consisting of 2.8ha wetland core containing the highest quality vegetation, and a 30m wetland buffer across Lot 25 and a portion of Lot 24 to prevent direct impacts, as is suitable for a REW.  See DBCA comments.	The proposed CCPSPA has been forwarded to DBCA for comment, please refer to their submission.
	Groundwater Availability The site is located within the Jandakot Groundwater Area (Mandogalup sub area) which is proclaimed under the Rights in Water and Irrigation Act 1914. Any groundwater abstraction in this area for purposes other than domestic and /or stock watering taking from the superficial aquifer is subject to licensing by the Department.	Noted.	Agreed.

Submitter	Summary of Submission	Proponents Response	Recommended City Response
	Noting that the site holds an existing groundwater licence for construction and dust suppression purposes only, an amendment to the licenced allocation would be required for irrigating landscaped areas. Alternative sources of water will likely need to be sought to satisfy any non-potable water requirements.		
	Separation Distance Determination of the separation distance from an existing activity to a proposed development is under the jurisdiction of the Department of Planning, Lands and Heritage.  EPA guidance statement No.3 'separation distances between industrial and sensitive land uses; states that the measurement of separation distance is from the boundary of the area that may potentially be used by an industrial land use. The recommended separation distance from mushroom farms is 500-1000m.	Odour Field Assessments have demonstrated that odour impacts can occur within the Amendment/Expansion Area but the risk of adverse impact on amenity at sensitive locations is likely to be mitigated by the low frequency of prevailing winds which impact at these locations. A Medium risk rating was assigned to locations up to 100m from the mushroom production facility and found the majority of the Expansion Area had a low risk from odour impacts.	It is recommended that the proposed 100m buffer is endorsed and residents notified of the potential for odour from the mushroom farm should the CCPSPA be supported.
	In addition, the Department considers that technical studies should be used with caution for land use planning purposes. Odour and fugitive dust are particularly difficult to quantify in terms of emissions and impacts. Monitoring does not account for all possible temporal and spatial variation in ambient levels of air pollutants and cannot determine air emissions from future changes to industrial activity. In addition, the results of	Within the Expansion Area, the Western Power easements provides a 100m buffer between the mushroom production facility and future residential development. A landscaping package to include the retention of existing mature trees, planting of new trees and flowering shrubs at locations between the mushroom production facility and the residential areas in proposed to reduce potential odour impacts.	

Submitter	Summary of Submission	Proponents Response	Recommended City Response
	scientific assessments must be compared to some pre-defined criteria (including health, amenity and annoyance). For odour and dust, these pre-defined levels often do not exist or are subjective.	Consistent with the approved Structure Plan, it is expected that the requirement for notifications on title for residential lots at the subdivision stage will be imposed by WAPC. Despite the low frequency and low intensity of odour detected within 200m and 400m of the mushroom production facility, on the basis that odours during compost deliveries were detected on very infrequent occasions at an intensity of 2,3 and above at a distance of 150-200m from the compost building, it is considered that there may be a planning rationale for notification on title within 200m to inform prospective purchasers of these infrequent occasions where amenity may be impacted. Given the consistency in results between the original odour field assessments it is considered that the scientific evidence supports application of a notification on title for a maximum distance of 200m and this should be consistently applied to the entire structure plan amendment area.	
Water Corporation	Major upgrades are required to provide this area with a water service. Currently the only main available to supply this development is the 220RC in Orton Rd on the eastern side of the water zone. This main is the single supply to Casuarina Prison and 130 rural residential	As with any urban development area, significant infrastructure upgrades are required to accommodate future development.	It is recommended that the proponent agree infrastructure upgrades with Water Corporation prior to subdivision should the CCPSP be supported.

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Submitter	Summary of Submission	Proponents Response	Recommended City Response
Submitter	services north of the prison. Based on the recorded minimum pressures it appears that the reticulation network at the eastern side of the water zone is operating at full capacity and cannot support further development without new distribution upgrades.  Medina Adamson Rd Distribution Main is required to connect the 400S main in Sulphur Rd to the 400S main in Price Pkwy. This distribution main upgrade will significantly increase capacity to the 220RC in Orton Rd and allow about 500 new lots to be supplied in the proposed development. The current PPC date for this project is May 2027.  Medina Orton Rd Distribution Main is required to connect the 400S main Price Pkwy to the reticulation supplying the new development. With this distribution main	Proponents Response	Recommended City Response
	upgrade, the entire 1100 lots can be developed. The current PPC date for this project is June 2033.		
	For Wastewater servicing it should be noted that there is approximately 39m of downstream DN225 sewer between the access chamber W6362 and the access chamber W6363 needs to be upgraded from		
	DN225 to DN375 to provide sufficient capacity to accept flow from the proposed development.		
Department of Education	In the Department's previous submission to the City of Kwinana on the original Casuarina		

Submitter	Summary of Submission	Proponents Response	Recommended City Response
	Central Precinct Structure Plan (Structure Plan) in 2019, the Department identified significant environmental and design issues which would compromise the school site planning and safety of the students. Whilst the public primary school site does not fully accord with the design principles of the Western Australian Planning Commission's Operational Policy 2.4 – Planning for School Sites (OP 2.4), it is noted that the proposed amendment is limited to, amongst other things, the inclusion of additional residential land use to the north of Orton Road, and modification to road classification and intersections to the west of the future public primary school site. Accordingly, the Department provides the following comments relating to these changes:		
	Adequacy of public primary school site The Structure Plan Amendment Report indicates that the Central Precinct area is anticipated to generate approximately 1103 dwellings/lots compared to the original lot yield of 952. Coupled with the potential residential development in Southern Precinct, the Department has concerns that the proposed primary school site identified in the Central Precinct may not be adequate to serve the future student population across the Northern, Central and Southern Precincts. It is anticipated that the total dwelling yield would significantly exceed the	A Primary School is located near the intersection of Landgren Road and Orton Road, as depicted on the approved Structure Plan Map. This location is also generally consistent with the Jandakot District Structure Plan and draft Eastern Residential Intensification Concept, which are key strategic planning documents for precinct. It is anticipated that a total of 1103 dwellings will be developed within the precinct, with the provision of one primary school site sufficient to	Agreed. Once the precinct planning for Casuarina South has been done and a Structure plan lodged with the City it will be referred to DoE for assessment.

Submitter	Summary of Submission	Proponents Response	Recommended City Response
	prescribed ratio of one public primary school	accommodate the likely demand	
	for every 1500 dwellings under the OP 2.4.	generated by these dwellings, in	
		addition to other residential	
	With the subject school site having an	development in either the northern or	
	irregular shaped lot and being highly	southern precinct.	
	constrained due to the presence of a	It is acknowledged that the detailed	
	Resource Enhancement Wetland (drainage basin) on the north-eastern corner, the school	planning for the southern precinct and a substantial portion of the northern	
	site will have limited capacity to	precinct is underway, via separate	
	accommodate for more students beyond	structure planning processes. The need	
	what a standard sized, regular shaped and	for further school sites to accommodate	
	unconstrained school site could. It is likely	the residential development proposed	
	that an additional public primary school site	within both precincts will need to be	
	would be required in the locality as part of	considered and assessed through	
	future consideration of the structure planning	these separate exercises.	
	of the Southern Precinct.		
	Road reclassification	Brimary Cahael nedestrian and vahiole	
	It is acknowledged in the Report that the reclassification of the road adjacent to the	Primary School pedestrian and vehicle access has been achieved through a	
	school site to the west to a 'Neighbourhood	highly permeable road network, which	
	Connector' of 25 metre wide including a	is enhanced by the proposed relocation	
	roundabout adjacent to the south-western	of the north-south connector. Section	
	corner of the school site would not result in	4.8.2 of the Amendment 1 Report	
	the reduction in the size of the school site.	includes a description of this road, and	
	This is supported given that the school site is	notes the road will be 25m wide, which	
	already constrained and any loss of land as a	is wide enough to provide for a	
	result of road widening would have adverse	boulevard style treatment. Figure 21	
	implication on the school site planning and	includes a typical cross-section of the	
	future operation of the school.	Neighbourhood Connector and	
	In view of the above, the Department has no	illustrates capacity to accommodate on-	
	objections to the proposed amendment	street bays and 2m wide shared paths.	
	subject to the following:	The detailed design of the road will be	

Submitter	Summary of Submission	Proponents Response	Recommended City Response
	<ul> <li>further analysis of public primary school demand being undertaken as part of future structure planning of the Southern Precinct and that additional public primary school site/s may be required in the locality; and</li> <li>the proposed 'Neighbour Connector' road reserve including any modified intersection/s not resulting in any reduction to the size of the primary school site and that all road reserves adjacent to the school site being able to cater for adequate and safe onstreet embayment bays and shared/dual use paths.</li> </ul>	progressed through the subdivision stage.  A 50 kph speed limit in addition to further restrictions during school hours adjacent to the primary school site will provide for enhanced safety considerations.	
Department of Biodiversity, Conservation and Attractions	Wetlands Buffers for wetlands UFI-6670, UFI-6667 and UFI-15973 displayed in Figure 1 of "Casuarina Central Precinct Structure Plan (SPN2235) -Amendment 1" (Attached Figure 1), and other supplied documents, are not calculated from the boundaries of the current Geomorphic Wetland Swan Coastal Plain (GWSCP) dataset (Attached). DBCA has not received an application to modify the GWSCP dataset for Casuarina Central Precinct Structure Plan, except for UFI-15973 lots 9000 and 2001.  UFI-15973 is part of an ongoing wetland mapping review for the wetlands on the properties to the South of Casuarina Central Precinct (i.e., Casuarina South). Based on	The EAR has confirmed that a wetland reclassification is required to be submitted to alter the boundaries of the wetlands from that of the GWSCP dataset and proposes that this will be cone prior to subdivision design in consultation with the City of Kwinana and DBCA.  The wetland area will be evaluated as per DBCA's A methodology for the evaluation of wetlands on the Swan Coastal Plain, Western Australia (DBCA, 2017) and will be informed by the additional detailed flora and vegetation survey work not scheduled to be complete in Spring 2024.	These comments reflect the City's environmental officers comments. It is agreed that the REW on lots 24 and 25 has not been correctly mapped and should be subject to a 50m buffer rather than the 30m buffer proposed. Should this be agreed then the District Hard Courts cannot be located in their proposed location due to insufficient land.  It is understood that the spring 2023 surveys were not undertaken as access was not granted to the lots 24 and 25. Given the poor relationship between the proponent and the landowners it seems unlikely

Submitter	Summary of Submission	Proponents Response	Recommended City Response
	this review it is unlikely that any portion of this	The spring 2023 detailed flora and	that access to the land will be grated
	wetland will be modified to Multiple Use due	vegetation survey work was unable to	in spring 2024.
	to the cover of native vegetation. It is likely	be completed in spring 2023 as access	
	that all portions of UFI-15973 will remain	to the site was not grated by the	It is recommended that the City do
	Conservation. The buffer displayed in Figure	landowners. The survey work is now	not support the CCPSPA due to
	1 does not use the GWSCP mapping for this	scheduled to be undertaken in Spring	insufficient mapping of the REW
	wetland. (see georeferenced image)	2024 pending access to the sites.	which casts doubt over the
	LIEL 6667 in Figure 1 it is proposed that		implementation of the CCSPSA.
	<u>UFI-6667</u> in Figure 1 it is proposed that portions of this Resource Enhancement		
	wetland mapped in the GWSCP dataset be		
	developed, therefore a buffer has not been		
	provided for this portion of the wetland (see		
	georeferenced image). Based on imagery,		
	portions of UFI-6667 maybe		
	commensurate with Conservation.		
	<u>UFI-6670</u> in Figure 1 it is proposed that		
	portions of this Resource enhancement		
	wetland mapped in the GWSCP dataset are		
	developed, which would divide this wetland		
	into two portions. therefore, a buffer has not		
	been provided for this portion of the wetland		
	(see georeferenced image). Dividing this wetland into two portions would decrease		
	hydrological and ecological connectivity.		
	Based on imagery, portions of UFI-6670 are		
	likely commensurate with Conservation.		
	Potential unmapped wetland - As part of the		
	wetland mapping review for Casuarina South		
	DBCA received "Flora, Vegetation and Black		
	Cockatoo Assessment, Various Lots, Orton		
	Road and Landgren Road, Casuarina (360		
	Environmental 2018)" this included plot data		

Submitter	Summary of Submission	Proponents Response	Recommended City Response
Submitter	for Casuarina Central Local Structure Plan Area. The presence of Melaleuca pressiana, Jacksonia gracillima (priority species) and Pericalymma ellipticum flora taxa suggest that there may be unmapped wetland on and in the vicinity of:  • Lot 48 Orton Road (P008390)  • Lot 47 Orton Road  • Lot 9000 Orton Road  If these areas are confirmed to be wetland, the following values identified in 360 Environmental (2018) would be considered as part of a wetland evaluation: portions is mapped as being in good or better condition, recorded populations of priority flora, identified as Banksia Woodland of the Swan Coastal Plain, supports Red Tailed Black Cockatoo (foraging evidence and suitable foraging trees) and identified as having Black Cockatoo breeding trees with hollows.  DBCA recommends a review of wetland mapping (delineation and evaluation) for Casuarina Central – Structure plan area. Wetland evaluations should be in accordance with 'A Methodology for the Evaluation of Wetlands of the Swan Coastal Plain (DBCA,	Proponents Response	Recommended City Response
	2017) (the Methodology).  Threatened Flora  No threatened or priority flora were found in the extension area during three historical surveys that have been undertaken over the undeveloped portions of the Extension area	The extent of native vegetation includes potential conservation significant flora will be further refined following a	

Submitter Summary of Submission	Proponents Response	Recommended City Response
(Lots 2, 23, 24 & 25) although it does not appear that any targeted flora surveys have been undertaken. Eight taxa were considered "likely" to occur at the site;  • Caladenia huegelii (Critically Endangered - WA Biodiversity Conservation Act / Endangered Commonwealth Environmental Protection and Biodiversity Conservation Act (EPBC Act);  • Drakaea elastica (EN State /EN Commonwealth);  • Diuris micrantha (Vulnerable State/ Vulnerable Commonwealth;  • Netrostylis sp. Chandala (G.J. Keighery 17055) (Priority 2);  • Thelymitra variegata (Priority 2).  • Cyathochaeta teretifolia (Priority 3);  • Jacksonia gracillima (Priority 3);  • Jacksonia gracillima (Priority 4).  . The JBS&G EAR (26 July 23) mentions that a detailed flora and vegetation assessment will be undertaken to confirm the extent of flora and vegetation values present within the extension area, however, however there are no results for the proposed Spring 2023 survey included in the Structure Plan (Dec 2023) so it makes it difficult to assess potential flora values. Therefore, spring surveys need to be undertaken to confirm if any of the conservation significant flora listed above do occur within the extension area.	detailed flora and vegetation survey across the Extension Area. The explicit clearing value will be provided in a supplementary EAR following additional survey work, however it is not expected to differ significantly to the values provided in Table 4.6 of the EAR.  The Spring 2023 detailed flora and vegetation survey work was unable to be complete in spring 2023 as access to the sites was not granted by the landowners. The survey work is now scheduled to be undertaken in Spring 2024 pending approval to access the sites.  The detailed flora and vegetation survey work will be undertaken prior to the subdivision stage whether this occurs in 2024 or a future year due to site access constraints.	

Submitter	Summary of Submission	Proponents Response	Recommended City Response
	Vegetation It appears that the results of the proposed Spring 2023 supplementary survey have not been included in the Casuarina Central precinct Structure Plan Amendment 1 Report December 2023, and that further spring surveys need to be undertaken. The results of the detailed vegetation and flora assessment undertaken in Spring 2023 (if it was undertaken) need to be considered to identify the Banksia Woodland of the Swan Coastal Plain occurrences within the site. Any further surveys should ensure that the appropriate methods are undertaken, including following the EPA's Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment, and the "Methods for Survey and identification of Western Australian threatened ecological communities, DBCA" (2024).  The Structure Plan Amendment No 1 December 2023 report refers to retaining areas of Banksia Woodland throughout the development. The identification of the ecological communities' present should be confirmed at the site to ensure the structure plan address the retention of areas of conservation significance.	The Spring detailed flora and vegetation survey work was unable to be completed in Spring 2023 as access to the sites was not granted by the landowners. The survey work is now scheduled to be undertaken in spring 2024 pending approval to access the sites.  A referral under the SPBC act relating to Banksia Woodland may be required pending the outcome of the detailed flora and vegetation survey work, this will be undertaken prior to the subdivision stage.	
	Fauna The JBS&G Environmental Assessment Report (EAR) July 2023 outlines that a follow up black cockatoo habitat assessment will be	The design of the extension area has prioritised the retention of the existing	

Submitter	Summary of Submission	Proponents Response	Recommended City Response
	undertaken to determine quality of foraging	mature trees. It is intended that this	
	habitat on site and confirm significant	principle is maintained throughout the	
	breeding trees and will be provide a	next stage of project, and during the	
	supplementary EAR. As the final number of	subdivision and development process.	
	trees able to be retained and cleared will be		
	determined by the additional survey and	As noted, a follow up black cockatoo	
	through a follow up arboriculture assessment,	habitat assessment will now be	
	it is difficult to accurately determine the	undertaken to determine quality of	
	importance of the habitat proposed to be	foraging habitat on site and confirm	
	cleared and likely level of significance. It	significant breeding trees and will be	
	should be noted however that black	provided in a supplementary EAR.	
	cockatoos have declined in numbers in		
	response to historic and ongoing removal of		
	foraging habitat. Cumulative impact of loss of		
	habitat is reducing the amount of habitat and		
	so reducing the number of birds that can be		
	supported in the region. Black cockatoo		
	biodiversity and conservation values in the		
	project area include proteaceous and		
	myrtaceous species. Whilst the proposed area to be cleared is relatively small,		
	cumulative impact in the area from adjacent		
	proposals is likely to be regionally significant.		
	It should be noted that the fauna habitat was		
	described as degraded, but as this was		
	assigned using vegetation health scoring this		
	may not truly reflect the fauna habitat		
	importance for species such as black		
	cockatoos. Whilst parkland cleared trees		
	would be assigned a degraded health score,		
	if they are large jarrah and marri trees, they		
	are likely to provided significant foraging		
	resources for black cockatoos. To mitigate		
	the cumulative risk, the project should aim to		
L			

Submitter	Summary of Submission	Proponents Response	Recommended City Response
	retain as many mature trees as possible, with a preference for marri and jarrah species, and not just those with a DBH greater than 500mm. Noting DBH >500mm is used from a nesting perspective and the proposed area to be cleared primarily provides foraging and roosting habitat. Landscaping and engineering design should be as adaptive as possible to accommodate the retention of mature trees, as well as protection and enhancement of proteaceous woodlands.		
	Bushfire Protection It is expected that the City of Kwinana will ensure that the any necessary bushfire protection setbacks and requirements are achieved without placing reliance or impositions on the management of vegetation within retained wetland and bushland public open space (POS). DBCA supports having a perimeter road between residential development and wetland and bushland POS for reasons of public safety, protection of bushland within the POS and fire safety for resident. The perimeter road reserve should accommodate all road, dual use path and drainage infrastructure, and still allow for a gently sloping fill batter (a maximum slope of 1 in 6) which meets the natural ground level well inside the road boundary, and which will allow for successful revegetation.	The road reserves have been designed appropriately to accommodate all associated improvements and services/infrastructure.	It is recommended that a response from DFES is forwarded to WAPC once received.
	Kangaroo management		

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Submitter	Summary of Submission	Proponents Response	Recommended City Response
	No information is provided in the EAR regarding the presence of kanagaroos. Development of this area may result in the displacement of Western Grey kangaroos, which can become a highly emotive issue with the local community. Displaced kangaroos can create problems for residents, nearby agriculture industries, public open space users, potentially resulting in public safety and animal welfare issues. The relocation of kangaroos if required post-development is very difficult. A Kangaroo Management Plan (KMP) should be undertaken by the proponents to inform the planning for the area. The KMP should include an accurate count of the number of kangaroos in the proposed development area, consideration of options to reduce kangaroo numbers prior to development commencing, and clearly articulate how the plan will be implemented. The department can provide advice on the range of options to mitigate the impacts of kangaroo displacement.	A Kangaroo Management Plan can be prepared, if required at the appropriate stage prior to subdivision works.	Agreed.
	Matters of National Significance The proposed subdivision may result in the loss of habitat for Carnaby's Black Cockatoo and the Forest Red-tailed Black Cockatoo as defined in the Commonwealth Environmental Protection and Biodiversity Conservation Act (EPBC Act) referral guidelines for threatened black cockatoo species.	The applicant is aware of the requirements under the EPBC act with a referral process already underway for land under Department of Communities /Development WA ownership. This process does not prohibit the consideration and determination of the Structure Plan amendment.	Agreed.

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	These species are listed as "Endangered" and "Vulnerable" respectively under the EPBC Act. The Commonwealth has also listed the Banksia woodlands of the Swan Coastal Plain Ecological Community as Endangered under the Environmental Protection and Biodiversity Conservation Act (1999). The proponent will need to consider their responsibilities to refer the proposal to the Commonwealth under the EPBC Act.		
Landowners and	nearby residents		
Sean Fairfoul, Lateral Planning on behalf of Lot 2,24 and 25 Orton Road Casuarina	Lots 2,24 and 25 Orton Road form the majority of the proposed expansion area.  Process: It is disappointing that there have been no meaningful discussions between the applicant of the Structure Plan and the main landowner of the expansion area prior to the lodgement of this proposal.  The development aspirations, site background, previous environmental investigations as they relate to Lots 2, 24 and 25 Orton Road, Casuarina have not been adequately considered by the proposed expansion to the Structure Plan  The lack of pre-lodgement consultant has resulted in the inequitable placement of facilities. Lots 2, 24 & 25 Orton Road have been encumbered by a sewer pump station, a portion of the district road access and the	The applicant has made genuine attempts to engage with the owner of lots 2,24 and 25.  Notwithstanding, the proposed amendment has attempted to balance the various competing factors and enable the best subdivision and development outcome to progress. This is discussed further below in the context of the proposed modification of the alignment of the north-south road connector and the district open space items.	

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	District Open Space. While it is noted that some compensation has / will be provided, the location of these items solely on land not controlled by the applicant is concerning and does not represent an equitable approach to planning in this area.		
	Road access The proposed road connection utilises a portion of Lot 24 Orton Road. At this time the landowner of the Lot 24 has no desire to develop or sell their property. As such the delivery of this road is not certain and at this time would require the City to forcibly resume the northern portion of Lot 24 to guarantee delivery.	The proposed alignment provides for an enhanced outcome in respect to north south vehicular connectivity through the Northern and Central precincts and significantly improved environmental outcome.	The proposed alignment of the Neighbourhood Connector is supported by the City.  The City notes that the landowners do not support the CCPSPA and their reluctance to sell or developer their land at this time.
	The relocation of this road across Lot 24 could be supported by the landowner should the District Open Space be relocated. This would provide for greater equity and sharing of the required infrastructure within the various landownerships within the Structure Plan area.	The extension of Landgren Road north on the alignment previously planned in flawed as it would unnecessarily bisect and impact the environmental values of the Resource Enhancement Wetland. The reconsidered road alignment significantly reduced the impact on the wetland and provides an enhanced outcome that allows for this wetland to be integrated with the adjacent with the adjacent district open space area, and provides potential for existing trees and vegetation to be integrated and maintained.	It is recommended that the City do not support the CCPSPA because the majority landowner does not support it which makes its implementation questionable.

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	his road connection is proposed to relocate the connection away from the Landgren Road, towards the west.	The proposed road alignment has been designed in consultation with Aigle Royal, the proponent for the Casuarina North Structure Plan.	
	Given the modification to the Casuarina North Structure Plan, there may also be a need to amend that structure plan to reflect this modification.	As noted in Aigle Royal's submission an amendment to the Casuarina North Structure Plan is in progress which will includes adjustments to the north-south road alignment to coordinate with and connect the northern and central precincts. Aigle Royal has confirmed its support for the alignment of the southern portion of the north-south road – south of the constructed RAB at the intersection of Market Street and Central Avenue.	
	District Open Space The location of district open space (hard courts) are located primarily within Lot 24 Orton Road. It is acknowledged this is the location is in the general region shown within the City of Kwinana Community Infrastructure Plan, however Lot 23 is more representative of the indicative location as shown in the CIP and therefore it cannot be argued that Lot 24 was chosen on the basis that the CIP showed it in that location.	Agree that the location for the district open space is generally consistent with the location identified in the Community Infrastructure Plan 2021. The location of the hard court has been informed by this Plan. In addition to extensive discussions with the City.	The City is open to the relocation of the District Hard Courts elsewhere within the Casuarina Cell however recognises that any alternate location would have to be subject to significant assessment. Should the District Hard Courts be proposed in the Jandakot Water Mound then DWER should be consulted so they can provide an assessment.
	Lots 24 and 25 are both beyond the applicant's ownership and as such the application cannot guarantee the delivery of	To determine the best outcome in respect to the location of the district sporting grounds (hard court, clubroom	

Submitter	Summary of Submission	Proponents Response	Recommended City Response
	the District Open Space. The proposed	etc) significant testing was undertaken	
	location combined with the lack of land	by the project team, including in the	
	available for residential development also	context of the future development to	
	means that there is no incentive the	occur within the Casuarina North	
	landowner of Lots 24 and 25 to develop	precinct. The proposed location	
	these parcels. As such the delivery of the	achieves the following key principles:	
	district open space is uncertain.		
		Providing for convenient access	
	The location and configuration of the	arrangements –	
	proposed District Open Space ensures that it	The district open space area benefits	
	is unable to achieve one of the key	from its location adjacent the north-	
	requirements as outlined within the CIP, that	south connector and Orton Road; two	
	is the provisions of road frontages along at	key north-south, east-west routes.	
	least 75% of the frontage. This is likely to	Whilst the site does not have 75%	
	result in increased traffic congestion. The	frontage to roads, the direct frontage to	
	location of the District Open Space should be	the primary accessway through the	
	amended so that it is more equitable provided	precinct and Orton Road optimses	
	and allows for better perimeter road access.	accessibility and connectivity from	
		those travelling to the facility from	
	The inclusion of the District Open Space	surrounding areas to the north and	
	within an areas that might otherwise	east, residential areas within the	
	accommodate residential development (R25-	structure plan area to the south and	
	R40) is also is not the best use of the	west, and eventually surrounding area	
	valuable urban land.	to the south when detailed planning of	
		the southern precinct progresses. This	
	the use of valuable land that could otherwise	achieves the intended outcome of this	
	be used for residential development for	design suggestion despite not meeting	
	district open space is not the best use of land.	the percentage listed.	
		Providing for connectivity with the oval	
	The District Open Space is proposed to be	and primary school site	
	separated from the oval associated with the	The sites are located to the south.	
	school site, located to the south of Orton	Although separated y Orton Road	
	Road. Ideally a site that is immediately	currently, this road will be downgraded	

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	adjacent, not separated by a road and limits	in the future and will not significiantly	
	the impact on urban land should be the	disconnect these areas as a result.	
	preferred location.	Orton Road provides for central	
		accessway for the wider district open	
		space area, and a central parking	
		location that benefits the users of both	
		areas. From an urban design	
		perspective, that allows for clear	
		delineation and assists with legibility.	
		Enhancing the protection of and	
		integration with the Resource	
		Enhancement Wetland (to the east of	
		the proposed location).	
		The location of the district sporting	
		complex is as proposed (in comparison	
		to residential development as	
		suggested by the submitter), provides	
		for an enhanced outcome when it	
		comes to providing for connectivity of	
		open space areas, and protection of	
		key environmental areas. The hard	
		courts ensures an appropriate wetland buffer will be maintained and not	
		encroached by future residential	
		development that has the potential to increase risks to environmental values.	
		indicase risks to environmental values.	
		The design of the expansion area has	
		been informed by extensive traffic	
		modelling and assessment undertaken	
		by Riley Consulting. This modelling	
		and assessment has considered the	
		location of the district hard court and	

Submitter	Summary of Submission	Proponents Response	Recommended City Response
		the vehicle movements generated by this facility, which contributes to the rationale for the proposed classification of the road as Neighbourhood Connector Type A. the design of the road includes treatments such as roundabouts to allow for the effective flow of vehicles. As such, the submitters claim that the location will cause traffic is not agreed with.	
		As explained above, it is acknowledged that land may need to be acquired to delivery these facilities. DCP 3 currently includes this item to ensure the cost for land acquisition and construction are able to be sought from developers, the costs are equitably, effected owners are compensated based on current land valuations and developers who prefund the works are able to be reimbursed.	
	District Open Space would not impact upon groundwater and therefore could be located within the groundwater mount outside the urban area. In this instance a number of options might be appropriate, the most logical being the land immediately to the east of the oval site. Ideally this would require the diversion of Landgren Road and would then provide for a consolidated playing field/hardcourt site which is surrounded by	As noted above significant testing was conducted as part of the design of the precinct. This includes several sites for the district sporting complex, including the site the submitter has suggested within the groundwater protection area/P2 Public drinking water area to the east of the Casuarina Urban Cell.	

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Submitter	Summary of Submission	Proponents Response	Recommended City Response
	road reserves except for the school site. The proposed location impacts on less urban land, combines the oval with the district open space and can be delivered in a timely manner. Parking could be located between the oval and hard-courts which might reduce the amount of land provided.  Should the City and WAPC not be supportive of this location, then an alternative would be to include the southern portions of both Lots 23 and 24. This location is more consistent with the indicative location shown within the CIP. This alternative is not ideal as the hard courts and oval are separated.	This location was ruled out for the following key reasons: Club premises are an incompatible use within the P2 area (refer to Water Quality Protection Note 25). The location is not as central as that proposed and does not have frontage to the primary north-south corridor through the Urban Cell. This site would not be as conveniently and efficiently accessed by the wider community. The land is outside the DCA3 and DCA10 areas.  The alternative location put forward by the applicant would not be the best outcome available due to the separation caused by the road reserve, as noted by the submitter.	
	Environment The Environmental Report notes the majority of vegetation within the Structure Plan expansion area is in a degraded condition. It notes that the vegetation on Lot 25 is in slightly better condition although no condition mapping is included. It is likely that the areas identified as being Degraded-Good are limited to extremely isolated areas. Lots 2,24 and 25 have all been subject to extensive clearing and bushfire management practices since the mid 1980's and as such much of the vegetation, particular groundcover is not native.	It is noted that additional surveys of the wetlands on Lot 24 and 25 are required to confirm the wetland classification. This was scheduled to be undertaken in spring 2023 however access to these lots was not granted. The survey work is not scheduled to occur in spring 2024 pending site access approval.  In relation to Lot 25 and based on the past assessments undertaken as well as the latest aerial imagery overleaf (which highlights that there has been some vegetation regrowth on Lot 25	Please refer to comments from DBCA and the City's response.

Submitter Sumn	mary of Submission	Proponents Response	Recommended City Response
	s noted that within the Environmental	over the past few years). It is	
	rt that the portion of the wetland located	considered unlikely that the REW will	
	ot 24 should not be classified as a REW	be downgraded to MUW.	
	ather a multiple use wetland . The		
1 .	on of the wetland located on Lot 25 could	The additional survey work for these	
	entified as a REW. Given insufficient	lots can be conducted prior to the	
	s with respect to vegetation condition	subdivisions stage, and as such there is	
	specific location of vegetation, the true ification /extent of the wetland has not	no need to pause the progression of the Structure Plan Amendment.	
	provided. Given the previous clearing	Structure Plan Amendment.	
I	e site this blanket classification seems		
unlike			
driike	213.	The 'Strategen report' referred to in this	
The la	andowner of Lot 24 and 25 previously	submission has been reviewed. The	
	ged Strategen to undertake a review of	recommendations for potential wetland	
the no	otional wetland area. Refer attached	reclassification on page 5 of the report	
(attac	chment not provided in submission)	outlines that majority of lot 25	
Strate	egen were of the view that the wetland	comprises indicative wetland species	
	oth Lots 24 and 25 were not worthy of	that support the existing REW mapping.	
	EW classification. Given the conflicting		
	e it seems appropriate that further	The report suggests that there is	
invest	tigations occur.	potential merit in reclassifying the REW	
Chaul	ld this province anying property advise he	within Lot 24 to Multiple Use, as well as	
	Id this previous environmental advice be ed, it is not appropriate that a 30m buffer	the southern portion of Lot 25. It is noted that despite this advice, no	
	pplied surrounding the entirety of the	reclassification process has been	
I	considered to be wetland on Lot 25.	initiated by the landowner.	
	vestern side of this area includes two	In accordance with this report, the	
	reaks with a combined width of between	Amendment has identified majority of	
10-13	Bm. These firebreaks have been	Lot 25 as a REW, except for the	
	letely cleared and offers minimal	southern portion which is identified as	
habita	at. As such a lesser wetland buffer	POS area a part of the district sporting	
could	be provided in this area.	complex. The north-eastern portion of	

Submitter	Summary of Submission	Proponents Response	Recommended City Response
	It may be appropriate to defer consideration of the proposed structure plan until these	Lot 24 is proposed to be utilised as a buffer area for the REW and the	
	further investigations have been completed.	remainder as part of the district sporting complex.	
		A 30m buffer has been provided around the REW to ensure impacts are mitigated and provide for a consolidated wetland core on lot 25.	
	Alternative zoning of Lots 24 and 25 Orton Road Should the view be that the deferral of the Structure Plan is not required given the matters dealt with above., it would be appropriate to identify Lots 24 and 25 as being within the Residential R25-40 zone. A notation, as outlined on the preceding sketching, that notes that the classification and extent of the wetland is to be defined prior to subdivision.		
	This would provide for the appropriate environmental outcomes, whilst providing some flexibility with respect to the possible development of these lots.		
Roy McKernan, 21 Newbold Road, Casuarina	Consider a public community facility with a library Consider a walk trail with firebreak easements	The Structure Plan and Amendment has been prepared consistent with the City's Community Infrastructure Plan. This amendment maintains the diversity of open space (with walking trails and bushfire mitigation measures) provided throughout the precinct, and supplements this with new connected	The CCPSPA is consistent with the City's Community Infrastructure Plan (2022).

Submitter	Summary of Submission	Proponents Response	Recommended City Response
		open spaces proposed in the expansion area. This equates to 14.34 ha across the entire structure plan area, being 18.70% - well in excess of the 10%	
		minimum requirement.	
Craig Sephton, Lot 23 Orton Road	<ul> <li>Supports the CCPSPA</li> </ul>	Noted	Noted
Kris Kennedy, Aigle Royal Group	Supports the proposed amendment, including the following specific elements:  - Alignment of the southern extension of Central Avenue, including via the Aigle Royal funded roundabout within our holdings, north of the Peel sub regional drain.  - Inclusion of the land south of the Peel sub regional drain (including the drain) in the Central Precinct  - Support for the neighbourhood connector road alignment and indicative design  - Location of the district hard courts; and  - The proposed boundary of the REW and 30m buffer.  Understand the proponent has concurrently lodged a Scheme Amendment submission to include this road and associated land as a contribution item in the relevant development contribution area. We support this initiative on the basis that the portion of Central Avenue already constructed, including land, in also recognised as a contribution item in the Scheme Amendment submission.	TBB has progressed the preparation of a Scheme Amendment Request to include two new infrastructure items in DCP 3: Sewerage pump station – land acquisition Neighbourhood Connector (Central Avenue) – land acquisition and construction costs.	Noted.  The proposed Scheme Amendment is currently being assessed by the City and will be subject to a separate report.

Submitter	Summary of Submission	Proponents Response	Recommended City Response
		TBB has lodged the request with the	
		City and additional information has	
		been prepared to facilitate	
		consideration by Council concurrent	
		with the Structure Plan Amendment.	
		This includes the portion of proposed	
		'Central Avenue' already constructed	
		within Aigle Royal's land.	

Attachment D: Public Open Space Summary Plan

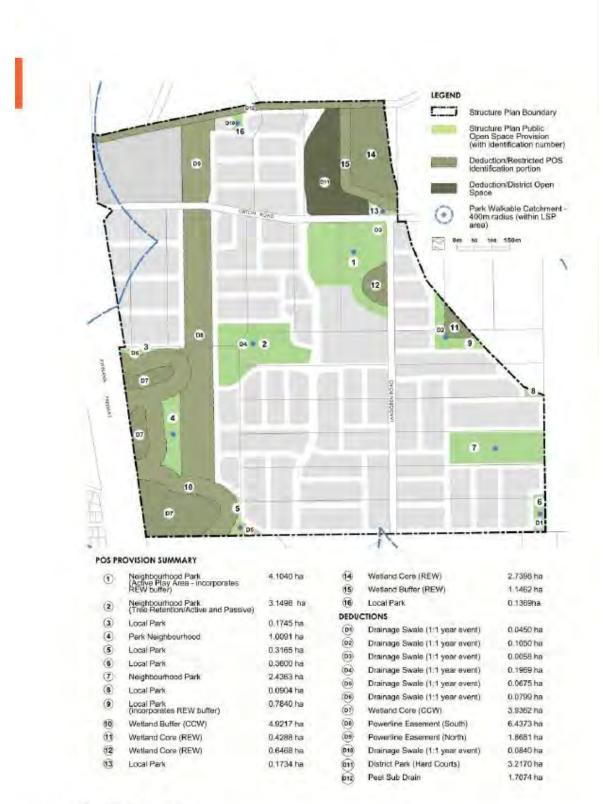


Figure 17: Public Open Space Plan

# 17.3 DIRECTION FOR FUTURE OF CITY ADMINISTRATION BUILDING

### **SUMMARY**

The City's Administration Building is between 30 and 50 years old, with an inefficient internal layout, dated and worn/damaged finishes, and requiring significant renewal investment as parts of the building reach end-of-life. Significant costs are borne each year to limp the Heating Ventilation and Cooling (HVAC) system along, and the building commonly leaks during large rain events. The building is also thermally inefficient, adding to the challenge of maintaining internal temperature with an end-of-life HVAC system. In addition, the rapidly growing Kwinana community is driving growth in staff numbers, requiring more space for accommodation.

In response to the need to consider the future of the building, the City has assessed three options as follows:

- Option 1 -full new build, which would be expected to allow all administration staff to be located in one building (currently located across three buildings) and allow for growth for at least 50 years.
- Option 2 refurbish existing building. This encompasses a full clean-sheet replan
  of the internal layout. While this second option would not provide the same building
  life as a new build (in terms of growth), there would be the opportunity to expand
  into the Council Chamber and Council Lounge once the existing building reaches
  capacity, with the Council Chamber accommodated offsite in the future this is
  expected to be 15 to 20 years into the future.
- Option 3 joint project with a State Government agency. Pursuit of the business case for this third option stopped fairly early, as early estimates suggested this would be too expensive.

After developing and reviewing masterplans and concept plans, along with high order costing and construction time estimates, it is recommend that Council direct the Chief Executive Officer to progress a refurbishment of the current building.

# OFFICER RECOMMENDATION

That Council request the Chief Executive Officer to progress a refurbishment of the existing City of Kwinana Administration Building, and include in the Long Term Financial Plan and 2024-2025 budget.

### **VOTING REQUIREMENT**

Simple majority.

### DISCUSSION

The existing civic/administration building ranges in age from 30-50 years, with the civic section and part of the administration being built in the mid-seventies, followed by a substantial office extension added in the early nineties. Due to the age of the building, substantial funds are required over the next few years to replace end-of-life components.

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In particular, the HVAC system is expected to cost over \$1.5m to replace, and has been due for several years. As part of replacing the HVAC system, the entire ceiling will need to be replaced. The fire alarm system has also reached end of life, with a number of false fire alarms resulting from corrosion in the aged sensors and wiring. The building is thermally inefficient, with no ceiling insulation, and significant heat transfer through the windows – the poor thermal efficiency is creating additional challenge in managing the end-of-life HVAC system. Due to the building being an extension, with many minor retrofits over time, the internal layout is not focused on providing a positive customer experience, and is inefficient, limiting the building seating capacity and a lack of meeting spaces.

Due to age of the building, substantial funds will need to be allocated to building renewals. Over the next 10 years, approximately \$5m will need to be invested, with the majority of the cost being for the HVAC system, which will result in the need to replace the ceiling, also triggering insulation and double glazing. The fire service system is also due for renewal. Without a direction to rebuild or refurbish, most of the \$5m will need to be funded over the next several years.

In order to develop a robust basis for Council to make a decision on the future of the building, three options were investigated, as follows.

# Option 1: New Civic Facility

An architect was engaged to undertake a feasibility study, including develop a business case and concept designs for a new iconic civic/administration facility.

The facility designed reflects the stated needs of the Elected Members and staff, and provided enhanced opportunity for public use of the building. Consistent with the City Centre Masterplan, the proposed new building ultimately extended to the street, and assisted to facilitate a connection between the Civic precinct and retail precinct. Consistent with the community's high priority for environment and sustainability, the building concept was based on high thermal efficiency, and low embodied carbon. The proposed building material (timber) would also allow for long-term carbon storage.

The indicative design (attachment A) provides an area of 6,685m2 over two floors, with a future extension of a further 2,000m2. The order of probable costs to deliver by mid-2030 is \$44.37million. If the extension wing were developed at the same time, the cost would rise to \$53.49million.

This option is not recommended due to the cost and timeframe for delivery. While this option will allow for the delivery of an energy efficient building, with low embodied carbon, the demolition of the existing building will result in a significant amount of embodied carbon either sent to landfill or used for a lower value purpose. The timeframe for delivery of this option creates an ongoing difficulty in managing the demand for efficient and comfortable office space for the City's administration, and will result in there being a significant fragmentation of the workforce over several years during construction.

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#### Option 2: Refurbish Existing Civic/Administration Building

Separate consultants were engaged to explore the viability of refurbishing the existing building, starting with a replan of the internal layout to determine the number of seats that can be accommodated. As part of this option, the consultant was tasked with modernising the building so that the finished look and feel is that of a new modern build. This option also required the consultant to review a previous investigation into opportunities to reduce the energy use of the building so that a major investment into the building will result in a lower whole-of-life cost of building ownership. The proposal is expected to accommodate the staff needs for the next 15 to 20 years, with further accommodation possible in the Council Chamber and Council Lounge areas in the future, with Council meetings potentially shifting offsite, or a two-storey redevelopment replacing the current footprint of these rooms.

As part of this option, the Council Chamber and Council Lounge will be reconfigured to get better utilisation of the space. Pursing this opportunity is likely to include a removable wall to allow the two rooms to become one. The detailed design will also look at opportunities to connect the existing building to 'The Grove' providing a connection between the spaces during events. The order of probable costs is \$8-\$8.5million, allowing for latent conditions (typically higher in renovation/refurbishment type projects). It is expected that a refurbishment can be estimated to be completed within 12 to 24 months, including design and approvals. This option also allows for part of the building to continue to operate while the works are underway, reducing the quantum of temporary office space required.

This option is recommended. This option will allow for a 'like-new' building to be achieved in the short term, at a cost within the capacity of the City to fund. It is relevant that the building already has significant expenditure due, so if there was no refurbishment of the building, the major part of this cost will still need to be funded to update and replace end-of-life building components. This option will result in a significant improvement to the energy efficiency of the building, and will use solar panels to offset day-time power consumption. The refurbishment of the building will ensure the retention of significant embodied carbon in the existing building fabric. This option is consistent with community feedback received through the consultation for the City Centre Precinct Plan that identified retaining the City Administration building in its current location.

Option 3: Colocation with Another Organisation – Multi-storey Building in City Centre
To ensure a robust basis for Council to set a direction, the possibility of relocating the
Administration building to the City Centre was explored. This option was based on
working with a State Government agency to develop a multistorey building (up to five
stories). This option is likely to take a number of years to complete, and has been deemed
financially unviable. The Capital cost of this option is beyond the capacity of Council to
fund, and with alternative funding models (e.g. lease to own), the annual cost is prohibitive.
Based on the assessment of the cost, more detailed investigation on designs was not
progressed.

This option is not recommended. It is likely that the cost of this option is prohibitive. This option has limited certainty as to likelihood of progressing, timeframe and cost.

#### Recommendation

It is recommended that Council support the refurbishment option (option two). This option is affordable, with more than half the investment being cost that will have to be paid anyway, if no option is selected. This option will also deliver a positive outcome in the short-term, while still providing a high-quality 'like-new' finish. The refurbishment also locks in embodied carbon and will result in a reduction in energy usage, through a more efficient building – option two has the lowest carbon footprint out of all options.

#### STRATEGIC IMPLICATIONS

This proposal will support the achievement of the following outcome/s and objective/s detailed in the Strategic Community Plan and Corporate Business Plan.

Strategic Community Plan			
Outcome	Strategic Objective	Action in CBP (if applicable)	How does this proposal achieve the outcomes and strategic objectives?
3 – Infrastructure and services that are affordable and contribute to health and wellbeing	3.3 – Maintain infrastructure, playgrounds, parks and reserves to a high standard through sustainable asset maintenance and renewal	N/A – There is no specific action in the CBP, yet this report will help achieve the indicated outcomes and strategic objectives	Upgrade of the civic/administration building is factored into the Community Infrastructure Plan.
4 – A unique, vibrant and healthy City that is safe, connected and socially diverse	4.3 – Enhance opportunities for community to meet, socialise, recreate and build local connections	4.3.2 – Implement the Disability Access and Inclusion Plan	A new or refurbished facility will include or incorporate the latest access and inclusion concepts.

#### **SOCIAL IMPLICATIONS**

This proposal will support the achievement of the following social outcome/s, objective/s and strategic priorities detailed in the Social Strategy.

Social Strategy			
Social Outcome	Objective	Strategic Priority	How does this proposal achieve the social outcomes, objectives and strategic priorities?
2 – Connected and Inclusive	2.0 – Equitable and inclusive social connection and engagement with community life	2.9 – Demonstrate organisational leadership and best practice in inclusion and diversity including meeting all requirements under relevant Acts and regulations	A new or refurbished facility will include or incorporate the latest access and inclusion concepts.  Opening the building to 'The Grove' will allow for increased

	community interaction within the Civic precinct.

#### **LEGAL/POLICY IMPLICATIONS**

There are no legal or policy implications however all design and construction practices will be in accordance with the National Construction Code of Australia and all associated Standards and Guidelines.

#### FINANCIAL/BUDGET IMPLICATIONS

Option two has a capital cost in the order of \$8m to \$8.5m, however, \$4m to \$5m of this investment will be required within ten years, with most of this cost urgently needing to be spent. As a result of completing the renewal of key building components, along with the reduction in energy costs, it is expected that annual operating costs will be reduced by at least \$50k per year.

In anticipation of undertaking an Administration building project, the Council increased funds in the Asset Management reserve at the mid-year budget review.

The updated long term financial plan will account for the building refurbishment project.

#### **ASSET MANAGEMENT IMPLICATIONS**

The existing building requires significant costly renewals over the next 10-15 years. These renewals are due to age, condition, lack of functionality and compliance, for example the current HVAC system have been band-aided for a substantial period of time due to the uncertainty of the building life. Annual repair costs of the HVAC system are in the order of \$50,000.

Refurbishment of the building is already factored into the existing forward works programs and Long Term Financial Plan (LTFP) and is not likely to impact future projections. Building a substantially larger facility will have a detrimental impact on the capacity to fund renewals.

#### **ENVIRONMENTAL/PUBLIC HEALTH IMPLICATIONS**

The building refurbishment will result in a more efficient building with a modern high-efficiency HVAC system. The proposal also includes the installation of solar panels to offset day-time power usage.

Retaining the existing building fabric ensures the embodied carbon continues to serve a purpose.

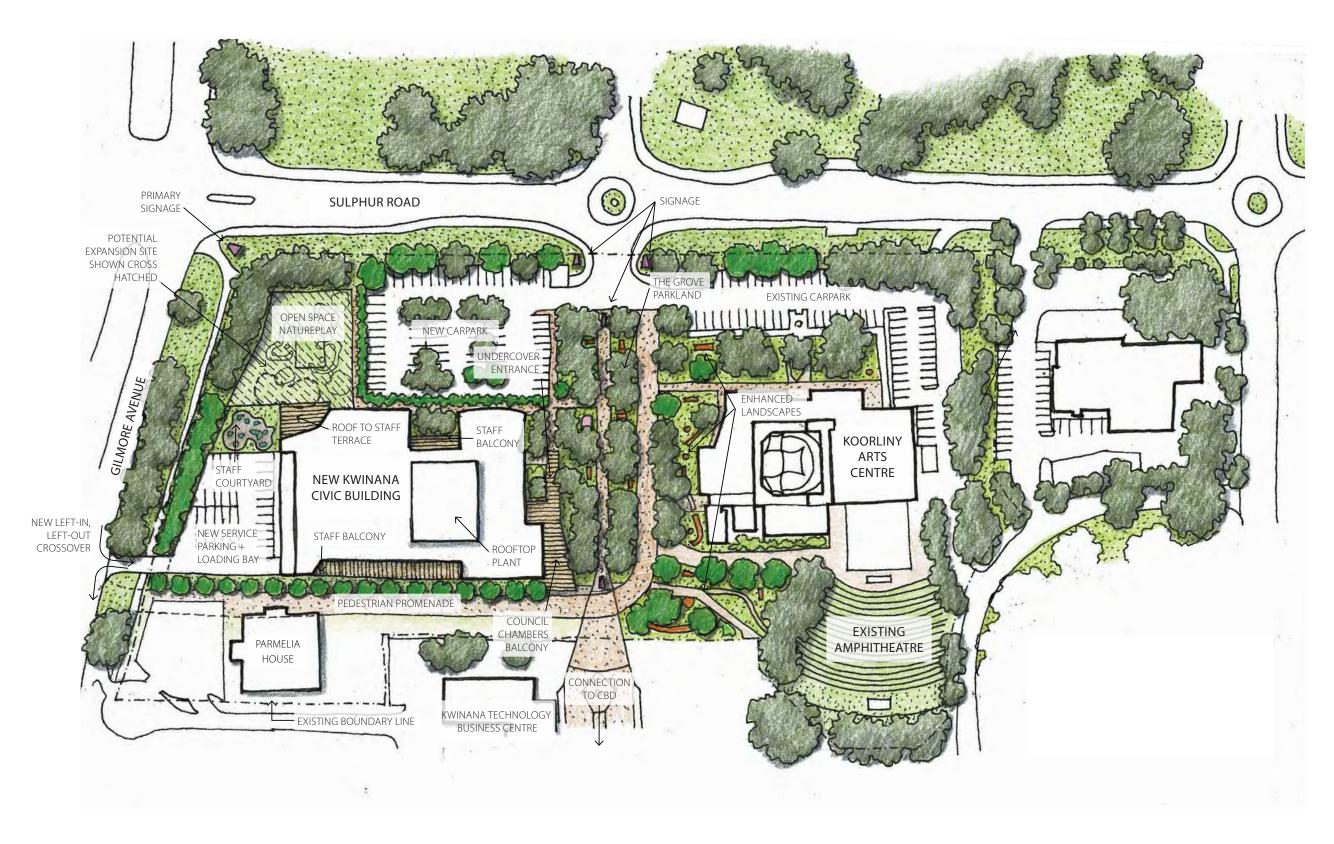
#### **COMMUNITY ENGAGEMENT**

The City Centre Precinct Plan consultation contemplated the future location of the City's Civic and Administration building. Feedback from the community, through this process, was support for refurbishment/redevelopment on the existing site.

#### **ATTACHMENTS**

- A. Attachment A New Civic/Administration Concept Drawings &
- B. Attachment B Refurbish Civic/Administration Concept Drawings 4

## **Site Plan**

















### **Ground Floor Plan**



Item 17.3 - Attachment A

**Perspective 4** New Kwinana Civic Building + The Grove Parkland







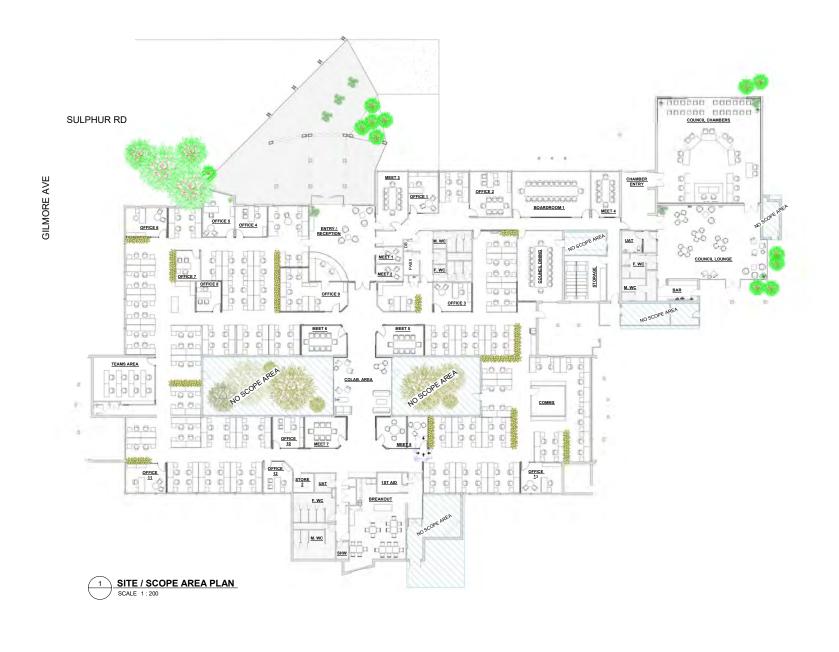






Kwinana Civic Feasibility Study
FINAL Precinct Master Plan and Concept Design Package
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#### DRAWING PACK TO BE READ IN CONJUNCTION WITH SCOPE NOTES



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 3. DO NOT SCALE THIS DRAWINGS, ALL EXISTING & PROPOSED DIMENSIONS ARE SHOWN NOMINALLY. CONTRACTOR MUST CHECK ALL DIMENSIONS ON SITE & CONFIRM QUANTITIES BEFORE STARTING ANY WORK, SHOP DRAWINGS OR ORDERING OF GOODS. NOTIFY HABITAT 1 / CROOKED LINES IF ANY DISCREPANCIES.

 4. ALL WORKS TO BE UNDEFTAKEN IN ACCORDANCE WITH THE BUILDING CODES OF AUSTRALIAN (BCA) & THE RELEVANT AUSTRALIAN STANDARDS.



CITY OF KWINANA

LOT 3 SULPHUR ROAD KWINANA TOWN CENTRE Issued For Drawn By

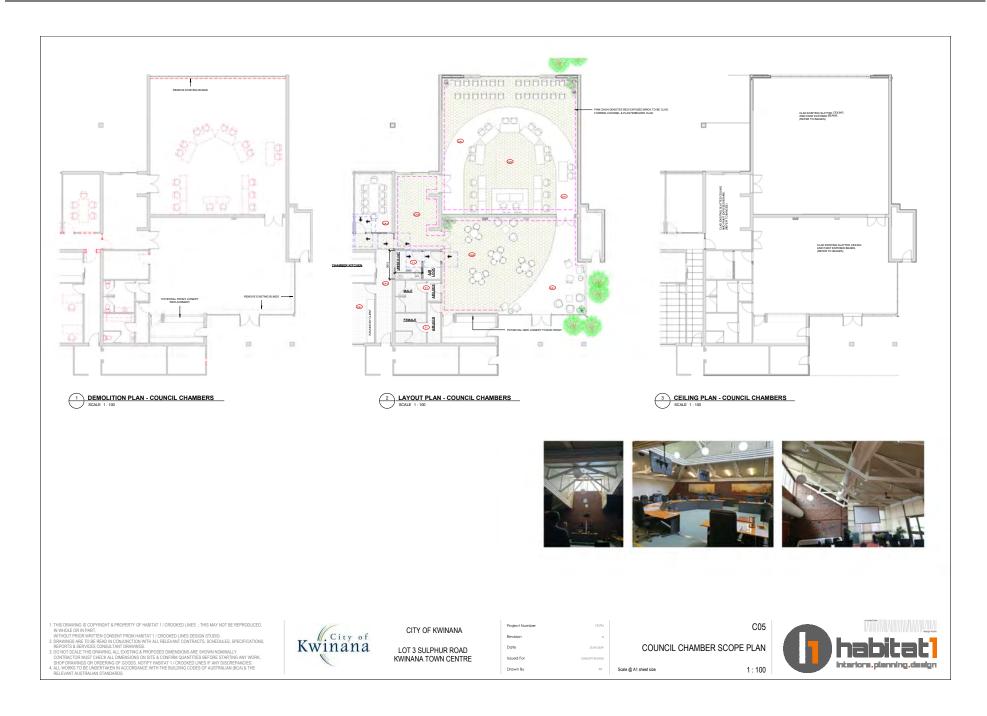
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C00 SITE/SCOPE AREA PLAN

1:200



Page 872 Item 17.3 - Attachment B



Item 17.3 - Attachment B Page 873



Item 17.3 - Attachment B Page 874



Item 17.3 - Attachment B Page 875

#### 17.4 PROPOSED ROAD NAMES FOR WELLARD VILLAGE STAGE 49, WELLARD

#### SUMMARY

MNG Survey, the surveying consultant for the developer of Wellard Village Stage 49 in Wellard, has submitted details of proposed road names for new roads being constructed as part of their development. These details are indicated in Attachment A. MNG Survey is now seeking Council support for these proposed road names to present them to the Geographic Names Committee for approval. In addition, MNG Survey is seeking support for alternative road names.

The Geographic Names Authority has given initial approval for the proposed road names, having passed preliminary validation on their 'request road name' webpage. If the Geographic Names Committee does not approve the proposed road names, the listed alternative road names will be used instead. The naming theme for all the roads in this subdivision continues to be "English Village".

#### OFFICER RECOMMENDATION

That Council approve the following road names, for use within Wellard Village Stage 49, Wellard, as shown in Attachment A:

Proposed Names:	Alternative Names:
Midhurst Crescent	Burford
Watford Way	Stafford
Tadley Lane	Erith
	Wigton

#### **VOTING REQUIREMENT**

Simple majority.

#### **DISCUSSION**

Before a subdivision developer can submit a survey diagrams for approval, all road names must be officially approved and clearly indicated on the survey diagram. The road naming process must comply with the guidelines set by the Geographic Names Committee to ensure compliance with road naming conventions and restrictions.

Four alternative road names have been proposed for consideration should any of the initially suggested names fail to receive approval from the Geographic Names Committee. Details about the origins of these alternative names are listed below.

The proposed road names for the Wellard Village Stage 49, Wellard are:

Proposed Name and Suffix	Source of information	Background/origin/meaning/justification
Midhurst Crescent	https://en.wikipedia.org/wiki/Midhurst	Midhurst is a market town, parish and civil parish in West Sussex, England.
Watford Way	https://en.wikipedia.org/wiki/Watford	Watford is a town and borough in Hertfordshire, England, 15 mi (24 km) north- west of Central London, on the banks of the River Colne.
Tadley Lane	https://en.wikipedia.org/wiki/Tadley	<b>Tadley</b> is a town and civil parish in the English county of Hampshire

The alternative road names for the Wellard Village Stage 49, Wellard are:

Alternative Name	Source of information	Background/origin/meaning/ justification
Burford	https://en.wikipedia.org/wiki/Burford	<b>Burford</b> is a town on the River
		Windrush, in
		the Cotswold hills, in the West
		Oxfordshire district
		of Oxfordshire, England.
Stafford	https://en.wikipedia.org/wiki/Stafford	Stafford is a market town and
		the county
		town of Staffordshire, in
		the West Midlands region of
		England.
Erith	https://en.wikipedia.org/wiki/Erith	Erith is an area in south-east
		London, England, 13.3 miles
		(21.4 km) east of Charing
		Cross.
Wigton	https://en.wikipedia.org/wiki/Wigton	Wigton is a market
		town in Cumberland, Cumbria,
		England. It lies just outside
		the Lake District.

#### STRATEGIC IMPLICATIONS

There are no strategic implications as a result of this proposal.

#### **SOCIAL IMPLICATIONS**

There are no social implications as a result of this proposal.

#### **LEGAL/POLICY IMPLICATIONS**

The approval process is in compliance with the Geographic Names Committee Guidelines, and Council Policy – Street Naming.

#### FINANCIAL/BUDGET IMPLICATIONS

No financial/budget implications have been identified as a result of this report or recommendation.

#### **ASSET MANAGEMENT IMPLICATIONS**

No asset management implications have been identified as a result of this report or recommendation.

#### **ENVIRONMENTAL/PUBLIC HEALTH IMPLICATIONS**

No environmental implications have been identified as a result of this report or recommendation.

#### **COMMUNITY ENGAGEMENT**

There are no community engagement implications as a result of this report.

#### **ATTACHMENTS**

A. S163248- Wellard Village Stage 49 - Road Name Report to Council - Appendix A J.



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# 17.5 DRAFT LOCAL PLANNING STRATEGY (2024 - 2036) – CONSIDERATION OF SUBMISSIONS AND RECOMMENDATIONS TO THE WESTERN AUSTRALIAN PLANNING COMMISSION

#### **SUMMARY**

The City of Kwinana Draft Local Planning Strategy (2024–2036) as modified (draft LPS) (Attachment A) (A version of the draft LPS highlighting the changes to advertised version of the draft LPS is in Attachment G (Part 1) and Attachment E (Part 2)) is a long-term land use strategy consisting of a set of Directions, Actions and a strategic land use plan (Attachment B). The draft LPS is a fundamental component of the local planning framework and has been prepared by the City in accordance with the *Planning and Development Regulations* (2015) and Local Planning Strategy Guidelines (WAPC, 2021). It will be used to guide the preparation of a new local planning scheme, local planning policies, local structure plans and assessment of development applications. In simple terms, the local planning strategy provides the long-term planning directions and actions to manage the land use change and development of a local government area.

In summary, the key long-term Directions of the draft LPS are:

- a) Protect and enhance the City's natural environment.
- b) Encourage a hierarchy of activity centres that support shopping, entertainment and community facilities.
- c) Enable diverse housing options for an aging population, people with disability and large households within walking distance of activity centres.
- d) Protect the heritage and character of established residential areas.
- e) Improve local employment opportunities, including commercial, retail, health services and industrial jobs.

The draft LPS was adopted for advertising by Council on 24 March 2021 and certified for advertising by the Western Australian Planning Commission (WAPC) on 16 May 2023 (subject to minor modifications). The City advertised the draft LPS (as modified) from 22 May 2023 until 30 June 2023 to seek community feedback on whether the draft LPS accurately captures and reflects the community's land use vision, directions and actions for the future of the City.

The City received 66 written submissions and 71 online survey responses, during the community engagement period. The key issues raised in the submissions, include:

- a) Thirteen submissions supporting and seven submissions opposing the East Wellard Urban Investigation Area;
- b) Three submissions opposed to the proposed concept plan for Mandogalup Improvement Plan 47;
- c) A submission concerned with the scale and size of Wandi District Centre;
- d) A submission from the Medina Ratepayers Group concerned about potential impacts on the character of Medina;
- e) An objection to Lot 123 Mortimer Road being identified as an environmental investigation area; and
- f) An objection to the Wellard Livestock Buffer being identified in the draft LPS.

A more detailed assessment of the submissions and City's response to the issues raised in the submissions is set out in the Schedule of Submissions (Attachment C) and discussed in this report.

It is recommended that the draft LPS be modified in response to several issues raised in submissions, including additional new Actions that will:

- a) Advocate for potential environmental impacts to be addressed as part of the future planning of the Wellard East Urban Investigation Area, in response to submissions; and
- b) Implement a design review process to strengthen the City's focus on built form and assist in the assessment of development in the context of the subject site and its surrounds.

It is also recommended that the draft LPS be modified in accordance with documents that have been adopted by Council since the draft LPS was endorsed for advertising. These documents include:

- Strategic Community Plan 2021-2031
- Community Infrastructure Plan 2011-2036
- Local Biodiversity Strategy (2023)
- Local Commercial and Activity Centre Strategy (2023)
- Local Heritage Survey Review (2022)
- Sustainability Framework (2023)

The key modifications to the draft LPS are summarised in the report below and set out in Attachment F. It should be noted that, although modifications to the draft LPS are recommended, the substantive direction and intent of the draft LPS remains the same, reflecting the broad support and low level of objection arising from the community consultation.

Under the *Planning and Development (Local Planning Schemes) Regulations 2015*, Council is required to review the draft LPS having regard to the submissions received, and either support the draft LPS without modification, or, support the draft LPS with modification. It is recommended that Council support the draft LPS with modification.

Should the Officer Recommendation be supported, the draft LPS is then submitted to the WAPC, which can endorse the LPS, refuse to endorse the LPS, or require modifications to the LPS. To assist in the timely finalisation of the LPS, it is recommended that Council delegate authority to the CEO to undertake modifications to the LPS (as requested by the WAPC) if, in the opinion of the CEO, the modifications requested by the WAPC are minor and do not alter the overall intent of the LPS. If the modifications are not considered minor and will alter the intent of the LPS, a further report will be provided to Council seeking its response to the modifications requested.

#### OFFICER RECOMMENDATION

#### **That Council:**

- Support the City of Kwinana draft Local Planning Strategy 2024 2036, as modified, and comprising Part 1 (Attachment A) and Part 2 (Attachment E), pursuant to Regulation 14(2)(b) of the Planning and Development (Local Planning Schemes) Regulations 2015;
- 2. Endorse the Schedule of Submissions (Attachment C) and advise the submitters of Council's decision accordingly;
- 3. Endorse the Schedule of Modifications (Attachment F);

- 4. Note the following documents are to be submitted to the Western Australian Planning Commission in accordance with Regulation 15 of the *Planning and Development Regulations 2015:* 
  - (a) Draft Local Planning Strategy as advertised;
  - (b) Draft Local Planning Strategy (as modified) (Attachments A and E);
  - (c) Schedule of the Submissions received (Attachment C); and
  - (d) Modifications to the advertised draft Local Planning Strategy (Attachment F).
- 5. Authorise the Chief Executive Officer (CEO) to undertake modifications to the Draft Local Planning Strategy as required by the Western Australian Planning Commission, subject to the modifications being, in the opinion of the CEO, minor in nature and will not alter the overall intent of the Draft Local Planning Strategy. If the modifications are not considered minor and will alter the intent of the Local Planning Strategy, a further report will be presented to Council.

#### **VOTING REQUIREMENT**

Simple majority.

#### **DISCUSSION**

#### **Background**

On 11 April 2018, Council was presented with a review of the City's Local Planning Schemes No. 2 and 3, as required by the *Planning and Development Regulations 2015* (P&D Regulations). At this time, Council resolved to advise the WAPC that a new local planning scheme was required, also requiring the preparation of a Local Planning Strategy (LPS). The WAPC agreed with this decision.

The draft LPS was prepared over 3 stages and has spanned 7 years. The result was a draft LPS consisting of two parts:

<u>Part One</u> (Attachment A) - Contains a brief overview of land use planning issues and 14 Directions and 31 Actions that will shape future development in the City of Kwinana. The Directions and Actions are summarised in Attachment D.

<u>Part Two</u> (Attachment E) - Provides the planning context, background information and analysis that leads to the identification of the issues and discusses the preferred option for dealing with the issues.

#### **Community Engagement**

Community engagement occurred between 22 May 2023 to 30 June 2023 (38 days) resulting in seventy-one responses to an on-line survey (Table 1) and 66 written submissions (Table 3) received from residents, business owners, service agencies and developers.

The results of the survey indicate that environmental protection is the most important objective and having successful activity centres is a close second.

**Table 1: Results of Community Engagement Survey** 

Objectives		Total Rating 1 Important 5 Least important
Environmental protection	Protect and enhance Kwinana's natural environment. Focus on bushland areas which link and provide stepping-stones for flora and fauna.	2.46
Activity Centres	Activity centres that support shopping, entertainment and community facilities. Also making sure that there are appropriate levels of business, social and health services. These are surrounded by diverse housing options within walking distance.	2.48
Employment opportunities	Improve local employment opportunities. These might include commercial, retail, health services and industrial.	3.03
Housing Options	Encourage housing options that meet a variety of needs. This could include aging population, people with disability and large households. Offer this housing within a walkable distance of Activity Centres.	3.39
Sense of Place	Foster a Sense of Place in existing and future residential areas. This can be done by strengthening our unique cultural, natural and built environment.	3.62

#### **Key Issues Raised in Submissions**

The key issues raised in the submissions are summarised in Table 2. On the most part, the submissions did not raise issues that warrant substantial modification to the draft LPS. Notwithstanding, several modifications are recommended in response to matters raised by the submissions. Table 2 summarises the key issues raised and provides the City's response. Further details are contained in Attachment C.

Table 2: Kev Issues Raised in Submissions

Table 2: Key Issues Raised in Submissions		
Key Issues Raised in Submissions		City's Response
East Wellard Urban Investigation	Support development of the area	Noted. No modification recommended
	Oppose  Residential development will impact on the rural character and the environment.	The rural areas within the City are important in retaining natural bushland, wetlands and rural character.  Modification recommended: A new Action has been added which specifies the additional environmental information that should be provided as part of the future planning framework for the urban investigation area.  New action To advocate for the future planning of the Wellard East Urban Investigation Area to address:  - Protection and management of water resources; - Disturbance of wetlands; - Water quality; and - Retention of trees and vegetation; and

		- Extent of the Wellard East Planning Investigation Area.
Wandi District Centre	Other commercial property owners in the City contested the scale and location of the proposed District Centre.	The Wandi District Centre was first identified in the City's Eastern Residential Intensification Concept (ERIC) and has continued to be identified in subsequent planning strategies, including South Metropolitan - Peel Subregional Planning Framework (WAPC, 2018), Local Commercial and Activity Centre Hierarchy (2023) and draft Local Planning Strategy.
		The Wandi District Centre is a critical centre in the activity centre hierarchy as set out in the City's LCACS 2023, and its successful development is a priority. The Wandi District Centre fills an important gap in higher order centres between the Kwinana City Centre and the Cockburn Gateway, which are approximately 19km apart.
		Modifications to the LPS map are recommended to reflect the adopted LCACS.
DJTSI advised that it is preparing a Western Trade Coast Infrastructure	s preparing a strategic land use planning in the Western Trade Western Trade Coast to enable an	The LPS will need to be co-ordinated with Western Trade Coast Infrastructure Strategy.
Strategy	cater for employment in Kwinana.	The City will continue to be involved in future strategic planning by DJTSI.
Fremantle- Rockingham Controlled Access Highway	The City suggested in an Action that the Controlled Access Highway (CAH) be realigned to reduce potential environmental impacts.	The Controlled Access Highway is reserved in the Metropolitan Region Scheme.
,	MRWA has advised that the CAH may be removed.	It is recommended that the Action not be modified until the MRS has been amended to remove/relocate the CAH reserve.
Medina Residents Group  • Dens • Buildi	Density     Building height	Modifications to the draft actions are recommended to reflect the concerns raised by the Medina Residents Group.
	<ul><li>Tree canopy</li><li>Housing types</li></ul>	The Action will ensure that the concerns will be considered as part of studies and precinct structure plans to retain character and provide a range of housing near the Medina Neighbourhood Centre.
East Wellard Livestock buffer	Concern was raised by a landowner that the livestock facility buffer was constraining future planning on land situated within the buffer.	It is recommended that the LPS map not be modified. The buffer on the LPS map should remain until the City is aware that the livestock facility has ceased operating.

Service commercial corner of Freeway and Anketell Rd (Mandogalup)	The LPS refers to a future service commercial area on the north-west corner of the Anketell Road and Kwinana Freeway interchange.  IP47 does not show a service commercial on the north-west corner of the Anketell Road and Kwinana Freeway interchange.	It is recommended that the LPS text be modified to remove reference to the commercial area on the north-west corner of the Anketell Road and Kwinana Freeway interchange has been removed from the LPS.
Improvement Plan 47 issues	Submissions stating that IP47 area should be identified for Urban purposes.	Modifications to the LPS are required because future land uses within IP 47 are being determined by the WAPC.
Lot 123 Mortimer Road, Casuarina	The landowner's submission justified why Lot 123 is suitable for residential development and should not be identified as an environmental investigation area	It is recommended that the LPS map not be modified. Lot 123 is identified as an environmental investigation area subject to the outcomes of the Environmental Protection Authority's environmental assessment.

#### Additional Modifications to the Draft LPS following Community Engagement

In addition to the modifications in response to submissions further modifications are also recommended in response to strategies and studies that have been adopted by Council, since Council consented to advertise the LPS.

Although modifications to the draft LPS are recommended, the nature of the modifications is relatively minor and do not alter the overall intent of the draft LPS that was adopted by Council in 2021 and certified by the WAPC in 2023.

**Table 3: Additional Modifications** 

Description of Modification	Reason for Modification	
Text Modifications to the draft Local Planning Strategy (Part 1)		
Consolidated Actions to reduce repetitiveness and delete Actions that have already been implemented.	Consolidate several Actions concerning the City's rural areas into one Action.	
Modified wording and deleted Actions in accordance with DPLH suggested rewording.	The WAPC stipulates that the Actions must be implementable through the planning framework. Several Actions have been deleted that could not be implemented through the planning framework.	
Updated text to reflect the current status of Westport.	State government announcements concerning Westport.  Updated text in response to the findings of economic studies in relation to Westport.	
Updated text concerning the Wellard East Planning Area to reflect State government policy changes and submissions.	Updated text in accordance with Perth and Peel@3.5million Planning Investigation Areas Update (September 2022).	
Updated text to reflect the City's Strategic Community Plan 2021-2031 (update adopted by Council 28 June 2023).	In accordance with the City's updated Strategic Community Plan.	

Updated text to reflect the outcomes of the City's recently adopted Local Commercial and Activity Centre Strategy adopted in 2023.	In accordance with the City's adopted Local Commercial and Activity Centres Strategy 2023 (adopted by Council 13 December 2023).	
Updated text to reflect the outcomes of the City's Local Biodiversity Strategy adopted in 2022.	In accordance with the City's adopted Local Biodiversity Strategy 2023 (adopted by Council 22 March 2023).	
Updated text to reflect the Local Heritage Survey conducted in 2022.	In accordance with the City's adopted Local Heritage Survey 2022 (adopted by Council 9 February 2022).	
Updated text to reflect the outcomes of the Character Study undertaken by the City of Kwinana in 2021.	Updated text	
Include reference to Urban Forest Strategy and Sustainability Framework.	Updated text	
Updated text in relation to studies currently being undertaken by the City of Kwinana on the Kwinana City Centre Master Plan.	Updated text	
Introduced new text into the LPS to describe the four Planning Areas:  PA1 Wellard East Urban Investigation Area PA2 Thomas Road Freeway Interchange Investigation Area PA3 Environmental Investigation Area PA4 Character Investigation Area	Improves the readability of the draft LPS by providing an explanation for each of the Planning Areas in accordance with the WAPC's Local Planning Strategy Guidelines (LPS template).	
Introduced wording describing the joint project between the Cities of Kwinana, Cockburn and Rockingham (Perth South-West Metropolitan Alliance) to standardise zoning, land use permissibility and development standards across the Western Trade Coast.	In accordance with a project being undertaken by the Perth South-West Metropolitan Alliance.	
Updated Part 1 text and added a table setting out the Implementation Timeframe.	An Implementation Timeframe for each Action has been added to the draft LPS as required by the WAPC's Local Planning Strategy Guidelines (LPS template).	
Updated statistics throughout the draft LPS text.	The draft LPS was prepared in 2020 based on statistics at the time. The draft LPS has been updated to include the most recent statistics.	
Deleted redundant out of date text throughout the draft LPS text.	Update text through-out the draft LPS.	
Map Modifications to the Local Planning Strategy		
Update Activity Centre Hierarchy in accordance with Local Commercial and Activity Centre Strategy (LCACS).	LCACS 2023 was adopted by Council which resulted in several changes to the City's previous activity centre hierarchy.	
Updated the alignment and location of the Westport boundary.	Updated the Westport boundary in accordance with the current boundary shown on the Westport website.	

#### **Strategic Directions and Actions**

The full list of Directions and Actions and the implementation timeframe for each Action is set out in Attachment D.

The number of Actions has been reduced from 72 Actions in the draft LPS (advertised), to 31 Actions in the final draft (for adoption) for the following reasons:

- (a) A number of actions have been consolidated to reduce repetition or were concerned with similar matters.
- (b) Actions were deleted that have already been implemented by the City such as the Local Biodiversity Strategy and Heritage Surveys.
- (c) Actions were deleted where they were repeating existing policies and procedures in the planning framework.

#### STRATEGIC IMPLICATIONS

This proposal will support the achievement of the following outcome/s and objective/s detailed in the Strategic Community Plan and Corporate Business Plan.

Strategic Community Plan			
Outcome	Strategic Objective	Action in CBP (if applicable)	How does this proposal achieve the outcomes and strategic objectives?
1 – A naturally beautiful environment that is enhanced and protected	1.2 – Maintain and enhance our beautiful, natural environment through sustainable protection and conservation	1.2.1 – Implement the Local Biodiversity Strategy  1.2.4 – Implement the Local Planning Strategy  1.2.5 – Prepare the Local Planning Scheme  1.2.10 – Implement the Climate Change Plan	Actions from the LBS have been included as Actions in the draft LPS
2 – A resilient and thriving economy and exciting opportunities	2.1 – Enable a thriving and sustainable local economy that supports and sustains quality jobs and economic opportunities	2.1.4 – Implement the Local Planning Strategy	The outcomes of the City's adopted LCACS have been included in the draft LPS where appropriate
	2.2 – Create strong regional connections that will improve the ability for residents to access jobs, training and goods and services	N/A – There is no specific action in the CBP, yet this report will help achieve the indicated outcomes and strategic objectives	

3 – Infrastructure and services that are affordable and contribute to health and wellbeing	3.1 – Develop quality, affordable infrastructure and services designed to improve the health and wellbeing of the community	3.1.1 – Implement the Community Infrastructure Plan 3.1.2 – Integrate the Sustainability Framework	The outcomes of the CIP and Sustainability Framework have been included in the draft LPS where appropriate.
	3.2 – Provide for an accessible and well connected City by integrating public transport and improving safe streets for driving, walking and cycling	3.2.1 – Update and implement the Bike and Walk Plan	The outcomes of the Bike and Walk Plan have been included in the draft LPS where appropriate.
	3.3 – Maintain infrastructure, playgrounds, parks and reserves to a high standard through sustainable asset maintenance and renewal	N/A – There is no specific action in the CBP, yet this report will help achieve the indicated outcomes and strategic objectives	
4 – A unique, vibrant and healthy City that is safe, connected and socially diverse	4.1 – Create, activate and manage places and local centres that are inviting, unique and accessible	4.1.2 – Investigate Bertram Centre Urban Design Implement the Local Planning Strategy	An action concerning the design of activity centre has been included in the draft LPS.
	4.2 – Improve Kwinana's perception by leveraging and promoting the unique attributes of the area and supporting feelings of safety and security in community	N/A – There is no specific action in the CBP, yet this report will help achieve the indicated outcomes and strategic objectives	
	4.3 – Enhance opportunities for community to meet, socialise, recreate and build local connections	N/A – There is no specific action in the CBP, yet this report will help achieve the indicated outcomes and strategic objectives	
	4.4 – Develop wellbeing programs and implement physical recreation that is culturally appropriate for Kwinana's community	N/A – There is no specific action in the CBP, yet this report will help achieve the indicated outcomes and strategic objectives	

#### **SOCIAL IMPLICATIONS**

This proposal will support the achievement of the following social outcome/s, objective/s and strategic priorities detailed in the Social Strategy.

Social Strategy			
Social Outcome	Objective	Strategic Priority	How does this proposal achieve the social outcomes, objectives and strategic priorities?
1 – Healthy and Active	1.0 – A physically and mentally healthy and active community	1.7 – Promote active transportation including walking and cycling  1.1 – Facilitate a diverse range of active lifestyle opportunities	The CIP and the objectives of the Bike and Walk Plan have been integrated into the LPS.
2 – Connected and Inclusive	2.0 – Equitable and inclusive social connection and engagement with community life	2.2 – Plan for open and accessible community spaces when developing suitable facilities to facilitate community interaction	The CIP has been integrated into the LPS.
5 – Caring and Supported	5.0 – Challenges to wellbeing are supported by a caring community	5.7 – Plan for housing diversity and advocate for appropriate housing support	The provision of diverse and inclusive housing is integral to the Directions and Actions of the LPS.

#### **LEGAL/POLICY IMPLICATIONS**

For the purpose of Councillors considering a financial or impartiality interest only, the proponent is the City of Kwinana.

The preparation of the LPS is being undertaken in accordance with the requirements for preparing and approving a Local Planning Strategy outlined in Part 3 of the *Planning and Development* (Local Planning Schemes) Regulations 2015.

#### FINANCIAL/BUDGET IMPLICATIONS

Once adopted the Draft LPS could be used to guide the preparation of long-term capital investment programs, and promotion and coordination of private and public investment.

The draft LPS has been largely prepared in-house utilising the Operational Budget, with specialist consultant advice sought where necessary.

Actions and initiatives arising from the LPS will be subject to a business Case and considered as part of the annual budget process.

#### **ASSET MANAGEMENT IMPLICATIONS**

Once adopted the draft LPS could be used to guide the preparation of long-term capital investment programs.

#### **ENVIRONMENTAL/PUBLIC HEALTH IMPLICATIONS**

A number of actions from the draft LPS seek to implement provisions into the City's future local planning framework that would aim to protect valued environmental features and increase the sustainability of the City.

#### **COMMUNITY ENGAGEMENT**

The draft LPS was advertised from 22 May 2023 until 30 June 2023 seeking feedback from the community on whether the draft LPS accurately captures and reflects the community's vision for the future of the City. The methods of consultation were:

- a) Love My Kwinana community engagement page including the draft local planning strategy, summary brochures, FAQs, contact officers details, online survey and options for making submissions:
- b) Facebook and Instagram promotion inviting comment throughout the advertising period;
- c) Media releases;
- d) Postcard drop to all properties west of the Kwinana Freeway;
- e) Three workshops with community groups and other community members;
- f) Letters sent to key service agencies seeking feedback on the draft LPS; and
- g) Notification to persons who provided a submission during the Preliminary Consultation stage in 2019.

Community participation during the consultation period is summarised in Table 4.

Table 4: Community participation during the consultation period

Type of Engagement (Love My Kwinana)	Definition	Number	
Aware	Visited Love My Kwinana sight	1,600	
Informed	Clicked on something	219	
Engaged	Contributed by completing a submission or a survey	134	66 written submissions
			71 survey responses
Workshops		East Wellard Sunday Workshop	59 attendees
		Medina Ratepayers Meeting	12 attendees
		Wandi Community Hall	11 attendees

Table 5 provides a breakdown on the written submissions received during the consultation period.

Table 5: Breakdown of Submitters during Community Engagement

Category of Submitters (Total 66)	Number of written submissions
Agencies (11)	<ul> <li>Shire of Serpentine Jarrahdale</li> <li>Department of Communities</li> <li>Department of Planning Lands and Heritage</li> <li>Department of Health</li> <li>Main Roads WA</li> <li>Department JTSI</li> <li>Department of Health</li> <li>Department of Education</li> <li>Department of Water and Environmental Regulation</li> <li>Department of Transport</li> <li>Water Corporation</li> </ul>
Developers (4)	<ul> <li>Satterley (Mandogalup)</li> <li>Sunrise Estate</li> <li>Wandi District Centre (Wandi Anketell Holdings and Denkey)</li> <li>Lot 123 Mortimer Road (Ivan Yuinovich)</li> </ul>
Businesses (4)	<ul> <li>Alcoa</li> <li>Coles (Lot 22 Mortimer Road, Casuarina)</li> <li>Calista Mechanical Workshop</li> <li>APA Gas Pipeline</li> </ul>
Medina Residents Group	1 submission
Individual community members (26)	<ul> <li>13 submissions supporting Wellard East (Urban Investigation Area)</li> <li>7 submissions opposing Wellard East (Urban Investigation Area)</li> <li>6 submissions concerning other LPS issues</li> </ul>

Attachment C provides further details on the written submissions received along with a recommended response to the submissions.

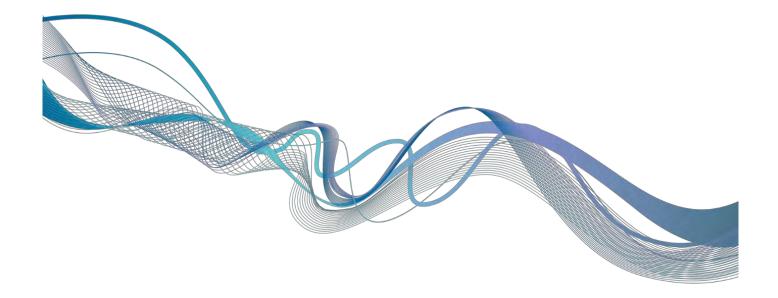
#### **ATTACHMENTS**

- A. Draft Local Planning Strategy (Part 1) &
- B. Draft Local Planning Strategy Map &
- C. Schedule of Submissions &
- D. Directions and Actions J.
- E. Draft Local Planning Strategy (Part 2) U
- F. Schedule of Modifications J.
- G. Version of the draft LPS showing highlighted modifications to the advertised version of the draft LPS  $\underline{\mathbb{J}}$



# DRAFT LOCAL PLANNING STRATEGY

2024 - 2036



Item 17.5 - Attachment A Page 892

<u>Version</u>	<u>Date</u>	<u>Description</u>
<u>v1.0</u>	24 March 2021	Draft for adoption by Council for adverting
<u>v2.0</u>	22 May 2024	Draft as modified following advertising and community engagement



The City of Kwinana acknowledges the Traditional Custodians of the land in which we live, work and play, the Nyoongar people, and we pay our respect to Elders past and present.

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#### **MESSAGE FROM THE MAYOR**

I am pleased to present the City of Kwinana's Local Planning Strategy which builds upon the City of Kwinana's rich planning history and provides the guiding vision for the City's growth and development over the next 15 years.

The Local Planning Strategy is vital in providing a long-term strategic planning direction on how the City will meet its vision of being "a unique and liveable City, celebrated for and connected by its diverse community, natural beauty and economic opportunities" (Strategic Community Plan 2021-2031). The Local Planning Strategy aims to reflect the City's vision through the planning innovative and quality development in a sustainable manner.

The City of Kwinana as we know it today has its origins in the 1950s when the State Government appointed one of Western Australia's first qualified town planners, Margaret Feilman, to prepare plans for a townsite to accommodate the workforce for the BP refinery and the many other industries being planned for this area. Feilman based her design on what was then a new style of planning, which involved designing communities so that local shops and community facilities were within a walkable distance and retain major bushland and landscape features.

This commitment to environmental conservation in the design of the City still evident today, 70 years after the area was first developed. The City now projects a sense of place with undulating landscape, mature native trees and bushland. These principles of creating neighbourhoods within bushland and natural landscape have been entrenched in this Local Planning Strategy to ensure that the City's natural heritage is preserved for future generations.

Within the timeframe of this strategy, the Westport Outer Harbour, supporting industries and transport freight corridors will be developed. The development of the Westport Outer Harbour will trigger a new era of growth and development in the City. An important function of this Strategy is to ensure the land requirements of the supporting industrial areas and transport corridors are planned in an orderly and proper manner and, just as importantly, that the City prospers from this period of growth.

The Local Planning Strategy has been six years in the making, based on in-depth community and stakeholder consultation, paired with comprehensive research and analysis of current needs and projected future trends.

The Local Planning Strategy is a first step in the ongoing process of refining and detailing planning within the City. It will be reviewed after five years and ongoing refinement will continue through the local planning scheme, strategies, policies, structure planning, subdivision and development.

The challenge now is to implement the Local Planning Strategy. While the City will take the lead, effective implementation can only be achieved through a whole of-community commitment. This is critical, as plans are only as good as the will to implement their vision on behalf of communities, now and into the future.

Peter Feasey
City of Kwinana Mayor

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#### **EXECUTIVE SUMMARY**

The City of Kwinana's (City) Local Planning Strategy sets out strategic Directions and Actions for land use planning and development for a 10-15 year horizon. During this period there will be a high level of growth in Kwinana's residential population and considerable change and expansion to the City's commercial and industrial areas.

The Local Planning Strategy has been developed and informed by the following set of sustainability principles that will guide the City's community, economy and environment towards a sustainable future.

#### Liveability

Ensure communities are safe, enable an active healthy lifestyle and offer a high quality of life and amenity.

#### Character

Promote and celebrate natural and cultural assets and landscape elements that are synonymous with the character and identity of the City of Kwinana.

#### **Prosperity**

Maintain a strong and sustainable local, regional and international economy with a range of business and employment opportunities.

#### Accessibility and Connectivity

Focus on safe efficient and effective movement networks that improve legibility and permeability, link places and spaces through an enhanced pedestrian and cycle network at the local level and connect regional facilities.

#### Sustainable Development

Incorporate sustainable development principles into everyday practices so that there is a balance between development and conservation to ensure the needs of future generations can be met.

#### Resilience

Ensure that communities have the capacity to adapt and respond flexibly to future challenges and opportunities.

#### Community

The City of Kwinana's population is anticipated to grow by approximately 18,000 additional people and 8,000 new dwellings over the next 12 years. By 2036, the population of Kwinana is expected to be about 71,000 people.

Not only will the population grow during this time but the City's population will change to include an increasing a number of people over the age of 70, more multi-generational households and single person households.

A key direction of the Local Planning Strategy is to enhance and develop the City's local and neighbourhood activity centres as 'urban villages', to serve as the focus of daily shopping needs and as meeting places.

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The community's housing needs will be more diverse over the next 15 years and require a choice of housing types. The intention is that diverse housing types will be established within walking distance of the City centres and neighbourhood centres. This will reinforce and support these centres with an increased population and a diversity of housing close to shops and transport. A key action of the Local Planning Strategy includes precinct planning for neighbourhood centres to determine how best to provide a diversity of housing within walkable catchments.

Another key action of the Local Planning Strategy is to ensure that the natural amenity and character of the neighbourhood centres and surrounding residential areas is retained and enhanced. This is particularly important for established heritage areas such as Medina and Calista but should also apply to new growth areas in the City. The City of Kwinana will establish and apply policies to retain urban landscape, protect street trees and promote unique and sustainable built form within new urban areas.

Providing open space and facilities to accommodate programs and services for the City's growing and changing community in an equitable and financially sustainable manner is also a key focus of the Local Planning Strategy.

There are large areas of land on the eastern side of the Kwinana Freeway which are set aside for rural living (Special Rural and Rural Resource zoned land). This type of land use facilitates natural bushland retention and groundwater protection aligning with the City's sustainable vision. The Local Planning Strategy is supportive of rural living continuing in the long term.

#### **Economy**

The most significant economic driver for the City, is its current and future industrial estates. These include the heavy industrial land in the Kwinana Industrial Area, the adjacent light and general industrial land (including spin-off industries that will be associated with the future Westport Outer Harbour).

The City's industrial areas form part of the broader Western Trade Coast. It is critical (particularly with the development of Westport) that comprehensive master planning takes place for the entire Western Trade Coast to optimise the use of the Kwinana Industrial Area and ensure that industrial areas are adequately separated from sensitive land uses.

The Local Planning Strategy focuses on enhancing the Kwinana City Centre as the focus for retail shopping, commercial, educational, civic and recreational activities as well as entertainment. Other activity centres include the future Wandi District Centre as well as smaller neighbourhood and local centres, all of which will provide convenient accessible services for the local community.

The Local Planning Strategy supports the planning and development of service commercial precincts which take advantage of Kwinana Freeway interchange locations at Thomas Road and Anketell Road. A key action is to investigate the feasibility of a large mixed use precinct at the south western side of the Thomas Road/Kwinana Freeway interchange (for a range of office, commercial and residential uses) and its integration with the Kwinana Train Station.

While the City's industrial areas produce a significantly higher proportion of jobs in the manufacturing sector than other areas of Perth, most of these jobs are filled by people living outside the City of Kwinana. Employment self-sufficiency within the City of Kwinana is less than that of the surrounding south-west metropolitan region, and amongst the lowest in the Perth metropolitan area. Employment growth has levelled out while population growth

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continues to increase, so new and diverse employment opportunities are required within the City of Kwinana.

An important objective of the Local Planning Strategy is to identify land uses which will improve local employment opportunities. While the growth of the Kwinana Industrial Area and Westport will provide jobs for skilled workers, research shows that industries such as retail, accommodation, health and food services provide unskilled and youth employment required in the City. The development of service commercial precincts at the Kwinana Freeway interchanges and mixed-use activity within the City Centre and neighbourhood centres would promote greater employment diversity.

The potential for more home businesses and new training/education facilities are also opportunities for employment.

#### **Environment**

The Local Planning Strategy can provides a framework for protecting significant local natural areas in the City, in addition to those areas already set aside for protection by the State Government.

A number of Actions from the City's Local Biodiversity Strategy 2023 have been included in the Local Planning Strategy to ensure that environmental protection is integral to the City's future planning and development.

The identification of ecological linkages which link locally and regionally significant natural areas and provide stepping stones for flora and fauna is a key action of the strategy. These linkages would support the ongoing management of regional sites and provide opportunities for integrated walking trails.

The retention of tree canopy cover to cool residential streets and open spaces during extreme heat, provide shade to encourage walking and cycling, create leafy neighbourhoods, and enhance local biodiversity is also identified as a priority.

The large areas of 'Special Rural' and 'Rural Resource' zoned land on the eastern side of the Kwinana Freeway, represent an opportunity to retain biodiversity and maintain the rural living lifestyle. It is important that clearing and degradation of bushland is limited in these areas to maintain biodiversity.

The City has recognised its responsibility to act on climate change and has adopted a Climate Change Plan (2021-2026). With an increasing population in the City, climate change adaptation and improving community resilience are an important part of land use and infrastructure planning under the Local Planning Strategy.

#### Infrastructure

Similar to other outer suburban areas in Perth, residential and commercial development within the City of Kwinana is low density and Kwinana's residents are largely dependent on private vehicles to travel to schools, shops, services, places of employment and recreation.

The challenge is to ensure that local centres, neighbourhood centres and the Kwinana City Centre can be accessed conveniently by pedestrians, cyclists and public transport in order to reduce the reliance on private vehicles.

The City's Bike and Walk Plan (2018) intends to create a safe network of cycle routes and walking paths that are convenient for people of all ages and abilities to ride or walk to local destinations such as schools, shops, parks, bushland, bus stops and train stations. The intention is to create communities where cycling and walking are the preferred choices for

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short trips and everyone has the opportunity to choose a healthy lifestyle. The Local Planning Strategy promotes the continued roll out of the Bike and Walk Plan.

An integrated transport network to distribute traffic within the City of Kwinana and to provide linkages to other parts of the metropolitan region is crucial in facilitating regional access for the residents of the City of Kwinana. Encouraging public transport and the provision of a high-quality integrated train and bus system is also important to the community. The Local Planning Strategy seeks to reinforce public transport usage and will advocate for the best bus services possible.

The movement of freight through the City provides essential economic benefits to the Western Australian economy and is a key consideration in terms of the overall efficiency and viability of the Western Trade Coast and Westport. The efficiency of freight movement is reliant on the provision of designated road and rail corridors that are not restricted due to their potential impact on the amenity of incompatible land uses. The City will manage land use conflict in the vicinity of freight corridors and ensure sensitive land uses are adequately separated from vehicle noise and vibration impacts.

There will be a transition towards electric vehicles and automated vehicles over the next 15 years. Considerations for the City of Kwinana include requirements for electric vehicle charging facilities in new developments.

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#### 1. INTRODUCTION

#### 1.1 Purpose of the Local Planning Strategy

The purpose of the Local Planning Strategy is to:

- identify land use planning issues and opportunities;
- outline the strategic land use development Directions and Actions within the City Kwinana until 2036, having regard to the City's Strategic Community Plan (2021-2031):
- link strategic planning in the City of Kwinana with State and regional planning, including current strategies, structure plans and strategic development initiatives;
- · coordinate existing plans and strategies adopted and developed by the City;
- set a strategic framework for the establishment of a new local planning scheme along with rationale for the zoning and reservation of land and for scheme provisions relating to development and development control;
- provide a strategic framework for assessment and decision-making in relation to proposed scheme amendments, subdivision and development;
- identify the need for further studies or investigation to address longer-term strategic planning and development issues within the City of Kwinana; and
- outline how the Strategy will be implemented including reference to the development of any local planning mechanisms, including policies and guidelines which may be required.

#### 1.2 How the Local Planning Strategy has been prepared

The Local Planning Strategy has been developed in accordance with the statutory requirements of the *Planning and Development Act 2005*, the *Planning and Development (Local Planning Schemes) Regulations 2015* and with regard to the Local Planning Manual (WAPC, 2021) and Local Planning Strategy Guidelines (2023).

The Local Planning Strategy was prepared in the following four stages:

#### Stage One – Understanding where we are now

In order for the City to develop a comprehensive understanding of the important elements that affect the City, it was necessary to undertake detailed studies on the following topics. These studies are described in greater detail in Part 2 of the Strategy and include:

- Housing Study The focus of this study was to recognise the land-use impacts of the City of Kwinana's growing and changing demographics and population growth. This study identified changing residential and lifestyle requirements in the community.
- Integrated Land use and Transport Study This examined the transport needs for the community and includes an analysis of the City's land use changes and how these may affect connectivity, accessibility, traffic and parking requirements now and in the future.
- Employment and Economic Development Analysis This study focused on analysing the local economy and identified the relationship between population and industry, employment deficits and opportunities for economic growth and additional employment.

- Local Biodiversity Study This study examined the extent and existing protection
  of the City of Kwinana's natural bushland and wetland biodiversity.
- Rural Lands Study This study examined the stock of rural lands and identified competing contemporary land-use and environmental challenges.
- Other policies and plans, including:
  - -Access and Equity Policy (2015)
  - -Bike and Walk Plan (2018)
  - -Climate Change Plan (2021-2026)
  - -Community Infrastructure Plan (2021 2031)
  - -Disability Access and Inclusion Plan (2019 2021)
  - -Hope Valley Wattleup Redevelopment Project Master Plan (2005)
  - -Kwinana City Centre Master Plan and Design Guidelines (2019)
  - -Kwinana Parks Upgrade Strategy (2019 2029)
  - -Local Biodiversity Strategy (2022)
  - -Local Commercial and Activity Centres Strategy (2023)
  - -Medina Residential Design Guidelines (2009)
  - -Medina Neighbourhood Centre Revitalisation Strategy (2010)
  - -Multicultural Action Plan 2017 2020
  - -Parks Upgrade Strategy (2019/2029)
  - -Postans Precinct Study (2011)
  - -Public Health Plan (2019 2023)
  - -Sustainable Water Management Plan (2018)
  - -Strategic Community Plan (2021 2031)
  - -Westport Future Recommendations Stage 2 Report (2020)

#### Stage Two - Identify Issues and Opportunities

The City undertook extensive community consultation and the community's feedback formed the basis of the Local Planning Strategy.

#### Stage Three - Identify Directions and Actions

Following consultation with the community and key stakeholders, a series of workshops were undertaken with the City's Elected Members to establish planning principles and the Directions and Actions.

#### Stage Four - Advertised the Draft LPS for community feedback

The City sought feedback on the draft Local Planning Strategy from the community, government agencies, land developers and commercial property owners. The results of the submissions and community feedback resulted in modifications to the Local Planning Strategy where appropriate.

#### 2. THE CITY'S VISION AND PRINCIPLES

#### 2.1 Our Sustainable City

The City of Kwinana's vision as stated in the Strategic Community Plan (2021-2031) is to create "A unique and liveable City, celebrated for and connected by its diverse community, natural beauty and economic opportunities" and represents the community's aspirations and captures the essence of what it will be like to live in the City of Kwinana in the future.

The Local Planning Strategy provides Directions and Actions based on the key themes Community, Economy, Environment and Infrastructure in order to realise the City's strategic community vision.

The Local Planning Strategy will be continuously improved to align future land use planning and development with the community's aspirations and long-term vision as set out in the Strategic Community Plan (2021-2031). The alignment of the themes used in the Local Planning Strategy with the objectives set out in the current Strategic Community Plan are summarised in Figure 1.

Figure 1: Summary of Themes and Objectives

Local Planning Strategy Themes (derived from the Strategic Community Plan)	Objectives of the Strategic Community Plan (2021- 2031)	
Community     Housing and Population Diversity     Character Identity and Urban Design	Maintain infrastructure, playgrounds, parks and reserves to a high standard through sustainable maintenance and renewal.	
Public Open Space and Community     Facilities	Enhance opportunities for community to meet, socialise, recreate and build local connections.	
Industry and the future Westport     Outer Harbour     Kwinana City Centre and other     Activity Centres     Employment     Education and Training     Agriculture	Enable a thriving and sustainable local economy that supports and sustains quality jobs and economic opportunities.	
Protection of Local Natural Areas,     Landscapes and Ecological     Linkages	Retain and improve our streetscapes and open spaces, preserving the trees and greenery that makes Kwinana unique.	
Linkages  Climate Change Mitigation and Adaptation	Maintain and enhance our beautiful, natural environment through sustainable protection and conservation.	
Infrastructure     Transport     Cycling and Walking Network     Utilities	Provide for an accessible and well-connected City by integrating public transport and improving safe streets for driving, walking and cycling.	
	Create strong regional connections that will improve the ability for residents to access jobs, training and goods and sevices.	

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	Develop quality, affordable infrastructure and services designed to improve the health and wellbeing of the community.
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### 2.2 Local Planning Strategy Principles – An Integrated Approach towards Sustainability

In addition to the objectives of the Strategic Community Plan (2021-2031), the Local Planning Strategy has been developed and informed by the following sustainability principles which align with the guiding principles set out in the City's Sustainability Framework (2023).

#### Liveability

Ensure communities are safe, enable an active healthy lifestyle and offer a high quality of life and amenity.

#### Character

Promote and celebrate natural and cultural assets and landscape elements that are synonymous with the character and identity of the City of Kwinana.

#### **Prosperity**

Maintain a strong and sustainable local, regional and international economy with a range of business and employment opportunities.

#### Accessibility and Connectivity

Focus on safe efficient and effective movement networks that improve legibility and permeability, link places and spaces through an enhanced pedestrian and cycle network at the local level.

#### Sustainable Development

Incorporate sustainable development principles into everyday practices and so that there is a balance between development and conservation to ensure the needs of future generations can be met.

#### Resilience

Ensure that communities have the capacity to adapt and respond flexibly to future challenges and opportunities.

## COMMUNITY

#### 3. COMMUNITY

#### 3.1 Housing and Population Diversity

Kwinana has undergone rapid population growth in recent years and is forecast to grow by approximately 18,000 people (to a total population of 71,000) by 2036 (REMPlan), requiring approximately 8,000 additional dwellings. The majority of these dwellings will be located in the future suburbs of Casuarina, Anketell, Wellard and Mandogalup, and based on current trends these areas will be occupied predominantly by couples and families.

The majority of dwellings across the City of Kwinana are family homes (3-4 bedrooms) on single residential lots. This type of housing will continue to be in strong demand, however, there will be a need to provide a diversity of dwelling options (particularly more one and two bedroom dwellings) to accommodate the growing number of smaller households.

By 2036, there will be more than 5,384 additional seniors (70-84 years old) and elderly (85 years old and over) living in the City of Kwinana, the majority of whom will reside in established suburbs.

The City will encourage a greater range of housing types in established areas, close to the City Centre and neighbourhood centres, where there is convenient access to shops, services and community facilities.

Providing a diversity of housing near the City Centre and neighbourhood centres will provide housing suitable for a wide range of households types and contribute to the transformation of these neighbourhood centres into vibrant community hubs to meet the residential infill target set by the State government for the City of Kwinana. The *Perth Peel Sub-regional Framework* has set a target of 1,365 additional dwellings to be provided in existing residential areas of the City, by 2050.

The City will prepare neighbourhood centre precinct plans to ensure that new housing and lot sizes consider residential character, housing needs and affordability.

Although the existing housing stock in the City of Kwinana is less expensive than other parts of the metropolitan area, affordable housing should continue to be dispersed in appropriate areas to accommodate low-income households. The City also recognises the need to encourage a diverse range of dwellings including larger houses for extended families.

The City of Kwinana is amongst the most culturally and linguistically diverse municipalities in the Perth metropolitan area, with more than 40% of all residents born overseas, and nearly 30% speaking a language other than English at home.

In the past decade, there has been a decrease in the proportion of people of English and Australian ancestry and a notable increase in the proportion of people of Filipino, Indian and Chinese ancestry, particularly in the newer suburbs. The City of Kwinana has a higher number of people than the Perth average who identify as Aboriginal and Torres Strait Islanders.

The Rural Living areas (1-4 hectare lots) are highly valued by the community and provide an important rural lifestyle opportunity and an alternative housing option within the City of Kwinana. These areas preserve amenity and retain natural bushland to create areas with rural character, However, there is a need to manage the interface between the urban and rural areas to reduce the impact of urban development where it is in close proximity to rural living lots. A graduation of larger residential lot sizes adjacent to rural lots and landscaping

provisions are methods that can be implemented through the planning process to ameliorate the impact of residential development on nearby rural areas.

#### **Directions**

- Promote activity centres as key nodes for shopping, entertainment, community facilities and where appropriate business services, social services, health services and housing diversity.
- Ensure a range of lot sizes and dwelling types for a diversity of households, allowing
  residents to stay in their communities as they age as well as providing a range of
  housing options for young people and families with a high level of amenity.
- Encourage high quality housing developments targeted to households at different life stages and income levels, including a mix of lower to moderate income groups.

#### **Actions**

- Prepare precinct structure plans for the City Centre, District and Neighbourhood centres:
  - providing diverse housing within walkable catchments for the City Centre, District Centre and Neighbourhood Centres;
  - supporting a mix of land uses to activate and enhance the viability of these centres; and
  - optimising accessibility to and around activity centres via cycle routes and walking paths.
- 2. Encourage a variety of housing types suitable for the changing needs of the community within walkable distance of activity centres, including;
  - smaller and accessible dwellings for an aging population and people with disabilities.
  - larger houses for extended families and other household types; and
  - supporting initiatives geared towards the provision of special needs housing including good quality - affordable housing, social housing and housing for the age.

#### 3.2 Character, Identity and Urban Design

The City of Kwinana as we know it today has its origins in the 1950s, when the WA Government entered into an agreement with the Anglo-Iranian Oil Company (now known as BP) to construct an oil refinery on the shores of Cockburn Sound. To complement this industrial development, the State Government appointed WA's first qualified town planner, Margaret Feilman, to prepare the plans for Medina and Calista to accommodate the refinery's workforce and their families. The characteristics of the built form within the established parts of the City of Kwinana reflect the prevailing architectural forms and subdivisional design at the time of their development, including larger residential lots, large front yards, wide streets and retention of native trees. Early planning also provided a bushland greenbelt around a large part of the City of Kwinana, creating a distinct community surrounded by bushland.

The City of Kwinana includes areas with distinct characteristics; including:

- The industrial landscape of the Kwinana Industrial Area;
- The leafy established character suburbs;
- New suburban areas alongside the Kwinana Freeway; and
- The rural areas to the east of the Kwinana Freeway

The challenge now is to ensure that:

- The character of the established areas is retained for future generations;
- Natural bushland and landscapes are celebrated and protected in the design of new growth areas; and
- Rural areas are retained and protected from inappropriate development.

The City adopted a Local Heritage Survey in 2022. The survey identifies 71 places of heritage significance, 48 of which are deemed to be of sufficient heritage value to be included on the City's Heritage List which forms part of Local Planning Scheme No. 2.

Inclusion of a property on the City's Heritage List means that Development Approval is required prior to any demolition, alteration, or any development within the designated heritage place. Both the Local Heritage Survey and Heritage List only record places of European heritage and do not consider aboriginal heritage as this is administered by separate legislation and requires both specialist archaeological and anthropological skills and cultural sensitivity which may preclude the disclosure of information to the public.

The City recognises the importance of Aboriginal heritage to the social, environmental and economic prosperity of the City and that the Local Heritage Survey, as a standalone document, does not provide a holistic picture of the City of Kwinana's cultural heritage.

The City commissioned a Character Study of the City's established suburbs in 2021 to help identify areas of significant residential character. The Character Study found that positive character qualities are most prevalent in Medina and Calista with older development in Orelia and Parmelia sharing some, but not all, of those qualities. Neighbourhood character in Medina and Calista is tied predominantly to the quality of landscaping both in the public and private realm with mature trees playing an essential role in character. The greatest influence and threat to this character is the size and position of houses on the lot and this is being impacted by both new development and redevelopment in these suburbs c. The City needs to consider how to respond to these challenges in order to conserve the traditional character of these suburbs.

The Character Study states that the City's newer suburbs (post 1980s) are 'typical' of the housing of the period with large houses on small lots with small setbacks resulting in less space for landscaping and tree canopy. Development in the newer suburbs areas also tends to include retaining walls, large garages and wide driveways which dominate building frontages and the streetscape.

To ensure the character of the City's established suburbs is retained, the City of Kwinana intends to review the Residential Design and Subdivision Guidelines 2009 to determine how effective the policy has been and ensure that new development is respectful to the existing residential character in terms of built form, appearance and impact on the streetscape and adjoining properties.

#### 3.3 Wellard East Planning Area 1

The Wellard East Planning Investigation Area (shown in the South Metropolitan Peel Sub-Regional Planning Framework and Perth and Peel@3.5million Planning Investigation Areas Update, WAPC 2022) is identified on the Local Planning Strategy map as Planning Area 1 – intended for the purposes of further detailed planning. Key considerations are to be addressed through further detailed planning for urban expansion include:

- road transport infrastructure coordination and staging (at a regional and district level);
- · servicing infrastructure coordination and staging;
- protection of significant environmental values;
- land to be set aside for flooding and drainage;
- sand fill required to provide separation to groundwater and flood levels (including estimated volumes, resource locations and transport); and
- interface with the adjoining Urban Investigation area at North-East Baldivis.

In addition to these matters the City has identified a number of additional matters to be addressed prior to future rezoning and preparation of a district structure plan(s) for the Wellard East Planning Investigation Area to ensure the environmental values of this area and its integration with surrounding land uses are fully considered.

#### **Direction**

 Recognise and strengthen the City of Kwinana's unique cultural, natural and built identity to foster a sense of place in existing and future residential areas.

#### **Actions**

- 3. Develop a design policy to strengthen the City's focus on built form and assist in the assessment of development in the context of the existing site and surrounds.
- Review the City of Kwinana's Medina Neighbourhood Centre Revitalisation Strategy and Residential Design Guidelines 2009 (Local Planning Policy) to ensure new developments complement and enhance the character of the area.
- 5. Develop planning controls that implement best practice sustainable development principles for climate responsive site and building design, energy efficiency, waste recycling and water management.
- 6. Include appropriate provisions in the planning framework to ensure that subdivision and development is site responsive, incorporates site features, includes interconnected grid based road and active transport networks that maximise connectivity, accessibility, choice, and legibility, and are aligned to take advantage of views and create vistas to important buildings and spaces.
- Maintain and enhance the appearance and treatment of gateway points into the City of Kwinana and their importance in contributing to character and identity (Rowley Road, Anketell Road, Thomas Road, Mortimer Road, Gilmore Road and Rockingham Road).
- 8. Request that the future district structure plan for the Wellard East Planning Investigation Area addresses the following matters:
  - preparation of a district water management plan to protect and manage water resources including minimising impact from nutrient loads and potential downstream impacts on wetlands and the Serpentine River;
  - disturbance to wetlands due to the filling of low lying land; and

 modifying the boundary of the Wellard East Planning Investigation Area to exclude existing conservation reserves.

#### 3.4 Public Open Space and Community Facilities

Public open spaces and community facilities bring people together, maintain quality of life and develop the skills, networks and relationships essential to building strong communities. Investing in community infrastructure is essential for the health, wellbeing and economic prosperity of communities.

There are significant differences in the forecast age profile and household types between the newer suburbs on the eastern side of the City and the older established areas on the western side of the City which will influence the type of community infrastructure and services that will be required in these areas. The young families in the newer residential areas will need playgrounds, sporting grounds and community facilities and services. In the established suburbs of Kwinana the population is aging and there will be a greater need for health services and programs which provide the opportunity to interact and connect with others

The City has prepared a Community Infrastructure Plan (2022) to guide the planning, development of open space and community facilities (libraries, community centres and recreation centres) at a local, district and subregional level within the City of Kwinana. The Community Infrastructure Plan will be regularly reviewed to provide a range of multi-purpose community and recreation facilities that meet the changing needs of the community and support healthy and socially connected communities. A key premise of the plan is to ensure community facilities and public open space are provided as part of the shared use agreements with school sites and/or other facilities.

#### 3.5 Regional Recreational Facility

To ensure that there is access to regional recreation facilities within the City of Kwinana, the City has commenced a feasibility and business case process for a future regional open space (ROS) to be located in the City (minimum 50ha). Currently several sites are being investigated to determine their suitability.

Initial research and analysis has determined that there is already a shortfall of playing fields, and indoor courts in the City and within Perth's Southern Metropolitan Corridor. A regional reserve will be required to meet the needs of a growing regional population and provide an opportunity to co-locate a number of sporting activities and organisations at the same venue.

The State Sporting Associations have advised that there is a clear need for increased provision of sporting facilities and infrastructure into the future beyond the current level of planning.

Should the Council adopt a future preferred location for a regional open space, it is likely to result in advocacy for land to be reserved for this purpose.

#### **Direction**

 To deliver an equitable distribution of accessible and integrated multi-functional public open spaces, community and recreation facilities that supports healthy and socially connected communities.

#### **Actions**

- 9. Promote cultural heritage and history through the design of public open space, public facilities and public art to foster a sense of belonging and connection.
- 10. Investigate prospects for coastal recreation opportunities having regard to the future Westport whilst recognising the potential impacts of sea level rise.
- 11. Undertake a study to determine feasible sites for the location of a regional open space within the City of Kwinana.

## **ECONOMY**

#### 4. ECONOMY

#### 4.1 Industry and the future Westport Outer Harbour

The Western Trade Coast is the largest and most complex heavy and general industry site in Western Australia and is of critical importance to the prosperity of the State and the Perth metropolitan area.

In 2020, the State Government announced its intention to develop Westport in the Kwinana Industrial Area, as the State's new container port. The transition of activities from the Fremantle Inner Harbour to Westport Outer Harbour will have significant impact on the land use mix in the Western Trade Coast.

A new hierarchy of land uses will emerge in the Western Trade Coast based on the location of infrastructure and proximity to the core port operations. In parts of the Western Trade Coast closest to the port, low order uses (population driven) will likely make way for a greater concentration of higher order uses (port related uses and strategic uses that are export orientated).

In addition to the new port related uses the Western Trade Coast will continue to grow over the next two decades accommodating heavy industrial uses. The challenge is to ensure that this growth is optimised and occurs in a well-planned and integrated manner to maximise the strategic value of the locality for the State and the City of Kwinana.

Lower order uses (small factory units, bulky retail) will need a place to relocate due to the higher value port strategic uses that will locate in close proximity to Westport.

Due to the introduction of new industrial land uses and continued industrial development in the Western Trade Coast, it is appropriate that a comprehensive master plan be prepared by key government state and government agencies for the Western Trade Coast. The master plan would inform statutory planning instruments to guide optimal land uses outcomes for the State and local community.

The master plan should consider:

- The provision of east-west freight corridors to connect Westport to the metropolitan transport network. Westport and heavy freight vehicles will operate 24 hours a day and planning for the land adjacent to the heavy freight corridors should take into consideration the potential impact of noise emissions from heavy vehicles (particularly Anketell Road);
- Adequate separation distance between industry and sensitive land uses (residential dwellings). This will protect industrial growth and ensure that Leda, Calista and Medina are not exposed to the adverse air quality, odour and noise emissions from industry;
- Provision of additional heavy industry sites; and
- Future planning for areas identified as Industrial Expansion Area in the Perth Peel Sub-regional Framework, including Postans and parts of the Alcoa Residue Disposal Area.

#### 4.2 Standardise zoning and development standards across the Western Trade Coast

Consistent with the need to align the planning framework across the Western Trade Coast, the Perth South-West Metropolitan Alliance has initiated a joint project between the Cities of Kwinana, Cockburn and Rockingham to standardise zoning, land use permissibility and development standards across the Western Trade Coast.

This project aligns with the Western Australian Planning Commission reform projects to review/modernise land use terms and zone/reserve objectives; and to standardise land use permissibility and to develop a consistent approach to development requirements in certain zones.

There is an opportunity for City of Kwinana to serve as a residential and service location for personnel involved with the defence assets maintenance phase at the Australian Marine Complex and for any expansion of Naval operations at Garden Island.

There is 6.27ha of 'Light Industry' zoned land in Medina comprising 42 lots, ranging from 728m² to 2,750m², providing an assortment of light industrial activities. The location of this light industrial zoned land is a historical legacy and provides local employment and services to the community. Consideration should be given to the long-term potential for alternative land uses in the Medina Light Industrial Area.

#### **Direction**

- Recognise the importance of the Kwinana Industrial Area and the future Westport
  Outer Harbour to secure future employment opportunities for the City of Kwinana's
  residents.
- Expand land use options for a range of industrial land uses to be located within the City of Kwinana having regard to land use compatibility.

#### **Actions**

- 12. Facilitate strategic land use planning in the Western Trade Coast to enable an ongoing supply of industrial land to cater for employment in the City of Kwinana.
- 13. Undertake a joint project with the City of Cockburn and City of Rockingham to review aspects of the City's Local Planning frameworks (including planning scheme and policies) to determine if the zoning, land use permissibility and development standards that can be applied consistently across the Western Trade Coast.
- 14. Review and adopt the City of Kwinana's Postans Study with consideration to land requirements for light industrial and service commercial land uses and the future of the Medina Light Industrial complex.

#### 4.3 Kwinana City Centre and other Activity Centres

The City has experienced considerable economic, development and population growth in recent years and it is anticipated that this high rate of growth will continue for the duration of this Local Planning Strategy and beyond.

It is forecast that retail and commercial land uses in the City may increase by an additional 170,000m<sup>2</sup> (a 60% increase on the 2021 floor area) by 2042. This growth in

commercial development and adoption of State Planning Policy 4.2 - Activity Centres, necessitated the preparation and adoption of Local Commercial and Activity Centre Strategy 2023 (LCACS 2023) to guide the development of City local commercial and activity centres.

LCACS 2023 is based on robust modelling and analysis to ensure that a hierarchy of activity centres is distributed throughout the City to ensure that frequently required retail and service needs are situated in local centres (within walkable catchments) and less frequently required retail needs and services are situated in convenient higher order centres distributed throughout the City.

The strategic objectives of LCACS 2023 are as follows:

- Facilitate the provision and responsive evolution of a viable and conveniently
  accessible network of functional and attractive activity centres that meet the day to
  day needs of residents and are places where people can meet and interact.
- Ensuring the Kwinana City Centre remains the City's largest and most complex
  activity centre hosting higher-level commercial, civic and cultural activities, but also
  supporting mixed land use/activities in other activity centres appropriate to their role
  in the hierarchy.
- Permitting the development of new centres only when they clearly fill a gap in the defined Activity Centre Hierarchy in LCACS 2023.
- Encourage and facilitate the improvement of existing activity centres to enhance their utility and attractiveness to the community which may involve:
  - Allowing development or changes in use that will improve the condition and/or performance of an existing local activity centre.
  - Taking a pro-active role in encouraging and facilitating improvement to existing activity centres.
  - Ensuring that enough land is provided for the long term floorspace potential of planned mixed use activity centres.
- Encouraging a high standard of design and development of new activity centres
  including liaising with developers and other key stakeholders during the planning and
  design process and exercising development control powers to ensure centres are
  sustainable and align with urban design principles. Encouraging and facilitating
  compatible non-retail uses in activity centres at all levels in the hierarchy to improve
  their convenience and utility.
- Encouraging and facilitating development of a range of housing types in the vicinity of
  activity centres to enhance centre viability and create housing choices that are
  accessible to shops, local jobs and transport links. This will facilitate a local and
  sustainable approach to urban form.
- Enhance and develop the City's local and neighbourhood centres to meet the
  different needs of the local community, including access to goods and services and
  social interaction. The enhancement of neighbourhood centres will contribute in
  many ways to community and it is important that every support be given to the
  economic growth of the centres.

 The City supports the planning and development of service commercial precincts to take advantage of Kwinana Freeway interchange locations at Thomas and Anketell Roads.

#### **Kwinana City Centre**

The Kwinana City Centre is the primary centre in the Activity Centre Hierarchy and the Local Planning Strategy aims to ensure that this primacy is retained within the Activity Centre Hierarchy. The current performance of the centre is identified in the City's LCACS 2023 as low and there will need to be a collaborative approach between the City and key stakeholders in the Kwinana City Centre to improve the centre's performance.

LCACS 2023 recommends the following measures to improve the performance of the City Centre:

- Encouraging office development to occur in the City Centre to create day-time activation.
- Facilitating entertainment, café/restaurant, recreation and cultural uses in the City Centre to promote night-time activation and increased liveability.
- Encouraging any future redevelopment of the Kwinana Marketplace to connect with Chisham Avenue.
- Creating a stronger connection between civic and retail uses in the City Centre to promote multi-use visits and pedestrian activity.
- Short term activation of Chisham Ave through alfresco dining, a strong link with Aldi and additional activities in the Market Square area between Chisham Ave and the Public Library.
- Offer family amenity or encourage proponents to provide family amenity. Family
  amenity has been an important feature for several retail redevelopments, including
  the Karrinyup Shopping Centre Redevelopment and the Cockburn Gateway
  Expansion.
- Support more residential development in the City Centre.
- The development of Westport and the Australian Defence Force maintenance facilities at the Australian Marine Complex and Garden Island may provide development opportunities within the City Centre, such as the potential to develop training facilities.

The development of the City Centre has been guided by the Kwinana Town Centre Master Plan and Design Guidelines and Local Planning Scheme No. 3. The City intends to prepare a new local planning scheme which would be based on the preparation of the City Centre Precinct Structure Plan underway.

#### **Wandi District Centre**

The Wandi District Centre is planned as part of the recommended activity centre hierarchy to reach a size of approximately 20,000m<sup>2</sup> Shop/Retail floorspace by 2042.

The Wandi District Centre will reduce the need for local residents to travel longer distances to other centres and warrants a larger centre than was indicated in the original modelling.

#### **Other Activity Centres**

Precinct centre planning for neighbourhood centres will be undertaken by the City to identify opportunities for each activity centre to inform future planning measures and controls. Master plans will be prepared to address issues such as connectivity, car parking and landscaping.

The City will investigate the potential for a mixed use precinct (Planning Area 2) occupying an area spanning from the Kwinana Freeway and Thomas Road intersection to the Kwinana Train station. Much of the site is vacant urban land with areas of bushland set aside for conservation. The intent is to capitalise on the following locational advantages:

- spatial location along the Kwinana Freeway which provides good locational access across the Perth metropolitan area from the Perth CBD to Mandurah;
- traffic volumes passing the site on a daily basis along the freeway and using Thomas Road (movement economy) of the site;
- Kwinana train station providing access to the Perth CBD in 30 minutes;
- · attractive outlook over The Spectacles, a large conservation estate; and
- immediate link with growing service commercial land uses on the eastern side of the Kwinana Freeway / Thomas Road interchange; and

#### **Direction**

To define the role and extent of the City's activity centres hierarchy to establish a
network of shopping, recreation and entertainment requirements for residents and
provide employment, community meeting places and associated land uses.

#### **Actions**

- 15. Prepare and implement a City Centre Precinct Structure Plan to:
  - optimise the potential of the City Centre as a key location for retail, restaurant, entertainment (night and day), arts, childcare, housing, education, health services, social services and short-term accommodation;
  - allow for education and training needs of the community within the City Centre
  - investigate options for high density residential development and short-term accommodation;
  - review the design of Chisham Avenue as a Main Street;
  - investigate the potential for strategic sites within the City Centre to lead investment and redevelopment within the City of Kwinana;
  - differentiate the City Centre by creating and enhancing links to the local bushland and open spaces; and

- develop advocacy and partnership plans to support City Centre development.
- 16. Prepare a master plan for the Bertram Neighbourhood Centre to provide a framework for public realm improvements including pedestrian access, disability access, car parking, landscaping, street furniture, wayfinding and the design of public spaces.
- 17. Rezone the following local centres in the local planning scheme to enable redevelopment:
  - Calista local centre rezone the site to mixed use.
  - Summerton Road rezone the site to residential development.

#### 4.4 Employment

Businesses within the City of Kwinana are a key generator of manufacturing and construction jobs for the Perth metropolitan area. This is illustrated in Figure 2 below, which compares overall employment generated in the City against jobs created elsewhere across greater Perth. Also evident, is that the City has comparatively fewer jobs in retail trade, health care and professional and technical fields.

The historic presence of industrial, manufacturing and construction jobs in the City plays a key role in the growth of these industries and is promoted as part of the Local Planning Strategy.

There will be increasing automation of industry, particularly manufacturing and transport logistics and a reduction in lower skilled employment in such industries. While manufacturing will continue to grow, employment numbers will not necessarily be growing at the same rate.

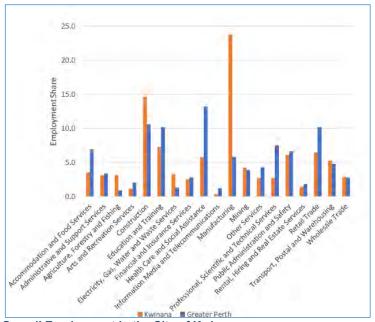


Figure 2: Overall Employment in the City of Kwinana

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#### **Employment Self-Sufficiency and Self Containment**

Most of the manufacturing and construction industry jobs in the City of Kwinana are filled by people living outside the City and it is evident that City's employment self-sufficiency (measure of local residents working in local jobs) is less than that of the surrounding south west region and amongst the lowest in the Perth metropolitan area. The major reasons for the City's resident workers seeking employment outside of the City could be the nature of employment opportunities versus the residents skills and qualifications; transport options available and commuting times; relationship between wages and salaries (people will travel further for higher paid jobs); and house prices in the local area.

The size of the City of Kwinana's total labour force in 2016 was 18,829, which includes all persons aged above 15. Overall, 89.2% of the labour force was employed and 10.8% unemployed. When added to the people looking for work, either full or part-time, 21.6% of the labour force is not in work.

While there has been some recent growth in employment in the City in recent years, employment is not keeping pace with the rapid population growth. As can be seen in Figure 3 between 2006 to 2018, employment in the City has remained steady at around 15,500 jobs, while the population has increased from 24,000 to over 42,000 over the same time period.

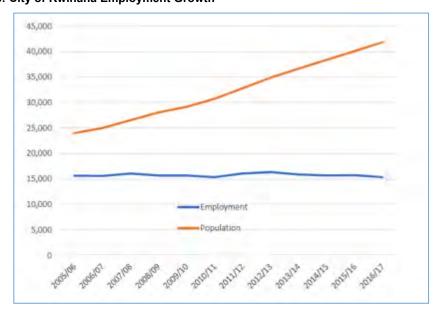


Figure 3: City of Kwinana Employment Growth

#### **New Employment Opportunities**

The challenge for the City is to consider opportunities for job creation for the local population as part of long-term planning so that it better matches population growth and population skills and training. Figure 4 shows an assessment of the gap and the distribution of jobs types to 2036, and, some strategic direction as to how the gap could be breached.

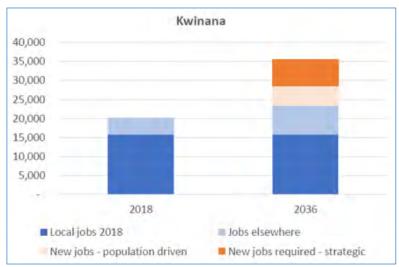


Figure 4: Employment Self-Sufficiency

It assumes that a proportion of local residents will travel to work outside of the City and it is important that transport systems and opportunities are supporting people travelling out of the City and into the Perth CBD to work.

Further, it assumes that a proportion of these jobs (around one-third) will be populationdriven jobs that arise to directly service the local population. They include local retail and business services, health services, education services (particularly primary and secondary education) and personal services.

An analysis of the jobs held by the resident population in the City in 2016 shows the three most popular industry sectors were:

- Health Care and Social Assistance (1,973 people or 11.7%)
- Retail Trade (1,808 people or 10.8%)
- Construction (1,780 people or 10.6%)

It can be expected that the number of people employed in these sectors will grow as the population of the City and the region grows but it is critical that future planning seeks to maximise employment in these industry sector areas given that there may be a gap of approximately 7,000 jobs that would need to be found within the City by 2036.

The increases in small, often home-based business over the past decade also provides an opportunity for a range of employment in the City, particularly in the provision of professional services, information technology, home-based food business and many other services.

Enabling the growth of such industries and businesses to provide employment opportunities for the City's residents is fundamental to the Local Planning Strategy and ensuring sufficient land is available for industry and local businesses.

#### 4.5 Health Services

Between 2016 and 2036, the City's population in the 70–84 age group will increase by approximately 3,100 and by 835 persons in the 85 and above age group. The City's expanding aged population will increase the demand for health services and generate the

need for at least 2-3 additional aged care facilities plus in-home services. These are large employers and may see the aged care workforce almost double by 2036.

An expanding population will also mean increased demand for community-based health services which should locate within the City Centre.

#### 4.6 Service Commercial

As previously noted, the Local Planning Strategy seeks to promote Service Commercial precincts to take advantage of the location and exposure of the Kwinana Freeway interchanges. These sites provide the best strategic opportunity to close the gap between employment growth and population growth. Provided they are appropriately managed under the new local planning scheme, their presence would have minimal effect on existing activity centres, including the City Centre itself. The development of these precincts takes advantage of the proximity of these sites to the Kwinana Freeway.

There are opportunities for Service Commercial Precincts to the:

- east side of the Thomas Road and Kwinana Freeway interchange where land has already been approved under structure plans for service commercial land uses. This area has considerable potential for development into a large service commercial area offering a range of bulky and white goods retail services.
- east side of Anketell Road Kwinana Freeway interchange where the future Wandi District Centre is located (with the long term potential to develop the Anketell Road Train Station).
- west side of the Anketell Road Kwinana Freeway interchange in Mandogalup where service commercial uses would be an appropriate interface between Anketell Road and future urban land uses.

#### 4.7 Tourism

The Spectacles, Kwinana Loop Trail, Tramways Trail and the Wildflower Walk provide unique opportunities to walk and cycle through bushland areas within the metropolitan area. The general public may not be aware of these areas and the City will investigate opportunities for eco-tourism within the City of Kwinana to provide employment opportunities and promote environmental stewardship. The ecological links between the reserves combined with cycle and walking paths provide an opportunity for local tourism unique to Kwinana.

The opportunity for heavy Industry focused tourism opportunities should not be underestimated with many countries actively promoting industrial tourism. There is a market for people interested in learning about a range of industries with the Kwinana Industrial Area from major processing plants, power plants, desalination plants and waste to energy plants. An integrated masterplan for the Kwinana Industrial Area and the City's future Economic Development Strategy will provide a key platform for such opportunities into the future.

#### 4.8 Small Business

There are a total of 1,945 businesses in the City and while there are many large businesses located in the City of Kwinana, approximately 1,851 of these, or 95%, are small businesses. In fact, despite the City of Kwinana appearing to be the home of large industries, there are only 68 businesses based in Kwinana that employ over 20 people.

The major areas of small business operations are in the roles of:

- · Transport, Postal and Warehousing;
- · Construction; and
- · Professional Scientific and Technical Services.

During 2019, businesses grew at over 2 per week to 134 new businesses commencing in Kwinana, appearing to be exclusively small businesses. Most of the new businesses established in 2019 were in the following industries:

- Transport, Postal and Warehousing;
- Administrative and Support Services; and
- Rental, Hiring and Real estate services.

Additionally, there are a total of 97 home-based businesses that operated in Kwinana in 2019, predominantly within Wellard, Bertram, Wandi and Parmelia. The City will optimise the potential of home-based businesses as an employment growth sector to improve self-employment opportunities in Kwinana. The City has the capacity to reduce barriers to home-based business via reduced administrative overheads and integrated assessment processes.

#### 4.9 Manufacturing and Industry

Industry remains an important employer for the City's residents and its growth will benefit the local community. This includes heavy to light Industrial land uses and their technological changes considerable potential for significant expansion in Latitude 32 and Postans. There are opportunities for Light Industry/Service Commercial uses in particular, to expand into the Postans locality providing local employment opportunities.

The Thomas Road - Kwinana Freeway interchange (west and east of the Kwinana Freeway) has been identified as Planning Area 2 in the Local Planning Strategy to ensure that a number of site matters are considered during subsequent stages of the planning process.

#### **Strategic Direction**

 To create diverse employment opportunities for local residents and maintain sustained economic growth by ensuring that suitable serviced employment land is available.

#### **Strategic Actions**

- 18. Consideration is to be given to the following matters during subsequent stages of planning in Planning Area 2 (Thomas Road Kwinana Freeway Interchange):
  - integration with the Kwinana Train Station;
  - · regionally and locally significant environmental values;
  - proximity to the service commercial area and neighbourhood centre on the eastern side of the Thomas Road - Kwinana Freeway interchange;
  - short-term accommodation and conference centre options; and
  - traffic flow and safety of the transport network.

19. Investigate opportunities for eco-tourism within the City of Kwinana to provide employment opportunities and promote environmental stewardship as part of the City of Kwinana's future Economic Development Strategy, including the development of an eco-tourism centre alongside established natural attractions such as The Spectacles, Kwinana Loop Trail, Tramways Trail and the Wildflower Walk.

#### 4.10 Education and Training

Opportunities for attracting education and training facilities into the City is necessary to boost the local economy but also to provide local youth with skills relevant to local jobs and employment generally.

The Australian Defence Force's plans to establish an office/training facility easily accessible to the Australian Marine Complex provides employment opportunities within the City of Kwinana. There may also be the potential for the Kwinana South Metropolitan TAFE campus to expand to provide semi-professional and trade training for the defence industry and the Kwinana Industrial Area.

#### **Direction**

 The community has a choice of quality public and private facilities to meet their education and training needs.

#### **Actions**

 Advocate for the establishment of training facilities within the City of Kwinana to provide semi- professional and trade training for the defence industry and other industries within the Kwinana Industrial Area.

#### 4.11 Agriculture

Until recently large parts of City of Kwinana were used for rural purposes, however, following the extension of the Kwinana Freeway and the Perth-Mandurah Train Line, areas east of the Freeway have been rezoned to facilitate the establishment of new suburbs. This has occurred in Wandi, Anketell, Casuarina, Wellard and Mandogalup. Urban development will continue to expand in these areas for several decades. The last remaining rural areas are situated further east of the Kwinana Freeway.

As a result of the zoning and land use changes over the past two decades, the role of agriculture in the City's economy has declined and many rural industries have relocated.

The South Metropolitan Peel Subregional Planning Framework identified part of the rural area to the east of the Kwinana Freeway and south of Casuarina Prison as a Planning Investigation Area. This includes part of the last remaining 'Rural A' zoned areas with the City of Kwinana.

The Western Australian Planning Commission will determine the outcome of the urban investigation areas (identified as Planning Area 1 on the Local Planning Strategy map) through detailed planning investigations. The City will also investigate the preferred long-term use of land within the remaining 'Rural A' zone area in *Local Planning Scheme No. 2*. In view of its objectives to retain biodiversity and manage and minimise water quality impacts on both the Jandakot Groundwater Mound and drainage catchment of the Peel - Harvey Estuarine System.

There are a number of agricultural businesses operating under non-conforming uses rights within areas set aside for future urban development or in localities where environmental legislation has changed over the past decades meaning that the use may no longer be appropriate if new approval was sought today. These uses may ultimately seek to relocate away from constraints but efforts should be made by the City to seek to incorporate these uses into Service Commercial areas where possible.

#### **Direction**

To review the City's rural land use with a view to medium and long-term opportunities.

#### **Actions**

- 21. Undertake a Rural Study to determine how the following matters can be managed under the City's planning framework:
  - investigate planning measures that will protect the amenity of the rural landscape:
  - minimise land use conflicts at the interface between urban and rural land uses;
  - consideration of land use interface issues with the Shire of Serpentine Jarrahdale, City of Cockburn and City of Rockingham; and
  - review the City's landscape protection zone to improve its capacity to prioritise and retain environmentally significant areas.
- 22. Investigate options for the ongoing agricultural uses operating under non-conforming use rights.
- 23. Investigate the future of the remaining 'Rural A' zoned land in the Local Planning Scheme.

# ENVIRONMENT

#### 4.12 Local Natural Areas, Landscape and Ecological Linkages

Bushland, wetlands and landscape features contribute significantly to the character and quality of life within the City's urban and rural areas, and also provide important habitats to sustain unique ecosystems.

Prior to European settlement there was nearly 12,000ha of native bushland (including wetlands) within the City, of which approximately 45% remains (20% of which is protected through *Bush Forever* and State Government conservation reserves).

The City of Kwinana's population and housing forecasts indicate significant growth over the next 15 years. This will place considerable pressure on the local environment and present ongoing challenges associated with the retention of bushland, wetlands and landscapes if not properly managed.

#### 4.13 Local Biodiversity Strategy

The City's Local Biodiversity Strategy 2023 is intended to protect the City's bushland and wetlands from the anticipated development and population pressures so that current and future generations can appreciate the City's natural environment and biodiversity.

A number of actions identified in the Local Biodiversity Strategy have been included in the Local Planning Strategy to inform and influence the City's planning framework as it applies to vegetation protection and biodiversity considerations.

#### 4.14 Planning Area 3

There is a large area of bushland (and wetlands) in excellent condition on Lot 123 Mortimer Road which contains a diverse range of rare or threatened flora, fauna and ecological communities. Lot 123 Mortimer Road, Casuarina has been identified as Planning Area 3 in the Local Planning Strategy map to ensure that the environmental values of the site are recognised during subsequent stages of the planning process.

#### 4.15 Urban Forest Strategy

The City's leafy suburban character needs to be protected and enhanced to

- ensure high quality bushland remnants are prioritised for retention as part of any structure planning for new areas;
- enhance and retain tree canopy cover to cool residential streets and open spaces during extreme heat;
- provide shade to encourage walking and cycling, create leafy neighbourhoods, and enhance local biodiversity;
- promote the retention of street trees by the community and raise community awareness and encourage community participation in biodiversity protection;
- require all new industrial and commercial developments to retain existing trees and plant mature trees where appropriate;
- identify, protect and restore ecological corridors; and

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 outline revegetation, restoration and landscaping standards expected of developers, and requirements for other landscape elements to strengthen connections.

The City of Kwinana has an established street tree planting policy which has been in place since 1992 and has contributed to an 8% increase from bare ground to green cover since 2016 and is an important ongoing program to retain and where possible expand tree canopy cover. An Urban Forest Strategy is required to provide a coordinated approach to maintaining and improving the City's tree cover and will seek to explore further opportunities beyond the street tree planting policy to achieve this objective.

#### 4.16 Ecological Linkages

Ecological Linkages connect locally and regionally significant natural areas and provide stepping stones for flora and fauna. Ecological connectivity is vital to the long-term viability of native flora and fauna, and is recognised as one of the most effective tools available for conserving biodiversity. A number of ecological linkages are identified in the *Local Biodiversity Strategy* (2023).

Further investigation is required to identify the ecological linkages and ensure they are protected through the City's planning framework.

#### 4.17 Bushfire Management

The majority of rural land within the City is classified as bushfire prone. Land use and development in rural areas therefore needs to respond to the threat of bushfire, balancing the potential impact of bushfire risk management regimes on the environment and natural resources.

Specific planning and building requirements apply to developments within designated bushfire prone areas in accordance with the *Planning and Development (Local Planning Schemes) Regulations 2015* and State Planning Policy 3.7 Planning in Bushfire Prone Areas. The City of Kwinana has a responsibility to ensure sensitive or potentially hazardous land uses do not increase the risks on life and property.

#### **Direction**

 To identify, permanently protect and enhance the City of Kwinana's natural environment which is critical to the maintenance of ecological processes and biodiversity.

#### **Actions**

- Advocate for the inclusion of areas of significant environmental value within the Parks and Recreation reserve in the Metropolitan Region Scheme.
- 25. Advocate to the Federal and/or State Government for the protection, and where appropriate, management of nationally or regionally significant areas.
- Review the Local Biodiversity Strategy (2023) and undertake further investigation to identify local natural areas to be protected through the City's planning framework, in particular within ecological linkages.

- 27. Review all public open space under the management of the City of Kwinana to ensure vesting is consistent with conservation objectives (Local Reservation categorisation, Management Orders and title classification).
- 28. Ensure that the environmental values of Lot 123 Mortimer Road are recognised during subsequent stages of the planning process.
- 29. Prepare and implement an Urban Forest Strategy for the City of Kwinana to:
  - retain and improve our streetscapes and open spaces, preserving the trees and greenery that makes the City of Kwinana unique;
  - maintain and enhance the natural environment through sustainable protection and conservation;
  - enhance and retain tree canopy cover to cool residential streets and open spaces during extreme heat;
  - provide shade to encourage walking and cycling, create leafy neighbourhoods, and enhance local biodiversity;
  - require all new industrial and commercial developments to retain existing trees and plant mature trees where appropriate; and
  - outline revegetation, restoration and landscaping standards expected of developers, and requirements for other landscape elements to strengthen connections.

#### 4.18 Climate Change Mitigation and Adaptation

The south-west of Western Australia is particularly vulnerable to the impacts of climate change, including:

- increases in average annual temperatures, leading to an increase in the number and severity of heatwaves and an increase in the number of high fire risk days and potential severe bushfires;
- reductions in average annual rainfall, causing environmental stress and potential death of native vegetation;
- sea level rise, with increased erosion along coastal areas and potential inundation of low-lying coastal areas during severe storm events; and
- changes in the frequency and severity of storm events with a predicted trend for an increase in extreme events.

The City of Kwinana recognises its responsibility to act on climate change and has adopted a Climate Change Plan (2021-2026). The major climate change risks relevant to the City of Kwinana's operations identified in the Climate Change Plan are temperature change, reduced rainfall, rising sea levels and extreme weather events.

With an increasing population, climate change adaptation and improving community resilience will be an important part of land use and infrastructure planning within the City. The City of Kwinana is concerned about the increasing impact of the urban heat island effect, which is exacerbated by vegetation clearing for development and road expansion. Strategies to reduce the heat island effect can include increasing landscaping and tree canopy cover.

Reduced water availability is being addressed through the City of Kwinana's *Water Plan 2024-2028*. The following goals for water use reductions are set out in the plan:

- maintain scheme water use within 5% on 2016/17 levels by 2027;
- maintain groundwater abstraction below 90% of allocation until 2027; and
- maintain residential water use below the Waterwise Perth Action Plan target of 110kL/capita until 2026.

Significant climate modelling work has been undertaken by agencies such as CSIRO and robust trend data has been established to support the case to adapt settlements to cope with expected changes in sea level, temperature, rainfall, bushfire and storm events and to determine suitable responses to enable this. This has implications for the City as the coast will be subject to rising sea levels and there are areas that are prone to bushfire.

The City's Environmental Strategy considers all environmental priorities for the City from a climate perspective and will identify priority actions to deliver on environmental targets.

#### Direction

 Promote planning measures that encourage climate change adaptation and mitigation to ensure our communities are both resilient and liveable.

#### **Actions**

- 30. Prepare a sea level rise policy based on the adaptation options for vulnerable areas outlined in the Cockburn Coastal Vulnerability Values and Risk Assessment to enable land use planning to respond to coastal hazard risks.
- 31. Implement planning mechanisms that support the outcomes of the City of Kwinana's Climate Change Plan.

### **INFRASTRUCTURE**

#### 5. INFRASTRUCTURE

#### 5.1 Transport

Typical of Perth's outer suburbs, residential and commercial development within Kwinana is low density and spread out and Kwinana's residents are dependent on private vehicles to travel to schools, shops, services, employment and recreation.

An integrated transport network to distribute traffic and to provide linkages to other parts of the metropolitan region is crucial for the residents of Kwinana.

The City aims to make it safer and more convenient for all residents of varying incomes, needs and abilities to walk, cycle, use public transport and drive within Kwinana on an integrated network of paths, roads and public transport routes.

Access to regional roads and the freight rail network also provides opportunities for industries, businesses and the future Westport Outer Harbour to be well-connected to markets and suppliers.

#### Cycling and Walking

The City's Bike and Walk Plan (2018) is intended to provide a safe network of cycle routes and walking paths that are convenient for people of all ages and abilities to ride or walk to local destinations such as schools, shops, parks, bushland, bus stops and train stations.

The Bike and Walk Plan integrates the local network of cycling routes and walking paths with the regional cycling and walking network to connect with areas beyond Kwinana.

The Local Planning Strategy draws upon the Bike and Walk Plan to prioritise pathways that support and link activity centres.

#### **Metronet and Transperth**

The City of Kwinana is serviced by the Mandurah Train Line, stopping at Kwinana Train Station and Wellard Train Station.

The Kwinana Train Station is located to the north and west of the nearest residential and commercial zones, reducing its local catchment by at least 50%. This creates a high demand for the park 'n' ride service even from the surrounding residential development. The Local Planning Strategy seeks to support access to the train stations by advocating for more frequent bus connections to the trains station and a greater diversity of housing around train stations.

#### **Freight Network**

The movement of freight through the City of Kwinana provides essential economic benefits to the overall Western Australian economy and is a key consideration in terms of the overall efficiency and safety of the Western Trade Coast and Westport.

The efficiency of freight movement is reliant on the provision of designated road and rail corridors that are separated from local traffic and are not restricted due to their potential impact on the amenity of incompatible land uses.

The Local Planning Strategy aims to manage land use conflict in the vicinity of the freight corridors by designating adjoining land use appropriately and by also ensuring sensitive land uses are adequately buffered from vehicle noise and vibration impacts.

#### **Dampier Bunbury Natural Gas Pipeline Corridor**

The DBNGP corridor is an area of land that houses the high-pressure gas pipelines which supplies gas to heavy and light industry consumers, electricity generation and homes within Western Australia. The DBNGP is shown on the Infrastructure Map.

The greatest risk to high-pressure gas pipelines and to the public is damage by persons unfamiliar with the requirements for safe working practices around high-pressure gas pipelines. Development within the corridor is regulated by the Department of Planning Lands and Heritage. DPLH must be contacted before any works are conducted within the DBNGP corridor.

#### **Autonomous, Electric vehicles and Ride Share Services**

It is anticipated that there will be an increasing transition towards electric vehicles and automated vehicles within the next five to ten years. The uptake of electric vehicles in the future will have significant implications for future transport planning. Considerations for Kwinana include requirements for electric vehicle charging facilities in new developments, and decreased requirements for public and private car parking spaces as the car share economy grows.

In the long term, driverless shuttles are likely to be able to support residential connections to train stations, maybe replacing residential coverage bus services to train stations. This is true even where low density residential development is retained.

#### **Direction**

 To create a well-connected community with a safe, high-quality, integrated, multimodal transport network that makes it easy, safe and convenient for our community to access activity centres, schools, services, recreation and entertainment facilities.

#### **Actions**

- 32. Create a safe network of shaded cycle routes, walking paths and recreational trails in accordance with the City of Kwinana's Bike and Walk Plan that connect people with activity centres, schools, services, recreation and entertainment facilities.
- 33. Advocate for the Public Transport Authority to improve public transport services within the City including bus sizes, scheduling (late night) and route planning.
- 34. Review planning requirements within the Local Planning Scheme for onsite car parking and end of trip facilities for the purpose of:
  - supporting a transition to more sustainable forms of transport;
  - ensuring new commercial and mixed-use developments make electric vehicles and active travel modes (cycling/walking) a more attractive travel option;
  - · ensuring electric vehicle charging facilities are provided in new developments; and
  - decrease requirement for public and private car parking spaces as the car share economy grows.
- 35. Protect Strategic Freight Routes from sensitive and incompatible land uses whilst mitigating the impacts of freight movements on the community, local roads and the environment.

- 36. Continue the cooperative arrangements between the State Government, Western Power and the City of Kwinana to progressively replace the overhead electricity distribution network in residential areas with underground power and support the development of a new approach to identifying and prioritising areas for investment in underground power, particularly in areas with a high electricity network need and lower economic capacity. The approach should also ensure the City's valued tree lined streets are protected and improve the character of the the City's residential areas.
- 37. Explore options to protect the alignment of the Tramway Trail (identified on the Infrastructure Plan) through the City's planning framework.
- 38. Advocate for the duplication of Anketell Road (east and west of the Kwinana Freeway) to be delivered as a priority of the Westport outer harbour freight route, to ensure the amenity of the City's local road network is protected.

#### 6. PLANNING AREAS

There are four Planning Areas identified in the Local Planning Strategy which warrant individual recognition in the Local Planning Strategy.

The intention of identifying planning areas is to provide an opportunity to specify planning directions and actions to manage the land use change and development of that area.

The Planning Areas are summarised in Figure 5 below:

Figure 5: Summary of Planning Areas

rigi		ry of Planning Areas				
	Planning Area	Planning Direction	Action			
1.	Wellard East Planning Investigation Area	Recognise and strengthen Kwinana's unique cultural, natural and built identity to foster a sense of place in existing and future residential areas.	Request that the future district structure plan for the Wellard East Planning Investigation Area addresses the following matters:  • preparation of a district water management plan to protect and manage water resources including minimising impact from nutrient loads and potential downstream impacts on wetlands and the Serpentine River;  • disturbance to wetlands due to the filling of the Palusplain;  • issues concerning the management of water quality and water quantity; and  • modifying the boundary of the Wellard East Planning Investigation Area to exclude existing conservation reserves.			
2.	Freeway Interchange Planning Investigation Area	To create diverse employment opportunities for local residents and maintain sustained economic growth by ensuring that suitable serviced employment land is available.	Consideration is to be given to the following matters during subsequent stages of planning in Planning Area 2 (Thomas Road - Kwinana Freeway Interchange):  • integration with the Kwinana Train Station; • regionally and locally significant environmental values; • proximity to the service commercial area and neighbourhood centre on the eastern side of the Thomas Road - Kwinana Freeway interchange; • short-term accommodation and conference centre options; and • traffic flow and safety of the transport network.			
3.	Environmental Investigation Area	To identify, permanently protect and enhance Kwinana's natural environment which is critical to the maintenance of ecological processes and biodiversity.	Ensure that the environmental values of Lot 123 Mortimer Road are recognised during subsequent stages of the planning process.			
4.	Character Investigation Area	Recognise and strengthen Kwinana's unique cultural, natural and built identity to foster a sense of place in existing and future residential areas.	Develop a design policy to strengthen the City's focus on built form and assist in the assessment of development in the context of the existing site and surrounds.      Review the City of Kwinana's Medina Neighbourhood Centre Revitalisation Strategy and Residential Design Guidelines 2009 (Local Planning Policy to ensure new developments complement and enhance the character of the area.			

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#### 7. IMPLEMENTATION TIMEFRAME

Implementation and review of the Local Planning Strategy is fundamental in ensuring that the Actions are implemented, and that the Local Planning Strategy continues to be relevant and contemporary.

A comprehensive review of the local planning scheme and strategy will be undertaken every five years in the form of a report of review, which will include a basic assessment of the status of all of the actions from the local planning strategy to confirm whether actions are either completed, in progress, not commenced or no longer relevant; and

Amendments to the Local Planning Strategy and scheme may be required to assist the implementation of the Local Planning Strategy.

Figure 6 below provides a timeframe for implementing each of the Actions in the Local Planning Strategy.

Figure 6: Implementation Timeframe

	DIRECTIONS and ACTIONS IMPLEMENTATION TIMEFRAME					
	ACTIONS	IMPLEMENTATION TIMEFRAME Immediate (less than 1 year)				
		Short term (1-5 years) Medium term (5-10 years) Long term (10-15 years)				
	COMMUNITY					
1.	Prepare precinct structure plans for the City Centre, District and Neighbourhood centres:	Ongoing				
	<ul> <li>providing diverse housing within walkable catchments for the City Centre, District Centre and Neighbourhood Centres;</li> <li>supporting a mix of land uses to activate and</li> </ul>					
	<ul> <li>enhance the viability of these centres; and</li> <li>optimising accessibility to and around activity centres via cycle routes and walking paths.</li> </ul>					
2.	Encourage a variety of housing types suitable for the changing needs of the community, dispersed within walkable distance of activity centres, including:	Ongoing				
	<ul> <li>smaller and accessible dwellings for an aging population and people with disabilities;</li> <li>larger houses for extended families and other household</li> </ul>					
	<ul> <li>types; and</li> <li>supporting initiatives geared towards the provision of special needs housing including good quality - affordable housing, social housing and housing for the age.</li> </ul>					
3.	Develop a design policy to strengthen the City's focus on built form and assist in the assessment of development in the context of the existing site and surrounds.	Short term				
4.	Review the City of Kwinana's Medina Neighbourhood Centre Revitalisation Strategy and Residential Design Guidelines 2009 (Local Planning Policy to ensure new developments complement and enhance the character of the area.	Short term				
5.	Develop planning controls that implement best practice sustainable development principles for climate responsive site and building design, energy efficiency, waste recycling and water management.	Short term				
6.	Include appropriate provisions in the planning framework to ensure that subdivision and development is site responsive, incorporates site features, includes interconnected grid based road and active transport networks that maximise connectivity, accessibility, choice, and legibility, and are aligned to take advantage of views and create vistas to important buildings and spaces.	Short term				
7.	Maintain and enhance the appearance and treatment of gateway points into Kwinana and their importance in contributing to character and identity (Rowley Road, Anketell Road, Thomas Road, Mortimer Road, Gilmore Road and Rockingham Road).	Ongoing				
8.	Request that the future district structure plan for the Wellard East Planning Area addresses the following matters:	Ongoing				

	<u> </u>	
	<ul> <li>preparation of a district water management plan to protect and manage water resources including minimising impact from nutrient loads and potential downstream impacts on wetlands and the Serpentine River;</li> <li>disturbance to wetlands due to the filling of low lying land; and</li> <li>modifying the boundary of the Wellard East Planning Investigation Area to exclude existing conservation reserves.</li> </ul>	
9.	Promote cultural heritage and history through the design of public open space, public facilities and public art to foster a sense of belonging and connection.	Ongoing
10.	Investigate prospects for coastal recreation opportunities having regard to the future Westport Outer Harbour whilst recognising the potential impacts of sea level rise.	Medium Term
11.	Undertake a study to determine feasible sites for the location of a regional recreational facility within the City of Kwinana.	Short term
	ECONOMY	
12.	Facilitate strategic land use planning in the Western Trade Coast to enable an ongoing supply of industrial land to cater for employment in Kwinana.	Short term
13.	Undertake a joint project with the City of Cockburn and City of Rockingham to review aspects of the City's Local Planning frameworks (including planning scheme and policies) to determine if the zoning, land use permissibility and development standards that can be applied consistently across the Western Trade Coast.	Short term
14.	Review and adopt the City of Kwinana's Postans Study with consideration to land requirements for light industrial and service commercial land uses and the future of the Medina Light Industrial complex.	Medium term
15.	Prepare and implement a City Centre Precinct Structure Plan to:  optimise the potential of the City Centre as a key location for retail, restaurant, entertainment (night and day), arts, childcare, housing, education, health services, social services and short-term accommodation;  allow for education and training needs of the community within the City Centre  investigate options for high density residential development and short-term accommodation;  review the design of Chisham Avenue as a Main Street;  investigate the potential for strategic sites within the City Centre to lead investment and redevelopment within Kwinana;  differentiate the City Centre by creating and enhancing links to the local bushland and open spaces; and  develop advocacy and partnership plans to support City Centre development.	Immediate term
16.	Prepare a master plan for the Bertram Neighbourhood Centre to provide a framework for public realm improvements including pedestrian access, disability access, car parking, landscaping, street furniture, wayfinding and the design of public spaces.	Short term
17.	Rezone the following local centres in the local planning scheme to enable redevelopment:  Calista local centre – rezone the site to mixed use. Summerton Road - rezone the site to residential development.	Short term

S	Consideration is to be given to the following matters during subsequent stages of planning in Planning Area 2 (Thomas Road - Kwinana Freeway Interchange):  • integration with the Kwinana Train Station;  • regionally and locally significant environmental values;  • proximity to the service commercial area and neighbourhood centre on the eastern side of the Thomas Road - Kwinana Freeway interchange;  • short-term accommodation and conference centre options; and  • traffic flow and safety of the transport network.	Short term
e 3 3	nvestigate opportunities for eco-tourism within Kwinana to provide employment opportunities and promote environmental stewardship as part of the City of Kwinana's future Economic Development Strategy, including the development of an eco-tourism centre alongside established natural attractions such as The Spectacles, Kwinana Loop Trail, Tramways Trail and the Wildflower Walk.	Long term
t	Advocate for the establishment of training facilities within Kwinana o provide semi- professional and trade training for the defence ndustry and other industries with the Kwinana Industrial Area.	Medium term
	<ul> <li>Jndertake a Rural Study to determine how the following matters can be managed under the City's planning framework:</li> <li>investigate planning measures that will protect the amenity of the rural landscape;</li> <li>minimise land use conflicts at the interface between urban and rural land uses;</li> <li>consideration of land use interface issues with the Shire of Serpentine Jarrahdale, City of Cockburn and City of Rockingham; and</li> <li>review the City's landscape protection zone to improve its capacity to prioritise and retain environmentally significant areas.</li> </ul>	Short term
	nvestigate options for the ongoing agricultural uses operating under non-conforming use rights.	Short term
	nvestigate the future of the remaining 'Rural A' zoned land in the Local Planning Scheme.	Short term
	ENVIRONMENT	
V	Advocate for the inclusion of areas of significant environmental value within the Parks and Recreation reserve in the Metropolitan Region Scheme.	Ongoing
ŗ	Advocate to the Federal and/or State Government for the protection, and where appropriate, management of nationally or regionally significant areas.	Ongoing
f t	Review the Local Biodiversity Strategy (2023) and undertake further investigation to identify local natural areas to be protected through the City's planning framework, in particular within ecological linkages.	Short term
h c	Review all public open space under the management of the City of Kwinana to ensure vesting is consistent with conservation objectives (Local Reservation categorisation, Management Orders and title classification).	Medium term
28. E	Ensure that the environmental values of Lot 123 Mortimer Road are recognised during subsequent stages of the planning process.	Short Term

	T	
29.	Prepare and implement an Urban Forest Strategy for the City of Kwinana to:  • retain and improve our streetscapes and open spaces,	Immediate term
preserving the trees and greenery that makes Kw unique;		
<ul> <li>maintain and enhance the natural environment th sustainable protection and conservation;</li> <li>enhance and retain tree canopy cover to cool resident streets and open spaces during extreme heat;</li> </ul>		
	<ul> <li>provide shade to encourage walking and cycling, create leafy neighbourhoods, and enhance local biodiversity;</li> <li>require all new industrial and commercial developments to retain existing trees and plant mature trees where appropriate; and</li> </ul>	
	outline revegetation, restoration and landscaping standards expected of developers, and requirements for other landscape elements to strengthen connections.	
30.	Prepare a sea level rise policy based on the adaptation options for vulnerable areas outlined in the Cockburn Coastal Vulnerability Values and Risk Assessment to enable land use planning to respond to coastal hazard risks.	Immediate term
31.	Implement planning mechanisms that support the outcomes of the City of Kwinana's Climate Change Plan.	Short term
	INFRASTRUCTURE	
32.	Create a safe network of shaded cycle routes, walking paths and recreational trails in accordance with the City of Kwinana's Bike and Walk Plan that connect people with activity centres, schools, services, recreation and entertainment facilities.	Ongoing
33.	Advocate for the Public Transport Authority to improve public transport services within the City including bus sizes, scheduling (late night) and route planning.	Ongoing
34.	Review planning requirements within the Local Planning Scheme for onsite car parking and end of trip facilities for the purpose of:  • supporting a transition to more sustainable forms of	Short term
	transport;  ensuring new commercial and mixed-use developments make electric vehicles and active travel modes (cycling/walking) a more attractive travel option;	
	ensuring electric vehicle charging facilities are provided in new developments; and     decrease requirement for public and private car parking spaces as the car share economy grows.	
35.	Protect Strategic Freight Routes from sensitive and incompatible land uses whilst mitigating the impacts of freight movements on the community, local roads and the environment.	Ongoing
36.	Continue the cooperative arrangements between the State Government, Western Power and the City of Kwinana to progressively replace the overhead electricity distribution network in residential areas with underground power and support the development of a new approach to identifying and prioritising areas for investment in underground power, particularly in areas with a high electricity network need and lower economic capacity. The approach should also ensure Kwinana's valued tree lined streets are protected and improve the character of the Kwinana's residential areas.	Short term

37.	Explore options to protect the alignment of the Tramway Trail (as	Short term
	identified on the Infrastructure Plan) through the City's planning	
	framework.	

#### **REFERENCES**

#### City of Kwinana documents

- Access and Equity Policy (2015)
- Bike and Walk Plan (2018)
- City of Kwinana Health and Wellbeing Profile (SMPHU, 2013)
- Climate Change Plan 2021-2026
- Community Infrastructure Plan (2011 2031)
- Disability Access and Inclusion Plan (2019 2021)
- Employment and Economic Analysis (ID, 2020)
- Heritage List 2021
- Kwinana City Centre Master Plan (2019)
- Kwinana Parks Upgrade Strategy (2019 2029)
- Kwinana Town Centre Master Plan and Design Guidelines
- Local Biodiversity Strategy (2023)
- Local Commercial and Activity Centres Strategy (2023)
- Local Heritage Review (2021)
- Local Housing Study (City of Kwinana, 2019)
- Local Planning Policy Development within the Special Rural Zones
- Local Planning Policy Public Open Space
- Local Planning Policy No. 1 Landscape Feature and Tree Retention (2016)
- Local Planning Policy No. 2 Streetscapes
- Local Planning Policy No. 4 Administration of Development Contributions
- Local Planning Policy No. 5 Development Contribution Towards Public Art
- Local Planning Policy No. 8 Designing Out Crime (City of Kwinana, 2018)
- Local Planning Policy No. 11 Site Requirements and Standards for Development within Industrial Zones
- Medina Neighbourhood Centre Local Structure Plan (2012)
- Multicultural Action Plan 2017 2020
- Postans Precinct Study (Urbanplan, 2011) Public Art Masterplan (2009)
- Public Health Plan (City of Kwinana, 2019 2023)
- Residential Design and Subdivision Guidelines (2009)
- Sustainable Water Management Plan (2018)
- Strategic Community Plan (2021 2031)
- Sustainability Framework 2023
- Integrated Land and Transport Strategy (Cardno, 2020)

#### Other documents

- Affordable Housing Action Plan 2010-2020 (WA State Government)
- Better Urban Water Management
- Bicycle Network Plan (Department of Transport, 2017)
- Bush Forever (WA State Government, 2000)
- Comprehensive Health Needs Assessment for the Perth South Coastal Region (Perth South Coastal Medicare Local, 2014)
- Economic Development and Employment Lands Strategy (WAPC)
- Environmental Protection Policy (Kwinana) (Atmospheric Wastes) Policy 1999
- Environmental Protection Peel Inlet Harvey Estuary Policy 1992
- Fremantle Rockingham Industrial Area Regional Strategy (WAPC, 1999)
- Investigation Areas Update (WAPC, 2022)
- Liveable Neighbourhoods (WAPC, 2009)
- Local Planning Manual (WAPC, 2010)

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- Local Planning Strategy Guidelines (WAPC, 2023)
- Draft Liveable Neighbourhoods (WAPC, 2015)
- Perth and Peel@3.5million The Transport Network (Department of Transport, 2018)
- Perth and Peel@3.5million Planning Investigation Areas Update (WAPC, 2022)
- Pathway to a Healthy Community A Guide for Councillors' (DoH, 2010)
- Perth and Peel @ 3.5 million (WAPC, 2018)
- Postans Precinct Study Structure Plan Report (Urbanplan, August 2011)
- Draft Improvement Plan 47: Mandogalup Land Supply and Demand Analysis. Department of Planning Lands and Heritage (Pracsys (2021)
- Mandogalup Westport Analysis Briefing Note. Department of Planning Lands and Heritage (Pracsys (2021)
- Southern Metropolitan Peel Sub-regional Planning Framework (WAPC, 2018)
- WA Bicycle Network Plan (DoT, 2020)
- State Planning Policy No. 1 State Planning Framework (WAPC, 2017)
- State Planning Policy No. 2.3 Jandakot Groundwater Protection (WAPC, 2017)
- State Planning Policy No. 2.5 Rural Planning (WAPC, 2016)
- State Planning Policy No. 2.6 State Coastal Planning (WAPC, 2013)
- State Planning Policy No. 2.7 Public Drinking Water Source (WAPC, 2003)
- State Planning Policy No. 2.8 Bushland policy for the Perth Metropolitan Region (WAPC, 2010)
- State Planning Policy No. 2.9 Water Resources (WAPC, 2021)
- State Planning Policy No. 3.0 Urban Growth and Settlement (WAPC, 2006)
- State Planning Policy No. 3.7 Planning in Bushfire Prone Areas (WAPC, 2015)
- State Planning Policy No. 4.1 State Industrial Interface (WAPC, 1997)
- State Planning Policy No. 4.2 Activity Centre for Perth and Peel (WAPC, 2023)
- State Planning Policy No. 5.4 Road and Rail Noise (WAPC, 2009)
- State Planning Strategy 2050 (WA State Government, 2014)
- Visual Landscape Planning in Western Australia (WAPC, 2008)
- Walking and Riding and Access to Public Transport (Australian Government, 2013)
- Western Australian Bicycle Network Plan (Department of Transport, 2017)
- A review of the practice and legacy of Australian planning pioneer Margaret Feilman (Amanda Davies and Julie Brunner, Australian Planner, 2017)
- New Town in the Bush: Planning Knowledge Transfer and the Design of Kwinana, Western Australia (Ian MacLachlan and Julia Horsely, Journal of Planning History, 2015)





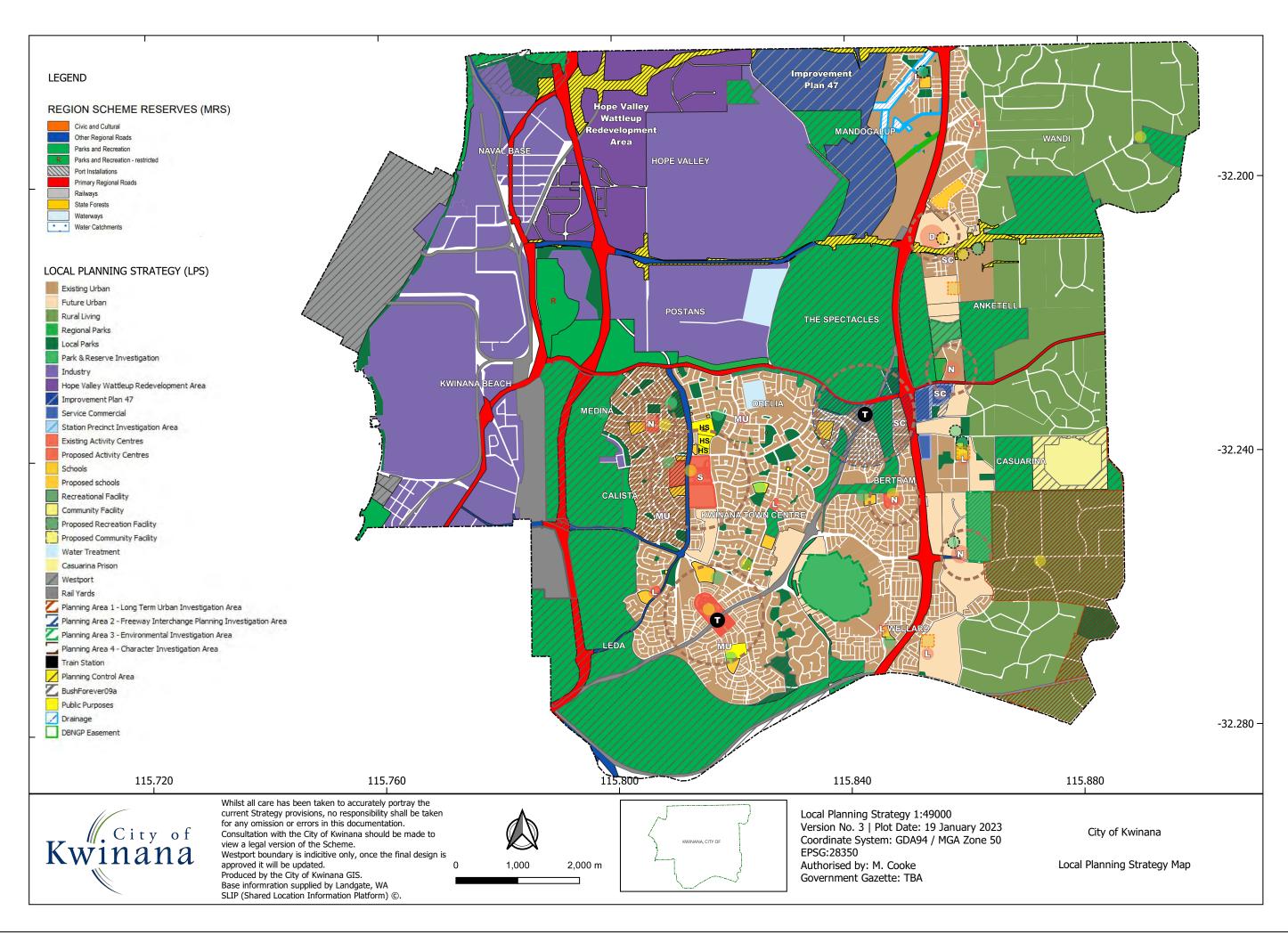
### ADMINISTRATION

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Item 17.5 - Attachment B

# **Schedule of Submissions**

	Submitter Name and Property	Comment	City's Response
1.	Alisha	Oppose Urban Investigation East Wellard  I live in Rural Wellard and am feeling a little disappointed in the "investigation area" for proposed urban development. I understand not all of Wellard is affected, my property is just on the edge of the investigation area. I'd like to think that there will still be "pockets" of land where the houses are not built on top of each other, where people have room to move. It's left me feeling uncertain and unsettled to think that we one day this area that we all chose to live in as a "lifestyle" area will one day be a treeless, concrete jungle.	If Urban development proceeds the City will endeavour to protect areas of environmental significance and areas of public open space in the district and local structure plans.  The draft LPS identifies East Wellard as an Urban Investigation area in accordance with the State Government's South Metropolitan Peel Subregional Planning Framework (WAPC, March 2018) and Planning Investigation Areas Update (WAPC, September 2022).  The term Urban Investigation means that further investigations are needed to determine where future urban development within this area could possibly occur. While the draft Strategy is required to reflect what is proposed by the State, the City has included the following Action:  "Advocate for the future planning of Planning Area 1 (Wellard East) to address matters including, but not limited to:  protection and management of water resources; disturbance of wetlands; water quality; and evented to the Wellard East Planning Investigation Area."
2.	priyanga_sanjeewanie	Support Urban Investigation East Wellard  I strongly support the draft Local Planning Strategy of City of Kwinana and Urban Investigation in to PA1 area to zone it as Urban to better utilise the land that support future growth in City of Kwinana and the Western Australia.	Noted
3.	Keith and Eliza Whiteman 136 Nicolas Dr Casuarina	Support Urban Investigation East Wellard  We are in favour of any developments to this area in the future.	Noted

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# **Schedule of Submissions**

4.	Ellen & James Park	Support Urban Investigation East Wellard	Noted
	5 Melaleuca Close Casuarina	We are in complete agreement with changing from rural to urban development. We have personally seen the development around the Canningvale Prison now known as Hakea, from rural to urban and it has worked perfectly and enhanced the suburb.  Also, after seeing the way Kwinana Shire has high standards with their urban development and their commitment to planting new verge trees on every block we have no hesitation in supporting future development of all Casuarina.	
5.	Filip Jukic	Support Urban Investigation East Wellard	Noted
	296 Mortimer road, Wellard	I am of the opinion that the land in East Wellard is excellent for Urban development, therefore in favor for change of zoning.	
6.	Jenny Lee	Support Urban Investigation East Wellard	Noted
	Lot 503 McKeig Rd Wellard	We support the urban rezoning proposals as outlined in the booklet shown to us.	
		The support and answer support and assumed an area and an area and area area.	
	Ragence Investments P/L PO Box 846 Canning Bridge WA 6153		
7.	Michael Evans	Support Urban Investigation East Wellard	Noted
		As a property owner in the area for approximately 35 years I have seen how the area has changed from a sleepy back yard to a vital corridor for not only Perth but also the Kwinana town centre and the nearby industries. The Kwinana freeway, the Tonkin highway, the Perth to Mandurah rail line are all close proximities to the area. Byford is expanding at a very fast pace and the only place for Kwinana to grow is Eastward's, I have no objection's in re-zoning to urban as I and most people in the area are getting older and it would be a bonus if it was fast tracked as I approach retirement. I think it would be beneficial to the town centre as a larger population require more service's and not only to shop owner's.	
8.	L &S Levko	Support Urban Investigation East Wellard	Noted
	79 Born Road Casuarina	We welcome and support the proposal for the investigation/development in our area.	

# **Schedule of Submissions**

9. Kapila Amara	Support Urban Investigation East Wellard	Noted
	My vision is, WA become the economic powerhouse and most popular state of the country and, City of Kwinana is a key contributor to that and prosper from it. As a property owner within PA1, I strongly support the draft Local Planning Strategy of City of Kwinana. I particularly support the idea of rezoning PA1 as urban because that would help to address the emerging housing crises and support the population growth within the City of Kwinana and entire WA that support the economic growth. There is a significant area of land within PA1 that is underutilised. It is better we repurpose these lands and get maximum out of it.	

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#### Schedule of Submissions

10. Julie Phelps and Chris Unwin Oppose Urban Investigation East Wellard

171 Barker Rd WELLARD We definitely do not support the urban investigation which would likely lead to the destruction of the East Wellard rural residential area.

The significant number of layout boards at the community meeting showed a concerning, very progressed, concept plan, which is contrary to the current zoning. We did not purchase in a rural residential area, which was not slated for development considerations, to agree to this.

Even if people don't want subdivisions for their block, there is the threat of being forced out of homes they have built or established, by punitive rate increases likely with rezoning following urban investigation.

Unaffected blocks are also impacted due to amenity loss and being surrounded by the suburbia people have chosen not to buy into.

I love my large rural residential oasis. We bought here in Kwinana because of that special reason. We can work and commute, but still found a RR. We don't want to be forced further out.

People bought and built here for large blocks and the amenity provided by RR schemes. Our homestead style houses, chook yards, sheds and gardens won't fit into the tiny structure plan overlays.

Our security and confidence has been destroyed. There is no reason to put in a pool etc if neighbourhood turned into suburban hankie lots and we can't afford the rates.

It is also not clear what the unenclosed area on Barker, surrounded by investigation area would mean. Are these to be kept as 5-6 acres enveloped by 200-500m2 lots? With the quad bikes, animals and burning off associated with rural residential, this would create significant conflict with suburban expectations

I am also concerned by the poor transition planning. There is no graduation of lot sizes, just tiny wall to wall lots jumping to the 5 acre excluded area. Will these continue to be unsewered, rainwater lots or subject to forced expensive connections to services? Besides the residents, Our rural residential area is also a sanctuary for animals and birds. There are kangaroos, quendas, cockatoos and possums etc. There are very old, large trees with breeding hollows etc which would be bulldozed?

The draft LPS identifies East Wellard as an Urban Investigation area in accordance with the State Government's *South Metropolitan Peel Subregional Planning Framework* (WAPC, March 2018) and *Planning Investigation Areas Update* (WAPC, September 2022).

The term *Urban Investigation* means that further investigations are needed to determine where future urban development within this area could possibly occur. While the draft Strategy is required to reflect what is proposed by the State, the City has included the following Action:

"Advocate for the future planning of Planning Area 1 (Wellard East) to address matters including, but not limited to:

- protection and management of water resources;
- disturbance of wetlands;
- water quality; and
- extent of the Wellard East Planning Investigation Area."

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# **Schedule of Submissions**

11. Phil & Janice Gorman	Support Urban Investigation East Wellard	Noted
318 Nicolas Drive Casuarina 12 Nicolas Drive Casuarina	We have two properties in Casuarina one of which is in PA1 location and one in the already urban area Nicolas drive west. We are in strong favour of the development in the Casuarina area, as long as Mortimer road is upgraded and realigned between the Freeway and Born road as Mortimer Road will be the only major Road in and out of the area.	
12. Richard and Noelene Scott	Oppose Urban Investigation East Wellard  We are against the new proposal for 'Draft Local Planning Strategy 2021-2038' of the Wellard/Casuarina area.  I'm totally against where you have placed the school at the end of Nicolas Drive	The draft LPS identifies East Wellard as an Urban Investigation area in accordance with the State Government's South Metropolitan Peel Subregional Planning Framework (WAPC, March 2018) and Planning Investigation Areas Update (WAPC, September 2022).  The term Urban Investigation means that further investigations need to occur to determine where future urban development within this area could possibly occur. While the draft Strategy is required to reflect what is proposed by the State, the City has included the following Action:  "Advocate for the future planning of Planning Area 1 (Wellard East) to address matters including, but not limited to:  • protection and management of water resources; • disturbance of wetlands; • water quality; and • extent of the Wellard East Planning Investigation Area."
	west.	be determined as part of the local structure plan for the Casuarina South precinct.

#### Schedule of Submissions

13. Simon & Lisa Hill Casuarina

60 Lavery Drive,

Support Urban Investigation East Wellard

If one removes oneself from the equation and looks purely from a commonsense approach its obvious for the future generations that we need sustainable affordable housing for the greater Perth area.

We have over many years with a small population expanded across the state with a plenty of room mentality, unfortunately this has put significant strain on our infrastructure.

Our freeway in the afternoon and mornings is so heavily congested and with out more investment will simply get worse, this is common sense, we see the Freeway as you move toward the city move more freely as the major works that have been going on North and South of the river has had the desired effect.

From a selfish perspective we love our lifestyle and choose to live on our property because of its close proximity to the city and all the amenities it offers wit a magical rural atmosphere.

With that said people age and can move further out of the city if this is the lifestyle we wish to continue.

I have spent my entire working life in the Western Australian building industry and seen many changes in rural areas over the years, the developments have been great for the City of Perth, although generally hard to join all the dots and get collaboration between all stakeholders.

We have a small land holding that we love and understand at some point it will be developed and we are ok with that, it gives us as we move to retirement years opportunity to explore other lifestyles that may suit better as we age the beauty about this is it all comes with choice.

Thanks for taking the time to write we appreciate it and support development for the area.

Our one critique would be the Environmental reasons behind keeping the large part of virgin bush near the proposed school, to us that land is of no value and would be better served being used for community after all it is right in the middle of the Residential area often you see land like this unkept and a fire risk.

Noted

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#### Schedule of Submissions

14. Francesca & Ian Black

Oppose Urban Investigation East Wellard

147 Banksia Rd Wellard We are the residents at 147 Banksia Rd, Wellard and have been for close to 8 years. In that 8 years we have grown to love and appreciate the rare ecology that surrounds us. It is our preference that our property and the entire surrounding Semi-Rural/Special-Rural area including Lot 123 Mortimer Road, Casuarina site that is an already proposed residential development site stay zoned as Semi-Rural/Special-Rural (remains Rural Living) and be excluded from the Long Term Urban Investigation Area (in relation to the Draft Local Planning Strategy map) to protect both our way of life and the flora and fauna that make up this unique area.

In about 2018 the local residents (ourselves included) along with the CWPA and City of Kwinana campaigned quiet fiercely to try and put a stop to the progress of mining permit for the Banksia Road Nature Reserve (Lot 6 Banksia Rd, Wellard) to be turned into a silica sand mine by Hanson, the State Government and previous members of City of Kwinana, which would both destroy the reserve, an excellent example of the protected Banksia Woodlands of the Swan Coastal Plain and in research undertaken by Murdoch University and observed by the residents of the area on a daily basis provides vegetation used by both endangered Carnaby Black Cockatoos and Red Tailed Back Cockatoos for feeding foraging with several potential roosting sights been noted. So, there should be no mining in this area and neither should there be anymore residential development to help protect what little remains of this significant and fragile ecosystem and the fauna that reside therein.

In the fight against the silica sand mine, it was also brought to attention that in a neighbouring property there is a Threatened Ecological Community (TEC) and rare water feature which has a significant impact on water availability in the area. The feature is called a tumulus mound spring and is the largest south of the river in WA. Disrupting the local delicate surroundings, removing trees, and altering the topography of the area would have a detrimental impact on this feature and the ecology of the area so should be avoided at all costs as we need to protect what little remains where possible.

As well as the ecological significance of the area the residents of the area enjoy a certain quality of life that they have sought out. By keeping the zoning as it is it will protect the rural character of the area. Keeps traffic down and a peaceful atmosphere that we all enjoy by living amongst nature is an important reason to not re-zone the area for residential development.

Many of us love living amongst nature and do our best to protect and encourage the native flora and fauna in the area and hope that the different levels of

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### **Schedule of Submissions**

government would see the value in it and protect it by keeping Wellard Semi-Rural/Special-Rural zoned as such for decades to come. For it to remain for future generations to enjoy and appreciate would be a value much greater than any amount of money. Especially when there are many other areas more suitable and less ecologically significant to develop.

Please find below a list of links to websites and Facebook pages that demonstrate the overwhelming support by the local and broader community to keep the area untouched by mining and development and offer a good resource for information gathered by locals to support their wishes to keep the area a rural living and protect the environment around us.

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#### Schedule of Submissions

# 15. Lucie and Darren Wellington

Oppose Urban Investigation East Wellard

We are writing to submit our advise that we are strongly opposed to the proposed Long Term Urban Investigation to Planning Area 1 as outlined in the recent Workshop via City of Kwinana on June 11th.

The development of the area indicated in Planning Area 1 will have catastrophic impact on the environment, bushlands, wetlands, flora, fauna, ground water would be greatly affected and potentially wiped out completely.

Our block is home to rare protected flora. When we built our home in Semi Rural Wellard, we had to, and still have to meet strict guidelines with regards to building envelopes, eco systems, rain water collection and protecting the rare species of flora which were identified on our little piece of paradise. We have adhered to these and embrace the opportunity to retain biodiversity and to protect our very delicate environment. The current Local Planning Strategy for our area (PA1) goes against all of these.

Ecological Linkages connect locally and regionally significant natural areas and provide stepping stones for flora and fauna and is vital for long term viability of native flora and fauna, developing and Urban area here would impact these linkages.

We chose to live in this area because of the bushland and the natural environment - to live a healthier, quieter and more serene lifestyle.

Clearing of the land here would directly impact the Carnaby's Black Cockatoo's habitat. They feed on the seeds of the Banksia trees. The habitat of this Cockatoo is progressively destroyed by land clearing and their population is under threat

Bandicoots, snakes, goanna's, lizards all share our environment and are protected by us as a community, the flora, trees, ground covers, fallen logs etc. They live here in peace and thrive because of their surroundings. Clearing for Urban development will see their eventual demise.

Protected flora are thriving in the area, beautiful and rare orchids, kangaroo paws and other native plants. Clearing the area for Urban development progressively destroys their existence also.

Our Community Centre is already very accessible to the local community, providing a place where anyone can be a part of the many activities and groups running there.

The draft LPS identifies East Wellard as an Urban Investigation area in accordance with the State Government's *South Metropolitan Peel Subregional Planning Framework* (WAPC, March 2018) and *Planning Investigation Areas Update* (WAPC, September 2022).

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# **Schedule of Submissions**

I will also email a few of our many photo's for reference of some of the flora and fauna that live in this precious habitat.	
We do not agree to our area being developed into an Urban area and are 100% opposed to any Urban development here.	

# **Schedule of Submissions**

16.	Shane and Deidre Koenig	Support Urban Investigation East Wellard	Noted
	- D:	We understand that the urban investigation for a potential zone change to future	
	135 Lavery Drive Casuarina	urban is likely to take place in the coming years and this may lead to our 2 hectare property in Lavery Drive, Casuarina being part of this.	
	Casualilla	We are supportive of this change in zoning and the fact that it will ultimately	
		mean us relocating to another area to continue our large lot lifestyle.	
		Given other changes in land use within our proximity have taken 10 to 15 years to move from future urban to actual residential, we are not expecting these	
		changes to be imminent.	
17.	Brad & Emma Aldersea	Support Urban Investigation East Wellard	Noted
		We support the urbanisation of Casuarina.	
10	91 Born Road		
18.	B Carilyn	I would like to make a submission for a pathway that continues from Costco to Marripark Drive.	This is not a matter that can be resolved by the Local Planning Strategy.
		iviampark brive.	This matter has been referred to the City's engineering department for
			consideration.
19.	Zak	Support Urban Investigation East Wellard	Noted
		We would like to see the gradual transition from high density zones to rural.	
		We are on Mortimer Road so right in the middle of the zoning investigation and welcome the change. Smaller 1 or 2 acre lots would utilize the area more effectively.	
		Currently there are tiny houses build in the 80's sitting smack bang in the middle of 5 acres under utilizing the potential.	
		1 or 2 acres lots would still keep the bush land but optimize the area for more families to establish and create family friendly (& Animal Friendly) open spaces.	
		I welcome change and understand that this will upset a lot of the older generation that may have lived on farm land for most of their lives but we need to face the facts that Perth is growing and needs change to keep up with overloaded infrastructure.	
		I am personally happy to subdivide down to 1 or 2 acre lots and allow more families escape the rat race and enjoy what the bush has to offer without removing it all together.	

# **Schedule of Submissions**

20. johsel19690105@gmai l.com	I would like to see our area get improvements instead of broken pavements. A barren road scape and constant hooning.	This is not a matter that can be resolved by the Local Planning Strategy.
		This matter has been referred to the City's engineering department for consideration.
21. bibinkurian11@yahoo. com	New higher secondary schools in Wellard would be great. That was plan from land developer before.	A secondary school is planned for Casuarina South. The provision of adequate schools is the responsibility of the Department of Education.
		The Department of Education has advised that the future school sites appear to be well planned to support this residential growth within the short to medium term.
		Furthermore, the Department of Education has no in principle objections to the draft Strategy. The Department will continue to monitor residential growth and student demand of public schooling within the City and welcomes the opportunity to continue to work with the City to forward plan for the educational needs of the future student population in the long term.
22. Jack IIddell	I live in the Sunrise Estate in Wellard and we really need a bus over here. I have been here 7 years now and still no bus my stepson goes to school at Gilmore and he has to walk so much in the heat or the rain. A bus or some sort of public transport over here would be a big help	The local planning strategy includes an Action that states as follows:  Advocate for the Public Transport Authority to improve public transport services including bus sizes, scheduling (late night) and route planning.

# **Schedule of Submissions**

23. Larry & Glenda		Noted
Parsons 24 Nicolas Driv Casuarina	input into this process.  One comment I have is that there appears to be an urgent shortage of Urban Planning staff causing lengthy delays in development progress in the City, notably the Casuarina/Wellard area east of Kwinana Freeway. A lack of adequate staff means that the City relies on owners and property developers to bring proposals to the table rather than being proactively engaging and encouraging property owners to improve developable land.  A case in point is Lot 123 (165 Mortimer Road Casuarina) where the owner has	The City's role is implement and enforce relevant planning legislation to ensure that the City is developed in a proper and orderly.  It would be inappropriate for the City to act as a proponent or lobby for development.
	for years been trying to develop his strategically located 110-acre property, which will access roads and resource material (excess infill) needed in surrounding low lying properties. Working with the owner to overcome environmental concerns (rather than continued objections and obstacles) would get the area moving in regard to a shopping precinct and educational/sporting facilities, and the inevitable urban growth progression moving east along Mortimer Road.	
	My wife and I own an adjacent property along Nicolas Drive.	
	The area has been rezoned Urban 10 years ago (around September 2013 I think), yet nothing has progressed in that part of Casuarina along Mortimer Road. It is of course commendable to see growth along Thomas Road with the construction of the Costco retail development and the road upgrades.	
24. David	The City of Kwinana desperately need to consider the future of Australian Rules Football in the area. With the new facility in Baldivis and Hammond Park as well as Auskick moving to Honeywood, local footy will die a slow death. I am guessing the junior footy numbers are already declining. Kwinana desperately needs a modern 3 oval facility and the junior and senior clubs need to be at the same facility or merge. 10 years will be too late. Our geographical area already works against us, therefore we cannot wait 10 years for action.	This is not a matter that can be resolved by the Local Planning Strategy.  This matter has been referred to the City's Community's Team for consideration.
25. Josh	How about doing something about the massive pile of trash building up near the motorplex that blows dust all over the city when the winds easterly? On top of that why don't we have an air quality monitor that's visible to the public seeing as we live so close to a massive health hazard being the strip and on most days you can smell the caustic and other pollutants that we all know are slowly killing us.	This is not a matter that can be resolved by the Local Planning Strategy.

# **Schedule of Submissions**

26. Rozy	I have read through the plan and thought that overall it is quite good.  I have a couple of concerns regarding the plan.  1. When you discuss the parking in future, there was mention of reducing parking spaces, due to future car share trends. I am just really hoping that you do this very carefully, as Fremantle went down that road and put in very expensive parking with frequent parking fines being given. This had led to Fremantle being known as the parking nazi capital of our state (maybe the country) and has severely impacted the number of visitors to Fremantle over the last decade.  It would devastate Kwinana if the same thing happened here. one of the major draws of this area Kwinana and Rockingham, is the availability of free accessible parking. make sure you don't ruin that please.  2. Is there any plan to build a Senior Citizens Centre  It is a sorely needed community asset. Frankly the current center is a bit of a joke. Not the lovely people who currently run it, the beautiful volunteers. But the building and facilities available in this town for Senior Citizens and the Disabled are very lacking and with a growing population of elderly, this city really needs a purpose-built facility that can deliver excellent results for these people.  Have a look at the Autumn Centre in Rockingham, or the Cockburn Senior Citizens/ Community Centre. They are both wonderful facilities that enhance the local community to a great degree. Sadly, our current facility is very woeful.	The local planning strategy referred to the potential to decrease the number of public and private car parking spaces needed as the car share economy grows.  Any proposal to reduce the number of parking bays in the City's retail and commercial areas would only occur after careful consideration of the potential impacts and extensive community consultation.  This is not a matter that can be resolved by the Local Planning Strategy.  This matter has been referred to the City's Community's Team.
07 M I I I I I W II	M. C.	
27. Mark and Beth Wells  15 Lill Place Anketell	We are residents of the City of Kwinana, owning a residence in Lill Place and additionally having an interest in a property, along with other family members, in Mandogalup and located in the Improvement Plan 47 (IP47) area.  The IP47 area is adjacent to the Alcoa Residue Drying Area (RDA). The Western Australian Planning Commission (WAPC) is currently determining the land use for properties in the IP47 area with Industrial or Commercial being the suggestion for some sections of the IP47 area. The WAPC and the City of	Noted
	Kwinana have acknowledged there are structures in the IP47 that are of heritage value, most notably soldier-settler cottages in Mandogalup Road.	

#### Schedule of Submissions

The draft Local Planning Strategy includes Planning Area 2 which is noted on the map as Freeway Interchange Planning Area. We understand that a Commercial precinct is one of the possibilities for this area. If a commercial area is permitted in this location it will detract from the commercial viability of land zoned for this purpose in the draft WAPC IP47 scenario located a few kilometers away.

This will also run counter to the aims of the strategy of the City of Kwinana to "to make it more convenient for all residents to walk, cycle, use public transport and drive within Kwinana on an integrated network of paths, roads and public transport routes".

Planning Area 2 is located a short distance from the Kwinana Train station, with parts within walking distance of the train station and allied bus network. Surely a better designation for Planning Area 2 should be the same as Planning Area 1, Long Term Urban Investigation Area. The current State Government thinking is to promote as much residential housing as possible close to the rail network, as evidenced by this press release Applications open for \$80 million infrastructure fund to boost housing | Western Australian Government (www.wa.gov.au).

The City has prepared a Local Commercial and Activity Centre Strategy which advised that a multi-criteria analysis has been used to assess potential uses at the site.

The multi criteria analysis indicated that population driven uses are likely more suited to the location due to its proximity to passing traffic along the Kwinana Freeway, distance from other employment centres and the lack of current activity at the site.

Office-based uses are not recommended at this location. Should demand for these uses arise, it should be directed to the Kwinana City Centre to support increased activation during daytime hours. The site is suited to bulky goods and service commercial uses however there is a significant provision of these uses to the eastern side of the Kwinana Freeway with Costco as an important anchor tenant.

The City could consider retaining the area for commercial uses to cater for any overflow once the eastern side of the Kwinana Freeway has developed.

Given the importance of maintaining commercial land for employment uses, it is recommended the City reassess whether these uses are appropriate every five years.

The Thomas Road - Kwinana Freeway interchange (west and east of the Kwinana Freeway) has been identified as Planning Area 2 in the Local Planning Strategy to ensure that the following characteristics of the area are considered during subsequent stages of the planning process:

- the advantages of being located along the Kwinana Freeway including:
- good locational access across the Perth metropolitan area from the Perth Central Business District to Mandurah.
- the immediate traffic volumes passing the area on a daily basis along both the Freeway and Thomas Road.
- · integration with the Kwinana train station;
- providing for expanding or relocating office and business uses from the Kwinana Industrial Area, which would free up sites in industrial areas for industrial uses and provide employment at this location which is much better served by public transport:
- regionally and locally significant environmental values;

# **Schedule of Submissions**

ern side of the Thomas Road - Kwinana Freeway e; accommodation and conference centre options; and and safety of the transport network.Strategic

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The local planning strategy in our opinion does not adequately address the future use of the Alcoa RDAs after Alcoa have ceased operations at their Kwinana refinery. The RDA covers 660ha, a rather large land area. The area operates under the State agreement between Alcoa and the West Australian State government. The Agreement states at the completion of refining at Kwinana the area will revert to the Western Australian State Government with Alcoa having the responsibility to "shall use reasonable endeavours to ensure that each such portion will support buildings for light industry" (Alumina Refinery Agreement Act 1961 clause 6.4).

Alcoa despite their best endeavours may return the site to the Western Australia State Government in a condition not fit for light industry, either from an engineering point of view or from an economic point of view. The first RDA, area F has been in use for over 50 years and now towers 80 metres in height. In their verbal submission to the WAPC meeting 320 on 23 November 2022, Mr. David Feast from Alcoa raised the concern that the structural integrity of the RDA wall could be compromised thus leading to a breach of the wall, although in his presentation Mr. Feast thought that it would be a minimal risk. Given Alcoa's concerns about the nature of the stability of the site and that contemporary construction of light industry units is with concrete tilt slabs it maybe unlikely that light industry can be developed on the RDA site in a safe and economic manner. Other structures may not be able to be built on the site.

The economic cost of providing utilities, with the current policy of preferring underground services, to a site 80 metres above the surrounding area may be prohibitive. The cost of transport of materials to and from the site may also make the site uneconomic when compared to other available sites.

At this time, we believe there should be a rigorous review of the viability of possibility of Light Industry on the Alcoa RDA site when Alcoa return the site to State Government control, considering the current geological condition of the RDA. If the current geological condition is such that any construction of structures on the site post Alcoa will not be feasible then the alternative uses for the 660ha site should be considered or included in the Local Planning Strategy. If site will not be used for Light Industry, it may have an effect on the proposed uses for adjoining land holdings.

Noted

The Local Planning Strategy is consistent with the industrial land uses in the Western Trade Coast identified in the South Metropolitan Peel Subregional Planning Framework.

The issues and concerns raised by submitter should be considered by the State Government as part of the future planning processes for the area.

#### Schedule of Submissions

The Local Planning Strategy may have adverse economic and lifestyle effects on current land holders. The draft strategy for some land holders turns their property into a different zoning for planning purposes thus triggering the conditions of non-conforming land zoning on their properties.

Currently there are several land holders in the Mandogalup area under the IP47 framework are facing the prospect of their properties being rezoned from Rural to future Industrial. In the case of us the property in Mandogalup which we hold an interest, is vacant land and if the draft IP47 structure is approved we will not be able to improve the land unless it is for Industry whilst still paying local government rates and State government land tax. If we sell the property, we are passing that obligation onto the new owner until it can be utilized for its zoned purpose.

According to the data we have received in the IP47 consultation process, the need for further industrial land in the Kwinana area is decades away. Given all those factors the land holding is worthless. For us and our neighbours in Mandogalup, if our properties are to be deemed future industrial, and that need is not evident for the foreseeable future, the restrictions and requirements under the non-conforming land use regulations which adversely affect us should be relaxed. This should be incorporated in the Local Planning Strategy for all land holders whose property will be adversely affected by a proposed land rezoning.

A key outcome of the IP47 process is to provide landowners within the IP47 area certainty regarding land uses, through an Improvement Scheme which will have statutory force and effect. As a statutory document, the Improvement Scheme will facilitate an immediate change in land uses at the time it is gazetted, and provide clear guidance with regard to zoning, land use permissibility and the future use of the land.

The WAPC considers residential and industrial land supply through a strategic lens at the regional and subregional scale, which then informs more localised land use planning decisions. The strategic land use intent of the WAPC is communicated through the Frameworks, which seeks to ensure a sufficient supply of urban and industrial land to accommodate a population of 3.5million by 2050.

Planning and forecasting industrial land demand is complex as it is heavily influenced by

- the locational needs of future and synergistic industries which are more difficult to predict and
- (ii) demand and growth cycles are much less linear than that for residential land. Due to this, the WAPC's focus for industrial land supply is on ensuring a sufficient supply in a range of strategic locations, for a range of land use typologies/specialised functions, close to transport routes and employees, with different lot sizes and development opportunities. In essence, sub-regional industrial planning is strategic, and considers the long-term benefits for the community including employment selfsufficiency.

The IP47 area is well located such that it is in proximity to the strategic industrial land in KIA, the new port and the Global Advanced Industries Hub. As such, the land can perform a role which supports Westport in either a direct, or supplementary manner by accommodating land uses and businesses that may not need to locate in coastal or heavy industrial areas.

As with any locality that is subject to land use change or uplift, development opportunities can be taken up on different sites at different times. Scheme provisions can be used to assist in minimising the potential impacts of the new development on landowners who do not seek or take up redevelopment opportunities as early as others within an area undergoing transitional land use.

If and where proposed, any industrial development will be managed in accordance with the usual requirements of the planning processes, to ensure

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	that it does not negatively impact on the environment of the IP47 area, including its water resources, as would be the requirements for any zoning or change of land use away from rural.  An industrial zoning under the Improvement Scheme will not result in the compulsory acquisition of properties or compel relocation. Landowners will have non-conforming land use rights which will ensure their continued use and enjoyment of their properties, subject to requirements set out in the scheme, and it not anticipated that land would be sterilised ahead of demand being realised or land being developed.

# **Schedule of Submissions**

28. Tusif Ahmad I strongly advocate for the establishment of a dedicated multicultural art gallery This is not a matter that can be resolved by the Local Planning states.	Strategy.
or museum in the vibrant city of Kwinana. Such an endeavour presents an	
extraordinary opportunity to foster unity and appreciation among diverse cultures This matter has been referred to the City's engineering departm	ent for
by facilitating an exchange of ideas and understanding through art and cultural consideration.	
activities.	
In a city where numerous cultures converge and new homes are being built, it is	
essential to encourage residents to adorn their dwellings with furnishings and	
decoration items that reflect their unique cultural backgrounds. By doing so, not	
only will the cityscape be enriched with a tapestry of cultural aesthetics, but	
individuals will also find a deeper sense of belonging and pride in their heritage.	
As an artist, I envision a meticulously designed art gallery/museum that	
embraces inclusivity and celebrates the myriad cultural expressions. The	
architectural layout should be thoughtfully crafted to accommodate a wide range	
of artistic mediums, allowing visitors to immerse themselves in the captivating	
narratives conveyed through paintings, sculptures, installations, and other artistic	
forms. Additionally, interactive spaces and workshops can be incorporated to	
encourage active participation and hands-on exploration of various cultural	
practices.	
In conclusion, the establishment of a dedicated multicultural art gallery or	
museum in Kwinana would not only serve as a vibrant hub of artistic expression	
but also bridge the gaps between cultures, fostering a deep appreciation and	
understanding that transcends mere tolerance.	
29. Brooke To create more housing options, more block sizes need to be subdivisional to Noted	
allow for affordable housing options. Consideration of the subdivisional building	
type needs to be considered so it doesn't feel intrusive on established  The Local Planning Strategy includes a number of Actions to factions to faction to factions to faction to faction to factions to faction to fact	cilitate the
households. provision of more diverse housing in the City.	
Well established parks and nature reserves need be left alone if possible,	
however alternative/ sustainable housing solutions like the White Gum Valley	
Housing needs to be considered or options of spaces of communal and	
community connection. Improved parks, kerbs for active transport.	
Kwinana Loop Trail should be promoted more widely to the Perth community - This is not a matter that can be resolved by the Local Planning S	Strategy
Trail Run Series - Mountain Bike Series - Aboriginal Ranger Programs.	onalogy.
The City will be upgrading the Kwinana Loop Trail and will then	promote the
trail.	

# **Schedule of Submissions**

30. Michelle	No more destruction of bush land for housing until all vacant blocks in the already cleared land are built on.  These are just eyesores and dust makers. There already are to many left as vacant land. Keep more bush in the areas inside the suburbs and look after it not just let it be a rubbish ground.	Developers and the market (supply and demand) determine the timing of the development and the sale of residential land.
31. Nicola Miller	There appears to be a concerted effort from Council to force Special Rural owners out of their properties. By allowing creeping development and an upward trend in Council Rates with no increase in useable services for Special Rural properties the council is destroying the amenity of Special Rural properties even though the occupiers may have been there for many decades, having purchased their properties with the understanding that the environment will be protected.  The Jandakot Water mound should be a protected area as it was always intended however the encroachment of development right up to the mounds border line puts this protection in jeopardy, with the protection zone shrinking with each new development approval.  Special Rural blocks are now being forced to accept a variety of zones on properties which means they attract development enforcement and restrictions on parts of their property. This is a less than ideal situation.  Special Rural blocks have a vital role in greening our environment and providing pockets of bushland and large trees as a refuge for our native fauna as they are forced from their habitat by development; and areas for our native flora to grow undisturbed.	The City recognises the environmental and lifestyle values of the special rural areas and has included the following Action in the LPS:  "Undertake a Rural Study to determine how the following matters can be managed under the City's planning framework:  • protecting amenity of the rural landscape; • conflict at interface between urban and rural land uses; • interface with abutting Shire of Serpentine Jarrahdale, City of Cockburn and City of Rockingham; and • capacity of the City's Landscape Protection zone to protect environmentally significant areas."
32. Joshua Kickett	We need to retain Special Rural areas in Kwinana.  I'd like to see our bushland stay in Kwinana as a young aboriginal person I feel very connected to our bush, it's good for my physical and mental health.	The City recognises the importance of the environment and the value that the community places on the environment. The City has adopted a Local Biodiversity Strategy and the Local Planning Strategy includes the following Action:  "Prepare an Urban Forest Strategy and investigate appropriate mechanisms in the local planning framework to implement the City of Kwinana's Climate Change Plan."
33. Thomas Willis	Oppose Urban Investigation East Wellard	The draft LPS identifies East Wellard as an Urban Investigation area in accordance with the State Government's South Metropolitan Peel Subregional Planning Framework (WAPC, March 2018) and Planning Investigation Areas Update (WAPC, September 2022).

# **Schedule of Submissions**

		Please don't remove any more bushland or convert rural living areas to suburban living. Kwinana needs to keep the bush for future generations and for that feeling of being open.	The term <i>Urban Investigation</i> means that further investigations are needed to determine where future urban development within this area could possibly occur. While the draft Strategy is required to reflect what is proposed by the State, the City has included the following Action:  "Advocate for the future planning of Planning Area 1 (Wellard East) to address matters including, but not limited to:  • protection and management of water resources; • disturbance of wetlands; • water quality; and • extent of the Wellard East Planning Investigation Area."
34.	Christina Aschwanden	Looking at the local planning strategy map, there is a lot of planning for industry but not a lot for nature reserves, parks, bushland and puffer zone.  It is concerning how much land is taken up by the heavy industry coming down to the City of Kwinana and how little is given to parks, reserves and puffer zones. It looks like the heavy industry is coming right up to Thomas Road with little to none of a buffer zone to protect the People of the City of Kwinana from noise and pollution. I would like to propose to create a proper puffer zone, between the planned industry area and the City of Kwinana. Also plan for parks within the industry zones, so people who work around Kwinana can enjoy there breaks outside (promoting a healthier lifestyle). There might be even room for another nature reserve beside the Spectacles.  The noise and dust have significantly increased within the last several years so please put some effort in to protect the Bushland surrounding the City of Kwinana.  Please also consider putting in more road chicanes and speed humps (without	The City's has adopted a Local Biodiversity Strategy in response to the continuing decline of the City's natural environment and loss of endemic biodiversity, with the overall goal to identify, protect, and conserve areas of high ecological value.  The LBS identifies those areas of ecological value within the City that are not afforded protection under Federal and State Government legislation.  These Local Natural Areas (LNAs) have been evaluated using a hierarchy of ecological values and ranked accordingly.
		being able to drive around it, without slowing down) in school zones and residential Areas to make the street safer for everyone.	This matter has been referred to the City's engineering department for consideration.
35.	Robert White 51 Norkett Road Mandogalup 6167	As this planning strategy is 10 to 15 years in the future the licence for Alcoa Kwinana plant will only have a five year life I believe more work could be done to interface those areas once Alcoa closes into the local planning and infrastructure upon the closure of Alcoa's F lake residue area.	Noted  This area is the subject of Improvement Plan 47 by the WAPC.
		About 600 hectares of land will be returned to the state and probably only suitable for rehabilitation into a Bush forever site I believe the WA government has locked up vast areas of developable land to provide Buffers for the Alcoa residue area.	

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In 2045 Alcoa will close at Kwinana myself and five others own a Bush forever site 268 in Mandogalup the government quarantined our 40ha site 30 years ago. The family has owned paid council rates and land tax on this land for 70 to 80 years. The government has never made any serious attempts to buy this site other than ridiculous offers to steal it. If the bush on the site was important the government would have made realistic attempts to purchase it. If they had no Intention of the purchase of this site they need to release the land back into the planning system and let us go ahead with the development opportunities.	Noted  This area is the subject of Improvement Plan 47 by the WAPC.
I also believe Council and state government should look at an urgent upgrade of roads in the area Rowley Road extension Hammond Road extension to remove traffic on local roads.	This is not a matter that can be resolved by the Local Planning Strategy.  This matter has been referred to the City's engineering department for consideration.

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#### Department of Communities

Communities supports the initiatives of the LPS to promote and support well-designed higher density development in the City Centre, District and Neighbourhood centres. As such supporting integrated transport and residential outcomes that bring opportunities to residents. It will deliver housing to a range of people near amenity, transport, and infrastructure. The LPS, read together with the Strategic Community Plan could positively contribute to the wellbeing of all residents in the city.

Communities is committed to connect People to Homes. The WA Housing Strategy 2020-2030 is a call for all sectors to work together to improve housing choice and access to suitable and affordable homes. The lack of housing diversity' and the inability to easily adapt homes are some factors restricting the agility of the WA Housing system to keep pace with changing demands and conditions.

A home is more than a shelter to live in. It provides connection to community, social infrastructure, and job opportunities. With the above in mind, Communities wishes to provide the following comment and feedback on the LPS:

#### Delivery of affordable housing:

Dwellings in Kwinana are considered comparatively more affordable than the rest of the metropolitan area with low- and moderate-income households comprising the largest proportion of households (LPS Chapter 5.1). Housing affordability will continue to impact individual and household's ability to access homes

Densification strategies will support diverse housing opportunities, with smaller dwellings configured as grouped or multiple dwellings supplementing the single house stock. It does not automatically follow that these dwellings will address affordability requirements.

The City is encouraged to investigate planning (including density incentives and parking concessions) as well as non-planning (including partnerships with community housing organisations) options to facilitate, incentives and deliver affordable housing within the city.

#### Aged and disability housing:

The LPS directs the delivery of smaller and accessible housing to strategic locations to support aging residents and people with disabilities. The majority of older Western Australians want to live in the communities they are familiar with, with the support of families and friends. Despite the increased focus on infill, the strategy does not identify any incentives or requirements for the provision of housing suitable for older people and those with special needs.

The matters raised by the Department of Communities concerned with affordable housing, aged, disability and precinct design will be considered by the City during preparation of activity centre precinct structure plans

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#### Schedule of Submissions

Communities recommends that city considers actions to incentives accessible housing. It will provide opportunities for aging in place and support people of all abilities. It is suggested that the city incorporate Liveable Housing Australia (LHA) Design Guidelines and set targets for the delivery of Silver, Gold, or Platinum standard housing in policy.

The city is further encouraged to explore options to incentivise specialised disability accommodation. This will assist in the rollout of the NDIS and provide those with special needs access to suitable homes.

#### Precinct design:

Communities supports the City's strategies to deliver accessible precincts, connecting people with amenity and transport (LPS Chapter 3) and public open space (LPS Chapter 5.3). Initiatives to improve transport connections, pedestrian access and bicycle movement are supported. The City is urged to give targeted consideration to people with specialist needs, including people with mobility constraints, people in wheelchairs and mothers with small children in prams. People with special needs require the same opportunities to live within the local area. The City is encouraged to ensure that precincts are designed to ensure that people of all abilities have access to infrastructure and amenity and that these requirements are clearly articulated in the strategy.

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37.	Mark & Cameron Fletcher 101-103 Calista Avenue Calista	It is our position that our site 101-103 Calista Avenue Calista is and will remain a strong viable business precinct as currently zoned. The precinct has provided the opportunity for many business startups over many years, that have not possible in other areas due to high rental rates.  This pecinct currently supports seven businesses, which may consider further expansion or re development to further support their needs into the future under the current zoning. They provide useful community services and in particular support roughly 13 lively hoods including local apprentices and migrants. Rezoning of this precinct will also have considerable negative impact on its commercial value and return.  For these reasons we do not support the purposed reclassification. We are willing to discuss further options including, re development ideas that the council may have.	Draft LCACS states that because the Calista Local Centre is in close proximity to the Kwinana City Centre that the land would better utilised for residential purposes.  The Calista local centre can still operate as a non-conforming use under the City's Local Planning Scheme indefinitely.
38.	Margaret & Hubert de Haer 33 B Norkett Road Mandogalup WA 6167	We are residents of the City of Kwinana, owning a residence in Norkett Road Mandogalup and having an interest in another small landholding with other family members. The properties are in the IP47 Mandogalup.  Why is the IP47 area coloured in Industry/Commercial tones when the planning is not finalised? It should remain neutral.  The RDA's are shown as Industrial which is incorrect, the zoning is Rural in the MRS. No studies have been carried out or investigations to determine the suitability for industry. Area F has been in use for landfill for 50 years and the embankment is 80 metres in height.  This is an area of 660 hectares next to a Bush Forever site. Alcoa representatives have voiced concerns of the structural integrity of the RDA wall which could lead to a breach of the wall. Due to these issues the area may not be suitable for light industry, and other sites may be more economical to develop and easier to transverse. This residue area should be closed soon as RDA areas O and P are being developed in the near future.	A key outcome of the IP47 process was to provide landowners within the IP47 area certainty regarding land uses, through an Improvement Scheme which will have statutory force and effect. As a statutory document, the Improvement Scheme will facilitate an immediate change in land uses at the time it is gazetted, and provide clear guidance with regard to zoning, land use permissibility and the future use of the land.  The WAPC considers residential and industrial land supply through a strategic lens at the regional and subregional scale, which then informs more localised land use planning decisions. The strategic land use intent of the WAPC is communicated through the Frameworks, which seek to ensure a sufficient supply of urban and industrial land to accommodate a population of 3.5million by 2050.  Planning and forecasting industrial land demand is complex as it is heavily influenced by  (i) the locational needs of future and synergistic industries which are more difficult to predict and (ii) demand and growth cycles are much less linear than that for residential land. Due to this, the WAPC's focus for industrial land supply is on ensuring a sufficient supply in a range of strategic locations, for a range of land use typologies/specialised functions, close to transport routes and employees, with different lot sizes and development opportunities. In essence, sub-regional industrial planning is strategic, and considers the

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long-term benefits for the community including employment selfsufficiency.

The IP47 area is well located such that it is in proximity to the strategic industrial land in KIA, the new port and the Global Advanced Industries Hub. As such, the land can perform a role which supports Westport in either a direct, or supplementary manner by accommodating land uses and businesses that may not need to locate in coastal or heavy industrial areas.

As with any locality that is subject to land use change or uplift, development opportunities can be taken up on different sites at different times. Scheme provisions can be used to assist in minimising the potential impacts of the new development on landowners who do not seek or take up redevelopment opportunities as early as others within an area undergoing transitional land use.

If and where proposed, any industrial development will be managed in accordance with the usual requirements of the planning processes, to ensure that it does not negatively impact on the environment of the IP47 area, including its water resources, as would be the requirements for any zoning or change of land use away from rural.

An industrial zoning under the Improvement Scheme will not result in the compulsory acquisition of properties or compel relocation. Landowners will have non-conforming land use rights which will ensure their continued use and enjoyment of their properties, subject to requirements set out in the scheme, and it not anticipated that land would be sterilised ahead of demand being realised or land being developed.

The draft Local Planning Strategy includes Area 2 which is noted on the map as Freeway Interchange Planning Area. If a Commercial precinct is permitted in this location it will detract from the commercial viability of land zoned for this purpose in the draft WAPC IP47 scenario located a few kilometres away.

The City has prepared a Local Commercial and Activity Centre Strategy which advised that a multi-criteria analysis has been used to assess potential uses at the site.

Consideration should be given to current landowners when land zoning changes are planned and are decades away. The proposed zoning changes may cause severe financial and mental hardship to current land holders as has happened in Mandogalup.

The multi criteria analysis indicated that population driven uses are likely more suited to the location due to its proximity to passing traffic along the Kwinana Freeway, distance from other employment centres and the lack of current activity at the site.

The restrictions and requirements under the non-conforming land use regulations should be relaxed when properties are made worthless and changes are decades away.

Office-based uses are not recommended at this location. Should demand for these uses arise, it should be directed to the Kwinana City Centre to support increased activation during daytime hours. The site is suited to bulky goods and service commercial uses however there is a significant provision of these

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		uses to the eastern side of the Kwinana Freeway with Costco as an important anchor tenant.  The City could consider retaining the area for commercial uses to cater for any overflow once the eastern side of the Kwinana Freeway has developed. Given the importance of maintaining commercial land for employment uses, it is recommended the City reassess whether these uses are appropriate every five years.  The Thomas Road - Kwinana Freeway interchange (west and east of the Kwinana Freeway) has been identified as Planning Area 2 in the Local Planning Strategy to ensure that the following characteristics of the area are considered during subsequent stages of the planning process:  • the advantages of being located along the Kwinana Freeway including:  • good locational access across the Perth metropolitan area from the Perth Central Business District to Mandurah.  • the immediate traffic volumes passing the area on a daily basis along both the Freeway and Thomas Road.  • integration with the Kwinana train station;  • providing for expanding or relocating office and business uses from the Kwinana Industrial Area, which would free up sites in industrial areas for industrial uses and provide employment at this location which is much better served by public transport;  • regionally and locally significant environmental values;  • proximity to the service commercial area and neighbourhood centre on the eastern side of the Thomas Road - Kwinana Freeway interchange;  • short-term accommodation and conference centre options; and  • traffic flow and safety of the transport network.
39. Department of Health	The Department of Health provides the following comment:  Water The Local Planning Strategy document does not include any information on drinking water supply or the disposal of wastewater. Information on drinking water and wastewater should be included in the Local Planning Strategy 2022-2036.  All developments are to be in accordance with the Government Sewerage Policy 2019.	Provision of a reticulated water supply and sewer in new development areas is an intrinsic element of the planning framework.

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#### Medical Entomology

The City of Kwinana is in a region that experiences problems with nuisance and disease carrying mosquitoes. There is evidence from mosquito collections in the City of Kwinana that vector mosquito species Cx. annulirostris and Ae. camptorhynchus are present, particularly in areas surrounding The Spectacles and in the suburb of Wellard. These mosquitoes can disperse several kilometres from breeding sites and are known carriers of Ross River and Barmah Forest viruses

To protect the health and lifestyle of communities, all land use planning decisions should include consideration of mosquitoes and their management. While it is well documented that mosquito-borne diseases occur in the Perth metropolitan area, the risk of exposure to mosquitoes and their diseases for future residents and visitors in the City of Kwinana is not clearly defined.

It is recommended the Environmental Health section of the City of Kwinana determines the likelihood and the extent of this risk and whether mosquito management is required as a condition of approval for future developments.

It is important that the City of Kwinana:

- determines the extent of risk from mosquitoes and mosquito-borne disease for future developments and if that risk is considered medium or high a mosquito management plan be established for the subject land to the satisfaction of an environmental health officer.
- ensures effective mosquito management is further developed and adequately funded for the City.
- ensures they have sufficient resources to continue mosquito management for the future of the development.

This matter is managed during later stages of the planning process.

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Chemical Hazards	Noted
The DoH welcomes commitments in the Local Planning Strategy to ensure that:	
adequate separation distance between industry and sensitive land uses (residential dwellings) and that this is maintained and reinforced as part of future planning,	
emphasis is placed on the separation of land uses with off-site odour, noise, air quality impacts to sensitive land uses, and	
climate change mitigation measures in City of Kwinana Climate Change Plan (2021-2026) are adopted	
The DoH expects that all land to be rezoned, subdivided or developed under the Local Planning Strategy is assessed to ensure that it is suitable for the proposed use and does not have negative impacts on public health.	

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#### 40. Francesca & Ian Black

Oppose Urban Investigation East Wellard

147 Banksia Road Wellard We are the residents at 147 Banksia Rd, Wellard and have been for close to 8 years. In that 8 years we have grown to love and appreciate the rare ecology that surrounds us. It is our preference that our property and the entire surrounding Semi-Rural/Special-Rural area including Lot 123 Mortimer Road, Casuarina site that is an already proposed residential development site stay zoned as Semi Rural/Special-Rural (remains Rural Living) and be excluded from the Long Term Urban Investigation Area (in relation to the Draft Local Planning Strategy map) to protect both our way of life and the flora and fauna that make up this unique area.

In about 2018 the local residents (ourselves included) along with the CWPA and City of Kwinana campaigned quiet fiercely to try and put a stop to the progress of mining permit for the Banksia Road Nature Reserve (Lot 6 Banksia Rd, Wellard) to be turned into a silica sand mine by Hanson, the State Government and previous members of City of Kwinana, which would both destroy the reserve, an excellent example of the protected Banksia Woodlands of the Swan Coastal Plain and in research undertaken by Murdoch University and observed by the residents of the area on a daily basis provides vegetation used by both endangered Carnaby Black Cockatoos and Red Tailed Back Cockatoos for feeding foraging with several potential roosting sights been noted. So, there should be no mining in this area and neither should there be any more residential development to help protect what little remains of this significant and fragile ecosystem and the fauna that reside therein.

In the fight against the silica sand mine, it was also brought to attention that in a neighbouring property there is a Threatened Ecological Community (TEC) and rare water feature which has a significant impact on water availability in the area. The feature is called a tumulus mound spring and is the largest south of the river in WA. Disrupting the local delicate surroundings, removing trees, and altering the topography of the area would have a detrimental impact on this feature and the ecology of the area so should be avoided at all costs as we need to protect what little remains where possible.

As well as the ecological significance of the area the residents of the area enjoy a certain quality of life that they have sought out. By keeping the zoning as it is it will protect the rural character of the area. Keeps traffic down and a peaceful atmosphere that we all enjoy by living amongst nature is an important reason to not re-zone the area for residential development.

Many of us love living amongst nature and do our best to protect and encourage

The draft LPS identifies East Wellard as an Urban Investigation area in accordance with the State Government's *South Metropolitan Peel Subregional Planning Framework* (WAPC, March 2018) and *Planning Investigation Areas Update* (WAPC, September 2022).

The term *Urban Investigation* means that further investigations are needed to determine where future urban development within this area could possibly occur. While the draft Strategy is required to reflect what is proposed by the State, the City has included the following Action:

"Advocate for the future planning of Planning Area 1 (Wellard East) to address matters including, but not limited to:

- protection and management of water resources;
- disturbance of wetlands;
- water quality; and
- extent of the Wellard East Planning Investigation Area."

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the native flora and fauna in the area and hope that the different levels of government would see the value in it and protect it by keeping Wellard Semi-Rural/Special-Rural zoned as such for decades to come. For it to remain for future generations to enjoy and appreciate would be a value much greater than any amount of money. Especially when there are many other areas more suitable and less ecologically significant to develop.

Please find below a list of links to websites and Facebook pages that demonstrate the overwhelming support by the local and broader community to keep the area untouched by mining and development and offer a good resource for information gathered by locals to support their wishes to keep the area a rural living and protect the environment around us.

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41. Main Roads WA	Fremantle Rockingham Control Access Highway (FRCAH)  It is noted that the FRCAH is shown in network plans included in the document.  Note that current network planning undertaken by Main Roads excludes the FRCAH at this stage due to significant environmental constraints and impacts	In response to this submission the Local Planning Strategy text has been modified to remove reference to Fremantle Rockingham Controlled Access Highway (FRCAH).  The FRCAH will remain in the LPS until the reserve is removed via an
	south of Thomas Road.  • Network planning for Westport also excludes the FRCAH.	amendment to the MRS amendment.
	The current reservation for the FRCAH that is included in the MRS will not be removed until this work is complete and acceptable network solutions have been identified.	
	Abercrombie Road The supporting road network plan shows a realignment of Abercrombie Road to intersect with Gilmore Av at Thomas Road.	Noted
	A well-structured and permeable movement network within developments, with appropriately placed strategic road connections to primary regional roads, is also key to the success of both in terms of the form and function of primary distributor road and the movement and place of the abutting land use.	
	This realignment will create a 4-way signal-controlled intersection on Thomas Road. This would require a much larger intersection carrying higher volumes and more conflicting movements. Further work will need to be undertaken to investigate whether this is an acceptable option.	
	Land use development in relation to Primary Regional Roads Ensuring compatible land abuts primary regional roads is key to the success of	Noted
	both uses so that issues such as noise and other social issues are avoided.	There is an action in the LPS which states:
		"Advocate for Strategic Freight Routes and incompatible land uses to be adequately or screened to minimise freight movements impacting on local communities. and the use of the freight route being potentially constrained."
	The importance of a robust transport impact assessment for all proposed land use developments cannot be overstated. These should be undertaken in accordance with WAPC requirements.	Noted

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42. Alcoa	In summary, Alcoa is generally supportive of the draft LPS and provides comment in relation to the following.  a) Alcoa supports Strategic Action 21 of the draft LPS to prepare a masterplan for the Western Trade Coast, and in particular references on the draft LPS to the masterplan's role in considering protection of the industrial areas from encroachment with incompatible uses.	Noted
	b) Alcoa supports Strategic Action 22 of the draft LPS to include mechanisms in the local planning scheme to legislate the Kwinana air quality buffer as adopted by the Western Australian Planning Commission (WAPC) in September 2010.	Noted
	c) Alcoa considers the Postans Study of Strategic Action 23 of the draft LPS is dated, having been prepared in 2011, has no relevant status, and it will in any event be superseded by the masterplan proposed by Strategic Action 21.	Noted
	d) Alcoa submits its Kwinana Alumina Refinery and residue storage areas should be identified as strategic industry in the LPS, consistent with clause 6.1.2 of State Planning Policy 4.1 Industrial Interface.	The classification as Industry in the Local Planning Strategy is consistent with the classification as Industry in the South Metropolitan Peel Subregional Planning Framework.
	e) Alcoa does not support land in Mandogalup being designated future urban within 1.5km of its residue storage areas in the LPS, and such a designation is inconsistent with the 0.5km extension of the 1km Kwinana air quality buffer as a non-residential 'transition zone' as endorsed by the WAPC in September 2010 and affirmed in May 2011. It does not take into account risk from proximity to the residue storage area impoundments, and investigations into dust have not conclusively determined the amenity impact.	The Mandogalup Urban zonings are consistent with the boundary of Improvement Plan 47 and amendments to the Metropolitan Region Scheme.
	A precautionary approach should be taken consistent with State Planning Policy 4.1 Industrial Interface.	
	f) Alcoa does not support Strategic Action 24 of the draft LPS which proposes potential 'General Industry' zoning for parts of Alcoa's residue storage area. The draft LPS does not describe which parts of the storage areas would be included in the review, and in any event, Alcoa has no plans to close any portion of the residue storage area over the 15-year lifespan of the LPS.	Action 24 has been deleted from the Local Planning Strategy

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	g) Alcoa submits the LPS should be modified to require a precautionary approach be taken on the intensification of industrial development within the industrial areas surrounding Alcoa's residue storage areas, when master planning for the Western Trade Coast, to take into account potential risk associated with the residue storage area impoundments.	This is issue can be considered in more detail during the preparation of a master plan for the Western Trade Coast in conjunction with advice from relevant State Government agencies.
	h) Alcoa submits rehabilitated areas should not be identified in mapping of local natural areas on the LPS map.	The purpose of rehabilitation is for rehabilitated areas to regain vegetation and fauna habitat values.
43. Lionel & Leeann Main	Oppose Urban Investigation East Wellard  My family and I oppose the future urbanising of the East Wellard local planning Strategy.	The draft LPS identifies East Wellard as an Urban Investigation area in accordance with the State Government's South Metropolitan Peel Subregional Planning Framework (WAPC, March 2018) and Planning Investigation Areas Update (WAPC, September 2022).
	Reasons being:  1. Our block sits on the same hill for the Tubular Mound.  2. We have regular visiting Kangaroo's in and around our property for years.  3. Red tail and White tail Black Cockatoos.	The term <i>Urban Investigation</i> means that further investigations are needed to determine where future urban development within this area could possibly occur. While the draft Strategy is required to reflect what is proposed by the State, the City has included the following Action:
	<ul> <li>4. Huge variety of birds, goannas frogs, Quendas.</li> <li>5. We bought out here, for the rural lifestyle, the peace and quiet.</li> <li>6.We didn't work as hard as we have, to get to were we are, to be pushed out by urban development. I'm sure that can be said for all the people who live out here.</li> </ul>	<ul> <li>"Advocate for the future planning of Planning Area 1 (Wellard East) to address matters including, but not limited to:</li> <li>protection and management of water resources;</li> <li>disturbance of wetlands;</li> <li>water quality; and</li> <li>extent of the Wellard East Planning Investigation Area."</li> </ul>

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44. Bill Toon

Having lived in Kwinana for nearly 40 years my fear getting in and out of the area especially young people is paramount. Roads and public transport to and from Fremantle and Rockingham and the frequency is of the utmost importance to make Kwinana a more Liveable space.

Cultural activities especially a indigenous cultural space in co-operation with a local indigenous corporation would provide activities, tourism potential, employment, knowledge, truth telling and provide a strength based approach to a much aligned community in Kwinana.

Use of local universities to assist Kwinana to move a digital space to enhance employment, knowledge, research. Maybe a co hub with a university can assist with future Al users.

An innovative thought process needs to be the voices of community from the bottom up. A great opportunity for Kwinana Community to initiate something different, not just become another boring metro suburb that lacks vitality and where community feel disenfranchised.

I feel Kwinana people are hungry for a more sustainable future that is informed, able to have their voices heard and respectful interaction with the different cultures that make up Kwinana.

Sporting infrastructure

The importance of sport in community driving physical health, mental health, inclusion and breaking down barriers is unsurpassed.

My suggestion is that with any new strategic plan incorporates a dedicated table tennis stadium.

Table tennis is accessible to all ages and abilities. Table tennis WA would welcome such a venue that is a low entry cost to participants, has a state, national, international and Olympic standards competition.

There is also the social aspect.

Other sports are catered for but table tennis is played by most cultures but lack a central venue that can invite players from around WA, Interstate and or overseas. Bringing activity, enterprise and potential jobs to the area.

A digital co- working Lab establishment for all Kwinana residents. Digital literacy is synonymous with being job ready.

Any green field development either residential or commercial be compelled or

Noted

This matter has been referred to the City's Communities Team for consideration.

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made available to be connected via the NBN cable to the premises.  Look at "The forever project" a local Kwinana sustainability expert now living in Cockburn. With new developments done right people and communities prosper and flourish. These developments become a place where people want to live.  With a warming climate, sustainability of housing, street leaf coverage and water wise gardens/ verges reducing energy needs in new developments with community batteries Led light street lights, sustainability is so important and a necessity into the future.	

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45. Sarah Burchnell	I would like to know if there will be a capture program to relocate the bandicoots as well as line markings on the roads as since the new estates have come in the traffic has increased considerably and Braddock Road and Casuarina Drive have become greater hazards as drivers don't seem to be able to stay on their side of the road without lines marked.	This is not a matter that can be resolved by the Local Planning Strategy.  This matter has been referred to the City's engineering department for consideration.
	Please stop demolition in Medina. When I moved into Medina in 2004 there was talk of having it recognised as a historical town. I don't hear this anymore. Instead I see old unique houses demolished and replaced with new bland (13 in a dozen) houses. The worst part is that the entire garden also gets demolished, including decades old trees. This destroys habitats of many birds and other species that make Medina so special. The trees also provide shade, filter the air and prevent the creation of heat traps. Please encourage renovation instead of demolition in Medina. If the house if that derelict that it needs to come down, at least leave the gardens and trees intact. Medina has a unique and historic character that can only be found in up marked suburbs like Subiaco.  Please stop demolishing Medina.	To manage the issues raised in this submission the following Actions are included in the LPS:  * "Investigate options to enable the development of a variety of housing types suitable for the changing needs of the community through the local planning framework, including:  • a diversity of housing within walkable distance of activity centres  • smaller and accessible dwellings for an aging population and people with disabilities; and  • larger houses for extended families and other household types."  * "Implement a design review process to strengthen the City's focus on built form and also assist in the assessment of development in the context of the site and its surrounds."  * "Review the Medina Neighbourhood Centre Revitalisation Strategy and Residential Design Guidelines 2009 to include relevant standards in the local planning framework to preserve the residential character and enhance the viability, having due regard to requirements in the state planning framework."

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46. Department of Jobs, Tourism, Science and Innovation The Draft Local Planning Strategy advocates for the development of a comprehensive masterplan for the Western Trade Coast (WTC), which would include, but not limited to, the consideration of:

- · Separation of industry from sensitive land uses;
- Key transport links to the future Outer Harbour and intermodal facilities as well as the function and connectivity of local road network; and
- · Staging and implementation across the WTC.

As the City would be aware through its involvement in the Global Advanced Industries Hub (GAIH) Ministerial Taskforce, JTSI has appointed Arup Australia (Arup), in partnership with PwC, Urbis and Turner & Townsend, to deliver the Western Trade Coast Infrastructure Strategy (WTCIS).

The WTCIS will produce a strategic and coordinated assessment of, and propose responses to, land and infrastructure-based constraints to industrial development in the WTC. The WTCIS will be developed in partnership with industry, Local Government Authorities, and State Government organisations, and will recommend key land development and infrastructure investment decisions and their prioritisation to activate the region. Specifically the WTCIS will:

- Develop transport options for the WTC that connect the WTC's industrial precincts and port infrastructure with the surrounding region:
- Develop common-user infrastructure options for the WTC that incorporates concept options for corridors that connect industrial precincts within the WTC, based on the location of road and rail reserves, utilities and service infrastructure and major existing and foreseeable future industrial product exchanges within the region;
- Develop utilities and service infrastructure options for the WTC that ensures utilities and service infrastructure can support existing and future operations in the WTC:
- Review, assess and provide advice on DevelopmentWA's planning for the development of industrial land within Latitude 32; and
- Provide advice on options to support the transition of land uses at locations susceptible to conflicts between industrial and non-industrial land uses.

Noted

The City will engage collaboratively with JTSI on the development of the Western Trade Coast Infrastructure Strategy to ensure that planning for the area is consistent and takes place in proper and orderly manner.

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	JTSI has established a Land and Infrastructure Advisory Group to provide a monthly forum for external to State Government stakeholders to input into and test proposals and assumptions developed by Arup through the WTCIS.  JTSI would like to comment that on face value, there is a high likelihood of duplication between the City's proposed masterplan and the WTCIS. As such, JTSI encourages the City to engage collaboratively with JTSI on the development of the WTCIS (through the GAIH Ministerial Taskforce, and if interested, the Land and Infrastructure Advisory Group) to ensure its views for the region are considered.  JTSI also notes that the Principal State Agreement for Alcoa of Australia applies to lands within the City's District Planning Scheme area. JTSI is pleased to note that the DRAFT Local Planning Strategy enhances and protects the State Agreement areas.	
47. Department of Water and Environmental Regulation	Part 2 Incorrect titles have been given to State Planning Policy 2.0, 2.1, 2.4 and 4.1. In addition, please also refer to the <i>Draft State Planning Policy 2.9 Planning for Water</i> (Draft SPP 2.9).  Part 2 Detail and content within this section is either incorrect, erroneous or requires updating. In addition, there are assigned priority areas within public drinking water source areas (PDWSA) to guide land uses as well as lot sizes. These are Priority 1, 2, 3 and 3* areas. Please refer to DWER's <i>Water Quality Protection Note 25 – Land use compatibility tables in public drinking water source areas</i> (WQPN 25) for detail regarding permitted land uses and activities within each of the priority areas.  Part 2 There is a small section of P3 area within Wandi North  Part 2 Some incorrect statements have been included in this list. As above, please review SPPs, Draft SPP 2.9 and DWER's WQPNs for corrections.  Also include information regarding the requirement for clearing permits under Part V of the <i>Environmental Protection Act 1986</i> .	Part 2 has been modified where appropriate.

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Last dot point - as per Government Sewerage Policy, lots located in sewerage sensitive areas (Jandakot public drinking water source area and Peel Harvey Coastal Plain Catchment) are required to be connected to secondary treatment systems with nutrient removal as well as setback requirements.

"Jandakot Groundwater Protection Area" should be "Jandakot underground water pollution control area". In addition, throughout the document the Jandakot PDWSA has been given different terminology throughout the document.

Also, the comment "landuses which place disproportionate levels of demand on groundwater quantities for private usage and those which lead to degradation of groundwater quality are discouraged." As required under the *Rights in Water and Irrigation Act 1914* groundwater for private use is required to be licenced if irrigating greater than 0.2ha in size or sourcing from aquifers other than the superficial (ie confined layers). A licence will not be required if using groundwater for household purposes from the superficial aquifer. However, a licence will only be issued if there is groundwater available in the subarea.

In addition, direction of groundwater flow also differs on the Jandakot Mound. And there is reduced separation to groundwater in the Spearwood Dune System near wetlands.

There are no "perched" wetlands in the Spearwood Dune System area. Perching generally occurs in clay soils.

Conservation Category Wetlands (CCWs) require a "minimum" 50m buffer and the distance will depend on the proposed land use.

Also, Local Water Management Strategies are required to inform local structure plans and Urban Water Management Plans may be required as a condition of subdivisions.

The draft local structure plan gives significant consideration to the protection of biodiversity values within the City of Kwinana.

The following errors were noted in the document.

In the draft Local Planning Strategy Part 2 – Background and Analysis, Table 1 on pages 21 and 22 has several errors.

 For Bush Forever Site 269 – the Spectacles Bushland, DBCA is the managing authority (Beeliar Regional Park). DBCA manages the WAPC

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owned lands under a management agreement (Section 8A of the CALM Act).

- Bush Forever Site 270 Sandy Lake and adjacent bushland Anketell, management is part DBCA and part private (Jandakot Regional Park).
   DBCA manages the WAPC owned lands under a management agreement (Section 8A of the CALM Act).
- Bush Forever Site 346 Brownman Swamp Mt Brown Lake and adjacent Bushland, management is part DBCA (not DBAC), with the local government and UCL text being correct, however the part no management agency text should be deleted.
- Bush Forever Site 347 Wandi Nature reserve and adjacent bushland, DBCA is the managing authority (Beeliar Regional Park). DBCA manages the WAPC owned lands under a management agreement (Section 8A of the CALM Act). Part WAPC should be deleted.
- Bush Forever Site 349 Leda and adjacent Bushland, management is part DBCA (not DWER) nature reserve.

Table 30 on page 134 also has the same errors.

The legend on the Environment Map area is considered a little confusing. The map incorrectly identifies many areas as being Regional Parks that are not currently within the approved boundaries of the Beeliar or Jandakot Regional Parks. These areas are zoned as Regional Open Space in the Metropolitan Region Scheme, so Regional Open Space might be a more accurate description.

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48. Department of Education	The Department of Education notes that the City of Kwinana (City) is forecast to grow by approximately 45,000 people by 2036, requiring approximately 15,000 additional dwellings. As per the Western Australian Planning Commission's (WAPC) Operational Policy – Planning for School Sites (OP 2.4) requirements, one public primary school site is required for a threshold of every 1,500 dwellings, and one secondary school site is required to be provided for every 4 to 5 primary schools.  A high-level preliminary analysis based on OP 2.4 and forecast dwellings yield of 15,000 estimates that the City would require between 17 to 21 primary schools by 2036. There is a total of 15 primary schools (existing and planned) within the City of Kwinana, hence additional 2 to 6 primary schools may potentially be required if the long-term dwellings are fully developed. On this basis, the future school sites appear to be well planned to support this residential growth within the short to medium term.  In view of the above, the Department has no in principle objections to the draft Strategy. The Department will continue to monitor residential growth and student demand of public schooling within the City and welcomes the opportunity to continue to work with the City to forward plan for the educational needs of the	Noted
49. Paul Clifton	future student population in the long term.  After reading the documents the only concerns we have for the Wandi area are	This is not a matter that is being specifically dealt with by the local planning
	in relation to maintaining the Equine theme to the suburb.	strategy. Although the Local planning strategy includes the following Action
	Magenup riding and related riding trails add to the community culture and are an important theme.	"Undertake a Rural Study to determine how the following matters can be managed under the City's planning framework:  • protecting amenity of the rural landscape; • conflict at interface between urban and rural land uses; • interface with abutting Shire of Serpentine Jarrahdale, City of Cockburn and City of Rockingham; and • capacity of the City's Landscape Protection zone to protect environmentally significant areas."
	The Kwinana - (Naval Base) - horse beach is an important resource for the community and the horse racing industry.	This is not a matter that can be resolved by the Local Planning Strategy.
	Apparently this will be closed as part of the Inner Harbour works?Please advise what alternative beach is being considered for this facility?	

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50. Sam Wells	I have lived in Kwinana 9 years and have enjoyed the overall experience. I appreciate both the human heritage and the natural environment here. I live in an original 50s Medina house which I try to maintain with respect for its story. I was impressed by the interpretive signs along the Kwinana Loop trail that inform people about indigenous and settler history.	Noted
	I am a keen bush walker and observe on a weekly basis the challenge the council has with rubbish dumping and 4WD incursions into bushland and coastal reserves. I wish them luck with their strategies to manage these. I am a 4WDer myself but understand metro bushland fragments are mostly too difficult to leave for open use.	Noted
	Two suggestions I have relate to cycling and wildlife.	Noted
	Firstly, my life is far more car-dependant since moving to Kwinana. Partly to offset this I think the cycle paths could be improved. There are very few dedicated routes bicycles can take, which isn't fair on drivers or pedestrians. Connectivity to the train stations and central Kwinana would be useful. A collaboration with Rockingham and Cockburn could see a coastal cycle route that both commuters and recreational cyclists could use. Cycling along Rockingham Road is currently terrifying! There could be interpretive information regarding the industrial strip. I hear some people abhor the presence of Kwinana's industry but think it is better to demystify and even celebrate it.	This matter has been referred to the City's Engineering Department for consideration.
	Regarding wildlife, I have become aware of how many kangaroos still exist in the region's bushland. I have seen them at The Spectacles wetland, Lake Coolongup, at Mt Brown and dead from car collisions on Thomas Rd.	Noted  This is not a matter that can be resolved by the Local Planning Strategy.
	Perhaps the council can be active in getting a management plan for kangaroos and other wildlife along with other relevant organisations? I love having Quenda bandicoots in my neighbourhood but also wonder if cats and other pressures might cause their populations to diminish. The presence of such wildlife really sets Kwinana apart as a destination to live.	This matter has been referred to the City's Environment Team for consideration.

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51.	Lorraine Elliott Sunrise Estate Wellard	In relation to the advertised Local Planning Strategy – Part 2, there are a few errors in relation to the Local Structure Plans. The table in Section 4.2.1 omits the original Structure Plan approved for the northern portion of Sunrise Estate (see attached). It covers Lot 27 and Lot 201 Mortimer Road. Only the southern Local Structure Plan for Sunrise Estate (referred to as Sunrise Extension on Figure 27) is included in the table.  Also, in Section 5.1.10 on residential growth, the estimate lot yield for Sunrise Extension is shown as 1,440 lots. This is totally incorrect. Based on created and approved lots for both Sunrise structure plans there will be a total of 519 lots. This does not include land zoned as Urban Deferred. Figure 27 is correct as it shows two structure plans for Sunrise Estate – Sunrise Extension (no. 17) and Wellard East (No. 20).	Part 2 has been modified where appropriate.
52.	Department of Planning Lands and	The proposed Strategy has been considered for its potential impact on heritage places within the Scheme area and the following advice is given:	Noted
	Heritage (Heritage)	The City of Kwinana has achieved key strategies and actions relating to heritage places, such as the adoption of the local heritage survey and heritage list in February 2022. As such, Part 2, Section 5.3 should be reviewed and updated to reflect these actions and achievements.	Where appropriate the Local Planning Strategy has been modified as suggested by the DPLH.
		To avoid ambiguity, terminology relating to cultural heritage should be clarified so that it is consistent with relevant legislation and common use:	
		-The terms 'character' and 'European Character' have been used to describe places of cultural heritage significance and local character. The term 'Historic Heritage' be used to distinguish places of cultural significance for consistency with State Planning Policy 3.5, Historic Heritage Conservation, and the Local Planning Strategy Guidelines (2021).	
		-The terms 'municipal heritage inventory' and 'local heritage survey' have been used inconsistently in the Local Planning Strategy. For consistency with the 2018 Heritage Act it is recommended that 'local heritage survey' be used identify places of cultural heritage significance, and the term 'municipal heritage inventory' be used only to reference former inventories and be consistent throughout the document.	
		Further detail on the City of Kwinana's description of heritage assets of State significance should be included in the document. These include State Registered Heritage Places: P2327 Mead Homestead and P3112 Kwinana Signal Box.	
		The City of Kwinana should now consider other future opportunities to	

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	strengthen its strategies and actions for heritage places, such as developing a local planning policy for heritage places and heritage areas.	
53. Satterley (Mandogalup)	We provide this submission generally in support of the proposed Local Planning Strategy, however offer the following comments for consideration.  Industry/Urban Transition Zone We object to the allocation of an 'Industrial/Urban Transition Zone' for Mandogalup on the Community Strategy Map. This interface is being readily managed through the Mandogalup Improvement Scheme 47 (IP47) work currently being undertaken, and it is inappropriate for the Local Planning Strategy to pre-empt the land use outcomes or requirements of that work.  We request this be removed from the Community Strategy Map.	The LPS map has been modified to delete the transition zone.

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Service Commercial Precinct for Mandogalup The Strategy talks to a potential service commercial or mixed use, office based precinct generally at the north west corner of Anketell Road and the Kwinana Freeway. Whilst we do not have any specific objection to the future consideration of a service commercial precinct at this location, we query whether this has been considered as part of the IP47 work and therefore whether it is appropriate to be pre-empting land use outcomes in that space.	Removed from LPS map as suggested.
Accuracy of Mapping In our review of the documentation, we identified some inaccuracies in the mapping. Whilst we understand the Strategy mapping is intended to be somewhat conceptual to allow for further detailed planning, where detail is already known through approved Structure Plans, Subdivision and development on the ground, we consider it appropriate for the Strategy mapping to be reflective of such, to avoid confusion in the implementation of the document. Specifically for Wandi and Mandogalup, we have identified the following examples:	Noted
- The receational facility identified for Mandogalup is assumed to relate to the local playing field required under the Community Infrastructure Plan. In accordance with approved Mandogalup East and West Local Structure Plans, this is being delivered as a co-located facility with the future primary school, as identified on those Local Structure Plans. Therefore, for the purposes of clarity, we suggest the notation/icon on the Strategy Map be shown in the correct location, further north than is currently shown. This will help alleviate confusion over what that facility is relating to.	Mapping has been modified as suggested.
- Similarly, the proposed recreational facility for Wandi south, should be accurately shown on the future high school site, as intended under the approved Wandi South Local Structure Plan.	Mapping has been modified as suggested.
- The mapping does not identify the future primary school for the Mandogalup land, as approved under the Mandogalup East and West Local Structure Plans.	Mapping has been modified as suggested.
- There is a proposed community facility noted on the mapping for Mandogalup. Whilst we understand this has been previously identified in other bodies of work, we understand the City has since removed this from planning due to the inability to deliver this under the Development Contribution Plan. We therefore query the validity in showing this facility on the Strategy mapping.	Mapping has been modified as suggested.

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- The Environmental Strategy Map identifies the 'local natural areas' across the City. However, we note this is somewhat misleading as it does not reflect the state of vegetation on the ground. Large areas of this vegetation has already been cleared, such as within Mandogalup and Wandi.	The mapping is consistent with the City's Local Biodiversity Strategy.
It may be more appropriate for the mapping to exclude those areas already cleared, or which are subject to existing subdivision approvals and therefore where future clearing is known.	

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54. Mark Bertolini

619 Millar Road Wellard As you will see from the rates notices I have been the owner for the almost 18 years since the 6 July 2004, as the property was purchased as a future housing land subdivision development.

Suffice to say, over the last 18 years I have frustratingly watched land subdivisions and housing developments being carried out within the East-Wellard Precinct, whilst my property has been in "limbo", effectively sterile land, that cant be used for any purpose.

When purchased I was made aware that in 2001, a draft of the Jandakot Structure Plan was released which identified my property as Medium Term urban with a potential development time frame of 5-10 years.

That said, I am now 8 years post that time frame. The economic impact of this inordinate delay has caused me significant financial hardship.

In 2005, I was told that the District Structure Plan was endorsed, and that the property would be changed from its Rural Cluster Communal Zoning under the Town Planning Scheme to Urban Deferred under the Metropolitan Regional Scheme, which meant the property would become zoned Urban within the initially indicated time frame .

Given that this was the indicated planning status a neighbouring property owner at lot 1219 Woollcott Road, approached me to work toward the lifting of the urban deferred status

I was aware that in consequence of the location of Wellard livestock located on the opposite side of the railway line there was an odour buffer issue. At my cost I engaged town planners to dealing with the odour buffer separation distance

In 2013, we lodged the application to WAPC to lift the odour buffer and have the property varied from deferred urban to urban and the application was after all our efforts rejected ,

Specific processes that could be put in place to deal with this perceived odour were ignored and it has remained that way ever since. Nine years have elapsed since our initial application and the surrounding region is now a completely different landscape.

Stockland properties are now the owners of the Wellard Livestock property. They have now commenced the rezoning process which by implication means they are transitioning to eventually be a future master planned residential community. Also the current use, is significantly different to the previous use, as it pertains to

The subject land is identified as future urban but the odour buffer is also identified to ensure that this issue is resolved prior to the land being subdivide and developed for residential purposes.

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odour, which was the main reason for my properties deferred urban status. The federal government, has announced the banning of live exports of sheep, which will have a major effect on the land use. Stockland's seem to be able to progress their objective of converting this land to urban, in their latest annual report, they have stated the value of the project at 1.4 billion Dollars. While leasing this land for its current use, preventing other surrounding land owners from doing so .

My property should be reassessed for rezoning to urban rather than as future urban as annexed to the draft LSP.

There seems to be clear conflicts within the draft LSP documents. It states that the future planning will provide desperately needed affordable housing over the next 10-15 years. My land could be developed in a much shorter time frame with all the necessary civil services available to develop the land. It continues to be burdened by this deferred urban status, which helps no one, in particular first home buyers looking for affordable housing.

I expect that when the deferred urban zoning was endorsed, it was not envisaged that 18 years would pass and it would still be urban deferred. Considering it should have been lifted within 5-10 years, as per WAPC policy.

I have been hamstrung by a buffer zone which is only a guideline imposed by DER which has stagnated the development of my land whilst the holding costs have continually increased.

This draft LPS needs to reflect this land as not future urban in the next 15 years but urban development land.

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55. Coles

Lot 122 (135) Mortimer Road Casuarina On behalf of Coles, we wish to make the following submissions on the City of Kwinana's (the City) draft Local Planning Strategy (LPS):

1. The proposed Mortimer Road Neighbourhood Activity Centre is incorrectly located. Our primary concern with the draft LPS relates to the depiction of the Mortimer Road Neighbourhood Activity Centre (NAC).

Under the draft LPS, the Mortimer Road NAC is located predominantly on the western side of Nicolas Drive, with only a minor portion of the centre and walkable catchment located on Lot 122 (No.135)

Mortimer Road. Casuarina.

The location of the proposed Mortimer Road NAC directly conflicts with:

a. Figure 38 - Activity Centre Strategy Map contained in the Part 2 Background and Analysis Report (refer to page 98) and the 2014 Local Commercial Activity Centre Strategy (LCACS), as reviewed in 2022. Figure 38 in the LPS Background and Analysis Report is extracted from Appendix 10 – Activity Centre Hierarchy of the 2014 LCACS. In Figure 38, the Mortimer Road NAC is identified as centre No. 7 and is located straddling Lot 122 (No. 135) and Lot 1002 (No. 13) Mortimer Road; the Neighbourhood Activity Centre is identified on either side of Nicolas Drive. Figure 38 is reproduced below and enlarged.

Figure 1 – Extract of the 2014 LCACS Appendix 10 LCACS Strategy Map, Figure 38 of the draft LPS Whilst the 2014 LCACS was reviewed and updated in 2022, and informs the draft LSP, there were no changes to the depiction of the Mortimer Road NAC; the 2022 review of the LCACS continues to reference the 2014 Activity Centre Strategy Map.

b. SDAU application SDAU-042-21, which shows the NAC predominantly located over Lot 122 (No. 135 Mortimer Road).

The Urban Design Concept Plan, included in the application, shows 2ha of the centre over Lot 122 (No.135) Mortimer Road and only 0.3ha of the NAC over the adjacent lot to the east, being Lot 1002.

Figure 2 - Extract of the Proposed Site Layout - SDAU application SDAU-042-21

Figure 3 – Extract of the Urban Design Concept - SDAU application SDAU-042-21

The SDAU application was submitted in December 2021. Whilst the assessment of the SDAU application has been delayed pending Mortimer Road widening investigations, the application remains afoot. Prudent orderly and proper

Noted

The location of the Mortimer Road Neighbourhood Centre has been repositioned to reflect the City's Local Commercial and Activity Centre Strategy.

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planning practice would ordinarily ensure the Mortimer Road NAC is depicted having due regard to; in line with, the pending development application.

There is no explanation in the draft LPS for the inconsistent location of the Mortimer Road NAC having regard to the LCACS and SDAU application, and we have unfortunately been unable to make contact with the City's strategic planning officers to clarify this apparent mapping anomaly.

Accordingly, we respectfully request that the City updates the draft LPS to properly locate the Mortimer Road NAC predominantly on Lot 122 (No. 135) Mortimer Road, consistent with the proposed development under SDAU-042-21 and the LCACS map. We would also welcome an opportunity to further discuss this matter with the City's strategic planning officers.

2. The projected Mortimer Road retail floorspace (6,000m²) and future demand is supported. Under the draft LPS, the Mortimer Road NAC is projected to reach 6,000m² of retail floorspace (refer page 100 of the LPS Background and Analysis Report). This projection is consistent with the LCACS' long term floorspace estimate (as reviewed in 2022); 5,812m² of retail and 5,443sqm non-retail floorspace by 2042. By 2027, the LCACS estimates retail floor space demand to reach 4,181m², which is generally consistent with the current SDAU application, with total proposed retail floorspace of 4,190m².

We also support the findings of the draft LPS which highlight good future growth potential around the Mortimer Road NAC, underpinned by the:

- expected dwelling growth in Casuarina which is projected to exceed 800% between 2016 and 2026:
- proximity of Planning Area 1 (PA1) to the east of Lot 122 (No. 135) Mortimer Road which includes identified future urban land and an investigation area under the Sub-regional planning framework; and
- need for retail floor space in the Mortimer Road NAC, as depicted in the LCACS and consistent with the current SDAU application.

Having regard to the above floorspace considerations, it is noted that the draft LPS is generally consistent with the pending SDAU application SDAU-042-21.

Finally, whilst the draft LPS identifies Lot 123 (No. 165) Mortimer Road as Planning Area 3 (PA3) having regard to potential environmental values, further

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56. APA

APA is generally supportive of the Draft Local Planning Strategy 2021-2036 (the Strategy) however notes that there is an absence of recognition of APA's Parmelia High Pressure Gas Pipeline and its strategic importance to the city. APA makes this submission to seek amendments to the Strategy to better support the existing Parmelia Gas Pipeline, including its significant future strategic value in a potential future Hydrogen market.

APA's preferred position is that all land uses listed below be located outside of the ML:

- · Aged Care Facilities.
- · Retirement villages.
- · Child care / family day care centres.
- · Cinema based entertainment facility.
- · Schools or other educational establishments.
- · Prisons / corrective institutions.
- · Hospitals and medical centres. Place of assembly or worship.
- · Retail premises.
- · Service station.
- · Higher density residential uses.
- Other uses, as determined by the relevant decision maker, as substantially used by community members unable to protect themselves from the consequences of pipeline failure.

Whilst the Parmelia HPGTP is licensed for the transportation of natural gas, it is the subject of an ongoing study regarding its suitability to transition to the transportation of hydrogen. This study has been partly funded by the WA Government's Renewable Hydrogen Fund and has been undertaken on a 43 kilometre section of the pipeline that includes the section traversing the Strategy area.

**Submission Observations** 

Observation 1:

The Strategy properly does not make any reference to the Parmelia HPGTP. Based on the current operational and future potential strategic significant of the Parmelia HPGTP, this should be remedied.

Observation 2:

The strategic value of the Parmelia HPGTP should be recognised in the strategy. The relative values of the pipeline align with the following current draft Strategy provisions:

- Section 3 Vision sustainability principles
- o Prosperity HPGTP's support the employment sector and particularly that in the Kwinana Industrial Area.

Noted

This matter is managed during later stages of the planning process.

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o Sustainable Development – The Parmelia Gas Pipeline supports the sustainability of the employment area in its current form and has the potential to deliver green energy in the future that enhances that strategic value.

o Resilience – The potential for the Parmelia to deliver hydrogen to the area is a significant opportunity to respond to broader aspirations around the topic of 'sustainability'.

· Section 5.3 - Public Open Space

o Strategic Direction includes the equitable distribution of accessible and integrated public open space.

o APA's HPGTP easement provides some limited potential for enhancement and use as open space and green linkages. APA has published 'National Site and Landscape Design Guidelines' to provide guidance on how this may occur which are available on our website. APA acknowledges these guidelines are focused on greenfield residential urban development and may have limited direct value in an industrial land use setting however, the principles remain applicable.

· Section 6 Economy – Strategic Action 22

o Strategic Direction includes the recognition of the Kwinana Industrial Area and the need to consider land use comparability issues to protect its ongoing operations and potential future growth

o SA 22 identifies the need for planning provisions to protect the Kwinana Industrial Area from encroachment by incompatible development and sensitive uses. This SA can equally apply in supporting the functioning of HPGTP's.

· Section 7.2 – Climate Change – Strategic Action 60

o Strategic Direction includes the need to promote measures that encourage climate change adaptation.

o SA 60 refers to the City of Kwinana's Climate Change Plan. The support of a future green hydrogen outcome for the Parmelia Pipeline supports this SA.

Section 8 – Infrastructure – Strategic Action 71

o Strategic Direction includes the need to create a well-connected community by managing development and sensitive land uses.

o SA71 highlights the importance of utilising local planning controls to minimise conflict between infrastructure and sensitive land uses. This management of sensitive land uses around HPGTP is aligned with this SA.

**Recommended Amendments** 

o Recommended Amendment 1:

o The Parmelia HPGTP should be identified on the Strategy's Infrastructure Map. The map should further identify the notification area proposed in DC4.3.

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For the Parmelia, this area is 300 metres either side of the pipeline.

Recommended Amendment 2:

o A new section should be included recognising HPGTP's and their strategic value to the City of Kwinana.

o A logical place for this new section would be at 8.2 in the Infrastructure Chapter.

o A new Section 8.2 should identify both the current and potential future strategic values of HPGTP's with associated Strategic Actions akin to SA22 referencing DC4.3 and the encouragement for land use's sensitive to pipelines operating environment to be located outside the mapped notification area (as per recommendation 1).

The above amendments would make the controls of DC4.3 more transparent to users of the Kwinana Planning Scheme giving an appropriate level of protection to this infrastructure of State criticality and provide equitable strategic recognition and protection as that given to the industrial area it serves.

#### Conclusion

This submission sets out the strategic importance of the Parmelia Gas Pipeline to the economic wellbeing of the City of Kwinana. Further, the potential for the future conveyance and supply of green hydrogen to the city's key industrial sector is supported by established businesses and National, State and local strategies. This topic is currently a key area of APA's engagement with the State of Western Australia to ensure policy settings at the State level are facilitating of such future energy transition ambitions.

Given the strategic value of this infrastructure and its support of many Strategic Directions and Actions currently in the Strategy, APA seeks its recognition in the Strategy as per this submission.

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57. Medina Residents Group	The Medina Residents Group consider many of the current policies and guidelines to be beneficial to a strong sense of neighbourhood, including;  • Retention of existing levels of pre-colonial natural bushland of minimum 30% and existing parkland (including Oakley Rd natural bush and bush land along Beecham Crescent)  • Maintenance of the buffer zone from Wellard Road to Thomas Road  • Strong retention and enhancement of existing street tree-scapes  • Maintenance of the strong character of Medina housing in line with its status as a Heritage Precinct as recognised by the National Trust May 2007  • Maintenance of a clear separation between industry and residential areas.  We note that there is no mention of Wells Park and associated beach front areas, particularly in terms of environment and conservation. Where is this addressed?	Perth Natural Resource Management (NRM) & The City of Kwinana are working together on the coastal restoration and bushland maintenance at Wells Park.  The intention is to rehabilitate the area, reduce illegal dumping and create a clean park for people to visit.
	We have added and, in some cases, modified the actions below in respect of Medina.  Directions Actions Promote activity centres as key nodes for shopping, entertainment, community facilities and where appropriate business services, social services, health services and housing diversity.	The Actions in the LPS have been modified where appropriate in response to the comments.

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Prepare precinct structure plans for the City Centre, district and neighbourhood centres to activate and enhance the viability of these centres by: • providing diverse, high quality housing types within walkable catchments of the City Centre, District and Neighbourhood Centres; · optimising accessibility to and around each activity centre via cycle routes and walking paths; and • facilitating an appropriate mix of land uses within activity centres. • promote commercial entities within a focus on the promotion of healthy lifestyles i.e. no vaping shops, limited alcohol outlets – can this be entered into the town planning scheme? • review current businesses in Medina with a view to limiting the above orientating to healthy lifestyle businesses Ensure a range of lot sizes and dwelling types for a diversity of households, The Actions in the LPS have been modified where appropriate in response to allowing residents to stay in their communities as they age as well as providing a this comment. range of housing options for young people and families with a high level of amenity.

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Encourage a diverse range of high-quality housing suitable for the changing needs of the community, dispersed within the walkable catchments of activity centres, including:	The Actions in the LPS have been modified where appropriate in response to the comments.
smaller and accessible dwellings for an aging population and people with disabilities;	
larger houses for extended families and other household types;	
supporting initiatives geared towards the provision of special needs housing including good quality - affordable housing, social housing and housing for the age;	
explore alternative co-operative style housing (multiple housing on one block – shared facilities etc) to support low socio-economic people;	
• review R codes with a view to reduce some areas to R15 to accommodate cooperative housing options;	
CoK to work with the community to identify areas for infill for Medina;	
explore areas near to neighbourhood centres for alternative high density community housing model - require change to R code;	
seeking to maintain Medina's heritage tree canopy;	
maintain street frontage for all infill housing to maintain Medina character; and	
no more double story infill houses in Medina to maintain character and heritage value.	
Encourage high quality housing developments targeted to households at different life stages and income levels, including a mix of lower to moderate income groups.	The Actions in the LPS have been modified where appropriate in response to this comment.
Develop planning controls that implement best practice sustainable development principles for climate responsive site and building design, energy efficiency, waste and recycling and water management.	The Actions in the LPS have been modified where appropriate in response to this comment.

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Recognise and strengthen Kwinana's unique cultural, natural and built environment to foster a sense of place in existing and future residential areas.	The Actions in the LPS have been modified where appropriate in response to this comment.
Develop planning measures to ensure new development contributes maintains or enhances to:	The Actions in the LPS have been modified where appropriate in response to this comment.
intended future eexisting character of for new and future suburbs that is respectful to setbacks, site coverage and built form; and	
the character of established areas in terms of built form, landscape, appearance and impact on the streetscapes and adjoining properties.	
the heritage value of Medina	
Review the City of Kwinana's Medina Neighbourhood Centre Revitalisation Strategy	The Actions in the LPS have been modified where appropriate in response to this comment.
and Review and strengthen the Residential Design Guidelines 2009 (Local Planning Policy) for inclusion in the Town Planning Scheme. This is to ensure compliance and should be done alongside community consultation.	
These reviews will contribute to the as part of the preparation of the Medina precinct structure plan and include appropriate elements will be included in of the Medina Place Plan.	
As part of a review of the City of Kwinana's Residential Design Guidelines 2009 undertake a character assessment of Medina and Calista (with potential inclusion of Orelia, Parmelia and Leda) to determine what elements should be retained in established areas to ensure new developments complement and enhance the established character of the area.	The Actions in the LPS have been modified where appropriate in response to this comment.
Reflect Medina's Historic Precinct Status (National Trust in May 2007) requirements.	
To define the role and extent of the City's activity centres hierarchy to establish network of shopping, recreation and entertainment requirements for residents and provide employment, community meeting places and associated land uses.	The Actions in the LPS have been modified where appropriate in response to this comment.

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Prepare precinct structure plans for each of the district and neighbourhood centres that:  • support a mix of land uses to activate and enhance the viability of these centres;  • maximise access to and within activity centres by walking, cycling and public transport; and  • ensure development within the activity centre is well designed cohesive and functional.	The Actions in the LPS have been modified where appropriate in response to this comment.
Encourage redevelopment of the following local centres:  Orelia local centre - facilitate mixed use redevelopment Calista local centre - rezone the site to residential development. Summerton Road - rezone the site to residential development.  Review the City of Kwinana's Medina Neighbourhood Centre Revitalisation Strategy with a view to implementing the actions supported by the community in exchange for giving up part of McGuigan park (circa >10 years ago).	The Actions in the LPS have been modified where appropriate in response to this comment.
Develop an effective methodology for a large-scale community garden.	Noted
	This is not a matter that can be resolved by the Local Planning Strategy.
In addition, and regards to the CoK's new Biodiversity Strategy, we would like to draw your attention to the following;	Noted
1) As stated in the new Biodiversity Strategy, 30% retention of pre-European vegetation is the absolute minimum to prevent loss of biodiversity through habitat fragmentation. This is particularly critical under today's scientific-evidenced climate change projections where increasing bushfires and adverse weather conditions can be expected to increase in frequency and severity.	
This places more pressure on maintaining existing levels of flora and fauna in the CoK and brings to mind the importance of	
(a) not substituting quality pre-European bushland with high conservation value for poor quality private land when dealing with developers under offsets (i.e. likefor-like),	
(b) consider stretch targets that increase this borderline 30% value consistent with the Precautionary Principle (which is specifically outlined as a guiding	

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	principle in your Biodiversity Strategy).	
	2) We also note that the wildlife corridors in the current Biodiversity Strategy do not lead anywhere. They are simply narrow corridors of bushland. This is like people living in their hallways never getting to a living space. Consideration of wildlife corridors leading to substantially larger areas of natural bushland is needed for these to be effective and fall under a definition of a meaningful conservation measure. This should be reconsidered in the current draft plans. Otherwise the term "wildlife corridors" is incorrect.	The purpose of the ecological corridors is to provide local linkages between areas of regional environmental value. The linkages may not necessarily have a high environmental values other than being a linkage between regional significant areas of bushland or wetlands.
	3) As a group, we continue to strongly object to the location of the landfill on corner of Stock/Rockingham Roads and Thomas Road. The optics for the CoK and its residents are terrible and reinforce the stereo-typical image from a bygone era that Kwinana is (figuratively) where all the rubbish goes and lives. What kind of statement are we trying to make here? There is not much more to say on this, its really unacceptable to us as residents period, and should be to the CoK too. There are ways to negotiate regardless of contracting obligations. We suggest that the CoK explore these as a priority.	Noted

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Department of The Department has reviewed the Draft Strategy, including supporting Noted Planning Lands and documents, and makes the following requests and recommendations: Heritage (DBNGP) In response to this submission the following action has be included in the Local • DBNGP Corridor and Mapping: The Department requests that the maps Planning Strategy. associated with the Draft Strategy depict the DBNGP corridor, where appropriate (i.e. Appendices 4 – Infrastructure Strategy Map). The Department notes that the identification of existing high-pressure gas pipelines and the DBNGP corridor will promote and protect the visibility of such infrastructure which is particularly critical in strategic planning documents. The spatial data for the DBNGP corridor can be found on Data WA. available via the following link: Infrastructure Corridor (LGATE-231). • Policy and Planning Measures: The Department requests that the policy and planning measures which may arise from PB87 or Draft DCP 4.3 in relation to development within the vicinity of high-pressure gas pipelines are referred to in the Draft Strategy. The Department acknowledges that such policy and planning measures are briefly referred to in the City's Background and Analysis document. • Promoting Stakeholder Engagement: The Department requests that the Draft Strategy emphasises the need for all proponents to engage with the relevant owners and operators of high-pressure gas pipelines that transect the City's administrative boundary. • Legislative Requirements: The Department recommends that the approvals and restrictions associated with the DBP Act are referenced in the Draft Strategy. Inclusion of such restrictions, or reference to the DBP Act, will ensure that approval pathways are clearly understood and considered from a strategic perspective. While it is at the discretion of the City, the Department suggests that the above requests and recommendations are included within "Section 8 -Infrastructure" of the Draft Strategy.

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59. Shire of Serpentine- Jarrahdale	Our two local governments have much in common and the shared boundary needs to be carefully managed and integrated to ensure that our planning efforts are not counter-productive and oppose each other. In the spirit of co-operation, we provide the following comments:  1. Collaborative approach to the Urban Investigation Area: There should be an acknowledgement that most of the urban investigation area is within the Shire of Serpentine Jarrahdale (75%), and that there should be a coordinated planning effort in all aspects of planning, staging, environmental assessment, water assessment, traffic and transport, community engagement and stakeholder management. Given a large portion of the Investigation Area is located within the Shire of Serpentine Jarrahdale, the Strategy should discuss the need for a collaborative approach between local governments in undertaking further detailed planning for the 'Urban Investigation' area.	Noted  The City agrees that there should a collaborative approach in preparing a district structure plan for the Urban Investigation area.
	Key considerations for the Urban Investigation Area:     Section 5.2 references the Wellard East Planning Investigation Area identified as 'Urban Investigation' in the Perth and Peel@3.5million Planning Investigation Areas Update 2022.  Section 5.2 of the Strategy outlines the key considerations to be addressed for the 'Urban Expansion' area instead of the key considerations to be addressed for	Agree  The LPS text has been modified from urban expansion to urban investigation.
	the 'Urban Investigation' area in the WAPC document.  The area identified within the Strategy is an 'Urban Investigation' area, not an 'Urban Expansion' area under the WAPC update. This section should therefore be amended to reflect the key considerations to be addressed for the 'Urban Investigation' area as outlined by the WAPC's Perth and Peel@3.5million Planning Investigation Areas Update 2022. The section should be updated with the following:	

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'The following key considerations are to be addressed through further detailed planning for Urban Investigation areas:

- land supply
- road transport infrastructure coordination and staging (at a regional and istrict level)
- servicing infrastructure coordination and staging
- · flooding and drainage
- sand fill (estimated volumes, resource locations and transport)
- protection of significant environmental values'.

The LPS has been modified following advertising to include an Action requiring the following additional matters to be addressed as part of the detailed process.

"Advocate for the future planning of Planning Area 1 (Wellard East) to address matters including, but not limited to:

- protection and management of water resources;
- disturbance of wetlands;
- water quality; and
- extent of the Wellard East Planning Investigation Area."

#### Rural Living Areas:

It would be good to understand what the City is doing in terms of its Rural Residential areas. The Shire frequently get request from landowners within Serpentine Jarrahdale asking questions such as why Wandi is allowed 1ha lots. It would be good to understand whether further subdivision is being contemplated, most notably the 2ha lots, and the strategic basis for where this is allowed. It would be good to encourage a stepped lot size approach which clusters the smaller rural lots around urban localities, that are then diluted as distances away increase. This may be considered as an expansion of Action 5.

In this regard Part 1 Section 5.1 states that Rural Living areas 'provide an appropriate land use transition from urban residential lots to rural land on the eastern side of Kwinana'. The eastern boundary of the City of Kwinana adjoins rural land within the Shire of Serpentine Jarrahdale.

Section 5.1 of the Strategy states that Rural Living areas include 1ha-4ha lots and broadly discusses a graduation of larger residential lot sizes adjacent to rural lots.

4. Activity Centres around Anketell Road (Planning Area 2):
There is a significant build-up of activity north and south of Anketell Road, near
the freeway, with a district centre on north side and urban location on the south
side. This implies a need to plan accessibility between communities, which will
share services, infrastructure and community assets. An important aspect is how

The decision to allow Costco outside of the district centre on the corner of Thomas Road and the freeway appears to have cannibalised the Anketell Road district centre - consideration should be given to remove this centre. The significant activity centres along the Kwinana freeway (Actions 32 and 33), if not

will this be reconciled with Anketell Road being a freight freeway which is meant

to prevent access across in all but the most limited circumstances.

#### Noted

The LPS has been modified following advertising to include an Action that will assist in resolving the issues raised by the Shire of Serpentine Jarrahdale.

- "Undertake a Rural Study to determine how the following matters can be managed under the City's planning framework:
  - protecting amenity of the rural landscape;
  - conflict at interface between urban and rural land uses:
  - interface with abutting Shire of Serpentine Jarrahdale, City of Cockburn and City of Rockingham; and
  - capacity of the City's Landscape Protection zone to protect environmentally significant areas."

The City appointed Pracsys (an urban economics consultancy) to prepare a draft Local Commercial and Activity Centre Strategy. Preparation of the LCACS entailed comprehensive socio-economic profiling, economic analysis, gap analysis, retail needs assessment, benchmark analysis and gravity modelling to determine an appropriate activity centre hierarchy for the City of Kwinana.

The City is confident that the matters raised by the Shire of Serpentine Jarrahdale have been considered during the preparation of the LCACS.

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managed properly may prevent the growth and may even lead to the decline of the city centre, something that all local governments must be mindful of. The City has been particularly successful with the redevelopment of the City centre and having this area decay due to the development of many and large activity centres on the freeway will affect current residents due the deterioration of the existing centre. The Shire is not convinced that Action 26 (and even Actions 27, 28, 29 and 30) will be sufficient to protect the City centre and other smaller activity centres against retail and other development on the freeway. Therefore Action 25 will be particularly important to protect the activity centre assets the City currently has. 5. Interface between Residential and Industrial: It is assumed that the Shire of Serpentine Jarrahdale is referring to the area The Shire is not clear as to the logic behind the direct interface of industrial and within the designated as an Improvement Area (Improvement Plan 47) by the residential in the suburb of Mandogalup. These are highly incompatible land use Western Australian Planning Commission. units and will exacerbate concerns about interaction of incompatible levels of activity and land use intensity. If residential is not possible at this stage, land Improvement Plan 47 has been the subject of studies by the WAPC to should be preserved for longer term strategic use rather than attempt yet further determine future land uses in the area. industrial land in an area already with more than 2,000ha of undeveloped industrial land in Latitude 32.

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6. Rationale for considerable expansion of the Kwinana Industrial Area:

There does not appear to be an economic strategy to warrant more than doubling the Kwinana Industrial Area. This industrial area was built over 70 years, yet this strategy is suggesting doubling in the next 15 years, and it therefore at the very least it seems that the Strategy does not reflect the required 15-year timeframe. The Strategy may be allocating too much industrial land, which will potentially cannibalise industrial precincts elsewhere like the southeast corridor in Serpentine Jarrahdale, where there is a need to generate enterprise and employment activity.

The employment capacity in Serpentine Jarrahdale is very low at 17%, compared to Kwinana which is over 60%. The proposal for industrial development expanding should not be supported without further economic impact analysis.

Even if this expansion was feasible there should be a clear staging plan to manage expectations. If so, then the drafting of such a plan would need to be included in the proposed actions, perhaps under Action 24.

included in the proposed actions, perhaps under Ac

7. Protection of the Jandakot Groundwater Mound:

Part 1 Section 5.2 Action 11 proposes to 'introduce provisions into the City of Kwinana's Local Planning Scheme to prevent incremental development (such as sheds and garages) in rural areas and local natural areas, particularly within the Jandakot Groundwater Protection Area'.

Further clarity is recommended on the type of development that is not supported within the Jandakot Groundwater Protection Area and the justification for this.

The Shire's Local Planning Strategy includes an action to introduce a Special Control Area for the protection of the Jandakot Groundwater Mound. The Shire's Local Planning Scheme No.3 includes a Special Control Area for Jandakot Groundwater Protection, which requires development within the Special Control Area to be consistent with State Planning Policy 2.3: Jandakot Groundwater Protection Policy and the Department of Water and Environmental Regulation's Water Quality Protection Note No. 25 – Land Use Compatibility Tables for Public Drinking Water Source Areas (as amended). This could be done through Action 40, but it probably needs to be clearer that this is what is intended.

The future industrial land identified in the local planning strategy is consistent with the WAPC's Southern Metropolitan Peel Subregional Planning Framework.

An Action has been added to the LPS requiring the City to undertake a Rural Study including the protection of the Jandakot Groundwater Mound from development by ensuring that development is consistent with State Planning Policy 2.3: Jandakot Groundwater Protection Policy and the Department of Water and Environmental Regulation's Water Quality Protection Note No. 25 – Land Use Compatibility Tables for Public Drinking Water Source Areas (as amended):

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8. Environmental aspects: The Shire would be interested in discussions about Actions 46, 50, 51, 52, 57 and 60 when appropriate as there are many similarities, and we face the same issues and considerations that make these actions important aspects in the City's strategy.	Noted
9. Population demographics and statistics: The snapshot of current statistics in Section 2 provides insight to the current character and form of the City. Given this strategy identifies the need for significant growth opportunities and direction for the foreseeable future, perhaps a forecast of where the City of Kwinana expects these demographics and statistical elements would be at the end of the life of this strategy, would be useful.	Noted
It would provide the intent and importance of this Strategy by providing a clearer indication of the growth expected and why the Strategy is necessary to guide Kwinana for the next 15 years. This quick snapshot may identify the growth opportunities and or the shortfall expected to which the Strategy aims to address.	
It would be beneficial for the infographic page within Section 2 to also include benchmark statistics, or a comparison between the City of Kwinana and the Perth Metropolitan Region or surrounding outer metro local governments. The infographic could benefit from statistics relating to population growth, activity centers, or transport corridors, which appear to be major elements to the direction of the Draft Local Planning Strategy.	

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Format and Mapping: The structure of the Draft Local Planning Strategy is logical and intuitive to the direction of the strategy, and the maps provided within each report section are particularly beneficial.  The Shire appreciates the environmental and infrastructure maps that are especially effective in demonstrating the linkages between the City of Kwinana and the Shire of Serpentine Jarrahdale.  These reflect future planning and the importance of major roads such as Thomas Road, as well as ecological corridors which align with corridors and Park and Recreation areas within the Shire of Serpentine Jarrahdale. However, the page layouts of the maps within each report section do not show the maps in their entirety, as most are cut off east of Kwinana Freeway. Although the entire maps are shown in the Appendix, it would be helpful to include the maps in their entirety in each section.	Noted
10. General Comments: The City of Kwinana's Draft Local Planning Strategy effectively demonstrates a path forward for accommodating for the continued growth of industrial and urban areas.	Noted
The Draft Local Planning Strategy addresses the need to plan for an increasing resident population, within a local government of which has previously experienced a high proportion of industrial workers commuting from other local governments through a focus on activity centres, urban villages, and improving transport linkages.	
These major themes, particularly liveability and activity centres to accommodate for population growth, economic and transport linkages, and the retention of environment and character in rural areas should align with that of the Shire of Serpentine Jarrahdale's Local Planning Strategy.	

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11. Recommended points for further discussion:	Noted
The Shire would appreciate further consultation on some of the aspects mentioned above, most notably:  a. Collaborative approach to and Key Considerations for the Urban Investigation Area  b. The Rural Living Areas regarding the impact and interface with the Shire c. Activity centres around Anketell Road d. Rational for increasing the industrial area so significantly e. Protection of the Jandakot Groundwater Mound f. Environmental aspects and actions	

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#### 60. Department of Transport

#### 1. Long-Term Cycle Network

The Local Planning Strategy should make reference to the WA Long-Term Cycle Network (LTCN). The LTCN identifies an aspirational blueprint for cycling, that is it identifies the function of a route only – i.e. primary, secondary or local – rather than the form it should take.

The LTCN is intended to be the driving instrument to ensure State and local governments continue to work together towards the delivery of a continuous cycling network. The intention is that a route's built form is determined in collaboration with stakeholders based on the characteristics of the environment, including space availability, topography, traffic conditions (speed, volumes), primary users, and so on.

The Local Planning Strategy should identify the implementation of a cycling network that is consistent with the LTCN, as endorsed by the City of Kwinana Council at its meeting on 22 April 2020. There is an opportunity to consider and include how the Local Planning Strategy will drive the implementation of the LTCN through local planning policies, Activity Centre Plans and Structure Plans, for example through developer contribution schemes.

#### 2. Bike Riding Terminology

In relation to cycling, DoT encourages subtle shifts in language, terminology and expressions used in written communications to reduce perceived obstacles and stigmas. DoT recommend the following key themes are incorporated within the Local Planning Strategy:

- a. 'Cyclists', 'motorists', 'pedestrians' and 'commuters' are all people who have chosen to ride a bike, walk, drive a car or catch public transport for that particular journey. Instead of the term 'cyclist', DoT encourage the use of the term 'Bike rider' (and variations of) which is a more relatable and less confronting term. Many bike riders do not consider themselves 'cyclists', which is used to reference professional or sport-focused riders in lycra with expensive road bikes, and often triggers negative connotations.
- b. Riding a bike is suitable for people of all ages and abilities, and trips can be done in everyday clothing without any special equipment. This is a key factor in the designation of cycling routes in the LTCN, and implementation of the LTCN, i.e. encouraging more people to ride more often.
- 3. Implement the Parking Strategy (Action 67)
  Action 67 identifies implementation of the Parking Strategy for the Kwinana City
  Centre. It is recommended that the City also give regard to the Western
  Australian Local Government Association Local Government Car Parking

#### Noted

The City's Bike and Walk Plan is discussed in the LPS and will be implemented as part of the local planning framework.

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	Guideline WA December 2020 available at https://walga.asn.au/WalgaWebsite/media/WALGA_Media/Documents/LG_Car-Parking-Guideline.pdf as it provides contemporary and best practice parking supply and management information.	
	Improved Methodology to Determine the Provision of Public Transport     (Actions 64 & 65)	
	Should Actions 64 & 65 relate to service provision, this should be addressed with the Public Transport Authority. However, should this relate to the development of a public transport network plan for the Perth and Peel Region, this would remain as an item to be addressed with the Department of Transport.	

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61. Wandi District Centre	The Shrapnel Urban Planning review of the draft LCACS identifies a number of	The Draft LCACS identifies a difference in population projections between
	inconsistencies and concerns in relation to the provisions and recommendations	LCACS (2014) and the draft LCACS. Anecdotal evidence of the effect on
Lots 2 (727) and Lot 313	for the WDC. These are summarised below:	floorspace is seen through the difference in LCACS (2014) projected shop
(651) Anketell Road,		retail expansion for the activity centre hierarchy from 2014 to 2021 compared
Wandi Anketell Holdings Pty	-The reduced floorspace assessment for the WDC is not in accordance with any	to actual development; actual development was approximately 12,000m <sup>2</sup> less
Ltd & Denkey Pty Ltd	of the preceding plans and assessments for the WDC and is inconsistent with	than the projection over the eight year period.
	the modelling undertaken by Shrapnel Urban Planning in relation to the 2014	
	LCACS and the draft Precinct Plan;	It is also noted that the results of the previous LCACS report floorspace
		productivities of \$5,793m <sup>2</sup> (2021, 6,000m <sup>2</sup> ), \$6,366m <sup>2</sup> (2026, 16,000m <sup>2</sup> ) and
		\$7,045m <sup>2</sup> (2031, 20,000m <sup>2</sup> ). It is unclear if this has been assessed for the
		viability of the centre, Pracsys uses a benchmark of \$8,300m² for district
		centres from benchmark turnover levels derived from relevant centres in the
		Property Council Shopping Centre Directory. Pracsys only look to expand a
		centre once it has achieved that viable turnover productivity level. Productivity
		levels below \$7,000m² to \$8,000m² are not likely viable as supermarkets often
		make up the majority of the floorspace in such centres and turnover above \$10,000m <sup>2</sup> .
		The Pracsys model further accounted for planned expansions in surrounding
		local government areas, it is unclear the level of expansion in floorspace of
		surrounding areas was included in modelling.
	-The retail modelling undertaken by Shrapnel Urban Planning in support of the	Additional testing was undertaken using the Pracsys gravity model. All years
	draft Precinct Plan indicates a potential Shop/Retail floorspace of 14,000 sqm for	up until 2037 could not support additional floorspace at the site based on
	the WDC by 2026, with an ultimate potential viability of 22,000 sgm by 2041.	achieving viable turnover productivity levels. It was identified that the Wandi
	This is inconsistent with the draft LCACS which indicates a potential Shop/Retail	District Centre could support approximately 15,000m <sup>2</sup> in 2042 however it would
	floorspace within the WDC of only 10,000 sqm by 2042, representing a reduction	result in less floorspace at a number of centres, with the greatest difference in
	of over 50%;	floorspace being experienced at the Kwinana Centre. The original modelling
		prioritised the City Centre.
	-The significantly reduced potential Shop/Retail floorspace predictions for the	The rational for the shop retail floorspace reductions is the difference in
	WDC are not supported by any accompanying economic rationale within the	population growth forecasts from the State Government. The difference in
	draft LCACS;	identified turnover productivity levels may also have contributed to the
		difference however it is unclear how these productivity levels were applied in
		the previous analysis.
	-The retail modelling undertaken in the draft LCACS in relation to the WDC is	The activity centre hierarchy was developed using a Study Area that stretches
	based on a small population base that does not take into account the site's	approximately 10km to the east of the Wandi DC, 9km+ to the north and 16
	highly accessible location and subsequent broader population draw;	kilometres to the south. This is seen to be sufficiently large to accommodate
		the catchment for a District Centre. It is possible that the centre will draw
		greater expenditure from population east of the freeway and from the Postans & Hope Valley area, given the Wandi DC will be the highest order centre in the
		area for quite a large distance; the analysis did not attempt to a specific
		adjustment for this potential difference as it would have been subjective.
		adjustifient for this potential difference as it would have been subjective.

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	There may also be the potential to capture additional expenditure from passing traffic on the Kwinana Fwy and Anketell Rd that was not able to be modelled.
-The draft LCACS retail modelling outputs do not include any measures of estimated activity centre economic viability (that is, estimates of annual \$ per sqm turnover) and present only activity centre floorspace estimates. There is no means available within the draft LCACS to relate the potential economic viability of activity centres to the Shop/Retail floorspace estimates; and	Centre expansions are based on achieving a benchmark turnover productivity, the level used for the District Centre was \$8,300m². At 6,000m², the Wandi DC did not achieve a higher productivity than this until 2037. \$8,300m² is a generous viability test, particularly given the increase in inflationary pressures that has occurred over the last year and a half.
-The modelling undertaken by Shrapnel Urban Planning in support of the draft Precinct Plan demonstrates that the estimated Shop/Retail floorspace of the WDC will not adversely impact the viability of other competing centres including the Kwinana City Centre as is suggested in the draft LCACA. This is due in part to the considerable distance between the centres and their different character, roles and physical/social contexts. The Kwinana City Centre is far more likely to be adversely affected by the proposal under the draft LCACS to expand the Wellard Neighbourhood and Local Centres.	It is acknowledged that the distance between the District Centre and the Kwinana Town Centre would reduce the potential impact.  The proposed local centres are not likely to impact the Kwinana Town Centre. They play very different roles and address small convenience shopping requirements.  The potential impact of Wellard Square (Wellard Village) was identified in the draft LCACS and appropriate recommendations made.
The provisions and recommendations contained within the draft LCACS in relation to the WDC are not supported, specifically the proposal to significantly downgrade the potential Shop/Retail floorspace of the WDC. The WDC has long been envisaged and planned as a large District Centre due, in part, to its highly accessible location at the intersection of the Kwinana Freeway and Anketell Road. The retail modelling and subsequent Shop/Retail floorspace predictions for the WDC under the draft LCACS are considered to be fundamentally flawed and require detailed and careful reconsideration.	The modelling undertaken for the draft LCACS uses gravity modelling; the 2014 LCACS was also undertaken using gravity modelling. The modelling in both instances was undertaken to a high standard with different inputs (population, supply) and potentially different assumptions around floorspace viability.  The Draft LCACS identifies the importance of the Wandi District Centre in supporting the retail needs of the local and surrounding populations. It is acknowledged that planning an activity centre hierarchy needs to account for appropriate distribution of centres with high levels of access to support the goods and services needs of the population.  The Wandi DC is a critical centre in the activity centre hierarchy and its successful development is a priority. The modelling undertaken for the Draft LCACS provides a conservative estimate of viable floorspace at the Wandi DC, it is likely that higher levels of floorspace are supportable, particularly from passing traffic due to its location at the intersection of the freeway and Anketell Road. It also fills an important gap in higher order centres between Kwinana City Centre and the Cockburn Gateway which are approximately 19km apart.

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	Addressing this gap with a district centre will be increasingly important over time. It is also important to note that there will be continued development of the area beyond the 2042 timeframe and the Wandi DC will need to expand to meet the needs of this future population.  It is recommended that the Wandi DC may be supportable at a higher floorspace than identified and should be allowed to expand beyond 10,000m² with appropriate evidence of need and net benefit to the community, as per SPP4.2 Implementation Guidelines.
In addition to the technical input provided by Shrapnel Urban Planning detailed above, our review of the draft LCACS and draft LPS identified several mapping errors.  Figures 1, 21 and 55 (Map of City of Kwinana Activity Centre Hierarchy) contained on pages 6 and 34 of the draft LCACS appear to be inconsistent with the draft LPS Plan.  Figure 1 identifies a 'Service Commercial' Centre south of Anketell Road however this centre is not shown on the draft LPS Plan. The LPS Plan identifies	The mapping has been corrected where appropriate.
a Local Centre in Anketell approximately halfway between Anketell and Thomas Roads. The Local Centre is not shown on Figures 1, 21 or 55 of the draft LCACS.  The draft Local Planning Strategy – Part 2 (Background and Analysis) Report ('Background Report') has also been reviewed in the context of preparing this	Noted
submission. The Background Report notes, in relation to the WDC (refer to section 5.7.2 on page 96), that:  "The future WDC has potential for a first stage 6,000m2 Shop/Retail floor space by 2021, increasing to 16,000m2 by 2026 and 20,000m2 in the longer term".  It also recommends the following strategy for the WDC (refer page 100):	
"The maximum amount of Shop/Retail floor space permitted without an RSA is 20,000m2 and an RSA would be required before development is allowed to exceed 20,000m2 of Shop/Retail floor space".  These statements are generally consistent with the provisions contained within the existing (2014) LCACS and supported by the retail modelling undertaken by	

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	Shrapnel Urban Planning in relation to the draft Precinct Plan but are inconsistent with the recommendations contained in the draft LCACS which predicts an upper Shop/Retail floorspace limit of 10,000 sqm for the WDC. The lack of consistency between the documents demonstrates the need for a detailed and careful reconsideration of the daft LCACS.

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62. Ivan Yujnovich

Lot 123 Mortimer Road Casuarina

Mr Yujnovich strongly objects to identification of his property (Lot 123 Mortimer Road, Casuarina) being planned as 'Park and Reserve Investigation' in the City's Draft Local Planning Strategy 2022 – 2036 (draft LPS). The draft LPS should align with the current state and local planning framework and identify Lot 123 as 'Future Urban'. This includes realigning the draft LPS 'Rural to Urban interface' along the eastern boundary of Lot 123. Likewise the location for the Neighbourhood Centre is supposed to be equally shared between Lot 122 Nicholas Drive and Lot 123 as per the current planning framework.

The draft LPS contradicts the statutory zoning of Lot 123, which is currently zoned MRS Urban and under the City's Local Planning Scheme No. 2 (LPS2) 'Development' zone. Being in a 'Development' zone, Lot 123 is also subject to the LPS2 Casuarina Development Contribution Area No. 3 (DCA3) and subject to Development Contribution Area No. 10 (DCA10). Both DCA3 and DCA10 have forecast a substantial dwelling yield and corresponding developer contribution levy from Lot 123 under the current planning framework. This will be discussed further in the submission.

City's aspirations for Lot 123 to become 'Park and Reserve' Specific reference is made in the draft LPS for Lot 123 to be set aside for conservation. For instance, under sub-heading 7 'Environment' at page 51 the intention is stated:

Lot 123 Mortimer Road, Casuarina has been identified as Planning Area 3 in the Local Planning Strategy map on the basis that there is a large area of bushland (and wetlands) in excellent condition on the property which contains a diverse range of rare or threatened flora, fauna and ecological communities. The purpose of identifying Lot 123 as a Planning Area is to ensure that the environmental values of the site are recognised in future in the area protected during subsequent stages of the planning process.

To implement this planning intent, the draft LPS proposes the following strategic actions:

Strategic Action 42. Advocate for the inclusion of areas of significant environmental value within the Parks and Recreation reserve in the Metropolitan Region Scheme. Strategic Action 48.

Identify Lot 123 Mortimer Road, Casuarina as Planning Area 3 to ensure that the significant environmental values of the site are recognised in the City's planning framework and protected during subsequent stages of the planning process.

It is not clear in the draft LPS as to whether the City's ambition is for the whole of Lot 123 to become an MRS Parks and Recreation reserve, given that

The potential environmental impact of the proposed subdivision of Lot 123 Mortimer is being assessed by the Environmental Protection Authority. Designation of the site as a Planning Area is a recognition that the environmental values of the site are being assessed by the EPA.

The future use or reservation of Lot 123 can be determined by the Department of Planning and the City of Kwinana (where appropriate under the Planning and Development Act 2005) once the EPA has completed its assessment and the Minister for the Environment makes a determination in relation to the proposal.

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environmental values can be considered and planned for as part of the structure planning process. For instance, in the draft LPS the City is potentially referring to the negotiated planning solution process as a means to achieve environmental outcomes.

In this regard Mr Yujnovich would support the City's negotiated outcomes approach that the protection of natural areas in future Casuarina urban development areas (including Lot 123) should be managed through a negotiated planning solution process, such as that set out in State Planning Policy 2.8 'Bushland Policy for the Perth Metropolitan Region'.

As recently discussed in June 2023 with City officers, the status of the Lot 123 EPA Act formal assessment (No. 2254) is still progressing. Thus all planning decision making for Lot 123 is put on hold. The outcomes of the EPA assessment decision will therefore inform the future planning for Lot 123.

The timeframe for the EPA assessment determination is still not known. Accordingly, the draft LPS should be modified to show Lot 123 as 'Future Urban', consistent with the current planning framework.

The City can still choose to advocate for the inclusion of Lot 123 as MRS Parks and Recreation reserve as part of its action plan. However, it is misleading to show the whole of Lot 123 as future non-urban on the draft LPS map, particularly when Lot 123 is currently zoned urban and identified for future urban development in the planning framework.

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<u>Developer Contributions Review - DCA3 (Casuarina) and DCA10</u> (Casuarina/Anketell)

If the City's intention is to advocate for Lot 123 to be reserved as MRS Parks and Recreation, then the City has an obligation and duty of care to inform landowners in DCA3 and DCA10 of potential and substantial changes to the calculation of developer contributions.

For instance, at the time of writing this submission, the development industry (i.e. landowners, prospective purchasers, financial institutions, valuers etc) are basing commercial decisions on current DCA 3 developer contribution data being published by the City.

Since the preparation of the draft LPS, the City has not alerted the development industry of its aspirations to remove (or significantly limit) the urban developable area and dwelling yield of Lot 123 from its DCP3 report and DCP10 report.

As at 14 July 2023 the City's website DCP3 forecast developer contribution from Lot 123 is \$8,152,257.65. This contribution amount is derived from an estimated urban Gross Subdivisible Area (GSA) of 23.14 ha, being the potential residential developable area within the total 45.14 hectare area of Lot 123

In calculating the forecast developer contribution for Lot 123 for DCA10, the City's website for DCP10 has a higher \$5,550.47 rate per dwelling. However, developer contributions for 'soft community' infrastructure is capped at \$5,000 per dwelling under WAPC's State Planning Policy 3.6 'Infrastructure Contributions'. The DCP10 developer contribution for Lot 123 towards community infrastructure would then equate to \$1,735,000 based on 347 new dwellings at the rate of \$5,000 per dwelling.

There are negative economic impacts to landowners within DCA3 and DCA10 if Lot 123 is ultimately wholly reserved as MRS Parks and Recreation. Whatever developer contributions cannot be captured from Lot 123 as a result of loss of urban developable area, the 'gap' will need to be absorbed by the other Casuarina landowners, in addition to their current developer contribution liabilities. Whatever 'gap' is not absorbed by landowners, the City will need to meet the costs to cover the developer contribution gap of Lot 123.

If the City is strongly advocating for Lot 123 to not be developed for urban, then the City also has a duty of care to alert affected landowners as to the material impacts that this will have on the City's published DCA3 and DCA10 developer contributions for Casuarina landowners.

Noted

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contribution es Lot 123 and th contribution lia	cularly concerning as the City's current published DC estimates do not provide any advice as to the City's a the subsequent impacts on the Lot 123 landowner do liability. The City's published DCA3 developer contrib- form commercial decision making and therefore is mi e draft LPS.	aspirations for eveloper oution schedule	

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Sand Resource The City is aware that Lot 123 contains a significant quantity of yellow sand resource that is suitable for subdivision fill. The yellow sand resource is mostly situated on the elevated portions of Lot 123. The large quantity of sand underneath the existing vegetation is recognised by the land development industry as a valuable resource to service subdivision and development in the locality. This sand resource can be utilised by future urban development within Casuarina, thus benefiting and reducing development costs for Casuarina landowners. Landgren Road and Nicholas Drive provide access points from which sand can be delivered to landowners in Casuarina. The local availability of such sand resource has sustainable environmental benefits, such as development and transport efficiencies. A substantial quantity of the sand could be extracted as part of subdivision bulk earthworks within the DCA3 forecast 23.14 hectares of GSA urban developable area.	Noted

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Bushfire Management The existing vegetation on Lot 123 is a substantial bushfire hazard, of which Mr Yujnovich at his cost maintains firebreaks and implements bushfire management all year round. Noting the potential future urbanisation of properties to the west and potentially to the east (under the subregional planning framework), if retained as bushland in its entirety, Lot 123 could pose a significant bushfire risk to adjacent future urban areas.	Noted

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Management as Parks and Recreation The draft LPS does not provide sufficient comment as to who would be the responsible authority for the management of Lot 123 if it were to become MRS Parks and Recreation. Management of 45 hectares of bushland adjacent urban land is a considerable undertaking and cost. It is concerning that the draft LPS seems to celebrate the aspiration of Lot 123 being a future Parks and Recreation reserve, without sufficient consultation with relevant stakeholders (i.e. WAPC, DBCA and DWER), as to the compensation to Mr Yujnovich and future management responsibilities for Lot 123.	

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#### Closing Comments

The draft LPS recognises the historic past clearing of native vegetation within the City of Kwinana by landowners/developers for urban development. This has led to a decline in quality and quantity of biodiversity within the City. The draft LPS has emphasised the importance and need to preserve existing remnant native vegetation by limiting vegetation clearing where possible, in order to preserve biodiversity and environmental values.

This need to preserve and limit vegetation clearing should not fall upon specific individuals, such as Mr Yujnovich, in order to provide a counter measure for the actions of historical (and future anticipated) vegetation clearing by other landowners. These landowners will benefit from clearing of vegetation to achieve urban development. The burden of preserving environmental values should therefore be equally shared amongst all landowners seeking to clear native vegetation for urban development.

Mr Yujnovich should be responsible for the retention of remnant native vegetation and biodiversity on his 45 hectare property, as a 'stand-alone' negotiated planning solution, similar to the Bush Forever No. 270 negotiated planning solution in the Anketell North Structure Plan. In this case, the City / WAPC supported a balanced approach towards conservation and urban development. Thus Mr Yujnovich should also be provided with the same opportunity and not have to bear the consequences of the clearing actions undertaken by other landowners, both past, present and future, by setting aside the whole of his land for conservation.

Mr Yujnovich has retained his property intact (i.e. original Lot 123 created  $\sim$  60yrs ago) with the foresight that ultimately his land was going to be able to be developed for urban use. The planning framework up until the City's draft LPS had planned for this outcome, including the City's DCA3 calculated developer contributions for Lot 123.

As a final closing comment, the cost of conservation should be equally borne by all and the cost burden should not be placed unfairly or inequitably on any individual landowner(s) such as Mr Yuinovich.

Noted

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63. Watercorp

The LPS report and particularly the associated Infrastructure map could perhaps be augmented and expanded a bit to explain some of the Water Corporation's high level water and wastewater planning as it relates to planning for existing urban development and urban expansion areas, if you think this would be relevant and useful in the strategy.

In short, the Water Corporation has conceptual water and wastewater planning in place to guide us and land developers in the staging and delivery of water and wastewater network expansion. This planning has been kept updated over the years with reference to the City's LPS, TPS, various amendments, local structure plans, and more recently the SW Metro Peel SRPF.

The most significant challenge to our systems and planning is the identification of the large East of Kwinana "Planning Investigation Area". The Corporation has not yet conducted conceptual water, sewer or drainage planning for this area. Infrastructure agencies, and I would imagine Local governments as well, will need a complete plan (concept DSP with indictive land uses, dwelling and population yields) for the whole of the PIA area in order to conduct long term planning for utility services and community infrastructure. We are not able to do infrastructure planning for the PIA area in a piecemeal fashion based on developer-lead concepts.

Here are some other comments and suggested changes to consider:

- The Infrastructure Strategy Map in the LSP report: suggest replace "Water Treatment" annotation/legend over the Kwinana WWTP site with "Wastewater Treatment Plant"; and replace "Water Treatment" over the Medina water reservoir/tank site with "future water storage/tank site".
- The Infrastructure Map should also show the extent of the adopted odour buffer for Kwinana WWWTP (attached DZ30 drawing).
- The attached high level wastewater planning map may also be useful to include as an appendix somewhere in the LPS report. It shows the current extent of the Kwinana Sewer District and planned assets such as waste water pump stations.
- The attached excerpt of our high level Medina water storage and distribution main planning depicts the long term engineering and capital items required to expand the Medina Water Zone eastwards to service urban expansion to the east of the Kwinana freeway. As I outlined above, this planning does not account for long term servicing of the East of Kwinana PIA land.

Noted and modified where appropriate

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### **Schedule of Submissions**

### OFFICIAL

DIRECTIONS		ACTIONS	IMPLEMENTATION TIMEFRAME  Immediate (less than 1 year) Short term (1-5 years) Medium term (5-10 years) Long term (10-15 years)
COMMUNITY			
Prepare precinct structure plans for the City Centre, Dis and and where relevant Neighbourhood centres to ensu		Prepare precinct structure plans for the City Centre, District and where relevant, Neighbourhood centres to:	Ongoing
<ul> <li>Provision of diverse housing within walkable catchm of these centres;</li> </ul>	nts	<ul> <li>provide diverse housing within walkable catchments;</li> <li>support a mix of land uses to activate and enhance the viability of centres; and</li> </ul>	
a mix of land uses to activate and enhance the viabilithese centres; and		optimise accessibility to and around centres by pedestrian and cycles.  Precinct structure plans are not required for local centres.	
access to and around activity centres via cycle ro and walking paths.	2.	Investigate options to enable the development of a variety of housing types suitable for the changing needs of the community through the local planning framework, including:	Ongoing
Encourage a variety of housing types suitable for changing needs of the community, dispersed within walkable catchments of activity centres, including:		<ul> <li>a diversity of housing within walkable distance of activity centres</li> <li>smaller and accessible dwellings for an aging population and people with disabilities; and</li> </ul>	
<ul> <li>smaller and accessible dwellings for an aging popula and people with disabilities; and</li> </ul>	ion	larger houses for extended families and other household types.	
larger houses for extended families;	3.	Implement a design review process to strengthen the City's focus on built form and also assist in the assessment of development in the context of the site and its surrounds.	Short term
Develop planning controls that implement best practices sustainable development principles for climate responsite and building design, energy efficiency, waste recycland water management.	ive		
Recognise and strengthen Kwinana's unique cult natural and built identity to foster a sense of place in exis and future residential areas.		Review the Medina Neighbourhood Centre Revitalisation Strategy and Residential Design Guidelines 2009 to include relevant standards in the local planning framework to preserve the residential character and enhance the viability, having due regard to requirements in the state planning framework.	Short term

### OFFICIAL

*	Recognise the importance of the Kwinana Industrial Area and the future Westport Outer Harbour to secure future employment opportunities for Kwinana residents.	9.	Facilitate strategic land use planning in the Western Trade Coast to enable an ongoing supply of industrial land to cater for employment in Kwinana.  Undertake a joint project with the City of Cockburn and City of Rockingham to review aspects of the City's Local Planning frameworks (including planning scheme and	Short term Short term
	NOMY			
*	To deliver an equitable distribution of accessible and integrated multi-functional public open spaces, community infrastructure and recreation facilities that supports healthy and socially connected communities.	6.         7.         8.	Include appropriate provisions in the local planning framework to ensure that subdivision and development is site responsive, incorporates site features, includes interconnected grid-based road and active transport networks that maximise connectivity, accessibility, choice, and legibility, and are aligned to take advantage of views and create vistas to important buildings and spaces.  Advocate for the future planning of Planning Area 1 (Wellard East) to address matters including, but not limited to:  protection and management of water resources; disturbance of wetlands; water quality; and extent of the Wellard East Planning Investigation Area.  Investigate options for feasible sites for the location of a regional recreational facility within the City of Kwinana.	Short term  Ongoing  Short term
		5.	Develop planning controls in the local planning framework to implement best practice sustainable development principles for climate responsive site and building design, energy efficiency, waste recycling and water management.	Short term

### OFFICIAL

*	Expand land use options for a range of industrial land uses to be located in Kwinana having regard to land use compatibility.		policies) to determine if the zoning, land use permissibility and development standards that can be applied consistently across the Western Trade Coast.	
	oonpanonty.	11.	Review and adopt the City of Kwinana's Postans Study with consideration to land requirements for light industrial and service commercial land uses and the future of the Medina Light Industrial complex.	Medium term
*	To define the role and extent of the City's activity centres hierarchy to establish network of shopping, recreation and entertainment requirements for residents and provide employment, community meeting places and associated land uses.	12.	Prepare and implement a City Centre Precinct Structure Plan to:  optimise the potential of the City Centre as a key location for retail, restaurant, entertainment (night and day), arts, childcare, housing, education, health services, social services and short-term accommodation; and allow for education and training needs of the community within the City Centre	Immediate term
		13.	Rezone the following local centres in the local planning scheme to enable redevelopment:  Calista local centre – rezone the site to mixed use. Summerton Road - rezone the site to residential development.	Short term
*	To create diverse employment opportunities for local residents and maintain sustained economic growth by ensuring that suitable serviced employment land is available.	14.	Advocate for consideration of the following matters during subsequent stages of the planning framework in Planning Area 2 (Thomas Road - Kwinana Freeway Interchange):  • integration with the Kwinana Train Station; • regionally and locally significant environmental values; • proximity to the service commercial area and neighbourhood centre on the eastern side of the Thomas Road - Kwinana Freeway interchange; • short-term accommodation and conference centre options; and • traffic flow and safety of the transport network.	Short term
		15.	Investigate opportunities for eco-tourism within Kwinana to provide employment opportunities and promote environmental stewardship as part of the City of Kwinana's future Economic Development Strategy, including the development of an eco-tourism centre alongside established natural attractions such as The Spectacles, Kwinana Loop Trail, Tramways Trail and the Wildflower Walk.	Long term
*	The community has a choice of quality public and private facilities to meet their education and training needs.	16.	Advocate for the establishment of training facilities within Kwinana to provide semi-professional and trade training for the defence industry and other industries with the Kwinana Industrial Area.	Medium term

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To review the City's rural land use with a view to medium and long-term opportunities.	17.	Undertake a Rural Study to determine how the following matters can be managed under the City's planning framework:  • protecting amenity of the rural landscape; • conflict at interface between urban and rural land uses; • interface with abutting Shire of Serpentine Jarrahdale, City of Cockburn and City of Rockingham; and • capacity of the City's Landscape Protection zone to protect environmentally significant areas.	Short term
	18.	Investigate options for the ongoing agricultural uses operating under non-conforming use rights.	Short term
ENVIRONMENT			
To identify, permanently protect and enhance Kwinana's natural environment which is critical to the maintenance of ecological processes and biodiversity.	19	Advocate for the inclusion of areas of significant environmental value in the Parks and Recreation reserve in the Metropolitan Region Scheme.	Ongoing
	20.	Advocate to the Federal and/or State Government for the protection, and where appropriate, management of nationally or regionally significant areas.	Ongoing
		Review the Local Biodiversity Strategy (2022) and undertake further investigation to identify local natural areas to be protected through the City's local planning framework, particularly within ecological linkages.	Short term
	22.	Review all public open space under the management of the City of Kwinana to ensure vesting is consistent with conservation objectives (Local Reservation categorisation, Management Orders and title classification).	Medium term
	23.	Advocate for the environmental values of Planning Area 3 to be recognised in subsequent stages of the planning process.	Short Term
	24.	Prepare an Urban Forest Strategy and investigate appropriate mechanisms in the local planning framework to implement the City of Kwinana's Climate Change Plan.	Short Term
	25.	Prepare a sea level rise local planning policy based on the adaptation options for vulnerable areas outlined in the Cockburn Coastal Vulnerability Values and Risk Assessment to enable land use planning to respond to coastal hazard risks.	Immediate term

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*	Promote planning measures that encourage climate change			
	adaptation and mitigation to ensure our communities are both resilient and liveable.	26.	Investigate appropriate planning mechanisms in the local planning framework to support outcomes in the City of Kwinana's Climate Change Plan.	Short Term
INIT	RASTRUCTURE			
INF	RASTRUCTURE			
*	To create a well-connected community with a safe, high- quality, integrated, multi-modal transport network that makes it easy, safe and convenient for our community to	27.	Investigate appropriate planning mechanisms in the local planning framework required to implement the City of Kwinna's Bike and Walk Plan.	Ongoing
	access activity centres, schools, services, recreation and entertainment facilities.	28.	Advocate for the Public Transport Authority to improve public transport services within the City including bus sizes, scheduling (late night) and route planning.	Ongoing
		29.	Review planning requirements within the Local Planning Scheme for onsite car parking and end of trip facilities for the purpose of:  • supporting a transition to more sustainable forms of transport; • ensuring new commercial and mixed-use developments make electric vehicles and active travel modes (cycling/walking) more attractive travel options; • ensuring electric vehicle charging facilities are provided in new developments; and • decrease requirement for public and private car parking spaces as the car share economy grows.	Short term
		30.	Advocate for Strategic Freight Routes and incompatible land uses to be adequately or screened to minimise freight movements impacting on local communities. and the use of the freight route being potentially constrained.	Ongoing
		31.	Explore options to protect the alignment of the Tramway Trail (as identified on the Infrastructure Plan) through the City's planning framework.	Short term

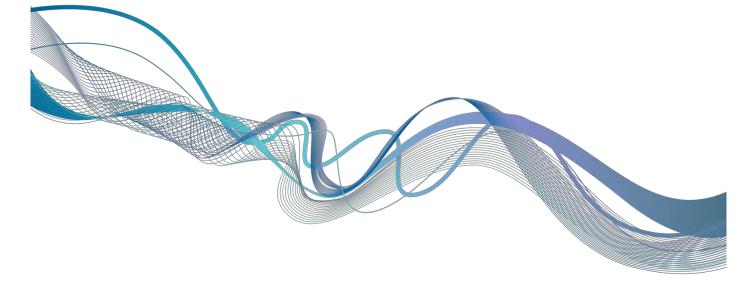




# **LOCAL PLANNING STRATEGY**

## PART 2

## **BACKGROUND AND ANALYSIS**



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#### 1.0 Introduction



The City of Kwinana is required by the Planning and Development (Local Planning Schemes) Regulations 2015 (the Regulations) to prepare a Local Planning Strategy for each local planning scheme within its district.

The Regulations state that a Local Planning Strategy must:

- a) set out the long-term planning directions for the local government; and
- b) apply any State or regional planning policy that is relevant to the strategy; and
- c) provide the rationale for any zoning or classification of land under the local planning scheme.

The Local Planning Strategy provides strategic planning direction for the City's development and provides the framework for decisions on future proposals for rezoning, subdivision and development in the City through to 2036 and beyond.

The Local Planning Strategy provides the strategic basis for the City's local planning framework, primarily through the implementation of a Local Planning Scheme. A Scheme provides the basis for decision

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making about development and the use of land and is the principle mechanism for implementing the Local Planning Strategy.

Whilst primarily a spatial planning strategy, the Local Planning Strategy addresses social, environmental economic, and infrastructure factors that affect, and are affected by, land use and development. For this reason, the Local Planning Strategy will also provide a reference for Council in relation to many of its other corporate functions, helping to identify priorities for investment in infrastructure such as community facilities and services, economic development initiatives, environmental management activities and community building. Similarly, other organisations will refer to the Local Planning Strategy for guidance on their own activities within the City.

The Local Planning Strategy will be reviewed every five years, as required by the Regulations. However, should changes in circumstances necessitate it, the Local Planning Strategy may be reviewed or amended sooner.

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## 2.0 Community engagement



The views of the City's community have helped inform the development of the City's response to the key issues outlined in this Strategy.

As part of the preparation of this Strategy, the City also prepared Planning Studies on each key theme of the Local Planning Strategy, being:

- Kwinana Housing Study (Housing and Population): The focus of this study was recognising the landuse impacts of the City's evolving demographics and population growth. This study identified changing residential and lifestyle requirements in the community.
- Integrated Land use and Transport Study (Transport): This examined the City's connectivity, focussing on integrated transport accessibility (all modes), vehicle traffic, community travel routes and destinations and parking requirements of the community now and in the future.
- Employment and Economic Development Analysis (Economy): This study focused on analysing the local economy and identified the relationship between population and industry, employment deficits and opportunities for economic growth and additional employment.

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- Local Biodiversity Study (Environment): This study examined the extent and protection of the City's natural bushland and wetland biodiversity.
- Rural Lands Study (Rural): The purpose of this study was to examine the stock of rural lands and identify competing contemporary land-use and environmental challenges.

Short, concise Discussion Papers were prepared for each of the above topics with key issues highlighted for consideration by the community which were then presented for community feedback through various engagement exercises.

Engagement with the community and stakeholder groups included:

- 1. Making available draft Planning Studies and its related Discussion Papers on the City's LPS webpage, including printed copies of the Discussion Papers.
- 2. A Survey Questionnaire prepared and made available at the City's Administration Office, Library, and electronically on the City's webpage and Facebook page. The Survey Questionnaire focused on the key topics raised in the above studies as well as raising some broader questions about the communities planning vision for Kwinana. The survey was available to be completed by stakeholders in two forms, 'online' via survey monkey or as a hard copy.
- 3. Community Workshops and Focused Sessions
  - Four workshops for the general community held at a variety of locations across the City at differing times so as to allow interested persons with an opportunity to attend;
  - Two information sessions for the Stakeholder Groups;
  - A Focus session with an Aboriginal Community Group;
  - A Focus Session with a Youth Group; and
  - A Focus Session with the City's Senior Management Team.
  - A "Getting To Know Your Community Event" held at the Market Place on 22 May 2019.

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## 2.1 Community engagement findings

A summary of findings from the engagement program is provided below and these have inform the City's response to key issues throughout the Local Planning Strategy.

#### 2.1.1 Housing

A common value that emerged from the engagement program was a general concern for the natural environment and concern about clearing bushland to accommodate housing. The development of new estates were criticised for the demolition of natural habitats, lacking innovative design and sustainable outcomes, contributing to the sprawl of Perth. The retention of significant trees as part of any new development, in older and newer suburbs a majority view.

The community reflected that they would support increased densities in locations that would generate and allow for increased activity, for example, around activity centres and major transport destinations. Many comments were conditionally supportive of high-density dwellings but that such development should be well designed.

The following design related comments were raised; encouraging safer environments, ensuring surrounding amenity is improved and not reduced, sustainable design, high quality and aesthetic design.

The requirement for a greater diversity of housing stock was also a common theme. Larger lots are valued in the City, it is important to retain large houses for multi-cultural, multi-generational and larger families. However, it was commonly identified that the City does not have enough housing stock to accommodate an ageing population. Sustainable, affordable, efficient housing options are valued.

#### 2.1.2 Transport

The availability of public transport was the most common transport concern of participants, particularly east of the freeway.

The results also identify that public transport frequency, availability, routes and destinations are currently not meeting desires of the community.

A majority of respondents stated that they would use more integrated (public and active) transport modes to travel but they did not currently and that the lack of infrastructure and road design was the biggest barrier to users, along with a perception of safety and cleanliness of paths.

#### 2.1.3 Economy

A strong theme that emerged was the desire within the community for a greater variety of local, small businesses in the City. The majority of participants viewed this as a high priority. Generally, the community consider that there is a greater need for retail, commercial, entertainment and 'white collar' jobs, with a lesser focus on increasing industrial land based employment.

A significant concern was raised regarding the need for more activity such as restaurant's, businesses, cafes and entertainment in the City Centre. It was considered that the Kwinana City Centre should be more attractive and appealing to local residents. There were suggestions for night markets during summer and pop-up food business in the City Centre and at parks and reserves.

In the Youth and Aboriginal Focused Sessions, there was seen to be the need for stronger links between local employers and local people. At both the workshops and focused group sessions, the need to create close synergies between job creation and education/training facilities was raised.

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At the workshops, there was support for bulky goods precinct at strategic locations, like the freeway interchanges and higher density, mixed use development in Activity Centres. Suggestions were also made about attracting secondary industry based initiatives and jobs to support current/existing industries.

#### 2.1.4 Biodiversity

The engagement program revealed overwhelming support for environmental assets and initiatives within the community. It was clear that the community feels very passionately about the protection of remaining bush. Many community members believe that the City should prioritise environmental biodiversity and sustainability. Many residents stated that they chose to live in Kwinana because of the amount of untouched bushland that was available.

Overall, the community consensus is that the City should take a firmer regulatory approach to protecting the City's natural environment. There was a popular view that the City should also engage and educate the community more about the significance of the biodiversity in the region and provide incentives to community members to improve the environmental biodiversity of the City.

A common idea raised amongst residents was to not clear any more bushland to accommodate development. Many residents identified that there was 'enough cleared land' in the Metropolitan Region to accommodate residential growth. Many residents felt that they would rather increase infill and support denser development in appropriate locations to accommodate residential growth and reduce clearing of bush.

#### 2.1.5 Rural Land

There was concern expressed about land use and management, particularly over grazing and illegal dumping within rural areas.

Support was provided to retention of the City's rural living areas and the protection of bushland. There was a view that the City should avoid over regulation of rural areas and keep flexibility around home business.

Buffers between residential areas and rural land uses were seen as important. In respect to bush fire risk, the City could offer a service but also apply enforcement effectively.

It was also noted that a number of those attendees at the Community Workshops had a view that the proposed Planning Investigation Area identified by the Western Australian Planning Commission, in the Sub-regional Framework, should be retailed as rural living.

## 3.0 State Planning Framework



The State and Regional Planning framework sets out the hierarchy of state and regional planning strategies, schemes, plans and policies which apply to development and land use in Western Australia.

Figure 1: State Planning Framework shows the hierarchy of the various planning mechanisms in operation and this Local Planning Strategy has been prepared in context of the state planning framework.



Figure 1: State Planning Framework<sup>1</sup>

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 $<sup>^{\</sup>rm 1}$  Western Australian Planning Commission, 2017, State Planning Framework

## 3.1 Legislation

## 3.1.1 Planning and Development Act 2005

The *Planning and Development Act 2005* (the Planning Act) is the primary piece of legislation governing development and subdivision in Western Australia. The purpose of the Planning Act is to provide for an efficient and effective land use planning system and to promote sustainable use and development of land.

The Planning Act provides the head of power to a local authority to prepare a local planning scheme with the general objective of making suitable provision for the improvement, development and use of land in the local planning scheme area.

#### 3.1.2 Planning and Development (Local Planning Schemes) Regulations 2015

The Regulations 2015 introduced arrangements for local planning strategies, schemes and amendments. In addition to a new Model Scheme Text, the Regulations 2015 introduced a set of deemed provisions that now form part of every local planning scheme in the State. The Regulations state that a Local Planning Strategy must:

- a) set out the long-term planning directions for the local government;
- b) apply any State or regional planning policy that is relevant to the strategy; and
- c) provide the rationale for any zoning or classification of land under the local planning scheme.

### 3.1.3 Hope Valley-Wattleup Redevelopment Act 2000

The Hope Valley-Wattleup Redevelopment Act 2000 (HVWR Act) functions to plan, undertake, promote and coordinate the development and redevelopment of land in the Latitude 32 area. As required by the HVWR Act, a Master Plan (Hope Valley Wattleup Redevelopment Project Master Plan) was approved by the Western Australian Planning Commission (WAPC) in 2004.

Under the Act and Master Plan the WAPC is the determining authority for planning. In early 2012, the WAPC delegated the authority back to the City of Kwinana and City of Cockburn. The Local Government responsibility in Latitude 32 is therefore planning and compliance and the WAPC is responsible for structure plan and subdivision approval.

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#### 3.2 State and Regional Strategies, Schemes & Plans

## 3.2.1 State Planning Strategy 2050

The State Planning Strategy 2050, aims to guide the sustainable development of Western Australia (WA) for the next four decades, is a collaborative whole-of-government approach to land use planning and development. It considers that the South West Sector, in which the City is a part, will continue to house the majority of the State's population and have the highest level and greatest range of health and education services, cultural activities and employment.

The strategy articulates a vision for 'sustained growth and prosperity' for WA, and envisages a future for its people where the present and future generations enjoy high standards of living, improved public health and an excellent quality of life.

#### 3.2.2 Perth and Peel @3.5 Million

The overall spatial framework for Perth, the Perth and Peel@3.5 million suite of documents, is guided by the 'Connected City' principles, involving a balance between urban infill and fringe development. As a connected city, Perth will have:

- a strong central business district that is the business, finance, service, retail, cultural and entertainment centre of the State;
- a network of connected activity centres which deliver employment, entertainment and higherdensity lifestyle choices. These centres will be designed to be attractive, accessible, compact, vibrant, pedestrian and cycling-friendly environments that have high-quality public transport and road linkages;
- connected, specialised hubs of innovation, education, health, research and technology which are designed and located to enable access to skilled labour and appropriate infrastructure;
- urban areas that deliver a range of contemporary lifestyle choices from low density suburban, to medium-density urban and high-density inner-city lifestyles in strategically-located areas;
- high-quality global and local infrastructure networks including roads, public transport, energy, water, communication and globally competitive, highly accessible airport and sea port infrastructure;
- urban form that maximises the use of existing infrastructure assets in parallel with extending
  infrastructure into the development areas of the outer sub-regions identified in the relevant
  draft sub-regional planning frameworks; and
- integrated land and water management that provides social amenity, environmental protection and resilience to climate change for a more liveable city into the future, through better urban water management, water sensitive urban design and green infrastructure.

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Perth and Peel@3.5million outlines the key planning principles and influencing factors (growth patterns, people and society, economy, the urban environment and environment and landscape) that underpin the spatial plan for Perth and Peel.

The spatial plan for Perth has been developed to deliver a more consolidated urban form and achieve a more connected urban structure that minimises environmental impacts. The overarching document provides a link across four sub-regional planning frameworks, Metropolitan North-West, North-East, Central and South metropolitan sectors, of which the City is within the South Metropolitan Peel sub-region.

A key implementation tool developed from Perth and Peel@3.5million is the introduction of a target that 47% of development occurs as infill development rather than greenfield development.

The City will need to respond to the directions set in Perth and Peel@3.5million which are specified under the applicable subregional frameworks.

Figure 2: Sub-regional boundaries<sup>2</sup>

#### 3.2.3 The South Metropolitan Peel Sub-regional Planning Framework

The South Metropolitan Peel Sub-regional Planning Framework (the Sub-regional Framework) is a subset of the over-arching Perth and Peel @3.5million regional strategy, the sub-regional areas being shown in Figure 2: Sub-regional boundaries, and provides strategic guidance for the future development of the south metropolitan and peel areas.

The Sub-regional Framework considers where future homes and jobs will need to be located; what community and social infrastructure will be required; better integrated use of existing infrastructure; protection of important environmental assets and critical services; and staging and sequencing of future development.

The Sub-regional Framework identifies the following matters that will need to be addressed, as shown in Figure 3:

- a port installation development for a future port facility at Kwinana;
- a planning Investigation area over land in the south-east of the City (effecting the Rural zone in Casuarina);
- industrial expansion areas through Hope-Valley, Mandogalup and Postans;
- an industrial investigation area in Mandogalup (now IP47);
- an urban infill dwelling target of 1,370 by 2050;
- Kwinana City Centre as a Secondary Centre;
- a High Priority Transit Corridor "Fremantle-Cockburn Coast-Kwinana-Rockingham" and
- proposed regional transport links at both primary and secondary levels.

<sup>&</sup>lt;sup>2</sup> WAPC, 2018, Perth and Peel@3.5million

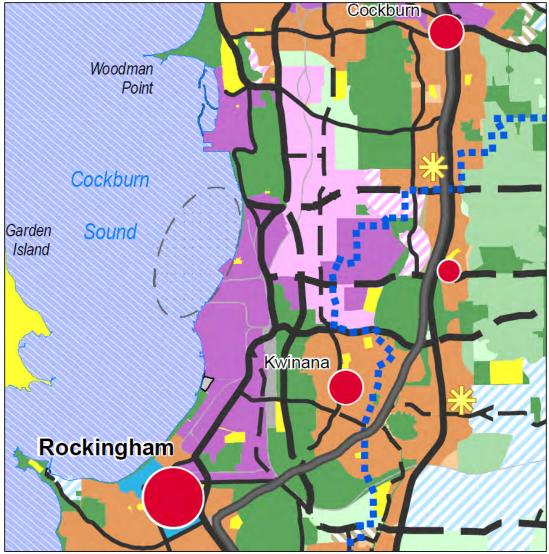


Figure 3: Perth & Peel@3.5 million sub-regional framework spatial plan

## 3.2.4 Metropolitan Region Scheme

The Metropolitan Region Scheme (MRS) is an overarching planning scheme for land use in the Perth metropolitan area. The MRS defines the future use of land and provides the legal basis for planning in the Perth metropolitan region, dividing it into broad zones and reservations. Local Planning Schemes must be consistent with the MRS and are required to provide detailed plans for their part of the region.

It is noted that the proposed Fremantle-Rockingham Highway Primary Regional Road runs through Bush forever site 349 as shown on Figure 4: Map of Kwinana as shown in the Metropolitan Region Scheme.

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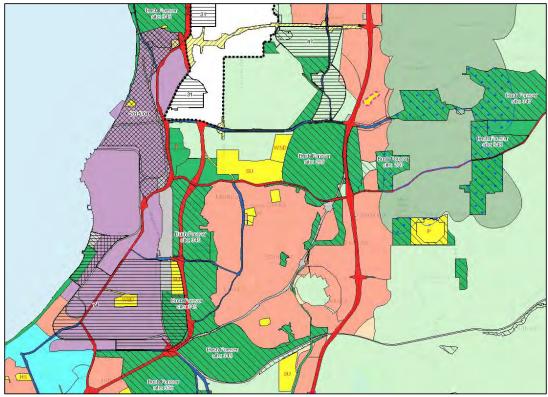


Figure 4: Map of Kwinana as shown in the Metropolitan Region Scheme

#### 3.2.5 Westport Port

The announcement of a land backed port facility at Kwinana has significant opportunities and planning implications for the City, in particular:

- the impacts on existing properties and industries in Kwinana;
- the availability of land in Kwinana to support the operations of the port and port servicing industries (including customs, truck marshalling areas and empty container parks);
- · the road and rail freight supply chain;
- potential for new intermodal facilities within Latitude 32; and
- the impact on environmental assets.

## 3.2.6 Hope Valley-Wattleup Redevelopment Project Master Plan

The Hope Valley-Wattleup Redevelopment Project Master Plan was prepared under the HVWR Act and was approved by the Western Australian Planning Commission (WAPC) in 2004 and continues to operate whilst the Latitude 32 development area remains under development.

The Master Plan functions in a manner similar to a local planning scheme. The Master Plan provides the procedures for establishing statutory documents including structure plans, planning policies and design guidelines, along with the requirements for planning approvals in order to control land use and development.

Under the HVWR Act and Master Plan, WAPC is the planning authority. In 2012, WAPC delegated the authority to the City with respect to planning and compliance, and the WAPC is responsible for structure plan and subdivision approval.

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#### 3.2.7 Improvement Plan 47 – Mandogalup

Once gazetted, the improvement scheme will replace the Metropolitan Region Scheme and the City of Kwinana's Local Planning Scheme No. 2. The WAPC will be responsible for determining land use planning matters in the improvement scheme area.

## 3.2.8 Key issues

- A new outer harbour will be located at Kwinana which will impact on the configuration of the Kwinana industrial area.
- Anketell Road will become the primary freight route for the Port, with Rowley Road and Thomas Road also becoming increasingly critical to the Port's long term operations.
- New industrial and service commercial land uses may seek to locate near Port activities and require suitable land for their operations.
- Existing land uses within Kwinana may be displaced due to the development of an outer harbour and require alternative suitable locations.
- Planning investigation area, in the south-east of the City (Casuarina), may change the land use and development intentions for that locality.
- The City has been allocated an urban infill dwelling target of 1,370, to be achieved by 2050.

#### 3.2.9 Response to issues

The City supports the development of an outer harbour and the associated infrastructure required for its operations but is keen to ensure the Kwinana community can benefit from this major infrastructure development.

The City will seek to ensure compatible development near and along freight routes so that future land use conflicts between road noise and sensitive uses are minimised.

Additional industrial land for existing businesses that are impacted by the outer harbour and future businesses seeking to locate in the area will require additional appropriately zoned land and this should occur throughout the already identified industrial expansion areas in Hope Valley-Wattleup, Mandogalup. It is important to note that the industrial expansion will need to be protected from sensitive land uses and the urban front through a transition and buffer.

The City, and the community as identified through engagement exercises, values its rural living environment. Any planning investigation for the Wellard area will need to take into account the need to continue to provide this housing option.

The City will focus on delivering its infill target through zoning and land use controls that provides quality diverse housing in areas that are close to activity centres and transport nodes.

#### 3.3 State Planning Policies

#### 3.3.1 SPP 1.0 State Planning Framework

SPP 1.0 is the overarching State Planning Policy that specifies general principles for land use planning and development and identifies the primary aim of planning to provide for the sustainable use and development of land. It unites existing State and regional policies, strategies and guidelines within a central framework, which provides a context for decision-making on land use and development in WA. SPP 1.0 identifies and expands on six general principles to guide land use and development: community; economy; environment; infrastructure; regional development and governance.

#### 3.3.2 SPP 2.0 Environment and Natural Resources

SPP 2.0 defines the principles and considerations that represent good and responsible planning in terms of environment and natural resource issues, which include water resources, air quality, soil and land quality, biodiversity, agricultural land and rangelands, minerals, petroleum and basic raw materials, marine resources and aquaculture, landscapes, and greenhouse gas emissions and energy efficiency.

Some of the major policy measures include:

- Avoiding development that has the potential to cause unacceptable environmental damage;
- · Protecting significant natural, indigenous and cultural features; and
- Supporting conservation, protection and management of native remnant vegetation where
  possible, to enhance soil and land quality, water quality, biodiversity, fauna habitat, landscape,
  amenity values and ecosystem function.

This policy informs the Local Planning Strategy by supporting sustainable development that minimises the impact on the environment. The main implications for the City are the protection of wetland and significant natural bushland environments through the recognition of reserves, open space and limiting intensification of development within identified natural asset areas.

## 3.3.3 SPP 2.1 The Peel-Harvey Coastal Plain Catchment

The objectives of this Policy are to improve the social, economic, ecological, aesthetic, and recreational potential of the Peel-Harvey Coastal Plain Catchment, ensure that changes to land use are controlled to avoid and minimise environmental damage to the Peel-Harvey Estuarine system and increase high water-using vegetation cover. The retention and rehabilitation of existing remnant vegetation is also encouraged, with a target of 50% of land area to be established with deep rooted perennial plants, preferably local indigenous species, and prevent land uses likely to result in excessive nutrient export into the drainage system.

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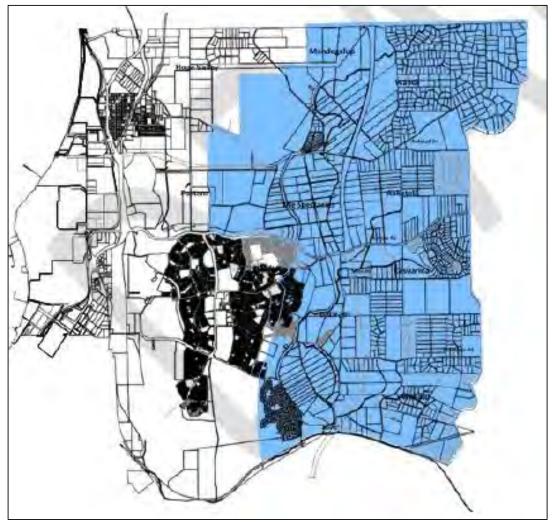


Figure 5: Map of Peel Harvey Catchment

The eastern half of the City and significant central areas are situated within the Peel Harvey catchment. Rehabilitation of the area with deep rooted plants should be encouraged throughout these areas.

#### 3.3.4 SPP 2.3 Jandakot Groundwater Protection

A key objective of this policy is 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. Another objective aims to prevent, minimise, and manage development and land uses that may result in contamination of groundwater.

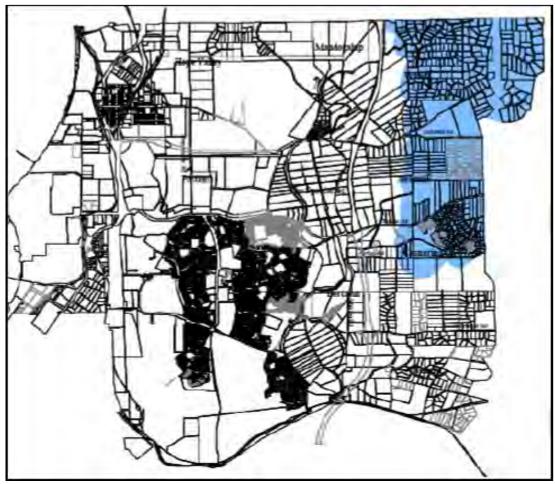


Figure 6: Map of Jandakot Water Mound

The policy limits lots sizes within the policy area to a minimum of 2 hectares, and outlines development control provisions applicable within the policy area, including when advice from the Department of Water is required.

A large portion of the City's rural living areas, including Wandi and Anketell are situated within the groundwater protection mound and subject to the above requirements.

#### 3.3.5 SPP 2.4 Basic Raw Materials

A key objective of SPP 2.4 is to enable the responsible extraction of basic raw materials used in building and development while ensuring the protection of people and the environment.

This policy sets out the matters which are to be taken into account and given effect by the WAPC and local governments in considering zoning, subdivision and development applications for extractive industries (for the extraction of basic raw materials) in the vicinity of identified basic raw material resource areas.

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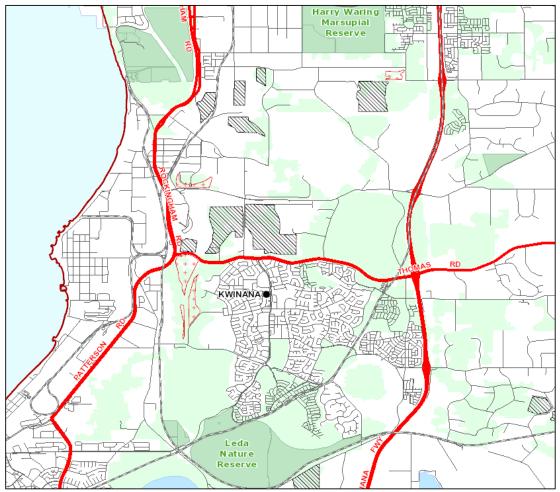


Figure 7: Mapped Basic Raw Material extraction and exclusion sites<sup>4</sup>

There are no significant geological supplies located with the City, however, there are nine extraction sites and four exclusion sites as shown in Figure 7: Mapped Basic Raw Material extraction and exclusion sites. These sites are on either Crown land, Reserved under the MRS, or within existing rural or industrial areas. Any future zoning of land for these sites will need to ensure sensitive land uses do not encroach these locations.

## 3.3.6 SPP 2.5 Rural Planning

The primary objective of this policy is to protect and preserve Western Australia's rural land assets due to the importance of their economic, natural resource, food production, environmental and landscape values. Ensuring broad compatibility between land uses is essential to delivering this outcome.

There are 3 locations within the City shown as rural land on Figure 3: Perth & Peel@3.5 million subregional framework spatial plan. These area:

- 1. 34 Marri Park Drive Marri Park golf course
- 2. Lot 8022 Lyon Road, Wandi Wetland Reserve 51580

<sup>&</sup>lt;sup>4</sup> Department of Mines, Industry, Regulation and Safety, Geoview mapping system

3. 24 McDowell Lane, The Spectacles – Land directly adjacent The Spectacles wetlands

These areas are not used for primary production purposes. However, the location known as 24 McDowell Lane is within a planning investigation area and as such any rezoning of that site should await the results of any future planning.

#### 3.3.7 SPP 2.6 State Coastal Planning

SPP 2.6 is a higher order policy for all coastal matters. One of the main objectives of this policy is to protect, conserve and enhance coastal zone values, particularly in areas of landscape, biodiversity and ecosystem integrity, indigenous and cultural significance.

The Policy prescribes that any rezoning, structure planning, subdivision, strata subdivision or development should ensure that a coastal planning strategy or coastal foreshore management plan is prepared and implemented by the local government and/or proponent for the coastal foreshore reserve and that adequate coastal hazard risk management and adaptation planning occurs.

The City has a coastal hazard risk management and adaptation plan in place, developed in partnership with the Cockburn Sound Coastal Alliance.

#### 3.3.8 SPP 2.7 Public Drinking Water Source

This Policy aims to protect and manage public drinking water source areas from incompatible land uses and pollution in order to maintain the quality of the drinking water. Under this Policy, land uses that are detrimental to the quality and quantity of the water supply will not be permitted, unless it can be demonstrated that such impact can be managed. The WAPC classifies drinking water resource areas as follows:

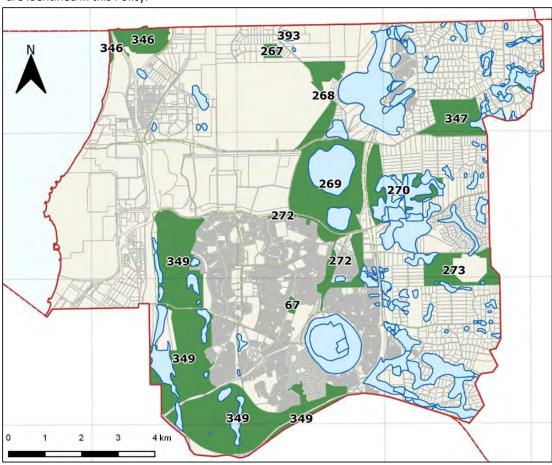
- 1. Priority 1 (P1): These areas should be managed to ensure that there is no degradation of the water resource in these areas. P1 is the highest level of protection for the water source and will normally apply to land owned by the state, and is characterized by low intensity and low-risk land use, such as forestry.
- 2. Priority 2 (P2): These areas should be managed to ensure that there is no increased risk of pollution to the water source. P2 areas are declared over land where low-risk development already exists that may be privately owned.
- 3. Priority 3 (P3): These areas should be managed to reduce the risk of polluting the water source. P3 areas are declared over land where water supply sources need to co-exist with other land uses such as residential, commercial, and light industrial developments, although there is some restriction on potentially highly polluting land uses.

All land mapped as part of the Jandakot public drinking water source under Figure 6: Map of Jandakot Water Mound, is priority 1 or priority 2. The majority of land within the Jandakot Water Mound is zoned for rural living and this Strategy should seek to retain, and potentially expand, that land use.

#### 3.3.9 SPP 2.8 Bushland Policy for the Perth Metropolitan Region

SPP 2.8 seeks to address the protection and management of significant bushland areas, particularly those identified for protection through strategies and processes at the regional and local level in the

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Perth Metropolitan Region. Regionally significant bushland areas are known as 'Bush Forever sites' and are identified in this Policy.

Figure 8: Map of Bush forever sites within the City of Kwinana

Bush Forever Sites	Location	Ownership	Management
67	Parmelia Avenue Bushland	WAPC	Crown Reserve vested with the City
267	Mandogalup Road Bushland, Hope Valley	WAPC	WAPC
268	Mandogalup Road bushland, Mandogalup	Commercial, Private, State Government	Part no management authority, and part Crown reserve vested with the City
269	The Spectacles Bushland	Commercial, Private, State Government	Part WAPC, part Department of Water and Environmental Regulation (DWER), part no management agency
270	Sandy Lake and adjacent Bush land, Anketell	WAPC, Commercial	Part WAPC, part DWER, part no management agency

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272	Sicklemore Road Bushland, Parmelia / Casuarina	Commercial, Private, State Government	Part unallocated crown land, part drain reserve, part Crown reserve vested with the City, part no management agency
273	Casuarina Prison Bush land	State Government	Crown reserve vested in Department of Corrective Services
346 (partial)	Brownman Swamp, Mt Brown Lake and adjacent Bushland, Henderson / Naval Base	State Government, Water Corporation, WAPC	Part DBAC conservation Park, part Crown Reserve vested in Local Government, part unallocated Crown land, part no management agency (Beeliar Regional Park
347 (partial)	Wandi Nature Reserve and adjacent Bush Land, Wandi / Oakford	WAPC, State Government	Part DBAC Nature Reserve, part WAPC (Jandakot Regional Park)
349	Leda and adjacent Bushland	Commonwealth, WAPC, State Government	Part DWER nature reserve, part Vacant Crown Land, part WAPC part Crown Reserve vested with the City, part no management agency
393	Wattleup Lake and adjacent Bush Land, Wattleup / Mandogalup	Commercial, Private, State Government	No Management Agency

Table 1: Listing of Bush forever sites within the City of Kwinana

SPP 2.8 also contains policy measures for 'local bushland' and also provides guidance to local government to prepare a local bushland protection strategy or local biodiversity strategy, in accordance with the Local Government Biodiversity Planning Guidelines for the Perth Metropolitan Region (WALGA 2004). A draft local biodiversity study was prepared by the City and has been used to inform this Local Planning Strategy.

## 3.3.10 SPP 2.9 Water Resources

The main objectives of this policy are:

- To protect, conserve and enhance water resources that are identified as having significant economic, social, cultural and/or environmental values;
- To assist in ensuring the availability of suitable water resources to maintain essential
  requirements for human and all other biological life with attention to maintaining or improving
  the quality and quantity of water resources; and
- To promote and assist in the management and sustainable use of water resources.

The policy seeks to ensure that local and regional planning strategies, structure plans, schemes, subdivisions and development applications adopt measures relating to the identification, protection, management and/or enhancement of water resources including wetlands, waterways (such as rivers, streams and creeks), estuaries, groundwater and surface water catchments, dams, floodplains, foreshores and existing and future surface and groundwater drinking water catchments and sources.

A number of significant water resources are located within the City, as discussed in 5.13 Water Resources and appropriate planning measures to protect the quality of these resources is crucial.

#### 3.3.11 SPP 3.0 Urban Growth and Settlement

This is a broad policy, which sets out the principles and considerations pertaining to planning for urban growth and settlement. This policy facilitates sustainable patterns of urban growth and settlement by setting out requirements for settlements and communities, including scope for growth and change. The broad objectives of this policy are:

- to provide a wide variety of housing, employment, recreation facilities, and open space;
- to meet the social and economic needs of the community;
- to enhance the quality of life of the community;
- to promote the development of a sustainable and liveable neighbourhood form; and
- to coordinate the timely provision of infrastructure and services to the new development.

This strategy is underpinned by these objectives as reflected in Part 1.

#### 3.3.12 SPP 3.4 Natural Hazards and Disasters

This policy encourages local governments to adopt a systematic approach to the consideration of natural hazards and disasters when performing statutory or advisory functions. Natural hazards and disasters include bush fires, floods, severe storms and storm surges, all of which are possible within the City.

Bushfire management is more specifically controlled through SPP 3.7 which the City applies at all levels of the planning process. Floodplain mapping is considered as part of the development process, with floodplain mapping being based on the 1 in 100 year flood, and development and subdivision design responding accordingly.

## 3.3.13 SPP 3.5 Historic Heritage Conservation

SPP 3.5 sets out the principles of sound and responsible planning on the identification, planning and management of places of historic heritage significance. The policy applies principally to historic cultural heritage other than Aboriginal heritage (which is the subject of separate legislation), including heritage areas, buildings and structures, historic cemeteries and gardens, manmade landscapes and historic or archaeological sites with or without built features.

The City has a rich settlement history that is reflected in a number of places, buildings and the design and character of established suburbs. This Strategy will need to consider the significance of the City's character, identity and history and give direction on appropriate mechanisms by which to respond to the historic heritage significance of the locality.

## 3.3.14 SPP 3.6 Development contributions for infrastructure

This policy sets out the principles and considerations that apply to development contributions for the provision of infrastructure in new and established urban areas. The objectives of this policy are:

- to promote the efficient and effective provision of public infrastructure and facilities to meet the demands arising from new growth and development;
- to ensure that development contributions are necessary and relevant to the development to be permitted and are charged equitably among those benefiting from the infrastructure and facilities to be provided;
- to ensure consistency and transparency in the system for apportioning, collecting and spending development contributions; and

• to ensure the social well-being of communities arising from, or affected by, development.

A draft SPP 3.6 was published for comment in July 2019 and a second revised draft SPP is expected to be released imminently. The City currently operates 15 development contribution schemes, 7 of which are still provisional. Therefore any new provisions resulting from a revised SPP will need to be considered.

## 3.3.15 SPP 3.7 Planning in Bushfire Prone Areas

The intent of this policy is to implement effective, risk-based land use planning and development to preserve life and reduce the impact of bushfire on property and infrastructure.

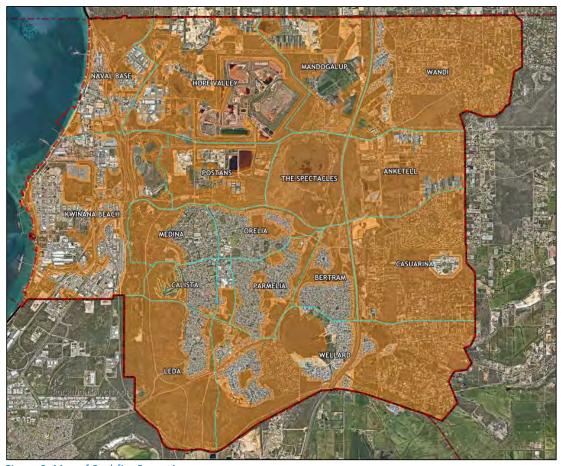


Figure 9: Map of Bushfire Prone Areas

The City has significant amount of bushfire prone areas as designated under the Fire and Emergency Services Act 1998. SPP 3.7 requires bushfire mitigation and protection measures to be integrated into structure planning, subdivision and development stages.

The State Government is currently reviewing WA's bushfire planning and building frameworks. This is to ensure they are based on scientific evidence and adapted to the State's landscapes and bushfire risks.

A working group representing DFES, DPLH, DMIRS and the Commonwealth Scientific and Industrial Research Organisation (CSIRO) is undertaking the review. It's anticipated an updated Map of Bushfire Prone Areas, draft SPP 3.7 and the Guidelines will be released for public discussion before being finalised in 2021.

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Whilst bushfire planning is a necessity, certain mitigation measures introduce challenges in relation to conservation of bushland and amenity of rural areas and public open space. As such, the City is keen to ensure that bushfire mapping can be updated appropriately as the growth of the City's urban areas may impact upon the bushfire prone areas. The City may seek to undertake further detailed bushfire mapping to assist in updating the bushfire prone areas map.

#### 3.3.16 SPP 4.1 State Industrial Buffer Policy

The purpose of the policy is to provide a consistent state-wide approach for the protection and long-term security of industrial zones, transport terminals (including ports) other utilities and special uses. It will also provide for the safety and amenity of surrounding land uses while having regard to the rights of landowners who may be affected by residual emissions and risk. The objectives of this policy are:

- To provide a consistent state-wide approach for the definition and securing of buffer areas around industry, infrastructure and some special uses;
- To protect industry, infrastructure and special uses from the encroachment of incompatible land uses:
- To provide for the safety and amenity of land uses surrounding industry, infrastructure and special uses; and
- To recognise the interests of existing landowners within buffer areas who may be affected by
  residual emissions and risks, as well as the interests, needs and economic benefits of existing
  industry and infrastructure which may be affected by encroaching incompatible land uses.

A draft SPP 4.1 has been released by the WAPC and it provides further guidance on how to protect industrial facilities. The key policy measures require that statutory buffers should be provided around strategic sites and facilities of State significance.

#### 3.3.17 SPP 4.2 Activity Centres for Perth and Peel

The main purpose of this policy is to specify broad planning requirements for the planning and development of new activity centres and the redevelopment and renewal of existing centres in Perth and Peel. It is mainly concerned with the distribution, function, broad land use and urban design criteria of activity centres, and with coordinating their land use and infrastructure planning.

Other purposes of the policy include the integration of activity centres with public transport; ensuring they contain a range of activities to promote community benefits through infrastructure efficiency and economic benefits of business clusters; and lower transport energy use and associated carbon emissions. The policy proposes to incorporate higher-density housing within and immediately adjacent to these activity centres and stipulates that local planning strategies and schemes should optimise housing potential in walkable catchments and meet density targets.

Kwinana City Centre is listed as a Secondary Centre and Wandi as a District Centre with all other centres within the City being Neighbourhood or Local centres. This Strategy will need to ascertain if the various centres within the City are fulfilling their role for the community, both existing and future and align the function of centres with SPP 4.2 objectives.

#### 3.3.18 SPP 5.2 Telecommunications Infrastructure

This planning policy aims to balance the need for effective telecommunications services and effective roll-out of networks, with the community interest in protecting the visual character of local areas. Using a set of land use planning policy measures, the policy intends to provide clear guidance pertaining to the siting, location and design of telecommunications infrastructure. The objectives of this policy are:

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- to facilitate the provision of telecommunications infrastructure in an efficient and environmentally responsible manner to meet community needs;
- to manage the environmental, cultural heritage, visual and social impacts of telecommunications infrastructure;
- to ensure that telecommunications infrastructure is included in relevant planning processes as essential infrastructure for business, personal and emergency reasons; and
- to promote a consistent approach in the preparation, assessment and determination of planning decisions for telecommunications infrastructure.

The SPP indicates that local governments may include any relevant provision of the SPP in a planning scheme or planning policy. The City has a LPP on Telecommunications and reviewed its policy in 2019.

#### 3.3.19 SPP 5.4 Road and Rail Noise

This policy seeks to minimise the adverse impact of transport noise, without placing unreasonable restrictions on noise-sensitive residential development, or adding unduly to the cost of transport infrastructure.



Figure 10: Map of transport noise corridors

SPP 5.4 also provides a standardised and consistent framework for the consideration and management of the impacts of transport noise and freight operations on new noise-sensitive development in the vicinity of existing or future major transport corridors or freight handling facilities, and new major road or rail infrastructure projects in the vicinity of existing or future noise-sensitive residential development.

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There are a number of major and minor road and rail corridors throughout the City that require consideration in planning of urban areas and appropriate land uses. The City will need to ensure it manages the location of sensitive land uses in proximity to noise corridors and conversely, consider and advise relevant agencies of noise constraints when seeking to upgrade transport corridors.

It should also be noted that due to the recent announcement regarding the Outer Harbour, Rowley Road and Anketell Road will become major sources of road noise and the City should factor this into any future planning along or near these corridors now.

#### 3.3.20 SPP 7.0 Design of the Built Environment

This policy was introduced to provide a broad framework for design of the built environment and achieve good design outcomes. It applies across all planning and development types such as structure planning, subdivision, and development applications across WA. It aims to provide consistency across all jurisdictions through a coordinated strategy of design quality mechanisms, which include:

- Design Principles Performance-based approach to policy
- Design Review Skilled evaluation expertise
- Design Skills Skilled design expertise.

#### 3.3.21 SPP 7.3 Residential Design Codes Volume 1

The purpose of the Residential Design Codes (R-Codes) is to provide a comprehensive basis for the control of residential development throughout Western Australia, primarily for single dwellings on single lots.

Local governments are responsible for administering the R–Codes and can vary certain requirements, through local planning mechanisms including local planning schemes and local planning policies.

## 3.3.22 SPP 7.3 Residential Design Codes Volume 2

The purpose of this policy is to provide planning and design standards exclusively for residential apartments (multiple dwellings) in areas coded R40 and above, within mixed use development and activity centres. This includes guidance for siting and orienting buildings into existing and emerging neighbourhoods, and offering support to design practitioners and decision makers who propose alternative and better design solutions.

This is a performance-based policy, which means an application for development approval needs to demonstrate that the design achieves the objectives of each design element. As with Volume 1 of the R-Codes, a Local Government may vary parts of Volume 2 where it is considered appropriate to modify standards for localised conditions.

#### 3.3.23 Key issues

- Lots sizes, within the Jandakot Water Mound area, are limited to a minimum of 2 hectares.
- Raw Material extraction sites exist within the City and appropriate zoning around these sites is essential to manage their impact.
- Within the Jandakot water mound area, the retention of rural living zones is encouraged, and further intensification is not permitted.
- Significant regional bushland areas require appropriate reservation under the MRS for formal protection.
- A Local Biodiversity Strategy may be required to protect significant local bushland areas.
- Significant water resources require protection from inappropriate development.
- The character, identity and history of the City needs to be acknowledged and protected.
- The operation of development contribution schemes may alter the City's approach to the delivery of key community and development infrastructure.

- Determine mitigation measures for bushfire planning conflicts with the conservation of bushland and amenity of rural areas and public open space.
- Assessment and update of bushfire mapping in line with urban development is required.
- Significant industrial land uses warrant statutory buffer protection under the Metropolitan Region Scheme.
- Activity Centres need to fulfil their role for the community, both existing and future, as multipurpose community hubs that support their catchments.
- Sensitive land uses should not be located in proximity to noise corridors.
- Investigation areas being considered by the State Government need to ensure there is due regard given to the increase in demand for industrial land arising from the outer harbor at Kwinana.

#### 3.3.24 Response to issues

Local environmental values will need to be protected through scheme and policy controls and may require a Local Biodiversity Strategy to guide what assets require protection.

The City may seek to introduce scheme or policy controls to achieve local character and identity objectives, particularly where the R-Codes does not deliver the City's intended outcome.

Given the significance of the Kwinana Industrial Area and the nature of the land uses in the Western Trade Coast, there is a need for a statutory buffer to be developed under SPP 4.1.

The City will seek to ensure compatible development near and along freight routes so that future land use conflicts between road noise and sensitive uses are minimised.

#### 3.4 Development Control and Operational Policies

There are multiple Development Control and Operational Policies affecting land use planning, development and subdivision. A large proportion are applicable within the City as it performs its statutory planning requirements, however there are only a few that have specific relevance to the preparation of a Local Planning Strategy.

## 3.4.1 Liveable Neighbourhoods

Liveable Neighbourhoods is a Western Australian government sustainable cities initiative which addresses both strategic and operational aspects of structure planning and subdivision development.

The purpose of the policy is to better structure new urban development on greenfield and large urban infill sites. The policy aims to achieve well-defined, sustainable and self-sufficient communities through site-responsive design based on safe, sustainable, attractive neighbourhoods interconnected by a street layout that promotes walking, cycling and public transport and reduced dependency on private vehicles. Community needs, employment opportunities and economic sustainability are facilitated through a coherent hierarchy of mixed used main street activity centres.

A Draft Liveable Neighbourhoods policy was released for comment in 2015 and it has been indicated by the WAPC that the draft and any feedback received will be taken into account as part of the Design WA suite of policies.

The City has significant tracts of development zoned land where structure planning process will need to occur, the Liveable Neighbourhoods policy, will be a key instrument for the City in ensuring sustainable communities are developed.

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#### 3.4.2 Development Control Policy 1.6 Planning to Support Transit Oriented Development

This policy seeks to maximise the benefits to the community of an effective and well used public transit system by promoting planning and development outcomes that will support and sustain public transport use.

DC policy 1.6 applies to transit-oriented precincts outlined as those within 800 metres of high frequency heavy rail or major bus transfer stations and within 400 metres of high frequency bus stops. DC policy 1.6 specifies that development within these areas should achieve a density of at least 25 dwellings per gross hectare in order to support the public transport infrastructure.

Kwinana and Wellard Train stations and Gilmore Avenue are identified as indicative transit-oriented precincts. The City must have regard to the policy position outlined in DC policy 1.6 and this Strategy will further investigate the potential for transit-oriented precincts.

#### 3.4.3 Development Control Policy 2.3 Public Open Space in Residential Areas

DC policy 2.3 provides the broad framework for the provision, use and development of public open space areas. The policy is based on the principles of the Stephenson-Hepburn plan for Perth developed in 1956 which recommended that approximately 3.36 hectares of public open space per 1,000 people is provided. This principle is imbedded in the Planning and Development Act 2005 which allows the WAPC to impose a requirement that land as part of a subdivision be set aside for public open space. This is generally provided at a rate of 10% of the subdivisible area. The policy also considers principles for the use of foreshore reserves, regional open space reservations and community facility provision.

The provisions of DC policy 2.3 should guide the City's approach towards open space planning in ensuring that sufficient land is allocated towards public open space and also to ensure that new development contributes to the provision, and/or upgrading, of public open space.

## 3.4.4 Development Control Policy 4.1 Industrial Subdivision

This policy statement provides guidance for industrial subdivision throughout the State on matters such as the design and shape of industrial lots, road layout, servicing and open space requirements. The objectives of this policy are:

- To encourage the development of well-designed industrial areas serving the full range of general and special industrial needs throughout the State.
- To provide for the safe and efficient movement of traffic to and from each site within the industrial area.
- To provide for infrastructure services and public open space consistent with the operational needs of industrial users and the workforce.
- To protect the amenity of adjacent land uses, where necessary, from the effects of industrial development.

The City has significant areas of industrial zoned and industry expansion land identified under the Subregional Framework and industrial subdivision design will need to take into account this policy's requirements.

## 3.4.5 Development Control Policy 4.2 Planning for Hazards and Safety

This policy seeks to provide guidance in planning to prevent the occurrence of potentially hazardous events and to mitigate the effects of any such events, should they occur and in ensuring that the appropriate procedures are followed in the consideration of proposals.

The objectives of the policy are:

- To ensure that developments are reviewed with a view to maintaining appropriate public safety.
- To maintain acceptably low risk exposure through appropriate planning procedures.
- To provide guidelines for the consideration of the influence of existing risk levels in the planning process.
- To provide for the development of industries and activities which are hazardous but which are desirable for the benefit of the wider community

This has implications for the City as the policy seeks to control land use permissibility to mitigate risk for hazardous industrial areas and seeks to apply buffer zones around hazardous industrial areas with reference to EPA guidance. This Strategy will need to ensure appropriate land uses are located within hazardous industrial areas and also within established buffer areas.

## 3.4.6 Development Control Policy 5.1 Regional Roads (Vehicular Access)

This policy sets out the principles to be applied when considering proposals for vehicle access to or from developments abutting regional roads. The access control requirements of this policy apply to Primary and District Distributors, which includes all categories of regional roads designated in the Metropolitan Region Scheme.

This is significant for the City with an increased importance being placed on Anketell Road, Rowley Road and Thomas Road as the main freight routes for the Outer Port.

#### 3.4.7 Key issues

- Structure planning processes must respond to Liveable Neighbourhoods sustainable design principles.
- Kwinana and Wellard Train stations and Gilmore Avenue are identified as indicative transitoriented precincts and this Strategy will need to consider appropriate development within their walkable catchments.
- Ensure adequate allocation and design of POS, for emerging and established areas.
- Hazardous industrial areas require appropriate land use controls and buffer areas.
- Access onto major east-west routes through the City will be limited.

## 3.4.8 Response to issues

Design will become a key factor in the assessment of all future proposals put before the City. In particular, the City will pursue sustainable design outcomes through its assessment of structure plans and any infill precinct plans and seek to improve upon the design of POS and industrial developments.

The City will focus on delivering quality diverse housing outcomes within transit based walkable catchments.

The City will seek to ensure compatible development near and along freight routes so that future land use conflicts between road noise and sensitive uses are minimised.

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#### 3.5 Other relevant strategies, plans and policies

## 3.5.1 Perth & Peel @3.5 million - The Transport Network

The Transport Network document summarises the transport components of the Perth and Peel subregional land use planning and infrastructure frameworks.

Specific transport projects that affect the City include:

- A new north—south route connecting Spearwood and Gilmore Avenues with opportunities for a lateral connection to the potential north—south route is proposed.
- Nairn Drive will connect to Wellard Road via Kerosene Lane and Baldivis Road with a direct grade-separated crossing over the railway.



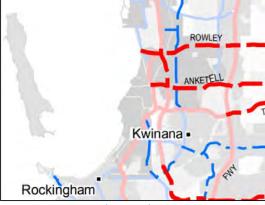


Figure 11: 2050 Public transport network

Figure 12: 2050 Road network

In addition to the above, Gilmore Avenue is also indicated as a 'high-priority transit corridor' with connections to both train stations.

The City will need to ensure it acknowledges the importance of this sub-regional connections and seeks to capitalise on the opportunities they afford.

#### 3.5.2 WA Housing Strategy

The purpose of the WA Housing Strategy is to create an agile housing system that underpins individual, family and community wellbeing and is based on four main principles:

- A housing system that provides choice for every Western Australian.
- Support equity and accessibility to create an inclusive WA.
- Maintain and grow the social housing safety net.
- Person-centred, place-based and community focused.

Local Government is listed as a key stakeholder for the following targets:

- Ensure a minimum of 20 per cent social and affordable homes in Government residential developments. By 2025, develop a framework and baseline standards to make approval systems consistent and efficient.
- Grow the number of transit-oriented homes by 45 per cent, providing 150,000 new homes close to public transport.
- Catalyse 40 per cent of new homes built to liveable design standards by 2030.
- Inform consumers and incentivise industry to support 30 per cent of new WA homes built from non-conventional building materials by 2030.

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 By 2025, develop a system to enable planners, developers, local government authorities and consumers to easily access housing information.

#### 3.5.3 Guideline for the Determination of Wetland Buffer Requirements

This guideline has been developed to assist landowners, developers, planners and architects to identify an appropriate buffer between wetlands and land uses that will enhance or maintain the significant attributes and values of the wetland.

The City currently uses this guide to inform the structure planning design and the appropriate management of development around important environmental assets.

It is of interest to the City as there are significant areas of wetlands within the City and this document guides the planning processes that protect the wetland areas.

## 3.5.4 Planning Bulletin 87 High Pressure Gas Transmission Pipelines in the Perth Metropolitan Region

This planning bulletin provides guidance when considering planning proposals in the vicinity of the Dampier to Bunbury Natural Gas Pipeline and the Parmelia Gas Pipeline, in the Perth metropolitan region.

Both the Dampier to Bunbury natural gas pipeline and the Parmelia pipeline traverse the City and any potential development within their vicinity will need to adhere to the separation distances required by this policy.

#### 3.5.5 Visual Landscape Planning in Western Australia

This manual provides advice to state agencies, local governments, developers and the community on techniques for incorporating visual landscape planning into the planning system.

Local planning strategies should identify regional and local landscapes and help set the objectives for the protection and enhancement of these landscapes. Local governments, particularly those with areas of significant landscape value, are encouraged to review and incorporate appropriate landscape policies in their local planning frameworks.

The City undertook a landscape analysis in 2013 which identifies elements of topography, vegetation, water and the built environment. Given the amount of change that has occurred in the City since the study was undertaken, it is considered appropriate that it be reviewed.

## 3.5.6 Key issues

- Additional secondary regional roads linking Gilmore Avenue north through the Postans and Hope Valley Wattleup areas will provide increased connectivity to Perth's southern suburbs.
- A high-priority transit corridor is proposed for Gilmore Ave, which includes a connection to both Kwinana and Wellard train stations which will elevate its status as a public transport corridor.
- Wetland classification, planning and management will need to be incorporated into planning functions to provide certainty in regard to wetland management.
- Future development near high pressure gas pipelines will need to take into account separation distances which could affect development layout and design.
- Landscape character requires identification and protection and the City should reassess its local landscape values and implement appropriate planning controls.

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## 3.5.7 Response to issues

Development along key transport links will need to be planned to capitalise on increased connectivity. This may prove valuable for businesses seeking exposure to high volume routes throughout the area that is close to the outer harbor and other industry, whilst not being located along heavy freight routes.

Development near critical infrastructure will need to take into account relevant setbacks and separation distances. Whilst not explicitly outlined in the planning framework, this should also be applied to development near high voltage power lines, where comment from Western Power will be necessary.

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# 4.0 Local Planning Context



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## 4.1 Strategies and Schemes

#### 4.1.1 Strategic Community Plan 2021-2031

The Strategic Community Plan (SCP) outlines the community's long-term (10+ years) vision, values, aspirations and priorities with reference to other plans, information and resourcing capabilities of a local government. The purpose of the plan is to:

- establish the community's vision for the local government's future, including aspirations and service expectations;
- drive the development of local government area/place/regional plans, resourcing and other informing strategies, e.g. workforce, asset management and services; and
- ultimately drive all other planning.

The City's vision outlined in the Strategic Community Plan is:

# A unique and liveable City, celebrated for and connected by its diverse community, natural beauty and economic opportunities

The vision statement represents the City's Community, Economy, Environment, and Infrastructure respectively.

The following objectives listed in the plan are directly relevant to the preparation of the Local Planning Strategy:

- A naturally beautiful environment that is enhanced and protected.
- A resilient and thriving economy with exciting opportunities.
- Infrastructure and service that are sustainable and contribute and contribute to health and wellbeing.
- A unique, vibrant and healthy City that is safe, connected and socially diverse.

This Local Planning Strategy will need to ensure that the objectives of the Strategic Community Plan are embedded in the strategic directions and actions listed in Part 1.

## 4.1.2 Local Commercial and Activity Centre Strategy 2023

The purpose of the LCACS is to guide the growth and development of the City's retail and commercial centres so that there is a viable and accessible network of functional and attractive activity centres that will meet the future needs of the community. A key strategic theme of the LCACS is to promote and maintain the Kwinana City Centre as the principal retail and service centre for the City suitable for a wide range of land uses including residential, shops retail, specialised retail, office, entertainment, medical services, and civic land uses.

The draft LCACS (2023) is based on robust modelling and analysis, and it forecasts that by 2042 retail and commercial land uses in the City may increase by an additional 170,000m<sup>2</sup> (a 60% increase on the 2021 commercial floor area). The Activity Centre Hierarchy recommended in the draft LCACS (2023) is based on the current network of activity centres in the City.

The purpose of LCACS (2023) is to:

a) Facilitate the provision of a viable and accessible network of functional and attractive activity centres to meet the future needs of the community which has entailed:

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- assessing the future retail needs of the community and providing guidance in relation to the estimated future trade potential of all existing and planned activity centres;
- defining an activity centres hierarchy and appropriate land use mix, that supports the role and function of each activity centre and facilitates a competitive retail and commercial market;
- reinforcing a hierarchy of centres and ensuring the City Centre remains the City's largest activity centre accommodating higher-level commercial, civic, and cultural activities; and
- permitting the development of new centres only when they clearly fill a gap in the defined network.

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- b) Encourage and facilitate the improvement of existing activity centres to enhance their utility and attractiveness by:
  - allowing for development or changes in use that will improve the condition and/or performance of an existing local activity centre;
  - taking a pro-active role in encouraging and facilitating improvement to existing activity centres; and
  - ensuring that enough land is provided for the long term floorspace potential of planned mixed use activity centres.
- c) Encourage and facilitate compatible non-retail uses in activity centres at all levels in the hierarchy to improve their convenience and utility.

In addition to providing access to important services, activity centres also provide local employment. A key objective of the draft LCACS (2023) is to provide a mix of both low and high skilled employment within the City.

LCACS (2023) has been integrated into the Local Planning Strategy by:

- a) Reclassifying Leda activity centre from 'Neighbourhood' to 'Local' centre.
- Reclassifying Calista, Orelia, Anketell and Wellard Local Centre (Johnson Road) activity centres from 'Local' to 'Mixed Use' centres; and
- c) Removing four centres from the Activity Centre Hierarchy that were not implemented or the land has been developed for other purposes (Casuarina 03, Wellard E01, Postans and The Spectacles).
- d) Designating the Wandi District Centre as having a total floor area up to 20,000m<sup>2</sup> shop retail floorspace with appropriate evidence of need and net benefit to the community, as per SPP4.2 Implementation Guidelines.
- e) The commercial land to the south of Thomas Rd (east of the Kwinana Freeway) should be reserved for service commercial uses as this has been identified as a key service commercial area for the City. A second supermarket south of the Anketell South Neighbourhood Centre is not sustainable. Should an additional supermarket be needed east of the Freeway, it would be more appropriate to locate it within the future Wandi District Centre, consistent with the Activity Centre Hierarchy identified in the draft LCACS (2023).
- f) Introduce measures in the local planning framework to increase the diversity of land uses in the City Centre to include health, entertainment, and office land uses.

LCACS 2023 is discussed further in section 5.7 Activity Centres.

## 4.1.3 City Centre Masterplan

The Kwinana City Centre Master Plan and Design Guidelines was developed as the framework for the City Centre and surrounding precinct in 2007 and updated in 2019.

As a document to guide the future vision and development of the city centre, the Masterplan concentrates on those aspects which are of particular importance - creating places for people, establishing the right built form response and establishing strong spatial relationships to integrate the city centre with surrounding neighbourhoods.

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The Masterplan is referenced through LPS3 and contains design guidelines that provide urban structure, built form and public realm provisions. As LPS3 is reviewed as part of any new local planning framework the provisions of the Masterplan must be incorporated into a new planning mechanism. It is also worth noting that the Masterplan does not extend to land use control and there are opportunities for a future scheme to reflect the land use permissibility suggested through the masterplan.

#### 4.1.4 Bike and Walk Plan 2018

The City aims to create communities where cycling and walking are an integral part of daily life for all types of trips, enabling people to lead healthier lifestyles and stay more active and independent for longer.

The plan seeks to increase walking and cycling use within the City by making recommendations for improvements to existing infrastructure and developing new infrastructure where demand requires it.

The objectives of the plan are as follows:

- To have an interconnected, continuous and well maintained bicycle and pedestrian network that
  pedestrians and cyclists of all abilities feel comfortable using;
- To be a city where walking and cycling is the first choice for transport (for all ages) for short trips (1-2km);
- To have a network of safe roads designed to Safe Active Travel Street principles to encourage the short trip journeys;
- To improve the City's health issues by actively promoting new cycle and walking infrastructure as implemented; and
- To improve walking and cycling access to schools, train stations, parks and recreational facilities.

Neighbourhood plans that define long-term objectives and implementation priorities have been developed for individual communities within Kwinana with priority given to Bertram, Medina and Leda.

The City should continue to invest in implementation of the Bike and Walk Plan and consider relevant actions that will ensure the planning framework facilitates the implementation of this plan where possible.

## 4.1.5 Local Planning Scheme 2 and Local Planning Scheme 3

The City currently operates two Local Planning Schemes being Local Planning Scheme 2 (LPS2), which was gazetted on 20 November 1992 and Local Planning Scheme 3 (LPS3) gazetted August 1998.

LPS3 applies to the Kwinana City Centre, providing a level of detail required to achieve the most appropriate development outcome within the City Centre whilst LPS2 applies to all other land within the City and contemplates both zoning and development control for the remainder of the City.

To date, there have been a total of 159 amendments made to LPS2 (as at 23 October 2019), signalling that a review of it is necessary to meet the challenges that have risen out of the various statutory and strategic documents released by the State.

The changes introduced in the Planning and Development (Local Planning Schemes) Regulations 2015 (Regulations 2015) have provided opportunities to simplify and streamline Local Planning Schemes. Any new Local Planning Scheme will be required to be consistent with the Model Scheme Text under the Regulations 2015.

#### 4.1.6 Key issues

- The objectives of the Strategic Community Plan must be addressed through the strategic directions and actions listed in Part 1 of this Strategy.
- The City Centre remains the primary activity centre for Kwinana and recommendations from LCACS 2023 will inform future actions for centres.
- Any new local planning framework must incorporate the City Centre Masterplan objectives and design guidelines.
- The City's planning framework must incorporate relevant implementation requirements of the Bike and Walk Plan.

### 4.1.7 Response to issues

The Strategic Community Plan has been used to frame Part 1 of this Strategy and each key theme is designed to align with the Strategic Community Plan.

The City's local planning framework will reinforce the City Centre and will incorporate the Masterplan into any new planning tools that apply to the Centre.

There are key actions from the Bike and Walk Plan that are already being implemented and the City will continue to ensure these priorities are integrated into the planning framework where necessary.

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# 4.2 Plans and Policies

# 4.2.1 Local Structure Plans

A structure plan is a plan that provides for the coordination of future subdivision and zoning of an area of land. In accordance with the Regulations, a decision maker for an application for development approval or subdivision approval in an area covered by a structure plan is required to have due regard to that structure plan.

A structure plan has effect for a period of 10 years, following which it is anticipated that the structure plan be normalised into a scheme via a scheme amendment or as part of a scheme review. Should a structure plan area not be significantly developed, and thus not appropriate for normalisation, the Regulations allow the WAPC to grant extensions to the operational period of a structure plan.

The City currently has the following structure plans that are in effect that will need review and potential normalisation into any new Scheme.

Local Structure Plan	Lot Number/s and Location
Anketell North	Anketell North LSP
Anketell South	Lots 1, 2, 3, & 17 Thomas Road and Portion Lot 13 Treeby Road
Mandogalup East	Lots 9002 & 9006 Hoffman Road and Lot 9019 Rowley Road
Mandogalup West	Lot 682 & 52, Rowley Road.
Wandi South	Lots 60 & 61 Kenby Close
Wandi North	Lot 313 (651) Anketell Road
Wellard	Lot 64 (78) Woolcoot Road
Wellard	Sunrise Estate - Part Lot 9001 (previously Lot 201) Mortimer Road and Part Lot 379 Millar Road
Wellard	Lot 661 Bertram Road
Wellard	Lot 601 Millar Road, Wellard
Wellard	Oakebella Estate - Lots 503-505 507 & 900 Johnson Road Wellard
Wellard	Lot 502 Tamblyn Place
Wellard	Lot 500 & 501 Bertram Road
Wellard	Lots 670 & 1338 Bertram Road and Reserve
Wellard	Lot 59 Mortimer Road, Wellard
Wellard	Lots 90 & 378 Millar Road Wellard
Wellard	Lot 900 Tamblyn Road
Wellard	Wellard Village
	<u> </u>

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Wellard	Providence - Lots 167-170, 83, 85, 92, & 1278 Wellard
	Road, and Lots 1, 10, & 2 Johnson Road in Wellard
Wellard	Emerald Park - Lots 1, 21, & 500 Mortimer Road and a portion of Lot 9000
	Johnson Road, Wellard

#### 4.2.1.1 Postans Precinct Structure Plan

The Postans Precinct Structure Plan was a study undertaken on behalf of the Department of Planning (now DPLH), LandCorp (now Development WA) and the City of Kwinana to identify additional general and light industrial land in the Postans Precinct as a transition to Latitude 32. The study considered the Fremantle/Rockingham Industrial Area Regional Strategy, Western Trade Coast Development Strategy, National Ports Strategy, and Port Optimum Planning Study.

The outcomes of the study indicated that the Postans Precinct is a strategic land parcel that should be recognised for its longer term development potential for emerging industry.

It has been recommended that the land is retained and released progressively in response to strategic industries' specific supply chain, land requirements and business collaboration or for emerging industries.

The ultimate status of the Postans Precinct Structure Plan is unclear, therefore it may be appropriate to review the plan. Nonetheless, any future recommendations made by this Strategy will need to consider the direction given by the Postans Precinct Structure Plan.

# 4.2.2 Local Planning Policies

In accordance with the Regulations 2015 a local government may prepare a local planning policy (LPP) in respect of any matter related to the planning and development of the Scheme area.

The City has prepared 32 LPP's on a range of planning matters to help guide planning decisions. These policies are prepared under LPS2 and whilst decision-makers must have due regard to the provisions of a policy before making a decision, they are not bound by the requirement of a policy.

Following the finalisation of this Strategy the City will need to review all existing LPP's to ensure they align with the strategic direction set by the Strategy. Any review of LPP's will also need to ensure they are complimentary to a future local planning scheme. It is therefore prudent that the LPP review occurs alongside the drafting of a new scheme.

# 4.2.3 Local Development Plans

Local development plans (previously known as detailed area plans) are used for introducing specific design elements for defined local areas and include aspects such as the location of garages, vehicle access, parking, solar active/passive design, street orientation and setbacks. Local development plans have been developed for most new development areas and will continue to apply under a new local planning framework.

The development of new local development plans will need to align with the objectives of the City as outlined by this Strategy.

# 4.2.4 Key issues

- Local structure plans must be reviewed, and where appropriate normalised, as part of any new scheme development process.
- Consider the Postans Precinct Structure Plan recommendations in any land use planning for that locality.

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- Review LPP's as part of aligning with the Strategy's direction and new Scheme provisions.
- Ensure any new LDP's are developed according to the strategic direction given by this Strategy.

# 4.2.5 Response to key issues

The City will undertake a review of all structure plans as part of developing a new Scheme and will review its policy framework to supplement, and align with, the new scheme in accordance with the direction given by this Strategy.

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# 4.3 Other relevant strategies, plans and policies

# 4.3.1 Community Infrastructure Plan

The Community Infrastructure Plan (CIP) provides the City with a strategic framework for providing community infrastructure for the period 2011 to 2036 and focuses on community facilities typically provided by Local Government. The CIP has also been prepared to meet the requirements of the WAPC'S, State Planning Policy 3.6 'Development Contributions for Infrastructure' and establishes a framework upon which the policy can be applied and implemented.

While a standalone plan in its own right, the CIP should be considered a critical part of the City's Development Contribution Plans contained in Local Planning Scheme No. 2.

### 4.3.2 Local Heritage Survey 2021

The City of Kwinana reviewed the 2007 Municipal Heritage Inventory and adopted a new Local Heritage Survey in 2021. 2015. This involved reviewing all the places in the 2007 Municipal Heritage Inventory, although there were no new nominations.

# 4.3.3 Key issues

• This Strategy must reflect the heritage and character elements outlined in the Municipal Heritage Inventory.

# 4.3.4 Response to issues

The CIP has been used to inform this Strategy, particularly section 5.4 Public Open Space & Community Infrastructure

Section 1.1.1 and provides direction on the character and identity of the City. A review is underway of the City's heritage places and that review will inform future planning controls such as the development of a heritage list and/or any local planning policy controls that may be appropriate for retaining character and identity.

# 5.0 Local Government Profile



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# Community



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# 5.1 Population and Housing

# 5.1.1 Population growth

The City's population is projected by forecast i.d. to grow from 40,305 (2016) to 85,158 (2036). This is generally consistent with WAPC WA Tomorrow<sup>5</sup> projections, which show population increasing to between 68,290 and 75,270 by 2031, with a mid-range (Band C) almost identical to the forecast id projection at 75,260 in 2031. The Sub-regional Framework shows the population of the City being at 80,000 in 2050. This implies either slower growth than the current trajectory of the .id forecast and WA Tomorrow series or no growth after 2036.

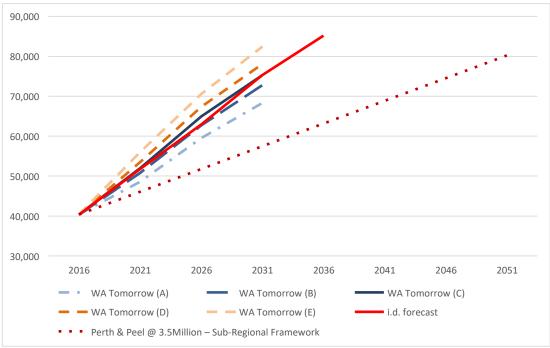


Figure 13: Population Projections, WA Tomorrow, i.d. forecast, Perth & Peel @ 3.5 Million

For the purpose of this Local Planning Strategy i.d. forecast projections have been used and further analysis is provided in Table 2: Forecast Population, Households and Dwellings.

In 2016, the Estimated Resident Population of the City was 40,305 people. It is expected to increase by over 44,800 people to 85,158 by 2036, at an average annual growth rate of 6.45%. This is based on an increase of over 15,245 dwellings to the City during the same period, with the average number of persons per household rising from 2.68 to 2.81 by 2036, as shown in Table 2: Forecast Population, Households and Dwellings.

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 $<sup>^{5}</sup>$  Western Australia Tomorrow, Population Report No. 11 - sub-State ASGS (SA2), Medium-Term Population Forecasts 2016 to 2031

Forecast population, households and dwellings - Summary	Forecast year						
	2016	2021	2026	2031	2036		
Population	40,305	51,746	62,902	75,270	85,158		
Change in population (5yrs)	-	11,441	11,155	12,368	9,888		
Average annual change	-	5.12	3.98	3.66	2.50		
Households	14,740	18,559	22,443	26,480	29,985		
Average household size	2.68	2.74	2.76	2.81	2.81		
Population in non-private dwellings	769	855	913	971	1,029		
Dwellings	15,480	19,521	23,524	27,530	30,989		
Dwelling occupancy rate	95.22	95.07	95.40	96.19	96.76		

Table 2: Forecast Population, Households and Dwellings

Accordingly, it is necessary to prepare for Kwinana's community to grow beyond an ultimate population of over 85,000. Whether this significant growth is realised by 2050 does not remove the need to ensure that the population can be accommodated when required. A key challenge will be to ensure the delivery of the required housing stock for this population in a manner that is appropriate to Kwinana.

# 5.1.2 Age structure

Analysis of the City's age structure, as shown in Table 3: Service Age Groups, compared to the South West Group, shows that there was a higher proportion of people in the younger age groups (0 to 11 years) and middle aged groups (18 to 34 years). Conversely, there was a lower proportion of people in the secondary schoolers (12 to 17 years) and older age groups (50+ years).

2016 Service age group (years)	CoK %	SW Group %
Babies and pre-schoolers (0 to 4)	8.7	6.7
Primary schoolers (5 to 11)	10.1	9.4
Secondary schoolers (12 to 17)	6.9	7.4
Tertiary education and independence (18 to 24)	9.9	9.2
Young workforce (25 to 34)	19.5	14.7
Parents and homebuilders (35 to 49)	21.9	21.2
Older workers and pre-retirees (50 to 59)	10.0	12.5
Empty nesters and retirees (60 to 69)	7.1	9.5
Seniors (70 to 84)	5.2	7.5
Elderly aged (85 and over)	0.8	1.9
Total	100	100

Table 3: Service Age Groups

Forecast increase in Service Age groups, shown in Figure 14: Forecast population in Age Structure, indicates that for the next two decades there will be an increase of 12,619 in the children (0 to 17 years) categories, 25,251 in the working age (18 to 59) categories, and 5,157 persons in the older (60 plus) categories.

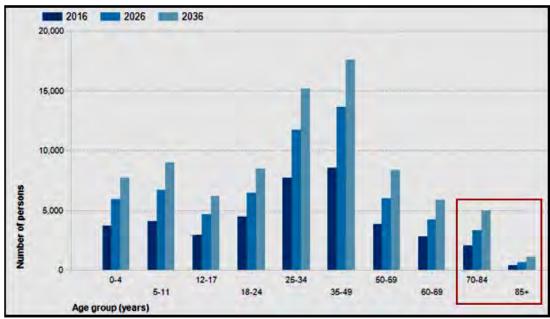


Figure 14: Forecast population in Age Structure

Whilst the population forecasts indicate the most significant increases occurring within the working age group categories, as a percentage of the total population across the City, the greatest change, as shown in Figure 15: Forecast change in Age Structure actually occurs in the 60+ age categories. These groups are expected to increase steadily in proportion to the general population by 14.3% (12,177 out of 85,158) by 2036.

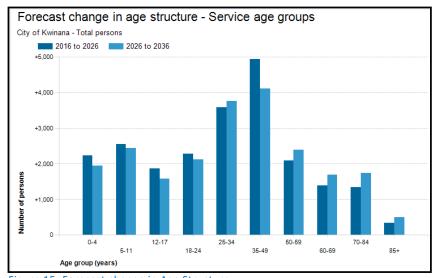


Figure 15: Forecast change in Age Structure

The service needs of these age groups are different; for example, persons in the 60+ age categories may need smaller, one and two bedroom dwellings that are close to activity centres in order to access daily needs, visit medical centres, and to have an active life, whereas the children categories are likely to need access to schools and recreation facilities.

# 5.1.3 Cultural background

Country of Birth data identifies where people were born and is indicative of the level of cultural diversity in the City of Kwinana.

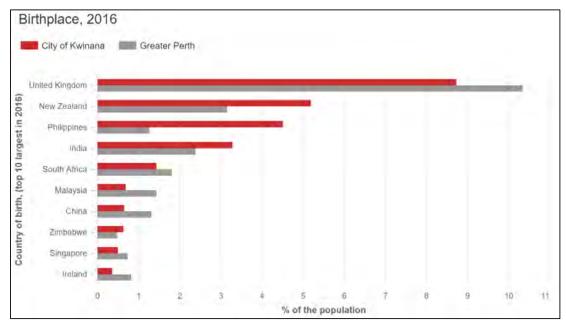


Figure 16: Country of birth 2016

Analysis of the country of birth of the population in the City of Kwinana in 2016 compared to Greater Perth shows that there was a similar proportion of people born overseas with 34.3% of the population was born overseas, compared with 36.1% for Greater Perth.

However, there is a significant difference in the number of people from New Zealand, the Philippines and India and between 2011 and 2016, the number of people born overseas increased by 5249 or 64.7%.

The largest changes in birthplace countries of the population in this area between 2011 and 2016 were for those born in:

- Philippines (+1,310 persons)
- India (+1,060 persons)
- New Zealand (+654 persons)
- South Africa (+211 persons)

This demonstrates the significant diversity in cultural background within the City and can be a driver for the need for affordable housing and adaptable housing types.

# 5.1.4 Household type

The City's profile for household types, as shown in Figure 17: Households by type, is similar to that of the broader South West Group with the City having proportionally more one parent families and slightly less lone person and couples without children households.

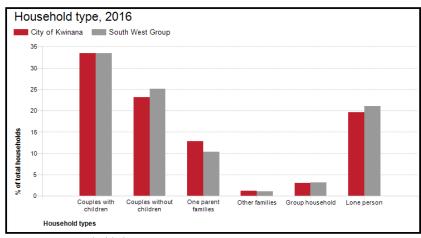


Figure 17: Households by type

Within the City, the majority of household types are couples with children, making up 46% of the total households.

23.1% of the City's total families are couples without children. As shown in Figure 18: Couples without children, the newer suburbs of Wandi - Mandogalup (33.5%), Wellard East (28.9%), Anketell-Casuarina (28%), and Wellard West (26.5%) have a predominantly higher percentage of couples without children, while established areas show a lower proportion of couples without children.

This may indicate younger couples buying and building in those areas in anticipation of setting up a young family household.

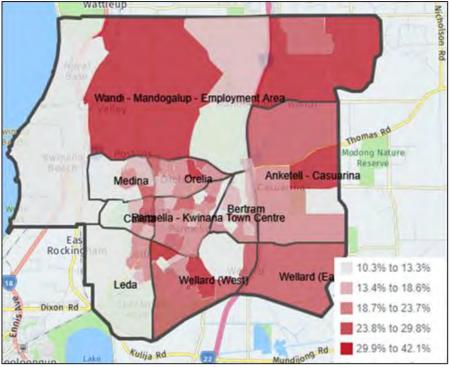


Figure 18: Couples without children

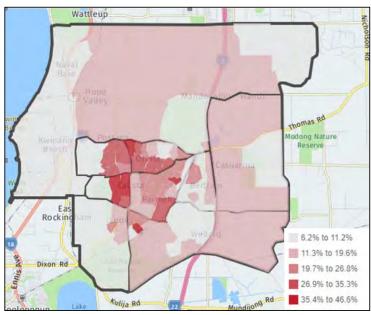


Figure 19: Lone person households

As depicted in Figure 19: Lone person households, 19.6% of the City's total households were lone person households of which the highest proportions were in the City's established suburbs of Calista (39.5%), Medina (31.8%), Orelia (24.8%) and Parmelia (including Kwinana Town Centre) (23.7%).

This shows that the City's established suburbs have a higher number of lone person households which may reflect the settlement history of those suburbs and the life-cycle stage of these residents potentially being empty nesters who now live alone. It may also indicate one parent families, who on census night, did not have dependents living at the home.

Table 4: Forecast household types, shows that by 2036 each household type is expected to increase and generally maintain its household share throughout the City. The largest increase in overall numbers will be couples with children, however the largest percentage change will be couples without children. Further analysis of these household types alongside dwelling structure is provided under 5.1.9 Dwelling structure by household.

Forecast household types	2016		2026				2036		Change between 2016 and 2036	Change between 2016 and 2036
	Number	%	Number	%	Number	%	Number	%		
Couples with children	5,019	34.1	7,844	35.0	10,704	35.7	+5,685	1.6		
Couples without children	3,795	25.8	6,050	27.0	8,322	27.8	+4,527	2.0		
Group households	471	3.2	665	3.0	786	2.6	+315	-0.6		
Lone person households	3,195	21.7	4,513	20.1	5,794	19.3	+2,599	-2.4		
One parent family	1,798	12.2	2,627	11.7	3,273	10.9	+1,475	-1.3		
Other families	456	3.1	740	3.3	1,106	3.7	+650	0.6		

Table 4: Forecast household types

# 5.1.5 Household size

The number of persons per household in the City compared with the South West Group, as shown in Figure 20: Household Size, shows a lower proportion of single, two person and four person households and a higher proportion of households with 3 persons and 5 persons or more which is possibly a reflection of the one parent family and other family household types that are represented in the household types.

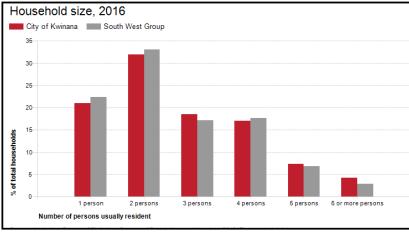


Figure 20: Household Size

Over half the City's households comprise of 1 or 2 person households. Consistent with the household type discussed earlier, smaller households are typical in the City's established areas. Figure 21: Average persons per dwelling by suburb shows 2.16 in Calista and 2.20 in Medina with larger average persons per dwelling in newer areas of Wellard and Wandi.

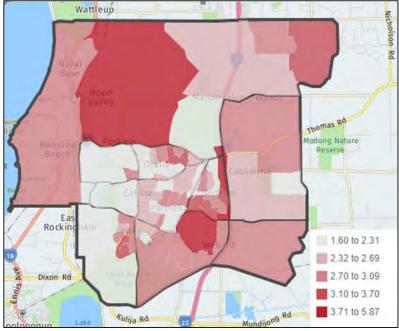


Figure 21: Average persons per dwelling by suburb

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Figure 21: Average persons per dwelling by suburb shows the City had an average household size of 2.67 persons per dwelling in 2016 with variation in household size across the City ranging from a low of 2.16 in Calista to a high of 3.11 in Bertram.

A higher average household size can indicate households with more children, larger group households or multi-family households. Smaller household sizes indicate lone person households, less families.

### 5.1.6 Housing tenure

In 2016, 65.7% of households in the City were either purchasing or fully owned their home, while 20.7% were renting privately. Four percent of the households were in social housing as shown in Table 5: 2016 Tenure type.

2016 Tenure type	Number	Kwinana %	South West Group
			%
Fully owned	2,106	15.2	27.2
Mortgage	7,009	50.7	40.6
Renting	3,455	25.0	24.2
Renting - Social housing	555	4.0	3.2
Renting - Private	2,860	20.7	20.6
Renting - Not stated	40	0.3	0.4
Other tenure type	69	0.5	0.9
Not stated	1,173	8.5	7.1
Total households	13,812	100.0	100.0

Table 5: 2016 Tenure type

Analysis of the housing tenure of the residents of the City in 2016 shows that rental properties comprised about 25%, similar to the South West Group. Whilst there was a smaller proportion of households who owned their dwelling and a larger proportion purchasing their dwelling, as compared to the South West Group, which is reflective of the emerging suburbs and new development occurring throughout the City.

### 5.1.7 Housing affordability

Table 6: Median house price presents a comparison of the median market values of houses and units of the City as compared to Greater Perth and Western Australia. At June 2017, the median house valuation in the City was \$161,028 lower than compared to Greater Perth. In percentage terms, the City's average prices are 31 per cent less than that across Perth.

Noticeable also is the decline in values from 2015 to 2017 consistent with that for the Greater Perth and State.

Houses			Units			
Year (at	City of	Greater	Western	City of	Greater	Western
June)	Kwinana	Perth	Australia	Kwinana	Perth	Australia
2011	330,515	524,554	497,396	197,286	389,826	385,007
2012	324,248	505,025	478,871	185,757	380,671	372,390
2013	335,932	526,786	496,421	188,829	403,098	392,444
2014	382,453	570,796	537,452	203,535	438,230	427,041
2015	398,081	573,329	534,155	211,453	431,343	422,375
2016	381,180	536,845	500,225	193,090	407,830	392,052
2017	355,263	516,291	479,243	184,864	379,904	367,211

Table 6: Median house price

There is a more significant difference between the average value of units with the City's average value being less than 50% (48.7%) of the average value of units in Greater Perth in 2017. This percentage appears to have stayed relatively constant since 2011.

The value of houses and apartments in the City of Kwinana are significantly lower than the Greater Perth area. This suggests that Kwinana is, on average, more affordable than many other parts of Perth.

### 5.1.8 Dwelling structure

In 2016, there were 13,607 (88.9%) separate houses in the City, 1,293 medium density dwellings, and 222 high density dwellings as shown in Figure 22: 2016 Dwelling Structure Types. The total number of dwellings in the City increased by 3,812 between 2011 and 2016 this included 3,219 separate houses and 470 medium density dwellings.

In the City in 2016, 9.9% of the dwellings were medium or high density, compared to 19.6% in the South West Group.

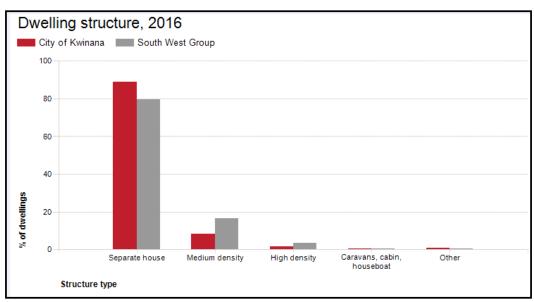


Figure 22: 2016 Dwelling Structure Types

The City has almost 50% less medium and higher density dwellings than the South West Group and a higher proportion of separate dwellings. This may reflect the growth in new suburbs and settlement history but does show a distinct lack of housing diversity within the City.

# 5.1.8.1 Number of bedrooms

Analysis of the number of bedrooms in dwellings in 2016 as compared to the South West Group shows that there was a lower proportion of dwellings with 2 bedrooms or less, as well as a lower proportion of dwellings with 4 or more bedrooms as shown in Table 7: 2016 Number of bedrooms per dwelling.

2016 Number of bedrooms per dwelling	Number	%	South West Group %
0 or 1 bedrooms	239	1.7	2.7
2 bedrooms	1,034	7.5	10.4
3 bedrooms	5,001	36.2	32.5
4 bedrooms	5,811	42.0	41.6
5 bedrooms or more	594	4.3	5.9

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Not stated	1,145	8.3	6.8
Total Dwellings	13,824	100.0	100.0

Table 7: 2016 Number of bedrooms per dwelling

The largest changes in the number of bedrooms per dwelling in the City between 2011 and 2016 were 4 bedrooms (+1,502 dwellings) and 3 bedrooms (+1,068 dwellings) reinforcing the continued construction of this dwelling type within Kwinana.

In 2016, 46.3% of all the dwellings in the City were having four bedrooms or more with Wellard (E) having 69.1%, Bertram 67.3%, Anketell-Casuarina 63.4%, Wellard (W) 60.3%, Wandi - Mandogalup 57.1%, Leda 55.9%, Orelia 34.9%, Parmelia-Kwinana Town Centre 33.8%, Medina 12.8%, and Calista 12.8% as shown in Figure 23: Dwellings with four or more bedrooms 2016.

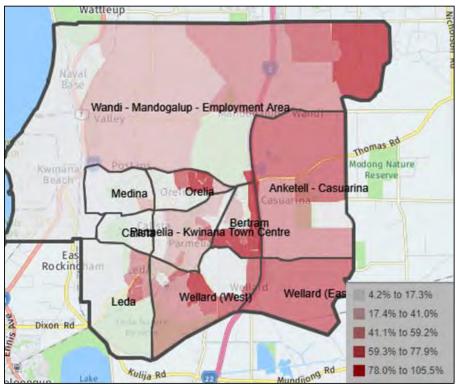


Figure 23: Dwellings with four or more bedrooms 2016

Generally, large dwellings are often occupied by families. A large number of four plus bedroom dwellings may also indicate more recently built housing, as these multiple bedroom dwellings have been more popular in recent decades, which is evident from the data of newer suburbs.

In 2016, 9.2% of the City's total dwellings were classed as two bedrooms or less with Medina having 27.4%, Calista 24.7%, Orelia 16.3%, Parmelia-Kwinana Town Centre 6.5%, Bertram 4.6%, Wellard (E) 3.6%, Wellard (W) 3.4%, Wandi – Mandogalup 3.1%, Leda 1.3%, and Anketell-Casuarina 0% as shown Figure 24: Dwellings with two or less bedrooms 2016.

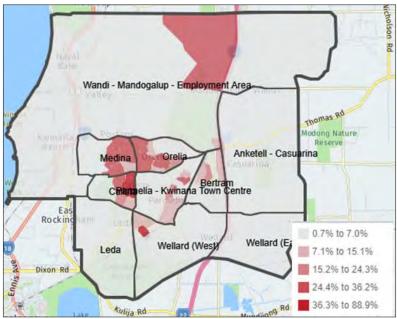


Figure 24: Dwellings with two or less bedrooms 2016

Generally, small dwellings are often occupied by single persons and couples. The data shows older suburbs, excluding Leda, have more dwellings having two bedrooms or less, as compared to newer suburbs. This can also be attributed to the presence of retirement villages and aged care facilities in the older suburbs. It is also noted that the Housing Authority WA manages 228 retirement dwellings within the City, including in the older suburbs.

# 5.1.9 Dwelling structure by household

Table 8: Dwelling structure by household shows a comprehensive comparison of the number of persons by dwelling structure and number of bedrooms in Kwinana.

The data also shows that single person households occupy more than 2000 dwellings having three or more bedrooms, and two-person family households and two-person group households occupy almost 1,700 four-bedroom dwellings.

This is particularly evident throughout the separate house category which would appear to indicate lone person households, couples without children or one parent families, living in large family homes. In conjunction with analysis of all housing data discussed, it would appear to indicate young couples looking to establish family homes in emerging suburbs, but also older couples without children (empty nesters) and single person households who remain in large dwellings in the established suburban areas, which might indicate the potential unavailability of smaller dwellings for people who are keen to downsize or rightsize.

The data also shows that 181 five-member and 71 six-member family households live in dwellings having only three bedrooms. Similarly, 12 five-member family households live in two bedrooms dwellings, and three five-member and four three-member family households live in one bedroom dwellings. This shows that there are some large family households (multi-generational / multi-cultural) that are living in dwellings that do not have a matching number of bedrooms which indicates a lack of housing choice for larger family households.

Ordinary Council Meeting 22 May 2024

Household Type	Single Person	Family Member Households			Group Households								
Dwelling Structure (# Bedrooms)	One	Two	Three	Four	Five	Six +	Total	Two	Three	Four	Five	Six +	Total
Separate house		•		•	•	•		•	•	•	•		
One bedroom	64	12	4	3	3	0	20	0	0	0	0	0	0
Two bedrooms	240	201	54	25	12	0	284	27	0	0	0	0	27
Three bedrooms	1,195	1,609	849	549	181	71	3,261	147	16	3	0	0	163
Four or more bedrooms	695	1,553	1,286	1,485	707	432	5,459	121	21	15	3	3	158
Number of bedrooms not stated	101	64	21	24	10	10	128	11	4	0	0	0	13
Total	2,295	3,434	2,219	2,088	905	523	9,152	305	43	17	3	3	367
Semi-detached, row or terrace hous	e, townhouse etc	<b>:</b> .											
One bedroom	129	9	0	0	0	0	9	3	0	0	0	0	3
Two bedrooms	236	67	10	5	0	0	81	5	0	0	0	0	5
Three bedrooms	139	106	46	31	10	10	198	6	0	0	0	0	11
Four or more bedrooms	4	22	23	14	4	0	64	0	0	0	0	0	0
Number of bedrooms not stated	28	4	0	0	0	0	6	0	0	0	0	0	0
Total	536	213	80	52	18	13	369	14	0	0	0	0	16
Flat, unit or apartment													
One bedroom	0	3	0	0	0	0	6	0	0	0	0	0	0
Two bedrooms	52	73	23	8	4	0	103	23	3	0	0	0	25
Three bedrooms	16	22	10	6	3	0	45	0	0	0	0	0	0
Four or more bedrooms	0	0	0	0	0	0	3	0	0	0	0	0	0
Number of bedrooms not stated	0	0	0	0	0	0	3	0	0	0	0	0	0
Total	68	105	28	20	7	0	156	23	3	0	0	0	25
Other dwelling													
One bedroom	0	0	0	0	0	0	0	0	0	0	0	0	0
Two bedrooms	0	0	0	0	0	0	0	0	0	0	0	0	0
Three bedrooms	5	15	3	4	0	0	18	0	0	0	0	0	0
Four or more bedrooms	9	4	13	9	3	3	29	0	0	0	0	0	0
Number of bedrooms not stated	0	0	0	0	0	0	3	3	0	0	0	0	3
Total	14	20	15	14	7	3	57	3	0	0	0	0	3
Dwelling structure not stated	9	16	8	0	3	4	28	0	0	0	0	0	4
Total	2,911	3,781	2,348	2,168	939	538	9,762	344	43	17	3	3	416

Table 8: Dwelling structure by household type

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# 5.1.10 Residential growth

There has been strong growth in the residential sector of the City over a number of years, due largely to formerly Rural zoned land being rezoned to Urban. This is as a result of both the Kwinana Freeway and the Perth-Mandurah rail line being extended to the City and the City being designated a growth corridor under prior State metropolitan regional strategies.

The land designated for urban development in the City grew from 1713 hectares to 2826 hectares during the 1992 – 2012 period, equating to an average 55.65 hectares each year. In 2012, the City had 740 hectares of undeveloped land still zoned for urban development, this includes land that is zoned urban or urban deferred.

As of 2019, the residential land use in the City has grown to approximately 3,320 hectares.

Residential development is forecast to increase the number of dwellings in the City by an average of 775 dwellings per annum to 30,989 by 2036 as shown in Figure 25: Forecast development trend to 2036.

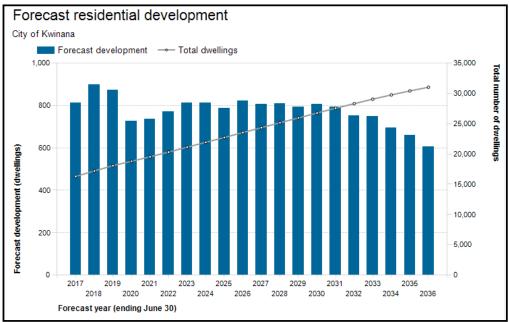


Figure 25: Forecast development trend to 2036

Table 9: Forecast residential development - 2016 to 2036 shows the residential development forecast for each suburb in the City.

Forecast residential development 2016 to 2036					
Area	Change in dwellings between 2016 and 2036				
	Number %				
City of Kwinana	+15,509	+100.2			
Anketell	+1,619	+1740.9			
Bertram	+275	+12.6			
Calista	+106	+11.1			

Casuarina	+2,268	+818.8
Kwinana Town Centre	+1,061	+684.5
Leda	+71	+6.0
Mandogalup	+2,408	+3391.5
Medina	+89	+7.3
Orelia	+728	+35.1
Parmelia	+726	+28.1
Wandi	+1,304	+112.9
Wellard (East)	+1,242	+249.9
Wellard (West)	+3,612	+119.4

Table 9: Forecast residential development - 2016 to 2036

Approved Local Structure Plans provide an indication of how many new lots can be created in the future. An analysis, as shown in Table 10: Approved Local Structure Plan lot yield, of the approved structure plans shows the potential to create approximately 11,600 lots in the developing suburbs.

Local Structure Plan	Lot Number/s and Location	Estimated Lot Yield
Anketell North	Anketell North LSP	1,180
Anketell South	Lots 1, 2, 3, & 17 Thomas Road and Portion Lot 13 Treeby Road	420
Mandogalup East	Lots 9002 & 9006 Hoffman Road and Lot 9019 Rowley Road	1,500
Mandogalup West	Lot 682 & 52, Rowley Road.	900
Wandi South	Lots 60 & 61 Kenby Close	56
Wandi North	Lot 313 (651) Anketell Road	1,004
Wellard	Lot 64 (78) Woolcoot Road	188
Wellard	Sunrise Estate - Part Lot 9001 (previously Lot 201) Mortimer Road and Part Lot 379 Millar Road	1,440
Wellard	Lot 661 Bertram Road	198
Wellard	Lot 601 Millar Road, Wellard	265
Wellard	Oakebella Estate - Lots 503-505 507 & 900 Johnson Road Wellard	415
Wellard	Lot 502 Tamblyn Place	65-70
Wellard	Lot 500 & 501 Bertram Road	126
Wellard	Lots 670 & 1338 Bertram Road and Reserve	106
Wellard	Lot 59 Mortimer Road, Wellard	55
Wellard	Lots 90 & 378 Millar Road Wellard	242

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Wellard	Lot 900 Tamblyn Road	53
Wellard	Wellard Village	2,205
Wellard	Providence - Lots 167-170, 83, 85, 92, & 1278 Wellard Road, and Lots 1, 10, & 2 Johnson Road in Wellard	770-790
Wellard	Emerald Park - Lots 1, 21, & 500 Mortimer Road and a portion of Lot 9000 Johnson Road, Wellard	425

Table 10: Approved Local Structure Plan lot yield

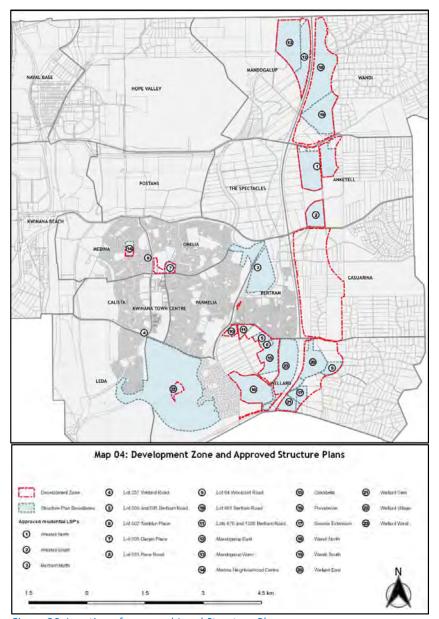


Figure 26: Location of approved Local Structure Plans

Further, a desktop analysis of the structure plans and subdivision plans approved by the City revealed that a dwelling requires an average 500m<sup>2</sup> area, which is roughly in line with the standards required by Liveable Neighbourhoods. The 'average area' includes the lot area, and supporting land area required for road, public open space/s, and school/s. Based on 500m<sup>2</sup> per lot, the City requires 330 hectares of urban land by 2036 to accommodate the forecast dwelling development.

A current analysis of the location of approved Local Structure Plans vs Urban and Urban Deferred zoned land showed that there is still approximately 410 hectares of unplanned and undeveloped land within the City.

This demonstrates that whilst the City will continue to experience a significant population increase and residential growth, its existing structure planned, urban and urban deferred areas are more than capable of providing the required land area to meet this need. It also shows that the majority of this growth will occur within the growing urban areas of the City located mostly east of the Kwinana Freeway and in Mandogalup.

### 5.1.11 Residential infill

Whilst the forecast population growth of the City can be accommodated within the existing expansion areas, the Sub-regional Framework has also set out an infill dwelling target of 1,365 dwellings to be built within the City by 2050. It is expected that this infill target be provided within the City's existing suburban areas in-line with sound planning principles.

In order to understand how this target can be met, it is necessary to know the current residential yield from existing zoning and density codes that apply within the established suburbs in the City. As shown in Table 11 there are almost exclusively R20 zoned lots throughout the established suburbs. An R20 density coding allows for a minimum lot size of  $450\text{m}^2$ . However, due to the large lot size the actual yield in the established suburbs is well below R20 and more likely to be in the vicinity of an R10-12.5 density.

The development capacity at an R20 density throughout the older suburbs indicates that there are an additional 897 lots that could be created, based on the current local planning scheme zoning provisions.

If the City is to achieve its density target of 1,365 infill dwellings, the City will need to facilitate further infill development for an additional 468 lots within existing suburban areas.

Suburbs	R20	R25	R30	R40
Medina	1,116	0	0	11
Calista	704	0	0	45
Leda	999	0	0	1
Orelia	1,536	107	15	42
Parmelia	2,559	0	0	8
Total	6,914	107	15	107

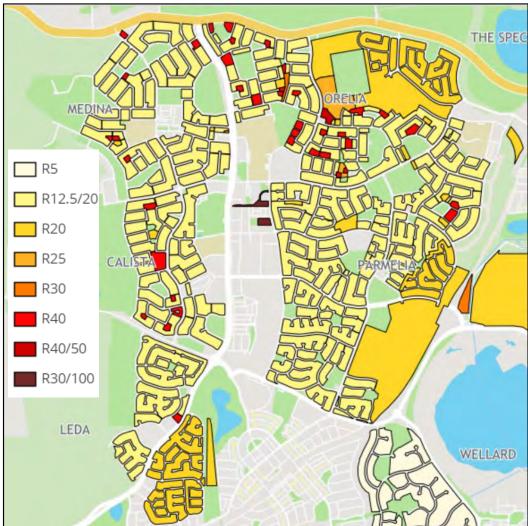


Table 11: Distribution of residential lots in the established suburbs

Figure 27: Location of density codes across the City

Analysis of R20 development potential, as shown in Table 12: Size and Distribution of R20 lots, indicates that more than 90% of the R20 lots are less than 900m² with only, 506 lots having the capacity for future subdivision.

R20 Lots Size (m²)	Medina	Calista	Leda	Orelia	Parmelia	Total
<900	944	548	955	1447	2394	6288
900-1350	140	132	37	61	136	506
1350-1800	15	10	1	4	8	38
1800-2250	9	5	1	5	6	26
>2250	8	9	5	19	15	56
Total	1116	704	999	1536	2559	6914

Table 12: Size and Distribution of R20 lots

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However, the development capacity of all lots across all density codes throughout the older suburbs indicates that there are an additional 897 lots (including the 506 R20 sites) that could be created, based on the current local planning scheme zoning provisions.

If the City is to achieve its density target of 1,365 infill dwellings, the City will need to facilitate further infill development of existing suburban areas.

#### 5.1.12 Key issues

The City's population is forecast to double by 2050 with marginal increases in household size. The majority of this population will be located in growth suburbs, and it is important the level of service in these new residential areas meets residents needs and provides the best possible environment for residents to live in.

The future population of Kwinana will comprise of the following characteristics:

- the largest component of household types are couples with children and couples without children:
- one parent families are higher in the City than surrounding areas and will continue to increase;
- one person households will increase;
- population in the 60+ age category is expected to increase in proportion to the general population; and
- There also appears to be a mismatch between number of people living in a dwelling and number of bedrooms in a dwelling.

This demonstrates a need for the City to continue to provide family homes for a growing population, but to also acknowledge that there are significant portions of the City's community that require different housing needs. This includes the need to continue to provide an affordable housing option within the City including medium and higher density housing and alternative housing types to meet the needs of a changing community to be provided throughout all areas of the City.

The City also has almost 50% less medium and high density dwellings than the south west metropolitan local authorities and a higher proportion of separate dwellings. There is a clear need to diversify the City's housing stock to provide dwellings that cater to the other ends of the housing spectrum rather than just 3-4 bedroom dwellings, on single lots.

The Sub-regional Framework requires an additional 1,365 infill dwellings by 2050 and under the City's local planning scheme and current land use zones and densities, there is capacity for an additional 897 dwellings.

The challenge will be to identify appropriate locations for additional housing types and sizes to meet the housing needs of its growing community that:

- · retains the urban character of established areas,
- maintains the City's tree canopy cover,
- in close proximity to an activity centre; and
- has good access to public transport.

# 5.1.13 Response to issues

The City will ensure that the housing needs of future residents in growth suburbs are met through sound structure planning processes that deliver suburbs that meet best practice urban design to ensure a quality living environment for residents not only now, but into the future.

There is a demonstrated need to provide a diversity of dwelling types that can accommodate varying household and family structures which are currently not provided within the City's housing stock.

The Sub-regional Planning Framework requires that 1,365 dwellings be provided in existing residential areas (infill development) that will assist in the provision of a diversity of housing types in Kwinana. Under the residential densities in the City's current local planning scheme, there is capacity for an additional 897 dwellings on existing residential lots. This would still leave a shortfall of 468 dwellings of the 1,365 dwelling target set by the Sub-regional Planning Framework. This shortfall would require 11.7ha of existing R20 residential land being recoded to an R40 residential density to enable the development of the required 468 dwellings (40 dwellings/ha x 11.7ha = 468 dwellings).

There is 450ha of land situated within the walkable catchments (400m radius) of the main activity centres in the City, including the City Centre, Wandi District Centre and four neighbourhood centres (Medina, Bertram, Wellard Village and Mortimer). The City will prepare precinct plans to investigate appropriate residential density codings (in areas which currently have an R20 density coding)) to accommodate the 468 dwelling shortfall and ensure that the additional infill dwelling types and lot sizes are delivered with regard to the local context and taking into account proximity to schools, shops, entertainment, community facilities, business services, social services, health services and public transport.

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# 5.2 Rural living

The City of Kwinana comprises approximately 12,000 ha, of which the rural zoned areas make up approximately 3,520 ha. The City's rural areas are spread across the City facilitating various rural pursuits. Aapproximately 60% of rural land is located to the east of the Kwinana Freeway.

Under LPS2, rural land is zoned as Rural A (797 ha), Rural B (775 ha), Special Rural (1620 ha) or Rural Water Resource (328 ha), see Figure 28: Rural zones as per LPS2.

#### 5.2.1 Rural A

To the east of Kwinana Freeway, along Born Road, Casuarina, there are 23 lots which comprise of an area of 82.14 hectares, with 17 lots being over 4 hectares in area. While there are some businesses such as a market garden, kennels, nursery, machinery workshop, many are largely residential uses.

These lots are located within a planning investigation area shown in a shaded circle on Figure 29: Subregional Framework map extract. Planning investigation areas have been set aside as part of the strategic reconsideration of land use and will be subject to assessment by the WAPC to determine whether any possible change to current zoning is appropriate. These investigations are being progressed by the WAPC and are required to be undertaken prior to any related Metropolitan Region Scheme (MRS) amendment. The findings of this investigation have yet to be made available to the City for consideration.

There are additional Rural A zoned lots in Mandogalup, used for market gardens, quarrying and residential land uses however the eastern portion of Mandogalup is demarcated as Industrial Expansion, as shown in Figure 29: Sub-regional Framework map extract, with the remainder shown Industrial Investigation which is subject to IP47.

The remaining Rural A zoned sites are environmental assets that remain incorrectly classified under the MRS or land near the Kwinana Motorplex that is also shown as Industry or Industrial Investigation.

The future of Rural A lots is unknown and largely dependent on the outcome of planning for the IP47, the long-term implementation of the Sub-regional Framework and associated industrial expansion and planning investigation area and/or the need to rezone land to protect the water quality of major drainage systems.

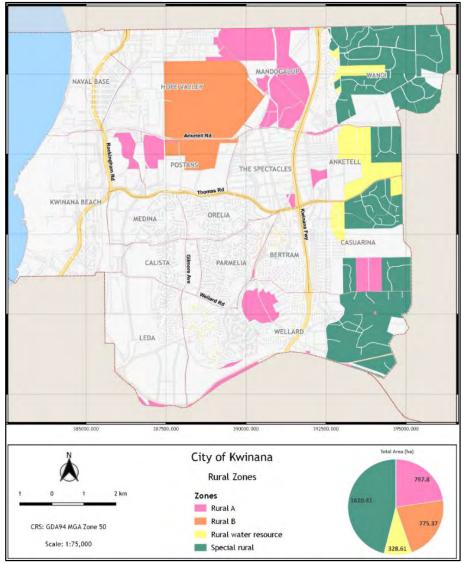


Figure 28: Rural zones as per LPS2

# 5.2.2 Rural B

Rural B zoned area is located to the west of Kwinana Freeway and is used for extractive industries, tailings ponds, processing and other purposes.

The land set aside as Rural B under LPS2 north of Anketell Road, is the Alcoa Residue Disposal Area which is identified in Figure 29: Sub-regional Framework map extract as Industrial, whilst the area south of Anketell Road, the Postans area, is shown as partially Industrial and partially Industrial Expansion.

Industrial expansion
Industrial investigation
(Refer to Table 7 for key considerations)

Kwinana

The application of a rural zone to these land uses and areas may not be appropriate and the City will need to determine how best to manage these land uses through appropriate zoning.

Figure 29: Sub-regional Framework map extract

# 5.2.3 Special Rural zone

The Special Rural zone is located to the east of Kwinana Freeway and is directly abutted by the urban development front. Demand for rural living land is high, particularly given the close proximity to transport infrastructure such as the Kwinana Freeway and railway stations.

The Special Rural area is used predominately for rural living purposes with lot sizes from 1 hectare to 4 hectares. There is a potential conflict between the urban and rural interface due to the intensity of urban development that directly abuts large rural living lots. This conflict cannot be controlled within the existing rural living lots and will need to be managed by new urban development.

The Special Rural zone is split into sub-areas each with its own specific controls. As a result there is some variation across the different Special Rural zones, mostly with regard to whether equestrian uses are permitted or not and what mitigation measures are put in place to enable them.

Specifically, Extractive industry and Tailing pond uses are not permitted and most land within the zone is required to preserve Banksia Woodlands. Particular controls exist for building envelopes and some of the principles adopted for development include requiring nutrient retentive effluent disposal systems, preserving remnant vegetation and managing run-off to avoid the impact on wetland and bushland areas.

Provided the land is managed in accordance with those principles the use of the land for rural living purposes is compatible with the Jandakot Water Mound and Peel/Harvey Estuarine System.

### 5.2.4 Rural Water Resource zone

Rural Water Resource zone applies to those areas over the Jandakot Groundwater Mound which are not otherwise zoned Special Rural, Parks and Recreation reserves or Public Utility. This includes a number of lots along Bodeman Road, Battersby Road and lots along Thomas Road.

Rural Water Resource lots vary in size from 2 hectares in Wandi to over 16 hectares in Anketell. The most common size is about 4 hectares. There are 86 Rural Water Resource lots in total with potential for a further 22 lots through additional subdivision. The main land use of the Water Resource zoned lots is rural living or market gardens, the suitability of which may need to be queried if that land use and its activities cannot be managed to meet the main objective of the zone.

The main objective of the Rural Water Resource zone is to protect and preserve the underground water resource while facilitating rural land use and development.

#### 5.2.5 Key issues

The Sub-regional Framework has identified the current rural areas to the west of Kwinana Freeway to be set aside for Industrial, Industrial expansion or Industrial investigation, subject to the outcomes of IP47.

The IP47 process will determine the land uses for this locality which will be incorporated into a future Improvement Scheme for the locality.

Separately, there is a need to manage and minimise water quality impacts on both the Jandakot Groundwater Mound and drainage catchment of the Peel/Harvey Estuarine System by controlling land use and intensity of development in these areas.

140 Treeby Road, Anketell is a Bush-forever site that also contains a wetland but again still retains a rural zoning which should also be brought under State responsibility for management as a Parks and Recreation Reserve.

With the rezoning of large areas of previously rural land east of the Kwinana Freeway for urban development, the interface between the urban and rural areas is in conflict.

The introduction of urban development into previous rural areas brings with it potential impacts associated with increased traffic, noise, intensity of development and loss of amenity. This interface requires a transition between the intense urban development and rural communities, but there is no ability for it to be treated within the existing rural areas. New development, therefore, should respond to this interface issue.

# 5.2.6 Response to issues

The City will retain the existing rural living areas, advocate for its retention through any future planning investigation and seek to expand it, where appropriate.

The City will review the appropriateness of rural land uses within the Peel / Harvey Estuarine System and Jandakot Water Mound and if necessary rezone to remove inappropriate zones. This may provide an opportunity to reduce impact on the water sensitive areas whilst providing for an expansion to the rural living area.

The City will require new development that abuts an existing rural area to incorporate a transition to mitigate the negative impacts of urban development alongside rural living areas.

The City will seek to rationalise MRS zones where it is appropriate to Reserve sites for their environmental value.

The City will need to assist rural businesses should they seek to continue to operate within a new industrial zone or seek to relocate.

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### 5.3 Character, Identity and Urban Design

The City of Kwinana has a rich history containing many sites significant to Aboriginal and non-Aboriginal culture. Recognising, respecting and celebrating aspects of our past that we value - a site which has played an important part in our history, and buildings or places which are special because of their aesthetic, historic, scientific or social significance - is a way of adding meaning to place, helping people to connect to and value the places they occupy, and to learn from the past.

### 5.3.1 Aboriginal heritage

The City of Kwinana is located in the traditional lands of the Nyoongar people. Important Nyoongar camping, hunting and gathering sites include Sloan's Reserve, Chalk Hill and The Spectacles. The area surrounding Chalk Hill is part of a trail of fresh water lakes and natural springs running along the greater metropolitan coastal strip. Nyoongar people used Chalk Hill as a way of signaling their location to others, through the lighting of fires. According to Dreamtime stories, the white chalk found on the hill represents the beards of the elders.

Simon Gentle, a Ballardong man, was the first ever employee of the Kwinana Road Board in the early 1950s. Several Aboriginal families camped at Chalk Hill and Thomas Oval in the 1950s and 1960s. While Aboriginal people were employed by the council and on the industrial strip, they were not initially eligible for state housing. Following campaigning by Kwinana Road Board Councillors, the Walley family were amongst the first Aboriginal people in Western Australia to be allocated state housing.

Within the City of Kwinana there are four registered Aboriginal Heritage places, as described in Table 13: Registered Aboriginal sites.

Registered Aboriginal Site ID	Name	Туре
3710	Thomas Oval	Camp site
3711	Sloans Reserve	Camp site & Hunting place
3534	Sloans reserve artefacts	Artefacts / Scatter, Arch Deposit
3568	Wally's camp (Kwinana Fwy/Millar Rd)	Camp site

Table 13: Registered Aboriginal sites

In addition to the four registered Aboriginal Heritage sites there are at least 12 further sites listed as having Aboriginal heritage significance. This strong and proud Aboriginal connection to the area should be recognised and celebrated in appropriate ways through the planning framework.

The oversight of the Department of Indigenous Affairs and the application of the Aboriginal Heritage Act 1972 will ensure that significant aspects of Aboriginal history and culture, relating to the period before European settlement, are recorded and preserved.

### 5.3.2 European character

European presence in Kwinana can be traced back to 1829, to the ill-fated Peel Estate attempts to farm the surrounding districts. Many local families can trace their history back to a second wave of migration that occurred in the 1920s under the Post World War One Soldier Settlement Scheme and Sir James Mitchell's Group Settlement Scheme. Most of the farms were abandoned by the 1930s, however cottages named in honour of the Thorpe, Sloan, Smirk, Key and Mead family still stand today.

Kwinana as we know it today has its origins in the 1950s, when the WA Government entered into an agreement with the Anglo-Persian Oil Company (now known as BP) to construct an oil refinery on the shores of Cockburn Sound. To complement this industrial development, the State Government

appointed WA's first qualified town planner, Margaret Feilman, to prepare the plans for Kwinana to accommodate the refinery's workforce and their families.

The first suburb of the new Town was Medina which was opened up as a state housing area and most of the families that moved in were fresh migrants of Anglo Celtic and European descent. The suburbs of Calista and Parmelia soon followed. Many of the City's suburbs take their names from ships and early settlers. Most homes were built of timber frame and fibro, with approximately 10 percent of the houses built of brick and reserved for occupancy by managerial and professional employees. While some were dispersed throughout the neighbourhood, a concentration of brick houses on a hill, above the average elevation of the rest of the community, still exist in some capacity.<sup>6</sup>

During World War Two, Gentle Road, Medina was the site of a military personnel camp, housing Royal Australian Air Force officers who manned the Radar Detention Huts on Wellard Road. The huts were an integral part of Australian's coastal defence during the war, used to detect the approach of enemy vessels. The huts can still be visited today as part of the Kwinana Loop Walking Trail.

Residential development also started in other suburbs of Orelia, Parmelia and Leda in the following decades and by 1990, the character of these suburbs was established.

The City of Kwinana has a unique place in the history of Western Australia, as the site of some of the earliest land grants in the Swan River Colony, as well as being the largest purpose-built and planned town to serve industry in Western Australia. The historical narrative of Kwinana is captured through its existing Local Heritage Survey.

# 5.3.3 Identity & Urban design

The City of Kwinana is a planned satellite community that was developed in the 1950s, some thirty kilometres south of Perth. A planned new town to accommodate an oil refinery's labour force, commenced in 1953 and has been described as the most interesting and progressive experiment ever attempted in Australian town planning. Margaret Feilman was the Perth-based architect and professional town planner selected to plan Kwinana new town and to coordinate the state agencies involved in the project<sup>6</sup>.

The planning for Kwinana embodied the 'British new town style' of designing communities so that local shops and community facilities are within a walkable distance, creating sustainable communities. Feilman also retained major bushland and landscape features and described the town as "hewn out of virgin bush" and that her goal was "to integrate an essentially Australian town in a particularly attractive Australian landscape".

Kwinana's townsite was planned for the Swan Coastal Plain, some four kilometres inland from the beach, shielded from refinery vistas, emissions and odours by a ridge of relict sand dunes striking north—south. The townsite straddled the valley between a pair of sandy ridges that paralleled the coastline and were vegetated by indigenous sand-tolerant species such as grass trees and banksias in open-canopy tuart woodland. Gilmore Avenue, the main north—south road in the valley bottom between the two ridges, was planned to divide the new town in half. Medina and Calista, the oldest neighbourhoods, were sited on the western ridge while Orelia and Parmelia were developed later on the eastern ridge, further removed from the coast.

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<sup>&</sup>lt;sup>6</sup> MacLachlan I. and Horsley, J., (2015), New Town in the Bush: Planning Knowledge Transfer and the Design of Kwinana, Western Australia, Journal of Planning History 2015, Vol. 14(2) 112-134.

<sup>&</sup>lt;sup>7</sup> Kwinana New Town, (1955). *Town and Country Planning* 

Feilman planned Medina as the first suburb of Kwinana and employed the new town planning theory to the design through the use of curved streets following contours, the inclusion of a number of short loops and cul-de-sacs, the avoidance of over-long streets, the carefully considered intermixing of varied housing types, and the subtle use of small open spaces and tree masses to achieve variety in layout. Housing was surrounded by indigenous trees and from almost any vantage point in Medina, the sights and smells of the Australian bush landscape are still ubiquitous.<sup>6</sup>

The town evolved as a series of neighbourhoods or communities that were surrounded by open space and also by the limited-access roads right through the centre, where the concept of the neighbourhood, the community, is as free as possible from through traffic and to have its own local facilities, if possible, within approximately a 1 kilometre maximum walking distance, an average of about five minutes walk.<sup>8</sup>

Feilman's commitment to environmental conservation in the design of Kwinana is still evident almost seventy years after the area was first developed. Kwinana continues to project the planning principles of creating walkable sustainable neighbourhoods within bushland and the natural landscape and this forms an important part of its identity. Of all the environmental initiatives in the design of Kwinana, the preservation and planting of trees, both indigenous and exotic, must be considered among the most successful. This is evident through the significant mature street trees that have been retained throughout the decades and give Kwinana a leafy green identity.

Residential development in Medina and Calista started in the 1950s with other suburbs of Orelia, Parmelia in the following decades as shown in Figure 30: History of residential development in Kwinana. These suburbs have all followed the original urban design, as set out by Feilman, and retain the new town layout and identity.

Between 1985 and 1995 Parmelia was extended to the east and Leda was developed and these suburban areas comprise low density housing on large lots in a curvilinear street layout with low levels of connectivity with cul-de-sacs off local collector streets. They fit same street design and layout of the original suburbs of Kwinana but lack some of the environmental initiatives such as retained natural bushland throughout the suburb and the connectivity through landscaped walkways.

The last 25 five years have seen the extension of the Kwinana Freeway providing new access opportunities to the City of Kwinana, particularly benefiting the growing locality of Bertram. Bertram was planned in the mid-late 1990's and developed throughout the 2000's prior to the adoption of Liveable Neighbourhoods and as such the suburbs design is distinctly lacking the retention of any natural vegetation or pedestrian footpaths beyond the main thoroughfares.

<sup>&</sup>lt;sup>8</sup> Feilman, M., (1991). Kwinana, from the Limestone Up: Kwinana's People Talk about Their History

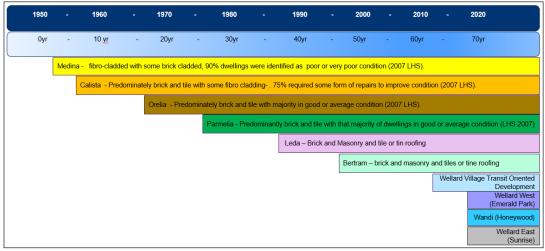


Figure 30: History of residential development in Kwinana

The \$2 billion Perth to Mandurah railway was announced, constructed and officially opened in December 2007. This greatly benefited the South West Corridor of Perth, and at a local scale provided stations at Wellard and Thomas Road within the Town. The decision to route the railway through the eastern parts of the City was particularly the result of the hard work and persistence of the Council, who were initially faced with a proposal to route the railway down the newly extended Kwinana Freeway potentially bypassing the Town.

The development of Wellard Village around the Wellard station and Belgravia Central around the Thomas Road station where deliberately planned and developed as Transit-Oriented-Design developments and are now seen as leading examples of transit orientated design within the country, and are testament to the hard work of the Council and developers at the time.

Wellard station precinct provides the most developed example of integration based around walk-on patronage. A higher density mixed-use development, the bulk of residential component was developed well in advance of retail or commercial development however the intention to create a 'main street' shopping centre linking to the station has come to fruition. The density of development is also of interest, with the aim of achieving 11 dwellings per hectare (gross) compared with the metropolitan average of 6 dwellings/hectare.

Wandi, in the City's north, has also been planned and developed around the same time, albeit to a different urban form. Wandi responds not to a transport based design impetus, but instead to the environmental assets that are located throughout the suburbs. There are numerous wetlands located in Wandi that have been preserved as part of the development and are now incorporated into the various public open space areas throughout the area. The retention of established existing vegetation is also a feature in Wandi with Paperbarks being retained in road verges, median strips and local parks.

The City is contains a large area of rural living lots that are located to the east of the freeway but outside the current urban development front. Located throughout the majority of Wandi, Anketell and Casuarina these lots are generally 2 – 4 hectares in size, although some lots are up to 10 hectares in size and provide a rural lifestyle choice to the community that is relatively well sought after. These lots are usually permitted to clear a defined building envelope but are otherwise encouraged to maintain the natural bushland on site. These rural living areas account for a significant area of the City, and they

contribute to the City's character and identity as a locality that can offer a residential living options within a natural environment setting.

As a result, the City has a distinct group of established suburbs, being Medina, Calista, Leda, Orelia and Parmelia, developing suburbs, Bertram, Wandi and Wellard and rural living areas of Wandi, Anketell and Casuarina.

#### 5.3.3.1 Established suburbs

The City's established suburbs have a greater emphasis on social, economic and environmental aspects as urban villages that reduce dependency on private vehicles due to an urban structure that is based on walkable, tree lined, mixed-use neighbourhoods with interconnected street patterns to facilitate movement and to disperse traffic. Daily needs are generally in walking distance of most residents and with this design, more people will actively use local streets, enhancing safety. Local employment opportunities are facilitated in the town structure, providing the community with a firmer economic base and enhancing self-containment of neighbourhoods.

These suburbs also retain a spacious, green and leafy character, including views of backdrop vegetation between and over buildings, generous front garden setbacks open to view from the street. There is less emphasis on separate definition of public and private domain with front gardens often not fenced.

However, in the established suburbs of the City, a significant number of dwellings are in poor condition as the homes have now passed their designed life expectancy and require significant renovations or reconstruction. A broad analysis of the residential environment of the suburbs was undertaken for the City's 2009 Local Housing Strategy (more than 10 years ago), which identified the following:

#### Medina

- Construction from 1950s to 1970s;
- Almost 60% of the dwellings constructed from fibro-clad materials, the remainder brickcladded;
- Houses reaching the end of their serviceable life;
- Almost 90 % of all dwellings in Medina are either in 'very poor' condition requiring serious repair or in 'poor' condition requiring some repair; and
- Asbestos and fibro-cement roofing of about 10% of the dwellings hazardous, and pose threat to health and well-being.

### Calista

- Construction from 1960s and 1970s;
- Predominantly brick and tile construction; also fibro-cladded dwellings;
- Houses reaching the end of its serviceable life;
- 10% of the dwellings are in very poor or poor condition, however approximately 75% of it do require some form of repairs; and
- Asbestos and fibro-cement roofing of about 10% of the dwellings are hazardous and pose threat to health and well-being.

Orelia

- The suburb of Orelia was not developed until the mid-1960's. The majority of the housing construction occurred in the late 1960's for approximately a 10 year period with 70 percent of housing stock developed in that period. The Windsor Hills area has resulted in a recommencement of dwelling construction which has added the remaining 30 percent of the suburbs growth, since 1996. New dwellings from mid-90s, particularly the Windsor Hills Estate in the north;
- All dwellings constructed of brick, with 86 percent of dwellings having tiled roof; and
- Almost 34% of new dwellings in the Windsor Hills Estate constructed with metal roofs.

#### Parmelia

- Significant dwelling development in the 1970s and 1980s;
- · Predominant construction materials brick and tile;
- · About half of all dwellings are of good or average condition; and
- Small proportion of dwellings constructed with asbestos or fibre-cement sheeting.

#### Leda

- Construction started in the late 1980's;
- Housing style reflects contemporary building design and practice;
- Predominant construction material brick or masonry;
- Majority of dwellings have a tiled roof, with 17% being metal; and
- Overall condition good.

In some areas infill development has occurred and commonly, subdivision of these lots has resulted in battle-axe development, where a dwelling is constructed behind the main dwelling with a long narrow strip of land forming a driveway. Whilst this subdivision form does retain the original dwelling, this incidence of additional driveways and crossovers has resulted in the loss of mature street trees. There are also instances where a three lot subdivision has been carried out. In these cases, the retention of street trees and canopy cover can be a significant challenge.

Some pre-existing consistent characteristics have been established through simple yet effective design elements, such as:

- Limited front fencing or open fencing.
- Buildings well set back from the road reserve.
- Porches and verandas on the front of the dwelling.
- Street trees in road verges.
- Elevated well-ventilated housing due to the use of stumps.
- Minimal intervention with the natural topography.
- Pitched yet simple roof typologies.

There is a current Local Planning Policy that intends to ensure that new development will enhance the City's character, generally facilitate a higher quality form of development and ensure a distinctive, diverse and yet harmonious urban environment. The policy sets out subdivision lot layout preferences and design advice for existing dwellings, where retained on a lot.

The policy seeks to reinforce the connection between new development and existing character by maintaining façade treatments such as porches and verandas that are consistent with older original housing forms in the area. Improvements to the quality of front gardens and landscaped areas are also encouraged to create a transition between the home and the street.

Key to implementing the urban design aspects as outlined in the existing policy provisions is the need for future subdivision design to respond to the layout of the original suburb design. It may be necessary to elevate policy controls into the Scheme in order to ensure the character of the area is maintained.

#### 5.3.3.2 Developing suburbs

The design of the developing suburbs has resulted in new localities with their own identity. The starkest difference is the tendency of modern developers to adopt a bulk clearing and cut and fill approach to land development.

In some instances the City has seen significant areas of land cleared and earthworks undertaken that has resulted in wholly different landforms requiring substantial retaining, sometimes with materials not found in the local area. This has resulted in a lack of retention of existing vegetation and therefore biodiversity, a loss of landscape and landform and little connection to the site context or area.

Given the City's strong historical character and identity that is evident throughout its established suburbs, there is a need to ensure that developing suburbs also respect the identity of the area and that structure planning processes and subdivision design respond to the local context.

#### 5.3.4 Key issues

- Whilst Aboriginal heritage is principally managed by State and Commonwealth legislation there are opportunities to recognise cultural heritage and the role it plays on the City's identity.
- The City has a rich history, with Medina and Calista in particular being icons in the planning of Perth's suburbs as a carefully planned community that was not simply a part of suburban sprawl. This original character should be recognised, retained and enhanced.
- It is also apparent that the oldest suburbs of the City have an aging housing stock, a significant portion of which is in relatively poor condition simply because of age.
- Therefore, facilitating redevelopment of well-located housing stock in the older suburbs of the
  City, whilst maintaining the unique character of the early planning, maintaining quality
  streetscapes and trees and encouraging attractive and appropriate built form, will be key in
  shaping the City's identity over the next decade.
- There is also a need to review and improve upon urban design and site planning to achieve better outcomes for newly developing areas. Current practices are not delivering communities that response to the site context.

# 5.3.5 Response to Issues

The City should recognise the strong cultural heritage associated with Kwinana and seek to preserve and celebrate, where appropriate, the influence of culture on the identity of Kwinana.

The City shall consider how best to intercede in redevelopment of established suburbs to ensure the best outcome possible and that infill areas are revitalised purposely rather than left to market forces. The City already has policies in place to seek to retain some of the unique and beneficial character of the original suburbs and this policy should be reviewed, expanded and its controls reconsidered for elevation into the Scheme, to ensure greater influence over development outcomes and improve community benefit.

The City should introduce requirements that can be applied in developing areas to ensure structure planning and subdivision design responds to local context and incorporates natural landscape features.

# 5.4 Public Open Space & Community Infrastructure

The provision of community infrastructure and public open space (POS) is essential to achieve socially sustainable communities. They play an important role supporting the health, connectivity and participation of communities by bringing people together, developing social capital, maintaining quality of life and developing the skills, networks and relationships essential to strong communities.

State government policies aim to support connected and healthy communities and recognise the provision of accessible and integrated POS spaces and community facilities as a means of achieving these goals. State government usually provides regional parks, schools, medical facilities, cemeteries and emergency services with the Federal government providing tertiary education facilities, social security and other welfare, children's and family services.

Local governments in Western Australia usually provide local, neighbourhood and district level POS areas and community centres, including parks, sporting grounds, community halls and recreation centres and libraries and assist in the administration of buildings for community health, and youth and aged support services.

# 5.4.1 Community Infrastructure Plan 2011-2036

The City's Community Infrastructure Plan (CIP) provides a strategic framework for providing community infrastructure and POS provision until 2036, based on an expected population of 75,270. The CIP formulated a community infrastructure hierarchy taking into account the general geographical and spatial characteristics of the City, including the distribution of the current and forecast population. The CIP has been, and will continue to be, an essential tool in maintaining an equitable, accessible and efficient distribution of POS and community facilities across the City and guides what facilities are provided at sub-regional, district, neighbourhood and local levels.

Facilities	Service Level Ratio	Provision 2018	Required by 2031		
Local and Neighbourhood Comm	unity Infrastructure				
Local Parks	1:1,200	103	63		
Neighbourhood Parks	1:5,000	37	28		
Local Community Centres	1:5,000	5	9		
Local Sporting Ground	1:5,000	6	13		
District Community Infrastructure	e		1		
District Sporting Ground & Hard court	1:25,000	5	7		
District Community Centre	1:25,000	0	1		
District Youth Centre	1:25,000	1	2		
District Branch Library	1:35,000	0	1		
District Recreation Centre	1:35,000	0	1		
Sub-Regional Community Infrastructure					
Sub-Regional Parks	1:75,000	2	2		
Sub-Regional Sporting Ground	1:75,000	1	1		
Sub-Regional Resource Centre	1:75,000	1	1		

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Sub-Regional Recreation and	1:75,000	1	1
Aquatic Centre			
Sub-Regional Arts and Cultural	1:100,000	1	1
Centre			

Table 14: Summary of CIP analysis

Table 14: Summary of CIP analysis provides a comparative analysis of the facilities available in the City, benchmarked against the CIP developed and adopted ratio of facilities per head of population. From the analysis, it can be established that residents of the City have access to sub-regional facilities, but will require district and local level facilities as the population grows.

One of the considerations of the CIP is to disperse the provision of District level facilities to more local level facilities, particularly sporting grounds. Nonetheless, a number of District level facilities are still required to be provided and are set out to be delivered throughout the City.

Local level sporting grounds will become under supplied for the 2036 population. This is largely a result of the lack of ability to assemble land to provide for District level facilities and as such more local sporting ground facilities will be needed.

The CIP sets out the general location for the required infrastructure and the delivery mechanism, usually through local structure planning for local and neighbourhood parks and developer contribution plans for all other facilities, excluding sub-regional facilities.

# 5.4.2 Public Open Space

Currently Kwinana has over 100 public open space reserves across 17 suburbs. Kwinana has an abundance of vibrant green open space, natural bushland and large pockets of nature interspersed throughout the growing suburbs. As Kwinana has evolved so have the spaces that have been created, leaving a variety of park sizes and amenity.

Over the past 10 years, the City of Kwinana has undertaken extensive evaluation of its public open space. In 2004, the Kwinana Parks Project was undertaken to address the physical activity needs of residents and the consequent implications for public open space. This report was then followed up with the PARKS Final Report 2008. Subsequently, the Parks for People: Public Open Space Upgrade Strategy 2013-2018 aimed to continue the improvements to parks set out by the previous reports by drawing on new research, establishing new classifications for public open space that align with State norms, mapping out current classifications of public open space and facilities, outlining works undertaken since the original 2004 report and setting new objectives for public open space.

In an attempt to coordinate the classification of public open space across the State, the Department of Sport and Recreation recently developed a framework for classification which has been applied to parks in the City of Kwinana. The classification system is intended to provide guidance on the level of service and maintenance requirements of open spaces.

Open Space categories	Size
Pocket Open Space	0 - 0.399 ha
Local Open Space	0.4 - 0.999 ha
Neighbourhood Open Space	1.0 - 4.999 ha
District Open Space	5.0 - 19.999 ha

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Regional Open Space > 20.0 ha
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Table 15: Department of Sport and Recreation park classification framework

POS Type	Count	Area (ha)	% Park	% Total	%
			Area	POS Area*	LGA
					Area
Parks	81	146.37	100	4.2	1.22
Pocket Park	15	2.6	1.78	0.07	0.02
Small Neighbourhood Park	35	21.44	14.65	0.61	0.18
Neighbourhood Park	24	56.27	38.45	1.62	0.47
District Open Space	6	44.36	30.3	1.27	0.37
Regional Park	1	21.69	14.82	0.62	0.18
Natural	44	3331.69		95.56	27.78
Residual Green Space	21	8.54		0.24	0.07
Total POS	146	3486.6			29.07
School Grounds	10	26.15			0.22
Total POS + School Grounds	156	3512.75			29.28

Table 16: POS tool data summary - City of Kwinana<sup>9</sup>

A summary of the various parks within the City is provided in Table 16: POS tool data summary - City of Kwinana.

Of note, Local and Neighbourhood parks are generally over provided, however this is largely due to the established suburban areas being developed in accordance with Feilman's plan for Kwinana as discussed in 5.3.3 Identity & Urban design. Whilst the CIP and the Public Open Space Upgrade Strategy discusses the distribution and walkable catchment for POS areas, they do not map and analyse the catchment areas and their walkability at the City scale.

However, the Public Open Space Upgrade Strategy does map each suburb, reviewed the current classification, standard and provision of facilities of the parks within each suburb. The Public Open Space Upgrade Strategy then sets out the proposed upgrades required to be provided in order to better serve the needs of the community.

http://researchdata.ands.org.au/public-open-space-pos-geographic-information-system-gis-layer

<sup>&</sup>lt;sup>9</sup> Centre for the Built Environment and Health. 2013: *Public Open Space (POS) Geographic Information System (GIS) layer*, University of Western Australia.

#### 5.4.3 Trails

#### 5.4.3.1 Kwinana Loop Trail

The Kwinana Loop Trail provides a 21km circuit around the perimeter of the city, offering a unique opportunity to take in some of Kwinana's best views while experiencing the beauty of the City's natural coastal bushland. Information relating to Kwinana's Aboriginal cultural heritage can be found within the trail, guided by the earth red signs along the route.

There are several walk/cycle access trailheads along the trail and car parking is available at Thomas Oval, Sloan's Reserve, Wellard Park, Kwinana Train Station and Sandringham Park.

The Kwinana Loop Trail has been designed for both walkers and mountain bikers. Different stages of the Loop Trail consist of either crushed limestone, concrete, sand or asphalt path surfaces. The sections of wide firm crushed limestone surface suits most age groups and fitness levels.

# 5.4.3.2 Tramway Reserve Trail

In the early 1920's, a tramway was constructed extending south from the Jandakot Railway Station to Karnup to facilitate the development of the Group Settlement Scheme in the Peel Estate. Timber harvested in the Peel Estate region was transported out, and materials to support the Group Settlement Scheme transported in. However by late 1925, the need for the tramway had passed and the rails were pulled up.

Alegacy of the tramway is a long, narrow reserve running approximately parallel to, and to the west of the Kwinana Freeway, that remains largely intact to this day. This approximately 32km long reserve transects the Cities of Cockburn, Kwinana and Rockingham and was identified by these Local Government Areas (LGA's) to have great potential as the home for a multi-use trail. Such a trail would run past a variety of natural features including the lakes, wetlands and bushland of the Beeliar Regional Park which features regionally significant lakes such as Yangebup, Kogalup and Thomsons Lakes.

A trail following the route of the former tramway would also intersect or have the capacity to readily link with a variety of existing trails along its route, significantly expanding the options for and experiences available to users.

The Tramway Trail project was identified as a priority project by the South West Group's Regional – Natural Resource Management (NRM) Strategy (2013) as shown in Figure 31: Tramways Reserve Trail. The potential for such a trail was also identified in each of the Cities of Cockburn, Kwinana and Rockingham's Trails Master Plans.

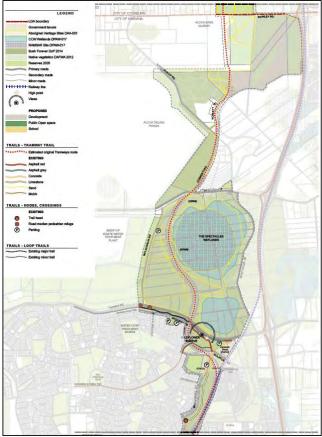


Figure 31: Tramways Reserve Trail

# 5.4.3.3 Off-Road Vehicle area

The Kwinana Off Road Vehicle Area is in Thomas Rd Medina, near the Rockingham Rd intersection. The area is about 20 hectares in size and is mainly sandy terrain with limestone caprock.

As there are no fences around the gazetted area, many riders are not aware of the boundaries of the area. Area Boundary signage was installed but this signage was removed or destroyed.

Kwinana is the only gazetted Off Road Vehicle south of Gnangara and is an important recreational site until a larger facility can be identified and developed<sup>10</sup>.

# 5.4.4 Key Issues

Continued growth of the City to a population beyond 75,000 will necessitate provision of new community infrastructure and facilities such as public open space, sporting grounds and community centres, particularly in the developing areas such as Wandi, Anketell, Casuarina and Wellard.

The City of Kwinana's Trails Master Plan was drafted in 2006, and identified the following characteristics of 'trail supply':

 There are no formally recognised mountain bike (off road cycle touring) trails or horse-riding trails within the Town;

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<sup>&</sup>lt;sup>10</sup> Recreational Trail Riders Association. 2020: https://rtra.asn.au/

- Trails in the Town of Kwinana are currently not well packaged and promoted;
- Little or no interpretation is provided on the trails;
- Existing trails appear to have no clear focus or 'theme'.

The issues identified in the Masterplan appear to still be evident within the City. Some improvements have been made to the Kwinana Loop Trail, however further in investment and improvements may be appropriate in order to realise the Trails Master Plan.

There are limited off-road vehicle areas within Perth, and the Kwinana area is considered to not be a large enough facility to cater to the community's needs. There is also conflict between users of the off-road area and other trail users due to poor signage and trail demarcation.

# 5.4.5 Response to issues

The City may need to review the Trails Master Plan and seek opportunities to improve the trail network to integrate with the pathway system outlined in the Bike and Walk Plan.

The City should investigate opportunities to improve the off-road vehicle area including the option of finding a more suitable facility that minimises conflict between users.

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# Economy



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### 5.5 Industry

The primary industry land within the City is known as the Kwinana Industrial Area (KIA), is located on the western edge of the City along the coast line and is part of the wider Western Trade Coast region (WTC). WTC is a heavy industry area covering approximately 1,150ha and includes the Kwinana Industrial Complex (the southern portion of which is in the City of Rockingham) and Henderson in the City of Cockburn.

It is a large well established and complex port-related heavy industry zone with access to a highly skilled labour pool. The WTC is unique in Western Australia and unusual even in international terms. Its core industries, are based on heavy industry, including petroleum and minerals refineries, power stations, chemical plants, cement works and a range of supporting industries. These are all highly integrated and have grown over time which gives it a strong competitive advantages, specifically, the highly sophisticated inter-organisational relationships and networks.

On the fringe of the heavy industrial complex, the Rockingham Industrial Zone and East Naval Base factory area, house well established fabrication facilities, depots for transport, warehousing and a range of construction supply activities.

To the east, the Latitude 32 Industry Zone provides space for transport, storage and laydown areas as well as new industrial land for supporting industries. In the northern part of the WTC is the Australian Marine Complex, which is an area for shipbuilding, marine engineering, manufacturing, fabrication, defence services, technology and general engineering.

Within the City, there is 6.27 hectares of Light Industry zoned land located in Medina surrounded by Parks and Recreation reserves and Kwinana Golf Club. This industrial area contains 42 lots ranging from 728m² to 2750m² in area and have an assortment of light industrial activities. The location of this light industrial zoned land was a legacy from the Margaret Feilman's plan for the City and remains a local employment and service hub for the community.

# 5.5.1 Industrial land

Industrial land demand and supply was remodelled for the Sub-regional Frameworks, which combined show an estimated demand for 9,650 ha of additional industrial land across Perth and Peel between 2015 and 2050, to cater for an additional population of 1.869 million. This increase is at the rate of 51.6m² per head of additional population across the period. However, the growth is spread unevenly, ranging from 42.4m² per head of additional population in the metro North West to 116.4 m² per head of additional population in the metro North East.

The Sub-regional Frameworks provide an estimate of potentially available industrial land, both zoned and undeveloped and not yet zoned industrial (classified as Industrial Expansion Areas and Industrial Investigation Areas) for the 2015 – 2050 period as shown in Table 17: Perth & Peel Industrial Land.

An Industrial Expansion Area is *land identified* for future industrial development, whereas Industrial Investigation Areas *may be suitable* for industrial development, but require further investigation to determine its suitability and/or refinement of the area and are shown in Figure 32: Industrial expansion and Investigation areas. These sites have taken into account optimal proximity to workforce and service catchments, compatibility with adjacent land uses, accessibility to the freight network, and, where possible, proximity to intermodal transfer facilities.

Sub-regional Framework	Sth	North	North	Central	Overall
	Metro/Peel	West	East		
Additional Population 2011 - 2050	741,020	417,800	241,430	468,900	1,869,150
Assumed Demand 2015 - 2050	5,070	1,770	2,810	0	9,650
Rate (ha / pa)	164.5	49.2	78.2	0	
Rate (m2 pp)	68.4	42.4	116.4	0.0	51.6
Identified Supply*	3190	3260	4580	0	11,030
Adjustment (gross to net @ 75%)	2393	2445	3435	0	8,273
Net Supply (Shortfall) to meet demand	(2,677)	675	625	0	(1,377)

Table 17: Perth & Peel Industrial Land

Notes in relation to Table 17: Perth & Peel Industrial Land:

- Latitude 32 is excluded as potentially available light and general industrial land supply for the South metro / Peel sub-region.
- The Muchea Industrial Park is included as potential industrial land supply for the North East subregion. With the imminent completion of the Northlink major road project, this will functionally become part of the Perth metropolitan area and can be assumed into potential industrial land supply.

The results show a comfortable surplus of potential industrial land supply identified in the North East and North West sub-regions, but a considerable under provision of future industrial land in the Metro South / Peel sub-region. Note that the Central area is assumed to have no capacity for additional industrial land supply.

WTC employment has grown from 9,000 in 1997 to 14,350 in 2017, a 59% increase. Over the same period, floor space has increased from 0.67 million  $m^2$  to 1.84 million  $m^2$ , a 176% increase, indicating a sharp reduction in employment intensity. This is due to the major land uses of Manufacturing and Storage / Distribution having the strongest floor space growth.

The exception is Office/business uses, which has grown strongly in employment numbers and proportion. Office/business uses now account for over 50% of all employment in the Western Trade Coast. While some of this employment is directly related to the on-site industrial activity, much of it is not specific to the land uses on the sites on which the offices are located.

Industrial land estates are thus becoming less a place for large scale employment (although they remain important employment locations) and more a location for economic activity to serve the wider economy. The underlying land demand and economic activity to accommodate the increase in floor space remains. However, while employment densities in industrial estates generally, and particularly those that contain a high proportion of freight and logistics and manufacturing, are declining, the economic activity being undertaken there is still essential to support the population and the land is required to accommodate that activity.

For Heavy and Strategic industrial land, some demand can be identified, however many viable future projects may not yet be apparent but their likelihood needs to be allowed for in planning.

There is a current general shortage of suitable land for heavy industries. The Rockingham Industrial Zone is fully allocated. New entrants are increasingly seeking very large sites, with lithium processors requiring sites of 35 - 70 ha and these are practically non-existent.

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A number of new and emerging industries can be pinpointed as likely to have a presence in the Western Trade Coast in the future. Some are already there. Identified shortlisted emerging industries include – but are not limited to – the following sectors:

- future battery metals;
- advanced manufacturing of prefabricated housing;
- circular economy; and
- · hydrogen economy.

Each has been identified at the Commonwealth and State level as having high growth potential and each has active government programs for their development. Each has potential for a substantial presence in the Western Trade Coast.

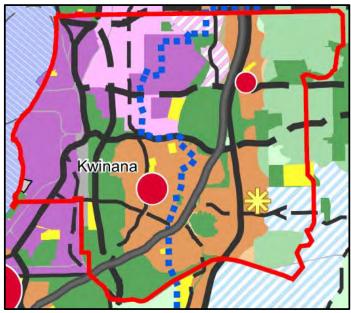


Figure 32: Industrial expansion and Investigation areas

A large proportion of the land identified as future industrial land supply in the Sub-regional Framework is in Latitude 32, as shown in Figure 32: Industrial expansion and Investigation areas. This could be better regarded as future supply for strategic and heavy uses and not for light and general uses. As such it should not be counted as potential land for light and general industrial land supply.

Mandogalup is identified as an Industrial Investigation Area in the Sub-regional Framework and is subject to an Improvement Scheme as described in 3.2.7 Improvement Plan 47 – Mandogalup. It is ideally located for port supply chain land uses (e.g. motor vehicle wholesale preparation and storage) as well as for general light industrial purposes.

Postans, which comprises 87 hectares of land west of the proposed Fremantle Rockingham Controlled Access Highway (FRCAH) and approximately 50 hectares of land adjacent to the Motorplex on the Alcoa's A, B & C mud lakes, is recognised as an Industrial Expansion Area in the Sub-regional Framework.

4.2.1.1 Postans Precinct Structure Plan provides details about the Postans Precinct study conducted by the City, Landcorp and DPLH in 2011. The study identified additional general and light industrial

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land in the Postans area as a transition to Latitude 32. The proposed land use structure for the Postans Precinct as clustered into four land use zones of light industry that comprises:

- Strategic industry to the western and central portion of the Precinct clustered around Abercrombie transport corridor to encourage industry alliance (strategic industry is separated into short and longer term land availability);
- Smaller scale industry to the east with odour producing uses requiring a buffer to fall within the expanded Waste Water Treatment Plant (WWTP) buffer;
- Agri-business industries to the east acting as a separation to the Spectacles; and
- Service Commercial and Service Industrial uses with exposure to Thomas Road.

The intent and general proposals put forward by the Postans study are still sound. However, given the more recent announcements regarding the location of a future Port and new information regarding linkages (both transport and ecological) that traverse this area it may be appropriate to revisit this study. Further, any future potential for Postans to become a general industrial, light industrial and service commercial area should be reviewed in context of the existing Medina light industrial area.

#### 5.5.2 Key issues

There is limited supply of heavy and strategic industrial land in the WTC. This supply is under pressure from uses which do not require the buffer protection, most particularly freight and logistics and office/business uses.

In the WTC, over 50% of all employment is now in office/business activities. While some is directly associated with nearby or adjacent industrial land uses, much is not and could be located elsewhere.

There are several problems with this scale of office use on industrial land:

- in the case of WTC, it takes up scarce land that could be used for purposes that require the heavy industrial / strategic industry zoning;
- the land is not well served by public transport for worker access;
- it has limited facilities for worker amenity; and
- it is within the Kwinana air quality buffer.

There is a limited supply of light and general industrial land in the South Metro and Peel region generally and demand will continue to grow attributed to general population growth plus special uses associated with port activities.

#### 5.5.3 Response to issues

Heavy industrial land must be protected from encroachment and from inappropriate use. For the Kwinana Industrial Area, this means active discouragement of uses which do not contribute to the network in the KIA and which do not require the operational protection afforded by the buffer uses around the KIA.

Seek to expand light and general industrial land into areas that can be located nearby, but not within the Kwinana Industrial Area. Mandogalup and Postans should be regarded for these purposes subject to further planning for those supply chain uses and those activities that find advantage in the Kwinana location, particularly with the announcement of the port, but do not need heavy industrial land capability.

Large employment uses such as office/business uses should be located in areas well served by public transport which provides for a greater worker amenity and benefit by being collocated with other land uses such as a mixed use environment. There may be scope to investigate alternative locations

for office based businesses in areas that are better suited to those uses, which could free-up industrial land in key locations for heavy industrial uses.

Given the significance of the Kwinana Industrial Area and the significant changes in the nature of and prospects for industrial activity in the WTC, there is a need for developing a comprehensive masterplan that accounts for these prospects and makes explicit the opportunities for the area and the measures required to ensure these opportunities are maximised. This would provide the information base to inform any statutory planning provisions that might govern future development in the area.

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### 5.6 Ports

The State Government has endorsed the Westport Taskforce's recommended location and footprint design for Western Australia's next primary container port. The facility will be a new, land-backed style port adjacent to the Kwinana Industrial Area between the existing Alcoa and Kwinana Bulk Terminal jetties.

The port planning and implications for surrounding land use and transportation corridors are significant considerations for the Strategy and the City's new Scheme.

The primary road freight access to the future port will be via Anketell Road extending from the port to Tonkin Highway, with Tonkin Highway providing regional connectivity to strategic industrial areas the airport and regional areas for supply. Anketell Road would be upgraded to a high-standard, fourlane divided freight route with central median.

In order to increase freight efficiency and safety, direct property access would be removed from the freight route by providing service roads, and grade separation would be provided at high-volume cross roads. The new port will be connected by an uninterrupted, modern freight corridor via Anketell Road and Tonkin Highway, effectively shifting the focus of industrial activity in Perth to the south and west and away from the north and east. This will further increase demand for light and-general industrial land in areas accessible to the Port and Tonkin Highway access routes.

# 5.6.1 Key issues

Time frames for the delivery of a new port at Kwinana are long, however significant economic benefits can be derived from the location of the Port in Kwinana and the City should position itself to best capitalise on these opportunities.

The road infrastructure upgrades required to service the Port will impact existing and future residents.

# 5.6.2 Response to issues

The City will take into account the location of the port in Kwinana in this Strategy and ensure industrial land expansion for general, light and heavy industry uses symbiotic to the port are protected.

The City should acknowledge the significant upgrades required to the road and rail infrastructure to ensure adequate buffers are in place for any new development that may occur along those routes and seek to ensure land use separation for sensitive land uses.

However, the City should work with the Westport taskforce in order to ensure the community is given a voice and their concerns are adequately addressed through the Westport taskforce consultation processes.

# 5.7 Activity Centres

The City adopted a Local Commercial and Activity Centres Strategy (LCACS 2023 to assist in the identification and confirmation of sufficient sites for activity centres in appropriate locations throughout the City, so that the shopping and other commercial and community needs of the population could be conveniently satisfied to the maximum practicable extent.

The LCACS's main purpose was to allocate retail floor space for commercial purposes across the hierarchy of activity centres within the City and it did this through a framework for the size, distribution and location of activity centres as well as commercial and office uses across the City.

The recommended activity centre hierarchy identified in LCACS 2023 is as follows:

Hierarchy	By 2042 I	By 2042 Forecast Floor Area (m²)				
merarchy	Shop retail	Retail	Non-retail			
SECONDARY CENTRE  A multipurpose centre that provides a diversity of economic and community services necessary for the community. This centre is expected to provide health, community and social services, be integrated with public transport and provide opportunities for business agglomeration.						
Kwinana City Centre	49,854	3316	45,531			
<b>DISTRICT CENTRE</b> District centres focus on servicing the daily and week facilities and job opportunities that reflect the needs	•	•	ervices,			
Wandi District Centre  (A total floor area up to 20,000m² shop retail floorspace with appropriate evidence of need and net benefit to the community, as per SPP4.2 Implementation Guidelines)	7,246	4,488	7,522			
NEIGHBOURHOOD CENTRES  Neighbourhood centres are important local focal points that provide for daily to weekly household shopping needs, community facilities and a small range of other convenience services. They are also a focus for medium density housing. These centres play an important role in providing walkable access to services and facilities for local residents.						
Bertram	2,910		2,317			
Medina	3,684		6,741			
Thomas Road (Anketell South)	3,092	416	3,370			
Mortimer Road	5,413	399	5,443			
Wellard Village (Square)	11,265	2,660	5,676			
LOCAL CENTRES			L			

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Local centres provide for the day to day needs of local	al communities.	These centres p	rovide an
important role in providing walkable access to servic	es and facilities f	or local commu	ınities.
Parmelia	1032		759
Casuarina Central	1238		991
Wandi North Local Centre	2,303		1,990
Mandogalup	2,732		1,846
Kwinana Station	812		697
Wellard Local Centre 2	1,896		654
Wellard East	1,980		685
Leda	1,179	212	528
MIXED USE (Primarily residential with a small			
amount of shop retail (ie; Multiple Dwelling with shop/office on ground floor)			
Calista			
Orelia	473		1,513
Wellard Local Centre	1,537		1,361
SERVICE COMMERCIAL			
Orton Road	4,000 (Costco)	23,568	
Anketell North	316		318
Thomas Road/Holden Close		350	200

# **Summary of LCACS 2023 recommendations**

Activity Centre	Recommendations
Secondary Centre	Kwinana City Centre
	Encourage office development in the City Centre to create daytime activation.
	Facilitate entertainment, café, restaurant, recreation, and cultural uses in the City Centre to promote night-time activation and increased liveability.
	Create a stronger connection between civic and retail uses in the City     Centre to promote multi-use visits and pedestrian activity.

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- Short term activation of Chisham Avenue through alfresco dining, a strong link with Aldi and additional activities in the Market Square area between Chisham Avenue and the Public Library.
- Support residential diversity in the City Centre

#### **District Centre**

#### **Wandi District Centre**

The Wandi District Centre will reduce the need for local residents to travel longer distances to other centres and warrants a larger centre than was indicated in the original modelling.

State planning Policy 4.2 indicates that district centres serve populations of between 20,000 and 50,000; the City is already home to 50,000 and will grow to 80,000 by 2041. Based on this population, a larger district centre is appropriate, and it is recommended that a centre of up to 20,000m² shop retail floorspace be allowed for with appropriate evidence of need and net benefit to the community, as per SPP4.2 Implementation Guidelines.

# Neighbourhood Centres

# **Medina Neighbourhood Centre**

This centre appears to be turning over moderately well with a low vacancy rate. It is unlikely that the centre will grow significantly in the future given that the area is already established and there is little vacant residential land for future growth. It is recommended that residential be increased to increase retail demand.

# **Bertram Neighbourhood Centre**

LCACS 2014 noted that this centre was intended to be a main street centre but was not necessarily performing as one. This may be due to the lack of active shop frontages and a fairly inhospitable microclimate, which could potentially be remedied with cafes and restaurants offering alfresco dining, parklets and street trees.

# **Wellard Village**

This centre appears to be performing well and is in a suitable location adjacent to a train station and in close proximity to urban development. Neighbourhood centres can generally grow up to 10,000m² Shop/Retail floorspace and it is recommended that Wellard Village be allowed to expand to this size in the long term to cater for nearby population growth. It is recommended that this be the maximum floorspace over the analysis period to ensure that the role of the centre does not change to that of a District Centre and begin to directly compete with the Kwinana City Centre.

#### **Mortimer Road**

The analysis identified that this centre will require up to 5,800m<sup>2</sup> Shop/Retail floorspace in the long term.

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Any short-term development at this centre that is smaller than the identified demand should be developed in a way that will allow for future expansion.

# **Anketell South (Thomas Road)**

This centre is expected to support demand for up to 3,100m² Shop/Retail floorspace in the long term. This level is sufficient to support a single small to medium sized shopping centre with some specialty offerings. Given the Shop/Retail like offering at the newly developed Costco, any further out of centre supermarkets like those that have been proposed to the south of Thomas Road would essentially absorb the opportunity for the planned Thomas Road centre to develop with an anchor tenant.

#### **Local Centres**

#### Leda

This centre underwent a redevelopment which resulted in a significant reduction of its floorspace. As a result, the centre has been reclassified from a Neighbourhood Centre to a Local Centre.

#### Orelia

Draft LCACS 2023 recommends that the City support the development and delivery of an approved structure plan that allows for retail and residential development at the site. This centre should be set aside for mixed usebased centre. This would entail a residential focus with some minor retail capacity.

# **Calista Local Centre**

There are likely higher and better uses for this site, particularly given the current layout of the centre. Given the proximity of the centre to the City Centre, redevelopment of the centre for residential uses would be appropriate. This centre should be set aside as a mixed-use centre. This would entail a residential focus with some minor retail capacity.

#### **Parmelia Local Centre**

This centre currently provides predominantly health related services. Given its proximity to the City Centre, additional Shop/Retail uses should be limited to supporting walkable daily shopping trips for the local population.

# Wellard Local Centre

A potential Local Centre was assessed in Wellard to the south of the train station. This area is under provisioned with regards to access to activity centre uses and some provision should be made. The analysis identified that a local centre of approximately 1,500m<sup>2</sup> Shop/Retail floorspace could be supported in the long term. This centre should be set aside as a mixed-use centre. This would entail a residential focus with some minor retail capacity.

# Wellard 02

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It is recommended that the centre previously identified as Wellard  $\overline{02}$  be set aside as a mixed-use centre. This would entail a residential focus with some minor retail capacity.

### **Wellard Local Centre 2**

This local centre has developed with non-retail uses including a childcare centre and medical centre. The analysis has identified that the local centre could support up to 1,500m<sup>2</sup> Shop/Retail floorspace in the long term.

#### **Wellard East**

A potential Local Centre was assessed in Wellard, to the east of the Kwinana Fwy. This area will require access to daily shopping goods and services as further residential development occurs. The analysis identified that a local centre of up to 1,500m2 Shop/Retail floorspace could be supported in the long term.

#### **Wandi Local Centre**

The Wandi Local Centre is in close proximity to urban development. Analysis indicated that the high levels of potential demand could support a local centre up to 1,500m<sup>2</sup> Shop/Retail floorspace in the long term.

# Mandogalup

The proposed Mandogalup local centre is in close proximity to urban development. Analysis indicates increasing demand; a local centre of 1,500m² Shop/Retail floorspace could be supported in the long term. There is currently a high level of residential development underway around this location with many potential future local centres identified in the City of Cockburn. There is also uncertainty with regards to the final uses to be developed as part of the Investigation Area 47. The City should engage with the City of Cockburn to develop a coordinated approach to the delivery of local centres in the Mandogalup and Hammond Park areas.

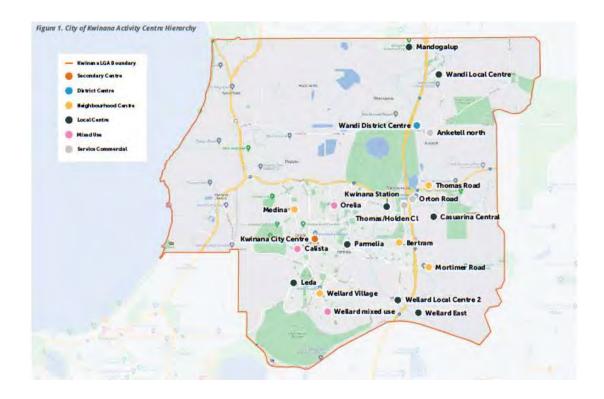
# **Casuarina Central**

This centre provides a local offering between the Thomas Road and Mortimer Road neighbourhood centres. Analysis indicates that demand could support a smaller local centre up to 1,300m<sup>2</sup> Shop/Retail floorspace.

# **Anketell North**

This local centre is in close proximity to the Wandi District Centre. Analysis indicates that only a very small local centre of approximately 300m<sup>2</sup> Shop/Retail floorspace could be supported. It is not likely that this is viable as a standalone centre. It is recommended that Shop/Retail uses be allowed in the Service Commercial section of the Wandi District Centre to the south of Anketell Road. Any offering would need to be supporting the local workforce only (eg. sandwich bar, cafe).

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# **Employment**

# 5.7.1 Employment status

The size of the City's total labour force in 2016 was 18,829, which includes all persons aged above 15. Overall, 89.2% of the labour force was employed and 10.8% unemployed, compared with 91.7% and 8.3% respectively for South West Group. When added to the people looking for work, either full or part-time, there are 21.6% of the labour force not in work. By comparison the South West Group equals 16.5%.

Employment status	2016				
	Number	Kwinana %	South West Group %		
Employed	16,802	89.2	91.7		
Employed full-time	10,801	57.4	56.4		
Employed part-time	5,624	29.9	33.9		
Hours worked not stated	377	2.0	1.4		
Unemployed (Unemployment rate)	2,027	10.8	8.3		
Looking for full-time work	1,353	7.2	5.0		
Looking for part-time work	674	3.6	3.2		
Total labour force	18,829	100.0	100.0		

Table 18: 2016 Employment Status

This shows that within the City of Kwinana there is a lower proportion of the labour force in employment and a higher proportion either unemployed or looking for work (and is one of the highest in the Perth Metropolitan Area).

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#### 5.7.2 Employment by Industry

At the 2016 Census there were 12,650 people working in Kwinana. Although employed in Kwinana, they may or may not be local residents. As shown in Table 19: Employment by Industry, employment is heavily concentrated in two employment sectors – manufacturing (23.9%) and construction (11.6%).

Industry	Number	Kwinana %	Greater Perth %
Agriculture, Forestry and Fishing	314	2.5	0.7
Mining	506	4.0	3.1
Manufacturing	3,021	23.9	5.9
Electricity, Gas, Water and Waste Services	388	3.1	1.2
Construction	1,463	11.6	8.3
Wholesale Trade	381	3.0	2.8
Retail Trade	800	6.3	10.4
Accommodation and Food Services	424	3.4	6.8
Transport, Postal and Warehousing	660	5.2	4.6
Information Media and Telecommunications	42	0.3	1.1
Financial and Insurance Services	318	2.5	2.9
Rental, Hiring and Real Estate Services	214	1.7	1.9
Professional, Scientific and Technical Services	339	2.7	7.5
Administrative and Support Services	317	2.5	3.0
Public Administration and Safety	788	6.2	6.8
Education and Training	826	6.5	9.4
Health Care and Social Assistance	744	5.9	13.0
Arts and Recreation Services	138	1.1	1.8
Other Services	325	2.6	4.1
Industry not classified	642	5.1	4.7
Total	12,650	100.0	100.0

Table 19: Employment by Industry

In contrast, across the Greater Perth area, the focus is Health Care and Social Assistance (13%), Retail Trade (10.4%), Education and Training (9.4%) and Construction (8.3%) with Manufacturing accounting for just 5.9% of total employment.

In part this reflects the history of Kwinana, especially its role as the primary heavy industry area in the State but has not yet been able to evolve and diversify its employment base despite population growth.

# 5.7.3 Industry of employment

The industry sectors in which the residents of Kwinana work are shown in Table 20: Industry of Employment. These are the jobs that Kwinana residents occupy and indicates the skill base of the City's residents. It is important to note that these jobs may be located anywhere and are not exclusive to being located within Kwinana.

% Australia %	Industry of employment	Number	Kwinana	Western
			%	Australia %

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Agriculture, Forestry and Fishing	167	1.0	2.5
Mining	718	4.3	6.3
Manufacturing	1,358	8.1	5.6
Electricity, Gas, Water and Waste Services	227	1.4	1.2
Construction	1,780	10.6	9.8
Wholesale Trade	530	3.2	2.5
Retail Trade	1,808	10.8	9.5
Accommodation and Food Services	1,045	6.2	6.4
Transport, Postal and Warehousing	993	5.9	4.6
Information Media and Telecommunications	152	0.9	1.0
Financial and Insurance Services	329	2.0	2.4
Rental, Hiring and Real Estate Services	233	1.4	1.7
Professional, Scientific and Technical Services	850	5.1	6.4
Administrative and Support Services	635	3.8	3.3
Public Administration and Safety	1,123	6.7	6.2
Education and Training	1,103	6.6	8.7
Health Care and Social Assistance	1,973	11.7	11.7
Arts and Recreation Services	211	1.3	1.6
Other Services	672	4.0	4.0
Industry not classified	895	5.3	4.6
Total	16,802	100.0	100.0

Table 20: Industry of Employment

An analysis of the jobs held by the resident workforce in the City in 2016, shows the three most popular industry sectors were:

- health care and social assistance (1,973 people or 11.7%);
- retail trade (1,808 people or 10.8%); and
- construction (1,780 people or 10.6%).

This is more consistent with the breakdown of jobs by industry for greater Perth as shown in Table 19: Employment by Industry. This would tend to indicate that residents of Kwinana are employed in largely the same types of jobs as the remainder of the Perth metropolitan area, but that the jobs located in Kwinana are more specialised towards the manufacturing and construction sectors. It also suggests that the workforce is available for those industry types to establish locally.

# 5.7.4 Employment self-sufficiency and self-containment

Employment self-sufficiency and self-containment measure the relative participation and potential participation of a local workforce in locally available jobs, and thus indicate the extent to which the quantity and nature of employment provision in an area might be problematic.

Employment self-sufficiency and self-containment are important metrics to achieve overall planning objectives to try and reduce the need for lengthy commuting between homes and workplaces. Time and energy wasted in this manner has both economic and environmental negative effects, and is the main cause of traffic congestion.

In 2016, in the City, there were 12,650 jobs available and 18,829 people in the labour force, which equates to an employment self-sufficiency of 67.2%. The City also had 3,092 residents who work locally in one of the 12,650 local jobs, which represents an employment self-containment of 24.5%.

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It indicates that local residents are not dominant in filling local jobs and travel outside of the city for work.

A further breakdown of where Kwinana workers are traveling for work is indicated in Table 21: Major employment location of resident workers by LGA.

Major employment location of resident workers by LGA	Number	%
Kwinana (C)	3,092	18.5
Cockburn (C)	2,412	14.4
Rockingham (C)	1,749	10.5
Perth (C)	1,677	10.0
Melville (C)	1,006	6.0
Canning (C)	942	5.6
No Fixed Address (WA)	833	5.0
Fremantle (C)	793	4.7
Belmont (C)	452	2.7
Stirling (C)	400	2.4
Victoria Park (T)	326	1.9
Gosnells (C)	293	1.8
Armadale (C)	260	1.6
Ashburton (S)	250	1.5
Mandurah (C)	235	1.4
Swan (C)	197	1.2
Subiaco (C)	179	1.1
Vincent (C)	179	1.1
South Perth (C)	127	0.8
East Pilbara (S)	126	0.8
Nedlands (C)	122	0.7
Serpentine-Jarrahdale (S)	118	0.7
Kalamunda (S)	95	0.6
Cambridge (T)	81	0.5
Bayswater (C)	70	0.4
Wanneroo (C)	65	0.4
Total	16,079	96.3

Table 21: Major employment location of resident workers by LGA

The data shows that although self-containment within the City of Kwinana is quite low, a further 25% of resident workers are employed in the adjacent Cities of Rockingham and Cockburn, equating to a total of 43.4% of Kwinana residents working in one of the three immediate local government areas.

The major reasons for the City's resident workers seeking employment outside the City could be the nature of employment opportunities versus the residents skills and qualifications; transport options available and commuting times; relationship between wages and salaries (people will travel further for higher paid jobs); and house prices in the local area.

# 5.7.5 Employment growth

There has been some recent growth in employment in Kwinana, however employment is not keeping up with the rapid population growth. As shown in Figure 33: Employment growth, from 2006 to 2018 employment in Kwinana has remained steady at around 15,500 jobs, while the population has increased from 24,000 to over 42,000 over the same time period.

The Kwinana share of employment has fallen compared to both Perth and the South West Group, as shown in Figure 33: Employment growth. These trends in employment growth show the challenge associated with having job growth in Kwinana keep pace with projected population growth.

Employment growth has not matched the employment growth in the broader South West Group area nor the employment growth in Greater Perth. If the City seeks to maintain its employment opportunities for its residents it will need to find another 12,000 jobs.

A proportion of these jobs (around one-third) will be population-driven, namely jobs that arise to directly service the local population. They include local retail and business services, health services, education services (particularly primary and secondary education) and personal services. However, this leaves 6,900 jobs that must be found.

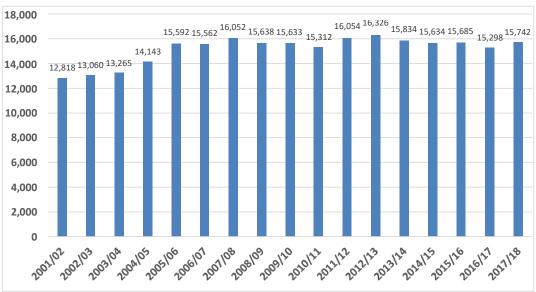


Figure 33: Employment growth<sup>11</sup>

# 5.7.6 Key issues

Of particular interest for Kwinana is manufacturing, which as noted above, dominates employment in the City. Interestingly of the 16,727 employed Kwinana residents, only 1,358, or 8%, work in manufacturing. Accordingly, manufacturing employment in Kwinana is very important to many employees from outside the City, whereas employment elsewhere in key employment sectors like retail and services is very important to the employment prospects of Kwinana residents.

Other major challenges that come from the population growth and statistical data provided in 5.1 Population and Housing includes:

- the 70 84 age group will increase by around 3,100 and by around 835 persons in the 85 and above age group; and
- the location of the forecast population growth is mostly east of the Kwinana Freeway, and whilst these locations are close to public transport they are generally away from employment centres.

<sup>&</sup>lt;sup>11</sup> Source: i.d. forecast (2017)

These points have several direct implications:

- an increased resident workforce will demand increased employment opportunities;
- employment opportunities will need to match resident skills;
- there should be an approximate doubling of population related employment (health services, local retail and business services, education services (particularly primary and secondary education) and personal services;
- increased demand for activity centre floor space (retail, commercial, services) primarily
  affecting existing activity centres in the City; and
- an increase in the aged population, with the consequent need for 2 3 additional aged care facilities plus in-home services.

# 5.7.7 Response to issues

The City should protect the industrial base that offers significant employment opportunities for the whole of Perth metropolitan region.

The City should seek to expand and diversify the employment opportunities offered in the City to better suit the skills and qualifications of the local workforce, through appropriate land use zoning and in the City's activity centres.

The City should facilitate employment growth in aged care facilities plus in-home services. These are large employers and the employment opportunities offered by these industries matches the skills base of Kwinana residents.

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#### 5.8 Tourism and Visitors

In 2017/18, the total tourism and hospitality sales in the City of Kwinana was \$29.4m, the total value added was \$16.4 million, as shown in Table 22: Value of tourism and hospitality. There are 339 people who make up the tourism and hospitality workforce in the City, of this 28.9% worked full-time and 69.9% worked part-time or were away from work.

City of Kwinana	2017/18								
Measure	City of	% of total	Western	CoK as a %					
	Kwinana	industry	Australia %	of WA					
Employment (total)									
Direct	174	1.1	5.8	0.2					
Indirect	39	0.2	2.2	0.1					
Total	213	1.4	8.0	0.2					
Employment (FTE)									
Direct	128	0.9	4.9	0.2					
Indirect	31	0.2	2.4	0.1					
Total	158	1.1	7.3	0.2					
Output/Sales (\$m)									
Direct	23.2	0.3	2.5	0.2					
Indirect	6.2	0.1	1.5	0.1					
Total	29.4	0.3	4.0	0.2					
Value added (\$m)									
Direct	14.5	0.5	3.0	0.2					
Indirect	2.5	0.1	1.5	0.1					
Total	17.0	0.6	4.4	0.2					

Table 22: Value of tourism and hospitality

There were an average of 5,743 international visitors to the City of Kwinana, with 69.6% of those international visitors, visiting friends and relatives. This demonstrates that Kwinana is not a traditional tourism destination ad that the main reason for visitors to Kwinana is for social connection with residents.

The City lacks a profile locally, nationally and internationally and this is reflected in the tourism numbers and the reasons for visitation.

# 5.8.1 Key issues

Whilst Kwinana is not seen as a tourism destination, there are a number of tourism opportunities for eco-tourism and industrial tourism that have the potential to be pursued.

### 5.8.2 Response to issues

Opportunities for tourism destinations, experiences and promotion needs to be considered in the context of the City's sustainability focus. Should the City pursue these options, further research and investigation should be undertaken, potentially through an economic development strategy or as part of any feasibility study for an individual project.

#### 5.9 Services and businesses

Within the City there are a total of 1945 businesses in Kwinana and while there are many large businesses located in the KIA, approximately 1851 of these, or 95%, are small businesses. Of these, 1264 of the businesses are sole traders, with the majority working in Transport, Construction, and Professional roles.

While Kwinana is home to some 13,270 jobs, there has been an ongoing decline in traditional manufacturing jobs, with high growth in small business numbers. In fact, despite Kwinana appearing to be the home of large industries, there are only 68 businesses based in Kwinana that employ over 20 people. The major areas of small business as set out in Table 23: Number of businesses by Industry type are:

Industry	Number of businesses
Transport, Postal and Warehousing	355
Construction	272
Professional, Scientific and Technical Services	116
Rental, Hiring and Real Estate Services	260
Financial and Insurance Services	122
Administrative and Support Services	109

Table 23: Number of businesses by Industry type

Over the last year, businesses grew at over 2 per week to 134 new businesses commencing in Kwinana, appearing to be exclusively small businesses.

Given the high unemployment faced in Kwinana, as established in Table 18: 2016 Employment Status, the City is cognisant of the need to support small business start-ups to help address this problem.

An expanding population will mean increased demand for local population-driven services (e.g. retail, education, health) and traditionally these services provide employment opportunities for around one-third of the population. However, the delivery of these services is changing rapidly and this has some implications for land use in Kwinana. In brief:

- There is a significant trend towards home based health services and more day surgery with reduced emphasis on big hospitals, except for acute needs and specialist services.
- Rockingham Hospital is a reasonable distance from Fiona Stanley Hospital (FSH) and has
  some capacity to expand. Rockingham will deliver increased day surgery and specialist
  services and this will be the acute and specialist hospital for Kwinana. It is likely to be the
  primary regional health campus for the long term, with any additional future hospital likely
  to be located much further south in the Peel area. The time frame for this is long.

These changes mean the physical focus of health services in Kwinana will be in the form of community-focused health services that might include expanded GP services, tele-connected to specialists with visiting services to patients' homes, ideally located within the City Centre.

There are high prospects that expanded uses arising from the on-line economy (for example dark supermarkets and dark kitchens catering solely for on-line purchases) will increase demand for well-located light and general industrial land. There are also high prospects that the large labour pool in the metropolitan south west and Peel and long commuting times to the inner Perth employment areas, exacerbated by expansion limits on the regional road and rail network, will provide conditions for the establishment of a substantial business park / service commercial park in the region.

The City's location provides the opportunity for very large format retail outlets, which have a metropolitan wide catchment, to locate on the Kwinana Freeway and the main east-west freight routes to the Port, within the growing southern sub-regional areas.

Properties around the off ramps to the Freeway, particularly at Thomas Road with its proximity to the Kwinana rail station and freight and logistics and servicing opportunities, are well placed to take advantage of this exposure. A significant potential benefit is that large format retail employment opportunities offer the best option to make inroads into unemployment in younger age groups which is well above average in Kwinana and train based access from the City and Road links to the Kwinana Industrial area offer good connectivity for office based uses that could locate to this area.

#### 5.9.1 Key issues

Small business is a major contributor to the economy and employment of Kwinana and its residents. Barriers to enabling small business to establish and operate within the City through over regulation should be addressed and as small businesses expand they should be supported through the identification of suitable land to cater to their needs.

Health services in Kwinana will likely become community-focused that might include expanded GP services, tele-connected to specialists with visiting services to patients' homes. These services will need a central hub from which to operate and a good location for this would be the City Centre.

The City does not have any office or service commercial based locations that can support expanding local or newly establishing businesses.

There are no suitable locations for large format retail businesses that could help address local unemployment.

The City's strategic freeway locations can capitalise on the access and location advantages that it currently has and provide opportunities for strategic employment and economic growth (i.e. jobs to support the anticipated population increase).

#### 5.9.2 Response to issues

The City should seek to support small business through appropriate zoning permissibility's and a whole of Council approach to facilitating business within Kwinana.

Land use permissibility should support the location of medical based uses within the City centre. This would support the community as a whole in terms of providing necessary services and also support the viability of the City centre. It may require land use permissibility in other lower order centres to discourage location of medical based businesses to those lower order centres.

The City should expand locations for large format retail businesses to locate in and around the freeway interchanges. This is already occurring at Thomas Road and should be further encouraged and strengthened.

In addition, there is an opportunity for an office precinct to develop at the Thomas Road / Freeway intersection and around the Kwinana Train Station as outlined in . Sites here have easy access to the WTC and could service activities there.

# 5.10 Agriculture

The City undertook an 'Employment and Economic Analysis' in 2020 to estimate employment growth and value added to the economy based on major land use categories.

In 2019, 414 jobs were specifically related to Agriculture, Forestry and Fishing, comprising 2.4% of all jobs within Kwinana. This sector has remained relatively stable, with 41 new jobs being added since 2013, as shown in Table 24: Employment by Industry – Agriculture, Forestry & Fishing.

	2018/19		2013/14			Change	
Industry	People	%	Western	People	%	Western	2013/14
	employed		Australia	employed		Australia	-
							2018/19
Agriculture	336	1.9	2.1	329	2.1	1.9	+6
Aquaculture	11	0.1	0.1	10	0.1	0.1	+1
Forestry and Logging	6	0.0	0.1	4	0.0	0.1	+2
Fishing, Hunting and	19	0.1	0.1	3	0.0	0.1	+15
Trapping							
Agriculture, Forestry and	43	0.2	0.2	25	0.2	0.2	+18
Fishing Support Services							
Total	414	2.4	2.6	372	2.3	2.4	+42

Table 24: Employment by Industry - Agriculture, Forestry & Fishing

	2018/19			2013/14			Change
Industry	\$m	%	Western	\$m	%	Western	2013/14
			Australia			Australia	-
							2018/19
Agriculture	59.1	1.8	2.3	61.9	1.7	2.3	-2.8
Aquaculture	0.8	0.0	0.0	1.1	0.0	0.1	-0.3
Forestry and Logging	1.3	0.0	0.2	0.7	0.0	0.1	+0.6
Fishing, Hunting and	3.4	0.1	0.1	0.3	0.0	0.1	+3.1
Trapping							
Agriculture, Forestry and	7.3	0.2	0.2	3.3	0.1	0.2	+4.0
Fishing Support Services							
Total	71.8	2.2	2.8	67.3	1.8	2.9	+4.5

Table 25: Value added by Industry - Agriculture, Forestry & Fishing

In 2019, Agriculture, Forestry and Fishing added \$71.8m to the Kwinana economy, comprising 1.8% of economic activity within the City. The agriculture sector itself has reduced over time, but interestingly the support services have increased as shown in Table 25: Value added by Industry - Agriculture, Forestry & Fishing.

It should be noted that the Costa Mushroom farm located in Casuarina employs approximately 200 people and thus is about half of the City's agricultural activity, in terms of people employed. The Mushroom Farm is located on urban zoned land and there is an associated approved structure plan zoning the site as Service Commercial which permits the Mushroom Farm on that site. There are also structure plans being assessed for urban development abutting the Mushroom Farm and the land use interface between the Mushroom Farm and urban development is being resolved through structure planning processes.

Also of note is the stock holding yard located across the southern border in the City of Rockingham. Whilst this operation is not within the City its buffer area also impacts on urban zoned land within Kwinana.

The large majority of other agricultural activity is taking place on rural zoned land that, as discussed in 5.2 Rural living, has been indicated in the Sub-regional framework as industrial expansion and investigation areas.

There are also agricultural businesses operating in the rural and special rural zones of the City, however, as discussed in 3.3.3 SPP 2.1 The Peel-Harvey Coastal Plain Catchment and 3.3.4 SPP 2.3 Jandakot Groundwater Protection, these locations are affected by the Peel-Harvey Estuarine System and/or the Jandakot Water Mound and as such may not be appropriate in these locations.

# 5.10.1 Key issues

Changes from the Sub-regional framework will result in the relocation of agricultural businesses and there is little suitable land within Kwinana for those businesses to locate on.

Urban development pressures are impacting on the operations of intensive agricultural businesses, specifically where there are buffers required for their operation.

Local agricultural uses located on water sensitive areas may be having an environmental impact.

#### 5.11 Basic Raw Materials

Non-metallic mineral mining and quarrying operations account for \$15.4 million or 0.5% of the City's economic activity. These locations have been mapped and are discussed under section 3.3.5 SPP 2.4 Basic Raw Materials.

This generally occurs within the Spearwood landform unit, which has high value limestone resource extraction potential, and in some Bassendean sand landform units, which supply sand to the metropolitan development industry. These supplies are limited and thus continued extraction is not sustainable.

As the City is becoming increasingly urbanised and developed, the ability to access these materials is becoming increasingly constrained. There is also an increasing need to protect the valued landscape and ecological values that comes with the remaining undeveloped areas and these factors should play a greater role in the decision making process for allowing access to basic raw materials.

The need to reduce the requirement for basic raw materials in all stages of the development process will become increasingly important for future development alongside sourcing alternative construction materials in order to reduce the reliance on basic raw materials and improve sustainability outcomes.

### 5.11.1 Key issues

Basic raw material extraction often occurs on environmentally valued landscapes which are becoming increasingly rare in themselves. As the City continues to grow, material extraction will have a negative impact on the community when located near settlement areas.

# **Environment**



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# 5.12 Landform & Landscape

#### 5.12.1 Landform

The City is divided into 3 major landform units. These are the Quindalup Dune System to the west, Spearwood Dunes System in the centre, and the Bassendean Sands System to the east. At the interface of these are a chain of wetlands associated with peaty lacustrine material, broadly described as "Herdsman Deposits". Figure 34: Landform Units depicts these landform units.

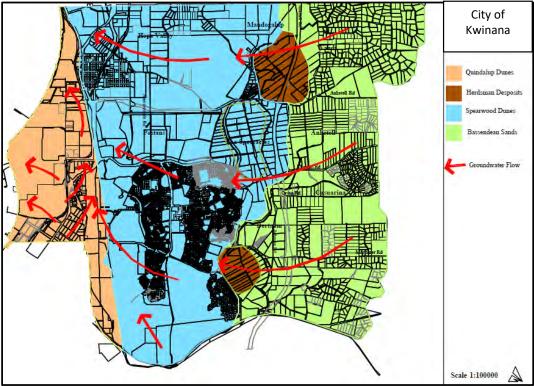


Figure 34: Landform Units

The characteristics of the soil types associated with the Spearwood and Bassendean Systems have implications on the use scenarios for the area. Firstly, soil fertility dictates the suitability of the land to sustain agriculture without major nutrient input and without soil degradation. Secondly, the extent to which the soil types are able to absorb, fix, negate or convert contaminants produced by the range of land use activities, will dictate the capability of the land to support a range of land uses.

As a general rule, the more highly leached sands have a lower fertility rating and a lower capacity to assimilate contaminants than less leached soil types. The ability of the soil types to act as a microbiological filter clearly has consequences in terms of public health given that groundwater is often used for domestic consumption.

# 5.12.1.1 Spearwood Dunes

The western extent of the Spearwood Dune System consists typically of coastal limestone (Tamala Limestone) thinly overlain by yellow brown siliceous sand, of the Cottesloe Soil group. Wind erosion over the geological time frame, has exposed north to south aligned limestone ridges, which represent a high value regional resource.

The eastern section of the Spearwood Dune System comprises deep yellow soils of the

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Karrakatta Soil type, which overlays Tamala Limestone and is often exposed in the western sectors. The Spearwood Dune System, although generally infertile, is more fertile than the Bassendean Sands System to the east.

#### 5.12.1.2 Bassendean Sands

The Bassendean Sands consists of low dunes of deep grey siliceous sands and bleached sands, overlaying a shallow iron-organic hardpan. Certain sections of the Bassendean Sands are thinly overlain by Guildford soils (yellow duplex sands). Because of their highly leached nature, the soils have little ability to sustain agricultural activities without major application of fertilizers. Equally they have little or no phosphorous retention ability and limited ability to fix nitrogen contaminants. They do however possess a greater denitrification ability, than Spearwood Soil associations. Much of the landform unit is low lying with minimal separation from groundwater and as such transportation of contaminants to the water table is rapid. For this reason, significant areas of Wandi, Anketell and, to a lesser extent, Casuarina are designated as Public Drinking Water Source Areas (PDWSAs), also referred to as the Jandakot Water Mound and proclaimed under the Metropolitan Water Supply, Sewage and Drainage Act, 1909. These areas restrict land-use activity to protect regional drinking water quality. Consequently, in the City of Kwinana, this has dictated restrictions on urban expansion into these areas.

#### 5.12.1.3 Herdsman Deposits

The Herdsman Deposit soil system lays in a generally north-south alignment at the interface of the Spearwood and Bassendean landform units and consist of a series of major wetland systems. Their associated lacustrine deposits are interspersed with pockets of Spearwood and Bassendean Soil associations and elements of landforms of each adjacent system.

The Herdsman Deposits comprise predominantly of wetland associated soils of lacustrine origin, with a predominance of peat and loam deposits of a high organic content associated with highly fertile soils.

### 5.12.1.4 Quindalup Dunes

The Quindalup Dunes form a series of elongated dunes that run parallel to the current coastline forming a narrow strip between the coast and the Spearwood System. These soils are, geologically, the youngest soil type on the Swan Coastal Plain. There are two major alliances; the mobile foredune alliance and the stable dune alliance. These free draining soils consist of calcareous sands, unconsolidated quartz grains and shell fragments which are high in lime and are therefore alkaline. The Quindalup Dunes support low, closed forests of Melaleuca and closed heath and scrub vegetation closer to the coast. Lakes and swamps occur in the stable dune alliance where there are deposits of peaty Herdsman Soils.

# 5.12.2 Landscape

The landscape features of an area define a particular character and sense of place for its community. The landscape comprises elements of topography, vegetation, water and the built environment. While the 'landscape' of an area can be described as the totality of these features, specific features, which represent the extremes of these components, contribute most to the area's identity and character.

The City's landscape character is defined by the low, closed scrublands of the coast, bordered by a ridge of dunes of open Tuart (*Eucalyptus gomphocephala*) forest and closed limestone heaths, transitioning to open forests of Tuart, Jarrah (*Eucalyptus marginata*) and Marri (*Corymbia calophylla*) interspersed by a chain of north-south oriented wetlands and bordered on the east by low woodlands of Banksia, Marri, Jarrah and Sheoak (*Allocasuarina*).

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The elements of a landscape are broken into three levels. These are:

- Individual precinct landscape elements;
- District landscape elements, the influence of which extends beyond individual precincts; and
- Regional landscape elements that add to the landscape identity of the region, such as
   Spectacles Wetlands.

Figure 35: Landscape analysis depicts a landscape analysis of the City of Kwinana.

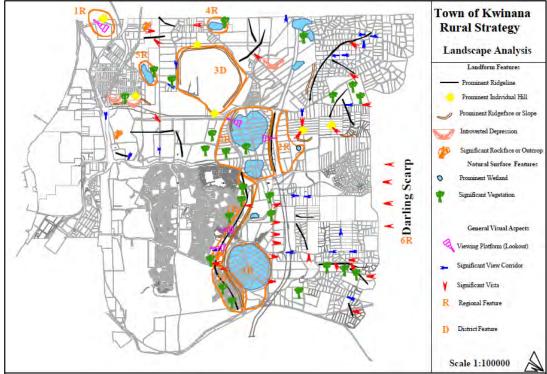


Figure 35: Landscape analysis

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# 5.13 Water Resources

#### 5.13.1 Hydrology

Land-use and development within the City is influenced to a large degree by water related issues. The existence of the Jandakot Water Mound, wetlands and seasonal expression of ground-water in areas with high ground-water tables limits the potential for development. Increasingly, sea level rise and coastal recession will require consideration of planning conditions that limit time or particular events.

The vast majority of the eastern and central portion of the City are within the Peel Estuary Serpentine River Catchment, this also includes the Jandakot Water Mound. To the west, Kwinana Beach and Naval Base constitute the Coastal Catchment, with the northern and central areas of Postans, Hope Valley and Mandogalup falling within the Bartram Road Catchment. Figure 36: Catchments in the City of Kwinana shows the City's water catchment areas.

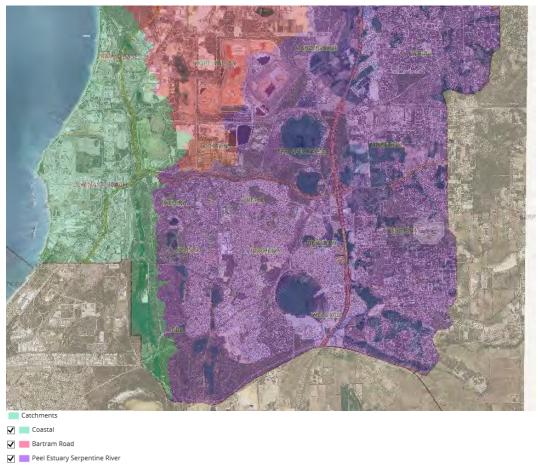


Figure 36: Catchments in the City of Kwinana

### 5.13.1.1 Ground Water

The Jandakot Ground Water Protection Area is critical to the public water supply, in that the gazetted area protects the superficial layer of the Jandakot Groundwater Mound. One third of Perth's scheme water is currently drawn from groundwater supplies. Protection of this value resource restricts land-uses to ensure the quality of ground-water is not compromised. As such, land uses which place disproportionate levels of demand on groundwater quantities for private

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usage and those which lead to degradation of groundwater quality are discouraged. Areas of Wandi, Anketell and Casuarina are within the Jandakot Ground Water Mound, consequently restricting development within these areas.

Groundwater flow throughout the City is generally in an east to west direction with minor variation in flow direction influenced by the presence of wetlands. As groundwater approaches the western extremity of the Spearwood Dune System, the direction of flow is impacted by topography resulting in flow path alignment to a north to north-west directional change. Flow paths continue to travel north along the interface of the Spearwood and Quindalup Dunes before outflow into the ocean. The hydrological variation across the City is a result of its topography. Dune systems interspersed with low lying areas constitute a wide variation of hydrological influences, including:

- Groundwater levels range from zero metres AHD at Cockburn Sound to 26 metres AHD in the Wandi:
- The majority of the Spearwood Dune landforms has elevations above the water table of 20 -30 vertical metres;
- The Bassendean Sand unit's vertical separation from groundwater is predominantly between
   0-10 metres with substantial areas being less than 3 metres; and
- Seasonal surface water expression in areas associated with Herdsman Deposit soil systems.

As a result, the Spearwood Dune System has a high separation from groundwater resulting in a low threat of inundation. Areas within the Bassendean Sand System are often subject to high water tables and seasonal inundation in parts. Hydrology has implications for development and consequently dictates surface and ground water drainage. The City seeks to ensure that Water Sensitive Urban Design (WSUD) principles are applied to all new developments, whilst investigating opportunities for retrofitting existing drainage infrastructure.

#### 5.13.1.2 Drainage

The City's drainage system consists of two distinct drainage areas, separated generally at the interface of the Spearwood Dunes and the Bassendean Sands. This interface broadly defines the drainage areas for the Peel Estuary Serpentine River Catchment.

# Spearwood Dune System

Drainage within the Spearwood Dunes in generally10 - 30 metres above groundwater levels in the unconfined aquifer. The porous nature of these soil associations, low clay content and the depth to the unconfined aquifer facilitates rapid surface water infiltration into the groundwater table.

As such, with the exception of perched wetlands, inundation of land for any great length of time is infrequent. Consequently, there are no public drainage systems servicing the area, except for minor systems within the Hope Valley area. Storm water is generally infiltrated immediately or transported via drainage systems, in high severity storms, to wetlands or natural depressions within the landscape. There is however the potential for localised environmental flooding resulting from high volume rainfall events within these areas. Whilst the potential for flooding is minimal, managing the water quality associated with this drainage is critical. In these areas the focus is on the application of WSUD to treat surface water flows and minimise nutrient transfer into wetlands and groundwater. Focus on policy to achieve this outcome, especially within the urban and industrial development context, is critical in protecting the groundwater quality and the City's wetlands.

# Bassendean Sands System

This Division comprises the Bassendean Sands to the west of the City and includes the eastward sloping land adjacent to the Spearwood System. The Bassendean Sands unit is generally subject to high water table and in many areas is prone to inundation by seasonal fluctuations of the water

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table. Groundwater levels in the catchment, range from 0-30 metres below natural ground level. The majority of land is 10 meters or less above the water table and there are significant areas being 3 metres or less above groundwater. In these areas there is potential for flooding and drainage must be managed, particularly within the development of urban areas, to mitigate this.

#### 5.13.1.3 Flood Risk

The Bassendean Sands and Herdsman Deposit landform units are, in some areas, prone to high groundwater levels and have the potential for sheet flooding during periods of prolonged high rainfall. However, it should be noted that a high severity rainfall event would not produce fast flowing currents because of the flatness of land in the area. Such conditions would produce wide sheeting of water which would then be transported slowly away from the area by constructed district drainage channels. Weak flood currents could occur along the north to south drainage corridor through the Herdsman Deposit landform unit.

The Spearwood Dune system is relatively low risk potential for long term flooding, except in the vicinity of Long Swamp, where the ground level is at or close to natural ground level. Development around Long Swamp has mitigated this risk by the installation of drainage infrastructure that includes management of the 1 in 100-year rainfall event.

# 5.14 Local Biodiversity Strategy

The City adopted a Local Biodiversity Strategy in 2023 (LBS 2023).

The draft City of Kwinana Local Biodiversity Strategy was developed in response to the continuing decline of the City's natural environment and loss of endemic biodiversity, with the overall goal to identify, protect, and conserve areas of high ecological value. The LBS has identified those areas of ecological value within the City that are not afforded protection under Federal and State Government legislation. These Local Natural Areas (LNAs) have been evaluated using a hierarchy of ecological values and ranked accordingly. The LBS provides a current snapshot of the City's remaining natural areas and a detailed analysis of their environmental values.

The LBS 2023 sets outs potential threats to the City's biodiversity values and provides guidance for their conservation and the mechanisms to achieve this. A suite of strategic goals and targets summarised in a series of actions has been developed to achieve maximum retention of the most biodiverse LNAs.

The LBS 2023 will inform the draft Local Planning Strategy, and consequently inform priority environmental assets for inclusion within the new Local Planning Scheme.

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5.14.1 Response to issues

# 5.15 Climate Change

When considering mitigation and adaptation actions, it is important to first consider the risks posed by climate change in the region. This following information was collated in 2009 by GHD and the Southern Metropolitan Regional Council for the southern metropolitan councils (including the City of Kwinana) as part of the Local Adaptation Pathways (LAP) program (GHD & SMRC 2009). The implications of climate change are increasing in impact and frequency in Australia and throughout the world. These impacts represent the greatest and most urgent of direct risks to the City.

The LAP identifies the following matters as major climate change impacts for the City:

- Water availability groundwater availability for parks;
- Heatwaves/Urban Heat Island new and urban areas;
- Sea level rise Wells Park; and
- Extreme weather events drainage planning, emergency response.

More frequent and severe bushfires – fuel reduction in reserves and emergency response, the major risks and their relevance to the City's operations are described below.

# 5.15.1 Temperature change

The average annual global temperature has already risen by 0.8 degree Celsius over the past century and it is predicted to rise by 0.6 to 1 degree Celsius by 2030 (Climate Commission, 2011; GHD & SMRC, 2009).

This increase in temperature has, and will, result in an increase in the number and severity of heat waves. This, in turn, has increased heat stress related deaths through heart attack, stroke and heat exhaustion. Heat wave deaths are less prominent than some of the other effects of climate change but are currently the deadliest of the natural disasters in Australia (Climate Council, 2014).

The retention of vegetation within new subdivisions considerably reduces the heat island effect and can reduce localised temperature increase.

The other major impact of an increase in temperature is an increase in high fire risk days and potential severe bush fires.

# 5.15.2 Reduced Rainfall

The southwest corner of the State has become markedly drier, with a 15% reduction in rainfall since the mid-1970s. There is strong evidence in southwest Western Australia that climate change is making a significant contribution to the drying trend. (Climate Commission, 2011; GHD & SMRC, 2009).

Combined with increased evaporation due to increased temperatures, the drying climate has reduced the availability of water for use in the City's buildings, parks and gardens. The City will need to continue to become more efficient in its use of water if parks and gardens are to be maintained to the current standards. The City has developed a Sustainable Water Management Plan (City of Kwinana, 2013) to address these challenges.

The combination of increasing temperatures and reduced rainfall is also likely to have a significant impact on the City's biodiversity. Drought deaths of trees and drying wetlands have already been observed in many reserves and parks. Changing climatic conditions may mean that the ecological

communities that currently exist, which are already under pressure from land clearing, will be unable to adapt and survive.

#### 5.15.3 Sea Level Rise

Sea levels along the west coast of Australia have been rising between 7.1 and 7.4mm per year since the early 90's, approximately double the global average. Global sea levels are predicted to rise a further 0.5 to 1 meter this century. A sea level rise of 50cm will lead to significant increases in the frequency of coastal flooding, flooding that is currently considered to be a 1 in 100-year event would occur every year (Climate Commission, 2011).

The City manages a relatively small area of coastline but the financial impact of rising sea levels to the City will be significant. Sea level rise is already threatening millions of dollars of infrastructure at Kwinana Beach and Challenger Beach including sea walls, boat ramps, offshore breakwaters, roads, toilet blocks and car parking.

The City participated in the Cockburn Sound Coastal Vulnerability Study to assess sea level rise impacts and determine the best course of action. The final stage of this project was the completion of the Kwinana Coastal Adaptation Plan in 2015 (CAP) (GHD, 2015). This comprehensive report includes sea level rise predictions and recommended adaptation actions for the entire Kwinana coastline. The coastline was divided into management units, two of which are managed by the City, Wells Park and Challenger Beach. Both sites have been identified as vulnerable to erosion and loss of beach area from coastal actions and sea level rise (GHD, 2015).

State Planning Policy 2.6, 2013 (SPP 2.6) sets out adaptation options associated with coastal hazards resulting from the impacts of climate change. Public and private assets along the West Australian coastline are increasingly at risk from rising sea levels. The option of 'planned or managed retreat' may be the most efficient, effective (including cost) and equitable response to this risk (DPLH, 2013). A strategy of planned or managed retreat should consider social, environmental and economic impacts consistent with SPP 2.6 objectives. This approach adheres to the principles of sustainable development and adaptive risk management in accordance the Planning and Development Act 2005 and SPP 2.6.

The City, having given regard to SPP 2.6 and the CAP has adopted the response of 'planned or managed retreat' for land and infrastructure owned or vested with the City and identified as vulnerable to sea level rise hazards.

This approach will underpin the City's forthcoming policy on sea level rise. It is however recommended that the City remains flexible in its approach given the long-term forecasts of Coastal Hazard and Risk Management Adaption Planning (CHRMAP), which is used to inform the extent of future sea level rise. Incorporating flexibility into its strategic planning allows future communities the ability to make decisions based on current values and risk. Strategic planning should avoid putting new development at risk whilst facilitating changed settlement patterns overtime. The above planning approach allows existing development to remain in-situ until risk becomes unacceptable. Removal of 'at risk' development occurs once the triggers are reached, which are articulated through the City's CHRMAP.

The recommended action at Wells Park is a staged retreat of facilities. Challenger Beach is part of the coastal unit that includes some of the industrial area. Interim protection measures such as a sea wall were recommended to protect the industrial facilities along the coast rather than the beach itself. Any protection measures would therefore have to be undertaken together with industry (GHD, 2015).

The CAP also recommends the incorporation of a special control area and development controls such as time and/or event limitations of new development in the City's Local Planning Scheme to avoid development that will be adversely affected by sea level rise (GHD, 2015). In addition, the City is considering a sea level rise policy along with accompanying advocacy and education.

#### 5.15.4 Extreme Weather Events

In addition to the above risks, extreme weather events have increased ever since the adoption of the original plan (Climate Council, 2017). In particular, two very large summer rainfall events which occurred in 2017 and 2018 being the first and fourth wettest Perth rainfall days on record respectively (WA Today, 2018).

While identified in the 2009 Climate Change Risk Assessment Report (GHD, 2009), extreme weather events were assessed as being one of the lower priority risks possibly due to the fact that local governments only play a part role in emergency management, and other impacts like reduced water availability are currently more disruptive and pressing. However, this impact should continue to be monitored and future revisions of the plans consider specific adaptation measures to extreme weather events.

#### 5.15.5 Bushfire

The State Planning Policy 3.7 (SPP 3.7) Planning in Bushfire Prone Areas 2015 mandates Bushfire management in the local government context. The DPLH has released a factsheet to assist in the preparation of a Local Planning Strategy that is in accordance with SPP 3.7 and the Guidelines for Planning in Bushfire Prone Areas (Guidelines).

Local planning strategies should assess bushfire risk alongside other relevant planning matters including environmental, economic and social considerations to holistically inform and shape future expansion, as a precursor to Local Planning Scheme zoning and reservations. The bushfire regulatory planning requirements only apply to development applications in areas which are covered by a local planning scheme.

In accordance with policy measure 6.3 of SPP 3.7, any strategic planning proposal that requires a bushfire assessment should be accompanied by:

- a Bushfire Hazard Level (BHL), which should be prepared by an accredited Bushfire Planning Practitioner;
- identification of any bushfire hazard issues arising from the relevant assessment; and
- demonstration that compliance with the bushfire protection criteria can be achieved in subsequent planning stages.

The above information should be prepared in accordance with the Guidelines. The Guidelines provide direction as to how compliance with the bushfire protection criteria can be achieved in subsequent planning stages when preparing a Local Planning Strategy. It should specifically address the following issues:

- the location of bushfire prone areas and the need for further assessment of the hazard in such areas:
- the avoidance of land use and development intensification in any areas likely to maintain or generate a hazard level of extreme;
- firefighting infrastructure;
- the existing and proposed road network, and its likely effectiveness in a bushfire emergency;

- biodiversity issues, their interrelationships with bushfire prone areas and means of protection for areas with high conservation values; and
- the location of any vulnerable or high-risk land uses within identified bushfire prone areas and whether such uses may require management strategies to be prepared.

Bushfire mapping, managed by the Office of Bushfire Risk Management, that applies under SPP 3.7 has been discussed under 3.3.15 SPP 3.7 Planning in Bushfire Prone Areas.

#### 5.15.6 Key issues

Climate change is recognised as a major threat to biodiversity and ecosystem functions. It impacts upon all levels of biodiversity, ranging from biological, ecosystem and ecological impacts through to population level impacts.

Climate change also has the potential to impact on the urban environment, particularly through the heat-island effect. In such instances, temperature increases in urban areas due to the extent of non-permeable surfaces such as roads, buildings and similar hardscapes. Removal of vegetation can have an added adverse effect on urban environments affecting the local community, wildlife and gardens.

The impact of climate change on biodiversity can be direct or indirect through interactions with other species that are affected by climate change. This leads to changes in competition for food, habitat, and predation patterns and processes.

For some species, the indirect impacts may be stronger than direct impacts. This could also lead to interaction with other human pressures on biodiversity such as habitat degradation and loss, water extraction, pollution, and introduction and spread of pest species. Not only do climate change impacts add to these other pressures, they also interact, altering the way species and ecosystems would otherwise respond and adapt.

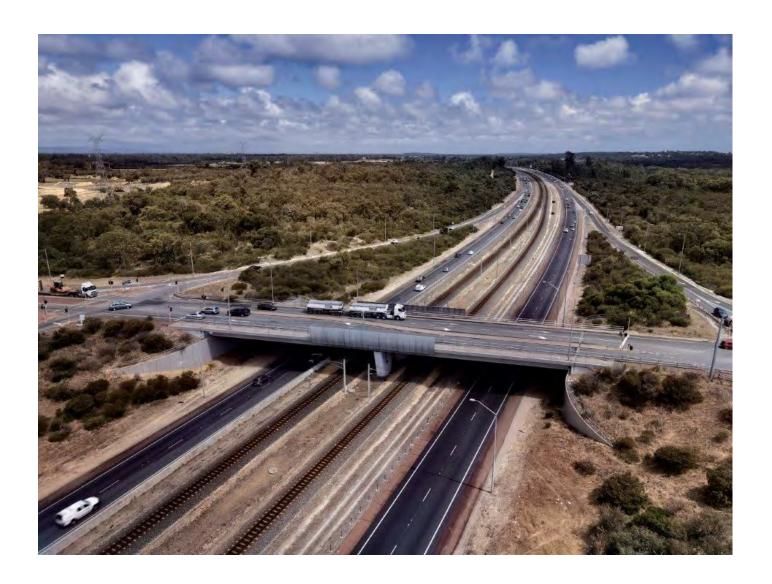
# 5.15.7 Response to issues

Since the original Climate Change Mitigation and Adaptation Plan was adopted in 2015, a number of initiatives have been implemented to address these impacts. These are listed below:

- Developed and adopt the Local Planning Policy No.1 Landscape Feature and Tree Retention in September 2016
- Continue to participate in the Cockburn Sound Coastal Alliance
- Continued implementing the Sustainable Water Management Plan
- Planned Urban Forest Strategy

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# Infrastructure



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# 5.16 Transport

# 5.16.1 Journey to Work

Understanding the patterns of travel into, out of, and within the City is vital to understanding of how the system functions so an efficient and well-integrated land use and transport network can be designed.

As shown in Table 26: Employment Location of the City's Residents, more than 76 per cent of the employed residents of the City travel outside of the area to work.

Employment location of Kwinana resident workers by industry				
All industries 2016				
	Number	%		
Live and work in the area	3,092	18.5		
Live in the area, but work outside	12,799	76.5		
No fixed place of work	850	5.1		
Total employed residents in the area	16,727	100.0		

Table 26: Employment Location of the City's Residents

Top five local government areas the residents worked in were Cockburn (14.4%) Rockingham (10.5%), Perth (10.0%), Melville (6.0%), Canning (5.6%).

Table 27: Method of travel to work – Resident Workers shows the method of travel to work adopted by the resident workers both within and out of Kwinana. Overall, the resident workers in the City have a higher proportion of people using the train to get to work than Western Australia as a whole.

City of Kwinana - Resident workers	2016	2016				
method of travel	Number	%	Western Australia %			
Car, as driver	10,627	63.2	63.3			
Car, as passenger	802	4.8	4.9			
Train	1,865	11.1	4.9			
Bus	413	2.5	4.3			
Ferry	4	0.0	0.0			
Tram	5	0.0	0.0			
Truck	119	0.7	0.7			
Motorbike/Motor scooter	81	0.5	0.5			
Bicycle	38	0.2	1.0			
Taxi/Other	22	0.1	0.2			
Other - multiple methods	302	1.8	2.0			
Walked only	210	1.2	2.8			
Worked at home	408	2.4	4.3			
Did not go to work	1,711	10.2	10.1			
Not stated	209	1.2	1.1			
Total	16,816	100.0	100.0			

Table 27: Method of travel to work – Resident Workers

The largest changes in the method of travel of work of the resident workers in the City between 2011 and 2016 were:

• Car, as driver (+2,695 people)

- Train (+767 people)
- Did not go to work (+229 people)
- Worked at home (+168 people)

Thus 'journey to work' impacts upon planning and advocacy for roads and public transport provision, as well as economic development strategies to develop local employment which fits the skills and qualifications of the resident workers.

# 5.16.2 Freight Network

The freight network within the City is characterised by both road and rail infrastructure, servicing the Kwinana Industrial Area, Naval Base Industrial area, Latitude 32 and destinations to the south (e.g. Rockingham) and the north (e.g. Fremantle).

The Kwinana Freeway and Rockingham Road are the two primary north-south routes in the City, supported by east-west connections along Anketell Road and Thomas Road. Main Roads' Restricted Access Vehicle (RAV) Network classifications define the size and scale of freight transport along these corridors and are shown in Figure 37: RAV Network Map.

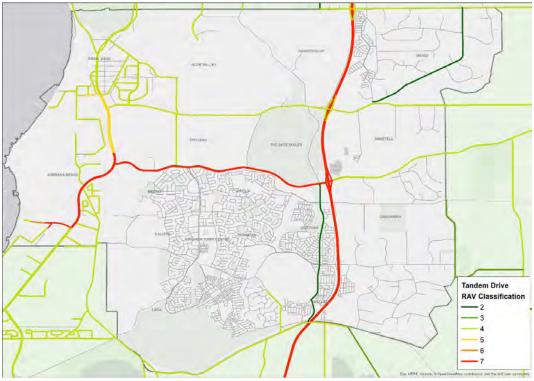


Figure 37: RAV Network Map

Rockingham Road, Patterson Road and Thomas Road are all critical for multiple transport modes. Conflicts in road priority consequently occur, representing inefficiencies in operation and high-risk interactions during peak demand periods. Thomas Road particularly provides the main access to residential development in the Kwinana area. The needs of local access are at odds with the desire for free-flowing through traffic. Importantly, noise pollution from heavy vehicles will affect residents in the northern portions of Orelia and Medina.

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nduced by GeoSpatial Research and Model Department of Planning, Lands and Herita hehalf of the Copyright © February 2018 · Fremantle Maddington Jandakot Airport SMPSRSP\_Plan06\_RegionalRe Base information supplied by Western Australian Land Information Authority SLIP 944-2017-1 Legend Primary distributor Existing (MRS/PRS reservation) Proposed Indicative Integrator arterial Kwinana • Existing (MRS/PRS reservation) Rockingham Proposed Indicative

The State's strategic planning for the region is defined by the South Metropolitan Peel Sub-Regional Planning Framework and shown below in Figure 38: Future transport network

Figure 38: Future transport network

The following key changes to the network are likely to impact the form and function of private vehicle transport in the City.

Regional East-West Roads - Rowley Road, Anketell Road, Thomas Road and Mundijong Road - are a part of Westport's considerations and the status of a number of east-west road links will be reconstructed as key freight corridors. The latest announcements from Westport's taskforce is that Anketell Road will become the primary freight route for the future outer harbour with Rowley Road and Thomas Road also playing key roles.

The reconfiguration of Anketell Road as a 4-lane freight corridor will support efficient access to Latitude32 and the Kwinana Industrial Area. These freight network decisions will result in a greater traffic capacity along certain alignments, and will support higher private vehicle mode shares than the current network can sustain.

Fremantle-Rockingham Controlled Access Highway (FRCAH) - Mundijong - Rockingham Road proposes a free-flow freight corridor intended to provide efficient, high-capacity, free-flow connection from the Kwinana Freeway through the Kwinana Industrial Area and connecting to the Port (both existing and future). In doing so, it will alleviate pressure along the existing Patterson Road/Rockingham Road alignment.

One consequence of the FRCAH design is the modification of the Mundijong Road – Kwinana Freeway connection to a Freeway-Freeway Interchange (similar to the Tonkin/Roe Highway Interchange). The size and scale of this infrastructure and requirements for ramps are expected to require modification of the Baldivis Road/Mundijong Road intersection which may impact upon environmental and cultural assets in the area.

The Sub-regional Framework identifies Gilmore Avenue Extension - Thomas Road to Russell Road as a proposed Integrator Arterial as shown in Figure 38: Future transport network, connecting through to Henderson Road in Munster. This alignment is not currently included in the MRS, however if constructed could have significant impacts on the nature and volume of traffic along Gilmore Avenue.

By directly connecting the residential neighbourhoods in Kwinana with the industrial development zones through Postans, Hope Valley, Wattleup and Munster, these residential locations would become more attractive.

However, the route from industrial areas to the north through Kwinana to Dixon Road creates an attractive alternative alignment for heavy vehicle and industrial traffic, which could be detrimental to the development of the Kwinana City Centre itself, by increasing severance and reducing local amenity in the vicinity of Gilmore Road.

#### 5.16.3 Private Transport

Private vehicles have traditionally played a significant role in the transportation network for the broader Perth Metropolitan region, as well as specifically for the City of Kwinana.

Private vehicles comprise the majority of traffic on the road network in the City of Kwinana. However, road capacity is finite, and continuing growth in development has the potential to stress the road network under business-as-usual conditions.

A number of intersections across the City of Kwinana experience substantial congestion during peak periods. These include along the following strategic roads:

- Kwinana Freeway: at the grade separated intersections at Rowley Road, Anketell Road, Thomas Road and Mortimer Road;
- Rockingham Road: at Anketell Road, Thomas Road and Mandurah Road; and
- Thomas Road: at the minor road approaches of Abercrombie Road, Medina Avenue, Gilmore Avenue, Orelia Avenue and Johnson Avenue.
- Gilmore Avenue: at Sulphur Road/Summerton Road and Harlow Road/Chisham Avenue.
- Lambeth Circle: near Wellard Train Station Park 'n' Ride
- Bertram Road: near King's College

Along Kwinana Freeway, the high proportion of freight vehicles reduces the efficiency of the corridor due to conflicts between heavy and light vehicle characteristics and the requirements for signal control suitable for large RAV combinations.

Rockingham Road provides mobility for up to 40,000vpd, which meets or exceeds its theoretical capacity given the 4-lane form. As a consequence, Rockingham Road experiences a high degree of congestion during peak periods, and this extends throughout much of the day.

Thomas Road functions as the primary corridor for connection from the established residential suburbs of Kwinana through to the Freeway, as well as a primary access route for industrial traffic to and from the Kwinana Industrial Area. The lack of signalised intersections along Thomas Road beyond Gilmore Avenue creates free-flowing traffic conditions along its length, but does not well-support turning movements from minor roads.

Duplication of Thomas Road (east of Kwinana Freeway) is currently being planned for by Main Roads WA to facilitate the safe movement of vehicles through the area, which is becoming increasingly important as development on adjoining land is taking place.

Gilmore Avenue is a 4-lane road accommodating 18,000vpd. This road forms the central access spine for the Kwinana City Centre, as well as a key strategic route from Thomas Road towards Rockingham. The configuration of the local arterial road network puts a great deal of pressure on these two signalised intersections. A large number of residential dwellings utilise Gilmore Avenue to provide access north to Thomas Road and south to Dixon Road.

The network connections to Gilmore Avenue are compromised by turning restrictions at Challenger Avenue, Barrick Road and Christmas Avenue/Brownell Crescent, which funnels traffic into these limited signalised intersections. Lane allocation at these intersections allow only split phase function for the minor roads, with consequences for the proportion of green time available for turning movements.

There is a very high demand for commuter parking adjacent to the Wellard Train Station, with all access via Charing Cross. The local street network is oriented around Lambeth Circle, which provides the only local crossing point over the train line to connect with the regional road network. As such, Lambeth Circle is simultaneously the main corridor for peak travel out of the suburb for residents, and the only access to Park 'n' Ride. This dual role creates conditions for congestion even prior to the full build-out of the sub-division.

Bertram Road functions as a primary connection (along with Johnson Road) to the Kwinana Freeway at Mortimer Road. It also is the only access point to King's College. Peak period traffic movement clash and create a congested environment.

Other streets operate as neighbourhood connectors, but access is constrained at peak times due to conflicts with adjacent land uses, the impacts of intersection controls, or other capacity-limiting effects.

There are a number of options to mitigate these impacts, each dependent on land use and multi-modal transport decisions. Some of the key options are:

- Road capacity: can be increased through duplication or intersection improvements. The City
  currently operates numerous Developer Contribution Schemes which have identified key
  road project upgrades required to cope with the additional urban development that is
  occurring. This can forestall congestion along key corridors, but ultimately results in negative
  traffic impacts in Centres and arterial roads, as well as diminished viability for all other forms
  of transport. Consistent increases in road capacity are also related to demand growth for
  parking, perpetuating car-centric development.
- Parking Constraint: Parking is one of the key factors that drive the use of private vehicles.
   Where residential parking is abundant, vehicle ownership is high and driving makes up a larger proportion of trips. Reducing commercial all-day parking is one of the best ways to induce mode shift by employees.

- Proximity and Density: Where destinations are located far away, private car use may be the
  only reasonably mode for access. For this reason, dense mixed-use developments generate
  far fewer car trips than disperse single-use neighbourhoods. The City's land use strategy can
  assist in creating effective communities that minimize travel to reach services. Similarly, the
  combination of industrial development and nearby residential zones can help to limit travel
  distances, containing the impacts of trip generation and protecting the wider regional
  network.
- Mode Shift: traffic congestion is one of the primary determinants of mode choice. Land use
  growth creates both the demand for alternative modes and the incentive (through
  congestion effects) to shift to them. However, if this demand is left unsatisfied, and
  sufficient public transport and safe cycling/pedestrian facilities are not provided, then
  development may stall or networks collapse.

#### 5.16.4 Parking

Parking infrastructure is an essential and inherent component of both the transport and land use system. In general, parking in the City is abundant and free. As outlined earlier, park 'n' ride at train stations supports regional transport by train.

In general, parking in the City is abundant and free. Private parking minimums are in-line with expected demand rates, suggesting that overspill onto the adjacent network would be limited. Parking on-street is unrestricted, or managed by time and duration only. One exception to this is the commuter parking facilities located adjacent to the Kwinana and Wellard Train Stations, which are operated and maintained by the State Government.

Abundant at-grade parking reduces the capacity for pedestrian-scale activation, with corresponding effects on commercial viability and social cohesion. This is exemplified by the significant majority of developments which face internal car parks rather than the street.

Despite local parking 'hotspots' in and around the Aquatic Centre and other specific locations, there is an oversupply of car parking in most areas (on-street and off-street).

# 5.16.5 Pedestrian Infrastructure

Pedestrian travel is much more localised than other transport modes, but vital for the function of land use and transport systems. Outside of centres, high quality pedestrian facilities support residential travel to shopping and schools, connection to public transport facilities and recreation. An attractive and safe pedestrian realm results in improved health and social outcomes for residents. Attractive pedestrian environments also improve economic outcomes, attracting more residents and businesses.

Pedestrian activity and connectivity are also critical factors in the effectiveness and vitality of Centres and Corridors. For this reason, the pedestrian environment must be carefully considered, particularly along primary pedestrian routes. This includes construction of high quality paths, shade trees and street furniture to provide amenity. By allocating suitable resources to the pedestrian environment, the use of pedestrian modes will grow, reducing the demand for other modes as well as the requirement for parking.

Parking location can be key to determining both traffic and pedestrian movement. The location of car parking towards the periphery of the Centre limits the impact of parking on trip volumes and land consumption, and requires parkers to travel an additional distance to their destination. The acceptance of peripheral car parking will be significantly improved where attractive legible pedestrian facilities are provided.

Higher-traffic areas with a concentration of pedestrians require good quality, connected, covered and shaded paths, but so do paths which connect areas of high demand across relatively long distances, approaching or exceeding the nominal 400m or 800m walkable catchment.

Key pedestrian need has been identified for the existing network, consisting of:

- within activity centres and from peripheral parking to employment destinations;
- along and across activity corridors;
- along and across transit corridors, and along adjoining minor streets within a 200m walking distance;
- within a 400m walking catchment of schools, shopping precincts and recreation venues, oriented towards the destination;
- within 800m of a train station or high-priority transit, oriented towards the node.

Further analysis of the existing pedestrian environment was undertaken and the following points, amongst others, where made:

- Crossing points along major corridors are widely spaced and generally provide no priority for pedestrians. These barriers induce car dependence by local residents, even where destinations are located nearby.
- The pedestrian environment is characterised by long distances and little to no shade or shelter. The introduction of street trees and awnings would benefit pedestrians and cyclists.
- The orientation of development in the Kwinana City Centre and other retail/commercial
  areas, where shops and restaurants face large at-grade car parks, is generally hostile to
  pedestrians.
- Pedestrian access to bus stops in many locations is lacking, even where compliant stop infrastructure has been built.

# 5.16.6 Cycling

The cycling environment of Kwinana is largely captured in the City of Kwinana Bike and Walk Plan, from which Figure 39: Long-Term Cycling Plan shows the primary and secondary routes through the area. This plan reviewed the extent and sufficiency of bicycle infrastructure and recommended changes based on establishing a network for cycling that improved safety, linking communities and facilities for all types of cyclists, as well as pedestrians.

Kwinana benefits from having a Primary Cycling Route in the form of a Principal Shared Path (PSP) running alongside Kwinana Freeway and connecting to Kwinana Train Station. However, the PSP does not provide access to the Wellard Train Station or the Kwinana City Centre.

Recreational Shared Path (RSP) runs along the ocean foreshore to the south (within the City of Rockingham) and the north (within the City of Cockburn). There is a sizeable gap in network which is a result of the Kwinana Industrial Area (KIA). Future expansion of the KIA to the north and west of Kwinana creates the potential for a greater cycling mode share by workers. To ensure cyclists' ease and safety in traversing the area, sufficient cycling infrastructure will need to be implemented, with particular consideration in corridors used for high-volume traffic and freight.

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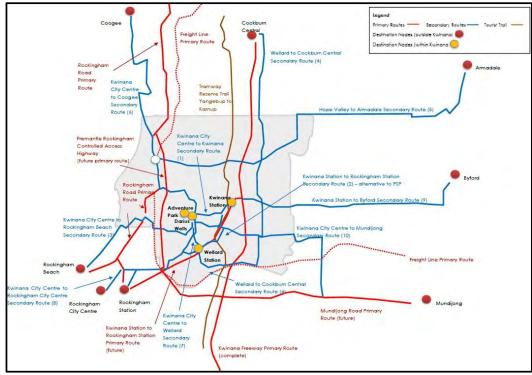


Figure 39: Long-Term Cycling Plan

Cycling lanes exist along much of the local distributor network, along Gilmore Avenue (south of Runnymede Gate), Runnymede Gate, Lambeth Circle, Calista Avenue etc. The form of these cycling facilities generally consists of narrow unprotected lanes adjacent to traffic, and broken up by roundabouts where cyclists must merge into mixed traffic. Again, this form of infrastructure is suitable for high-confidence cyclists, but will not attract more cautious first-time commuters.

Quiet residential neighbourhood streets and slow-speed Activity Centre corridors allow safe cycling in mixed traffic. However, the structure of historic suburban development creates poor legibility for cyclists, as well as for cars. This combined with the distance between residential areas and activity centres greatly reduces the propensity for local trips by active transport modes.

The City's Bike and Walk Plan proposes a network of future off-street and on-street facilities at strategic and local scales. This comprehensive network of paths will support fine-grained cycling connections to destinations in the City, and regional connections to transport hubs and Primary Corridors.

The plan also acknowledges the higher order strategic network and is broadly similar to the Department of Transport's planning for cycling facilities, as expressed by the Bicycle Network Plan for Perth @ 3.5 million. However, the density of key routes as described by the City's Bike and Walk Plan is expected to better support the needs of the community.

The City includes cycling infrastructure in the majority of new developments, improving the connectivity for cyclists traversing the City, but older suburban areas provide limited infrastructure for active modes.

# 5.16.7 Public Transport

Public transport within the City includes a range of local collector bus services and a high capacity train service.

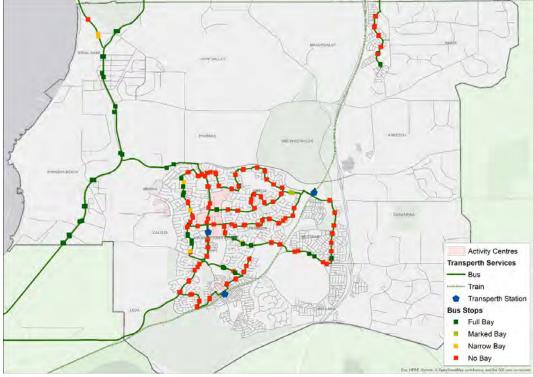


Figure 40: Public Transport Network

Population within the City of Kwinana will approximately double in the next 20 years. This will necessarily increase the demand for transport across the network. Given the overall growth in residential and employment over this period, there is likely to be insufficient road capacity to accommodate the corresponding transport demand under the current paradigm of predominantly peak-hour private vehicle trips.

As such, an alternative framework and infrastructure solution must be considered which prioritises the movement of people and goods over traffic. Public transport is an ideal mode, able to provide regional travel for large numbers of people within a relatively small cross-section.

Current use of public transport in the City is relatively good, in particular the journey to work by train, as shown in Table 27: Method of travel to work – Resident Workers being more than double that of the State.

# 5.16.7.1 Bus Network

The City of Kwinana is serviced by seven bus routes, as shown in Figure 41: Bus Routes in the City of Kwinana (Central). The majority of these services run as relatively infrequent collector routes, operating approximately every 20 minutes routes during peak periods, and hourly off-peak.

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Figure 41: Bus Routes in the City of Kwinana (Central)

The Routes 548 and 549 services provide the sole connection in the area between Kwinana and Fremantle, which is otherwise poorly served by the rail network. With the exception of the coastal Route 548, all buses connect to the Kwinana City Centre via the Kwinana Bus Station.

As a result of the overlap between services, some corridors in the City are already well-served by transit. Gilmore Avenue experiences significantly more bus services than any other corridor, and as a consequence, attracts much higher patronage. The daily patronage along other corridors in residential neighbourhoods ranges from 25 to 170 boardings and alightings per day.

Structure planned areas currently under development generally do not have access to bus transport. The Public Transport Authority (PTA) can be expected to provide services, as dwelling numbers reach a certain threshold, but this is likely to lag development by some years. It will also be key to ensure that structure planning processes seek to link bus networks to planned centres, as destinations, to maximise patronage and reduce the reliance on private vehicle travel.

# 5.16.7.2 Train Network

The City is serviced by the Mandurah Train Line, stopping at Kwinana and Wellard Train Stations. The service frequency to both Kwinana and Wellard Train Stations is an average of 10 minutes during peak periods and 15 minutes off peak.

The Kwinana Train Station is located well to the north of residential and commercial zones, reducing its local catchment by at least 50 per cent. There is limited development within walking distance of

Kwinana Train Station. This creates a high demand for the park 'n' ride service even from the surrounding residential development.

The ongoing growth of regional demand is likely to overwhelm the capacity of commuter park 'n' ride at the Stations. Alternative arrangements including improved bus transit will be necessary to offset this impact. Otherwise, additional park 'n' ride facilities will be required, that has the potential with a corresponding impact on local traffic volumes, congestion and amenity.

Local residents must compete with regional demand for park 'n' ride at the station. This is exacerbated by the lack of bus transport alternatives in some new development areas. Public transit options and connectivity and improvement of transit options to stations should be enhanced.

Limited car parking capacity exists at Wellard Train Station. If spill over parking issues are noted throughout the Wellard Town Centre, the introduction of time limited parking should be supported.

Previous investigations have been conducted into additional Stations in the Mandogalup/Anketell and Bertram locations.

While these Stations are not currently under consideration by State Government agencies, there may be future opportunities to integrate high-capacity public transport hubs into the future District Shopping Centre at Anketell Road, or to create a Station with better accessibility to the Kwinana City Centre.

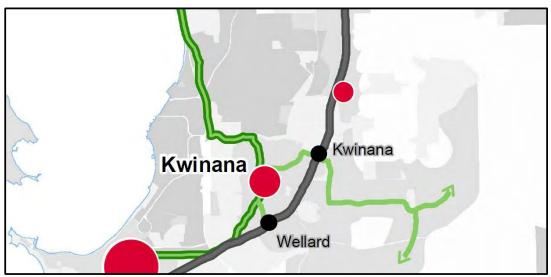


Figure 42: High-Priority and High-Frequency Transit Corridors

The South Metropolitan Peel Sub-Regional Planning Framework identifies two strategic bus corridors through the City, as shown in Figure 42: High-Priority and High-Frequency Transit Corridors:

• A High-Frequency Transit Corridor running between Kwinana Train Station and Wellard Train Station via the Kwinana City Centre.

This could support improvements to the connectivity between the two train stations as a transit corridor.

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 A High-Priority Transit Corridor between Rockingham and Fremantle via the Kwinana City Centre.

This would improve direct access to Kwinana, but is primarily intended to be an efficient commuter service delivering employees to destinations along the coast, including the Outer Harbour and supporting industry. This corridor is likely to require bus priority in the form of queue facilities or partial bus lanes to maintain consistent times.

#### 5.16.8 Key Issues

The orientation of development in the Kwinana City Centre and other retail/commercial areas, where shops and restaurants face large at-grade car parks, is generally apathetic to pedestrians. The majority of land development in Kwinana remains in low-density neighbourhoods and commercial/industrial zones. These types of development create a separation between residence, work and activity which perpetuates car-focused transport choices.

Pedestrian environments are often squeezed by the demands of other transport modes with easily to define dimensions.

The majority of on-road cycling facilities cede priority to traffic at critical locations in the network, this reduces their attractiveness and risk performance. In particular, the requirement for cyclists to merge into traffic at numerous roundabout locations.

A major theme arising from the engagement process for this Strategy was that people wanted to cycle, but felt that there was not appropriate infrastructure for them to undertake this safely.

Many areas in the City have coverage but low frequency, for public transport options. High-capacity public transport is enabled by dense development adjacent to the corridor. Where residential areas primarily low-density, then demand is unlikely to support frequent or higher priority public transport.

Local residents must compete with regional demand for park 'n' ride at the station. This is exacerbated by the lack of bus transport alternatives in some new development areas.

Increased traffic volumes in the future are likely to increase along local distributor and collector roads, which has the potential to reduce the utility of these corridors for mixed-traffic cycling and painted cycle lanes.

Good quality streetscapes reinforce the place-making functions of a street, and enhance amenity through appropriate infrastructure, shade and positive accessibility measures. These attributes could also encourage uptake of active transportation modes, increase the land value of adjacent development, and induce additional economic activity.

The City is proposed to be home to the Kwinana outer harbour, a bulk cargo port with strategic significance to Western Australia. Providing enhanced, efficient transport networks and land use relationships will be vital to facilitate these activities.

# 5.16.9 Response to issues

The recently adopted Kwinana Bike and Walk Plan recommends a range of paths, safe active streets and strategic on-road facilities. This Plan generally describes the specific opportunities inherent in the broader network. As part of road upgrade projects, the City will construct pedestrian and cycling facilities in accordance with the Bike and Walk Plan.

Modification of suburban roundabouts to improve cycling safety requires very little change. The conversion of standard high-speed roundabouts to compact or European-style roundabouts could be of significant benefit along designated cycling corridors.

The South Metropolitan Peel Sub-Regional Planning Framework identifies two strategic bus corridors and the City should support their provision to improve public transport options, reliability and frequency within the City.

There are possibilities for private or public-private partnership transport services to be developed by businesses, Local and State Government partners. Services might consist of branded coaster-sized transit operating in a 'petal route' formation around the central rail hub or bus interchange. This service becomes more viable where multiple businesses see benefit, as electric vehicle technology reduces running costs, and following the advent of automated technology.

The City should aim to enhance connectivity and improvement of transit options to stations through direct provision of cycle and walking infrastructure and through advocacy to relevant state agencies. This will also assist in addressing issues with parking availability at park and ride facilities.

The City recognises and supports the strategic importance of the wider freight objectives required for efficient logistics. The City will avoid inappropriate development and location of sensitive land uses near freight routes.

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#### 5.17 Service Infrastructure

Utilities such as water supply, waste water, electricity, gas and telecommunications are largely provided by state government agencies and in areas of expansion developers are required to construct infrastructure to a minimum standard as prescribed by these agencies.

The City is currently serviced by Increasing residential density will have a direct impact on the existing Service Infrastructure such as Water, Wastewater, Storm Water, Telephone and National Broadband Network (NBN), Electricity and Gas.

#### 5.17.1.1 Water and wastewater infrastructure

The majority of areas within the City of Kwinana are connected to the sewer network, however the rural and industrial areas often require on-site effluent disposal systems to be installed.

Conventional primary treatment septic systems are no longer approved in the City of Kwinana. Only certain approved wastewater systems can be installed within the City of Kwinana environmentally sensitive areas including within the Public Drinking Water Source, Peel Harvey Catchment or Cockburn Sound Catchment areas.

The Water Corporation is currently operates a waste water facility in Postans and is generally comfortable with the water and wastewater infrastructure capacity available within the City. Based on the City's projected infill development target, the Water Corporation is willing to run a model in order to identify whether the existing infrastructure can cope with the projected target and what upgrading is needed to be carried out. This would ensure the water and wastewater infrastructure is not compromised by higher density development or the future urban expansion that is and will continue to occur along the urban corridor.

# 5.17.2 Stormwater Drainage Infrastructure

City's stormwater drainage assets as of 2018 is in shown in Table 28: Stormwater drainage assets.

Asset Category	Dimension
Pipes	191.72km
Pits	8.345 units
Culverts	194 units
Soakwells	137 units

Table 28: Stormwater drainage assets

The creation, acquisition and upgrade of stormwater drainage infrastructure, within the City, is predominantly driven by land development. In the case of key strategic links, these stormwater drains have been identified in planning documents, such as structure plans, and are funded through a developer contribution plan.

#### 5.17.2.1 Telephone, NBN, Electricity and Gas.

The objective is to ensure that expansion areas are capable of being supplied with telephone, NBN, electricity and gas services. The existing areas within Kwinana al have connections to these services including NBN which has been rolled out within the City.

Any new development is required to be provided with these services and this is a consideration as part of the structure planning process for expansion areas.

# 5.17.3 Key Issues

Current population growth, which will be accommodated within expanding greenfield urban areas, will require servicing with all the necessary requirements to ensure the future communities in those locations are well provided.

However, it will be important to ensure that any infill development is undertaken with consultation with service providers to ensure that existing infrastructure has the capacity to cater for an increased population.

# 5.17.4 Response to issues

The City will consult and work with the relevant service providers to ensure infrastructure needs are met by the growing populations both in greenfield and infill areas.

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Ordinary Council Meeting 22 May 2024

# CITY OF KWINANA LOCAL PLANNING STRATEGY SCHEDULE OF MODIFICATIONS

	PROPOSED MODIFICATION	JUSTIFICATION
Modifi	cations to the Local Planning Strategy Text (Part 1)	
1.	Updated Part 1 text to reflect the current status of Westport.	Government announcements in relationship to Westport since the LPS was certified by the WAPC and the completion of the City's advertised community engagement.
2.	Updated Part 1 text in response to the findings of economic studies undertaken for Westport.	Government announcements in relationship to Westport since the LPS was certified by the WAPC and the completion of the City's advertised community engagement.
3.	Updated Part 1 text concerning the Wellard East Planning Area and updated Perth-Peel Planning Framework.	In accordance with Perth and Peel@3.5million Planning Investigation Areas Update (September 2022).
4.	Updated Part 1 text to reflect the City's update Strategic Community Plan.	In accordance with the City's updated Strategic Community Plan 2021-2031 (update adopted by Council 28 June 2023).
5.	Updated Part 1 text concerning the outcomes of the City's recently adopted Local Commercial and Activity Centre Strategy 2023.	In accordance with the City's adopted Local Commercial and Activity Centres Strategy 2023 (adopted by Council 13 December 2023)
6.	Updated Part 1 text concerning the outcomes of the City's Local Biodiversity Strategy 2022.	In accordance with the City's adopted Local Biodiversity Strategy 2023 (adopted by Council 22 March 2023)
7.	Updated Part 1 text concerning the outcomes of the Local Heritage Survey conducted in 2022.	In accordance with the City's adopted adopted Local Heritage Survey 2022 (adopted by Council 9 February 2022)
8.	Updated Part 1 text concerning the outcomes of the Character Study undertaken by the City of Kwinana in 2021.	Update text
9.	Updated Part 1 text in relation to studies currently being undertaken by the City of Kwinana on the Kwinana City Centre Master Plan.	Update text

Ordinary Council Meeting 22 May 2024

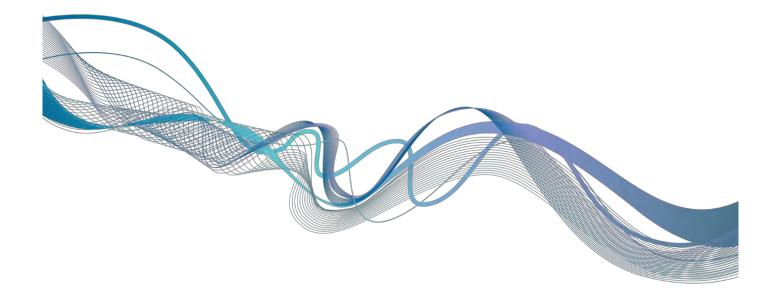
# CITY OF KWINANA LOCAL PLANNING STRATEGY SCHEDULE OF MODIFICATIONS

10.	Introduced new text in Part 1 describing the four Planning Areas.	Improves the readability of the LPS by providing an explanation for each of the Planning Areas in accordance with the WAPC's Local Planning Strategy Guidelines (LPS template).
11.	Introduced wording describing the joint project between the Cities of Kwinana, Cockburn and Rockingham (Perth South-West Metropolitan Alliance) to standardise zoning, land use permissibility and development standards across the Western Trade Coast.	Reflects the project being undertaken by the Perth South-West Metropolitan Alliance.
12.	Updated Part 1 text and add a table describing the Implementation Timeframe.	In accordance with the WAPC's Local Planning Strategy Guidelines (LPS template).
13.	Updated statistics throughout the Part 1 text.	The statistics in the certified LPS are out of date.
14.	Deleted redundant out of date text throughout Part 1.	Update text
Modifica	ations to the Local Planning Strategy Map	
15.	Update Activity Centre Hierarchy	LCACS 2023
16.	Westport boundary	



# DRAFT LOCAL PLANNING STRATEGY

2024 - 2036



<u>Version</u>	<u>Date</u>	<u>Description</u>
<u>v1.0</u>	24 March 2021	Draft for adoption by Council for adverting
<u>v2.0</u>	22 May 2024	Draft as modified following advertising and community engagement



The City of Kwinana acknowledges the Traditional Custodians of the land in which we live, work and play, the Nyoongar people, and we pay our respect to Elders past and present.

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#### **MESSAGE FROM THE MAYOR**

I am pleased to present the City of Kwinana's Local Planning Strategy which builds upon the City of Kwinana's rich planning history and provides the guiding vision for the City's growth and development over the next 15 years.

The Local Planning Strategy is vital in providing a long-term strategic planning direction on how the City will meet its vision of being "a unique and liveable City, celebrated for and connected by its diverse community, natural beauty and economic opportunities" (Strategic Community Plan 2021-2031). The Local Planning Strategy aims to reflect the City's vision through the planning innovative and quality development in a sustainable manner.

The City of Kwinana as we know it today has its origins in the 1950s when the State Government appointed one of Western Australia's first qualified town planners, Margaret Feilman, to prepare plans for a townsite to accommodate the workforce for the BP refinery and the many other industries being planned for this area. Feilman based her design on what was then a new style of planning, which involved designing communities so that local shops and community facilities were within a walkable distance and retain major bushland and landscape features.

This commitment to environmental conservation in the design of the City still evident today, 70 years after the area was first developed. The City now projects a sense of place with undulating landscape, mature native trees and bushland. These principles of creating neighbourhoods within bushland and natural landscape have been entrenched in this Local Planning Strategy to ensure that the City's natural heritage is preserved for future generations.

Within the timeframe of this strategy, the Westport Outer Harbour, supporting industries and transport freight corridors will be developed. The development of the Westport Outer Harbour will trigger a new era of growth and development in the City. An important function of this Strategy is to ensure the land requirements of the supporting industrial areas and transport corridors are planned in an orderly and proper manner and, just as importantly, that the City prospers from this period of growth.

The Local Planning Strategy has been six years in the making, based on in-depth community and stakeholder consultation, paired with comprehensive research and analysis of current needs and projected future trends.

The Local Planning Strategy is a first step in the ongoing process of refining and detailing planning within the City. It will be reviewed after five years and ongoing refinement will continue through the local planning scheme, strategies, policies, structure planning, subdivision and development.

The challenge now is to implement the Local Planning Strategy. While the City will take the lead, effective implementation can only be achieved through a whole of-community commitment. This is critical, as plans are only as good as the will to implement their vision on behalf of communities, now and into the future.

Peter Feasey City of Kwinana Mayor

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#### **EXECUTIVE SUMMARY**

The City of Kwinana's (City) Local Planning Strategy sets out strategic Directions and Actions for land use planning and development for a 10-15 year horizon. During this period there will be a high level of growth in Kwinana's residential population and considerable change and expansion to the City's commercial and industrial areas.

The Local Planning Strategy has been developed and informed by the following set of sustainability principles that will guide the City's community, economy and environment towards a sustainable future.

# Liveability

Ensure communities are safe, enable an active healthy lifestyle and offer a high quality of life and amenity.

#### Character

Promote and celebrate natural and cultural assets and landscape elements that are synonymous with the character and identity of the City of Kwinana.

# **Prosperity**

Maintain a strong and sustainable local, regional and international economy with a range of business and employment opportunities.

# Accessibility and Connectivity

Focus on safe efficient and effective movement networks that improve legibility and permeability, link places and spaces through an enhanced pedestrian and cycle network at the local level and connect regional facilities.

# Sustainable Development

Incorporate sustainable development principles into everyday practices so that there is a balance between development and conservation to ensure the needs of future generations can be met.

# Resilience

Ensure that communities have the capacity to adapt and respond flexibly to future challenges and opportunities.

# Community

The City of Kwinana's population is anticipated to grow by approximately 18,000 additional people and 8,000 new dwellings over the next 12 years. By 2036, the population of Kwinana is expected to be about 71,000 people.

Not only will the population grow during this time but the City's population will change to include an increasing a number of people over the age of 70, more multi-generational households and single person households.

A key direction of the Local Planning Strategy is to enhance and develop the City's local and neighbourhood activity centres as 'urban villages', to serve as the focus of daily shopping needs and as meeting places.

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The community's housing needs will be more diverse over the next 15 years and require a choice of housing types. The intention is that diverse housing types will be established within walking distance of the City centres and neighbourhood centres. This will reinforce and support these centres with an increased population and a diversity of housing close to shops and transport. A key action of the Local Planning Strategy includes precinct planning for neighbourhood centres to determine how best to provide a diversity of housing within walkable catchments.

Another key action of the Local Planning Strategy is to ensure that the natural amenity and character of the neighbourhood centres and surrounding residential areas is retained and enhanced. This is particularly important for established heritage areas such as Medina and Calista but should also apply to new growth areas in the City. The City of Kwinana will establish and apply policies to retain urban landscape, protect street trees and promote unique and sustainable built form within new urban areas.

Providing open space and facilities to accommodate programs and services for the City's growing and changing community in an equitable and financially sustainable manner is also a key focus of the Local Planning Strategy.

There are large areas of land on the eastern side of the Kwinana Freeway which are set aside for rural living (Special Rural and Rural Resource zoned land). This type of land use facilitates natural bushland retention and groundwater protection aligning with the City's sustainable vision. The Local Planning Strategy is supportive of rural living continuing in the long term.

# **Economy**

The most significant economic driver for the City, is its current and future industrial estates. These include the heavy industrial land in the Kwinana Industrial Area, the adjacent light and general industrial land (including spin-off industries that will be associated with the future Westport Outer Harbour).

The City's industrial areas form part of the broader Western Trade Coast. It is critical (particularly with the development of Westport) that comprehensive master planning takes place for the entire Western Trade Coast to optimise the use of the Kwinana Industrial Area and ensure that industrial areas are adequately separated from sensitive land uses.

The Local Planning Strategy focuses on enhancing the Kwinana City Centre as the focus for retail shopping, commercial, educational, civic and recreational activities as well as entertainment. Other activity centres include the future Wandi District Centre as well as smaller neighbourhood and local centres, all of which will provide convenient accessible services for the local community.

The Local Planning Strategy supports the planning and development of service commercial precincts which take advantage of Kwinana Freeway interchange locations at Thomas Road and Anketell Road. A key action is to investigate the feasibility of a large mixed use precinct at the south western side of the Thomas Road/Kwinana Freeway interchange (for a range of office, commercial and residential uses) and its integration with the Kwinana Train Station.

While the City's industrial areas produce a significantly higher proportion of jobs in the manufacturing sector than other areas of Perth, most of these jobs are filled by people living outside the City of Kwinana. Employment self-sufficiency within the City of Kwinana is less than that of the surrounding south-west metropolitan region, and amongst the lowest in the Perth metropolitan area. Employment growth has levelled out while population growth

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continues to increase, so new and diverse employment opportunities are required within the City of Kwinana.

An important objective of the Local Planning Strategy is to identify land uses which will improve local employment opportunities. While the growth of the Kwinana Industrial Area and Westport will provide jobs for skilled workers, research shows that industries such as retail, accommodation, health and food services provide unskilled and youth employment required in the City. The development of service commercial precincts at the Kwinana Freeway interchanges and mixed-use activity within the City Centre and neighbourhood centres would promote greater employment diversity.

The potential for more home businesses and new training/education facilities are also opportunities for employment.

#### **Environment**

The Local Planning Strategy can provides a framework for protecting significant local natural areas in the City, in addition to those areas already set aside for protection by the State Government.

A number of Actions from the City's Local Biodiversity Strategy 2023 have been included in the Local Planning Strategy to ensure that environmental protection is integral to the City's future planning and development.

The identification of ecological linkages which link locally and regionally significant natural areas and provide stepping stones for flora and fauna is a key action of the strategy. These linkages would support the ongoing management of regional sites and provide opportunities for integrated walking trails.

The retention of tree canopy cover to cool residential streets and open spaces during extreme heat, provide shade to encourage walking and cycling, create leafy neighbourhoods, and enhance local biodiversity is also identified as a priority.

The large areas of 'Special Rural' and 'Rural Resource' zoned land on the eastern side of the Kwinana Freeway, represent an opportunity to retain biodiversity and maintain the rural living lifestyle. It is important that clearing and degradation of bushland is limited in these areas to maintain biodiversity.

The City has recognised its responsibility to act on climate change and has adopted a Climate Change Plan (2021-2026). With an increasing population in the City, climate change adaptation and improving community resilience are an important part of land use and infrastructure planning under the Local Planning Strategy.

#### Infrastructure

Similar to other outer suburban areas in Perth, residential and commercial development within the City of Kwinana is low density and Kwinana's residents are largely dependent on private vehicles to travel to schools, shops, services, places of employment and recreation.

The challenge is to ensure that local centres, neighbourhood centres and the Kwinana City Centre can be accessed conveniently by pedestrians, cyclists and public transport in order to reduce the reliance on private vehicles.

The City's Bike and Walk Plan (2018) intends to create a safe network of cycle routes and walking paths that are convenient for people of all ages and abilities to ride or walk to local destinations such as schools, shops, parks, bushland, bus stops and train stations. The intention is to create communities where cycling and walking are the preferred choices for

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short trips and everyone has the opportunity to choose a healthy lifestyle. The Local Planning Strategy promotes the continued roll out of the Bike and Walk Plan.

An integrated transport network to distribute traffic within the City of Kwinana and to provide linkages to other parts of the metropolitan region is crucial in facilitating regional access for the residents of the City of Kwinana. Encouraging public transport and the provision of a high-quality integrated train and bus system is also important to the community. The Local Planning Strategy seeks to reinforce public transport usage and will advocate for the best bus services possible.

The movement of freight through the City provides essential economic benefits to the Western Australian economy and is a key consideration in terms of the overall efficiency and viability of the Western Trade Coast and Westport. The efficiency of freight movement is reliant on the provision of designated road and rail corridors that are not restricted due to their potential impact on the amenity of incompatible land uses. The City will manage land use conflict in the vicinity of freight corridors and ensure sensitive land uses are adequately separated from vehicle noise and vibration impacts.

There will be a transition towards electric vehicles and automated vehicles over the next 15 years. Considerations for the City of Kwinana include requirements for electric vehicle charging facilities in new developments.

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#### 1. INTRODUCTION

#### 1.1 Purpose of the Local Planning Strategy

The purpose of the Local Planning Strategy is to:

- identify land use planning issues and opportunities;
- outline the strategic land use development Directions and Actions within the City Kwinana until 2036, having regard to the City's Strategic Community Plan (2021-2031):
- link strategic planning in the City of Kwinana with State and regional planning, including current strategies, structure plans and strategic development initiatives;
- coordinate existing plans and strategies adopted and developed by the City;
- set a strategic framework for the establishment of a new local planning scheme along with rationale for the zoning and reservation of land and for scheme provisions relating to development and development control;
- provide a strategic framework for assessment and decision-making in relation to proposed scheme amendments, subdivision and development;
- identify the need for further studies or investigation to address longer-term strategic planning and development issues within the City of Kwinana; and
- outline how the Strategy will be implemented including reference to the development of any local planning mechanisms, including policies and guidelines which may be required.

#### 1.2 How the Local Planning Strategy has been prepared

The Local Planning Strategy has been developed in accordance with the statutory requirements of the *Planning and Development Act 2005*, the *Planning and Development (Local Planning Schemes) Regulations 2015* and with regard to the Local Planning Manual (WAPC, 2021) and Local Planning Strategy Guidelines (2023).

The Local Planning Strategy was prepared in the following four stages:

#### Stage One – Understanding where we are now

In order for the City to develop a comprehensive understanding of the important elements that affect the City, it was necessary to undertake detailed studies on the following topics. These studies are described in greater detail in Part 2 of the Strategy and include:

- Housing Study The focus of this study was to recognise the land-use impacts of the City of Kwinana's growing and changing demographics and population growth. This study identified changing residential and lifestyle requirements in the community.
- Integrated Land use and Transport Study This examined the transport needs
  for the community and includes an analysis of the City's land use changes and
  how these may affect connectivity, accessibility, traffic and parking requirements
  now and in the future.
- Employment and Economic Development Analysis This study focused on analysing the local economy and identified the relationship between population and industry, employment deficits and opportunities for economic growth and additional employment.

- Local Biodiversity Study This study examined the extent and existing protection
  of the City of Kwinana's natural bushland and wetland biodiversity.
- Rural Lands Study This study examined the stock of rural lands and identified competing contemporary land-use and environmental challenges.
- Other policies and plans, including:
  - -Access and Equity Policy (2015)
  - -Bike and Walk Plan (2018)
  - -Climate Change Plan (2021-2026)
  - -Community Infrastructure Plan (2021 2031)
  - -Disability Access and Inclusion Plan (2019 2021)
  - -Hope Valley Wattleup Redevelopment Project Master Plan (2005)
  - -Kwinana City Centre Master Plan and Design Guidelines (2019)
  - -Kwinana Parks Upgrade Strategy (2019 2029)
  - -Local Biodiversity Strategy (2022)
  - -Local Commercial and Activity Centres Strategy (2023)
  - -Medina Residential Design Guidelines (2009)
  - -Medina Neighbourhood Centre Revitalisation Strategy (2010)
  - -Multicultural Action Plan 2017 2020
  - -Parks Upgrade Strategy (2019/2029)
  - -Postans Precinct Study (2011)
  - -Public Health Plan (2019 2023)
  - -Sustainable Water Management Plan (2018)
  - -Strategic Community Plan (2021 2031)
  - -Westport Future Recommendations Stage 2 Report (2020)

#### Stage Two - Identify Issues and Opportunities

The City undertook extensive community consultation and the community's feedback formed the basis of the Local Planning Strategy.

#### Stage Three - Identify Directions and Actions

Following consultation with the community and key stakeholders, a series of workshops were undertaken with the City's Elected Members to establish planning principles and the Directions and Actions.

#### Stage Four – Advertised the Draft LPS for community feedback

The City sought feedback on the draft Local Planning Strategy from the community, government agencies, land developers and commercial property owners. The results of the submissions and community feedback resulted in modifications to the Local Planning Strategy where appropriate.

#### 2. THE CITY'S VISION AND PRINCIPLES

#### 2.1 Our Sustainable City

The City of Kwinana's vision as stated in the Strategic Community Plan (2021-2031) is to create "A unique and liveable City, celebrated for and connected by its diverse community, natural beauty and economic opportunities" and represents the community's aspirations and captures the essence of what it will be like to live in the City of Kwinana in the future.

The Local Planning Strategy provides Directions and Actions based on the key themes Community, Economy, Environment and Infrastructure in order to realise the City's strategic community vision.

The Local Planning Strategy will be continuously improved to align future land use planning and development with the community's aspirations and long-term vision as set out in the Strategic Community Plan (2021-2031). The alignment of the themes used in the Local Planning Strategy with the objectives set out in the current Strategic Community Plan are summarised in Figure 1.

Figure 1: Summary of Themes and Objectives

Local Planning Strategy Themes (derived from the Strategic Community Plan)	Objectives of the Strategic Community Plan (2021- 2031)
<ul><li>Community</li><li>Housing and Population Diversity</li><li>Character Identity and Urban Design</li></ul>	Maintain infrastructure, playgrounds, parks and reserves to a high standard through sustainable maintenance and renewal.
Public Open Space and Community     Facilities	Enhance opportunities for community to meet, socialise, recreate and build local connections.
Industry and the future Westport     Outer Harbour     Kwinana City Centre and other     Activity Centres     Employment     Education and Training     Agriculture	Enable a thriving and sustainable local economy that supports and sustains quality jobs and economic opportunities.
Protection of Local Natural Areas,     Landscapes and Ecological     Linkages	Retain and improve our streetscapes and open spaces, preserving the trees and greenery that makes Kwinana unique.
Climate Change Mitigation and Adaptation	Maintain and enhance our beautiful, natural environment through sustainable protection and conservation.
Infrastructure     Transport     Cycling and Walking Network     Utilities	Provide for an accessible and well-connected City by integrating public transport and improving safe streets for driving, walking and cycling.
	Create strong regional connections that will improve the ability for residents to access jobs, training and goods and sevices.

	Develop quality, affordable infrastructure and services designed to improve the health and wellbeing of the community.
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### 2.2 Local Planning Strategy Principles – An Integrated Approach towards Sustainability

In addition to the objectives of the Strategic Community Plan (2021-2031), the Local Planning Strategy has been developed and informed by the following sustainability principles which align with the guiding principles set out in the City's Sustainability Framework (2023).

#### Liveability

Ensure communities are safe, enable an active healthy lifestyle and offer a high quality of life and amenity.

#### Character

Promote and celebrate natural and cultural assets and landscape elements that are synonymous with the character and identity of the City of Kwinana.

#### **Prosperity**

Maintain a strong and sustainable local, regional and international economy with a range of business and employment opportunities.

#### Accessibility and Connectivity

Focus on safe efficient and effective movement networks that improve legibility and permeability, link places and spaces through an enhanced pedestrian and cycle network at the local level.

#### Sustainable Development

Incorporate sustainable development principles into everyday practices and so that there is a balance between development and conservation to ensure the needs of future generations can be met.

#### Resilience

Ensure that communities have the capacity to adapt and respond flexibly to future challenges and opportunities.

## COMMUNITY

#### 3. COMMUNITY

#### 3.1 Housing and Population Diversity

Kwinana has undergone rapid population growth in recent years and is forecast to grow by approximately 18,000 people (to a total population of 71,000) by 2036 (REMPlan), requiring approximately 8,000 additional dwellings. The majority of these dwellings will be located in the future suburbs of Casuarina, Anketell, Wellard and Mandogalup, and based on current trends these areas will be occupied predominantly by couples and families.

The majority of dwellings across the City of Kwinana are family homes (3-4 bedrooms) on single residential lots. This type of housing will continue to be in strong demand, however, there will be a need to provide a diversity of dwelling options (particularly more one and two bedroom dwellings) to accommodate the growing number of smaller households.

By 2036, there will be more than 5,384 additional seniors (70-84 years old) and elderly (85 years old and over) living in the City of Kwinana, the majority of whom will reside in established suburbs.

The City will encourage a greater range of housing types in established areas, close to the City Centre and neighbourhood centres, where there is convenient access to shops, services and community facilities.

Providing a diversity of housing near the City Centre and neighbourhood centres will provide housing suitable for a wide range of households types and contribute to the transformation of these neighbourhood centres into vibrant community hubs to meet the residential infill target set by the State government for the City of Kwinana. The *Perth Peel Sub-regional Framework* has set a target of 1,365 additional dwellings to be provided in existing residential areas of the City, by 2050.

The City will prepare neighbourhood centre precinct plans to ensure that new housing and lot sizes consider residential character, housing needs and affordability.

Although the existing housing stock in the City of Kwinana is less expensive than other parts of the metropolitan area, affordable housing should continue to be dispersed in appropriate areas to accommodate low-income households. The City also recognises the need to encourage a diverse range of dwellings including larger houses for extended families.

The City of Kwinana is amongst the most culturally and linguistically diverse municipalities in the Perth metropolitan area, with more than 40% of all residents born overseas, and nearly 30% speaking a language other than English at home.

In the past decade, there has been a decrease in the proportion of people of English and Australian ancestry and a notable increase in the proportion of people of Filipino, Indian and Chinese ancestry, particularly in the newer suburbs. The City of Kwinana has a higher number of people than the Perth average who identify as Aboriginal and Torres Strait Islanders.

The Rural Living areas (1-4 hectare lots) are highly valued by the community and provide an important rural lifestyle opportunity and an alternative housing option within the City of Kwinana. These areas preserve amenity and retain natural bushland to create areas with rural character, However, there is a need to manage the interface between the urban and rural areas to reduce the impact of urban development where it is in close proximity to rural living lots. A graduation of larger residential lot sizes adjacent to rural lots and landscaping

provisions are methods that can be implemented through the planning process to ameliorate the impact of residential development on nearby rural areas.

#### **Directions**

- Promote activity centres as key nodes for shopping, entertainment, community
  facilities and where appropriate business services, social services, health services
  and housing diversity.
- Ensure a range of lot sizes and dwelling types for a diversity of households, allowing
  residents to stay in their communities as they age as well as providing a range of
  housing options for young people and families with a high level of amenity.
- Encourage high quality housing developments targeted to households at different life stages and income levels, including a mix of lower to moderate income groups.

#### **Actions**

- Prepare precinct structure plans for the City Centre, District and Neighbourhood centres:
  - providing diverse housing within walkable catchments for the City Centre, District Centre and Neighbourhood Centres;
  - supporting a mix of land uses to activate and enhance the viability of these centres; and
  - optimising accessibility to and around activity centres via cycle routes and walking paths.
- 2. Encourage a variety of housing types suitable for the changing needs of the community within walkable distance of activity centres, including;
  - smaller and accessible dwellings for an aging population and people with disabilities.
  - larger houses for extended families and other household types; and
  - supporting initiatives geared towards the provision of special needs housing including good quality - affordable housing, social housing and housing for the age.

#### 3.2 Character, Identity and Urban Design

The City of Kwinana as we know it today has its origins in the 1950s, when the WA Government entered into an agreement with the Anglo-Iranian Oil Company (now known as BP) to construct an oil refinery on the shores of Cockburn Sound. To complement this industrial development, the State Government appointed WA's first qualified town planner, Margaret Feilman, to prepare the plans for Medina and Calista to accommodate the refinery's workforce and their families. The characteristics of the built form within the established parts of the City of Kwinana reflect the prevailing architectural forms and subdivisional design at the time of their development, including larger residential lots, large front yards, wide streets and retention of native trees. Early planning also provided a bushland greenbelt around a large part of the City of Kwinana, creating a distinct community surrounded by bushland.

The City of Kwinana includes areas with distinct characteristics; including:

- The industrial landscape of the Kwinana Industrial Area;
- The leafy established character suburbs;
- New suburban areas alongside the Kwinana Freeway; and
- The rural areas to the east of the Kwinana Freeway

The challenge now is to ensure that:

- The character of the established areas is retained for future generations;
- Natural bushland and landscapes are celebrated and protected in the design of new growth areas; and
- Rural areas are retained and protected from inappropriate development.

The City adopted a Local Heritage Survey in 2022. The survey identifies 71 places of heritage significance, 48 of which are deemed to be of sufficient heritage value to be included on the City's Heritage List which forms part of Local Planning Scheme No. 2.

Inclusion of a property on the City's Heritage List means that Development Approval is required prior to any demolition, alteration, or any development within the designated heritage place. Both the Local Heritage Survey and Heritage List only record places of European heritage and do not consider aboriginal heritage as this is administered by separate legislation and requires both specialist archaeological and anthropological skills and cultural sensitivity which may preclude the disclosure of information to the public.

The City recognises the importance of Aboriginal heritage to the social, environmental and economic prosperity of the City and that the Local Heritage Survey, as a standalone document, does not provide a holistic picture of the City of Kwinana's cultural heritage.

The City commissioned a Character Study of the City's established suburbs in 2021 to help identify areas of significant residential character. The Character Study found that positive character qualities are most prevalent in Medina and Calista with older development in Orelia and Parmelia sharing some, but not all, of those qualities. Neighbourhood character in Medina and Calista is tied predominantly to the quality of landscaping both in the public and private realm with mature trees playing an essential role in character. The greatest influence and threat to this character is the size and position of houses on the lot and this is being impacted by both new development and redevelopment in these suburbs c. The City needs to consider how to respond to these challenges in order to conserve the traditional character of these suburbs.

The Character Study states that the City's newer suburbs (post 1980s) are 'typical' of the housing of the period with large houses on small lots with small setbacks resulting in less space for landscaping and tree canopy. Development in the newer suburbs areas also tends to include retaining walls, large garages and wide driveways which dominate building frontages and the streetscape.

To ensure the character of the City's established suburbs is retained, the City of Kwinana intends to review the Residential Design and Subdivision Guidelines 2009 to determine how effective the policy has been and ensure that new development is respectful to the existing residential character in terms of built form, appearance and impact on the streetscape and adjoining properties.

#### 3.3 Wellard East Planning Area 1

The Wellard East Planning Investigation Area (shown in the South Metropolitan Peel Sub-Regional Planning Framework and Perth and Peel@3.5million Planning Investigation Areas Update, WAPC 2022) is identified on the Local Planning Strategy map as Planning Area 1 – intended for the purposes of further detailed planning. Key considerations are to be addressed through further detailed planning for urban expansion include:

- road transport infrastructure coordination and staging (at a regional and district level);
- servicing infrastructure coordination and staging;
- protection of significant environmental values;
- land to be set aside for flooding and drainage;
- sand fill required to provide separation to groundwater and flood levels (including estimated volumes, resource locations and transport); and
- interface with the adjoining Urban Investigation area at North-East Baldivis.

In addition to these matters the City has identified a number of additional matters to be addressed prior to future rezoning and preparation of a district structure plan(s) for the Wellard East Planning Investigation Area to ensure the environmental values of this area and its integration with surrounding land uses are fully considered.

#### Direction

 Recognise and strengthen the City of Kwinana's unique cultural, natural and built identity to foster a sense of place in existing and future residential areas.

#### **Actions**

- 3. Develop a design policy to strengthen the City's focus on built form and assist in the assessment of development in the context of the existing site and surrounds.
- Review the City of Kwinana's Medina Neighbourhood Centre Revitalisation Strategy and Residential Design Guidelines 2009 (Local Planning Policy) to ensure new developments complement and enhance the character of the area.
- 5. Develop planning controls that implement best practice sustainable development principles for climate responsive site and building design, energy efficiency, waste recycling and water management.
- 6. Include appropriate provisions in the planning framework to ensure that subdivision and development is site responsive, incorporates site features, includes interconnected grid based road and active transport networks that maximise connectivity, accessibility, choice, and legibility, and are aligned to take advantage of views and create vistas to important buildings and spaces.
- Maintain and enhance the appearance and treatment of gateway points into the City of Kwinana and their importance in contributing to character and identity (Rowley Road, Anketell Road, Thomas Road, Mortimer Road, Gilmore Road and Rockingham Road).
- 8. Request that the future district structure plan for the Wellard East Planning Investigation Area addresses the following matters:
  - preparation of a district water management plan to protect and manage water resources including minimising impact from nutrient loads and potential downstream impacts on wetlands and the Serpentine River;
  - disturbance to wetlands due to the filling of low lying land; and

 modifying the boundary of the Wellard East Planning Investigation Area to exclude existing conservation reserves.

#### 3.4 Public Open Space and Community Facilities

Public open spaces and community facilities bring people together, maintain quality of life and develop the skills, networks and relationships essential to building strong communities. Investing in community infrastructure is essential for the health, wellbeing and economic prosperity of communities.

There are significant differences in the forecast age profile and household types between the newer suburbs on the eastern side of the City and the older established areas on the western side of the City which will influence the type of community infrastructure and services that will be required in these areas. The young families in the newer residential areas will need playgrounds, sporting grounds and community facilities and services. In the established suburbs of Kwinana the population is aging and there will be a greater need for health services and programs which provide the opportunity to interact and connect with others

The City has prepared a Community Infrastructure Plan (2022) to guide the planning, development of open space and community facilities (libraries, community centres and recreation centres) at a local, district and subregional level within the City of Kwinana. The Community Infrastructure Plan will be regularly reviewed to provide a range of multi-purpose community and recreation facilities that meet the changing needs of the community and support healthy and socially connected communities. A key premise of the plan is to ensure community facilities and public open space are provided as part of the shared use agreements with school sites and/or other facilities.

#### 3.5 Regional Recreational Facility

To ensure that there is access to regional recreation facilities within the City of Kwinana, the City has commenced a feasibility and business case process for a future regional open space (ROS) to be located in the City (minimum 50ha). Currently several sites are being investigated to determine their suitability.

Initial research and analysis has determined that there is already a shortfall of playing fields, and indoor courts in the City and within Perth's Southern Metropolitan Corridor. A regional reserve will be required to meet the needs of a growing regional population and provide an opportunity to co-locate a number of sporting activities and organisations at the same venue.

The State Sporting Associations have advised that there is a clear need for increased provision of sporting facilities and infrastructure into the future beyond the current level of planning.

Should the Council adopt a future preferred location for a regional open space, it is likely to result in advocacy for land to be reserved for this purpose.

#### **Direction**

 To deliver an equitable distribution of accessible and integrated multi-functional public open spaces, community and recreation facilities that supports healthy and socially connected communities.

#### **Actions**

- 9. Promote cultural heritage and history through the design of public open space, public facilities and public art to foster a sense of belonging and connection.
- 10. Investigate prospects for coastal recreation opportunities having regard to the future Westport whilst recognising the potential impacts of sea level rise.
- 11. Undertake a study to determine feasible sites for the location of a regional open space within the City of Kwinana.

## **ECONOMY**

#### 4. ECONOMY

#### 4.1 Industry and the future Westport Outer Harbour

The Western Trade Coast is the largest and most complex heavy and general industry site in Western Australia and is of critical importance to the prosperity of the State and the Perth metropolitan area.

In 2020, the State Government announced its intention to develop Westport in the Kwinana Industrial Area, as the State's new container port. The transition of activities from the Fremantle Inner Harbour to Westport Outer Harbour will have significant impact on the land use mix in the Western Trade Coast.

A new hierarchy of land uses will emerge in the Western Trade Coast based on the location of infrastructure and proximity to the core port operations. In parts of the Western Trade Coast closest to the port, low order uses (population driven) will likely make way for a greater concentration of higher order uses (port related uses and strategic uses that are export orientated).

In addition to the new port related uses the Western Trade Coast will continue to grow over the next two decades accommodating heavy industrial uses. The challenge is to ensure that this growth is optimised and occurs in a well-planned and integrated manner to maximise the strategic value of the locality for the State and the City of Kwinana.

Lower order uses (small factory units, bulky retail) will need a place to relocate due to the higher value port strategic uses that will locate in close proximity to Westport.

Due to the introduction of new industrial land uses and continued industrial development in the Western Trade Coast, it is appropriate that a comprehensive master plan be prepared by key government state and government agencies for the Western Trade Coast. The master plan would inform statutory planning instruments to guide optimal land uses outcomes for the State and local community.

The master plan should consider:

- The provision of east-west freight corridors to connect Westport to the metropolitan transport network. Westport and heavy freight vehicles will operate 24 hours a day and planning for the land adjacent to the heavy freight corridors should take into consideration the potential impact of noise emissions from heavy vehicles (particularly Anketell Road);
- Adequate separation distance between industry and sensitive land uses (residential dwellings). This will protect industrial growth and ensure that Leda, Calista and Medina are not exposed to the adverse air quality, odour and noise emissions from industry;
- Provision of additional heavy industry sites; and
- Future planning for areas identified as Industrial Expansion Area in the Perth Peel Sub-regional Framework, including Postans and parts of the Alcoa Residue Disposal Area.

#### 4.2 Standardise zoning and development standards across the Western Trade Coast

Consistent with the need to align the planning framework across the Western Trade Coast, the Perth South-West Metropolitan Alliance has initiated a joint project between the Cities of Kwinana, Cockburn and Rockingham to standardise zoning, land use permissibility and development standards across the Western Trade Coast.

This project aligns with the Western Australian Planning Commission reform projects to review/modernise land use terms and zone/reserve objectives; and to standardise land use permissibility and to develop a consistent approach to development requirements in certain zones.

There is an opportunity for City of Kwinana to serve as a residential and service location for personnel involved with the defence assets maintenance phase at the Australian Marine Complex and for any expansion of Naval operations at Garden Island.

There is 6.27ha of 'Light Industry' zoned land in Medina comprising 42 lots, ranging from 728m² to 2,750m², providing an assortment of light industrial activities. The location of this light industrial zoned land is a historical legacy and provides local employment and services to the community. Consideration should be given to the long-term potential for alternative land uses in the Medina Light Industrial Area.

#### **Direction**

- Recognise the importance of the Kwinana Industrial Area and the future Westport
  Outer Harbour to secure future employment opportunities for the City of Kwinana's
  residents.
- Expand land use options for a range of industrial land uses to be located within the City of Kwinana having regard to land use compatibility.

#### **Actions**

- 12. Facilitate strategic land use planning in the Western Trade Coast to enable an ongoing supply of industrial land to cater for employment in the City of Kwinana.
- 13. Undertake a joint project with the City of Cockburn and City of Rockingham to review aspects of the City's Local Planning frameworks (including planning scheme and policies) to determine if the zoning, land use permissibility and development standards that can be applied consistently across the Western Trade Coast.
- 14. Review and adopt the City of Kwinana's Postans Study with consideration to land requirements for light industrial and service commercial land uses and the future of the Medina Light Industrial complex.

#### 4.3 Kwinana City Centre and other Activity Centres

The City has experienced considerable economic, development and population growth in recent years and it is anticipated that this high rate of growth will continue for the duration of this Local Planning Strategy and beyond.

It is forecast that retail and commercial land uses in the City may increase by an additional 170,000m<sup>2</sup> (a 60% increase on the 2021 floor area) by 2042. This growth in

commercial development and adoption of State Planning Policy 4.2 - Activity Centres, necessitated the preparation and adoption of Local Commercial and Activity Centre Strategy 2023 (LCACS 2023) to guide the development of City local commercial and activity centres.

LCACS 2023 is based on robust modelling and analysis to ensure that a hierarchy of activity centres is distributed throughout the City to ensure that frequently required retail and service needs are situated in local centres (within walkable catchments) and less frequently required retail needs and services are situated in convenient higher order centres distributed throughout the City.

The strategic objectives of LCACS 2023 are as follows:

- Facilitate the provision and responsive evolution of a viable and conveniently
  accessible network of functional and attractive activity centres that meet the day to
  day needs of residents and are places where people can meet and interact.
- Ensuring the Kwinana City Centre remains the City's largest and most complex
  activity centre hosting higher-level commercial, civic and cultural activities, but also
  supporting mixed land use/activities in other activity centres appropriate to their role
  in the hierarchy.
- Permitting the development of new centres only when they clearly fill a gap in the defined Activity Centre Hierarchy in LCACS 2023.
- Encourage and facilitate the improvement of existing activity centres to enhance their utility and attractiveness to the community which may involve:
  - Allowing development or changes in use that will improve the condition and/or performance of an existing local activity centre.
  - Taking a pro-active role in encouraging and facilitating improvement to existing activity centres.
  - Ensuring that enough land is provided for the long term floorspace potential of planned mixed use activity centres.
- Encouraging a high standard of design and development of new activity centres
  including liaising with developers and other key stakeholders during the planning and
  design process and exercising development control powers to ensure centres are
  sustainable and align with urban design principles. Encouraging and facilitating
  compatible non-retail uses in activity centres at all levels in the hierarchy to improve
  their convenience and utility.
- Encouraging and facilitating development of a range of housing types in the vicinity of
  activity centres to enhance centre viability and create housing choices that are
  accessible to shops, local jobs and transport links. This will facilitate a local and
  sustainable approach to urban form.
- Enhance and develop the City's local and neighbourhood centres to meet the
  different needs of the local community, including access to goods and services and
  social interaction. The enhancement of neighbourhood centres will contribute in
  many ways to community and it is important that every support be given to the
  economic growth of the centres.

 The City supports the planning and development of service commercial precincts to take advantage of Kwinana Freeway interchange locations at Thomas and Anketell Roads.

#### **Kwinana City Centre**

The Kwinana City Centre is the primary centre in the Activity Centre Hierarchy and the Local Planning Strategy aims to ensure that this primacy is retained within the Activity Centre Hierarchy. The current performance of the centre is identified in the City's LCACS 2023 as low and there will need to be a collaborative approach between the City and key stakeholders in the Kwinana City Centre to improve the centre's performance.

LCACS 2023 recommends the following measures to improve the performance of the City Centre:

- Encouraging office development to occur in the City Centre to create day-time activation.
- Facilitating entertainment, café/restaurant, recreation and cultural uses in the City Centre to promote night-time activation and increased liveability.
- Encouraging any future redevelopment of the Kwinana Marketplace to connect with Chisham Avenue.
- Creating a stronger connection between civic and retail uses in the City Centre to promote multi-use visits and pedestrian activity.
- Short term activation of Chisham Ave through alfresco dining, a strong link with Aldi and additional activities in the Market Square area between Chisham Ave and the Public Library.
- Offer family amenity or encourage proponents to provide family amenity. Family
  amenity has been an important feature for several retail redevelopments, including
  the Karrinyup Shopping Centre Redevelopment and the Cockburn Gateway
  Expansion.
- Support more residential development in the City Centre.
- The development of Westport and the Australian Defence Force maintenance facilities at the Australian Marine Complex and Garden Island may provide development opportunities within the City Centre, such as the potential to develop training facilities.

The development of the City Centre has been guided by the Kwinana Town Centre Master Plan and Design Guidelines and Local Planning Scheme No. 3. The City intends to prepare a new local planning scheme which would be based on the preparation of the City Centre Precinct Structure Plan underway.

#### **Wandi District Centre**

The Wandi District Centre is planned as part of the recommended activity centre hierarchy to reach a size of approximately 20,000m<sup>2</sup> Shop/Retail floorspace by 2042.

The Wandi District Centre will reduce the need for local residents to travel longer distances to other centres and warrants a larger centre than was indicated in the original modelling.

#### **Other Activity Centres**

Precinct centre planning for neighbourhood centres will be undertaken by the City to identify opportunities for each activity centre to inform future planning measures and controls. Master plans will be prepared to address issues such as connectivity, car parking and landscaping.

The City will investigate the potential for a mixed use precinct (Planning Area 2) occupying an area spanning from the Kwinana Freeway and Thomas Road intersection to the Kwinana Train station. Much of the site is vacant urban land with areas of bushland set aside for conservation. The intent is to capitalise on the following locational advantages:

- spatial location along the Kwinana Freeway which provides good locational access across the Perth metropolitan area from the Perth CBD to Mandurah;
- traffic volumes passing the site on a daily basis along the freeway and using Thomas Road (movement economy) of the site;
- Kwinana train station providing access to the Perth CBD in 30 minutes;
- · attractive outlook over The Spectacles, a large conservation estate; and
- immediate link with growing service commercial land uses on the eastern side of the Kwinana Freeway / Thomas Road interchange; and

#### **Direction**

 To define the role and extent of the City's activity centres hierarchy to establish a network of shopping, recreation and entertainment requirements for residents and provide employment, community meeting places and associated land uses.

#### Actions

- 15. Prepare and implement a City Centre Precinct Structure Plan to:
  - optimise the potential of the City Centre as a key location for retail, restaurant, entertainment (night and day), arts, childcare, housing, education, health services, social services and short-term accommodation;
  - allow for education and training needs of the community within the City Centre
  - investigate options for high density residential development and short-term accommodation;
  - review the design of Chisham Avenue as a Main Street;
  - investigate the potential for strategic sites within the City Centre to lead investment and redevelopment within the City of Kwinana;
  - differentiate the City Centre by creating and enhancing links to the local bushland and open spaces; and

- develop advocacy and partnership plans to support City Centre development.
- 16. Prepare a master plan for the Bertram Neighbourhood Centre to provide a framework for public realm improvements including pedestrian access, disability access, car parking, landscaping, street furniture, wayfinding and the design of public spaces.
- 17. Rezone the following local centres in the local planning scheme to enable redevelopment:
  - Calista local centre rezone the site to mixed use.
  - Summerton Road rezone the site to residential development.

#### 4.4 Employment

Businesses within the City of Kwinana are a key generator of manufacturing and construction jobs for the Perth metropolitan area. This is illustrated in Figure 2 below, which compares overall employment generated in the City against jobs created elsewhere across greater Perth. Also evident, is that the City has comparatively fewer jobs in retail trade, health care and professional and technical fields.

The historic presence of industrial, manufacturing and construction jobs in the City plays a key role in the growth of these industries and is promoted as part of the Local Planning Strategy.

There will be increasing automation of industry, particularly manufacturing and transport logistics and a reduction in lower skilled employment in such industries. While manufacturing will continue to grow, employment numbers will not necessarily be growing at the same rate.

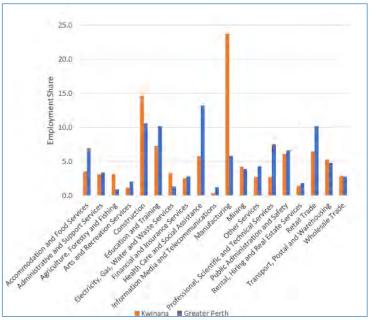


Figure 2: Overall Employment in the City of Kwinana

#### **Employment Self-Sufficiency and Self Containment**

Most of the manufacturing and construction industry jobs in the City of Kwinana are filled by people living outside the City and it is evident that City's employment self-sufficiency (measure of local residents working in local jobs) is less than that of the surrounding south west region and amongst the lowest in the Perth metropolitan area. The major reasons for the City's resident workers seeking employment outside of the City could be the nature of employment opportunities versus the residents skills and qualifications; transport options available and commuting times; relationship between wages and salaries (people will travel further for higher paid jobs); and house prices in the local area.

The size of the City of Kwinana's total labour force in 2016 was 18,829, which includes all persons aged above 15. Overall, 89.2% of the labour force was employed and 10.8% unemployed. When added to the people looking for work, either full or part-time, 21.6% of the labour force is not in work.

While there has been some recent growth in employment in the City in recent years, employment is not keeping pace with the rapid population growth. As can be seen in Figure 3 between 2006 to 2018, employment in the City has remained steady at around 15,500 jobs, while the population has increased from 24,000 to over 42,000 over the same time period.

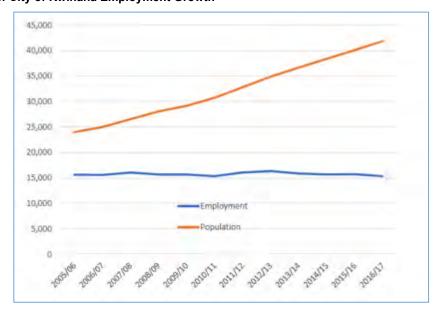


Figure 3: City of Kwinana Employment Growth

#### **New Employment Opportunities**

The challenge for the City is to consider opportunities for job creation for the local population as part of long-term planning so that it better matches population growth and population skills and training. Figure 4 shows an assessment of the gap and the distribution of jobs types to 2036, and, some strategic direction as to how the gap could be breached.

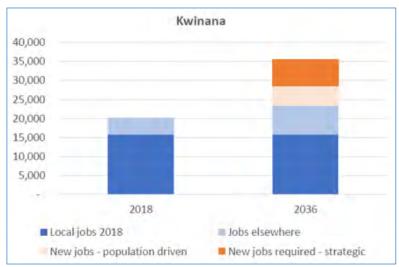


Figure 4: Employment Self-Sufficiency

It assumes that a proportion of local residents will travel to work outside of the City and it is important that transport systems and opportunities are supporting people travelling out of the City and into the Perth CBD to work.

Further, it assumes that a proportion of these jobs (around one-third) will be populationdriven jobs that arise to directly service the local population. They include local retail and business services, health services, education services (particularly primary and secondary education) and personal services.

An analysis of the jobs held by the resident population in the City in 2016 shows the three most popular industry sectors were:

- Health Care and Social Assistance (1,973 people or 11.7%)
- Retail Trade (1,808 people or 10.8%)
- Construction (1,780 people or 10.6%)

It can be expected that the number of people employed in these sectors will grow as the population of the City and the region grows but it is critical that future planning seeks to maximise employment in these industry sector areas given that there may be a gap of approximately 7,000 jobs that would need to be found within the City by 2036.

The increases in small, often home-based business over the past decade also provides an opportunity for a range of employment in the City, particularly in the provision of professional services, information technology, home-based food business and many other services.

Enabling the growth of such industries and businesses to provide employment opportunities for the City's residents is fundamental to the Local Planning Strategy and ensuring sufficient land is available for industry and local businesses.

#### 4.5 Health Services

Between 2016 and 2036, the City's population in the 70–84 age group will increase by approximately 3,100 and by 835 persons in the 85 and above age group. The City's expanding aged population will increase the demand for health services and generate the

need for at least 2-3 additional aged care facilities plus in-home services. These are large employers and may see the aged care workforce almost double by 2036.

An expanding population will also mean increased demand for community-based health services which should locate within the City Centre.

#### 4.6 Service Commercial

As previously noted, the Local Planning Strategy seeks to promote Service Commercial precincts to take advantage of the location and exposure of the Kwinana Freeway interchanges. These sites provide the best strategic opportunity to close the gap between employment growth and population growth. Provided they are appropriately managed under the new local planning scheme, their presence would have minimal effect on existing activity centres, including the City Centre itself. The development of these precincts takes advantage of the proximity of these sites to the Kwinana Freeway.

There are opportunities for Service Commercial Precincts to the:

- east side of the Thomas Road and Kwinana Freeway interchange where land has already been approved under structure plans for service commercial land uses. This area has considerable potential for development into a large service commercial area offering a range of bulky and white goods retail services.
- east side of Anketell Road Kwinana Freeway interchange where the future Wandi District Centre is located (with the long term potential to develop the Anketell Road Train Station).
- west side of the Anketell Road Kwinana Freeway interchange in Mandogalup where service commercial uses would be an appropriate interface between Anketell Road and future urban land uses.

#### 4.7 Tourism

The Spectacles, Kwinana Loop Trail, Tramways Trail and the Wildflower Walk provide unique opportunities to walk and cycle through bushland areas within the metropolitan area. The general public may not be aware of these areas and the City will investigate opportunities for eco-tourism within the City of Kwinana to provide employment opportunities and promote environmental stewardship. The ecological links between the reserves combined with cycle and walking paths provide an opportunity for local tourism unique to Kwinana.

The opportunity for heavy Industry focused tourism opportunities should not be underestimated with many countries actively promoting industrial tourism. There is a market for people interested in learning about a range of industries with the Kwinana Industrial Area from major processing plants, power plants, desalination plants and waste to energy plants. An integrated masterplan for the Kwinana Industrial Area and the City's future Economic Development Strategy will provide a key platform for such opportunities into the future.

#### 4.8 Small Business

There are a total of 1,945 businesses in the City and while there are many large businesses located in the City of Kwinana, approximately 1,851 of these, or 95%, are small businesses. In fact, despite the City of Kwinana appearing to be the home of large industries, there are only 68 businesses based in Kwinana that employ over 20 people.

The major areas of small business operations are in the roles of:

- · Transport, Postal and Warehousing;
- · Construction; and
- Professional Scientific and Technical Services.

During 2019, businesses grew at over 2 per week to 134 new businesses commencing in Kwinana, appearing to be exclusively small businesses. Most of the new businesses established in 2019 were in the following industries:

- Transport, Postal and Warehousing;
- Administrative and Support Services; and
- Rental, Hiring and Real estate services.

Additionally, there are a total of 97 home-based businesses that operated in Kwinana in 2019, predominantly within Wellard, Bertram, Wandi and Parmelia. The City will optimise the potential of home-based businesses as an employment growth sector to improve self-employment opportunities in Kwinana. The City has the capacity to reduce barriers to home-based business via reduced administrative overheads and integrated assessment processes.

#### 4.9 Manufacturing and Industry

Industry remains an important employer for the City's residents and its growth will benefit the local community. This includes heavy to light Industrial land uses and their technological changes considerable potential for significant expansion in Latitude 32 and Postans. There are opportunities for Light Industry/Service Commercial uses in particular, to expand into the Postans locality providing local employment opportunities.

The Thomas Road - Kwinana Freeway interchange (west and east of the Kwinana Freeway) has been identified as Planning Area 2 in the Local Planning Strategy to ensure that a number of site matters are considered during subsequent stages of the planning process.

#### **Strategic Direction**

 To create diverse employment opportunities for local residents and maintain sustained economic growth by ensuring that suitable serviced employment land is available.

#### **Strategic Actions**

- 18. Consideration is to be given to the following matters during subsequent stages of planning in Planning Area 2 (Thomas Road Kwinana Freeway Interchange):
  - integration with the Kwinana Train Station;
  - · regionally and locally significant environmental values;
  - proximity to the service commercial area and neighbourhood centre on the eastern side of the Thomas Road - Kwinana Freeway interchange;
  - short-term accommodation and conference centre options; and
  - traffic flow and safety of the transport network.

19. Investigate opportunities for eco-tourism within the City of Kwinana to provide employment opportunities and promote environmental stewardship as part of the City of Kwinana's future Economic Development Strategy, including the development of an eco-tourism centre alongside established natural attractions such as The Spectacles, Kwinana Loop Trail, Tramways Trail and the Wildflower Walk.

#### 4.10 Education and Training

Opportunities for attracting education and training facilities into the City is necessary to boost the local economy but also to provide local youth with skills relevant to local jobs and employment generally.

The Australian Defence Force's plans to establish an office/training facility easily accessible to the Australian Marine Complex provides employment opportunities within the City of Kwinana. There may also be the potential for the Kwinana South Metropolitan TAFE campus to expand to provide semi-professional and trade training for the defence industry and the Kwinana Industrial Area.

#### **Direction**

 The community has a choice of quality public and private facilities to meet their education and training needs.

#### **Actions**

Advocate for the establishment of training facilities within the City of Kwinana to
provide semi- professional and trade training for the defence industry and other
industries within the Kwinana Industrial Area.

#### 4.11 Agriculture

Until recently large parts of City of Kwinana were used for rural purposes, however, following the extension of the Kwinana Freeway and the Perth-Mandurah Train Line, areas east of the Freeway have been rezoned to facilitate the establishment of new suburbs. This has occurred in Wandi, Anketell, Casuarina, Wellard and Mandogalup. Urban development will continue to expand in these areas for several decades. The last remaining rural areas are situated further east of the Kwinana Freeway.

As a result of the zoning and land use changes over the past two decades, the role of agriculture in the City's economy has declined and many rural industries have relocated.

The South Metropolitan Peel Subregional Planning Framework identified part of the rural area to the east of the Kwinana Freeway and south of Casuarina Prison as a Planning Investigation Area. This includes part of the last remaining 'Rural A' zoned areas with the City of Kwinana.

The Western Australian Planning Commission will determine the outcome of the urban investigation areas (identified as Planning Area 1 on the Local Planning Strategy map) through detailed planning investigations. The City will also investigate the preferred long-term use of land within the remaining 'Rural A' zone area in *Local Planning Scheme No. 2*. In view of its objectives to retain biodiversity and manage and minimise water quality impacts on both the Jandakot Groundwater Mound and drainage catchment of the Peel - Harvey Estuarine System.

There are a number of agricultural businesses operating under non-conforming uses rights within areas set aside for future urban development or in localities where environmental legislation has changed over the past decades meaning that the use may no longer be appropriate if new approval was sought today. These uses may ultimately seek to relocate away from constraints but efforts should be made by the City to seek to incorporate these uses into Service Commercial areas where possible.

#### **Direction**

To review the City's rural land use with a view to medium and long-term opportunities.

#### **Actions**

- 21. Undertake a Rural Study to determine how the following matters can be managed under the City's planning framework:
  - investigate planning measures that will protect the amenity of the rural landscape:
  - minimise land use conflicts at the interface between urban and rural land uses;
  - consideration of land use interface issues with the Shire of Serpentine Jarrahdale, City of Cockburn and City of Rockingham; and
  - review the City's landscape protection zone to improve its capacity to prioritise and retain environmentally significant areas.
- 22. Investigate options for the ongoing agricultural uses operating under non-conforming use rights.
- Investigate the future of the remaining 'Rural A' zoned land in the Local Planning Scheme.

# ENVIRONMENT

#### 4.12 Local Natural Areas, Landscape and Ecological Linkages

Bushland, wetlands and landscape features contribute significantly to the character and quality of life within the City's urban and rural areas, and also provide important habitats to sustain unique ecosystems.

Prior to European settlement there was nearly 12,000ha of native bushland (including wetlands) within the City, of which approximately 45% remains (20% of which is protected through *Bush Forever* and State Government conservation reserves).

The City of Kwinana's population and housing forecasts indicate significant growth over the next 15 years. This will place considerable pressure on the local environment and present ongoing challenges associated with the retention of bushland, wetlands and landscapes if not properly managed.

#### 4.13 Local Biodiversity Strategy

The City's Local Biodiversity Strategy 2023 is intended to protect the City's bushland and wetlands from the anticipated development and population pressures so that current and future generations can appreciate the City's natural environment and biodiversity.

A number of actions identified in the Local Biodiversity Strategy have been included in the Local Planning Strategy to inform and influence the City's planning framework as it applies to vegetation protection and biodiversity considerations.

#### 4.14 Planning Area 3

There is a large area of bushland (and wetlands) in excellent condition on Lot 123 Mortimer Road which contains a diverse range of rare or threatened flora, fauna and ecological communities. Lot 123 Mortimer Road, Casuarina has been identified as Planning Area 3 in the Local Planning Strategy map to ensure that the environmental values of the site are recognised during subsequent stages of the planning process.

#### 4.15 Urban Forest Strategy

The City's leafy suburban character needs to be protected and enhanced to

- ensure high quality bushland remnants are prioritised for retention as part of any structure planning for new areas;
- enhance and retain tree canopy cover to cool residential streets and open spaces during extreme heat;
- provide shade to encourage walking and cycling, create leafy neighbourhoods, and enhance local biodiversity;
- promote the retention of street trees by the community and raise community awareness and encourage community participation in biodiversity protection;
- require all new industrial and commercial developments to retain existing trees and plant mature trees where appropriate;
- identify, protect and restore ecological corridors; and

 outline revegetation, restoration and landscaping standards expected of developers, and requirements for other landscape elements to strengthen connections.

The City of Kwinana has an established street tree planting policy which has been in place since 1992 and has contributed to an 8% increase from bare ground to green cover since 2016 and is an important ongoing program to retain and where possible expand tree canopy cover. An Urban Forest Strategy is required to provide a coordinated approach to maintaining and improving the City's tree cover and will seek to explore further opportunities beyond the street tree planting policy to achieve this objective.

#### 4.16 Ecological Linkages

Ecological Linkages connect locally and regionally significant natural areas and provide stepping stones for flora and fauna. Ecological connectivity is vital to the long-term viability of native flora and fauna, and is recognised as one of the most effective tools available for conserving biodiversity. A number of ecological linkages are identified in the *Local Biodiversity Strategy* (2023).

Further investigation is required to identify the ecological linkages and ensure they are protected through the City's planning framework.

#### 4.17 Bushfire Management

The majority of rural land within the City is classified as bushfire prone. Land use and development in rural areas therefore needs to respond to the threat of bushfire, balancing the potential impact of bushfire risk management regimes on the environment and natural resources.

Specific planning and building requirements apply to developments within designated bushfire prone areas in accordance with the *Planning and Development (Local Planning Schemes) Regulations 2015* and State Planning Policy 3.7 Planning in Bushfire Prone Areas. The City of Kwinana has a responsibility to ensure sensitive or potentially hazardous land uses do not increase the risks on life and property.

#### **Direction**

 To identify, permanently protect and enhance the City of Kwinana's natural environment which is critical to the maintenance of ecological processes and biodiversity.

#### **Actions**

- 24. Advocate for the inclusion of areas of significant environmental value within the Parks and Recreation reserve in the Metropolitan Region Scheme.
- 25. Advocate to the Federal and/or State Government for the protection, and where appropriate, management of nationally or regionally significant areas.
- Review the Local Biodiversity Strategy (2023) and undertake further investigation to identify local natural areas to be protected through the City's planning framework, in particular within ecological linkages.

- 27. Review all public open space under the management of the City of Kwinana to ensure vesting is consistent with conservation objectives (Local Reservation categorisation, Management Orders and title classification).
- 28. Ensure that the environmental values of Lot 123 Mortimer Road are recognised during subsequent stages of the planning process.
- 29. Prepare and implement an Urban Forest Strategy for the City of Kwinana to:
  - retain and improve our streetscapes and open spaces, preserving the trees and greenery that makes the City of Kwinana unique;
  - maintain and enhance the natural environment through sustainable protection and conservation;
  - enhance and retain tree canopy cover to cool residential streets and open spaces during extreme heat;
  - provide shade to encourage walking and cycling, create leafy neighbourhoods, and enhance local biodiversity;
  - require all new industrial and commercial developments to retain existing trees and plant mature trees where appropriate; and
  - outline revegetation, restoration and landscaping standards expected of developers, and requirements for other landscape elements to strengthen connections.

#### 4.18 Climate Change Mitigation and Adaptation

The south-west of Western Australia is particularly vulnerable to the impacts of climate change, including:

- increases in average annual temperatures, leading to an increase in the number and severity of heatwaves and an increase in the number of high fire risk days and potential severe bushfires;
- reductions in average annual rainfall, causing environmental stress and potential death of native vegetation;
- sea level rise, with increased erosion along coastal areas and potential inundation of low-lying coastal areas during severe storm events; and
- changes in the frequency and severity of storm events with a predicted trend for an increase in extreme events.

The City of Kwinana recognises its responsibility to act on climate change and has adopted a Climate Change Plan (2021-2026). The major climate change risks relevant to the City of Kwinana's operations identified in the Climate Change Plan are temperature change, reduced rainfall, rising sea levels and extreme weather events.

With an increasing population, climate change adaptation and improving community resilience will be an important part of land use and infrastructure planning within the City. The City of Kwinana is concerned about the increasing impact of the urban heat island effect, which is exacerbated by vegetation clearing for development and road expansion. Strategies to reduce the heat island effect can include increasing landscaping and tree canopy cover.

Reduced water availability is being addressed through the City of Kwinana's *Water Plan 2024-2028*. The following goals for water use reductions are set out in the plan:

- maintain scheme water use within 5% on 2016/17 levels by 2027;
- maintain groundwater abstraction below 90% of allocation until 2027; and
- maintain residential water use below the Waterwise Perth Action Plan target of 110kL/capita until 2026.

Significant climate modelling work has been undertaken by agencies such as CSIRO and robust trend data has been established to support the case to adapt settlements to cope with expected changes in sea level, temperature, rainfall, bushfire and storm events and to determine suitable responses to enable this. This has implications for the City as the coast will be subject to rising sea levels and there are areas that are prone to bushfire.

The City's Environmental Strategy considers all environmental priorities for the City from a climate perspective and will identify priority actions to deliver on environmental targets.

#### Direction

 Promote planning measures that encourage climate change adaptation and mitigation to ensure our communities are both resilient and liveable.

#### **Actions**

- 30. Prepare a sea level rise policy based on the adaptation options for vulnerable areas outlined in the Cockburn Coastal Vulnerability Values and Risk Assessment to enable land use planning to respond to coastal hazard risks.
- 31. Implement planning mechanisms that support the outcomes of the City of Kwinana's Climate Change Plan.

### **INFRASTRUCTURE**

#### 5. INFRASTRUCTURE

#### 5.1 Transport

Typical of Perth's outer suburbs, residential and commercial development within Kwinana is low density and spread out and Kwinana's residents are dependent on private vehicles to travel to schools, shops, services, employment and recreation.

An integrated transport network to distribute traffic and to provide linkages to other parts of the metropolitan region is crucial for the residents of Kwinana.

The City aims to make it safer and more convenient for all residents of varying incomes, needs and abilities to walk, cycle, use public transport and drive within Kwinana on an integrated network of paths, roads and public transport routes.

Access to regional roads and the freight rail network also provides opportunities for industries, businesses and the future Westport Outer Harbour to be well-connected to markets and suppliers.

#### Cycling and Walking

The City's Bike and Walk Plan (2018) is intended to provide a safe network of cycle routes and walking paths that are convenient for people of all ages and abilities to ride or walk to local destinations such as schools, shops, parks, bushland, bus stops and train stations.

The Bike and Walk Plan integrates the local network of cycling routes and walking paths with the regional cycling and walking network to connect with areas beyond Kwinana.

The Local Planning Strategy draws upon the Bike and Walk Plan to prioritise pathways that support and link activity centres.

#### **Metronet and Transperth**

The City of Kwinana is serviced by the Mandurah Train Line, stopping at Kwinana Train Station and Wellard Train Station.

The Kwinana Train Station is located to the north and west of the nearest residential and commercial zones, reducing its local catchment by at least 50%. This creates a high demand for the park 'n' ride service even from the surrounding residential development. The Local Planning Strategy seeks to support access to the train stations by advocating for more frequent bus connections to the trains station and a greater diversity of housing around train stations.

#### **Freight Network**

The movement of freight through the City of Kwinana provides essential economic benefits to the overall Western Australian economy and is a key consideration in terms of the overall efficiency and safety of the Western Trade Coast and Westport.

The efficiency of freight movement is reliant on the provision of designated road and rail corridors that are separated from local traffic and are not restricted due to their potential impact on the amenity of incompatible land uses.

The Local Planning Strategy aims to manage land use conflict in the vicinity of the freight corridors by designating adjoining land use appropriately and by also ensuring sensitive land uses are adequately buffered from vehicle noise and vibration impacts.

#### **Dampier Bunbury Natural Gas Pipeline Corridor**

The DBNGP corridor is an area of land that houses the high-pressure gas pipelines which supplies gas to heavy and light industry consumers, electricity generation and homes within Western Australia. The DBNGP is shown on the Infrastructure Map.

The greatest risk to high-pressure gas pipelines and to the public is damage by persons unfamiliar with the requirements for safe working practices around high-pressure gas pipelines. Development within the corridor is regulated by the Department of Planning Lands and Heritage. DPLH must be contacted before any works are conducted within the DBNGP corridor.

#### **Autonomous, Electric vehicles and Ride Share Services**

It is anticipated that there will be an increasing transition towards electric vehicles and automated vehicles within the next five to ten years. The uptake of electric vehicles in the future will have significant implications for future transport planning. Considerations for Kwinana include requirements for electric vehicle charging facilities in new developments, and decreased requirements for public and private car parking spaces as the car share economy grows.

In the long term, driverless shuttles are likely to be able to support residential connections to train stations, maybe replacing residential coverage bus services to train stations. This is true even where low density residential development is retained.

#### **Direction**

 To create a well-connected community with a safe, high-quality, integrated, multimodal transport network that makes it easy, safe and convenient for our community to access activity centres, schools, services, recreation and entertainment facilities.

#### **Actions**

- 32. Create a safe network of shaded cycle routes, walking paths and recreational trails in accordance with the City of Kwinana's Bike and Walk Plan that connect people with activity centres, schools, services, recreation and entertainment facilities.
- 33. Advocate for the Public Transport Authority to improve public transport services within the City including bus sizes, scheduling (late night) and route planning.
- 34. Review planning requirements within the Local Planning Scheme for onsite car parking and end of trip facilities for the purpose of:
  - supporting a transition to more sustainable forms of transport;
  - ensuring new commercial and mixed-use developments make electric vehicles and active travel modes (cycling/walking) a more attractive travel option;
  - · ensuring electric vehicle charging facilities are provided in new developments; and
  - decrease requirement for public and private car parking spaces as the car share economy grows.
- 35. Protect Strategic Freight Routes from sensitive and incompatible land uses whilst mitigating the impacts of freight movements on the community, local roads and the environment.

- 36. Continue the cooperative arrangements between the State Government, Western Power and the City of Kwinana to progressively replace the overhead electricity distribution network in residential areas with underground power and support the development of a new approach to identifying and prioritising areas for investment in underground power, particularly in areas with a high electricity network need and lower economic capacity. The approach should also ensure the City's valued tree lined streets are protected and improve the character of the the City's residential areas.
- 37. Explore options to protect the alignment of the Tramway Trail (identified on the Infrastructure Plan) through the City's planning framework.
- 38. Advocate for the duplication of Anketell Road (east and west of the Kwinana Freeway) to be delivered as a priority of the Westport outer harbour freight route, to ensure the amenity of the City's local road network is protected.

#### 6. PLANNING AREAS

There are four Planning Areas identified in the Local Planning Strategy which warrant individual recognition in the Local Planning Strategy.

The intention of identifying planning areas is to provide an opportunity to specify planning directions and actions to manage the land use change and development of that area.

The Planning Areas are summarised in Figure 5 below:

Figure 5: Summary of Planning Areas

	Figure 5: Summary of Planning Areas  Planning Area  Planning Direction		Action
1.	Wellard East Planning Investigation Area	Recognise and strengthen Kwinana's unique cultural, natural and built identity to foster a sense of place in existing and future residential areas.	Request that the future district structure plan for the Wellard East Planning Investigation Area addresses the following matters:  • preparation of a district water management plan to protect and manage water resources including minimising impact from nutrient loads and potential downstream impacts on wetlands and the Serpentine River;  • disturbance to wetlands due to the filling of the Palusplain;  • issues concerning the management of water quality and water quantity; and  • modifying the boundary of the Wellard East Planning Investigation Area to exclude existing conservation reserves.
2.	Freeway Interchange Planning Investigation Area	To create diverse employment opportunities for local residents and maintain sustained economic growth by ensuring that suitable serviced employment land is available.	Consideration is to be given to the following matters during subsequent stages of planning in Planning Area 2 (Thomas Road - Kwinana Freeway Interchange):  • integration with the Kwinana Train Station; • regionally and locally significant environmental values; • proximity to the service commercial area and neighbourhood centre on the eastern side of the Thomas Road - Kwinana Freeway interchange; • short-term accommodation and conference centre options; and • traffic flow and safety of the transport network.
3.	Environmental Investigation Area	To identify, permanently protect and enhance Kwinana's natural environment which is critical to the maintenance of ecological processes and biodiversity.	Ensure that the environmental values of Lot 123 Mortimer Road are recognised during subsequent stages of the planning process.
4.	Character Investigation Area	Recognise and strengthen Kwinana's unique cultural, natural and built identity to foster a sense of place in existing and future residential areas.	Develop a design policy to strengthen the City's focus on built form and assist in the assessment of development in the context of the existing site and surrounds.      Review the City of Kwinana's Medina Neighbourhood Centre Revitalisation Strategy and Residential Design Guidelines 2009 (Local Planning Policy to ensure new developments complement and enhance the character of the area.

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#### 7. IMPLEMENTATION TIMEFRAME

Implementation and review of the Local Planning Strategy is fundamental in ensuring that the Actions are implemented, and that the Local Planning Strategy continues to be relevant and contemporary.

A comprehensive review of the local planning scheme and strategy will be undertaken every five years in the form of a report of review, which will include a basic assessment of the status of all of the actions from the local planning strategy to confirm whether actions are either completed, in progress, not commenced or no longer relevant; and

Amendments to the Local Planning Strategy and scheme may be required to assist the implementation of the Local Planning Strategy.

Figure 6 below provides a timeframe for implementing each of the Actions in the Local Planning Strategy.

Figure 6: Implementation Timeframe

	DIRECTIONS and ACTIONS IMPLEMENTATION TIMEFRAME					
	ACTIONS	IMPLEMENTATION TIMEFRAME Immediate (less than 1 year)				
		Short term (1-5 years) Medium term (5-10 years) Long term (10-15 years)				
	COMMUNITY					
1.	Prepare precinct structure plans for the City Centre, District and Neighbourhood centres:	Ongoing				
	<ul> <li>providing diverse housing within walkable catchments for the City Centre, District Centre and Neighbourhood Centres;</li> <li>supporting a mix of land uses to activate and</li> </ul>					
	<ul> <li>enhance the viability of these centres; and</li> <li>optimising accessibility to and around activity centres via cycle routes and walking paths.</li> </ul>					
2.	Encourage a variety of housing types suitable for the changing needs of the community, dispersed within walkable distance of activity centres, including:	Ongoing				
	<ul> <li>smaller and accessible dwellings for an aging population and people with disabilities;</li> <li>larger houses for extended families and other household</li> </ul>					
	<ul> <li>types; and</li> <li>supporting initiatives geared towards the provision of special needs housing including good quality - affordable housing, social housing and housing for the age.</li> </ul>					
3.	Develop a design policy to strengthen the City's focus on built form and assist in the assessment of development in the context of the existing site and surrounds.	Short term				
4.	Review the City of Kwinana's Medina Neighbourhood Centre Revitalisation Strategy and Residential Design Guidelines 2009 (Local Planning Policy to ensure new developments complement and enhance the character of the area.	Short term				
5.	Develop planning controls that implement best practice sustainable development principles for climate responsive site and building design, energy efficiency, waste recycling and water management.	Short term				
6.	Include appropriate provisions in the planning framework to ensure that subdivision and development is site responsive, incorporates site features, includes interconnected grid based road and active transport networks that maximise connectivity, accessibility, choice, and legibility, and are aligned to take advantage of views and create vistas to important buildings and spaces.	Short term				
7.	Maintain and enhance the appearance and treatment of gateway points into Kwinana and their importance in contributing to character and identity (Rowley Road, Anketell Road, Thomas Road, Mortimer Road, Gilmore Road and Rockingham Road).	Ongoing				
8.	Request that the future district structure plan for the Wellard East Planning Area addresses the following matters:	Ongoing				

	<u> </u>	
	<ul> <li>preparation of a district water management plan to protect and manage water resources including minimising impact from nutrient loads and potential downstream impacts on wetlands and the Serpentine River;</li> <li>disturbance to wetlands due to the filling of low lying land; and</li> <li>modifying the boundary of the Wellard East Planning Investigation Area to exclude existing conservation reserves.</li> </ul>	
9.	Promote cultural heritage and history through the design of public open space, public facilities and public art to foster a sense of belonging and connection.	Ongoing
10.	Investigate prospects for coastal recreation opportunities having regard to the future Westport Outer Harbour whilst recognising the potential impacts of sea level rise.	Medium Term
11.	Undertake a study to determine feasible sites for the location of a regional recreational facility within the City of Kwinana.	Short term
	ECONOMY	
12.	Facilitate strategic land use planning in the Western Trade Coast to enable an ongoing supply of industrial land to cater for employment in Kwinana.	Short term
13.	Undertake a joint project with the City of Cockburn and City of Rockingham to review aspects of the City's Local Planning frameworks (including planning scheme and policies) to determine if the zoning, land use permissibility and development standards that can be applied consistently across the Western Trade Coast.	Short term
14.	Review and adopt the City of Kwinana's Postans Study with consideration to land requirements for light industrial and service commercial land uses and the future of the Medina Light Industrial complex.	Medium term
15.	Prepare and implement a City Centre Precinct Structure Plan to:  optimise the potential of the City Centre as a key location for retail, restaurant, entertainment (night and day), arts, childcare, housing, education, health services, social services and short-term accommodation;  allow for education and training needs of the community within the City Centre  investigate options for high density residential development and short-term accommodation;  review the design of Chisham Avenue as a Main Street;  investigate the potential for strategic sites within the City Centre to lead investment and redevelopment within Kwinana;  differentiate the City Centre by creating and enhancing links to the local bushland and open spaces; and  develop advocacy and partnership plans to support City Centre development.	Immediate term
16.	Prepare a master plan for the Bertram Neighbourhood Centre to provide a framework for public realm improvements including pedestrian access, disability access, car parking, landscaping, street furniture, wayfinding and the design of public spaces.	Short term
17.	Rezone the following local centres in the local planning scheme to enable redevelopment:  Calista local centre – rezone the site to mixed use. Summerton Road - rezone the site to residential development.	Short term

S	Consideration is to be given to the following matters during subsequent stages of planning in Planning Area 2 (Thomas Road - Kwinana Freeway Interchange):  • integration with the Kwinana Train Station;  • regionally and locally significant environmental values;  • proximity to the service commercial area and neighbourhood centre on the eastern side of the Thomas Road - Kwinana Freeway interchange;  • short-term accommodation and conference centre options; and  • traffic flow and safety of the transport network.	Short term
e 3 3	nvestigate opportunities for eco-tourism within Kwinana to provide employment opportunities and promote environmental stewardship as part of the City of Kwinana's future Economic Development Strategy, including the development of an eco-tourism centre alongside established natural attractions such as The Spectacles, Kwinana Loop Trail, Tramways Trail and the Wildflower Walk.	Long term
t	Advocate for the establishment of training facilities within Kwinana o provide semi- professional and trade training for the defence ndustry and other industries with the Kwinana Industrial Area.	Medium term
	<ul> <li>Jndertake a Rural Study to determine how the following matters can be managed under the City's planning framework:</li> <li>investigate planning measures that will protect the amenity of the rural landscape;</li> <li>minimise land use conflicts at the interface between urban and rural land uses;</li> <li>consideration of land use interface issues with the Shire of Serpentine Jarrahdale, City of Cockburn and City of Rockingham; and</li> <li>review the City's landscape protection zone to improve its capacity to prioritise and retain environmentally significant areas.</li> </ul>	Short term
	nvestigate options for the ongoing agricultural uses operating under non-conforming use rights.	Short term
	nvestigate the future of the remaining 'Rural A' zoned land in the Local Planning Scheme.	Short term
	ENVIRONMENT	
V	Advocate for the inclusion of areas of significant environmental value within the Parks and Recreation reserve in the Metropolitan Region Scheme.	Ongoing
ŗ	Advocate to the Federal and/or State Government for the protection, and where appropriate, management of nationally or regionally significant areas.	Ongoing
f t	Review the Local Biodiversity Strategy (2023) and undertake further investigation to identify local natural areas to be protected through the City's planning framework, in particular within ecological linkages.	Short term
h c	Review all public open space under the management of the City of Kwinana to ensure vesting is consistent with conservation objectives (Local Reservation categorisation, Management Orders and title classification).	Medium term
28. E	Ensure that the environmental values of Lot 123 Mortimer Road are recognised during subsequent stages of the planning process.	Short Term

29.	Prepare and implement an Urban Forest Strategy for the City of Kwinana to:	Immediate term
	<ul> <li>retain and improve our streetscapes and open spaces, preserving the trees and greenery that makes Kwinana unique;</li> </ul>	
	maintain and enhance the natural environment through sustainable protection and conservation;     enhance and retain tree canopy cover to cool residential	
	streets and open spaces during extreme heat;  • provide shade to encourage walking and cycling, create leafy neighbourhoods, and enhance local biodiversity;  • require all new industrial and commercial developments to retain existing trees and plant mature trees where	
	<ul> <li>appropriate; and</li> <li>outline revegetation, restoration and landscaping standards expected of developers, and requirements for other landscape elements to strengthen connections.</li> </ul>	
30.	Prepare a sea level rise policy based on the adaptation options for vulnerable areas outlined in the Cockburn Coastal Vulnerability Values and Risk Assessment to enable land use planning to respond to coastal hazard risks.	Immediate term
31.	Implement planning mechanisms that support the outcomes of the City of Kwinana's Climate Change Plan.	Short term
	INFRASTRUCTURE	
32.	Create a safe network of shaded cycle routes, walking paths and recreational trails in accordance with the City of Kwinana's Bike and Walk Plan that connect people with activity centres, schools, services, recreation and entertainment facilities.	Ongoing
33.	Advocate for the Public Transport Authority to improve public transport services within the City including bus sizes, scheduling (late night) and route planning.	Ongoing
34.	Review planning requirements within the Local Planning Scheme for onsite car parking and end of trip facilities for the purpose of:	Short term
	<ul> <li>supporting a transition to more sustainable forms of transport;</li> <li>ensuring new commercial and mixed-use developments make electric vehicles and active travel modes (cycling/walking) a more attractive travel option;</li> <li>ensuring electric vehicle charging facilities are provided in new developments; and</li> <li>decrease requirement for public and private car parking</li> </ul>	
	spaces as the car share economy grows.	
35.	Protect Strategic Freight Routes from sensitive and incompatible land uses whilst mitigating the impacts of freight movements on the community, local roads and the environment.	Ongoing
36.	Continue the cooperative arrangements between the State Government, Western Power and the City of Kwinana to progressively replace the overhead electricity distribution network in residential areas with underground power and support the development of a new approach to identifying and prioritising areas for investment in underground power, particularly in areas with a high electricity network need and lower economic capacity. The approach should also ensure Kwinana's valued tree lined streets are protected and improve the character of the Kwinana's residential areas.	Short term

37.	Explore options to protect the alignment of the Tramway Trail (as	Short term
	identified on the Infrastructure Plan) through the City's planning	
	framework.	

#### **REFERENCES**

#### City of Kwinana documents

- Access and Equity Policy (2015)
- Bike and Walk Plan (2018)
- City of Kwinana Health and Wellbeing Profile (SMPHU, 2013)
- Climate Change Plan 2021-2026
- Community Infrastructure Plan (2011 2031)
- Disability Access and Inclusion Plan (2019 2021)
- Employment and Economic Analysis (ID, 2020)
- Heritage List 2021
- Kwinana City Centre Master Plan (2019)
- Kwinana Parks Upgrade Strategy (2019 2029)
- Kwinana Town Centre Master Plan and Design Guidelines
- Local Biodiversity Strategy (2023)
- Local Commercial and Activity Centres Strategy (2023)
- Local Heritage Review (2021)
- Local Housing Study (City of Kwinana, 2019)
- Local Planning Policy Development within the Special Rural Zones
- Local Planning Policy Public Open Space
- Local Planning Policy No. 1 Landscape Feature and Tree Retention (2016)
- Local Planning Policy No. 2 Streetscapes
- Local Planning Policy No. 4 Administration of Development Contributions
- Local Planning Policy No. 5 Development Contribution Towards Public Art
- Local Planning Policy No. 8 Designing Out Crime (City of Kwinana, 2018)
- Local Planning Policy No. 11 Site Requirements and Standards for Development within Industrial Zones
- Medina Neighbourhood Centre Local Structure Plan (2012)
- Multicultural Action Plan 2017 2020
- Postans Precinct Study (Urbanplan, 2011) Public Art Masterplan (2009)
- Public Health Plan (City of Kwinana, 2019 2023)
- Residential Design and Subdivision Guidelines (2009)
- Sustainable Water Management Plan (2018)
- Strategic Community Plan (2021 2031)
- Sustainability Framework 2023
- Integrated Land and Transport Strategy (Cardno, 2020)

#### Other documents

- Affordable Housing Action Plan 2010-2020 (WA State Government)
- Better Urban Water Management
- Bicycle Network Plan (Department of Transport, 2017)
- Bush Forever (WA State Government, 2000)
- Comprehensive Health Needs Assessment for the Perth South Coastal Region (Perth South Coastal Medicare Local, 2014)
- Economic Development and Employment Lands Strategy (WAPC)
- Environmental Protection Policy (Kwinana) (Atmospheric Wastes) Policy 1999
- Environmental Protection Peel Inlet Harvey Estuary Policy 1992
- Fremantle Rockingham Industrial Area Regional Strategy (WAPC, 1999)
- Investigation Areas Update (WAPC, 2022)
- Liveable Neighbourhoods (WAPC, 2009)
- Local Planning Manual (WAPC, 2010)

- Local Planning Strategy Guidelines (WAPC, 2023)
- Draft Liveable Neighbourhoods (WAPC, 2015)
- Perth and Peel@3.5million The Transport Network (Department of Transport, 2018)
- Perth and Peel@3.5million Planning Investigation Areas Update (WAPC, 2022)
- Pathway to a Healthy Community A Guide for Councillors' (DoH, 2010)
- Perth and Peel @ 3.5 million (WAPC, 2018)
- Postans Precinct Study Structure Plan Report (Urbanplan, August 2011)
- Draft Improvement Plan 47: Mandogalup Land Supply and Demand Analysis. Department of Planning Lands and Heritage (Pracsys (2021)
- Mandogalup Westport Analysis Briefing Note. Department of Planning Lands and Heritage (Pracsys (2021)
- Southern Metropolitan Peel Sub-regional Planning Framework (WAPC, 2018)
- WA Bicycle Network Plan (DoT, 2020)
- State Planning Policy No. 1 State Planning Framework (WAPC, 2017)
- State Planning Policy No. 2.3 Jandakot Groundwater Protection (WAPC, 2017)
- State Planning Policy No. 2.5 Rural Planning (WAPC, 2016)
- State Planning Policy No. 2.6 State Coastal Planning (WAPC, 2013)
- State Planning Policy No. 2.7 Public Drinking Water Source (WAPC, 2003)
- State Planning Policy No. 2.8 Bushland policy for the Perth Metropolitan Region (WAPC, 2010)
- State Planning Policy No. 2.9 Water Resources (WAPC, 2021)
- State Planning Policy No. 3.0 Urban Growth and Settlement (WAPC, 2006)
- State Planning Policy No. 3.7 Planning in Bushfire Prone Areas (WAPC, 2015)
- State Planning Policy No. 4.1 State Industrial Interface (WAPC, 1997)
- State Planning Policy No. 4.2 Activity Centre for Perth and Peel (WAPC, 2023)
- State Planning Policy No. 5.4 Road and Rail Noise (WAPC, 2009)
- State Planning Strategy 2050 (WA State Government, 2014)
- Visual Landscape Planning in Western Australia (WAPC, 2008)
- Walking and Riding and Access to Public Transport (Australian Government, 2013)
- Western Australian Bicycle Network Plan (Department of Transport, 2017)
- A review of the practice and legacy of Australian planning pioneer Margaret Feilman (Amanda Davies and Julie Brunner, Australian Planner, 2017)
- New Town in the Bush: Planning Knowledge Transfer and the Design of Kwinana, Western Australia (Ian MacLachlan and Julia Horsely, Journal of Planning History, 2015)





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# 18 REPORTS – CIVIC LEADERSHIP

### 18.1 2023/2024 MAY BUDGET REVIEW

## **SUMMARY**

This report presents the final budget review for 2023/2024 budget year and is reflected as 'May 2024 Budget Review'. A number of budget variations are proposed as part of this review as identified in Attachment A.

### OFFICER RECOMMENDATION

### **That Council:**

- 1. Adopts the May Budget Review Report 2023/2024 at Attachment A and adopts the budget adjustments to the 2023/2024 Budget.
- 2. Notes a net increase in Operating Activities of \$1,905,872 as per Attachment A Statement of Financial Activity by Nature or Type.
- 3. Notes a net decrease in Investing Activities of \$1,544,876 as per Attachment A Statement of Financial Activity by Nature or Type; and
- 4. Notes a net decrease in Financing activities of \$2,397,338 as per Attachment A Statement of Financial Activity by Nature or Type.

### **VOTING REQUIREMENT**

Absolute Majority.

## **DISCUSSION**

The primary objective of the May budget review is to identify capital and operating projects that are forecasted to be incomplete at the end of June 2024 and are required to be carried forward to the 2024/2025 Budget.

During the year, various budget adjustments have been submitted to council as 'Budget Variations', these amendments are reflected as the 'Current Budget' in Attachment A. This budget review also aims to incorporate any other significant variations from the Current Budget and to recommend to Council any amendments that may be necessary. These additional changes are required during the year due to changing circumstances and to ensure that the Current budget is robust and tight fiscal controls are maintained. This budget review is not a mandatory requirement of the Local Government Act, or the Financial Management Regulation however is considered good governance practise.

# **Surplus Position**

The opening surplus position is \$4,315,277 and is maintained as per 2023 Audited Financial Statement.

The closing surplus position for the current budget review is \$1,066,260, including a restricted amount set aside for capital items and operating projects that have been carried forward and will be included as an opening surplus amount for the 2024/2025 budget.

# **Budget Variations**

Provided below is a summary of the major variances to the Revised budget as indicated in Attachment A, Statement of Financial Activity by Nature and Note 3- Predicted Variances.

# **Operating Activities – Revenue7**

Revenue from Operating Activities have increased by \$1,260,496 and is made of the following variances:

- Rates has increased by \$344,685 due to favourable interim ratings for the current financial year.
- Fees and charges have increased by \$202,072 and is contributed to the following adjustments:
  - ➤ Building services permit fees increase of \$55,598.
  - Favourable adjustments to community facilities hire of \$25,356 and \$73,057 for engineering extractive industries and zoning fees.
  - \$85,000 increase in Kwinana village sale of villas to be transferred to Banksia Park Reserve.
  - Decrease of fees and charge for \$19,859 in Koorliny art centre, \$20,260 in essential services fees due to fire hazards removal and \$40,504 in planning and development fees
- The favourable increase in interest rates has resulted in an increase in interest earnings of \$332,840, however noting \$249,982 of this interest is restricted as it relates to reserve funds.
- Other Revenue has increased by \$472,597 and relates mainly to reimbursements to be offset with expenditure increase of \$358,349 and \$50,000 for workers compensation claim to be transferred to the workers compensation reserve.

# **Operating Activities – Expenditure**

Operating expenditure has increased by \$4,372,757 and is made of the following variances:

- Employee costs have increased by \$105,551 due to the following adjustments:
  - additional \$100,399 workers compensation payment expenses with fundings to be transferred from the Workers Compensation Reserve.
  - ▶ \$141,922 increase in employment expenses to be offset against reimbursement income received.
  - A savings of \$126,060 due to vacant positions.
- Materials and Contracts has decreased by \$103,871 and the following contribute to this variance:
  - Various operating projects totalling \$482,842 to be carried forward to 2024/2025 budget.
  - Waste management costs savings of \$234,386 to be transferred to Refuse Reserve
  - \$273,523 increase due to additional expenditure required for software maintenance costs.
  - Facility maintenance costs increased by \$158,289 due to higher reactive maintenance required.
  - \$275,001 increase in city's infrastructure maintenance costs due to higher costs charged by contractors.

- Other Expenditure has decreased by \$645,566 due to the adjustments to the DCA 8-15 Reserves for the refund of contributions as the Cost Apportionment Schedule are being finalised.
- Depreciation expense has increased by \$5,036,431 and is mainly due to the impact of the revaluation of assets performed in 2022/2023.

# **Investing Activities**

Overall capital acquisitions for infrastructure, property, plant, and equipment have decreased by \$1,574,713 a detailed breakdown of movement in 'Capital Acquisitions' is at Attachment A – note 4. This decrease in capital acquisitions is predominantly due to projects being carried forward to the 2024/2025 budget. The balance of the decrease in capital acquisition is due to projects completed or funding being decreased.

The total carry forward capital projects for the current financial year is \$ 1,571,399 and a summary of these carry forward budgets including reasons for the carry forward is reflected below:

Project description	Amount	Reason
Mini Golf Course Kiosk and Toilets	\$270,000	Currently in the negotiation with potential lessee.
Revitalising the Strand in Wellard	\$50,000	This is the community-led projects and will be delivered to the Wellard community as they request.
Apex park upgrade	\$103,500	Project delayed due to resourcing issue.
Kwinana loop trail upgrade	\$153,857	Finalisation of consultation and design.
Enhance CCTV network/Purchase a Mobile CCTV Unit	\$35,622	Equipment expected to be delivered in July.
Darius Dome - Coolroom/freezer CR-010 & FR-01 – Fair Condition	\$16,000	Additional work required due to legislation changes. Project scope currently reviewed.
Darius Dome - kitchen Evap Cooler EVC-R-01 - FAIR (24/25)	\$15,000	Additional work required due to legislation changes. Project scope currently reviewed
IT-Server Replacement	\$100,000	Project delayed due to resourcing issue.
Parks and Reserves - Abingdon Park - Recirculation System	\$75,000	Further project investigation required.
POS Assets - Sandringham Park - Playgrounds - LRCI 4	\$200,000	Community engagement process and equipment ordering lead time longer than anticipated.
Sandringham Park Upgrade	\$39,600	Community engagement process and equipment ordering lead time longer than anticipated.
Building Contingency	\$12,224	Purchase orders have been raised. Estimated works to commence in July.
Street Lighting New	\$6,843	Application has been lodged, awaiting approval from Western Power.
Recquatic - Hydrotherapy Chiller AC Replacement	\$9,753	Project has commenced but anticipated to be completed in 2024/25 financial year.
Bird Watering Stations	\$14,000	Works to commence either end of June or early July.
Plant Replacement Program - Light Fleet	\$60,000	Due to delays in delivery.

Plant Replacement Program- Heavy	\$410,000	Due to delays in delivery.
plant		
Total	\$1,571,399	

# **Financing Activities**

The major variances attributable to financing activities relates to Transfer from and Transfer to Reserve (refer to note 5). During this budget review **Transfer from Reserve** decreased by \$1,323,305 due to:

- DCA8-15 decreased by \$644,664 mainly due to the finalisation of refunds for the Cost Apportionment Schedule following the gazettal of Amendment 145.
- Plant and equipment replacement reserve decreased by \$505,993 predominantly due to carry forward of light fleet and heavy plants to the following financial year.
- Public open space reserve decreased by \$103,500 as the capital projects have been deferred to the following financial year.
- Strategic property reserve decreased by \$270,000 as the capital projects have been deferred to the following financial year.
- Workers Compensation increased by \$100,399 for additional workers compensation payment made during the year.
- Strategic Initiative Reserve reduced by \$164,000; \$43,000 was due to various community projects identified and the remaining \$121,000 was due to previous community projects recognised under the Strategic Initiative Reserve and now re-allocated to Restricted Grants and Contributions Reserve.

**Transfer to Reserve** increased by \$1,074,033 during the budget review due to:

- Transfer to various reserves have increased by \$249,982 based on the additional interest income to be received.
- Refuse Reserve increased by \$234,386 as a result of waste to energy and other cost savings realised during the year.
- Asset management reserve increased by \$500,000 as a result of efficiencies realised. This fund will be set aside for the renewal of the Administration building.
- Restricted grants and contribution reserve increased by \$199,488 due to carry forward of capital projects.

As a result of the above changes to the movement in Reserves, the Revised Budgeted Cash Reserves balance as per Attachment A – note 5 has increased from \$55,854,170 to \$58,251,508, a favourable increase of \$2,397,338.

# STRATEGIC IMPLICATIONS

This proposal will support the achievement of the following outcome/s and objective/s detailed in the Strategic Community Plan and Corporate Business Plan.

Strategic Community Plan				
Outcome	Strategic Objective	Action in CBP (if applicable)	How does this proposal achieve the outcomes and strategic objectives?	
5 – Visionary leadership dedicated to acting for its community	5.1 – Model accountable and ethical governance, strengthening trust with the community	N/A – There is no specific action in the CBP, yet this report will help achieve the indicated outcomes and strategic objectives	Transparent reporting of financial information	

# **SOCIAL IMPLICATIONS**

There are no social implications as a result of this proposal.

### **LEGAL/POLICY IMPLICATIONS**

There is no legal/policy implications as a result of this proposal.

# FINANCIAL/BUDGET IMPLICATIONS

The financial implications related to this review are outlined in this report. Based on the budget amendments a restricted budget surplus of \$1,066,260 is forecasted for the 30 June 2024.

# **ASSET MANAGEMENT IMPLICATIONS**

There are no asset management implications associated with this report.

### **ENVIRONMENTAL/PUBLIC HEALTH IMPLICATIONS**

There are no environmental implications associated with this report.

# **COMMUNITY ENGAGEMENT**

There are no community engagement implications as a result of this report.

# **ATTACHMENTS**

A. 2023-2024 May Budget Review Financial Statement J.

# **CITY OF KWINANA**

# 2023/2024 MAY BUDGET REVIEW REPORT

# LOCAL GOVERNMENT ACT 1995 LOCAL GOVERNMENT (FINANCIAL MANAGEMENT) REGULATIONS 1996

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# CITY OF KWINANA STATEMENT OF FINANCIAL ACTIVITY MAY BUDGET REVIEW 2023/2024

	Adopted Budget	Updated Budget Estimates (a)	Estimated Year End Amount (b)	Year to Date Actual 30/04/2024	Predicted Variance (b)-(a)	Var. % (b)-(a)/(a)
	\$	\$	\$	\$	\$	%
OPERATING ACTIVITIES						
Revenue from operating activities						
General rates	48,733,255	49,456,787	49,801,472	•	344,685	(0.7%)
Grants, subsidies and contributions	3,577,697	2,005,772	1,951,526		(54,246)	2.8%
Fees and charges	13,482,258	14,208,158	14,410,231		202,072	(1.4%)
Interest revenue	3,166,112	4,446,514	4,778,355		331,840	(6.9%)
Other revenue	506,909	1,078,314	1,550,911		472,597	(30.5%)
Profit on asset disposals	43,537	74,504	38,052		(36,452)	95.8%
- 10 f	69,509,767	71,270,051	72,530,547	68,806,558	1,260,496	
Expenditure from operating activities	(20,002,450)	(20.727.246)	(20, 922, 700)	(22.641.000)	(105 551)	0.40/
Employee costs  Materials and contracts	(29,903,156)	(29,727,246)	(29,832,796)	(23,641,090)	(105,551)	0.4%
Utility charges	(26,444,818) (2,689,795)	(27,415,568) (2,680,310)	(27,311,697) (2,710,609)		103,871 (30,299)	(0.4%) 1.1%
Depreciation	(18,086,055)	(18,654,557)	(23,690,988)		(5,036,431)	21.3%
Finance costs	(18,080,033)	(3,254,779)	(3,256,553)		(3,030,431)	0.1%
Insurance	(741,288)	(717,443)	(3,230,333)	(712,661)	(2,889)	0.1%
Other expenditure	(113,600)	(13,398,802)	(12,753,236)		645,566	(5.1%)
Loss on asset disposals	(108,836)	(109,791)	(55,041)		54,750	(99.5%)
Loss on asset disposais	(78,685,332)	(95,958,496)	(100,331,253)	(76,622,185)	(4,372,757)	(55.570)
Non-cash amounts excluded from operating activities	18,151,354	18,432,725	23,450,859	18,829,697	5,018,134	(21.4%)
Amount attributable to operating activities	8,975,788	(6,255,720)	(4,349,849)	11,014,070	1,905,872	
INVESTING ACTIVITIES						
Inflows from investing activities						
Capital grants, subsidies and contributions	3,890,976	4,668,685	4,555,309	2,138,269	(113,376)	2.5%
Proceeds from disposal of assets	529,500	1,056,500	879,817	821,351	(176,683)	20.1%
Proceeds from self supporting loans	22,757 <b>4,443,233</b>	19,062 <b>5,744,247</b>	19,062 <b>5,454,189</b>	11,080 <b>2,970,700</b>	( <b>290,058</b> )	0.0%
Outflows from investing activities	4,443,233	5,744,247	5,454,169	2,970,700	(290,038)	
Purchase of intangible assets	(789,680)	(976,083)	(876,083)	(582,000)	100,000	11.4%
Purchase of land and buildings	(2,485,973)	(2,367,208)	(2,045,328)	(1,727,208)	321,881	15.7%
Purchase of plant, furniture and equipment	(1,441,982)	(1,671,408)	(1,139,569)	(890,877)	531,839	46.7%
Purchase and construction of infrastructure-roads	(4,797,769)	(5,008,566)	(5,005,212)	(3,293,627)	3,354	0.1%
Purchase and construction of infrastructure-other	(3,714,195)	(4,310,847)	(3,693,207)	(1,570,461)	617,639	16.7%
	(13,229,599)	(14,334,112)	(12,759,399)	(8,064,172)	1,574,713	12.3%
Non-cash amounts excluded from investing activities	205,620	(478,675)	(218,453)	2,269,739	260,222	(119.1%)
Amount attributable to investing activities	(8,580,746)	(9,068,540)	(7,523,664)	(2,823,734)	1,544,876	
FINANCING ACTIVITIES						
Cash inflows from financing activities	7 405 704	22 506 222	22 262 020	4.4.420.22.4	(4 222 205)	(F. 00/)
Transfer from reserves	7,405,784	23,586,233	22,262,928	14,429,234	(1,323,305)	(5.9%)
	7,405,784	23,586,233	22,262,928	14,429,234	(1,323,305)	
Repayment of debentures	(2,240,025)	(2,240,025)	(2,240,025)	(1,259,374)	0	0.0%
Payments for principal portion of lease liabilities	(112,839)	(144,928)	(144,928)	(3,926)	0	(0.0%)
Transfer to reserves	(6,581,129)	(10,179,447)	(11,253,480)	(689,012)	(1,074,033)	9.5%
Amount attributable to financing activities	(8,933,993) (1,528,209)	(12,564,400) 11,021,833	(13,638,433) 8,624,495	(1,952,312) 12,476,922	(1,074,033) (2,397,338)	
-	(1,320,203)	11,021,033	0,024,433	12,710, <i>3</i> 22	(2,337,336)	
MOVEMENT IN SURPLUS OR DEFICIT	_					
Surplus or deficit at the start of the financial year	1,133,167	4,315,277	4,315,277	4,315,277	0	0.0%
Amount attributable to operating activities	8,975,788	(6,255,720)	(4,349,849)	11,014,070	1,905,872	43.8%
Amount attributable to investing activities	(8,580,746)	(9,068,540)	(7,523,664)	(2,823,734)	1,544,876	20.5%
Amount attributable to financing activities	(1,528,209)	11,021,833	8,624,495	12,476,922	(2,397,338)	27.8%
Surplus or deficit after imposition of general rates	0	12,850	1,066,260	24,982,535	1,053,410	

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# NOTES TO AND FORMING PART OF THE MAY BUDGET REVIEW REPORT FOR THE PERIOD ENDED 30 JUNE 2024

#### 1. BASIS OF PREPARATION

This budget review has been prepared in accordance with the Local Government Act 1995 and accompanying regulations.

#### **Local Government Act 1995 requirements**

Section 6.4(2) of the Local Government Act 1995 read with the Local Government (Financial Management) Regulations 1996, prescribe that the budget review be prepared in accordance with the Local Government Act 1995 and, to the extent that they are not inconsistent with the Act, the Australian Accounting Standards. The Australian Accounting Standards (as they apply to local governments and not-for-profit entities) and Interpretations of the Australian Accounting Standards Board were applied where no inconsistencies exist.

The Local Government (Financial Management) Regulations 1996 specify that vested land is a right-of-use asset to be measured at cost, and is considered a zero cost concessionary lease. All right-of-use assets under zero cost concessionary leases are measured at zero cost rather than at fair value, except for vested improvements on concessionary land leases such as roads, buildings or other infrastructure which continue to be reported at fair value, as opposed to the vested land which is measured at zero cost. The measurement of vested improvements at fair value is a departure from AASB 16 Leases which would have required the City of Kwinana to measure any vested improvements at zero cost.

Local Government (Financial Management) Regulations 1996, regulation 33A prescribes contents of the budget review.

Accounting policies which have been adopted in the preparation of this budget review have been consistently applied unless stated otherwise. Except for statement of financial activity, the budget review has been prepared on the accrual basis and is based on historical costs, modified, where applicable, by the measurement at fair value of selected non-current assets, financial assets and liabilities.

#### THE LOCAL GOVERNMENT REPORTING ENTITY

All funds through which the City of Kwinana controls resources to carry on its functions have been included in the financial statements forming part of this financial report.

All monies held in the Trust Fund are excluded from the financial statements.

#### Judgements and estimates

The preparation of a financial report in conformity with Australian Accounting Standards requires management to make judgements, estimates and assumptions that effect the application of policies and reported amounts of assets and liabilities, income and expenses.

The estimates and associated assumptions are based on historical experience and various other factors believed to be reasonable under the circumstances; the results of which form the basis of making the judgements about carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates.

The balances, transactions and disclosures impacted by accounting estimates are as follows:

- estimated fair value of certain financial assets
- impairment of financial assets
- estimation of fair values of land and buildings, infrastructure and investment property
- estimation uncertainties made in relation to lease accounting
- estimation of fair values of provisions

### SIGNIFICANT ACCOUNTING POLICES

Significant accounting policies utilised in the preparation of these statements are as described within the 2023-24 Annual Budget. Please refer to the adopted budget document for details of these policies.

# CITY OF KWINANA NOTES TO THE STATEMENT OF FINANCIAL ACTIVITY MAY BUDGET REVIEW 2023/2024

# NOTE 2 NET CURRENT FUNDING POSITION

			Updated		
		Adopted	Budget	<b>Estimated Year</b>	Year to Date Actual
	<b>Audited Actual</b>	Budget	Estimates	End Amount	30/04/2024
	30 June 2023	30 June 2024	30 June 2024	30 June 2024	
	\$		\$	\$	\$
Non-cash items excluded from operating activities					
The following non-cash revenue and expenditure has been excluded from	operating activitie	es			
within the Statement of Financial Activity in accordance with Financial Ma	anagement Regula	tion 32.			
Non-cash items excluded from operating activities					
Adjustments to operating activities					
Less: Profit on asset disposals	(132,518)	(43,537)	(74,504)	(38,052)	-
Less: Movement in pensioner deferred rates (non-current)	(63,507)		-	-	71,379
Movement in employee benefit provisions	(316,521)		-	-	13,911
Movement in investment property	(442,000)		-	-	-
Add: Loss on asset disposals	2,923,420	108,836	109,791	55,041	-
Add: Depreciation on assets	18,504,993	18,086,055	18,654,557	23,690,988	18,648,035
Mvmt in operating contract liabilities associated with restricted cash	175,704		(257,119)	(257,119)	96,372
Mvmt in Banksia Park deferred management fees receivable	(410,264)		-	-	-
Mvmt in Banksia Park valuation of unit contribution	2,179,975		-	-	-
Total non-cash items excluded from operating activities	22,419,282	18,151,354	18,432,725	23,450,858.78	18,829,697
Mvmt in non-operating liabilities (non-current)	-	500,000	(15,453,060)	(15,453,060)	1,918,125
Mvmt in non-operating liabilities associated with restricted cash	-	(294,380)	14,974,385	15,234,607	351,614
Total non-cash items excluded from investing activities	0	205,620	(478,675)	(218,453)	2,269,739
Total Non-cash items	22,419,282	18,356,974	17,954,050	23,232,406	21,099,436

# (b) Adjustments to net current assets in the Statement of Financial Activity

The following current assets and liabilities have been excluded from the net current assets used in the Statement of Financial Activity in accordance with *Financial Management Regulation* 32 to agree to the surplus/(deficit) after imposition of general rates.

# Adjustments to net current assets

Less: Reserves - restricted cash	(69,260,960)	(65,093,996)	(55,854,170)	(58,251,508)	(69,949,520)
Less: Financial assets at amortised cost - self supporting loans	(19,062)	(19,062)	(19,062)	(19,062)	(19,062)
Less: Banksia Park DMF Recievable	(276,305)	(252,000)	(212,269)	(262,269)	(276,305)
Add: Borrowings	2,208,899	2,240,025	2,241,044	2,241,044	1,101,088
Add: Provisions - employee	4,813,269	5,289,045	4,699,046	5,099,046	4,827,180
Add: Current portion of contract and other liability held in reserve	225,350	131,041	52,067	52,067	321,721
Add: Current portion of unspent non-operating grants, subsidies and contr	949,034	1,219,912	1,000,000	1,000,000	1,329,132
Add: Lease liabilities	146,163	112,840	144,928	144,928	69,032
Add: Banksia Park Unit Contributions	18,279,975	17,183,145	16,733,635	16,733,635	18,279,975
Total adjustments to net current assets	(42,933,637)	(39,189,050)	(31,214,781)	(33,262,119)	(44,316,759)

# CITY OF KWINANA NOTES TO THE STATEMENT OF FINANCIAL ACTIVITY MAY BUDGET REVIEW 2023/2024

# NOTE 2 NET CURRENT FUNDING POSITION

			Updated		
		Adopted	Budget	<b>Estimated Year</b>	Year to Date Actual
	<b>Audited Actual</b>	Budget	Estimates	End Amount	30/04/2024
	30 June 2023	30 June 2024	30 June 2024	30 June 2024	
	\$		\$	\$	\$
(c) Net current assets used in the Statement of Financial Activity					
Current assets					
Cash and cash equivalents	6,451,840	1,166,255	8,032,541	9,422,441	6,370,679
Financial assets - restricted	69,433,846	65,052,795	55,854,170	58,251,508	86,353,399
Other financial assets - unstricted	295,367	-	237,808	188,807	295,367
Receivables	3,861,199	2,223,129	3,684,047	3,224,567	11,939,155
Contract assets / Prepayments / Accrued Income	1,827,786	322,910	1,500,000	1,500,000	(188,894)
Total current assets	81,870,038	68,765,089	69,308,566	72,587,323	104,769,706
Current liabilities					
Trade and other payables	(7,697,275)	(20,744,553)	(9,197,275)	(8,455,284)	(7,424,550)
Contract and other liabilities	(19,755,518)	(39,575)	(20,798,642)	(21,318,642)	(18,279,975)
Unspent non-operating grants, subsidies and contributions liability	-	(1,250,000)	(1,000,000)	(1,000,000)	(1,694,462)
Lease liabilities	(146,163)	(112,840)	(144,928)	(144,928)	(69,032)
Borrowings	(2,208,899)	(2,240,025)	(2,241,044)	(2,241,044)	(1,101,088)
Employee related provisions	(4,813,269)	(5,189,046)	(4,699,046)	(5,099,046)	(4,827,180)
Total current liabilities	(34,621,124)	(29,576,039)	(38,080,935)	(38,258,944)	(33,396,287)
Less: Total adjustments to net current assets	(42,933,637)	(39,189,050)	(31,214,781)	(33,262,119)	(44,316,759)
Closing funding surplus / (deficit)	4,315,277	0	12,850	1,066,260	27,056,660

# CITY OF KWINANA NOTES TO THE STATEMENT OF FINANCIAL ACTIVITY MAY BUDGET REVIEW 2023/2024

### 2 COMMENTS/NOTES - NET CURRENT FUNDING POSITION (CONTINUED)

# SIGNIFICANT ACCOUNTING POLICIES CASH AND CASH EQUIVALENTS

Cash and cash equivalents include cash on hand, cash at bank, deposits available on demand with banks, other short term highly liquid investments that are readily convertible to known amounts of cash and which are subject to an insignificant risk of changes in value and bank overdrafts.

Bank overdrafts are shown as short term borrowings in current liabilities.

### FINANCIAL ASSETS AT AMORTISED COST

The City of Kwinana classifies financial assets at amortised cost if both of the following criteria are met:

- the asset is held within a business model whose objective is to collect the contractual cashflows, and
- the contractual terms give rise to cash flows that are solely payments of principal and interest.

#### TRADE AND OTHER RECEIVABLES

Trade and other receivables include amounts due from ratepayers for unpaid rates and service charges and other amounts due from third parties for grants, contributions, reimbursements, and goods sold and services performed in the ordinary course of business.

Trade and other receivables are recognised initially at the amount of consideration that is unconditional, unless they contain significant financing components, when they are recognised at fair value.

Trade receivables are held with the objective to collect the contractual cashflows and therefore measures them subsequently at amortised cost using the effective interest rate method.

Due to the short term nature of current receivables, their carrying amount is considered to be the same as their fair value. Non-current receivables are indexed to inflation, any difference between the face value and fair value is considered immaterial.

The City of Kwinana applies the AASB 9 simplified approach to measuring expected credit losses using a lifetime expected loss allowance for all trade receivables. To measure the expected credit losses, rates receivable are separated from other trade receivables due to the difference in payment terms and security for rates receivable.

# CONTRACT ASSETS

Contract assets primarily relate to the City of Kwinana's right to . consideration for work completed but not billed at the end of the period.

# CONTRACT LIABILITIES

Contract liabilities represent the City of Kwinana's obligation to transfer goods or services to a customer for which the City of Kwinana has received consideration from the customer.

Contract liabilities represent obligations which are not yet satisfied. Contract liabilities are recognised as revenue when the performance obligations in the contract are satisfied.

# PROVISIONS

Provisions are recognised when the City of Kwinana has a present legal or constructive obligation, as a result of past events, for which it is probable that an outflow of economic benefits will result and that outflow can be reliably measured.

Provisions are measured using the best estimate of the amounts required to settle the obligation at the end of the reporting period.

### **CURRENT AND NON-CURRENT CLASSIFICATION**

An asset or liability is classified as current if it is expected to be settled within the next 12 months, being the City of Kwinana's operational cycle. In the case of liabilities where the City of Kwinana does not have the unconditional right to defer settlement beyond 12 months, such as vested long service leave, the liability is classified as current even if not expected to be settled within the next 12 months. Inventories held for trading are classified as current or non-current based on the City of Kwinana's intentions to release for sale.

#### TRADE AND OTHER PAYABLES

Trade and other payables represent liabilities for goods and services provided to the City of Kwinana prior to the end of the financial year that are unpaid and arise when the City of Kwinana becomes obliged to make future payments in respect of the purchase of these goods and services. The amounts are unsecured, are recognised as a current liability and are normally paid within 30 days of recognition. The carrying amounts of trade and other payables are considered to be the same as their fair values, due to their short-term nature.

#### PREPAID RATES

Prepaid rates are, until the taxable event has occurred (start of the next financial year), refundable at the request of the ratepayer. Rates received in advance are initially recognised as a financial liability. When the taxable event occurs, the financial liability is extinguished and the City of Kwinana recognises revenue for the prepaid rates that have not been refunded.

# **EMPLOYEE BENEFITS**

# **Short-Term Employee Benefits**

Provision is made for the City of Kwinana's obligations for short-term employee benefits. Short-term employee benefits are benefits (other than termination benefits) that are expected to be settled wholly before 12 months after the end of the annual reporting period in which the employees render the related service, including wages, salaries and sick leave. Short-term employee benefits are measured at the (undiscounted) amounts expected to be paid when the obligation is settled.

The City of Kwinana's obligations for short-term employee benefits such as wages, salaries and sick leave are recognised as a part of current trade and other payables in the net current funding position. City of Kwinana's current obligations for employees' annual leave and long service leave entitlements are recognised as provisions in the net current funding position.

# Other long-term employee benefits

Long-term employee benefits provisions are measured at the present value of the expected future payments to be made to employees. Expected future payments incorporate anticipated future wage and salary levels, durations of service and employee departures and are discounted at rates determined by reference to market yields at the end of the reporting period on government bonds that have maturity dates that approximate the terms of the obligations. Any remeasurements for changes in assumptions of obligations for other long-term employee benefits are recognised in profit or loss in the periods in which the changes occur.

The City of Kwinana's obligations for long-term employee benefits where the City of Kwinana does not have an unconditional right to defer settlement for at least 12 months after the end of the reporting period, are presented as current provisions in the net current funding position.

# CITY OF KWINANA NOTES TO THE STATEMENT OF FINANCIAL ACTIVITY MAY BUDGET REVIEW 2023/2024

NOTE 3 PREDICTED VARIANCES

The material variance thresholds are adopted annually by Council as an indicator of whether the actual expenditure or revenue varies from the year to date budget materially.

The material variance adopted by Council for the 2023-24 year is \$50,000 or 10.00% whichever is the greater.

Reporting Program	Var. \$	Var. %	Timing/ Permanent	Explanation of Variance
	\$	%		
Revenue from operating activities		4		
Rates	344,685	, ,	Permanent	Variance due to increase in interim rates.
Grants, Subsidies and Contributions	(54,246)	3%	Permanent	Mainly due to \$59,768 operating project to be carried forward to 2024/2025.  Detail refer to Note 7.
Fees and Charges	202,072	(1%)	Permanent	\$55,598 increase in Building services building permit fees. \$25,356 increase in community facilities hire fees. \$85,000 increase in Kwinana village sale of villas to be transferred to reserve. \$73,057 increase engineering extractive industries and zoning fees. \$19,859 decrease in Koorliny art centre. \$20,260 decrease in essential services fees such as fire hazards removal. \$40,504 decrease in planning and development fees.
Interest Earnings	331,840	(7%)	Permanent	Investment interest income higher than anticipated. \$249,982 relating to reserve fund, hence the income will be transferred to reserve.
Other Revenue	472,597	(30%)	No Material Variance	\$358,349 reimbursement to be offset with expenditure increase and \$50,000 workers compensation claim to be transferred to reserve.
Profit on Disposal of Assets	(36,452)	96%	No Material Variance	
Expenditure from operating activities				
Employee Costs	(105,551)	0%	Permanent	\$100,399 increase due to workers compensation claim; funding to be transferred from reserve. \$141,922 increase in employee expenses to be offset with the reimbursement received. (\$126,060) savings from vacant positions.
Materials and Contracts	103,871	(0%)	Permanent	(\$482,842) reduction due to operating projects to be carried forward to 2024/2025. (\$234,386) waste management costs savings to be transferred to refuse reserve. \$273,523 increase due to IT software maintenance costs was omitted in previous budget review. \$158,289 facility maintenance costs increase due to higher reactive maintenance required. \$275,001 increase in city's infrastructure maintenance costs due to higher costs charged by contractors.
Utility Charges	(30,299)	1%	No Material Variance	
Depreciation on Non-Current Assets	(5,036,431)	21%	Permanent	Revaluation of assets in previous year resulting the changes in depreciation expenses.
Interest Expenses	(1,774)	0%	No Material Variance	
Insurance Expenses	(2,889)		No Material Variance	
Other Expenditure	645,566	(5%)	No Material Variance	Decrease due to adjustment of DCA 8-15 contribution refund as per final CAS schedule. Funding to be transferred from DCA reserves.
Loss on Disposal of Assets	54,750	(99%)	No Material Variance	

# CITY OF KWINANA NOTES TO THE STATEMENT OF FINANCIAL ACTIVITY MAY BUDGET REVIEW 2023/2024

NOTE 3 PREDICTED VARIANCES

The material variance thresholds are adopted annually by Council as an indicator of whether the actual expenditure or revenue varies from the year to date budget materially.

The material variance adopted by Council for the 2023-24 year is \$50,000 or 10.00% whichever is the greater.

Reporting Program	Var. \$	Var. %	Timing/ Permanent	Explanation of Variance
	\$	%		
Investing activities				
Capital Grants, Subsidies and Contributions	(113,376)	2%	Permanent/Timing	\$139,720 relating to capital projects to be carried forward to 2024/2025. Detail refer to Not 8.
Proceeds from disposal of assets	(176,683)	20%	No Material Variance	Due to various light and heavy fleet to be carried forward to 2024/2025.
Self-Supporting Loan Principal	0	0%	No Material Variance	
Purchase of Right of Use assets	0	0%	No Material Variance	
Payments for property, plant and equipment	1,574,713	12%	Permanent/Timing	\$1,571,399 to be carried forward to 2024/2025.
Financing actvities				
Proceeds from new debentures	0	0%	No Material Variance	
Repayment of debentures	0	0%	No Material Variance	
Payments for principal portion of lease liabilities	0	(0%)	Permanent	
Transfer from reserves	(1,323,305)	(6%)	Permanent	\$100,399 increase of workers compensation reserve due to workers compensation claim. \$904,724 reduction of transfer from reserves due to carried forward capital and operating projects. \$43,000 increase in strategic initiative reserve for new capital projects. Detail refer to Note 6.
Transfer to reserves	(1,074,033)	10%	Permanent	\$249,982 interest income transfer to reserve. \$199,488 relating to restricted grant and contribution reserve due to carried forward capital projects. \$500,000 transfer to asset management reserve for admin building renewal. \$234,386 increase in transfer to refuse reserve from waste management cost savings.  Detail refer to Note 6.

# CITY OF KWINANA NOTES TO THE STATEMENT OF FINANCIAL ACTIVITY MAY BUDGET REVIEW 2023/2024

INVESTING ACTIVITIES

NOTE 4
CAPITAL ACQUISITIONS

Capital acquisitions	Adopted Budget	Updated Budget Estimates	Estimated Year at End Amount	Year to Date Actual 30/04/2024
	\$			\$
Land and Buildings	2,485,973	2,367,208	2,045,328	1,727,208
Plant, Furniture and Equipment	1,441,982	1,671,408	1,139,569	890,877
Intangible Assets	789,680	976,083	876,083	582,000
Infrastructure - Roads	4,797,769	5,008,566	5,005,212	3,293,627
Infrastructure - Parks & Reserves	2,128,794	2,213,530	1,675,156	822,169
Infrastructure - Footpaths	791,500	934,224	934,224	494,239
Infrastructure - Car Parks	505,671	775,159	775,159	35,143
Infrastructure - Drainage	67,055	79,104	79,104	6,600
Infrastructure - Bus Shelters	0	12,300	12,300	10,230
Infrastructure - Street Lights	31,175	13,641	6,798	6,798
Infrastructure - Other	190,000	282,889	210,466	195,282
Payments for Capital Acquisitions	13,229,599	14,334,112	12,759,399	8,064,172
Capital Acquisitions Funded By:				
	\$	\$	\$	\$
Capital grants and contributions	3,890,976	4,668,685	3,524,120	2,138,269
Disposal of Assets	529,500	1,056,500	879,817	821,351
Cash Backed Reserves	7,254,558	4,275,260	3,549,840	0
Municipal Funds	1,554,565	4,333,667	4,805,622	5,104,552
Capital funding total	13,229,599	14,334,112	12,759,399	8,064,173

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# CITY OF KWINANA NOTES TO THE STATEMENT OF FINANCIAL ACTIVITY MAY BUDGET REVIEW 2023/2024

INVESTING ACTIVITIES NOTE 4 CAPITAL ACQUISITIONS

10

EXPENDITURE					
Project Description	Adopted	Updated	Estimated Year		Year to Date Comments
	Budget	Budget	at End Amount		Actual
		Estimates		Variance	30/04/2024
Post I dia an	\$	\$	\$	\$	\$
Buildings  Ruilding Contingency	105.000	QF 000	77 77	(42.225)	64.274 Pamaining amount to be carried forward to 2024/25
Building Contingency Admin Building Renewals	105,000 99,765	85,000 126,500		(12,225) 0	<ul><li>64,374 Remaining amount to be carried forward to 2024/25.</li><li>121,759 Budget adjusted per ongoing renovations.</li></ul>
•					
Administration Building- Upgrade/New	134,211	0		0	
Administration Building - External storerooms re-roof, insulate and waterproof	84,000	0	0	0	0
Darius Wells Library and Resource Centre - Creche Play area renewal	31,500	13,464	13,462	(2)	13,462 Project complete.
Darius Wells Library and Resource Centre - Ken Jackman operable wall replacements	21,000	20,000	10,000	(10,000)	0 Budget transfer to 23/24 Darius Wells Stormwater Runoff Upgrade project.
Sloan Cottage - Annual conservation works 2023/24	3,150	6,125		0	
Smirk Complex - Annual conservation works 2023/24 Leda Hall - External walls Cleaning and repoint mortar	5,250 7,350	6,125 7,000		0	
William Bertram Community Centre - Replacement of fencing panels	15,750	15,000		0	
John Wellard Community Centre - Replacement of fencing panels	15,750	15,000	15,000	0	7,250
John Wellard Community Centre - Replace eaves sheets	26,250	11,700	11,700	0	11,700 Project complete.
Recquatic Centre - Pool hall north and south translucent sheet replacement	69,300	66,000	66,000	0	0
Thomas Oval Netball Clubrooms - External walls repaint	7,350	0		0	
Thomas Kelly Pavilion - External walls repaint	12,600	18,584		(0)	
Business Incubator - Internal paint excluding tenants Senior Citizens Centre & Games Room - Internal walls paint requested by Tenants	18,900 23,100	18,807 23,054		3,000 0	
Serior Citizens Centre & Games Room - internal wans paint requested by Tenants	23,100	23,054	23,034	U	20,007
William Bertram Community Centre - annual internal painting program	7,350	7,337	7,337	(1)	7,337 Project complete.
Recquatic Centre - annual internal painting program	10,500	0		0	
Recquatic Centre - External wall structure review and paint	21,000	30,000		0	
Darius Wells Library and Resource Centre - annual internal painting program	10,500	10,000		3,108	
Thomas Kelly Pavilion - annual internal painting program	8,400	8,397		0	•
John Wellard Community Centre - annual internal painting program  Recquatic Centre - Replace hydro pool liner & fix water leak in balance tank	8,400 315,000	8,000 324,750		0	
Kwinana Business Incubator - FCU-2 Suite 2 Open Plan & A/C6 HR Office Right	26,250	25,000		0	
Smirk Cottage - Rear Patio Evaporative Cooler Replacement	6,300	8,630		0	,
Darius Dome - Coolroom/freezer CR-010 & FR-01 - FAIR CONDITION	16,800	16,000		(16,000)	
Darius Dome - kitchen Evap Cooler EVC-R-01 - FAIR (24/25)	15,750	15,000		(15,000)	
Darius Wells Library and Resource Centre - C-Bus Lighting Control screens behind the reception desk	5,250	2,370	2,370	(0)	2,172
Fiona Harris Pavilion - Replace upstairs stove with domestic style	5,775	5,500	6,564	1,064	6,564 Project complete.
John Wellard Community Centre - Replace blinds	12,600	12,000		0	
William Bertram Community Centre - Replace blinds	12,600	12,000		0	0
William Bertram Community Centre - Security renewals	26,250	25,000	27,015	2,015	27,015 Project complete.
Fiona Harris Pavilion - Security renewals & Upgrade	36,750	35,000	38,240	3,240	38,240 Project complete.
William Bertram Community Centre - Carpet//vinyl replacement /audio loop	47,250	45,000	45,000	0	0
Recquatic Centre - Stadium annual floor maintenance program	10,500	9,520		0	
John Wellard - Foyer carpet replacement	18,900	25,500		0	
Fiona Harris Pavilion - Sand and seal first floor wooden floor	4,725	2,924		0	
Wellard Pavilion Changerooms - 2 pack paint Recquatic Creche Outdoor Area Soft Fall	10,500 45,000	5,332 45,000		(0) 0	
Kwinana Recquatic studio flooring	45,000	45,000		(0)	
Recquatic - Minor Upgrades - Changeroom Cubical	14,720	29,440		(14,720)	
Kwinana Senior Citizen Centre - painting/lighting and removal of wall between front	25,000	25,000	25,000	(0)	12,583
entrance and office	457.000	445.550			
Sub-Regional Sporting Ground (Thomas Oval/Kelly Park Extension/Upgrade)	157,938	116,650 61 642		0	
C/F Rhodes Park Accessible Public Toilet C/F DCA12 Wellard West Community Centre/Clubroom design	60,000 210,000	61,642 232,850		0	
C/F Kwinana South VBFB Station Ext	2,079	232,850 17,503		(0)	
2,	2,073	17,503	17,302	(0)	,
C/F Kwinana South VBFB	25,000	0	0	0	0
C/F DCA9 Honeywood Pavilion	9,750	45,095	48,487	3,392	48,487 Budget adjusted for artist works.
C/F Animal Care Facility Refurbishment	60,350	0		0	
C/F Mini Golf Course Kiosk and Toilets	270,000	270,000		(270,000)	
C/F Challenger Beach Ablutions	170,000	178,022		0	
C/F Recquatic Centre - mechanical renewal	73,560	73,560		0	
C/F Wells Park Public Toilets - rust treatment	0	12,329		0	
C/F Wells Park Public Toilets - roof C/F Darius Wells - painting	0	22,360 14,814		0	
C/F Darius Wells - painting C/F Recquatic Centre - painting	0	14,814 17,487		0	
C/F Sloan Cottage - renewal and accessibility	0	17,487		0	
Darius Wells plantroom roof pest barrier	0	12,875		0	
Senior Centre - Upgrade Lighting to LED	0	10,963		(0)	
Recquatic Centre - Roof replacement (Reception to Group Fitness)	0	61,000		(0)	
Recquatic - Hydrotherapy Chiller AC Replacement	0	10,000		(9,753)	
23/24 Darius Wells Stormwater Runoff Upgrade	0	0	10,000	10,000	
					operable wall replacements
Buildings Total	2,485,973	2,367,208	2,045,328	(321,881)	1,727,208
	_, .00,513	2,007,200	_,013,320	(011,001)	, ,,

# CITY OF KWINANA NOTES TO THE STATEMENT OF FINANCIAL ACTIVITY MAY BUDGET REVIEW 2023/2024

INVESTING ACTIVITIES NOTE 4 CAPITAL ACQUISITIONS

EXPENDITURE					
Project Description	Adopted	Updated	Estimated Year		Year to Date Comments
r roject Destription	Budget	Budget	at End Amount		Actual
		Estimates		Variance	30/04/2024
No. 2 Constant	\$	\$	\$	\$	\$
Plant, Furniture and Equipment Furniture and Equipment					
Furniture and Fittings Renewal	20,400	23,900	23,900	0	21,863
Community Resource Centres Equipment Renewal	25,500	50,000	50,000	0	0
C/F Recquatic Plant renewal	0	7,580	7,580	0	7,580
0/50		25.045	05.045		
C/F Recquatic Equipment renewal	0	25,846	25,846	0	25,846
Computing Equipment IT-Server Replacement	100,000	100,000	0	(100,000)	0 Project to be carried forward to 2024/25.
Corporate Business System	689,680	876,083		0	582,000
Plant and Equipment					
Plant Replacement Program	846,582	891,582	410,672	(480,910)	410,672 \$410K to be carried forward to 2024/25.
Motor Vehicles	549,500	672 500	621 571	(50.030)	424,916 \$60K to be carried forward to 2024/25.
Plant Replacement Program - Light Fleet  Plant , Furniture and Equipment Total	<b>2,231,662</b>	672,500 <b>2,647,491</b>	621,571 <b>2,015,652</b>	(50,929) ( <b>631,839</b> )	424,916 \$60K to be carried forward to 2024/25.
riant, runnture and Equipment Total	2,231,002	2,047,431	2,013,032	(031,033)	1,472,077
Park and Reserves					
C/F Kwinana Loop Trail Upgrade	216,215	237,319	83,462	(153,857)	45,408
C/F Parks & Reserves Renewal works as per forward works program	252,452	40,465	40,465	0	38,780
C/F Brandon Mews Playground renewal	0	30,500	30,500	0	0
C/F Oakfield Park Playground renewal	0	35,452	35,452	0	0
C/F Parks Upgrade Apex Park	136,227	103,500		(103,500)	0 Project to be carried forward to 2024/25.
Streetscape Strategy	153,000	107,400		0	107,400
Urban Tree Planting  Parks and Reserves - Wellard Village #2 - Bore Works - Flectrical	188,700 22,600	167,430 0		0	2,400
Parks and Reserves - Wellard Village #2 - Bore Works - Electrical  Parks and Reserves - Recquatic - Bore Works - Electrical	22,600	17,936		0	17,936
Parks and Reserves - Rutherford Park - Bore Works - Electrical	22,600	16,137	16,138	1	16,138
Parks and Reserves - Centennial Park - Bore Works - Electrical	22,600	22,600		(0)	16,081
Parks and Reserves - Bertram School Oval - Bore Works - Electrical	22,600	22,600		(0)	16,138
Parks and Reserves - Berry Park - Bore Works - Electrical	22,600	17,106	17,106	0	17,106
Parks and Reserves - Wellard Village 1 - Bore Works - Electrical	22,600	10,256	10,257	1	10,257
Parks and Reserves - Rutherford Park - Bore Equipment - Bore Hole	32,500	500	0	(500)	0 Works not required.
Parks and Reserves - Rutherford Park - Bore Equipment - Pump	14,000	0	0	0	0
Parks and Reserves - Orelia Oval - Bore Equipment - Pump	14,000	0		0	0
Parks and Reserves - Wellard Oval - WELLARD #1 - Iron Filter	80,000	80,000		0	78,850
Parks and Reserves - Abingdon Park - Recirculation System	75,000	75,000	0	(75,000)	0 Project to be carried forward to 2024/25.
Parks and Reserves - Chillenger Peach - Engine	12,000	12,000		1 0	11,198 0
Parks and Reserves - Challenger Beach - Fencing  Parks and Reserves - Challenger Beach - Gate - Heavy Duty - Fencing	35,000 8,500	35,000 0		0	0
Parks and Reserves - Skottowe Park - Fencing	40,000	40,000		0	0
Wells Park - Southern Carpark	0	8,500		0	0
Borthwick - Bore Works - Electrical	0	22,600		0	0
Parks and Reserves - Chipperton- Bore Electrical	0	20,000	20,000	0	0
Parks and Reserves - Calista Oval - Bore Headworks	0	10,000	10,000	0	0
Parks and Reserves - Gilmore 1 - Bore Headworks	0	10,000	10,000	0	0
Parks and Reserves - Thomas Rd 2 Bore Electrical	0	10,000	10,000	0	0
Parks and Reserves - Orelia Oval - Bore Headworks	0	10,000	10,000	0	0
Fertigation Orelia Oval - <b>LRCI 4</b>	20,000	15,275		0	15,275
POS Assets - Mandogalup Fire Station Reserve - Playgrounds	8,000	8,000		0	75
POS Assets - Wandi Reserve - Playgrounds	47,100	47,100		(0)	46,275
POS Assets - Robbins Retreat / Riley POS - Playgrounds POS Assets - Sandringham Park - Playgrounds - LRCI 4	30,000 200,000	30,000 200,000		2,683 (200,000)	32,683 Project complete.  O Project to be carried forward to 2024/25.
POS Assets - Sandringnam Park - Playgrounds - LRCI 4  POS Assets - Wellard Park Playground 1 - Playgrounds	60,000	60,000		(200,000)	0 Project to be carried forward to 2024/25.
POS Assets - Wellard Park Playground 2 - Playgrounds	70,000	70,000		0	95
POS Assets - Skate Park - Playground Renewal	10,000	0		0	0
POS Assets - Kwinana Adventure Park - Playground Renewal	100,000	158,580		(0)	67,946
POS Assets - The Spectacles - Signage	1,900	0		0	0
POS Assets - Various - Garden Bed Kerbing	10,000	10,000	10,000	0	0
Ince Court Playground Edging Renewal	0	10,000	10,000	0	9,107
Millbrook Playground Renewal	0	43,000		0	39,450
Litchfield Playground Renewal	0	50,000		0	37,300
Sandringham Park Upgrade	44,000	39,600		(39,600)	0 Project to be carried forward to 2024/25.
Gamblin Way Island Upgrade	15,000	13,500		0	0
Ince Court Island Upgrade  Oakfield Park Upgrade	15,000 22,000	0 33,300	0 33,300	0	0
Honeywood Oval - Pump Track Wandi Youth - LRCI 4	60,000	60,000		0	0
C/F Wellard Oval Lighting Installation	00,000	11,383		0	11,383
Parks Upgrade Rhyley POS	0	0	0	0	0
C/F Calista Oval Bike Track	0	79,583		(0)	79,583
C/F Gilmore Oval Cricket Net Lights	0	0	0	0	0
Wellard 4 Iron Filtration Unit Reallocation	0	65,000	65,400	400	65,400 Project complete.
Moonstone POS Butterfly Press Replacement	0	7,000	7,000	0	0
Ascot Park	0	3,407		(0)	3,407
C/F The Grove Event Site - upgrade infrastructure	0	36,501		(0)	36,501
Honeywood Oval Cricket Pitch Cover Mats	0	0	11,000	11,000	O Project supported by Council and funding to be from strategic initiative reserve.
Medina Green Upgrade	0	0	20,000	20,000	0 Project supported by Council and funding to be from strategic initiative reserve.
			-,	-,	
			_		
Parks and Reserves Total	2,128,794	2,213,530	1,675,156	(538,374)	822,169

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# CITY OF KWINANA NOTES TO THE STATEMENT OF FINANCIAL ACTIVITY MAY BUDGET REVIEW 2023/2024

INVESTING ACTIVITIES
NOTE 4
CAPITAL ACQUISITIONS

EXPENDITURE						
	A-l-	I local	Fatimet LV		V.	
Project Description	Adopted Budget	Updated Budget	Estimated Year at End Amount		Year to Date Actual	Comments
		Estimates		Variance	30/04/2024	
	\$	\$	\$	\$	\$	
Roads						
Road Renewals	70 500	47.504	47.504	(0)	47.504	
C/F Road Renewal Chilcott Place C/F Road Renewal Chilcott Street	79,500 155,000	47,504 140,352		(0) 0	47,504 140,352	
Matson St, Medina - resurfacing - LRCI 4	290,000	425,000		(71)	364,357	
Colchester Ave, Orelia - Pavement rehabilitation - LRCI 4	175,000	127,402		(0)	101,152	
Honeywood Ave, Wandi (NB) - Pavement rehabilitation	125,000	98,250		(0)	81,778	
Postans Road, Hope Valley - resurfacing	110,000	16,500	16,500	0	0	
Bodeman Road, Wandi - resurfacing	40,000	96,700	96,700	0	81,712	
Leslie Road, Wandi - resurfacing	126,000	141,700	141,700	0	118,798	
Frayne Place, Wandi - Resurfacing	30,000	33,415		0	23,436	
Reilly Street, Orelia - resurfacing	100,000	102,073		0	0	
Valle Court, Wandi - resurfacing	35,000	36,750		0	393	
Melaleuca CI, Casuarina resurfacing  MRRG Road Renewals	45,000	47,250	47,250	0	869	
MRRG - Mandurah Rd (A) - Butcher St to Richardson St - NB	275,000	307,036	303,752	(3,284)	262,502	
MRRG - Johnson Rd - Heathcote Way & Britannia Way	425,000	514,111		(0)	467,265	
MRRG - Gilmore Ave - Whitebread Way & Dalrymple Drive	205,622	276,220		(0)	248,748	
MRRG - Mandurah Rd (C) - Beach Rd & Wellard Rd	536,593	444,924		0	281,743	
Blackspot Program	•	•	•		•	
Blackspot - Challenger Ave - Challenger Ave & Parmelia Ave	183,000	192,150	192,150	0	32,673	
Blackspot - Challenger Ave - Challenger Ave & Warmer Rd & Amherst St	153,000	160,650	160,650	(0)	61,397	
Blackspot - Gilmore Avenue - Wellard Rd/Henley Bvd Roundabout	265,000	278,250	278,250	(0)	179,396	
C/F Blackspot Parmelia Avenue	641,472	638,703	638,703	0	159,631	
Road Reseal Renewals - Roads to Recovery					_	
R2R - Westbrook St, Medina (From Summerton Road to Wellard Road)	420,000	382,500		0	311,449	
R2R - Harley Way, Medina	265,000	371,210	371,210	0	328,471	
Traffic Management  C/F Traffic Mgt Abingdon Croscopt	0.000	0.000	0	10 (20)	2	Works not required Rudget transferred to mines traffic in
C/F Traffic Mgt Abingdon Crescent C/F Traffic Mgt Feilman Dr	8,636 1,136	8,636 1,136		(8,636) (1,136)		Works not required. Budget transferred to minor traffic improvement.  Works not required. Budget transferred to minor traffic improvement.
C/F Traffic Mgt Leda Primary	11,136	1,136		(1,130)	0	works not required. Budget transferred to minor tranic improvement.
Traffic Mgt Marri Park Drive-Intersection improvement	50,000	7,500		0	0	
Traffic Mgt Djilba View-Safety improvement	20,000	73,500		0	0	
Minor traffic improvement	26,674	28,008		9,772	0	Budget transferred from Abingdon Crescent and Feilman Dr traffic management
			•			projects.
Roads Total	4,797,769	5,008,566	5,005,212	(3,354)	3,293,627	
Street Lighting						
Street Lighting New	31,175	13,641	6,798	(6,843)	6,798	Project to be carried forward to 2024/25.
Street Lighting Total	31,175	13,641		(6,843)	6,798	
Bus Shelter Construction						
C/F Bus Shelters - Renewal	0	12,300		0		
Bus Shelter Construction Total	0	12,300	12,300	0	10,230	
Footpath Construction						
C/F Footpaths Chilcott Place	16,500	13,173	13,173	(0)	13,173	
Footpath -Nannup Street-Laneway Between Nannup Street and Medina Carpark	25,000	26,250		0		
Footpath - Gilmore Ave Shared path Construction - Chisham Ave to Wellard Rd	750,000	894,801	894,801	0	481,066	
Footpath Construction Total	791,500	934,224	934,224	0	494,239	
Drainage Construction						
C/F DCA 1 Stormwater Management Infrastructure	6,600	6,600		0		
C/F Drainage Chilcott Street - from Harlow Rd to Gilm	20,455	30,504		0	0	
Pace Road car park drainage upgrade	40,000	42,000		0	0	
Drainage Construction Total	67,055	79,104	79,104	0	6,600	
Car Park Construction						
C/F Carpark - Pace Road LRCI 4	438,653	736,306	736,306	0	6,343	
Smirk Cottage - Extra Parking Bays at Smirk Cottage LRCI 4	67,018	38,853	38,853	0	28,800	
Car Park Construction Total	505,671	775,159	775,159	0	35,143	
Other Infrastructure						
C/F Revitalising the Strand in Wellard	50,000	50,000	0	(50,000)	0	Project to be carried forward to 2024/25.
C/F Mural Arts Program	20,000	20,000		566	20,566	
C/F Enhance CCTV network/Purchase a Mobile CCTV Unit	50,000	86,000		(40,696)		Project to be carried forward to 2024/25.
C/F Ascot Park (Bertram) Mural	10,000	10,000		0	10,000	
C/F Mortimer Road Entry Statement	25,000	5,590	5,590	0	5,590	
Procurement of EV charging points	25,000	25,000		0	21,816	
Wandi Sporting Facility - Baseball diamond and net	10,000	61,271	66,978	5,707	66,978	Project complete. Actual cost incurred higher than anticipated.
C/F Homestead Ridge Water Fountain for dogs and kids	0	25,028	25,028	0	25,028	
Kwinana Tennis Club Lighting Project	0	25,028		12,000		Project supported by Council and funding to be from strategic initiative reserve.
	· ·	O	22,000	12,000	Ü	
Other Infrared Control of Table 1		222	212	/==	400	
Other Infrastructure Total	190,000	282,889	210,466	(72,423)	195,282	
Capital Expenditure Total	13,229,599	14,334,112	12,759,399	(1,574,713)	8,064,172	

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Ordinary Council Meeting

CITY OF KWINANA

NOTES TO THE STATEMENT OF FINANCIAL ACTIVITY

MAY BUDGET REVIEW 2023/2024

FINANCING ACTIVITIES

NOTE 5

CASH RESERVES

Cash backed reserve		Δ	Adopted Budge	et .			Updated Budget Estimates				Estimated Year at End Amount				
Reserve name	Opening Balance	Budget Interest Earned	Budget Transfers In (+)	Budget Transfers Out (-)	Budget Closing Balance	Opening Balance	Budget Interest Earned	Budget Transfers In (+)	Budget Transfers Out (-)	Budget Closing Balance	Opening Balance	Budget Interest Earned	Budget Transfers In (+)	Budget Transfers Out (-)	Budget Closing Balance
Municipal Reserves	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Aged Persons Units Reserve	775,069	27,442	195,005	(190,000)	807,516	821,481	41,942	55,118	0	918,541	821,481	41,942	28,399	0	891,822
Asset Management Reserve	2,198,759	148,750	1,109,275	(1,370,052)	2,086,732	2,966,020	144,731	2,609,275	(1,383,266)	4,336,760	2,966,020	257,948	3,109,275	(1,374,560)	4,958,683
Banksia Park Reserve	209,946	7,284	74,125	(90,000)	201,355	331,297	15,676	0	(47,608)	299,365	331,297	15,676	11,022	0	357,995
City Infrastructure Reserve	966,351	33,118	0	(957,120)	42,349	981,731	44,727	0	(909,122)	117,336	981,731	31,606	0	(852,218)	161,119
Community Services & Emergency Relief Res	336,774	11,620	0	0	348,394	344,018	15,327	0	0	359,345	344,018	17,463	0	0	361,481
Contiguous Local Authorities Group Reserve	268,196	9,296	29,200	(77,500)	229,192	266,110	12,793	31,207	(39,795)	270,315	266,110	12,793	38,176	(38,176)	278,903
Employee Leave Reserve	2,656,458	103,496	0	0	2,759,954	2,955,674	132,509	0	0	3,088,183	2,955,674	55,981	0	0	3,011,655
Employee Vacancy Reserve	872,827	17,690	0	(353,244)	537,273	876,683	34,428	0	(353,244)	557,867	876,683	39,828	0	(353,244)	563,267
Family Day Care Reserve	9,889	0	0	0	9,889	0	0	0	0	0	0	0	0	0	0
Golf Course Cottage Reserve	30,552	1,040	0	0	31,592	30,779	1,369	0	0	32,148	30,779	1,560	0	0	32,339
Golf Club Maintenance Reserve	27,826	602	0	0	28,428	31,198	1,347	5,082	(5,082)	32,545	31,198	1,540	5,082	(5,082)	32,738
Information Technology Reserve	408,430	18,802	520,000	(689,680)	257,552	409,658	16,833	820,000	(689,680)	556,811	409,658	16,833	820,000	(689,680)	556,811
Plant and Equipment Replacement Reserve	896,780	11,190	669,500	(1,396,082)	181,388	992,589	37,021	1,314,500	(1,571,662)	772,448	992,589	43,071	1,137,697	(1,065,669)	1,107,688
Public Art Reserve	306,947	10,516	0	(250,000)	67,463	366,712	14,224	0	(250,000)	130,936	366,712	14,224	0	(213,953)	166,983
Public Open Space	329,945	11,260	0	(103,500)	237,705	332,381	14,758	0	(103,500)	243,639	332,381	16,821	0	0	349,202
Refuse Reserve	5,230,772	176,228	0	(48,558)	5,358,442	5,241,136	285,960	84,639	0	5,611,735	5,241,136	285,960	319,025	0	5,846,121
Renewable Energy Efficiency Reserve	86,870	1,474	0	(16,000)	72,344	87,480	3,968	0	(23,000)	68,448	87,480	3,968	0	(29,000)	62,448
Restricted Grants & Contributions Reserve	951,405	0	0	(896,525)	54,880	1,386,297	0	50,000	(969,261)	467,036	1,386,297	0	249,488	(1,037,362)	598,423
Settlement Agreement Reserve	141,383	5,938	0	0	147,321	307,428	8,018	0	0	315,446	307,428	8,018	0	0	315,446
Strategic Property Reserve	455,369	17,296	0	(270,000)	202,665	474,039	16,967	471,375	(270,000)	692,381	474,039	15,199	471,375	0	960,613
Workers Compensation Reserve	686,976	19,324	0	(224,286)	482,014	473,288	26,158	168,183	0	667,629	473,288	26,158	218,183	(100,399)	617,230
Strategic Initiative Reserve	0	16,722	342,443	(20,000)		0	455	449,735	0	450,190	0	9,639	475,444	(164,000)	321,083
Election Expense Reserve	0	0	82,500	0		0	0	82,500	0	82,500	0	1,768	82,500	0	84,268
Valuation Expense Reserve	0	0	110,000	0		0	0	80,000	0	80,000	0	1,715	80,000	0	81,715
Sub-Total Municipal Reserves	17,847,525	649,088	3,132,048	(6,952,547)	14,144,449	19,675,999	869,211	6,221,614	(6,615,220)	20,151,604	19,675,999	919,711	7,045,666	(5,923,343)	21,718,033

Ordinary Council Meeting

CITY OF KWINANA

NOTES TO THE STATEMENT OF FINANCIAL ACTIVITY

MAY BUDGET REVIEW 2023/2024

FINANCING ACTIVITIES

NOTE 5

CASH RESERVES

Cash backed reserve		А	dopted Budge	t		Updated Budget Estimates					Estimated Year at End Amount				
Reserve name	Opening Balance	Budget Interest Earned	Budget Transfers In (+)	Budget Transfers Out (-)	Budget Closing Balance	Opening Balance	Budget Interest Earned	Budget Transfers In (+)	Budget Transfers Out (-)	Budget Closing Balance	Opening Balance	Budget Interest Earned	Budget Transfers In (+)	Budget Transfers Out (-)	Budget Closing Balance
Developer Contribution Reserves	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
DCA 1 - Hard Infrastructure - Bertram	2,104,048	59,762	60,533	(21,725)	2,202,618	1,957,278	73,692	60,533	(36,399)	2,055,104	1,957,278	88,468	60,533	(30,466)	2,075,813
DCA 2 - Hard Infrastructure - Wellard	1,750,232	71,152	60,533	(15,125)	1,866,792	1,792,021	83,035	60,533	(23,199)	1,912,390	1,792,021	89,603	60,533	(23,866)	1,918,291
DCA 3 - Hard Infrastructure - Casuarina	85,860	0	60,533	(15,125)	131,268	93,039	3,127	60,533	(33,885)	122,814	93,039	3,372	60,533	(34,552)	122,392
DCA 4 - Hard Infrastructure - Anketell	2,124,076	83,188	60,533	(15,125)	2,252,672	2,762,855	123,824	60,533	(434,456)	2,512,756	2,762,855	134,937	60,533	(435,123)	2,523,202
DCA 5 - Hard Infrastructure - Wandi	2,215,223	76,334	60,533	(15,125)	2,336,965	2,220,211	96,854	60,533	(23,199)	2,354,399	2,220,211	103,199	60,533	(23,866)	2,360,077
DCA 6 - Hard Infrastructure - Mandogalup	5,554,826	160,190	60,533	(15,125)	5,760,424	5,868,791	265,843	60,533	(23,199)	6,171,968	5,868,791	323,639	60,533	(23,866)	6,229,097
DCA 7 - Hard Infrastructure - Wellard West	108,061	3,216	60,533	(15,125)	156,685	105,059	4,724	60,533	(23,199)	147,117	105,059	5,577	60,533	(23,866)	147,303
DCA 8 - Soft Infrastructure - Mandogalup	3,886,999	120,998	60,533	(15,125)	4,053,405	4,161,796	164,099	60,533	(2,833,199)	1,553,229	4,161,796	178,782	60,533	(2,753,251)	1,647,860
DCA 9 - Soft Infrastructure - Wandi/Anketell	11,241,548	485,152	152,533	(24,875)	11,854,358	11,489,949	493,604	152,533	(5,838,277)	6,297,809	11,489,949	514,192	152,533	(5,336,504)	6,820,170
DCA 10 - Soft Infrastructure - Casuarina/Anketell	173,578	7,480	60,533	(15,125)	226,466	176,829	8,103	60,533	(62,700)	182,765	176,829	8,525	60,533	(63,268)	182,619
DCA 11 - Soft Infrastructure - Wellard East	5,968,997	241,236	60,533	(15,125)	6,255,641	6,060,057	226,364	60,533	(4,495,504)	1,851,450	6,060,057	246,670	60,533	(3,948,313)	2,418,947
DCA 12 - Soft Infrastructure - Wellard West	11,370,728	430,482	60,533	(225,137)	11,636,606	11,312,966	475,451	60,533	(2,898,520)	8,950,430	11,312,966	519,284	60,533	(2,906,045)	8,986,738
DCA 13 - Soft Infrastructure - Bertram	247,980	10,440	60,533	(15,125)	303,828	251,563	11,990	60,533	(23,199)	300,887	251,563	12,752	60,533	(23,866)	300,982
DCA 14 - Soft Infrastructure - Wellard/Leda	916,107	37,024	60,533	(15,125)	998,539	998,967	44,682	60,533	(21,213)	1,082,969	998,967	44,062	60,533	(513,074)	590,488
DCA 15 - Soft Infrastructure - City Site	322,864	13,344	60,533	(15,125)	381,616	333,576	13,234	60,533	(200,865)	206,478	333,576	15,045	60,533	(199,659)	209,495
Sub-Total Developer Contribution Reserves	48,071,127	1,799,998	999,995	(453,237)	50,417,883	49,584,957	2,088,627	999,995	(16,971,013)	35,702,566	49,584,957	2,288,108	999,995	(16,339,585)	36,533,475
Total Reserves	65,918,651	2,449,086	4,132,043	(7,405,784)	64,562,331	69,260,956	2,957,838	7,221,609	(23,586,233)	55,854,170	69,260,956	3,207,819	8,045,661	(22,262,928)	58,251,508

# CITY OF KWINANA NOTES TO THE STATEMENT OF FINANCIAL ACTIVITY MAY BUDGET REVIEW 2023/2024

FINANCING ACTIVITIES

NOTE 6

BORROWINGS

Repayments - borrowings Information on borrowings			Princ Repay	•			Princ Outsta	•		Interest Repayments				
Particulars	Opening Balance 1 July 2023	Adopted Budget	Current Budget	Revised Budget	Actual	Adopted Budget	Current Budget	Revised Budget	Actual	Adopted Budget	Current Budget	Revised Budget		
Governance	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$		
Loan 99 - Administration Building Renovations	251,990	(122,119)	(122,119)	(122,119)	(60,120)	129,871	129,871	129,871	191,870	(15,914)	(15,914)	(15,914)		
Education and welfare														
Loan 100 - Youth Specific Space	848,053	(154,323)	(154,323)	(154,323)	(76,271)	693,730	693,730	693,730	771,782	(43,763)	(43,763)	(43,763)		
Recreation and culture														
Loan 97 - Orelia Oval Pavilion Extension	557,581	(270,214)	(270,214)	(270,214)	(133,029)	287,367	287,367	287,367	424,552	(35,214)	(35,214)	(35,214)		
Loan 102 - Library & Resource Centre	4,845,195	(719,686)	(719,686)	(719,686)	(355,805)	4,125,509	4,125,509	4,125,509	4,489,390	(245,182)	(245,182)	(245,182)		
Loan 104 - Recquatic Refurbishment	2,481,886	(313,364)	(313,364)	(313,364)	(155,111)	2,168,522	2,168,522	2,168,522	2,326,775	(114,225)	(114,225)	(114,225)		
Loan 105 - Bertram Community Centre	920,455	(124,005)	(124,005)	(124,005)	(92,626)	796,450	796,450	796,450	827,829	(34,566)	(34,566)	(34,566)		
Loan 106 - Destination Park - Calista	1,004,579	(112,313)	(112,313)	(112,313)	(55,719)	892,266	892,266	892,266	948,860	(37,513)	(37,513)	(37,513)		
Transport														
Loan 98 - Streetscape Beautification	340,186	(164,861)	(164,861)	(164,861)	(81,162)	175,325	175,325	175,325	259,024	(21,484)	(21,484)	(21,484)		
Loan 101B - City Centre Redevelopment	2,145,800	(240,078)	(240,078)	(240,078)	(240,078)	1,905,722	1,905,722	1,905,722	1,905,722	(41,954)	(41,954)	(41,954)		
	13,395,725	(2,220,963)	(2,220,963)	(2,220,963)	(1,249,922)	11,174,762	11,174,762	11,174,762	12,145,803	(589,815)	(589,815)	(589,815)		
Self supporting loans Recreation and culture														
Loan 103B - Golf Club Refurbishment	196,413	(19,062)	(19,062)	(19,062)	(9,452)	177,351	177,351	177,351	186,961	(7,701)	(7,701)	(7,701)		
	196,413	(19,062)	(19,062)	(19,062)	(9,452)	177,351	177,351	177,351	186,961	(7,701)	(7,701)	(7,701)		
Total	13,592,138	(2,240,025)	(2,240,025)	(2,240,025)	(1,259,374)	11,352,113	11,352,113	11,352,113	12,332,764	(597,516)	(597,516)	(597,516)		
Current borrowings	2,696,235					2,696,235		2,696,235						
Non-current borrowings	10,895,903					8,655,878	-	8,655,878						
	13,592,138					11,352,113		11,352,113						

<sup>\*</sup>City Centre Redevelopment loan has been refinanced Sep 21

# **KEY INFORMATION**

All loans and borrowings are initially recognised at the fair value of the consideration received less directly attributable transaction costs. After initial recognition, interest-bearing loans and borrowings are subsequently All debenture repayments were financed by general purpose revenue.

Self supporting loans are financed by repayments from third parties.

# CITY OF KWINANA NOTES TO THE STATEMENT OF FINANCIAL ACTIVITY MAY BUDGET REVIEW 2023/2024

# NOTE 7 OPERATING GRANTS AND CONTRIBUTIONS

	Provider	Adopted Budget	Updated Budget Estimates (a)	Estimated Year at End Amount (b)	Predicted Variance (a) - (b)	Year to Date Actual 30/04/2024	Comments
		\$	\$	\$	\$	\$	Comments
eneral	purpose funding				•		
	Local Government General Purpose Grant	1,140,000	52,503	52,503	0	39,377	
	Local Government General Purpose Grant - Roads	956,667	49,178	49,178	0	36,884	
aw, ord	der, public safety						
	Department Fire and Emergency Services - ESL	151,741	202,290	202,290	0	201,387	
	DFES Mitigation Activity Fund Grant	200,000	34,768	0	(34,768)	0	Funding to be expended in 24/25.
	DFES - All WA's Reducing Emergencies Grant - Open Day Event	0	14,154	14,154	0	14,154	
ealth							
zaitii	Mosquito Management Contributions (CLAG)	25,000	31,207	38,176	6,969	31.774	Minor increase based on actuals.
	Department of Health - Larvicide	4,200	0	0	0		Funding not required for 23/24.
ducatio	on and welfare						
	Banksia Park Operating Cost Contribution	369,720	369,720	369,720	0	338,910	
	Aboriginal Resource Centre - Subsidy - Department of Communities	30,514	30,514	31,498	984	31,498	Minor increase per new agreement.
	NGALA My Time Program	10,560	11,704	11,704	0	12,540	
	Youth Social Justice Program	180,000	195,932	195,932	0	195,932	
	Youth Leadership and Development LYRIK (Alcoa Grant)	10,000	10,000	10,000	0	10,000	
	Youth Leadership and Development LYRIK (Coogee Chemical Sponsorship)	20,000	20,000	20,000	0	20,000	
	ArcLight Initiative - Federal Grant via Curtin University	0	150,000	150,000	0	75,000	
ommu	nity amenities						
	PTA Bus Shelter Subsidy	11,000	11,000	11,000	0	11,232	
	RAC WA-Calista Oval Bike Program	0	10,000	10,000	0	0	
	Depart of Transport - Active Travel Officer	56,250	56,250	56,250	0	56,250	
	Kwinana Trails Network Master Plan- DLGSC	0	25,000	0	(25,000)	0	Funding to be expended in 24/25.
	Kwinana Club Network Scheme - DLGSC	0	10,000	10,000	0	10,000	
	Dept Communities - Thank a Volunteer Day - Voices of Volunteering	0	1,000	1,000	0	1,000	
	Volunteering WA - National Volunteer Week Grant	0	0	3,140	3,140	•	Funding achieved for an additional volunteer event.
ecreati	ion and culture						
	Shared Use Agreements	0	118,668	137,599	18,931	•	Based on CPI increase and reimbursement of additional works.
	Koorliny Arts Centre Management - Misc Grants	0	20,000	10,000	(10,000)	0	Funding not achieved for 23/24.
	Koorliny Arts Centre Management - Sponsorships	0	12,000	0	(12,000)	0	Funding not achieved for 23/24.
	Koorliny Arts Centre Management - Contributions and donations	0	2,381	482	(1,899)	481	Minor decrease based on actuals.
	Library - Other donations	2,000	1,179	783	(396)	136	Minor decrease based on actuals.
	Event Sponsorship	40,000	40,000	40,000	0	10,000	
	Event Sponsorship - Lolly Run	10,000	10,000	10,000	0	10,000	
	Community Development Fund - Kwinana Industries Council	20,000	20,000	20,000	0	6,500	
	Main Roads WA - Maximising indigenous Participation as per City's Reconciliation Action Plan	100,000	100,000	100,000	0	100,000	
	Recquatics- Royal Lifesavings Sponsorship	10,000	10,400	10,192	(208)	10,192	Minor decrease based on actuals.
anspo	ort						
•	Main Roads Annual Direct Grant	223,845	241,487	241,487	0	241,487	
	Main Roads Street Light Subsidy	6,200	6,200	6,200	0	0	
	Main Roads Verge Maintenance Contribution	0	138,238	138,238	0	69,119	
OTALS		3,577,697	2,005,772	1,951,526	(54,247)	1,644,828	

# CITY OF KWINANA NOTES TO THE STATEMENT OF FINANCIAL ACTIVITY MAY BUDGET REVIEW 2023/2024

# NOTE 8 NON-OPERATING GRANTS AND CONTRIBUTIONS

	Adopted	Budget Estimates	Estimated Year at End Amount	Predicted Variance	Year to Date Actual	
Provider	Budget	(a) \$	(b) \$	(a) - (b) Ś	30/04/2024	Comments
Recreation and culture	\$	<b>\$</b>	\$	\$	\$	
Local Roads and Community Infrastructure Program (Phase 4)						
POS Assets - Sandringham Park - Playgrounds	139,720	139,720	0	(139,720)	0 Fu	nding to be expended in 24/25.
Honeywood Oval - Pump Track Wandi Youth	60,000	60,000	60,000	0	0	
Fortigation Oralia Oval	20,000	15,275	15,275	0	15,275	
Fertigation Orelia Oval  Revitalising the Strand - RAC	50,000	13,273	•	0	15,275	
Calista Oval Jnr Bike Rd Safety Track - RAC	0	64,258		(0)	64,258	
Department of Infrastructure		,	,	(-,	,	
Thomas Oval Facilities Redevelopment	0	116,650	116,650	0	0	
Transport						
Local Roads and Community Infrastructure Program (Phase 4)	200.000	200.000	207.206	7.206	0	
Matson St, Medina - resurfacing	200,000	200,000	207,286	7,286	0 Tra	ansfer of LRCI Phase 4 underspend.
Colchester Ave, Orelia - Pavement rehabilitation	108,438	108,438	101,152	(7,286)	101,152	
Pace Road Carpark	200,000	290,925	290,925	0	0	
Smirk Cottage - Extra Parking Bays at Smirk Cottage	65,000	28,800	28,800	0	28,800	
Similar Setting Series at Similar Settings	33,030	20,000	20,000	·	20,000	
Department of Transport						
Footpath - Gilmore Ave Shared path Construction - Chisham Ave to Wellard Rd	375,000	447,400	447,400	0	225,000	
Main Roads MRRG Funding	102 222	166.657	102 221	10.004	122 226 0	ideat adjusted nor actual grant
MRRG - Mandurah Rd (A) - Butcher St to Richardson St - NB	183,333	166,657	183,321	16,664		idget adjusted per actual grant hedule.
MRRG - Johnson Rd - Heathcote Way & Britannia Way	283,333	263,514	263,514	0	162,066	
MRRG - Gilmore Ave - Whitebread Way & Dalrymple Drive	137,081	163,584	163,584	0	130,868	
MRRG - Mandurah Rd (B) - Beach Rd & Wellard Rd	296,253	209,899	209,899	0	167,920	
Roads to Recovery						
R2R - Westbrook St, Medina (From Summerton Road to Wellard Road)	300,000	300,000	300,000	0	300,000	
R2R - Harley Way, Medina	197,902	197,972	197,972	0	197,972	
Blackspot						
Blackspot - Challenger Ave - Challenger Ave & Parmelia Ave	122,000	122,000	122,000	0	97,600	
Blackspot - Challenger Ave - Challenger Ave & Warmer Rd & Amherst St	102,000	102,000	102,000	0	81,600	
Blackspot - Gilmore Avenue - Wellard Rd/Henley Bvd Roundabout	176,667	176,667	176,667	0	87,156	
Black Spot Parmelia Ave	427,648	464,025	464,025	0	335,884	
WA Government Grants for workplace electric vehicle charging infrastructure						
Electric Vehicle charging point at Adventure Park	9,714	9,714	9,393	(321)	9,393 Mi	inor decrease based on actuals.
Community amenities						
DCA 1 - Hard Infrastructure - Bertram	15,125	29,799		667	0	
DCA 2 - Hard Infrastructure - Wellard	15,125	23,199		667	0	
DCA 3 - Hard Infrastructure - Casuarina	15,125	33,885		667	0	
DCA 4 - Hard Infrastructure - Anketell	15,125	434,456		667	0	
DCA 5 - Hard Infrastructure - Wandi	15,125	23,199		667	0	
DCA 6 - Hard Infrastructure - Mandogalup	15,125	23,199		667 667	0 0 Pa	wonup is recognised upon mostin-
DCA 7 - Hard Infrastructure - Mandogalup (west) DCA 8 - Soft Infrastructure - Mandogalup	15,125 15,125	23,199 23,199		667 12 462		venue is recognised upon meeting rformance obligations
DCA 9 - Soft Infrastructure - Mandogalup DCA 9 - Soft Infrastructure - Wandi / Anketell	15,125 15,125	23,199 34,994		12,462 (11,128)	0 (in	n-line with expenditure on DCA frastructure).
DCA 10 - Soft Infrastructure - Casuarina/Anketell	15,125	23,199	23,866	667	0	rastructurej.
DCA 11 - Soft Infrastructure - Wellard East	15,125	23,199		667	0	
DCA 12 - Soft Infrastructure - Wellard West	225,137	256,049		667	0	
DCA 13 - Soft Infrastructure - Bertram	15,125	23,199		667	0	
DCA 14 - Soft Infrastructure - Wellard / Leda	15,125	23,213		653	0	
DCA 15 - Soft Infrastructure - Townsite	15,125	23,199	23,877	678	0	
TOTALS	3,890,976	4,668,685	4,555,309	(113,375)	2,138,269	

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# 18.2 MONTHLY FINANCIAL REPORT APRIL 2024

### **SUMMARY**

The Monthly Financial Reports has been prepared and includes the monthly financial variance between actual and budget for the period ending 30 April 2024.

### OFFICER RECOMMENDATION

#### That Council:

- 1. Accepts the Monthly Statements of Financial Activity for the period ended 30 April 2024, as detailed at Attachment A; and
- 2. Accepts the explanations for material variances for the period ended 30 April 2024, as detailed at Attachment A.

### **VOTING REQUIREMENT**

Simple majority

## **DISCUSSION**

The purpose of this report is to provide a monthly financial report in accordance with Section 6.4 of the *Local Government Act 1995*. This report is a summary of the financial activities of the City at the reporting date 30 April 2024 and includes the following key reporting data:

- Statement of Financial Activity by Nature or Type
- Statement of Financial Position
- Net Current Funding Position
- Outstanding debtors (Rates and Sundry Debtors)
- Capital Acquisitions
- Borrowings
- Cash Reserves
- Operating and Non-Operating Grants and Contribution

# **Closing Surplus Position**

The current closing municipal surplus for April 2024 is \$19,052,357 compared to a budget position of \$11,522,421. This favourable variance is attributable to timing of expenditure and income which will be amended in the May budget review.

#### Revenue

Income for April 2024 period year to date is \$70,914,011 compared to the current budget estimated income of \$70,865,627, a variance of \$48,384. Included in income is revenue from capital grants, subsidies, and contributions.

### **Expenditure**

The total spending for April 2024 amounted to \$84,444,642, resulting in a variance of \$7,153,092 compared to the current budget of \$91,597,734. This actual expenditure comprises both operating expenses and capital expenses as listed below:

- Expenditure from operating activities was \$76,622,186
- Payment for capital acquisitions was \$7,822,456.

Detail of all significant variances for both revenue and expenditure against the current budget for the April 2024 Monthly Financial Reports is provided in Note 1 and Note 6 to the Monthly Financial Report at Attachment A.

#### Investments

In February 2024 the City engaged Curve to assist with the investment process and provide access to more investing opportunities. This has seen the City's investment in fossil fuel free investment grow from 0% in January 2024 to 24.55% in April 2024 which is a direct alignment to the City's Sustainability Framework initiatives. Further information is provided in Note 3 to the Monthly Financial Report at Attachment A regarding the City's investment portfolio.

# STRATEGIC IMPLICATIONS

There are no strategic implications as a result of this proposal.

## **SOCIAL IMPLICATIONS**

There are no social implications as a result of this proposal.

# **LEGAL/POLICY IMPLICATIONS**

Section 6.4 of the *Local Government Act 1995* requires a Local Government to prepare an annual financial statement for the preceding year and other financial reports as are prescribed.

Regulation 34 (1) of the *Local Government (Financial Management) Regulations 1996* as amended requires the Local Government to prepare monthly financial statements and report on actual performance against what was set out in the annual budget.

# FINANCIAL/BUDGET IMPLICATIONS

Any material variances that have an impact on the outcome of the budgeted closing surplus position are detailed at Attachment A.

# **ASSET MANAGEMENT IMPLICATIONS**

There are no asset management implications associated with this report.

# **ENVIRONMENTAL/PUBLIC HEALTH IMPLICATIONS**

No environmental or public health implications have been identified as a result of this report or recommendation.

# **COMMUNITY ENGAGEMENT**

There are no community engagement implications as a result of this report.

# **ATTACHMENTS**

A. Monthly Financial Report April 2024 &



# Monthly Financial Report



# 18.3 ACCOUNTS FOR PAYMENT FOR THE MONTH ENDED 30 APRIL 2024

### **SUMMARY**

The purpose of this report is to present to Council a list of accounts paid under delegated authority for the month ended 30 April 2024, as required by the *Local Government (Financial Management)* Regulations 1996.

### OFFICER RECOMMENDATION

#### That Council:

- 1. Accepts the list of accounts, totalling \$15,138,532.24 paid under delegated authority in accordance with Regulation 13(1) of the *Local Government (Financial Management) Regulations* 1996 for the period ended 30 April 2024, as detailed at Attachment A.
- 2. Accepts the detailed transaction listing of credit card expenditure paid for the period ended 30 April 2024, as detailed at Attachment B.

### DISCUSSION

Council has delegated, to the Chief Executive Officer, the exercise of its power to make payments from the City's Municipal and Trust funds. In accordance with Regulation 13 of the *Local Government (Financial Management) Regulations 1996* a list of accounts paid is to be provided to Council, where such delegation is made.

The following table summarises the payments for the period by payment type, with full details of the accounts paid contained within Attachment A.

Payment Type	Amount (\$)
Automatic Payment Deductions *	\$ 37,636.09
Cheque	\$ 105.10
EFT Payments	\$ 13,605,860.54
Payroll Payments	\$ 1,494,930.51
Total Attachment A	\$ 15,138,532.24

<sup>\*</sup>Automatic Payment deductions includes a payment of \$35,864.60 for credit card payments. A detailed transaction listing of credit card expenditure paid for the period ended 30 April 2024 is included at Attachment B.

A detailed listing of April 2024 payments made per payment run and includes a short description of the payment is included at Attachment A. The payment for April includes an amount of \$9,223,926.88 to various developers relating to refunds for DCA 8-15 following the Gazettal of Amendment 145 and adoption of the Cost Apportionment Schedule in January 2024.

# STRATEGIC IMPLICATIONS

There are no strategic implications as a result of this proposal.

# **SOCIAL IMPLICATIONS**

There are no social implications as a result of this proposal.

# **LEGAL/POLICY IMPLICATIONS**

Regulation 13 of the Local Government (Financial Management) Regulations 1996 states:

# 13. Payments from municipal fund or trust fund by CEO, CEO's duties as to etc.

- (1) If the local government has delegated to the CEO the exercise of its power to make payments from the municipal fund or the trust fund, a list of accounts paid by the CEO is to be prepared each month showing for each account paid since the last such list was prepared —
  - (a) the payee's name; and
  - (b) the amount of the payment; and
  - (c) the date of the payment; and
  - (d) sufficient information to identify the transaction.
- (2) A list of accounts for approval to be paid is to be prepared each month showing
  - (a) for each account which requires council authorisation in that month
    - (i) the payee's name; and
    - (ii) the amount of the payment; and
    - (iii) sufficient information to identify the transaction.
  - (b) the date of the meeting of the council to which the list is to be presented.
- (3) A list prepared under sub-regulation (1) or (2) is to be
  - (a) presented to the council at the next ordinary meeting of the council after the list is prepared; and
  - (b) recorded in the minutes of that meeting.

### FINANCIAL/BUDGET IMPLICATIONS

All expenditure included in the list of payments is in accordance with City's annual budget.

# **ASSET MANAGEMENT IMPLICATIONS**

There are no asset management implications that have been identified as a result of this report.

# **ENVIRONMENTAL/PUBLIC HEALTH IMPLICATIONS**

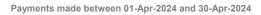
There are no implications on any determinants of health as a result of this report.

## **COMMUNITY ENGAGEMENT**

There are no community engagement implications as a result of this report.

# **ATTACHMENTS**

- A. AP Payment Listing Summary April 2024 U
- B. Credit Card Transactions Report April 2024 <u>U</u>



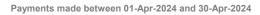


Creditor No	Payee	Description	Amount
Cheques			
Cheques 18-Apr-2024			
10537	City Of Kwinana - Pay Cash	Petty Cash Reimbursement	105.10
		Total Cheques	105.10
EFT 02 Am 2004			
EFT 03-Apr-2024 0004	Australian Services Union	Union Membership	178.91
0004	Australian Taxation Office	Taxation	228,729.00
0005	Child Support Agency	Child Support Agency Payments	586.60
0006	City of Kwinana - Xmas fund	City of Kwinana Christmas Saver	6,530.00
0007	Health Insurance Fund of WA (HIF)	Health Insurance Fund of WA (HIF)	378.85
0003	LGRCEU	Union Membership	514.80
0367	Maxxia Pty Ltd	Novated Leases	1,725.59
FT 04-Apr-2024			
0368	AAA Windscreens & Tinting	Plant Repairs and Maintenance	485.00
0613	ABCO Products	Cleaning Products	738.58
0369	Absolute Painting Services	Painting Contractor	2,255.00
1520	AE Hoskins Building Services	Cleaning Services	4,470.52
0203	Airborn Amusements	Performers/Entertainment	6,200.00
0051	Alicia Mangalavite	Reimbursement	30.90
0848	ALSCO Pty Ltd	Linen hire	168.51
0290	Arbor Carbon Pty Ltd	Maintenance of Streetscapes/Landscapes	11,983.40
1355	Australian HVAC Services Pty Ltd	Airconditioning/Refrigeration Maintenance	6,483.51
1067	Baldivis Vet Hospital	Animal Services	198.00
2362	Black Cockatoo Preservation Soc	Community Workshops/Facilitation	440.00
0450	Blackwoods Pty Ltd	Safety Clothing/Equipment/Uniforms	847.77
0400	Bunnings Building Supplies	Hardware	227.92
0080	Christopher Wells	Reimbursement	37.77
2268	Diplomatik Pty Ltd	Medical Examinations	2,151.39
1246	Dowsing Group Pty Ltd	Johnson Road upgrade	46,159.52
0870	Elexacom	Electrical Services - various locations	10,570.60
2427	Fiesta Manila P/L	Event expenses	525.00
0695	Hays Specialist Recruitment Pty Ltd	Labour/Personnel Hire	1,139.58
0621	Ixom Operations Pty Ltd	Cleaning Products	124.12
0189	Kone Elevators Pty Ltd	Electrical Services	6,751.77
2346	Kulbardi Pty Ltd	Advertising/Marketing Expenses	2,329.80
0427	Landgate	Title Searches/Valuations	1,453.61
2270	Liam Eric Tickner	Audio Equipment Repairs	975.00
1242	Lobel Events	Event expenses	6,176.78
0011	Lo-Go Appointments	Labour/Personnel Hire	3,342.54
2364	Mantellato , Robert	Electrical Services	6,787.00
0813	Master Lock Service	Locksmith Services	1,335.00
0964	Mega Glow Yoga	Recquatic Expenses	4,000.00
2398	Millennium Kids Inc	Community Workshops/Facilitation	506.00
0635	Modern Teaching Aids Pty Ltd	Books/CDs/DVDs	6,285.73
0717	MRP General Pest/Termite Division 43 07	Pest Control	301.00
1955	Music Theatre International Aust	Performers/Entertainment	4,441.80
0634	Neverfail Springwater	Water/delivery	201.82
2002	Omnicom Media Group Aust P/L	Advertising/Marketing Expenses	2,200.00
1690	Perth Playground and Rubber Pty Ltd	Playground and Parks Equipment - Toddler Town	14,751.00
1019	Planning Institute of Australia Pty Ltd	Provision of Consulting Services	714.00
1334	Sine Group Pty Ltd	Software Maintenance and Professional Fees	12,592.80
0766	Spotlight Pty Ltd	Event expenses	386.60
9999	Sundry EFT	Sundry EFT	3,596.99
0008	SuperChoice	Superannuation contribution Utilities	140,778.31
0600 0526	Synergy Taletra Limited		15,781.09 8,900.87
	Telstra Limited Thorn Creative	Phone/Internet expenses Performers/Entertainment	
1947			92.00
2269	TicketSearch Pty Ltd	Event expenses Waste removal/services/fees	16.17
0599	Veolia - Recycling and Recovery P/L	Waste removal/services/fees	1,627.25
1490	Veraison Training and Development	Employee Training/professional development	17,446.00
0547	WA Hino Sales & Service	Fleet management	42.70
0774	Website Weed & Pest (WA) Pty Ltd	Weed Control	16,034.83
1932	West Sure Group P/L	Security Services	654.39
2261	WFBD Pty Ltd	Facility Maintenance - Supply and install a new fountain	13,750.00
1149	Wheelie Clean	Cleaning Services	642.03
0422	Winc Australia Pty Ltd	Stationery	234.26
1605 FT 11-Apr-2024	Woolworths Group Open Pay	Groceries	1,712.14
•	Abaduta Dainting Condess	Painting Contractor	A E07.00
0369	Absolute Painting Services	Painting Contractor	4,587.00
1520	AE Hoskins Building Services	Cleaning Services	6,487.50
0272	Agrimate Fencing	Fencing maintenance	11,319.83
2436	Anketell Land Co P/L & Lyons Road Land Co	DCA8 Contribution/refund due to finalisation of amendment 14	804,564.58
0049	Anna Kelly	Performers/Entertainment	560.00
2434	Ascari Developments P/L	Building and Construction Industry Training Fund	151,336.34
0385	Australia Post Agency Commission	Postage	627.66
0891	Australia Post General	Postage	1,484.86
1145	Beards Security Doors and Awnings	Facility Maintenance	245.00
0597	Beaver Tree Services Aust Pty Ltd	Tree Pruning/Removal/Clearance/Watering	37,620.00
1724	Bertram Party Hire	Community Engagement	220.00
0750	BGC (Australia) Pty Ltd	Roadworks/upgrades/asphalt	389.84
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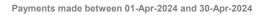


reditor No	Payee	Description	Amoun
0397	Bristol Cleaning Services	Cleaning Services	420
0400	Bunnings Building Supplies	Hardware	627
0404	Cannon Hygiene Australia Pty Ltd	Cleaning Services	6,434
1254	Centrepoint Church	Community Engagement	5,500
932	Challenger Veterinary Hospital	Animal Services	23
922	ChoiceOne Pty Ltd	Human Resources/Payroll	13,072
650	Chourasia Family Trust	Event expenses	418
080	Christopher Wells	Reimbursement	93
055	Classic Hire	Plant/Equipment Hire	4,843
081	Coco Bros	Performers/Entertainment	800
761	Complete Office Supplies Pty Ltd	Stationery	262
062	Construction Training Fund	Building and Construction Industry Training Fund	2,913
380	Cultural Infusion Int P/L	Performers/Entertainment	3,162
251	Cyclus Australia	Labour/Personnel Hire	1,497
610	D&M Waste Management	Waste removal/services/fees	69,060
407	Dahdal, Zaki	Building and Construction Industry Training Fund	1,170
014	Department of Mines, Industry Regulation and Safety (DMIRS)	Building and Energy - Building Services Levy	31,124
724	Development WA	DCA15 Contribution/refund due to finalisation of amendment 145	56,010
268	Diplomatik Pty Ltd	Medical Examinations	4,619
286	Donald Hospitality Pty Ltd	Catering	1,950
246	Dowsing Group Pty Ltd	Feilman Drive & Oralia Ave upgrade	5,596
867	Drainflow Services Pty Ltd	Drainage Maintenance	5,174
607	Dye & Durham - GlobalX Information Services P/L	Provision of Consulting Services	81
216	Ecoburbia	Community Workshops/Facilitation	3,905
408	Edward Timothy James	Catering	335
870	Elexacom	Electrical Services various locations	6,396
759	Envirolab Services (WA) Pty Ltd	Environmental and Health	222
842	Fatal FX Panel and Paint	Plant Repairs and Maintenance	500
137	FE Technologies Pty Ltd	Software Maintenance and Professional Fees	1,375
321	Forpark Australia	Playground and Parks Equipment/Inspections/Repairs	324
680	Galaxy 42 Pty Ltd (Attura)	Provision of Consulting Services - Customer support	31,962
902	Gary Kay	Reimbursement	255
222	Gasian Tembo (Sypha Photography)	Photography/Videography	2,130
523	Global Kids Oz Pty Ltd T/As Recycled Mats	Mats for events and school engagements	719
256	Golden Gateway Developments Pty Ltd	DCA15 Contribution/refund due to finalisation of amendment 145	96,613
989	Gordon Smith	Performers/Entertainment	1,200
423	Gox Group P/L	Catering	550
228	Gresley Abas Pty Ltd	Project Management Services	14.060
695	Hays Specialist Recruitment Pty Ltd	Labour/Personnel Hire	1,139
446	Heatley Sales Pty Ltd	Safety Clothing/Equipment/Uniforms	76
691	HECS Fire	Fire Equipment/Service	1,140
103	HP Financial Services Pty Ltd	Leased equipment	588
142	Hydroquip Pumps & Pumps Irrigation P/L	Bore Drilling/Maintenance	5,836
244	i2C Design & Management	Engineering Design Works	9,790
305	Iconic Property Services Pty Ltd	Cleaning Services	199
855	Imagesource Digital Solutions	Printing/Graphic Design Expenses	232
393	Jamestown Music P/L	Performers/Entertainment	670
218	Jamieson, Peter Noel	Facility Maintenance - kitchen cabinets	9,661
433	Jarwin No 4 Pty Ltd	DCA9 Contribution/refund due to finalisation of amendment 145	293,116
547	Jax Tyres Kwinana	Plant Repairs and Maintenance	2,588
339	Jenga Pty Ltd	Facility Maintenance	217
310	Julian Corliss	Environmental and Health	826
477	Kadeklerk Photography (Wildfolie)	Photography/Videography	1,630
753	KAGE Systems	Plant Repairs and Maintenance	300
311	Katharina Brieden	Computer Repairs	510
255	Katherine John Entertainment	Performers/Entertainment	1,870
363	KGO Enterprises P/L	Performers/Entertainment - Children's Festival	11,73
024	Khin Sandar Lwin	Reimbursement	951
344	Kits for Cars	Plant Repairs and Maintenance	572
427	Landgate	Title Searches/Valuations	76
731	LD Total	Maintenance of Streetscapes/Landscapes	149,121
976	Lifespan Dance	Performers/Entertainment	1,200
011	Lo-Go Appointments	Labour/Personnel Hire	4,550
087	LWP Wellard Pty Ltd	DCA12 Contribution/refund due to finalisation of amendment 145	1,000,976
313	Mackie Plumbing and Gas Pty Ltd	Plumbing Services	473
474	Main Roads Western Australia	Roadworks/upgrades/asphalt Westbrook Street upgrade	11,523
671	Marketforce Pty Ltd	Advertising/Marketing Expenses	629
013	McLeods Barrister & Solicitors	Legal Expenses	5,030
293	Mechanical Constructions Air Services Pty Ltd	Airconditioning/Refrigeration Maintenance	16,423
024	Natsales Advertising Pty Ltd	Advertising/Marketing Expenses	1,732
152	Newsonic Pty Ltd	DCA9 Contribution/refund due to finalisation of amendment 145	131,167
413	Northbridge Enterprises Unit	Community Engagement	2,288
099	Oracle Customer Management Solutions	Phone/Internet expenses	1,804
928	OverDrive Australia Pty Ltd	Computer Software Maintenance/equipment	3,000
486	Paint Industries	Facility Maintenance	1,185
442	Peet Southern JV P/L	DCA14 Contribution/refund due to finalisation of amendment 145	450,645
235	PJA Holdings (Australia) Pty Ltd	Provision of Consulting Services	4,400
004	Prad Mahalingam	Reimbursement	27
175	QTM Pty Ltd	Traffic Management	14,42
241	Quake Property Services Pty Ltd	Cleaning Services	1,067
281	Qube Mandogalup Development Pty Ltd	DCA8 Contribution/refund due to finalisation of amendment 145	1,924,820
494	Raeco International Pty Ltd	Office Furniture	61
208	Rapid Relief Team (RRT) Ltd	Catering	396



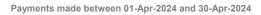


Creditor No	Payee	Description	Amount
1158	Retech Rubber	Playground and Parks Equipment/Inspections/Repairs	632
1869	Robinsons Welding Group P/L	Welding Equipment/Supplies	4,210
0389	Rubek Automatic Doors	Facility Maintenance	264
2361	Sally Anne Bickford	Catering	847
2425	Same Drum P/L	Performers/Entertainment	3,630
)505	Satellite Security Services	Security Services	4,609
245	Scoutta Pty Ltd (Viaje Strategic)	Professional Fees	1,870
959	Seven Network	Advertising/Marketing Expenses	1,815
2443	Sienna Properties Pty Ltd	DCA11 Contribution/refund due to finalisation of amendment 145	775,061
1533	Sifting Sands	Playground and Parks Equipment/Inspections/Repairs	7,236
2162	Simon Matesich	Electrical Services	200
0491	Sonic Health Plus	Medical Examinations	661
148	Southern Quickscapes	Maintenance of Streetscapes/Landscapes	32,683
0520	St John Ambulance Australia (WA) Inc	Employee Training/professional development	2,093
1407	State Wide Turf Services	Turf Maintenance	7,669
2419	Stephen Doran	Employee Training/professional development	438
2409	Steven & Sharon Miles	Kerbing Contractor	1.595
)524	Stewart & Heaton Clothing Co Pty Ltd	Safety Clothing/Equipment/Uniforms	75
0442	StrataGreen	Maintenance of Streetscapes/Landscapes	457
0590	Subway Kwinana	Catering	522
2180	Sullivan Family Trust	Plant/Equipment Hire	1,265
1146	Summers Consulting	Pest Control	4,488
9999	Sundry EFT	Rates refund/Grants/Subsidy	2,112
2351	Super Clean Cleaning Svcs	Cleaning Services	1,140
981	Sydney Tools Pty Ltd	Tools/Tool Repairs	398
1600	Synergy	Utilities	140,467
745	T J Depiazzi & Sons	Gardening - Plants/Supplies	4,475
1572	Taylor Tyres Pty Ltd	Plant Repairs and Maintenance	1,203
532	Team Global Express	Courier Service/transportation/removalist	217
021	TenderLink	Advertising/Marketing Expenses	646
280	The Critters Trust	Incursions/Excursions	1,450
236	The Mighty Booths	Performers/Entertainment	6,100
2447	The Trustee 316 Property Unit Trust	DCA9 Contribution/refund due to finalisation of amendment 145	276,719
2440	The Trustee for Wellard Trust	DCA12 Contribution/refund due to finalisation of amendment 145	746,155
420	The Trustee of Q&B Trust	Incursions/Excursions	346
531	Thomson Reuters (Professional) Australia Limited	Subscriptions	4.950
1534	Total Eden Pty Ltd (Nutrien Water)	Reticulation Parts & Repairs	3,052
873	Total Green Recycling	Waste removal/services/fees	2,599
957	Total Tools Rockingham	Tools/Tool Repairs	513
0815	Totally Workwear Rockingham	Safety Clothing/Equipment/Uniforms	337
)535	T-Quip	Purchase of a Turbograss Mower	49.434
1397	Tree Care WA	Maintenance of Streetscapes/Landscapes	2,035
2435	Trustee for Gucce Holdings Trust	DCA9 Contribution/refund due to finalisation of amendment 145	189,961
0164		DCA9 Contribution/refund due to finalisation of amendment 145  DCA9 Contribution/refund due to finalisation of amendment 145	383,186
2417	Turnstone Nominees Pty Ltd	Performers/Entertainment	600
0551	Tyearra Schultz	Utilities	
	Water Corporation of Western Australia	Weed Control	14,180
)774	Website Weed & Pest (WA) Pty Ltd		
1467	Wellard Management Pty Ltd	DCA12 Contribution/refund due to finalisation of amendment 145	571,139
0687	West Coast Shade	Facility Maintenance	13,189
2241	West Coast Spring Water Pty Ltd	Water/delivery	77
)557	Western Power Corporation	Utilities	275
718	Whereabouts Skateboarding	Community Workshops/Facilitation	650
)422	Winc Australia Pty Ltd	Stationery	336
167	Workpower Incorporated	Maintenance of Streetscapes/Landscapes	3,147
FT 12-Apr-2024			
2459	Flight Centre	Airfares - PSWMA Board & Alliance Staff	80,210
2019	Rhonda Dawn McGee	Tenure payment for the sale of a villa	263,895
FT 18-Apr-2024	Talonaa Balii ilioooo	Totalo paymont for the sale of a villa	200,000
1965	Felicity Jayne Townsend	Reimbursement	14
			46
894	John Klas	Reimbursement	
467	S&A Galati-Rondo	DCA9 Contribution/refund due to finalisation of amendment 145	46,481
520	AE Hoskins Building Services	Cleaning Services	11,902
179	Aflex Technology (NZ) Ltd	Recquatic Expenses	5,56
)272	Agrimate Fencing	Fencing maintenance	8,13
017	Air Liquide Australia	Recquatic Expenses	58
203	Airborn Amusements	Performers/Entertainment	600
848	ALSCO Pty Ltd	Linen hire	69
450	Andrew Kikeros	Community Engagement	1,650
678	Arbor Logic	Maintenance of Streetscapes/Landscapes	1,26
355	Australian HVAC Services Pty Ltd	Airconditioning/Refrigeration Maintenance	17,962
377	Australian Institute of Management (AIM) (for training)	Employee Training/professional development	1,23
004	Australian Services Union	Union Membership	178
001	Australian Taxation Office	Taxation	249,64
010	Baldivis Transport Pty Ltd	Courier Service/transportation/removalist	17
450	Blackwoods Pty Ltd	Safety Clothing/Equipment/Uniforms	2,10
1764	Boffins Bookshop Pty Ltd	Books/CDs/DVDs	2,10
655 075	Bolinda Publishing Pty Ltd	Books/CDs/DVDs	42
975	Broderick & Associates	NRM Consulting Services	18,378
418	BullAnt Security Pty	Locksmith Services	1,443
400	Bunnings Building Supplies	Hardware	684
312	Burson Automotive Pty Ltd	Plant Repairs and Maintenance	35
990	Cameron Chisholm Nicol	Professional Fees	1,100
	Compan Department Deletion Acceptable	Photocopy Expenses	327
0485	Canon Production Printing Australia	1 Hotocopy Expenses	02



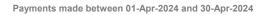


Creditor No	Payee	Description	Amount
0407	Challenge Chemicals Australia	Recquatic Expenses	109
0932	Challenger Veterinary Hospital	Animal Services	170
0772	Champion Music	Community Engagement	786
0005	Child Support Agency	Child Support Agency Payments	586
0409	Children's Book Council Of Australia (WA) Inc.	Membership Fee	75
1650	Chourasia Family Trust	Event expenses	918
0006	City of Kwinana - Xmas fund	City of Kwinana Christmas Saver	6,530
0416	CJD Equipment Pty Ltd	Plant Repairs and Maintenance	2,837
0419	Coastline Mowers	Mower Parts & Repairs	61
2414	Collins Peter John	Community Engagement	1,130
0704	Commercial Aquatics Australia	Recquatic Expenses	26,484
2387	Commercial Property (WA) P/L	Property valuations	9,266
2465	D J Maccormick Family Trust	DCA11 Contribution/refund due to finalisation of amendment 145	1,253,074
80117	Daniel Anderson	Reimbursement	46
1921	Definet Pty Ltd	GIS Consulting	17,582
0426			17,362
2268	Department of Transport	Vehicle Ownership Searches	4,474
	Diplomatik Pty Ltd	Medical Examinations	
0773	Display Me	Recquatic Expenses	356
1252	DNR Contracting Pty Ltd	Roadworks/upgrades/asphalt	55,679
2286	Donald Hospitality Pty Ltd	Catering	295
0649	Downer EDI Works Pty Ltd	Roadworks/upgrades/asphalt - Matson Street upgrade	105,082
0867	Drainflow Services Pty Ltd	Drainage Maintenance	15,667
0168	Easifleet	Novated Leases	27,982
0793	Eco Resources Pty Ltd	Waste removal/services/fees	546
0870	Elexacom	Electrical Services - various locations	22,108
0760	Elliotts Irrigation Pty Ltd	Reticulation Parts & Repairs	3,745
0978	Envirosweep	Maintenance of Streetscapes/Landscapes	22,148
0912	Exit Waste	Facility Maintenance	1,795
2279	Expo Signage & Digital P/L	Advertising/Marketing Expenses	678
1754	Fairtime Holdings Pty Ltd	Community Workshops/Facilitation	3.000
1059	Farfield Holdings Pty Ltd (Capital Recycling)	Waste removal/services/fees	341
1137	FE Technologies Pty Ltd	Software Maintenance and Professional Fees	191
0319	Fire Rescue Safety Australia Pty Ltd	Fire Equipment/Service	325
1680	Galaxy 42 Pty Ltd (Attura)	Provision of Consulting Services	4,620
2157	Go2Cup Pty Ltd	Waste removal/services/fees	5,038
0124	Good Samaritan Industries	Event expenses	3,030
0923	GOOD Samanian industries  GPS Linemarking		
	5	Line marking	5,709
2228	Gresley Abas Pty Ltd	Project Management Services	4,400
1929	Habitat 1	Engineering Design Works - Admin building refurbishment	11,066
2123	Have A Go News	Advertising/Marketing Expenses	1,016
0007	Health Insurance Fund of WA (HIF)	Health Insurance Fund of WA (HIF)	395
0446	Heatley Sales Pty Ltd	Safety Clothing/Equipment/Uniforms	355
0691	HECS Fire	Fire Equipment/Service	363
2355	Hoad Nicola	Incursions/Excursions	350
1244	i2C Design & Management	Engineering Design Works - Wellard West development	22,765
1641	illion Australia Pty Ltd	Advertising/Marketing Expenses	185
0855	Imagesource Digital Solutions	Printing/Graphic Design Expenses	1,939
1839	Inclusion Solutions Limited	Community Workshops/Facilitation	3,500
0118	Indoor Archery WA	Performers/Entertainment	237
0876	Instrument Choice	Community Workshops/Facilitation	907
1117	InterFire Agencies	Fire Equipment/Service	852
2429	Iru & Yug Pty Ltd	Catering	175
0879	Isentia Pty Limited	Advertising/Marketing Expenses	864
0621	Ixom Operations Pty Ltd	Cleaning Products	1,248
2457	Jake Dennis	Performers/Entertainment	600
)451	Jason Signmakers	Signage	3.972
			- , -
2424	JYC Enterprise Pty Ltd	Catering  Photography∆/ideography	750 478
477	Kadeklerk Photography (Wildfolie)	Photography/Videography	47
2448	K-Jun Kitchen P/L	Catering	6
0694	KLMedia Pty Ltd	Books/CDs/DVDs	1,039
0624	Konnect	Plant Repairs and Maintenance	563
1460	Kwinana Heritage Group	Operating subsidy/expenses	5,00
424	Kwinana Senior Citizens	Operating subsidy/expenses	10,000
)464	Kwinana South Bush Fire Brigade	Hazard Reduction burning	3,200
0571	Kyocera Document Solutions Australia Pty Ltd	Photocopy Expenses	1,487
1471	Land Investors Alliance No1 Pty Ltd	DCA9 Contribution/refund due to finalisation of amendment 145	72,900
)427	Landgate	Title Searches/Valuations	3,74
1006	Landscape and Maintenance Solutions	Mowing and Pruning	30,462
1687	Larrikin House Pty Ltd	Books/CDs/DVDs	240
731	LD Total	Maintenance of Streetscapes/Landscapes	44,722
)195	Left Back Consulting Pty Ltd	Provision of Consulting Services	24,039
0003	LGRCEU	Union Membership	514
1242	Lobel Events	Event expenses	10,25
0011	Lo-Go Appointments	Labour/Personnel Hire	2,88
1313	Mackie Plumbing and Gas Pty Ltd	Plumbing Services	7,643
)474	Main Roads Western Australia	Roadworks/upgrades/asphalt	78:
1476	Mandogalup Volunteer Fire Brigade	Fire Equipment/Service	1,89
2364	Mantellato , Robert	Electrical Services	38
367	Maxxia Pty Ltd	Novated Leases	1,859
2439	MBA Residential Pty Ltd	DCA15 Contribution/refund due to finalisation of amendment 145	23,15
013	McLeods Barrister & Solicitors	Legal Expenses	2,338
635	Modern Teaching Aids Pty Ltd	Books/CDs/DVDs	1,29
-		Pest Control	4,54
)717	MRP General Pest/Termite Division 43 07		





1,000	Creditor No	o Payee Description		Amount
1909   Natural Anes Consoling Management	12382	Multicultural Support Assoc Inc	Community Workshops/Facilitation	1,000.00
1197	11453	Nashtec Auto Electrics	Plant Repairs and Maintenance	384.55
1926    Nook-fore Ingurant	10639	Natural Area Consulting Management	Drainage Maintenance	4,818.00
1962   Nord-Finess Equipment   Recquisit-Expenses   94,000	11197	Netstar Australia Pty Ltd	Subscriptions	525.36
1902	12461	Nicole Anne Ingram	Community Workshops/Facilitation	2,076.00
1980	11623	Nordic Fitness Equipment	Recquatic Expenses	949.00
11173   Oil Filhess	12002	Omnicom Media Group Aust P/L	Advertising/Marketing Expenses	2,200.00
1920	11390	Online Social Butterfly	Community Workshops/Facilitation	550.00
Parties   Parties   Mark Bernember   Community Volvehospher   Parties   Community Volvehospher	11173	Orbit Fitness	Recquatic Expenses	3,349.50
Post   Parties Kols Remember	11209	Outback Handyman	Facility Maintenance	775.50
1979.22   PAY Sies & Installations   Performeric Entertainment   1,795.00   1214.03   Performeric Standard   Utility Service Localisms   5,911.82   1215.04   Performeric Standard   Conting Proceedings   1,900.00   1215.05   Position pointine PL   Pos	12445	Parcel Wellard Pty Ltd	DCA12 Contribution/refund due to finalisation of amendment 145	70,702.08
12166	10253	Parties Kids Remember	Community Workshops/Facilitation	5,040.00
23906   Poter William Saunderock - Fuff Stuff	10792	PAV Sales & Installations	Performers/Entertainment	1,793.00
PerformentEnterlament	12146	Perth Energy P/L	Utility Service Locations	5,311.92
	12396	Peter William Saundercrock -Tuff Stuff	Cleaning Products	2,459.60
	12431	Pham Phu	Performers/Entertainment	2,000.00
Printing/Graphic Design Expenses	12150	Poolshop Online P/L	Recquatic Expenses	1,080.75
1942  Potter Consuling Engineers	10976	Poolwerx Spearwood	Recquatic Expenses	572.00
11176	10490	Port Printing Works	Printing/Graphic Design Expenses	83.05
11176	10425	Porter Consulting Engineers	Engineering Design Works	11,467.50
1446	11175			33,892.47
1920	11846	Reads West Coast Maintenance Pty Ltd		4,776.98
19497   Red San'd Supplies Pty Ltd   Sandrool   33.00	11290			45.32
1923   Ropos (PC Asia Pacific)   Plant Repairs and Maintenance   78.870				
1989			Plant Repairs and Maintenance	
1760.00				
12466   Sanctum Holdings Ply Ltd   Security Services   2,970.0005   Sapio Ply Ltd   Security Services   2,970.0005   Satellite Security Services   1,347.50   10006   Satellite Security Services   1,347.50   Satellite Security S				
Sapo Pt Ltd   Security Services   Sacurity S				
1,347.50				
10198				
1950				
14,90,00   Shane McMaster Surveys				
1913   Silfing Sands				
19124   Sigma Chemicals   Cleaning Products   685.41   10491   Sonic Health Plus   Medical Examinations   741.40   10491   Sonic Mealth Plus   Medical Examinations   741.40   10520   St. John Ambulance Australia (WA) Inc   Employee Training/professional development   488.40   10524   State Wide Turf Services   Turf Maintenance   11.966.02   10524   Stewart & Heaton Cichting Co Ply Ltd   Safely Clothing/Equipment/Uniforms   240.17   12441   Summerwave Investments Nof PfL   DCAT2 Contribution/return due to firalisation of amendment 145   10529   Stundy/FET   Sundy/rales refundigrants   1,491.25   10572   Taylor Tyres Py Ltd   Plant Repairs and Maintenance   1,683.00   10572   Taylor Tyres Py Ltd   Plant Repairs and Maintenance   1,683.00   10572   Taylor Tyres Py Ltd   Plant Repairs and Maintenance   1,683.00   10583   Team Global Express   Courier Service/transportation/removalist   4.70   12486   The Trustee for Paul Parin family   Advertising/Marketing Expenses   250.00   12490   The Trustee for Paul Parin family   Advertising/Marketing Expenses   250.00   10173   The Wat Taylor Group Py Ltd   Safely Clothing/Equipment/Uniforms   22,8168.90   10173   The Trustee for Paul Parin family   Advertising/Marketing Expenses   250.00   10189   The Workwear Group Py Ltd   Safely Clothing/Equipment/Uniforms   28,168.90   10173   The Wat Taylor Haven & Bistro   Calering   2,800.00   10189   The Workwear Group Py Ltd   Safely Clothing/Equipment/Uniforms   336.32   1034   Total Center of Paul Parin family   Calering Services   5,712.70   10354   Total Center of Paul Parin family   Calering Services   5,712.70   10364   Total Center of Paul Parin family   Calering Services   5,712.70   10375   The Trustee Ten Family Trust   Computer Software Maintenance/equipment   7,700   10384   Total Center of Paul Parin family   Calering Services   2,800.00   10497   The Trustee Ten Family Trust   Computer Software Maintenance   3,800.00   10574   Trustee for Creatity   Calering Services   2,800.00   10584   Total Center Pyt Ltd (Nutri				
12162   Simon Matesich   Sonite Health Plus   Medical Examinations   741.00     10491   Sonite Health Plus   Medical Examinations   741.00     10520   St. John Ambulance Australia (WA) Inc   Employee Training/professional development   488.40     11407   State Wide Turf Services   Turf Maintenance   11.966.02     10524   Stewart & Heaton Clothing Co Pty Ltd   Safety Clothing/Equipment/Uniforms   240.17     12441   Summerwave Investments No7 Pl.   DCA12 Contribution/refund due to finalisation of amendment 145   109.020.28     99999   Sundry EFT   Sundry/rates refund/grains   1491.25     10008   SuperChoice   Superannuation contribution   141.213.84     10600   Synergy   Utilities   1491.25     1072   Taylor Tyres Pt. Ltd   Plant Repairs and Maintenance   1,683.00     1073   Taylor Tyres Pt. Ltd   Plant Repairs and Maintenance   1,683.00     1044   Taylored to Sut   Team (Data) Grees   Commany Ergagement   1,122.00     1042   Team (Data) Grees   Commany Ergagement   1,122.00     1043   Team (Data) Grees   Commany Ergagement   1,122.00     1044   Taylored to Sut   1,122.00     1044   Taylored to Sut   1,122.00     1045   Team (Data) Grees   Commany Ergagement   1,122.00     1046   Taylored to Sut   1,122.00     1047   Team (Data) Grees   Commany Ergagement   1,122.00     1048   Team (Data) Grees   Commany Ergagement   1,122.00     1049   Team (Data) Grees   Commany Ergagement   1,122.00     1040   Team (Data) Grees   Commany Ergagement   1,122.00     1040   Team (Data) Grees   Commany Ergagement   1,122.00     1040   Team (Data) Grees   Commany Ergagement   1,122.00     1041   Team (Data) Grees   Commany Ergagement   1,122.00     1044   Taylored to Sut   Team (Data) Grees   Commany Ergagement   1,122.00     1044   Team (Data) Grees   Commany Ergagement   1,102.00     1044   Team (Data) Grees   Commany Ergagement   1,102.00     1045		•		
1949    Sonic Health Plus			•	
1923   Sound Cabinets PIL   Facility Maintenance   10,527.00   10520   SI John Ambulance Australia (WA) Inc   Employee Training/Professional development   488.40   11407   State Wide Turf Services   Turf Maintenance   11,966.02   10524   Stewarf & Heaton Clothing Co Pty Ltd   Safety Clothing/Equipment/Uniforms   240.17   12441   Summerwave Investments No7 PIL   DCA12 Contribution/refund due to finalisation of amendment 145   109.020.34   109999   Sundry EFT   Sundry/rates refund/grants   1,491.25   10008   Super/Choice   Superannuation contribution   141,213.84   10600   Synergy   Utilities   23,899.85   10572   Taylor Tyres Py Ltd   Plant Repairs and Maintenance   1,683.00   1045   Taylored to Sut   Community Engagement   1,122.00   10333   Team Global Express   Courier Service/Intarportation/envolatist   47.08   10436   The Trustee for Weller Family Trust   Event expenses   5,500.00   12440   The Trustee for Weller Family Trust   Event expenses   5,500.00   12440   The Trustee for Weller Trust   Event expenses   5,500.00   12441   The Trustee for Weller Trust   Event expenses   5,500.00   12442   The Trustee for Weller Trust   Event expenses   5,500.00   12443   The Trustee for Weller Trust   Event expenses   5,500.00   12444   The Trustee for Weller Trust   Event expenses   5,500.00   12445   The Trustee for Weller Trust   Event expenses   5,500.00   12446   The Trustee Trustee Trustee   1,500.00   12447   The Trustee Trustee Trustee   1,500.00   12448   Theatre Co Pty Ltd   Computer Software Maintenance/equipment   2,800.00   12451   Thustee Trustee Trustee   1,500.00   12465   The Trustee Trustee Trustee   1,500.00   12466   Tony Aveling & Associates Pty Ltd   Employer Training/Professional development   2,500.00   12451   Trustee For Meritan Fall Fall Fall Fall Fall Fall Fall Fa				
19520   St. John Ambulance Australia (WA) Inc   Employee Training/professional development   4,98,40   11407   Slate Wide Turf Services   Turf Maintenance   11,966.02   10524   Slewarf & Heaton Clothing Co. Pty Ltd   Safety. Clothing-Equipment/Uniforms   240,17   12441   Summerwave Investments No. Pt.   DCA12 Contribution/refund due to finalisation of amendment 145   109,020,48   19999   Sundry EFT   Sundry/rates refund/grants   1,491,25   10008   Super-Choice   Superannualion contribution   141,213,41   10000   Synergy   Utilities   23,889,85   10572   Taylor Tyres Pty Ltd   Plant Repairs and Maintenance   1,683,00   1045   Taylored to Suit   Community Engagement   1,122,00   10532   Tam Global Express   Courter Service/Parasportation/removalist   4,70,6   12426   The Trustee for Paul Parin family   Avertising/Marketing Expenses   250,00   12440   The Trustee for Paul Parin family   Avertising/Marketing Expenses   250,00   12477   The Trustee for Wellard Trust   Computer Software Maintenance/equipment   80,00   12733   The Well Tayrem & Bistro   Catering   2,800,00   1733   The Well Tayrem & Bistro   Catering   2,800,00   1748   The Morkwear Group Pty Ltd   Safety Clothing/Equipment/Uniforms   338,23   12428   TheatraCQ Pty Ltd   Safety Clothing/Equipment/Uniforms   338,23   12428   TheatraCQ Pty Ltd   Cleaning Services   7,712,70   1797   Torry Averling & Associates Pty Ltd   Employee Training/professional development   7,70,00   1798   Torry Averling & Associates Pty Ltd   Employee Training/professional development   7,80,00   1793   Turstee For the Tanks For Hite Trust   DCA11 Centribution/refund due to finalisation of amendment 145   15,774,17   1794   Turstee For the Tanks For Hite Trust   DCA11 Centribution/refund due to finalisation of amendment 145   15,774,17   1795   Turstee For the Tanks For Hite Trust   DCA11 Centribution/refund due to finalisation of amendment 145   15,774,17   1794   Webste Weed & Pest (Webste Meas   1,99,79   1795   Wester Irrigation Pty Ltd   Statoner   Streetscapes/Landscape				
11407   Slate Wide Turf Services   Sewart & Heaton Clothing Co Pty Ltd   Safety Olching/Equipment/Uniforms   240.17				
19524   Slewarf & Heaton Clothing Co Pty Ltd   Safety Clothing Equipment/Uniforms   240, 172   19999   Sundry EFT   Sundry/tasts refund/grants   190,020, 28   19999   Sundry EFT   Sundry/tasts refund/grants   1,491,25   10008   SuperChoice   Superanuation contribution   141,213,4   10600   Synergy   Utilities   23,889,85   10572   Taylor Tyres Pty Ltd   Plant Repairs and Maintenance   1,683,000   1045   Taylored to Sult   Community Engagement   1,122,00   10532   Team Global Express   Counter Service/Enrasportation/removalist   4,70 e				
12441   Summerwave Investment's No? P/L   DCA12 Contribution/refund due to finalisation of amendment 145   109,020, 84   99999   Sundry EFT   Sundry/rates refund/grants   1,491,25   10008   Super-Choice   Super-Cho				
9999         Sundry EFT         Sundry rates refundigrants         1.49125           10008         Syner Cholice         Superanuation         14121384           10600         Synergy         Utilities         23,889,85           10572         Taylor Tyres Ply Ltd         Plant Repairs and Maintenance         1,883,00           11045         Taylored to Sult         Community Engagement         1,122,00           10532         Team Global Express         Community Engagement         47,06           12466         The Trustee for Nidev Family Trust         Event expenses         550,00           12440         The Trustee for Wellard Trust         Maintenance bond return         28,168,90           12177         The Trustee for Nidev Family Trust         Computer Softward Maintenance/equipment         80,00           11733         The Well Tavern & Bistro         Catering         2,800,00           10619         The Workwear Group Pty Ltd         Safety Clothing/Equipment/Uniforms         336,32           12428         TheatreGC Pty Ltd         Catering         2,800,00           10796         Ton Na Veling & Associates Pty Ltd         Employee Training/professional development         22,00           10796         Ton Kill Depot         Tool Kill Depot         TooleTool Repairs				
10008   SuperChoice   Superannuation contribution   11.1213.84   10600   Syrergy   Utilities   23.889.85   10572   Taylor Tyres Py Ltd   Plant Repairs and Maintenance   1.683.00   10455   Taylored to Sult   Community Engagement   1.122.00   10532   Team Global Express   Courier Service/transportation/removalist   47.06   1.122.00   10532   Team Global Express   Courier Service/transportation/removalist   47.06   1.122.00				
10600   Synergy				
19572				
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12440		· · · · · · · · · · · · · · · · · · ·		
12177				
11733         The Well Tavern & Bistro         Catering         2,800.00           10619         The Workwear Group Ply Ltd         Safety Clothing/Equipment/Uniforms         338.32           12428         TheatreQC Pty Ltd         Cleaning Services         5,712.70           11947         Thorn Creative         Performers/Intertainment         77.00           10786         Tony Aveling & Associates Pty Ltd         Employee Training/professional development         220.00           10228         Tool Kit Depot         Tools/Tool Repairs         571.85           10534         Total Eden Pty Ltd (Nutrien Water)         Reticulation Parts & Repairs         9.874.29           12390         Town Team Movement         Community Workshops/Facilitation         1.507.00           12349         Trustee For CR esults Unit         Printing/Graphic Design Expenses         4.162.50           12152         Trustee For the Tanks For Hire Trust         Plant/Equipment Hire         726.00           12451         Trustee Wellard Land Unit Trust         DCA11 Contribution/refund due to finalisation of amendment 145         157.741.18           12172         Ultimo Catering and Events         Catering         421.00           1218         Valouine Australia Pl/Lt         Fuel, Oil, Additives         1.409.38           10599				
10619				
19428			· · · · · · · · · · · · · · · · · · ·	,
11947				
10786				
10228         Tool Kit Depot         Tools/Tool Repairs         571.85           10534         Total Eden Pty Ltd (Nutrien Water)         Reticulation Parks Repairs         9,874.29           12390         Town Team Movement         Community Workshops/Facilitation         1,507.00           12349         Trustee For C Results Unit         Printing/Graphic Design Expenses         4,152.50           12152         Trustee For the Tanks For Hire Trust         Plant/Equipment Hire         726.00           12451         Trustee Wellard Land Unit Trust         DCA11 Contribution/refund due to finalisation of amendment 145         197.741.18           12172         Ultimo Catering and Events         Catering         421.00           12118         Valvoline Australia PL         Fuel, Oil, Additives         1409.3           10599         Veclia - Recycling and Recovery P/L         Waste removal/services/fees         23,491.45           11009         Vocus Communications         Phone/Internet expenses         2,271.50           10545         WA Limestone Co         Maintenance of Streetscapes/Landscapes         7,712.50           10551         Water Corporation of Western Australia         Utilities         3,626.47           10774         Website Weed & Pest (WA) Pty Ltd         Weed Control         5,926.55           10				
10534 Total Eden Pty Ltd (Nutrien Water) Reticulation Parts & Repairs 9,874 29 12390 Town Team Movement Community Workshops/Facilitation 1,507.00 12349 Trustee for C Results Unit Printing/Graphic Design Expenses 4,152.50 12152 Trustee For the Tanks For Hire Trust Plant/Equipment Hire 726.00 12451 Trustee Wellard Land Unit Trust DeArt Contribution/refund due to finalisation of amendment 145 157,741.18 12172 Ultimo Catering and Events Catering 421.00 12118 Valvoline Australia P/L Fuel, Oil, Additives 1,409.38 10599 Veolia - Recycling and Recovery P/L Waste removal/services/fees 23,491.45 11009 Vocus Communications Phone/Internet expenses 2,271.50 10545 WA Limestone Co Maintenance of Streetscapes/Landscapes 7,712.59 10551 Water Corporation of Western Australia Ultilities 3,626.47 10774 Website Weed & Pest (WA) Pty Ltd Weed Control 5,926.55 10554 Westbooks Books/CDs/DVDs 1,782.70 10556 Western Irrigation Pty Ltd Reticulation Parts & Repairs 2,245.64 10422 Winc Australia Py Ltd Stationery 2,415.74 10072 Woolworths Group Online Groceries 1,299.71 11605 Woolworths Group Open Pay Groceries 1,299.71 11607 Workpower Incorporated Maintenance of Streetscapes/Landscapes 2,706.00 10842 Zenien Pty Ltd T/as ATFT Astuta Trust Records Storage/Retrieval 908.60 10842 Zenien Pty Ltd T/as ATFT Astuta Trust Records Storage/Retrieval 908.60 10610 ZericoData Pty Ltd Reimbursement 87.00 10368 AAA Windscreens & Tinting ABCO Products 48.64 11797 Allways Property Maintenance 54.616 11607 ABCO Products 64.616 1				
12390				
12349   Trustee for C Results Unit				
12152				
12451         Trustee Wellard Land Unit Trust         DCA11 Contribution/refund due to finalisation of amendment 145         157,741.18           12172         Ultimo Catering and Events         Catering         421.00           12118         Valvoline Australia P/L         Fuel, Oil, Additives         1,409.38           10599         Veolia - Recycling and Recovery P/L         Waste removal/services/fees         23,491.45           11009         Vocus Communications         Phone/Internet expenses         2,271.50           10545         WA Limestone Co         Maintenance of Streetscapes/Landscapes         7,712.59           10551         Water Corporation of Western Australia         Utilities         1054.50           10774         Website Weed & Pest (WA) Pty Ltd         Weed Control         5,926.55           10556         Western Irrigation Pty Ltd         Reticulation Parts & Repairs         2,725.64           10422         Winc Australia Pty Ltd         Reticulation Parts & Repairs         2,725.64           1065         Woolworths Group Online         Groceries         1,299.71           11605         Woolworths Group Open Pay         Groceries         2,746.16           11616         Workpower Incorporated         Maintenance of Streetscapes/Landscapes         2,706.00           10842				
12172         Ultimo Catering and Events         Catering         421.00           12118         Valvoline Australia P/L         Fuel, Oil, Additives         1,409.38           10599         Veolia - Recycling and Recovery P/L         Waste removal/services/fees         23,491.45           11009         Vocus Communications         Phone/Internet expenses         2,271.50           10545         WA Limestone Co         Maintenance of Streetscapes/Landscapes         7,712.59           10551         Water Corporation of Western Australia         Utilities         3,626.47           10774         Website Weed & Pest (WA) Pty Ltd         Weed Control         5,926.55           10554         Westbooks         Books/CDs/DVDs         1,762.70           10556         Western Irrigation Pty Ltd         Reticulation Parts & Repairs         2,725.64           10422         Winc Australia Pty Ltd         Stationery         2,745.64           10422         Woolworths Group Online         Groceries         1,299.71           11605         Woolworths Group Open Pay         Groceries         2,746.16           11167         Workpower Incorporated         Maintenance of Streetscapes/Landscapes         2,706.00           10842         Zenien Pty Ltd T/as ATFT Astuta Trust         Records Storage/Retrieval				
12118         Valvoline Australia P/L         Fuel, Oil, Additives         1,409.38           10599         Veolia - Recycling and Recovery P/L         Waste removal/services/fees         23,491.45           11009         Vocus Communications         Phone/Internet expenses         2,271.50           10545         WA Limestone Co         Maintenance of Streetscapes/Landscapes         7,712.59           10551         Water Corporation of Western Australia         Utilities         3,626.47           10774         Website Weed & Pest (WA) Pty Ltd         Weed Control         5,926.55           10554         Westbooks         Books/CDs/DVDs         1,782.70           10556         Western Irrigation Pty Ltd         Reticulation Parts & Repairs         2,725.64           10422         Winc Australia Pty Ltd         Stationery         2,415.74           10772         Woolworths Group Online         Groceries         1,299.71           11605         Woolworths Group Open Pay         Groceries         2,746.16           11167         Workpower Incorporated         Maintenance of Streetscapes/Landscapes         2,706.00           10842         Zenien Pty Ltd T/as ATFT Astuta Trust         Records Storage/Retrieval         908.60           10610         ZircoData Pty Ltd         Records Storage/Retrieval				
10599         Veolia - Recycling and Recovery P/L         Waste removal/services/fees         23,491.45           11009         Vocus Communications         Phone/Internet expenses         2,271.50           10545         WA Limestone Co         Maintenance of Streetscapes/Landscapes         7,712.59           10551         Water Corporation of Western Australia         Utilities         3,626.47           10774         Website Weed & Pest (WA) Pty Ltd         Weed Control         5,926.55           10554         Westbooks         Books/CDs/DVDs         1,782.70           10556         Western Irrigation Pty Ltd         Reticulation Parts & Repairs         2,725.64           10422         Winc Australia Pty Ltd         Stationery         2,415.74           10072         Woolworths Group Online         Groceries         1,299.71           11605         Woolworths Group Open Pay         Groceries         2,746.60           11167         Workpower Incorporated         Maintenance of Streetscapes/Landscapes         2,706.00           10842         Zenien Pty Ltd T/as ATFT Astuta Trust         Records Storage/Retrieval         908.60           10610         ZircoData Pty Ltd         Records Storage/Retrieval         1,097.92           EFT 24-Apr-2024           11853         <				
11009         Vocus Communications         Phone/Internet expenses         2,271.50           10545         WA Limestone Co         Maintenance of Streetscapes/Landscapes         7,712.59           10551         Water Corporation of Western Australia         Utilities         3,626.47           10774         Website Weed & Pest (WA) Pty Ltd         Weed Control         5,926.55           10554         Westbooks         Books/CDs/DVDs         1,782.70           10556         Western Irrigation Pty Ltd         Reticulation Parts & Repairs         2,725.64           10422         Winc Australia Pty Ltd         Stationery         2,415.74           10072         Woolworths Group Online         Groceries         1,299.71           11605         Woolworths Group Open Pay         Groceries         2,746.16           11167         Workpower Incorporated         Maintenance of Streetscapes/Landscapes         2,706.00           10842         Zenien Pty Ltd T/as ATFT Astuta Trust         Records Storage/Retrieval         90.86           10610         ZircoData Pty Ltd         Records Storage/Retrieval         1,097.92           EFT 24-Apr-2024           11853         Narelle Best         Reimbursement         87.00           10663         AAA Windscreens & Tinting				
10545         WA Limestone Co         Maintenance of Streetscapes/Landscapes         7,712.59           10551         Water Corporation of Western Australia         Utilities         3,626.47           10774         Website Weed & Pest (WA) Pty Ltd         Weed Control         5,926.55           10554         Westbooks         Books/CDs/DVDs         1,762.70           10556         Western Irrigation Pty Ltd         Reticulation Parts & Repairs         2,725.64           10422         Winc Australia Pty Ltd         Stationery         2,415.74           10072         Woolworths Group Online         Groceries         1,299.71           11605         Woolworths Group Open Pay         Groceries         2,746.16           11167         Workpower Incorporated         Maintenance of Streetscapes/Landscapes         2,706.00           10842         Zenien Pty Ltd T/as ATFT Astuta Trust         Records Storage/Retrieval         908.60           10610         ZircoData Pty Ltd         Records Storage/Retrieval         1,097.92           EFT 24-Apr-2024           11853         Narelle Best         Reimbursement         87.00           10368         AAA Windscreens & Tinting         Plant Repairs and Maintenance         340.00           10613         ABCO Products <t< td=""><td></td><td></td><td></td><td></td></t<>				
10551         Water Corporation of Western Australia         Utilities         3,626.47           10774         Website Weed & Pest (WA) Pty Ltd         Weed Control         5,926.55           10554         Westbooks         Books/CDs/DVDs         1,782.70           10556         Western Irrigation Pty Ltd         Reticulation Parts & Repairs         2,725.64           10422         Winc Australia Pty Ltd         Stationery         2,415.74           10072         Woolworths Group Online         Groceries         1,299.71           11605         Woolworths Group Open Pay         Groceries         2,746.16           11167         Workpower Incorporated         Maintenance of Streetscapes/Landscapes         2,706.00           10842         Zenien Pty Ltd T/as ATFT Astuta Trust         Records Storage/Retrieval         908.60           10610         ZircoData Pty Ltd         Records Storage/Retrieval         1,097.92           EFT 24-Apr-2024           11853         Narelle Best         Reimbursement         87.00           10368         AAA Windscreens & Tinting         Plant Repairs and Maintenance         340.00           10613         ABCO Products         Cleaning Products         49.64           11797         Allways Property Maintenance         Facility			·	
10774         Website Weed & Pest (WA) Pty Ltd         Weed Control         5,926.55           10554         Westbooks         Books/CDs/DVDs         1,782.70           10556         Western Irrigation Pty Ltd         Reticulation Parts & Repairs         2,725.64           10422         Winc Australia Pty Ltd         Stationery         2,415.74           10072         Woolworths Group Online         Groceries         1,299.71           11605         Woolworths Group Open Pay         Groceries         2,746.16           11167         Workpower Incorporated         Maintenance of Streetscapes/Landscapes         2,706.00           10842         Zenien Pty Ltd T/as ATFT Astuta Trust         Records Storage/Retrieval         908.60           10610         ZircoData Pty Ltd         Records Storage/Retrieval         1,097.92           EFT 24-Apr-2024           11853         Narelle Best         Reimbursement         87.00           10368         AAA Windscreens & Tinting         Plant Repairs and Maintenance         340.00           10613         ABCO Products         Cleaning Products         49.64           11797         Allways Property Maintenance         Facility Maintenance         3,465.00				
10554         Westbooks         Books/CDs/DVDs         1,782.70           10556         Western Irrigation Pty Ltd         Reticulation Parts & Repairs         2,725.64           10422         Winc Australia Pty Ltd         Stationery         2,415.74           10072         Woolworths Group Online         Groceries         1,299.71           11605         Woolworths Group Open Pay         Groceries         2,746.16           11167         Workpower Incorporated         Maintenance of Streetscapes/Landscapes         2,706.00           10842         Zenien Pty Ltd T/as ATFT Astuta Trust         Records Storage/Retrieval         908.60           10610         ZircoData Pty Ltd         Records Storage/Retrieval         1,097.92           EFT 24-Apr-2024           11853         Narelle Best         Reimbursement         87.00           10368         AAA Windscreens & Tinting         Plant Repairs and Maintenance         340.00           10613         ABCO Products         Cleaning Products         49.64           11797         Allways Property Maintenance         Facility Maintenance         3,465.00				
10556         Western Irrigation Pty Ltd         Reticulation Parts & Repairs         2,725.64           10422         Winc Australia Pty Ltd         Stationery         2,415.74           10072         Woolworths Group Online         Groceries         1,299.71           11605         Woolworths Group Open Pay         Groceries         2,746.16           11167         Workpower Incorporated         Maintenance of Streetscapes/Landscapes         2,706.00           10842         Zenien Pty Ltd T/as ATFT Astuta Trust         Records Storage/Retrieval         908.60           10610         ZircoData Pty Ltd         Records Storage/Retrieval         1,097.92           EFT 24-Apr-2024           11853         Narelle Best         Reimbursement         87.00           10368         AAA Windscreens & Tinting         Plant Repairs and Maintenance         340.00           10613         ABCO Products         Cleaning Products         49.64           11797         Allways Property Maintenance         Facility Maintenance         3,465.00		` , ,		
10422         Winc Australia Pty Ltd         Stationery         2,415.74           10072         Woolworths Group Online         Groceries         1,299.71           11605         Woolworths Group Open Pay         Groceries         2,746.16           11167         Workpower Incorporated         Maintenance of Streetscapes/Landscapes         2,706.00           10842         Zenien Pty Ltd T/as ATFT Astuta Trust         Records Storage/Retrieval         908.60           10610         ZircoData Pty Ltd         Records Storage/Retrieval         1,097.92           EFT 24-Apr-2024           11853         Narelle Best         Reimbursement         87.00           10368         AAA Windscreens & Tinting         Plant Repairs and Maintenance         340.00           10613         ABCO Products         Cleaning Products         49.64           11797         Allways Property Maintenance         Facility Maintenance         3,465.00				
10072         Woolworths Group Online         Groceries         1,299.71           11605         Woolworths Group Open Pay         Groceries         2,746.16           11167         Workpower Incorporated         Maintenance of Streetscapes/Landscapes         2,706.00           10842         Zenien Pty Ltd T/as ATFT Astuta Trust         Records Storage/Retrieval         908.60           10610         ZircoData Pty Ltd         Records Storage/Retrieval         1,097.92           EFT 24-Apr-2024           11853         Narelle Best         Reimbursement         87.00           10368         AAA Windscreens & Tinting         Plant Repairs and Maintenance         340.00           10613         ABCO Products         Cleaning Products         49.64           11797         Allways Property Maintenance         Facility Maintenance         3,465.00				,
11605         Woolworths Group Open Pay         Groceries         2,746.16           11167         Workpower Incorporated         Maintenance of Streetscapes/Landscapes         2,706.00           10842         Zenien Pty Ltd T/as ATFT Astuta Trust         Records Storage/Retrieval         908.60           10610         ZircoData Pty Ltd         Records Storage/Retrieval         1,097.92           EFT 24-Apr-2024           11853         Narelle Best         Reimbursement         87.00           10368         AAA Windscreens & Tinting         Plant Repairs and Maintenance         340.00           10613         ABCO Products         Cleaning Products         49.64           11797         Allways Property Maintenance         Facility Maintenance         3,465.00				
11167         Workpower Incorporated         Maintenance of Streetscapes/Landscapes         2,706.00           10842         Zenien Pty Ltd T/as ATFT Astuta Trust         Records Storage/Retrieval         908.60           10610         ZircoData Pty Ltd         Records Storage/Retrieval         1,097.92           EFT 24-Apr-2024           11853         Narelle Best         Reimbursement         87.00           10368         AAA Windscreens & Tinting         Plant Repairs and Maintenance         340.00           10613         ABCO Products         Cleaning Products         49.64           11797         Allways Property Maintenance         Facility Maintenance         3,465.00				
10842         Zenien Pty Ltd T/as ATFT Astuta Trust         Records Storage/Retrieval         908.60           10610         ZircoData Pty Ltd         Records Storage/Retrieval         1,097.92           EFT 24-Apr-2024           11853         Narelle Best         Reimbursement         87.00           10368         AAA Windscreens & Tinting         Plant Repairs and Maintenance         340.00           10613         ABCO Products         Cleaning Products         49.64           11797         Allways Property Maintenance         Facility Maintenance         3,465.00				
10610         ZircoData Pty Ltd         Records Storage/Retrieval         1,097.92           EFT 24-Apr-2024         11853         Narelle Best         Reimbursement         87.00           10368         AAA Windscreens & Tinting         Plant Repairs and Maintenance         340.00           10613         ABCO Products         Cleaning Products         49.64           11797         Allways Property Maintenance         Facility Maintenance         3,465.00				
EFT 24-Apr-2024           11853         Narelle Best         87.00           10368         AAA Windscreens & Tinting         Plant Repairs and Maintenance         340.00           10613         ABCO Products         Cleaning Products         49.64           11797         Allways Property Maintenance         Facility Maintenance         3,465.00			•	
11853         Narelle Best         Reimbursement         87.00           10368         AAA Windscreens & Tinting         Plant Repairs and Maintenance         340.00           10613         ABCO Products         Cleaning Products         49.64           11797         Allways Property Maintenance         Facility Maintenance         3,465.00		ZircoData Pty Ltd	Records Storage/Retrieval	1,097.92
10368         AAA Windscreens & Tinting         Plant Repairs and Maintenance         340.00           10613         ABCO Products         Cleaning Products         49.64           11797         Allways Property Maintenance         Facility Maintenance         3,465.00	EFT 24-Apr-2024			
10613 ABCO Products Cleaning Products 49.64 11797 Allways Property Maintenance Facility Maintenance 3,465.00				
11797 Allways Property Maintenance Facility Maintenance 3,465.00				
3/05/2024 Page 5 of	11797	Allways Property Maintenance	Facility Maintenance	3,465.00
	3/05/2024			Page 5 of 7





reditor No	Payee	Description	Amoun
1355	Australian HVAC Services Pty Ltd	Airconditioning/Refrigeration Maintenance	542
)584	Australian Native Nurseries Group	Plant Purchase	330
676	Barry Charles Winmar	Elected Member Sitting Fees/reimbursements	4,983
)597	Beaver Tree Services Aust Pty Ltd	Tree Pruning/Removal/Clearance/Watering	35,021
392	Benara Nurseries	Maintenance of Streetscapes/Landscapes	1,359
1268	Biffa Mini Bins	Waste removal/services/fees	590
0450	Blackwoods Pty Ltd	Safety Clothing/Equipment/Uniforms	823
0400	Bunnings Building Supplies	Hardware	572
1312	Burson Automotive Pty Ltd	Plant Repairs and Maintenance	1,157
0686	Chefmaster Australia	Maintenance of Streetscapes/Landscapes	1,300
1922	ChoiceOne Pty Ltd	Human Resources/Payroll	3,853
2175	Christopher Aaron Tate	Electrical Goods	396
2252	Christopher William Jones	Fire Equipment/Service	638
		Stationery	34
761	Complete Office Supplies Pty Ltd	•	
2407	Dahdal, Zaki	Building and Construction Industry Training Fund	2,500
2220	David Acker	Elected Member Sitting Fees/reimbursements	3,038
268	Diplomatik Pty Ltd	Medical Examinations	4,83
1239	Downtown Liquor Pty Ltd	Catering	269
0870	Elexacom	Electrical Services	5,100
978	Envirosweep	Maintenance of Streetscapes/Landscapes	71
2239	Erin Sergeant	Elected Member Sitting Fees/reimbursements	3,038
319	Fire Rescue Safety Australia Pty Ltd	Fire Equipment/Service	25
940	Frontline Fire and Rescue Equipment	Safety Clothing/Equipment/Uniforms	277
)124	Good Samaritan Industries	Event expenses	165
2376	GRA Partners Pty Ltd	Provision of Consulting Services	13,750
1582	Hames Sharley Pty Ltd	Professional Fees (Advocacy Strategy)	5,28
0695	Hays Specialist Recruitment Pty Ltd	Labour/Personnel Hire	1,70
0691	HECS Fire	Fire Equipment/Service	2,54
617	High Tea in a Box	Catering	1,72
2142	Hydroquip Pumps & Pumps Irrigation P/L	Bore Drilling/Maintenance	1,75
305	Iconic Property Services Pty Ltd	Cleaning Services	9,08
855	Imagesource Digital Solutions	Printing/Graphic Design Expenses	35
238	Ivy Penny	Elected Member Sitting Fees/reimbursements	3,03
0621	Ixom Operations Pty Ltd	Cleaning Products	1,24
119	Jade Calley	Reimbursement	9
547		Plant Repairs and Maintenance	50
	Jax Tyres Kwinana		
339	Jenga Pty Ltd	Facility Maintenance	15
1453	K Mart	Event expenses	23
2383	Karnup Volunteer Fire Emergency Svs	Hazard Reduction burning	35
1344	Kits for Cars	Plant Repairs and Maintenance	2,200
2346	Kulbardi Pty Ltd	Advertising/Marketing Expenses	1,27
2112	Kwinana Swimming Club	Community Grants/Funding	4,000
0731	LD Total	Maintenance of Streetscapes/Landscapes	12,209
0034	Lindsey Barker	Refund	660
1168	Living Turf	Turf Maintenance	41:
0011	Lo-Go Appointments	Labour/Personnel Hire	3,16
1313	Mackie Plumbing and Gas Pty Ltd	Plumbing Services	2,66
1046	Matthew James Rowse		3,03
		Elected Member Sitting Fees/reimbursements	
677	Michael Brown	Elected Member Sitting Fees/reimbursements	3,03
717	MRP General Pest/Termite Division 43 07	Pest Control	60
2088	Netcaz Pty Ltd (Premier Tarps)	Plant Repairs and Maintenance	20
2468	Nicholas Clark Management Pty Ltd	Performers/Entertainment	3,02
245	One 20 Productions and Phase 1 Audio	Photography/Videography	2,98
589	Parkin Print	Printing/Graphic Design Expenses	28
118	Peter de Lang	Reimbursement	2
660	Peter Edward Feasey	Elected Member Sitting Fees/reimbursements	12,19
1995	Purearth	Maintenance of Streetscapes/Landscapes	9,76
175	QTM Pty Ltd	·	18,83
	Reads West Coast Maintenance Pty Ltd	Traffic Management - various sites	
846		Facility Maintenance	39
869	Robinsons Welding Group P/L	Welding Equipment/Supplies	1,44
1503	Royal Life Saving Society	Recquatic Expenses	1,72
389	Rubek Automatic Doors	Facility Maintenance	26
)568	Sherilyn Wood	Elected Member Sitting Fees/reimbursements	3,03
956	Signarama Rockingham	Facility Maintenance	26
2162	Simon Matesich	Electrical Services	10
)491	Sonic Health Plus	Medical Examinations	1.06
519	Sportsworld Of WA	Recquatic Expenses	21
520	St John Ambulance Australia (WA) Inc	Employee Training/professional development	17
1524	Stewart & Heaton Clothing Co Pty Ltd	Safety Clothing/Equipment/Uniforms	11
			1.89
201	Strategic DCP Consulting	Professional Fees	,
999	Sundry EFT	Rates refund/Grants/Subsidy	6,05
675	Susan Edith Kearney	Elected Member Sitting Fees/reimbursements	3,03
981	Sydney Tools Pty Ltd	Tools/Tool Repairs	56
0600	Synergy	Utilities	35,86
526	Telstra Limited	Phone/Internet expenses	1,78
132	The People Catalyst Pty Ltd	Employee Training/professional development	2,39
2473	The Trustee of Alpine Studio Trust	Performers/Entertainment	2,72
786	Tony Aveling & Associates Pty Ltd	Employee Training/professional development	7
)534	Total Eden Pty Ltd (Nutrien Water)	Reticulation Parts & Repairs	27
	Total Tools Rockingham	Tools/Tool Repairs	31
957			
	Totally Workwear Rockingham	Safety Clothing/Equipment/Uniforms	35
815			
9957 9815 699 2152	Totally Workwear Rockingham Trophy Express Trustee For the Tanks For Hire Trust	Safety Clothing/Equipment/Uniforms Recquatic Expenses Plant/Equipment Hire	35/ 97/ 72/





Creditor No	editor No Payee Description		Amount
10599	Veolia - Recycling and Recovery P/L	Waste removal/services/fees	194,597.08
10551	Water Corporation of Western Australia	Utilities	10,214.96
10422	Winc Australia Pty Ltd	Stationery	33.73
11605	Woolworths Group Open Pay	Groceries	1,712.67
11167	Workpower Incorporated	Maintenance of Streetscapes/Landscapes	4,477.00
10561	Wurth Australia Pty Ltd Tools/Tool Repairs		1,981.53
Automatic Deduc	otiono.	Total EFT	13,605,860.54
Automatic Deduct 10795	•	Dhana/Internet average	151.80
	Go Go On-Hold Pty Ltd	Phone/Internet expenses	151.80
Automatic Deduct	•	Discount flush and a second	70.00
10448	iinet Technologies Pty Ltd	Phone/Internet expenses	79.99
Automatic Deduct	•	Discouring the transport of the second	242.00
10448	iinet Technologies Pty Ltd	Phone/Internet expenses	319.96
Automatic Deduct	•	0 111	05.004.00
10969	Commonwealth Bank	Credit cards	35,864.60
10438	Fines Enforcement Registry	Fines Enforcement Registry lodgment fees	83.50
Automatic Deduct		F1	205.04
10645	Toyota Fleet Management	Fleet management	635.24
Automatic Deduct	•		
10438	Fines Enforcement Registry	Fines Enforcement Registry lodgment fees	501.00
Payroll		Total Automatic Deductions	37,636.09
		IZIMINANA 04/00/0004	704 477 00
Payroll		KWINANA 31/03/2024	721,477.09
Payroll		KWINANA 01/04/2024	1,090.81
Payroll		KWINANA 05/04/2024	15,653.25
Payroll		KWINANA 08/04/2024	1,896.19
Payroll		KWINANA 12/04/2024	27,371.33
Payroll		KWINANA 14/04/2024	716,624.62
Payroll		KWINANA 18/04/2024	7,230.65
Payroll		KWINANA 19/04/2024	1,150.25
Payroll		KWINANA 24/04/2024	2,436.32
		Total Payroll	1,494,930.51
		Grand Total	15,138,532.24

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# **Credit Card Transactions**





Reference	Trans Date	Supplier	Amount	Transaction Description	
Credit Card Coordinator Library Services			262.91		
106144	28/03/2024	JB Hifi	239.01	DVDs for the Library	
106144			23.90	GST	
Credit Card Technical Officer Fleet Operations		557.50			
106145	27/03/2024	Anne Caffe Lunchbar	506.82	Easter breakfast for Depot staff	
106145			50.68	GST	
	ger ED & Advocacy		149.25		
106146	20/03/2024	Ventrata City Tourism	81.82	Team building exercise	
106146	19/03/2024	Bliss Momos Café	53.86	Coffees for Home Based Business group	
106146			13.57	GST	
Credit Card City D	evelopment and Sus	tainability	70.08		
106147	22/03/2024	City of Vincent	6.82	Parking, Consultant Meeting	
106147	08/03/2024	City Perth	12.39	Parking, Planning Institute of Australia	
106147	08/03/2024	Dome Kwinana	44.50	Catering, International Women's Day	
106147			6.37	GST	
Credit Card Manag	ger Customer and Co	ommunications	4,283.62		
106148	31/03/2024	Facebook	31.93	Facebook Ad - Recquatic Programs	
106148	31/03/2024	Facebook	196.43	Facebook Ad - Summer Sounds Harmony Edition	
106148	31/03/2024	Facebook	6.23	Facebook Ad - International Day People with Disability	
106148	31/03/2024	Facebook	20.73	Facebook Ad - Alcoa Children's Festival	
106148	21/03/2024	Facebook	235.90	Facebook Ad - Bulk Waste	
106148	21/03/2024	Facebook	40.00	Facebook Ad - Water Safety	
106148	21/03/2024	Facebook	572.18	Facebook Ad - Summer Sounds (Harmony)	
106148	21/03/2024	Facebook	93.77	Facebook Ad - International Day People with Disability	
106148	21/03/2024	Facebook	137.39	Facebook Ad - Business Survey	

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106148	21/03/2024	Facebook	170.76	Facebook Ad - Alcoa Children's Festival
106148	14/03/2024	WA News	25.45	West Australian Newspaper Subscription
106148	14/03/2024	Open Al	30.35	Chat GPT Subscription
106148	14/03/2024	Open AI	0.76	International Transaction Fee
106148	08/03/2024	Mail Chimp	427.41	Email marketing software
106148	08/03/2024	Video CoPilot	251.56	Video Edditing Effects Plug-in
106148	08/03/2024	Video CoPilot	6.29	International Transaction Fee
106148	06/03/2024	Facebook	264.03	Facebook Ad - Bulk Waste
106148	06/03/2024	Facebook	22.33	Facebook Ad - 49 Days for \$29 - Recquatic
106148	06/03/2024	Facebook	286.13	Facebook Ad - Summer Sounds - Harmony Edition
106148	06/03/2024	Facebook	26.34	Facebook Ad - City Centre Precinct
106148	06/03/2024	Facebook	112.54	Facebook Ad - Business Survey/Local Commercial
106148	06/03/2024	Facebook	538.63	Facebook Ad - Alcoa Children's Festival
106148	05/03/2024	Typeform	59.17	Subscription - advance form module
106148	05/03/2024	Typeform	1.48	International Transaction Fee
106148	02/04/2024	Google Ads	463.02	Google Ads - Summer Sounds (Harmony)
106148	02/04/2024	Google Ads	194.51	Google Ads - Alcoa Children's Festival
106148		•	68.30	GST
Credit Card Manag	er Information Tech	nology	422.89	
106149	19/03/2024	Bunnings Group Limited	243.64	Shelves and storage
106149	19/03/2024	Optus Billing Services Pty	80.91	Honeywood backup - Optus plan
106149	05/03/2024	Microsoft Pty Ltd	59.90	Teams room test
106149	00/00/202		38.44	GST
Credit Card CEO			109 77	
Credit Card CEO	24/03/2024	Australian USA Consulate	<b>109.77</b>	Witnessing and Notarising of Documents
106150	24/03/2024 24/03/2024	Australian USA Consulate	76.83	Witnessing and Notarising of Documents
106150 106150	24/03/2024	International Transaction Fee	76.83 1.92	Intenational Transaction Fee for US Consulate
106150 106150 106150	24/03/2024 09/02/2024	International Transaction Fee ChatGPT Subscription	76.83 1.92 30.26	Intenational Transaction Fee for US Consulate Monthly Subscription for Open AI Chat GP
106150 106150	24/03/2024	International Transaction Fee	76.83 1.92	Intenational Transaction Fee for US Consulate
106150 106150 106150 106150	24/03/2024 09/02/2024 09/02/2024	International Transaction Fee ChatGPT Subscription International Transaction Fee	76.83 1.92 30.26 0.76	Intenational Transaction Fee for US Consulate Monthly Subscription for Open AI Chat GP
106150 106150 106150 106150 Credit Card Coord	24/03/2024 09/02/2024 09/02/2024 inator Community So	International Transaction Fee ChatGPT Subscription International Transaction Fee ervices and Partnership	76.83 1.92 30.26 0.76	Intenational Transaction Fee for US Consulate Monthly Subscription for Open AI Chat GP International Transaction Fee for Chat GPT
106150 106150 106150 106150 106150 Credit Card Coord 106183	24/03/2024 09/02/2024 09/02/2024 inator Community So 28/03/2024	International Transaction Fee ChatGPT Subscription International Transaction Fee ervices and Partnership Coles	76.83 1.92 30.26 0.76 <b>1,445.57</b> 114.45	Intenational Transaction Fee for US Consulate Monthly Subscription for Open AI Chat GP International Transaction Fee for Chat GPT  Arclight - Breakfast/Family Gift
106150 106150 106150 106150 106150 Credit Card Coord 106183 106183	24/03/2024 09/02/2024 09/02/2024 inator Community So 28/03/2024 28/03/2024	International Transaction Fee ChatGPT Subscription International Transaction Fee  ervices and Partnership Coles Flip Out	76.83 1.92 30.26 0.76 <b>1,445.57</b> 114.45 64.91	Intenational Transaction Fee for US Consulate Monthly Subscription for Open AI Chat GP International Transaction Fee for Chat GPT  Arclight - Breakfast/Family Gift Arclight - Reward Activity
106150 106150 106150 106150 106150 Credit Card Coord 106183 106183	24/03/2024 09/02/2024 09/02/2024 inator Community St 28/03/2024 28/03/2024 28/03/2024	International Transaction Fee ChatGPT Subscription International Transaction Fee  ervices and Partnership  Coles Flip Out FlipOut	76.83 1.92 30.26 0.76 1,445.57 114.45 64.91 17.09	Intenational Transaction Fee for US Consulate Monthly Subscription for Open AI Chat GP International Transaction Fee for Chat GPT  Arclight - Breakfast/Family Gift Arclight - Reward Activity Arclight - Drinks
106150 106150 106150 106150 106150 Credit Card Coord 106183 106183 106183	24/03/2024 09/02/2024 09/02/2024 inator Community St 28/03/2024 28/03/2024 28/03/2024 28/03/2024	International Transaction Fee ChatGPT Subscription International Transaction Fee  ervices and Partnership Coles Flip Out FlipOut McDonalds	76.83 1.92 30.26 0.76 1,445.57 114.45 64.91 17.09 45.82	Intenational Transaction Fee for US Consulate Monthly Subscription for Open AI Chat GP International Transaction Fee for Chat GPT  Arclight - Breakfast/Family Gift Arclight - Reward Activity Arclight - Drinks Arclight - Lunch
106150 106150 106150 106150 106150 Credit Card Coord 106183 106183 106183 106183	24/03/2024 09/02/2024 09/02/2024 inator Community St 28/03/2024 28/03/2024 28/03/2024 28/03/2024 20/03/2024	International Transaction Fee ChatGPT Subscription International Transaction Fee  ervices and Partnership  Coles Flip Out FlipOut McDonalds Officeworks Jandakot	76.83 1.92 30.26 0.76 1,445.57 114.45 64.91 17.09 45.82 21.35	Intenational Transaction Fee for US Consulate Monthly Subscription for Open AI Chat GP International Transaction Fee for Chat GPT  Arclight - Breakfast/Family Gift Arclight - Reward Activity Arclight - Drinks Arclight - Lunch Stationary
106150 106150 106150 106150 106150 Credit Card Coord 106183 106183 106183 106183 106183	24/03/2024 09/02/2024 09/02/2024 inator Community St 28/03/2024 28/03/2024 28/03/2024 28/03/2024 28/03/2024 18/03/2024	International Transaction Fee ChatGPT Subscription International Transaction Fee  ervices and Partnership  Coles Flip Out FlipOut McDonalds Officeworks Jandakot City of Canning	76.83 1.92 30.26 0.76 1,445.57 114.45 64.91 17.09 45.82 21.35 163.64	Intenational Transaction Fee for US Consulate Monthly Subscription for Open AI Chat GP International Transaction Fee for Chat GPT  Arclight - Breakfast/Family Gift Arclight - Reward Activity Arclight - Drinks Arclight - Lunch Stationary Samphire Room Hire
106150 106150 106150 106150 106150 Credit Card Coord 106183 106183 106183 106183	24/03/2024 09/02/2024 09/02/2024 inator Community St 28/03/2024 28/03/2024 28/03/2024 28/03/2024 20/03/2024	International Transaction Fee ChatGPT Subscription International Transaction Fee  ervices and Partnership  Coles Flip Out FlipOut McDonalds Officeworks Jandakot	76.83 1.92 30.26 0.76 1,445.57 114.45 64.91 17.09 45.82 21.35	Intenational Transaction Fee for US Consulate Monthly Subscription for Open AI Chat GP International Transaction Fee for Chat GPT  Arclight - Breakfast/Family Gift Arclight - Reward Activity Arclight - Drinks Arclight - Lunch Stationary

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106183	14/03/2024	Coles	15.00	Arclight - Water
106183	14/03/2024	Coles	6.36	Arclight - Lunch
106183	14/03/2024	Coles	3.00	Arclight - Lunch
106183	14/03/2024	Universal Store	122.68	Arclight - Client Clothes
106183	12/03/2024	Rockingham Bowls Club	65.45	Managment Challenge Social
106183	11/03/2024	Coles	35.45	Icy Poles for Year 7 Transition
106183	09/03/2024	Maneki Neko	35.12	Lunch for KYAC at Childrens Fest
106183	09/03/2024	The Big Slice	24.95	Lunch for KYAC at Childrens Fest
106183	09/03/2024	Kjun Kitchen	27.46	Lunch for KYAC at Childrens Fest
106183	09/03/2024	Dalal	10.91	Lunch for KYAC at Childrens Fest
106183	07/03/2024	McDonalds Kwinana	31.14	Arclight - Lunch
106183	06/03/2024	Netflix	15.45	Monthly Netflix subscription
106183	06/03/2024	Power Play	181.82	Zone SHP Activity
106183	02/04/2024	Flip Out	259.64	July School Holiday program activity
106183			129.77	GST

Credit Card EA to CEO and Mayor			965.25	
106184	14/03/2024	Framesport	877.50	Framing of art work for Mayor
106184			87.75	GST

Credit Card Manager Governance and Legal				
106185	26/03/2024	Austr. Securities & Investments Commission	10.00	Company Extract Fee - DCP Refund
106185	18/03/2024	Curtin University	2,054.28	Graduate Certificate in Development Planning
106185	14/03/2024	Ashdabs Pty Ltd	115.45	Staff attendance at Team Building event
106185	06/03/2024	Flight Club Pty Ltd	144.00	Staff attendance at Team Building event
106185	03/04/2024	Local Governement Professionals Australia	109.09	Tickets - Collab Volunteering Network
106185	02/04/2024	Merchandising Libraries Pty	361.82	Tickets - Inspired Libraries Workshop
106185	02/04/2024	Merchandising Libraries Pty	6.97	Surcharge - Inspired Libraries Workshop
106185	02/04/2024	Merchandising Libraries Pty	63.83	Tickets - Gentrification Showcase
106185	02/04/2024	Humanitix Limited	143.35	Tickets - Aboriginal Cultural Heritage workshop
106185	02/04/2024	Humanitix Limited	45.45	Tickets - Artwalk Freo 2024
106185	02/04/2024	Merchandising Libraries Pty	331.15	Tickets - Inspired Libraries Workshop
106185			117.03	GST

Credit Card Director PSW	MA		1,005.07	
106186	30/03/2024	Wilson Parking	3.82	Catalpa Event Fremantle - no receipt
106186	26/03/2024	Netregistry	25.91	Perthroads domain registration
106186	18/03/2024	AMDA Foundation	450.00	Indian Ocean Defence & Security 2024
106186	13/03/2024	EB Business Breakfast	35.45	Development WA update - Business Breakfast

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	11/03/2024	DMIRS East Perth	25.60	Certificate of Incorporation SWCDF
106186	09/03/2024	Wilson Park	12.89	Murray Street parking
106186	07/03/2024	Cafe Royal	30.54	KIC Meeting
106186	06/03/2024	WANEWSDTI	331.82	WA News Digital
106186			89.04	GST
Credit Card Dire	ector City Infrastructure		7,436.76	
106187	5/03/2024	Main Roads WA	450.00	Training IPWEA course
106187	23/03/2024	Wilson Parking	28.54	Parking - Fair Value Workshop
106187	21/03/2024	Qantas	878.75	Flights for 2024 International Public Works Conference
106187	20/03/2024	Costco	79.10	Farewell Morning Tea
106187	20/03/2024	IPWEA	2,142.00	2024 International Public Works Conference
106187	20/03/2024	Costco	23.27	Farewell Morning Tea
106187	12/03/2024	Appliances Online	2,210.00	Purchase of replacement oven for Fiona Harris
106187	09/03/2024	Secure Parking Collie Stree	51.15	Parking - IPWEA 2024 Conference
106187	05/03/2024	Main Roads WA	450.00	Training IPWEA course
106187	05/03/2024	Main Roads WA	450.00	Training IPWEA course
106187			673.95	GST
<b>Credit Card Hur</b>	nan Resources Manage	er	9,941.82	
106188	26/03/2024	Top Florist	68.45	Significant person event - Flowers
106188 106188	26/03/2024 19/03/2024	Top Florist HBF	68.45 148.18	Significant person event - Flowers HBF - Run for a Reason - 3 team members
106188	19/03/2024	HBF	148.18	HBF - Run for a Reason - 3 team members
106188 106188	19/03/2024 13/03/2024	HBF HBF	148.18 190.91	HBF - Run for a Reason - 3 team members HBF - Run for a Reason - 4 team members
106188 106188 106188	19/03/2024 13/03/2024 13/03/2024	HBF HBF Achieveability Pty Ltd (Access Institute)	148.18 190.91 714.00	HBF - Run for a Reason - 3 team members HBF - Run for a Reason - 4 team members Study fee - Understanding Access Legislation & Universal Design in Buildir
106188 106188 106188 106188	19/03/2024 13/03/2024 13/03/2024 13/03/2024	HBF HBF Achieveability Pty Ltd (Access Institute) Urban Bushland Council	148.18 190.91 714.00 50.00	HBF - Run for a Reason - 3 team members HBF - Run for a Reason - 4 team members Study fee - Understanding Access Legislation & Universal Design in Buildir Course fee - Limestone Karst Ecosystems & Honeymyrtle Shrubland
106188 106188 106188 106188 106188	19/03/2024 13/03/2024 13/03/2024 13/03/2024 12/02/2024	HBF HBF Achieveability Pty Ltd (Access Institute) Urban Bushland Council Humantix Bunuru Summit	148.18 190.91 714.00 50.00 363.64	HBF - Run for a Reason - 3 team members HBF - Run for a Reason - 4 team members Study fee - Understanding Access Legislation & Universal Design in Buildir Course fee - Limestone Karst Ecosystems & Honeymyrtle Shrubland Bunuru Social Impact Summit 2024 - Engagement
106188 106188 106188 106188 106188 106188	19/03/2024 13/03/2024 13/03/2024 13/03/2024 12/02/2024 11/03/2024	HBF HBF Achieveability Pty Ltd (Access Institute) Urban Bushland Council Humantix Bunuru Summit Humantix Bunuru Summit	148.18 190.91 714.00 50.00 363.64 363.64	HBF - Run for a Reason - 3 team members HBF - Run for a Reason - 4 team members Study fee - Understanding Access Legislation & Universal Design in Buildir Course fee - Limestone Karst Ecosystems & Honeymyrtle Shrubland Bunuru Social Impact Summit 2024 - Engagement Bunuru Social Impact Summit 2024 - Engagement
106188 106188 106188 106188 106188 106188 106188	19/03/2024 13/03/2024 13/03/2024 13/03/2024 12/02/2024 11/03/2024 11/03/2024	HBF HBF Achieveability Pty Ltd (Access Institute) Urban Bushland Council Humantix Bunuru Summit Humantix Bunuru Summit Murdoch University HBF Curtin University	148.18 190.91 714.00 50.00 363.64 363.64 2,502.50	HBF - Run for a Reason - 3 team members HBF - Run for a Reason - 4 team members Study fee - Understanding Access Legislation & Universal Design in Buildir Course fee - Limestone Karst Ecosystems & Honeymyrtle Shrubland Bunuru Social Impact Summit 2024 - Engagement Bunuru Social Impact Summit 2024 - Engagement Study fee - Research Methods for Innovation - Environment
106188 106188 106188 106188 106188 106188 106188 106188	19/03/2024 13/03/2024 13/03/2024 13/03/2024 12/02/2024 11/03/2024 11/03/2024 08/03/2024	HBF HBF Achieveability Pty Ltd (Access Institute) Urban Bushland Council Humantix Bunuru Summit Humantix Bunuru Summit Murdoch University HBF	148.18 190.91 714.00 50.00 363.64 363.64 2,502.50 190.91	HBF - Run for a Reason - 3 team members HBF - Run for a Reason - 4 team members Study fee - Understanding Access Legislation & Universal Design in Buildir Course fee - Limestone Karst Ecosystems & Honeymyrtle Shrubland Bunuru Social Impact Summit 2024 - Engagement Bunuru Social Impact Summit 2024 - Engagement Study fee - Research Methods for Innovation - Environment HBF - Run for a Reason - 4 team members
106188 106188 106188 106188 106188 106188 106188 106188	19/03/2024 13/03/2024 13/03/2024 13/03/2024 12/02/2024 11/03/2024 08/03/2024 08/03/2024	HBF HBF Achieveability Pty Ltd (Access Institute) Urban Bushland Council Humantix Bunuru Summit Humantix Bunuru Summit Murdoch University HBF Curtin University	148.18 190.91 714.00 50.00 363.64 363.64 2,502.50 190.91 1,547.12	HBF - Run for a Reason - 3 team members HBF - Run for a Reason - 4 team members Study fee - Understanding Access Legislation & Universal Design in Buildir Course fee - Limestone Karst Ecosystems & Honeymyrtle Shrubland Bunuru Social Impact Summit 2024 - Engagement Bunuru Social Impact Summit 2024 - Engagement Study fee - Research Methods for Innovation - Environment HBF - Run for a Reason - 4 team members Study fees - Switching on Innovation course - Marketing
106188 106188 106188 106188 106188 106188 106188 106188 106188	19/03/2024 13/03/2024 13/03/2024 13/03/2024 12/02/2024 11/03/2024 08/03/2024 08/03/2024 08/03/2024	HBF HBF Achieveability Pty Ltd (Access Institute) Urban Bushland Council Humantix Bunuru Summit Humantix Bunuru Summit Murdoch University HBF Curtin University Bloomex Order No. 2213213	148.18 190.91 714.00 50.00 363.64 363.64 2,502.50 190.91 1,547.12 61.52	HBF - Run for a Reason - 3 team members HBF - Run for a Reason - 4 team members Study fee - Understanding Access Legislation & Universal Design in Buildir Course fee - Limestone Karst Ecosystems & Honeymyrtle Shrubland Bunuru Social Impact Summit 2024 - Engagement Bunuru Social Impact Summit 2024 - Engagement Study fee - Research Methods for Innovation - Environment HBF - Run for a Reason - 4 team members Study fees - Switching on Innovation course - Marketing Significant person event - Flowers
106188 106188 106188 106188 106188 106188 106188 106188 106188 106188	19/03/2024 13/03/2024 13/03/2024 13/03/2024 12/02/2024 11/03/2024 08/03/2024 08/03/2024 08/03/2024 08/03/2024	HBF HBF Achieveability Pty Ltd (Access Institute) Urban Bushland Council Humantix Bunuru Summit Humantix Bunuru Summit Murdoch University HBF Curtin University Bloomex Order No. 2213213 Curtin University	148.18 190.91 714.00 50.00 363.64 2,502.50 190.91 1,547.12 61.52 1,547.12	HBF - Run for a Reason - 3 team members HBF - Run for a Reason - 4 team members Study fee - Understanding Access Legislation & Universal Design in Buildir Course fee - Limestone Karst Ecosystems & Honeymyrtle Shrubland Bunuru Social Impact Summit 2024 - Engagement Bunuru Social Impact Summit 2024 - Engagement Study fee - Research Methods for Innovation - Environment HBF - Run for a Reason - 4 team members Study fees - Switching on Innovation course - Marketing Significant person event - Flowers Study fees - Switching on Innovation course - Marketing
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106188 106188 106188 106188 106188 106188 106188 106188 106188 106188 106188	19/03/2024 13/03/2024 13/03/2024 13/03/2024 12/02/2024 11/03/2024 11/03/2024 08/03/2024 08/03/2024 08/03/2024 08/03/2024 08/03/2024	HBF HBF Achieveability Pty Ltd (Access Institute) Urban Bushland Council Humantix Bunuru Summit Humantix Bunuru Summit Murdoch University HBF Curtin University Bloomex Order No. 2213213 Curtin University Virgin Australia	148.18 190.91 714.00 50.00 363.64 363.64 2,502.50 190.91 1,547.12 61.52 1,547.12 478.72 1,147.70	HBF - Run for a Reason - 3 team members HBF - Run for a Reason - 4 team members Study fee - Understanding Access Legislation & Universal Design in Buildir Course fee - Limestone Karst Ecosystems & Honeymyrtle Shrubland Bunuru Social Impact Summit 2024 - Engagement Bunuru Social Impact Summit 2024 - Engagement Study fee - Research Methods for Innovation - Environment HBF - Run for a Reason - 4 team members Study fees - Switching on Innovation course - Marketing Significant person event - Flowers Study fees - Switching on Innovation course - Marketing Flights - Planning Institute Australia Congress 2024 Valued Employee & Team Recognition Award
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106189	26/03/2024	Uber Eats	161.89	Council Dinners - Nando's
106189		BP Express Kwinana	30.45	Ice for Summer Sounds Events
106189	23/03/2024	•	197.05	Platters for Summer Sounds - Green Room
106189	23/03/2024	Baolicious Truck	41.06	Staff Meals - Summer Sounds Event
106189	23/03/2024	Madcow Entertainment	48.14	Staff Meals - Summer Sounds Event
106189	22/03/2024	Officeworks	-40.00	Refund of money - product not available
106189	21/03/2024	Kmart	68.18	Juice Jugs for Citizenship Ceremonies
106189	18/03/2024	Five Rivers Enterprise	127.41	Pasta Cup - Council Dinners
106189	09/03/2024	Franny's Kitchen	18.18	Food Vouchers for Children's Festival
106189	09/03/2024	Maneki Neko Perth	54.52	Food Vouchers for Children's Festival
106189	09/03/2024	Dalal Laaraj	45.45	Food Vouchers for Children's Festival
106189	08/03/2024	BP Express Kwinana	21.82	Ice for Children's Festival
106189	06/03/2024		80.00	Certificate frames for Community Awards
106189	06/03/2024	Coles Kwinana	400.00	x4 Gift Voucher for selection panel
106189	06/03/2024	The Reject Shop	10.91	x6 Cards to thank the selection panel
106189	06/03/2024		250.00	Prizes for Children's Festival
106189	06/03/2024	Coles Kwinana	100.00	Voucher - LMK Survey - Competition at Children's Festival
106189	06/03/2024	Big W	104.55	Supplies for Children's Festival
106189	06/03/2024	Big W	36.00	Supplies for Children's Festival
106189	06/03/2024	Bunnings	545.83	Event Store re-supply
106189	06/03/2024	Ice Rays Australia	154.95	Sun Protection arm sleeves for Event Team
106189	05/03/2024	Officeworks	167.56	Lanyards and Velcro for Children's Festival
			152.11	GST
106189			102.11	001
106189			102.11	
	ctor. City Life			
Credit Card Direc		Department of Local Governm	201.61	
Credit Card Direct	28/03/2024	Department of Local Governm	<b>201.61</b> 29.50	Liquor Licence advertising banner
Credit Card Direct 106217 106217	28/03/2024 18/03/2024	Mailchimp	<b>201.61</b> 29.50 168.78	Liquor Licence advertising banner Monthly Subscription - Koorliny Art
Credit Card Direct 106217 106217 106217	28/03/2024	•	201.61 29.50 168.78 3.03	Liquor Licence advertising banner Monthly Subscription - Koorliny Art Parking/Best Practice & Engagement forum
Credit Card Direct 106217 106217	28/03/2024 18/03/2024	Mailchimp	<b>201.61</b> 29.50 168.78	Liquor Licence advertising banner Monthly Subscription - Koorliny Art
Credit Card Direct 106217 106217 106217 106217	28/03/2024 18/03/2024 08/03/2024	Mailchimp Town of Victoria Park	201.61 29.50 168.78 3.03 0.30	Liquor Licence advertising banner Monthly Subscription - Koorliny Art Parking/Best Practice & Engagement forum
Credit Card Direct 106217 106217 106217 106217 Credit Card Adm	28/03/2024 18/03/2024 08/03/2024 in & Special Projects (	Mailchimp Town of Victoria Park Officer	201.61 29.50 168.78 3.03 0.30	Liquor Licence advertising banner Monthly Subscription - Koorliny Art Parking/Best Practice & Engagement forum GST
Credit Card Direct 106217 106217 106217 106217  Credit Card Adm 106222	28/03/2024 18/03/2024 08/03/2024 in & Special Projects ( 26/03/2024	Mailchimp Town of Victoria Park  Officer Tods Café Mandurah	201.61 29.50 168.78 3.03 0.30 2,628.79 38.40	Liquor Licence advertising banner Monthly Subscription - Koorliny Art Parking/Best Practice & Engagement forum GST  Community Development Team Building Activity
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Credit Card Direct 106217 106217 106217 106217  Credit Card Adm 106222 106222 106222	28/03/2024 18/03/2024 08/03/2024 iin & Special Projects ( 26/03/2024 26/03/2024 22/03/2024	Mailchimp Town of Victoria Park  Difficer Tods Café Mandurah The Bridge Garden Bar OfficeWorks	201.61 29.50 168.78 3.03 0.30  2,628.79 38.40 274.92 435.68	Liquor Licence advertising banner Monthly Subscription - Koorliny Art Parking/Best Practice & Engagement forum GST  Community Development Team Building Activity Community Development Team Building Activity Stationery for Engagement
Credit Card Direct 106217 106217 106217 106217  Credit Card Adm 106222 106222 106222 106222	28/03/2024 18/03/2024 08/03/2024 in & Special Projects ( 26/03/2024 26/03/2024 22/03/2024 22/03/2024	Mailchimp Town of Victoria Park  Officer Tods Café Mandurah The Bridge Garden Bar OfficeWorks Coles Kwinana	201.61 29.50 168.78 3.03 0.30  2,628.79 38.40 274.92 435.68 113.64	Liquor Licence advertising banner Monthly Subscription - Koorliny Art Parking/Best Practice & Engagement forum GST  Community Development Team Building Activity Community Development Team Building Activity Stationery for Engagement Easter eggs for the CEO's distribution
Credit Card Direct 106217 106217 106217 106217 106217  Credit Card Adm 106222 106222 106222 106222 106222	28/03/2024 18/03/2024 08/03/2024 in & Special Projects ( 26/03/2024 26/03/2024 22/03/2024 22/03/2024 22/03/2024 22/03/2024	Mailchimp Town of Victoria Park  Officer Tods Café Mandurah The Bridge Garden Bar OfficeWorks Coles Kwinana OfficeWorks	201.61 29.50 168.78 3.03 0.30  2,628.79 38.40 274.92 435.68 113.64 135.45	Liquor Licence advertising banner Monthly Subscription - Koorliny Art Parking/Best Practice & Engagement forum GST  Community Development Team Building Activity Community Development Team Building Activity Stationery for Engagement Easter eggs for the CEO's distribution Utility Cart for the Active Travel Event
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106222		·	226.85	GST
106222	02/04/2024	Theraquatics	-21.22	Refund of money - product not available
106222	07/03/2024	Woolworths	100.00	Gift Cards for Community members, featured in Healthy Lifestyle video
106222	13/03/2024	Anyspaces	4.50	Credit card surcharge
106222	13/03/2024	Anyspaces	233.66	Marketplace in Kwinana for World Elder Abuse Awareness Day
106222	14/03/2024	WALGA	172.73	WALGA Aboriginal Engagement Forum

# 19 NOTICES OF MOTIONS OF WHICH PREVIOUS NOTICE HAS BEEN GIVEN

Nil

# 20 NOTICE OF MOTIONS FOR CONSIDERATION AT THE FOLLOWING MEETING IF GIVEN DURING THE MEETING

#### 21 LATE AND URGENT BUSINESS

Note: In accordance with Clauses 3.13 and 3.14 of Council's Standing Orders, only items resolved by Council to be Urgent Business will be considered.

- 22 REPORTS OF ELECTED MEMBERS
- 23 ANSWERS TO QUESTIONS WHICH WERE TAKEN ON NOTICE
- 24 MAYORAL ANNOUNCEMENTS
- 25 CONFIDENTIAL ITEMS

Nil

26 CLOSE OF MEETING