Government of **Western Australia**
Development Assessment Panels

Metro Outer Joint Development Assessment Panel Agenda

Meeting Date and Time: Thursday, 30 September 2021; 9:30am
Meeting Number: MOJDAP/128
Meeting Venue: Electronic Means

To connect to the meeting via your computer - https://zoom.us/j/99365828329

To connect to the meeting via teleconference dial the following phone number - +61 8 7150 1149
Insert Meeting ID followed by the hash (#) key when prompted - 993 6582 8329

This DAP meeting will be conducted by electronic means (Zoom) open to the public rather than requiring attendance in person.

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Attendance

DAP Members

Ms Francesca Lefante (Presiding Member)
Mr Jarrod Ross (A/Deputy Presiding Member)
Mr John Syme (Third Specialist Member) – *Item 8.1*
Mr Jason Hick (Third Specialist Member) – *Item 8.2*
Cr Deb Hamblin (Local Government Member, City of Rockingham)
Cr Joy Stewart (Local Government Member, City of Rockingham)

Officers in attendance

Mr David Banovic (City of Rockingham)
Mr Mike Ross (City of Rockingham)
Mr Chris Parlane (City of Rockingham)

Minute Secretary

Ms Adele McMahon (DAP Secretariat)

Applicants and Submitters

Item 8.1
Mr Scout Walsh (Planning Solutions)
Mr Paul Kotsoglo (Planning Solutions)

Item 8.2
Mr Oliver Basson (Planning Solutions)
Mr Josh Watson (Planning Solutions)
Mr Behnam Bordbar (Transcore)

Members of the Public / Media

Nil

1. Opening of Meeting, Welcome and Acknowledgement

The Presiding Member declares the meeting open and acknowledges the traditional owners and pay respects to Elders past and present of the land on which the meeting is being held.

In accordance with regulation 27(3A) of the *Planning and Development (Development Assessment Panel) Regulations 2011*, Ms Francesca Lefante has been appointed as Presiding Member for this meeting.

This meeting is being conducted by electronic means (Zoom) open to the public. Members are reminded to announce their name and title prior to speaking.

2. Apologies

Mr Ian Birch (Presiding Member)
Ms Sheryl Chaffer (Deputy Presiding Member)
Cr Mark Jones (Local Government Member, City of Rockingham)

3. Members on Leave of Absence

DAP Member, Mr Ian Birch has been granted leave of absence by the Director General for the period of 24 September 2021 to 8 October 2021 inclusive.

DAP Member, Ms Sheryl Chaffer has been granted leave of absence by the Director General for the period of 23 September 2021 to 4 October 2021 inclusive.

4. Noting of Minutes

Signed minutes of previous meetings are available on the DAP website.

5. Declarations of Due Consideration

The Presiding Member notes an addendum to the agenda was published to include details of a DAP request for further information and responsible authority response in relation to Item 8.2, received on 30 September 2021.

Any member who is not familiar with the substance of any report or other information provided for consideration at the DAP meeting must declare that fact before the meeting considers the matter.

6. Disclosure of Interests

Member	Item	Nature of Interest
Mr Jason Hick	8.1	Indirect Pecuniary Interest – Mr Hick is a shareholder, director and employee of Emerge Environmental Services Pty Ltd., an environmental consulting business that trades as Emerge Associates. While not involved with this application, Emerge Environmental Services has been engaged on other projects by entities directly associated with Piperpoint Pty Ltd. Impartiality Interest – Mr Hick is a shareholder, director and employee of Emerge Environmental Services Pty Ltd., an environmental consulting business that trades as Emerge Associates. Blue Tang (WA) Pty Ltd., a landscape architectural business, also trades as Emerge Associates. These businesses share branding, offices and operational expenses, but operate (managerially and contractually) as independent and separate legal entities. Blue Tang (WA) Pty Ltd. (trading as Emerge Associates) has prepared landscape plans to support the application being considered under agenda item 8.1. Mr Hick has no formal relationship with and does not attract any remuneration or other financial benefits from Blue Tang (WA) Pty Ltd.

7. Deputations and Presentations

7.1 Mr Paul Kotsoglo (Planning Solutions) presenting in support of the recommendation for the application at Item 8.1. The presentation will address support for the proposed development, with a request for minor modifications to conditions and an explanation for the proposed modifications.

7.2 Mr Behnam Bordbar (Transcore) presenting against the recommendation but in support of the application at Item 8.2. The presentation will address the merits of the proposal from a traffic perspective and address the reasons for refusal.

7.3 Mr Josh Watson (Planning Solutions) presenting against the recommendation but in support of the application at Item 8.2. The presentation will address the previous deferral of the application and planning considerations associated with the proposed reasons for refusal.

The City of Rockingham may be provided with the opportunity to respond to questions of the panel, as invited by the Presiding Member.

8. Form 1 – Responsible Authority Reports – DAP Applications

8.1 Lot 9005 Nairn Drive, Baldivis

Development Description:	Proposed neighbourhood shopping centre
Applicant:	Planning Solutions
Owner:	Piperpoint Pty Ltd
Responsible Authority:	City of Rockingham
DAP File No:	DAP/21/02023

8.2 Lot 10 (115) Dixon Road, East Rockingham

Development Description:	Service Station development
Applicant:	Planning Solutions
Owner:	Autoservice Pty Ltd
Responsible Authority:	City of Rockingham
DAP File No:	DAP/21/01976

9. Form 2 – Responsible Authority Reports – DAP Amendment or Cancellation of Approval

Nil

10. State Administrative Tribunal Applications and Supreme Court Appeals

Current SAT Applications				
File No. & SAT DR No.	**LG Name**	**Property Location**	**Application Description**	**Date Lodged**
DAP/19/01708 DR 138/2020	City of Kwinana	Lot 108 Kwinana Beach Road, Kwinana	Proposed Bulk Liquid Storage for GrainCorp Liquid Terminals	01/07/2020
DAP/01729 DR 176/2020	City of Kalamunda	Lot 130 (74) Warlingham Drive, Lesmurdie	Aged Residential Care Facility	28/8/2020
DAP/20/01764 DR 204/2020	City of Swan	Lot 780 (46) Gaston Road, Bullsbrook	Proposed Stock Feed Grain Mill	8/09/2020
DAP/20/01829 DR 001/2021	City of Swan	Lot 1 (42) Dale Road & Lot 4 (43) Yukich Close, Middle Swan	Aged care and community purpose	08/01/2021
DAP/21/01952 DR 096/2021	City of Rockingham	Lot 265 (40) Talisker Bend, Golden Bay	Mixed commercial development	14/05/2021
DAP/21/01926 DR144/2021	City of Armadale	Lot 60 Centre Road, Camillo	Proposed 45 Grouped Dwellings	09/07/2021

11. General Business

In accordance with Section 7.3 of the DAP Standing Orders 2020 only the Presiding Member may publicly comment on the operations or determinations of a DAP and other DAP members should not be approached to make comment.

12. Meeting Closure

Government of **Western Australia**
Development Assessment Panels

Direction for Further Services from the Responsible Authority

Regulation 13(1) and DAP Standing Orders 2020 cl. 3.3

Guidelines

A DAP Member who wishes to request further services (e.g. technical information or alternate recommendations) from the Responsible Authority must complete this form and submit to daps@dplh.wa.gov.au.

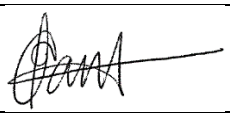
The request will be considered by the Presiding Member and if approved, the Responsible Authority will be directed to provide a response to DAP Secretariat within the form.

It is important to note that **the completed form containing the query and response will published on the DAP website** as an addendum to the meeting agenda.

DAP Application Details

DAP Name	MOJDAP/128
DAP Application Number	DAP/21/01976
Responsible Authority	City of Rockingham
Property Location	Lot 10 (115) Dixon Road, East Rockingham

Presiding Member Authorisation

Presiding Member Name	Ms Francesca Lefante
Signature	
Date	30 September 2021
Response Due	**30 September 2021; 10:00am**

Nature of technical advice or information required*

1	**DAP query**	**Alternate recommendation for approval with conditions**
	Response	Insert response to DAP query

* Any alternate recommendation sought does not infer a pre-determined position of the panel.
Any legal advice, commercially confidential or personal information will be exempt from publication.

Regulation 13 Request - Alternative Recommendation

On 30 September 2021, the Presiding Member of the Metro Outer Joint Development Assessment Panel (MOJDAP) directed the City of Rockingham to provide a response to the following:

"Alternate recommendation for Approval with conditions."

The alternative recommendation and conditions are provided below:

That the Metro Outer Joint Development Assessment Panel resolves to:

Approve DAP Application reference DAP/19/01585 and accompanying plans:

- Site Plan, Drawing No.3357 03, Rev 8, dated 13 August 2021;
- Floor Plans and Elevations - Shop, Drawing No.3357 04, Rev 7, dated 13 August 2021;
- Floor Plans and Elevations - Commercial Canopy, Drawing No.3357 05, Rev 7, dated 13 August 2021;
- Floor Plans and Elevations - Truck Canopy, Drawing No.3357 06, Rev 7, dated 13 August 2021;
- Signage Plan and Schedule, Drawing No.3357 07, Rev 7, dated 13 August 2021;
- 3D Views, Drawing No.3357 08, Rev 7, dated 13 August 2021;
- Landscape Plan, Drawing No.3357 9, Rev 7, dated 13 August 2021;

in accordance with Clause 68 of the Planning and Development (Local Planning Schemes) Regulations 2015 and the provisions of clause 68(2)(b) of the deemed provisions of the City of Rockingham Town Planning Scheme No. 2, subject to the following conditions as follows:

Conditions

1. This decision constitutes development approval only and is valid for a period of four years from the date of approval (this is inclusive of the additional two years available under 'Clause 78H Notice of Exemption from planning requirements during State of Emergency' issued by the Minister for Planning on 8 April 2020). If the subject development is not substantially commenced within the specified period, the approval shall lapse and be of no further effect.
2. Prior to applying for a Building Permit, a Stormwater Management Plan must be prepared by a suitably qualified engineering showing how stormwater will be contained on-site and those plans must be submitted to the City of Rockingham for its approval. All stormwater generated by the development must be managed in accordance with Planning Policy 3.4.3 - Urban Water Management to the satisfaction of the City of Rockingham. The approved plans must be implemented and all works must be maintained for the duration of the development.
3. Prior to applying for a Building Permit, a Waste Management Plan must be prepared and include the following detail to the satisfaction of the City of Rockingham:
   (i) the location of bin storage areas and bin collection areas;
   (ii) the number, volume and type of bins, and the type of waste to be placed in the bins;

(iii) management of the bins and the bin storage areas, including cleaning, rotation and moving bins to and from the bin collection areas; and

(iv) frequency of bin collections.

All works must be carried out in accordance with the Waste Management Plan and maintained at all times, for the duration of development.

4. Prior to the issue of a Building Permit, exhaust facilities associated with the proposed kitchen must be designed in accordance with *Australian Standard AS 1668.2—2002, The use of ventilation and air conditioning in buildings, Part 2: Ventilation design for indoor air containment control (excluding requirements for the health aspects of tobacco smoke exposure)* and be fitted with filtration and odour suppression devices to the satisfaction of the City of Rockingham.

5. A bin storage area must be designed with a size suitable to service the development and screened from view of the street to the satisfaction of the City of Rockingham. The bin storage area must be constructed prior to the occupation of the development and must be retained and maintained in good condition for the duration of the Development.

6. Prior to applying for a Building Permit, an external lighting plan is to be submitted and approved by the City of Rockingham, demonstrating compliance with *Australian Standard 1158-2020 Lighting for roads and public spaces Pedestrian area (Category P) lighting - Performance and design requirements*.

7. A landscaping plan must be prepared and include the following detail, to the satisfaction of the City, prior to issue of applying for a Building Permit:

   (i) The Location, number and type of existing and proposes trees (including shade trees) and shrubs, indicating calculations for the landscaping area;

   (ii) Any lawns to be established and areas to be mulched;

   (iii) Those areas to be reticulated or irrigated;

   (iv) Garden edge treatment to all sections where garden areas adjoin turf to provide separation and maintenance;

   (v) Verge areas; and

   (vi) Shade trees for car parking bays at a rate of one tree per four car parking bays.

   The landscaping must be completed prior to the occupation of the development, and must be maintained at all times to the satisfaction of the City of Rockingham.

8. Prior to applying for a Building Permit, the Bushfire Management Plan prepared by Ecological Australia, dated 10 June 2021, shall be updated to:

   - Classify the vegetation in the eastern verge of Darile Street to the satisfaction of the City;
   - Reflect the layout of the amended Site Plan received on 13th August 2021; and
   - To acknowledge that the landowner will be responsible for maintenance of any landscaping within the street verges adjoining the subject site.

   The Bushfire Management Plan must thereafter be implemented and maintained at all times to the satisfaction of the City of Rockingham.

9. Prior to the occupation of the development, any damage to existing City infrastructure within the road reservation including kerb, road pavement, turf, irrigation, bollards and footpaths is to be repaired to the satisfaction of the City of Rockingham at the cost of the applicant.

10. Earthworks over the site associated with the development must be stabilised to prevent sand or dust blowing off the site, and appropriate measures shall be implemented within the time and in the manner directed by the City of Rockingham in the event that sand or dust is blown from the site.

11. The carpark must:

    (i) be designed, constructed, sealed, kerbed, drained and marked in accordance with User Class 3 of Australian/New Zealand Standard AS/NZS 2890.1:2004, Parking facilities, Part 1: Off-street car parking unless otherwise specified by this approval, prior to applying for a Building Permit;

    (ii) provide one car parking space dedicated to people with disabilities, which are designed, constructed, sealed, kerbed, drained and marked in accordance with Australian/New Zealand Standard AS/NZS 2890.6:2009, Parking facilities, Part 6: Off-street parking for people with disabilities and which are linked to the main entrance of the development by a continuous accessible path of travel designed and constructed in accordance with Australian Standard AS 1428.1—2009, Design for access and mobility, Part 1: General Requirements for access—New building work;

    (iii) be constructed, sealed, kerbed, drained and marked prior to the development being occupied and maintained thereafter; and

    (iv) comply with the above requirements for the duration of the development.

12. One (1) long-term and two (1) short-term bicycle parking spaces must be designed in accordance with AS2890.3-1993, *Parking facilities, Part 3: Bicycle parking facilities,* prior to commencement of development.

    The bicycle parking scapes must be constructed prior to occupation of the development.

13. All plant and roof equipment and other external fixtures are to be screened from view.

14. Materials, sea containers, goods or bins must not be stored within the car park at any time.

15. The proponent must remove all approved signage within the Metropolitan Region Scheme Other Regional Road road reservation without seeking compensation from either the City of Rockingham or the Western Australian Planning Commission for any loss, damage or expense should the reserved land be required for road upgrading purposes in the future.

16. Prior to applying for a Building Permit, an Emergency Response Plan must be prepared to the satisfaction of the Department of Water and Environmental Regulation, in accordance with the Water Quality Protection Note No.10 '*Contaminant Spill – Emergency Response*'. The approved Emergency Response Plan must be implemented and all works must be maintained for the duration of the development.

17. The external walls of the retail building shall be constructed using a painted texture finish, to the satisfaction of the City of Rockingham.

18. Appropriate signage and line markings shall be installed to guide vehicles using the entries and exits to/from the development.

Advice Notes

1. The disposal of wastewater into the Water Corporation's sewerage system must be with approval of the Water Corporation; the applicant and owner should liaise with the Water Corporation in this regard.

2. The development must comply with the *Food Act 2008*, the *Food Safety Standards* and Chapter 3 of the *Australian New Zealand Food Standards Code (Australia Only)*; the applicant and owner should liaise with the City's Health Services in this regard.

3. A Building Permit must be obtained for the proposed works prior to commencement of site works. The applicant and owner should liaise with the City's Building Services in this regard.

4. The development must comply with the *Environmental Protection (Noise) Regulations 1997;* contact the City's Health Services for information on confirming requirements.

5. All works in the road reserve, including construction of a crossover, planting of street trees, and other streetscape works and works to the road carriageway must be to the specifications of the City of Rockingham; the applicant should liaise with the City of Rockingham's Engineering Services in this regard.

6. The applicant is advised that in respect of Condition 2, a Stormwater Management Plan will require compliance with Planning Policy 3.4.3 - Urban Water Management. The applicant is encouraged to discuss the specific policy requirements with the City prior to the submission of the plan

7. In respect to condition 7, the applicant is advised that the landscaping within the road reserve adjoining the site will be the responsibility of the land owner to maintain.

Where a development approval has so lapsed, no development shall be carried out without further approval having first been sought and obtained, unless the applicant has applied and obtained Development Assessment Panel approval to extend the approval term under regulation 17(1)(a) of the *Planning and Development (Development Assessment Panels) Regulations 2011.*

Government of **Western Australia**
Development Assessment Panels

Presentation Request Form

Regulation 40(3) and DAP Standing Orders 2020 cl. 3.5

Must be submitted at least 72 hours (3 ordinary days) before the meeting

Presentation Request Guidelines

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Presentations are not to exceed **5 minutes**. It is important to note that the presentation content will be **published on the DAP website** as part of the meeting agenda.

Please complete a separate form for each presenter and submit to daps@dplh.wa.gov.au

Presenter Details

Name	Paul Kotsoglo
Company (if applicable)	Planning Solutions
Please identify if you have any special requirements:	**YES** ☐ **NO** ☒ If yes, please state any accessibility or special requirements: Click or tap here to enter text.

Meeting Details

DAP Name	Metro Outer Joint Development Assessment Panel
Meeting Date	30 September 2021
DAP Application Number	DAP/21/02023
Property Location	Lot 9005 Nairn Drive, Baldivis
Agenda Item Number	8.1

Presentation Details

I have read the contents of the report contained in the Agenda and note that my presentation content will be published as part of the Agenda:	**YES** ☒
Is the presentation in support of or against the report recommendation)? *(contained within the Agenda)*	**SUPPORT** ☒ **AGAINST** ☐
Is the presentation in support of or against the proposed development?	**SUPPORT** ☒ **AGAINST** ☐
Will the presentation require power-point facilities?	**YES** ☐ **NO** ☒ **If yes, please attach**

Government of **Western Australia**
Development Assessment Panels

Presentation Content*

These details may be circulated to the local government and applicant if deemed necessary by the Presiding Member. Handouts or power points will not be accepted on the day.

Brief sentence summary for inclusion on the Agenda	*The presentation will address:* Support for the proposed development, with a request for minor modifications to conditions and an explanation for the proposed modifications.

In accordance with Clause 3.5.2 of the *DAP Standing Orders*, your presentation request must also be accompanied with a written document detailing the content of your presentation.

Please attach detailed content of presentation or provide below:

Refer to attached presentation note

Presentation summary

To:	Metro Outer JDAP	**From:**	Paul Kotsoglo
Attention:	Presiding Member	**Job No:**	6622
Copy to:		**Date:**	28 September 2021
Subject:	DAP Meeting Number: MOJDAP/128 – Agenda Item 8.1 Lot 9005 Nairn Drive, Baldivis Proposed Neighbourhood Shopping Centre Development		

Planning Solutions acts on behalf of Piperpoint Pty Ltd, the proponent of the proposed neighbourhood shopping centre development on a portion of Lot 9005 Fifty Road, Baldivis (**subject site**).

We are pleased to receive the officers' recommendation for approval, subject to conditions. We thank the officers from the City for their collaboration throughout the assessment of the application.

We do however request the following minor modifications to the proposed conditions:

Conditions Recommended in Item 8.1

- **Modification to Condition 3** – Requirements for a revised waste management plan
- **Modification to Condition 19** – Provision of a monetary contribution towards public art.

Refer to **Attachment 1** for a detailed breakdown of the requested modifications to conditions.

MODIFICATION TO CONDITION 3 (WASTE MANAGEMENT)

We do not disagree with the intent of Condition 3 to require an updated Waste Management Plan, reflective of the finalised waste considerations and matters. However, we respectfully request alternate wording of the condition to remove the requirement to relocate the bin storage and collection areas.

Condition 3 requires the revised location of bin storage areas and bin collection areas. As detailed in the RAR the City has expressed concerns about the location of the stand-alone waste bin area proposed within the car park of the southern shopping centre site. We request Condition 3 be modified for the following reasons:

- The proposed location of the bin storage facilities is a site-specific response that is entirely appropriate given the proposed land uses and the context of the site.
- The waste storage area and will be fully enclosed, lockable and suitably designed. The supermarket tenancy and the surrounding commercial tenancies provided ample passive surveillance and the use of CCTV will maximise surveillance of the car park and bin storage area during all hours. Any incidences of general rubbish dumping and graffiti will be reported to the appropriate authority immediately.
- The potential issue of graffiti can be mitigated through the treatment of the bin storage area with an anti-graffiti coating and/or a condition of approval requiring the removal of any graffiti.
- The swept path diagrams prepared by Transcore, demonstrate that a waste collection vehicle can safely and efficiently manoeuvre within the car parking areas to collect waste from the proposed waste storage area.
- Waste will be collected between 7:00am and 8:00am Monday to Saturday. This is outside the general trading hours for commercial tenancies, meaning the potential to block customers parking their vehicles is greatly diminished. Further, the waste collection will operate on a predetermined schedule, and it is in the operator's best interest to ensure collection occurs when the car parking area is not full.

PLANNING SOLUTIONS
URBAN & REGIONAL PLANNING
PS
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(08) 9227 7970
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Cloisters Square PO 6850
admin@planningsolutions.com.au
www.planningsolutions.com.au
ACN 143 573 184 ABN 23 143 573 184
Planning Solutions (Aust) Pty Ltd

For the reasons above, we respectfully request Condition 3 be **modified** to remove reference to the location of the bin storage areas.

Please refer to **Appendix** 1 for the proposed wording of Condition 3.

MODIFICATION TO CONDITION 19 (PUBLIC ART)

Again, we understand and agree with the intent of Condition 19 and we are committed to providing the community with an integrated on-site public art installation, which we propose to be suspended from the roof of the mall (central spine). The development plans depict how this may look, although we stress it is an architect's impression and at this stage an artist has not been engaged to design the art.

However, we respectfully request alternate wording of Condition 19 to allow the proponent to install a site-specific artwork on the site, in lieu of making a monetary contribution towards an artwork that may be developed elsewhere in the City and provide no benefit to the proposed development. We request Condition 19 be modified for the following reasons:

- In accordance with clause 3(i) of the City's Planning Policy No. 3.3.25 *Percent for Public Art – Private Developer Contribution* public the public art will be located in a '*publicly visible location within the boundaries of an approved development site'*. The public art will be accessible to the general public during the centre's operating hours.
- The City's condition is inconsistent with the above clause as it does not propose the artwork is located on the development site – it instead requires a cash payment to the City for installation in an unspecified location somewhere in the City of Rockingham.
- The proponents' preference is to provide the artwork **on-site**. The proposed neighbourhood shopping centre is an ideal and well-trafficked location for a unique on-site artwork that will contribute to the vitality of the centre.
- The neighbourhood shopping centre will be a major attractor of people, including families, who will visit and experience the artwork on foot – not at speed passing a roadside piece by car. The artwork should be placed in a location that is going to have the maximum benefit and visibility to the community. For this development, this is within the central spine of the shopping centre. It contributes to creating an activating and engaging space and will enhance the experience of the customers and the general public, whilst satisfying the intent of the Policy to provide artwork in a publicly visible location.
- Its location in the mall makes it secure from acts of vandalism. After hours, visually permeable roller shutters will still allow the public art to remains visible after hours, so it is possible for people in the area in the late evening / pre-dawn to still view the art.

Please refer to **Appendix 1** for the proposed wording of Condition 19.

CONCLUSION

Thank you for your time and consideration. I would be pleased to answer any questions from the DAP members.

Yours faithfully

PAUL KOTSOGLO
MANAGING DIRECTOR

210928 6622 Presentation Summary - Spires Baldivis - Paul Kotsoglo.docx

ATTACHMENT 1 - SCHEDULE OF PROPOSED MODIFIED CONDITIONS

Condition	Draft condition wording (by City)	Requested modification (by applicant)
3	*Prior to applying for a Building Permit, a revised Waste Management Plan(s) for the supermarket and the commercial tenancies must be prepared and include the following detail to the satisfaction of the City of Rockingham:* *i. the location of bin storage areas and bin collection areas;* *ii. the number, volume and type of bins, and the type of waste to be placed in the bins;* *iii. management of the bins and the bin storage areas, including cleaning, rotation and moving bins to and from the bin collection areas;* *iv. frequency of bin collections; and shall* *v. demonstrate compliance with the Acoustic Report required in Condition 4 below.* *All works must be carried out in accordance with the Waste Management Plan and maintained at all times, for the duration of development.*	Prior to applying for a Building Permit, a revised Waste Management Plan(s) for the supermarket and the commercial tenancies must be prepared and include the following detail to the satisfaction of the City of Rockingham: ~~vi. the location of bin storage areas and bin collection areas;~~ vii. the number, volume and type of bins, and the type of waste to be placed in the bins; viii. management of the bins and the bin storage areas, including cleaning, rotation and moving bins to and from the bin collection areas; ix. frequency of bin collections; and shall x. demonstrate compliance with the Acoustic Report required in Condition 4 below. All works must be carried out in accordance with the Waste Management Plan and maintained at all times, for the duration of development.
19	*In accordance with Planning Policy 3.3.25 Percent for Public Art - Private Developer Contribution, prior to occupation of the development, the developer shall make a contribution to the City of Rockingham equal to 1% of the total construction value for the provision of public art, being $120,000 in value.*	In accordance with Planning Policy 3.3.25 Percent for Public Art - Private Developer Contribution, prior to occupation of the development, the developer shall either: a) Prior to occupation the owner/applicant shall: i. Submit to the City of Rockingham for approval for an artwork designed by a professional artist at a cost of 1% of the total project cost (to a maximum of $120,000), to be located within the subject site as an integral part of the development; ii. enter into a contract with a professional artist/s to design and install (if appropriate) the artwork approved by the City of Rockingham. iii. The artwork shall then be installed prior to occupation of the building/development and maintained thereafter to the satisfaction of the City of Rockingham. **Or:** b) Make a contribution to the City of Rockingham equal to 1% of the total construction value for the provision of public art, being $120,000 in value.

Government of **Western Australia**
Development Assessment Panels

Presentation Request Form

Regulation 40(3) and DAP Standing Orders 2020 cl. 3.5

Must be submitted at least 72 hours (3 ordinary days) before the meeting

Presentation Request Guidelines

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Please complete a separate form for each presenter and submit to daps@dplh.wa.gov.au

Presenter Details

Name	Behnam Bordbar
Company (if applicable)	Transcore
Please identify if you have any special requirements:	**YES ☐** **NO ☒** If yes, please state any accessibility or special requirements: Click or tap here to enter text.

Meeting Details

DAP Name	Metro Outer Joint Development Assessment Panel
Meeting Date	Thursday, 30 September 2021
DAP Application Number	DAP/21/01976
Property Location	Lot 10 (115) Dixon Road, East Rockingham
Agenda Item Number	8.2

Presentation Details

I have read the contents of the report contained in the Agenda and note that my presentation content will be published as part of the Agenda:	**YES ☒**
Is the presentation in support of or against the report recommendation)? *(contained within the Agenda)*	**SUPPORT ☐** **AGAINST ☒**
Is the presentation in support of or against the proposed development?	**SUPPORT ☒** **AGAINST ☐**
Will the presentation require power-point facilities?	**YES ☐** **NO ☒** **If yes, please attach**

Government of **Western Australia**
Development Assessment Panels

Presentation Content*

These details may be circulated to the local government and applicant if deemed necessary by the Presiding Member. Handouts or power points will not be accepted on the day.

Brief sentence summary for inclusion on the Agenda	*The presentation will address:* The merits of the proposal from a traffic perspective and address the reasons for refusal.

In accordance with Clause 3.5.2 of the *DAP Standing Orders*, your presentation request must also be accompanied with a written document detailing the content of your presentation.

Please attach detailed content of presentation or provide below:

Please refer enclosed presentation summary

transport planning
traffic engineering
transport modelling

24 September 2021

Metro Outer Joint Development Assessment Panel

Attention: Presiding Member and Panel Members

Dear Madam and Sirs,

Re: LOT 10 (115) DIXON ROAD, EAST ROCKINGHAM
DAP REF NO. DAP/21/01976

Transcore is acting as traffic engineers for Adelaide Nominees Pty Ltd for the proposed service station development at the abovementioned site. The location of the subject site is shown in Figure 1.

Figure 1: Location of the subject site

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Transcore Pty Ltd ACN 094 951 318 ABN 19 094 951 318
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At the MOJDAP meeting on 6 August 2021, the Application was deferred. The Application was deferred mainly to allow the preparation of a revised site plan incorporating a left-in/left-out crossover on Dixon Road in lieu of the original proposed left-in only crossover.

The suggestion for the revised Dixon Road crossover was made by Mr Chris Parlane (the Senior Planning Officer at the City) to result in less traffic impact from the development on Day Road and its intersection with Dixon Road. (It should be noted that the very first original plans prepared by the project team entailed a left-in/left-out crossover on Dixon Road as per the existing subject site Dixon Road crossover. However, the City's engineering officers requested that this crossover should be modified to left-in only.) The project team supported this suggestion as it was in line with the original development proposal.

Also, at the same MOJDAP meeting, some of the key traffic modelling and analysis assumptions by Transcore were discussed including the fact that during peak traffic conditions, very few motorists travelling on Dixon Road westbound will elect to turn right into Day Road then turn right into the service station, get fuel and/or visit the shop and then exit the service station by turning left into Day Road and turning right from Day Road back onto Dixon Road. This is because of inconvenience of delays caused by such visitation.

This assumption by Transcore was based on Transcore's experience with hundreds of service station developments, the pattern of traffic visiting service stations during the peak hours and the fact that service station visitation is largely based on convenience. As a result, due to inconvenience of delayed experience by motorists travelling in the westbound direction of Dixon Road to access and then exit the service station during peak periods, these visitations would be minimal and would only occur during an emergency where a motorist desperately needs fuel.

It was Transcore's understanding that this key assumption was understood and accepted by the City's officers. As a result, the subsequent Technical Note prepared by Transcore and submitted to the City (please refer to Attachment 1) was based on this key assumption as well as the revised site layout and the left-in/left-out development crossover on Dixon Road.

The analysis contained in the Technical Note clearly demonstrated that the impact of the development traffic on the intersection of Dixon Road/Day Road will be insignificant during the peak periods.

The result of the analysis indicated that during the AM peak hour, the intersection operates with Levels of Service A and B under existing conditions. With the addition of the development traffic, the Levels of Service, delays and queues remain the same during the AM peak hour.

During the PM peak hour under existing conditions, the intersection operates with the Levels of Service A, B and C for all movements except the right turns

from Day Road onto Dixon Road which operates with the Level of Service F. With the proposed development traffic, the Levels of Service would remain the same but critically the delays and queues associated with the right turns from Day Road onto Dixon Road do not change significantly and in fact, improve slightly because of reduction in eastbound traffic passing the intersection because of visiting the service station.

Therefore, it is reiterated that the impact of the development traffic on the operations of the intersection of Dixon Road and Day Road is insignificant during the peak hours. Further, assumptions used by Transcore are sound and are based on significant experience with service station operations and traffic patterns.

Considering the discussions during the 6 August 2021 MOJDAP, agreement for a left-in/left-out crossover on Dixon Road (as per the existing situation) and the result of the SIDRA analysis documented in Technical Note 1a which clearly demonstrates insignificant impact of development traffic during the peak hours, it is extremely disappointing that the City has reiterated its refusal of the Development Application in the RAR based on concerns with the modelling assumptions and impact of the development traffic on the intersection of Dixon Road/Day Road.

As a result, it is respectfully requested that the reasons for refusal should be set aside and the development should be approved.

Regards,

Behnam Bordbar
Managing Director

ATTACHMENT 1

transport planning
traffic engineering
transport modelling

Technical Note: No 1a **Date:** 12/08/2021
Project No: t20.134
Project: Lot 10 (115) Dixon Road, East Rockingham, DAP Ref no. DAP/21/01976
Subject: Revised traffic modelling and analysis

INTRODUCTION AND BACKGROUND

Following Metro Outer Joint Development Assessment Panel meeting on 6th August 2021 and deferral of the abovementioned project, Transcore has now undertaken a revised traffic modelling and SIDRA analysis on the basis of retention of the existing subject site western crossover on Dixon Road (left in/left out) format for light vehicles.

The retention of this crossover in its current format was suggested by City of Rockingham officer's and both City and JDAP members requested revised analysis of the proposed service station on this basis. All the other crossovers on Dixon Road and Day Road remain unchanged. The provision of the proposed left out movement for light vehicles on Dixon Road would reduce the traffic pressure on the intersection of Day Road/ Dixon Road.

Accordingly, a revised development plan has been prepared (refer **Appendix A**) and additional traffic modelling and analysis were undertaken based on the revised plan. The purpose of this technical note is to document the outcome of the additional modelling and analysis.

PROPOSED DEVELOPMENT TRAFFIC GENERATION

The trip generation of the proposed development conservatively assumed to be the same as the trip generation estimation in April 2021 TIA for the original plan (refer **Appendix B**). This trip generation is considered to be conservative because the revised plan shows six HS fuel bowser and two HS DSL bowser. The HS DSL bowsers are not expected to generate the same traffic as HS fuel bowsers and therefore, the traffic generation used for the purpose of analysis are conservative.

TRAFFIC FLOWS

The existing traffic volumes were established by traffic counts survey undertaken by Transcore for Thursday 4th of June 2020 (refer **Figure 1**). The total post development traffic for the assessment year of 2021 is detailed in **Figure 2**. In Figure 2 the existing trip generation of the site has been removed from the existing traffic counts and the proposed development traffic was added to the balance.

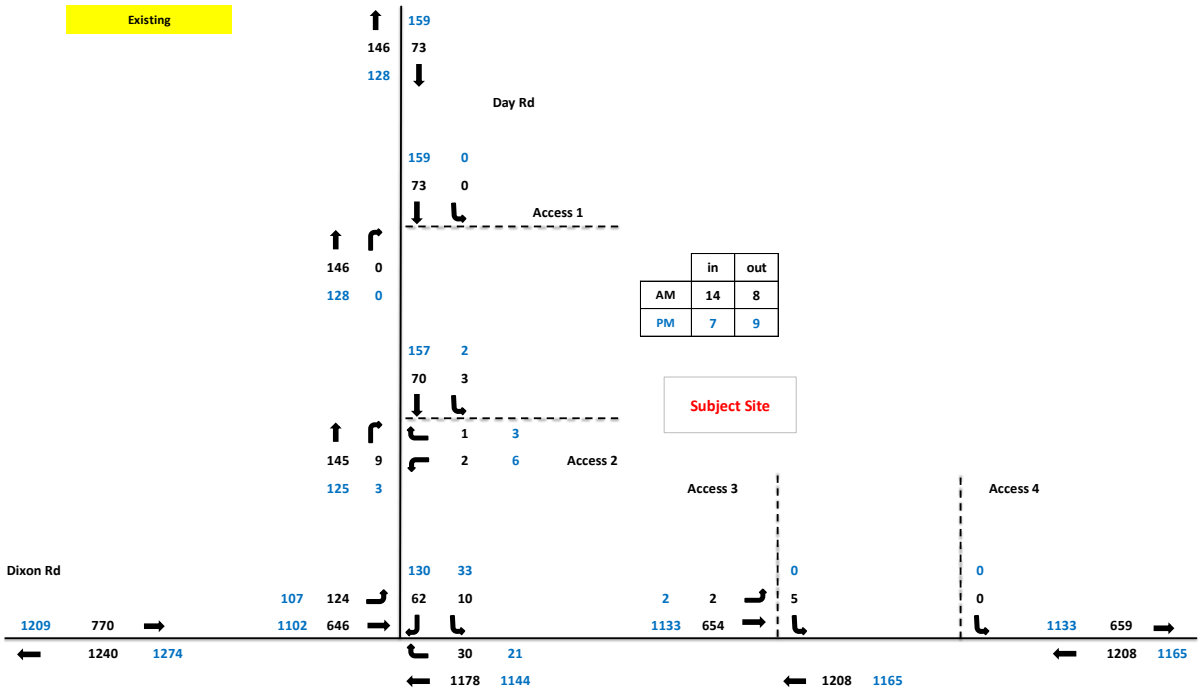

Figure 1: Existing traffic volumes (AM and PM peak hour)

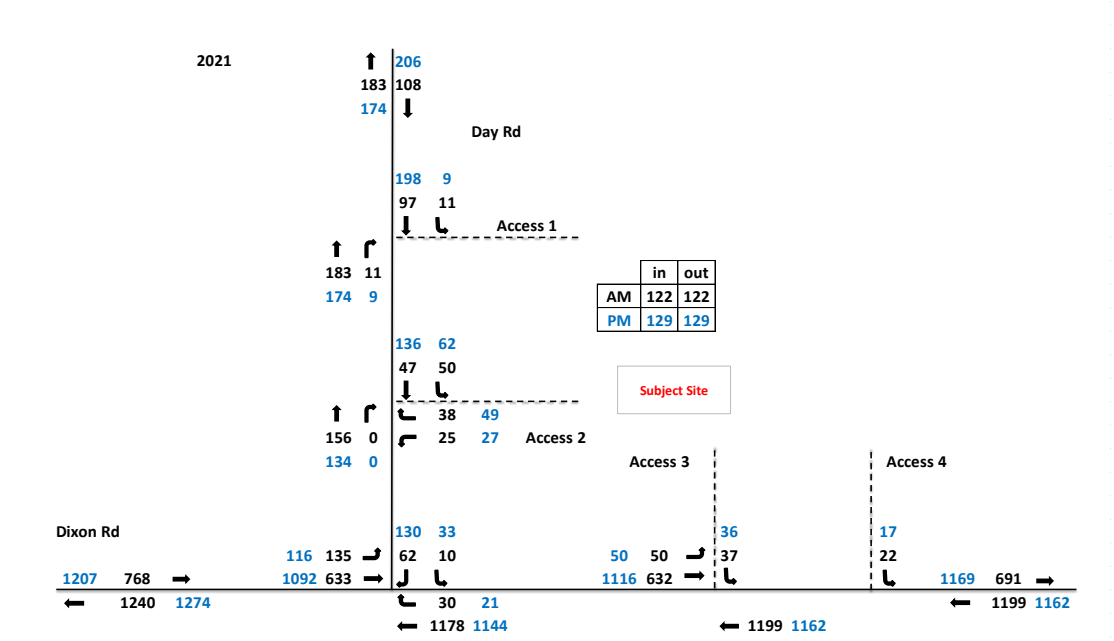

Figure 2: 2021 total development and existing traffic – Weekday AM and PM peak hour traffic

ANALYSIS OF THE INTERSECTION AND DEVELOPMENT'S CROSSOVERS

A SIDRA Network model was developed for the subject site crossovers on Day Road and the intersection of Day Road/ Dixon Road in order to assess their operations in the post development scenario for AM and PM peak hours. Relevant heavy vehicle settings and parameters were updated in accordance

with Main Roads WA's latest requirements. The development Dixon Road crossovers are left in/ left out (for light vehicles) and left out only (for heavy vehicles) and would operate satisfactorily with no capacity issues. Therefore, they have not been modelled in SIDRA.

The results of the SIDRA analysis are attached in **Appendix C**.

The SIDRA analysis results indicate that the intersection of Dixon Road/Day Road presently operates at capacity during the PM peak hour for the right turning movements out of Day Road. This is due to volume of through traffic on Dixon Road during the PM peak hour. The intersection operates better during the AM peak hour (refer Appendix C for more details).

The addition of the development-generated traffic to the intersection of Day Road/ Dixon Road resulted in no change in overall queues and delays during the AM and PM peak hours. No change in LoS, DoS and queues for any of the turns is reported during the post-development scenario. This is because all the left turn from the service station onto Dixon Road would use the retained Dixon Road crossover. In fact, the revised Dixon Road light vehicle crossover results in slight reduction in pass by traffic component of the existing Dixon Road eastbound traffic which would result in slight improvements in traffic operations of the right in movement from Dixon Road to Day Road.

Table 1 summarises the outcome of the SIDRA analysis for the critical movements of the intersection for the existing and 2021-time horizons.

Table 1: Sidra results for existing and 2021 scenarios

Peak hours	Movement	Existing			2021		
		LoS	DoS	Queue (m)	LoS	DoS	Queue (m)
AM	Right - In	A	0.05	1.5	A	0.05	1.5
	Left-out	A	0.01	0.3	A	0.01	0.3
	Right - Out	B	0.17	5	B	0.17	5
PM	Right - In	C	0.08	2	B	0.08	2
	Left-out	B	0.05	1.5	B	0.05	1.5
	Right - Out	F	0.9	38	F	0.9	37

CONCLUSION

The results of the revised SIDRA analysis based on retention of the existing western Dixon Road crossover for light vehicles (left in/left out) for the proposed service station shown no changes in the traffic operation of Dixon Road/Day Road intersection. In particular, no changes in LoS, DoS, delay or 95% queue length on Day Road were reported.

Appendix A

Revised Development Plan

DA ISSUE

ISSUED FOR DEVELOPMENT APPROVAL

Rev	Amendment	Date
0	PRELIMINARY DA PACKAGE	18.02.21
1	CLIENT FEEDBACK	18.02.21
2	CLIENT FEEDBACK	28.02.21
3	DA ISSUE	31.03.21
4	PRELIMINARY DA ISSUE	04.06.21
5	DA ISSUE	11.06.21
6	REVIEW	28.07.21
7	DA ISSUE	09.08.21
8	DA ISSUE	10.08.21

SITE AREA	2941m²
BUILDING AREA	195m²
CANOPY TRUCK	128m²
COMMERCIAL CANOPY	313m²
CARBAYS	11
LANDSCAPE AREA	357m²

SITE PLAN

1 : 200

BROWN FALCONER

9/300 Rokeby Road, Subiaco, Western Australia 6004
Telephone : 08 6382 0303 ABN 65 007 846 586
brownfalconer.com.au

ACCORD

EAST ROCKINGHAM, 115 DIXON ROAD, EAST ROCKINGHAM

SITE PLAN

Scale 1 : 200
Drawn AD Checked WK
Date 10.08.21
Job No. 2020058
Dwg No. 3357 03 Rev 8 A1 SHEET

Appendix B

Trip Generation

Table 1: Estimated proposed development traffic generation

LV

Land use	Quantity	Daily Rate	AM Peak	PM Peak	Cross Trade	Daily Trips	AM Trips	PM Trips	AM		PM	
									IN	OUT	IN	OUT
Service Station	16	205.36	12.47	13.99	0.00	3286	200	224	100	100	112	112
TOTAL TRAFFIC						**3286**	**200**	**224**	**100**	**100**	**112**	**112**

HV

Land use	Quantity	Daily Rate	AM Peak	PM Peak	Cross Trade	Daily Trips	AM Trips	PM Trips	AM		PM	
									IN	OUT	IN	OUT
Service Station	4				0.00	470	43	34	22	21	17	17
TOTAL TRAFFIC						**470**	**43**	**34**	**22**	**21**	**17**	**17**

Table 2: Estimated passing trade and non-passing trade traffic generation

LV

Passing Trade Component

	Passing Trade		AM		PM	
		Daily Trips	IN	OUT	IN	OUT
AM	62%					
PM	56%	1840	62	62	63	63
		1840	**62**	**62**	**63**	**63**

LV

Non Passing Trade Component

Daily Trips	AM		PM	
	IN	OUT	IN	OUT
1446	38	38	49	49
1446	**38**	**38**	**49**	**49**

HV

Passing Trade Component

	Passing Trade		AM		PM	
		Daily Trips	IN	OUT	IN	OUT
AM	100%					
PM	100%	470	22	21	17	17
		470	**22**	**21**	**17**	**17**

HV

Non Passing Trade Component

Daily Trips	AM		PM	
	IN	OUT	IN	OUT
0	0	0	0	0
0	**0**	**0**	**0**	**0**

Appendix C

SIDRA Results

MOVEMENT SUMMARY

Site: [Dixon Rd & Day Rd - Stage 1 - Existing - AM]

Network: N101 [Dixon Rd - Day Rd - Existing - AM]

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Dixon Rd (E)														
12	R2	32	7.7	32	7.7	0.051	7.3	LOS A	0.2	1.5	0.58	0.74	0.58	22.4
Approach		32	7.7	32	7.7	0.051	7.3	NA	0.2	1.5	0.58	0.74	0.58	22.4
North: Day Rd (N)														
1	L2	11	7.7	11	7.7	0.011	8.2	LOS A	0.0	0.3	0.41	0.86	0.41	23.5
2	T1	65	7.7	65	7.7	0.166	14.5	LOS B	0.6	4.8	0.70	1.01	0.70	14.0
Approach		76	7.7	76	7.7	0.166	13.6	LOS B	0.6	4.8	0.66	0.99	0.66	15.2
West: Dixon Rd (W)														
4	L2	131	7.8	131	7.8	0.085	5.8	LOS A	0.4	2.9	0.10	0.52	0.10	48.4
5	T1	680	7.7	680	7.7	0.189	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach		811	7.7	811	7.7	0.189	1.0	LOS A	0.4	2.9	0.02	0.08	0.02	57.6
All Vehicles		918	7.7	918	7.7	0.189	2.2	NA	0.6	4.8	0.09	0.18	0.09	55.3

MOVEMENT SUMMARY

Site: [Dixon Rd & Day Rd - Stage 2 - Existing - AM]

Network: N101 [Dixon Rd - Day Rd - Existing - AM]

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Dixon Rd (E)														
11	T1	1240	7.7	1240	7.7	0.344	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		1240	7.7	1240	7.7	0.344	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
North: Median (N)														
3	R2	65	7.7	65	7.7	0.187	11.3	LOS B	0.6	4.6	0.78	0.91	0.81	11.4
Approach		65	7.7	65	7.7	0.187	11.3	LOS B	0.6	4.6	0.78	0.91	0.81	11.4
All Vehicles		1305	7.7	1305	7.7	0.344	0.6	NA	0.6	4.6	0.04	0.05	0.04	58.6

MOVEMENT SUMMARY

Site: [Dixon Rd & Day Rd - Stage 1 - Existing - PM]

Network: N101 [Dixon Rd - Day Rd - Existing - PM]

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Dixon Rd (E)														
12	R2	22	7.7	22	7.7	0.077	15.1	LOS C	0.3	2.0	0.81	0.91	0.81	15.0
Approach		22	7.7	22	7.7	0.077	15.1	NA	0.3	2.0	0.81	0.91	0.81	15.0
North: Day Rd (N)														
1	L2	35	7.7	35	7.7	0.052	10.3	LOS B	0.2	1.5	0.55	0.95	0.55	21.0
2	T1	137	7.7	137	7.7	0.893	66.2	LOS F	4.8	38.3	0.95	1.46	2.70	3.4
Approach		172	7.7	172	7.7	0.893	54.9	LOS F	4.8	38.3	0.87	1.36	2.27	4.4
West: Dixon Rd (W)														
4	L2	113	7.8	113	7.8	0.073	5.8	LOS A	0.3	2.4	0.08	0.52	0.08	48.5
5	T1	1160	7.7	1160	7.7	0.322	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		1273	7.7	1273	7.7	0.322	0.5	LOS A	0.3	2.4	0.01	0.05	0.01	58.6
All Vehicles		1466	7.7	1466	7.7	0.893	7.1	NA	4.8	38.3	0.12	0.21	0.28	48.2

MOVEMENT SUMMARY

Site: [Dixon Rd & Day Rd - Stage 2 - Existing - PM]

Network: N101 [Dixon Rd - Day Rd - Existing - PM]

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Dixon Rd (E)														
11	T1	1204	7.7	1204	7.7	0.334	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		1204	7.7	1204	7.7	0.334	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
North: Median (N)														
3	R2	137	7.7	137	7.7	0.371	12.6	LOS B	1.3	10.7	0.81	0.97	1.03	10.6
Approach		137	7.7	137	7.7	0.371	12.6	LOS B	1.3	10.7	0.81	0.97	1.03	10.6
All Vehicles		1341	7.7	1341	7.7	0.371	1.3	NA	1.3	10.7	0.08	0.10	0.11	56.9

MOVEMENT SUMMARY

Site: [Dixon Rd & Day Rd - Stage 1 - 2021 - AM]

Network: N101 [Network - 2021 - AM]

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Dixon Rd (E)														
12	R2	32	7.7	32	7.7	0.050	7.2	LOS A	0.2	1.5	0.57	0.73	0.57	16.8
Approach		32	7.7	32	7.7	0.050	7.2	NA	0.2	1.5	0.57	0.73	0.57	16.8
North: Day Rd (N)														
1	L2	11	7.7	11	7.7	0.011	8.1	LOS A	0.0	0.3	0.41	0.86	0.41	23.6
2	T1	65	7.7	65	7.7	0.163	14.3	LOS B	0.6	4.7	0.69	1.01	0.69	14.1
Approach		76	7.7	76	7.7	0.163	13.4	LOS B	0.6	4.7	0.65	0.99	0.65	15.3
West: Dixon Rd (W)														
4	L2	142	7.8	142	7.8	0.093	5.8	LOS A	0.4	3.2	0.10	0.52	0.10	50.3
5	T1	666	7.7	666	7.7	0.185	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach		808	7.7	808	7.7	0.185	1.0	LOS A	0.4	3.2	0.02	0.09	0.02	58.1
All Vehicles		916	7.7	916	7.7	0.185	2.3	NA	0.6	4.7	0.09	0.19	0.09	55.8

MOVEMENT SUMMARY

Site: [Dixon Rd & Day Rd - Stage 2 - 2021 - AM]

Network: N101 [Network - 2021 - AM]

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Dixon Rd (E)														
11	T1	1240	7.7	1240	7.7	0.344	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		1240	7.7	1240	7.7	0.344	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
North: Median (N)														
3	R2	65	7.7	65	7.7	0.187	11.3	LOS B	0.6	4.6	0.78	0.91	0.81	11.4
Approach		65	7.7	65	7.7	0.187	11.3	LOS B	0.6	4.6	0.78	0.91	0.81	11.4
All Vehicles		1305	7.7	1305	7.7	0.344	0.6	NA	0.6	4.6	0.04	0.05	0.04	58.6

MOVEMENT SUMMARY

▽ Site: [Day Rd & Access 1 - 2021 - AM]

Network: N101 [Network - 2021 - AM]

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Day Rd (S)														
11	T1	193	7.7	193	7.7	0.121	0.2	LOS A	0.2	1.7	0.06	0.01	0.06	57.6
12	R2	12	100.0	12	100.0	0.121	1.7	LOS A	0.2	1.7	0.06	0.01	0.06	41.4
Approach		204	12.9	204	12.9	0.121	0.3	NA	0.2	1.7	0.06	0.01	0.06	57.3
North: Day Rd (N)														
4	L2	12	100.0	12	100.0	0.068	5.8	LOS A	0.0	0.0	0.00	0.10	0.00	44.6
5	T1	102	7.7	102	7.7	0.068	0.0	LOS A	0.0	0.0	0.00	0.10	0.00	53.2
Approach		114	17.1	114	17.1	0.068	1.1	NA	0.0	0.0	0.00	0.10	0.00	52.1
All Vehicles		318	14.4	318	14.4	0.121	0.4	NA	0.2	1.7	0.04	0.04	0.04	55.4

MOVEMENT SUMMARY

▽ Site: [Day Rd & Access 2 - 2021 - AM]

Network: N101 [Network - 2021 - AM]

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Day Rd (S)														
11	T1	164	7.7	164	7.7	0.085	0.0	LOS A	0.0	0.1	0.00	0.00	0.00	59.0
12	R2	1	0.0	1	0.0	0.085	0.9	LOS A	0.0	0.1	0.00	0.00	0.00	58.8
Approach		165	7.7	165	7.7	0.085	0.0	NA	0.0	0.1	0.00	0.00	0.00	59.0
East: Access 2 (E)														
1	L2	26	0.0	26	0.0	0.055	0.1	LOS A	0.2	1.4	0.15	0.08	0.15	17.8
3	R2	40	0.0	40	0.0	0.055	0.9	LOS A	0.2	1.4	0.15	0.08	0.15	17.8
Approach		66	0.0	66	0.0	0.055	0.6	LOS A	0.2	1.4	0.15	0.08	0.15	17.8
North: Day Rd (N)														
4	L2	53	0.0	53	0.0	0.052	2.6	LOS A	0.0	0.0	0.00	0.28	0.00	19.4
5	T1	49	7.7	49	7.7	0.052	0.0	LOS A	0.0	0.0	0.00	0.28	0.00	33.9
Approach		102	3.7	102	3.7	0.052	1.3	NA	0.0	0.0	0.00	0.28	0.00	23.2
All Vehicles		334	4.9	334	4.9	0.085	0.5	NA	0.2	1.4	0.03	0.10	0.03	35.9

MOVEMENT SUMMARY

Site: [Dixon Rd & Day Rd - Stage 1 - 2021 - PM] **Network: N101 [Network - 2021 - PM]**

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Dixon Rd (E)														
12	R2	22	7.7	22	7.7	0.076	14.8	LOS B	0.3	2.0	0.80	0.91	0.80	9.6
Approach		22	7.7	22	7.7	0.076	14.8	NA	0.3	2.0	0.80	0.91	0.80	9.6
North: Day Rd (N)														
1	L2	35	7.7	35	7.7	0.052	10.2	LOS B	0.2	1.5	0.55	0.95	0.55	21.0
2	T1	137	7.7	137	7.7	0.882	62.9	LOS F	4.6	36.6	0.94	1.43	2.60	3.6
Approach		172	7.7	172	7.7	0.882	52.2	LOS F	4.6	36.6	0.87	1.34	2.18	4.7
West: Dixon Rd (W)														
4	L2	122	7.8	122	7.8	0.079	5.8	LOS A	0.3	2.7	0.08	0.52	0.08	50.4
5	T1	1149	7.7	1149	7.7	0.319	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		1272	7.7	1272	7.7	0.319	0.6	LOS A	0.3	2.7	0.01	0.05	0.01	58.9
All Vehicles		1465	7.7	1465	7.7	0.882	6.9	NA	4.6	36.6	0.12	0.21	0.27	48.7

MOVEMENT SUMMARY

Site: [Dixon Rd & Day Rd - Stage 2 - 2021 - PM] **Network: N101 [Network - 2021 - PM]**

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Dixon Rd (E)														
11	T1	1204	7.7	1204	7.7	0.334	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		1204	7.7	1204	7.7	0.334	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
North: Median (N)														
3	R2	137	7.7	137	7.7	0.371	12.6	LOS B	1.3	10.7	0.81	0.97	1.03	10.6
Approach		137	7.7	137	7.7	0.371	12.6	LOS B	1.3	10.7	0.81	0.97	1.03	10.6
All Vehicles		1341	7.7	1341	7.7	0.371	1.3	NA	1.3	10.7	0.08	0.10	0.11	56.9

MOVEMENT SUMMARY

▽ Site: [Day Rd & Access 1 - 2021 - PM]

Network: N101 [Network - 2021 - PM]

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Day Rd (S)														
11	T1	183	7.7	183	7.7	0.115	0.3	LOS A	0.2	1.8	0.08	0.01	0.08	56.7
12	R2	9	100.0	9	100.0	0.115	3.1	LOS A	0.2	1.8	0.08	0.01	0.08	39.4
Approach		193	12.2	193	12.2	0.115	0.5	NA	0.2	1.8	0.08	0.01	0.08	56.4
North: Day Rd (N)														
4	L2	9	100.0	9	100.0	0.120	6.1	LOS A	0.0	0.0	0.00	0.05	0.00	47.1
5	T1	208	7.7	208	7.7	0.120	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	56.9
Approach		218	11.7	218	11.7	0.120	0.5	NA	0.0	0.0	0.00	0.05	0.00	56.3
All Vehicles		411	12.0	411	12.0	0.120	0.4	NA	0.2	1.8	0.04	0.03	0.04	56.4

MOVEMENT SUMMARY

▽ Site: [Day Rd & Access 2 - 2021 - PM]

Network: N101 [Network - 2021 - PM]

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Day Rd (S)														
11	T1	141	7.7	141	7.7	0.073	0.0	LOS A	0.0	0.1	0.01	0.00	0.01	58.7
12	R2	1	0.0	1	0.0	0.073	1.3	LOS A	0.0	0.1	0.01	0.00	0.01	58.6
Approach		142	7.6	142	7.6	0.073	0.0	NA	0.0	0.1	0.01	0.00	0.01	58.7
East: Access 2 (E)														
1	L2	28	0.0	28	0.0	0.073	0.5	LOS A	0.3	1.9	0.29	0.18	0.29	16.3
3	R2	52	0.0	52	0.0	0.073	1.3	LOS A	0.3	1.9	0.29	0.18	0.29	16.3
Approach		80	0.0	80	0.0	0.073	1.0	LOS A	0.3	1.9	0.29	0.18	0.29	16.3
North: Day Rd (N)														
4	L2	65	0.0	65	0.0	0.106	2.6	LOS A	0.0	0.0	0.00	0.17	0.00	20.3
5	T1	143	7.7	143	7.7	0.106	0.0	LOS A	0.0	0.0	0.00	0.17	0.00	40.2
Approach		208	5.3	208	5.3	0.106	0.8	NA	0.0	0.0	0.00	0.17	0.00	28.7
All Vehicles		431	5.1	431	5.1	0.106	0.6	NA	0.3	1.9	0.06	0.12	0.06	34.0

Government of **Western Australia**
Development Assessment Panels

Presentation Request Form

Regulation 40(3) and DAP Standing Orders 2020 cl. 3.5

Must be submitted at least 72 hours (3 ordinary days) before the meeting

Presentation Request Guidelines

Persons interested in presenting to a DAP must first consider whether their concern has been adequately addressed in the responsible authority report or other submissions. Your request will be determined by the Presiding Member based on individual merit and likely contribution to assist the DAP's consideration and determination of the application.

Presentations are not to exceed **5 minutes**. It is important to note that the presentation content will be **published on the DAP website** as part of the meeting agenda.

Please complete a separate form for each presenter and submit to daps@dplh.wa.gov.au

Presenter Details

Name	Josh Watson
Company (if applicable)	Planning Solutions
Please identify if you have any special requirements:	**YES ☐** **NO ☒** If yes, please state any accessibility or special requirements: Click or tap here to enter text.

Meeting Details

DAP Name	Metro Outer Joint Development Assessment Panel
Meeting Date	Thursday, 30 September 2021
DAP Application Number	DAP/21/01976
Property Location	Lot 10 (115) Dixon Road, East Rockingham
Agenda Item Number	8.2

Presentation Details

I have read the contents of the report contained in the Agenda and note that my presentation content will be published as part of the Agenda:	**YES ☒**
Is the presentation in support of or against the report recommendation)? *(contained within the Agenda)*	**SUPPORT ☐** **AGAINST ☒**
Is the presentation in support of or against the proposed development?	**SUPPORT ☒** **AGAINST ☐**
Will the presentation require power-point facilities?	**YES ☐** **NO ☒** **If yes, please attach**

Government of **Western Australia**
Development Assessment Panels

Presentation Content*

These details may be circulated to the local government and applicant if deemed necessary by the Presiding Member. Handouts or power points will not be accepted on the day.

Brief sentence summary for inclusion on the Agenda	*The presentation will address:* The previous deferral of the application and planning considerations associated with the proposed reasons for refusal.

In accordance with Clause 3.5.2 of the *DAP Standing Orders*, your presentation request must also be accompanied with a written document detailing the content of your presentation.

Please attach detailed content of presentation or provide below:

Refer enclosed presentation summary

Presentation Summary

To:	The Metro Outer JDAP	**From:**	Josh Watson
Attention:	Presiding Member and JDAP Members	**Job No:**	6621
Copy to:	DAP Secretariat	**Date:**	28 September 2021
Subject:	DAP Meeting Number: MOJDAP/128 – Item 8.2 Lot 10 (115) Dixon Road, East Rockingham Proposed Service Station Development		

Planning Solutions acts on behalf of Adelaide Nominee's Pty Ltd in support of the proposed service station Development at Lot 10 (115) Dixon Road, East Rockingham (**subject site**).

We are disappointed to receive the officer recommendation for refusal. We consider that the two deferral considerations have been clearly addressed following the MOJDAP determination on the 6 August 2021. The proposed development was deferred at this meeting for the following reasons:

- *To consider an alternative arrangement for access onto Dixon Road which would include left in/left out entry and exit onto Dixon Road for light vehicles, to reduce congestion concerns at the Day Road intersection.'*
- *An updated Traffic Assessment be provided accounting for these changed access arrangements and addressing outstanding matters raised in the Responsible Authority Report concerning the overall traffic impact assessment".*

[emphasis added]

The amended design and supporting traffic technical note address these reasons for deferral. The updated design provides two way light vehicle access to and from Dixon Road. This improves the internal circulation of vehicles through the site and improves the impact the proposed development will have on the Day Road / Dixon Road intersection. The supporting technical note, which is also provided within the RAR incorporates the updated SIDRA analysis to demonstrate the impact the updated access configuration would have on the intersection. This analysis confirms that the inclusion of two way access will improve the functionality of the Day Road / Dixon Road intersection from the previous design, with the impact of this development being insignificant during peak times.

It is clear the reasons for deferral have been addressed as part of the further information package. We consider the proposed development should be considered on its merits and **approved** by the Metro Outer JDAP.

IMPACT ON INTERSECTION - PLANNING DECISION MAKING

The reasons for refusal relate to the impact the proposed development would have on the operation of the Day Road / Dixon Road intersection. We consider this reasons for refusal are completely unreasonable and do not provide for ordinary and proper planning decision making for the following reasons:

1. The reasons for deferral have been appropriately addressed by modifying the Dixon Road light vehicle access to two way and providing the necessary traffic analysis to support the updated access configuration.
2. The Day Road / Dixon Road intersection services the wider industrial area. The City's officers have acknowledged that the intersection is currently operating at an unsatisfactory level of service during peak times. The current operations on the subject site and any future development would only have a negligible impact on the functionality of the intersection, considering this intersection services the wider industrial area. This has been confirmed via detailed traffic analysis, reporting and the presentation by Behnam Bordbar from Transcore.
3. The City's officers have clearly outlined that the Day Road / Dixon Road intersection operates satisfactorily the majority of the time, refer page 14 of the RAR. However, the City consider it entirely reasonable to refuse the development because the road is too congested during peak periods. The City has done nothing to improve the already busy intersection. Ultimately, the resolution to this problem is for the City to stop development. This is not orderly and proper planning and is completely unreasonable especially since the traffic reporting acknowledged negligible impacts, this is only one small development in an emerging industrial estate and that the majority of the time the City consider the intersection operates satisfactorily.

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Planning Solutions (Aust) Pty Ltd

4. The proposed development does not generate a significant number of vehicles, as it largely services motorists that are already on the road network. A conservative assessment of approximately 60% passing trade has been applied within the traffic reporting. This is considered to be much higher due to the location of the service station fronting a major road. In addition, the general operation of service stations during peak periods means customers will not turn into sites where they need to make manoeuvres out of the site which would likely be timely or inconvenient. This is clearly evident in this circumstance during peak periods for the right out movement onto Dixon Road and is reflected in the traffic analysis. Therefore, the impact on the right turn out from Day Road to Dixon Road within the traffic assessment is minimal.
5. The crossover locations are consistent with the existing crossovers which have operated successfully for over 20 years. The vehicle circulation has been well considered to ensure access maintains the same crossover locations and movement of vehicles. This ensures the proposed development has minimal impact on the intersection adjacent to the site.
6. As we all know, there are a number of intersections within the Perth metropolitan region which would fail in the context of level of service. This includes intersections at key traffic routes, such as Great Eastern Highway, Stirling Highway and many areas around the inner CBD. Development is supported on a daily basis in proximity to these key routes and intersections, which very likely operate at a significantly worse level of service than what is being proposed as part of this development. If the same assessment was applied to those locations as what the City is applying here, no development could be supported along major roads and intersections. This is completely erroneous and not orderly and proper decision making.

Accordingly, the intersection performance has no tangible link to the subject site or proposed development, and is rather a result of the existing intersection arrangement and existing traffic on the road network. It is neither fair nor reasonable to refuse a development based on intersection performance, where there is no nexus between the existing problem and the proposed development. The reasons for refusal are inconsistent with the principles of orderly and proper planning because it does not reasonable relate to the proposed development and the supporting information accompanying the application has clearly considered and addressed the traffic related considerations associated with the proposed development.

DEPARTMENT OF PLANNING NON-OBJECTION

Dixon Road is reserved 'Other Regional Roads' (**ORR**, a blue road) under the Metropolitan Region Scheme (**MRS**). Accordingly, the Department of Planning, Lands and Heritage (**DPLH**) were referred the application and provided comments on the proposal. DPLH had no objection to the proposal on ORR planning grounds, subject to appropriate swept path movements for 19m long vehicles. DPLH also acknowledged the poor performance of the Dixon Road/Day Road intersection as shown by the SIDRA intersection analysis and still provided a non-objection.

If there was clear link between this development causing problems at the intersection, this would have been identified by DPLH in their assessment. It is unclear why the City are recommending refusal of this application based on traffic grounds, when DPLH raised no concerns with the impact of the development on the intersection.

TRUCK ACCESS

When reviewing the video survey of the intersection during the peak periods it was clear the queuing experienced at the intersection is minimal for the majority of the time. When there was queuing, this was often caused by trucks turning right onto Dixon Road from Day Road. This results in longer delays than if cars were queuing, with a truck unable to accelerate as quickly as a car to safely navigate in front of two lanes of oncoming traffic.

Furthermore, larger trucks are unable to fit within the central median/turn pocket. This means that trucks turning right onto Dixon Road are required to cross 3-4 lanes of traffic. Importantly, in considering how the proposed development would impact this situation, trucks accessing the proposed service station must exit left onto Dixon Road, with no truck egress to Day Road. Therefore, the proposed development would not increase the number of trucks turning right onto Dixon Road.

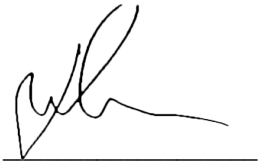
SUMMARY

In summary, the proposed development is generally consistent with the relevant planning framework, an appropriate land use and development for the locality and would have a positive impact on the locality. The development will provide for an improvement to the site in terms of built form, land use activity and services for the East Rockingham locality.

Accordingly, we respectfully request the application for development approval be considered on its merits and the Metro Outer JDAP makes a favourable determination.

Thank you for your time and consideration. I would be pleased to answer any questions from the JDAP members at the meeting on 30 September 2021.

Yours faithfully,



JOSH WATSON
SENIOR ASSOCIATE

210928 6621 PS Presentation Summary - Josh Watson

LOT 9005 FIFTY ROAD, BALDIVIS - PROPOSED NEIGHBOURHOOD SHOPPING CENTRE DEVELOPMENT

Form 1 – Responsible Authority Report
(Regulation 12)

DAP Name:	Metro Outer Joint Development Assessment Panel	
Local Government Area:	City of Rockingham	
Applicant:	Planning Solutions Pty Ltd	
Owner:	Piperpoint Pty Ltd	
Value of Development:	$12million ☑ Mandatory (Regulation 5) ☐ Opt In (Regulation 6)	
Responsible Authority:	City of Rockingham	
Authorising Officer:	Mr Bob Jeans, Director Planning and Development Services	
LG Reference:	DD020.2021.00000167.001	
DAP File No:	DAP/21/02023	
Application Received Date:	21 June 2021	
Report Due Date:	22 September 2021	
Application Statutory Process Timeframe:	90 Days	
Attachment(s):	**Attachment 1** Original Development Application **Attachment 2** Additional Information and Amended Development Plans **Attachment 3** External Agency Comments **Attachment 4** Adopted Spires (Phase 2) Structure Plan **Attachment 5** Adopted Local Development Plan **Attachment 6** State Planning Policy 7.0 Assessment **Attachment 7** Local Development Plan Assessment	
Is the Responsible Authority Recommendation the same as the Officer Recommendation?	☒ Yes ☐ N/A	Complete Responsible Authority Recommendation section
	☐ No	Complete Responsible Authority and Officer Recommendation sections

Responsible Authority Recommendation

That the Metro Outer Joint Development Assessment Panel (MOJDAP) resolves to:

Approve DAP Application reference DAP/21/02023 and the accompanying plans received on the 16 August 2021:

- Subdivision Plan;
- Lot Boundaries and Topography Plan;
- Masterplan;
- Shopping Centre Roof Plan;
- Commercial Centre Roof Plan;
- Shopping Centre Elevations - West and South Elevations;
- Project Palette (Sheet 1);
- Shopping Centre Elevations - East and North Elevations;
- Project Palette (Sheet 2);
- Shopping Centre Sections - Section 1 and 2;
- Shopping Centre Sections - Section 3 and 4;
- Loading Dock Sections;
- Commercial Centre Sections - West and South Elevations;
- Commercial Centre Sections - East and North Elevations;
- Materials Palette Legend;

in accordance with Clause 68 of the Planning and Development (Local Planning Schemes) Regulations 2015 and the provisions of clause 68(2)(b) of the deemed provisions of the City of Rockingham Town Planning Scheme No. 2, subject to the following conditions as follows:

Conditions

1. This decision constitutes development approval only and is valid for a period of four years from the date of approval (this is inclusive of the additional two years available under 'Clause 78H Notice of Exemption from planning requirements during State of Emergency' issued by the Minister for Planning on 8 April 2020). If the subject development is not substantially commenced within the specified period, the approval shall lapse and be of no further effect.

2. Prior to applying for a Building Permit, a Stormwater Management Plan must be prepared by a suitably qualified engineering showing how stormwater will be contained on-site and those plans must be submitted to the City of Rockingham for its approval. All stormwater generated by the development must be managed in accordance with Planning Policy 3.4.3 - Urban Water Management to the satisfaction of the City of Rockingham. The approved plans must be implemented and all works must be maintained for the duration of the development.

3. Prior to applying for a Building Permit, a revised Waste Management Plan(s) for the supermarket and the commercial tenancies must be prepared and include the following detail to the satisfaction of the City of Rockingham:

   (i) the location of bin storage areas and bin collection areas;

   (ii) the number, volume and type of bins, and the type of waste to be placed in the bins;

   (iii) management of the bins and the bin storage areas, including cleaning, rotation and moving bins to and from the bin collection areas;

   (iv) frequency of bin collections; and shall

   (v) demonstrate compliance with the Acoustic Report required in Condition 4 below.

   All works must be carried out in accordance with the Waste Management Plan and maintained at all times, for the duration of development.

4. Prior to applying for a Building Permit, an Acoustic Report which demonstrates that all mechanical services associated with the proposed development and any other noise source, will comply with the Environmental Protection (Noise) Regulations 1997, must be submitted to and approved by the City of Rockingham.

5. Prior to the occupation of the development, a Final Acoustic Assessment must be prepared and provided to the City of Rockingham which demonstrates to City's satisfaction, that the completed development complies with the *Environmental Protection (Noise) Regulations 1997*.

   The Final Acoustic Assessment must include the following information:

   (i) noise sources compared with the assigned noise levels as stated in the *Environmental Protection (Noise) Regulations 1997*, when the noise is received at the nearest "noise sensitive premises" and surrounding residential area;

   (ii) tonality, modulation and impulsiveness of noise sources; and

   (iii) confirmation of the implementation of noise attenuation measures.

   Any further works must be carried out in accordance with the Acoustic Report and implemented as such for the duration of the development.

6. A Landscaping Plan must be prepared and include the following detail, to the satisfaction of the City, prior to applying for a Building Permit:

   (i) The Location, number and type of existing and proposed trees and shrubs (including street trees, shade trees within the car parking areas, and planting within the Special Landscape Area), indicating calculations for the landscaping area;

   (ii) Any lawns to be established and areas to be mulched;

   (iii) Those areas to be reticulated or irrigated;

   (iv) The paving material used for the footpaths must be carried across driveways to the car parking areas in order to maintain visual continuity of the pedestrian network and aid pedestrian legibility;

   (v) Detailed landscape, irrigation, lighting, playground, street furniture plans;

   (vi) Verge areas; and

   (vii) Provide for low threat landscape planting within the Other Regional Road portion of the site (future Nairn Drive).

   The landscaping (including all verge landscaping) must be completed prior to the occupation of the development, and must be maintained at all times to the satisfaction of the City of Rockingham.

7. Prior to applying for a Building Permit, the Bushfire Management Plan prepared by Ecological Australia, dated 12 August 2021 must be updated to the satisfaction of the City of Rockingham to reduce the extent of the Asset Protection Zone (APZ) to include only the northern portion of the site rated as BAL-29 and above.

   The APZ must be maintained for the duration of the development.

8. Prior to applying for a Building Permit, a Sign Strategy must be prepared (which must include the information required by Planning Policy 3.3.1, Control of Advertisements) to the satisfaction of the City of Rockingham and it must thereafter be implemented for the duration of the development.

9. In accordance with City of Rockingham Planning Policy 3.3.14 - Bicycle parking and End of Trip Facilities, at least two showers (1 male, 1 female), change rooms and 9 clothing lockers must be provided for the development which must be designed in accordance with that Policy and approved by the City of Rockingham prior to applying for a Building Permit and constructed prior to occupancy of the development. The showers, change rooms and lockers must be retained and maintained in good and safe condition for the duration of the development.

10. Prior to applying for a Building Permit, the plans shall be amended to the satisfaction of the City of Rockingham and include the following changes in order to improve visual interest, activation, legibility and access to the development:

    (i) Provide a direct pedestrian entry into the Medical Centre building from Yellowstone Road; and

    (ii) Integrate the Commercial tenancies bin store area presently located within the southern car park, to within the built form of the Shopping Centre.

11. Prior to applying for a building permit, the Applicant must submit full detailed engineering drawings showing the various pavement types and cross sectional profiles to be adopted across the entire development site and adjoining road reserves, for review and approval by the City of Rockingham.

12. Prior to the occupation of the development, any damage to existing City infrastructure within the road reservation including kerb, road pavement, turf, irrigation, bollards and footpaths is to be repaired to the satisfaction of the City of Rockingham at the cost of the applicant.

13. Earthworks over the site associated with the development must be stabilised to prevent sand or dust blowing off the site, and appropriate measures shall be implemented within the time and in the manner directed by the City of Rockingham in the event that sand or dust is blown from the site.

14. The car parking areas must:

    (i) be designed, constructed, sealed, kerbed, drained and marked in accordance with User Class 3 of Australian/New Zealand Standard AS/NZS 2890.1:2004, Parking facilities, Part 1: Off-street car parking unless otherwise specified by this approval, prior to applying for a Building Permit;

    (ii) provide car parking spaces dedicated to people with disabilities, which are designed, constructed, sealed, kerbed, drained and marked in accordance with Australian/New Zealand Standard AS/NZS 2890.6:2009, Parking facilities, Part 6: Off-street parking for people with disabilities and which are linked to the main entrance of the development by a continuous accessible path of travel designed and constructed in accordance with Australian Standard AS 1428.1—2009, Design for access and mobility, Part 1: General Requirements for access—New building work;

    (iii) be constructed, sealed, kerbed, drained and marked prior to the development being occupied and maintained thereafter; and

    (iv) comply with the above requirements for the duration of the development.

15. Nine (9) long-term and twenty six (26) short-term bicycle parking spaces must be designed in accordance with AS2890.3-1993, *Parking facilities, Part 3: Bicycle parking facilities*, and located within the development to the satisfaction of the City of Rockingham, prior to commencement of development.

    The bicycle parking spaces must be constructed prior to occupation of the development.

16. All plant and roof equipment and other external fixtures must be designed to be located away from public view/or screened.

17. Materials, sea containers, goods or bins must not be stored within the car park at any time.

18. Prior to the occupation of the development, a final illumination report must be prepared which demonstrates to the satisfaction of the City of Rockingham, that the completed development complies with the requirements of Australian Standard AS 4282—1997, Control of the obtrusive effects of outdoor lighting.

19. In accordance with Planning Policy 3.3.25 *Percent for Public Art – Private Developer Contribution*, prior to occupation of the development, the developer shall make a contribution to the City of Rockingham equal to 1% of the total construction value for the provision of public art, being $120,000 in value.

20. Prior to the commencement of the development, a reciprocal parking and access agreement is required to allow for access and parking of vehicles on the shopping centre land and the Commercial Centre land, to the satisfaction of the City of Rockingham.

21. A Dust, Noise and Vibration Management Plan is to be submitted and approved by the City's Land and Development Infrastructure Department prior to the commencement of works.

Advice Notes

1. The disposal of wastewater into the Water Corporation's sewerage system must be with approval of the Water Corporation; the applicant and owner should liaise with the Water Corporation in this regard.

2. The development must comply with the *Food Act 2008*, the *Food Safety Standards* and Chapter 3 of the *Australian New Zealand Food Standards Code (Australia Only)*; the applicant and owner should liaise with the City's Health Services in this regard.

3. A Building Permit must be obtained for the proposed works prior to commencement of site works. The applicant and owner should liaise with the City's Building Services in this regard.

4. The development must comply with the *Environmental Protection (Noise) Regulations 1997;* contact the City's Health Services for information on confirming requirements.

5. All works in the road reserve, including construction of a crossover, planting of street trees, and other streetscape works and works to the road carriageway must be to the specifications of the City of Rockingham; the applicant should liaise with the City of Rockingham's Engineering Services in this regard.

6. All playground installations must be installed and maintained in accordance with all relevant Australian Standards AS 4685:2014 1-6, 11 and all relevant amendments including additional criteria outlined in the following:

   (i) AS 4685.0:2017 Playground equipment and surfacing Part 0: Development, installation, inspection, maintenance and operation; and

   (ii) AS/NZS 4422:1996 - Playground Surfacing - Specifications, Requirements & Test Methods; Suitable impact absorbing surfacing, termed soft-fall must be installed, wherever falls from fixed or portable playground equipment is possible.

7. In regards to Condition 6, the Applicant is to provide a basic sacrificial landscape treatment to the adjoining Nairn Drive Reserve, to the satisfaction of the City of Rockingham. The Applicant is responsible for maintaining the area until Nairn Drive is constructed.

8. In regards to Condition 11, the engineering plans to be submitted, must include (but not limited to) proposed finished design levels plans, longitudinal sections, location of bioretention basins/gardens and annotated pit and pipe drainage infrastructure and demonstrating how stormwater will be managed across the development area.

9. In regards to Condition 21, dust management is to be in accordance with the Department of Environment and Conservation Guideline: A guideline for managing the impacts of dust and associated contaminants from land development sites, contaminated sites remediation and other related activities.

Where a development approval has so lapsed, no development shall be carried out without further approval having first been sought and obtained, unless the applicant has applied and obtained Development Assessment Panel approval to extend the approval term under regulation 17(1)(a) of the *Planning and Development (Development Assessment Panels) Regulations 2011.*

Background:

Currently described as Lot 9005 Fifty Road, Baldivis, the subject land is in the process of being developed into a residential estate, in accordance with the approved Spires (Phase 2) Structure Plan (SP2SP).

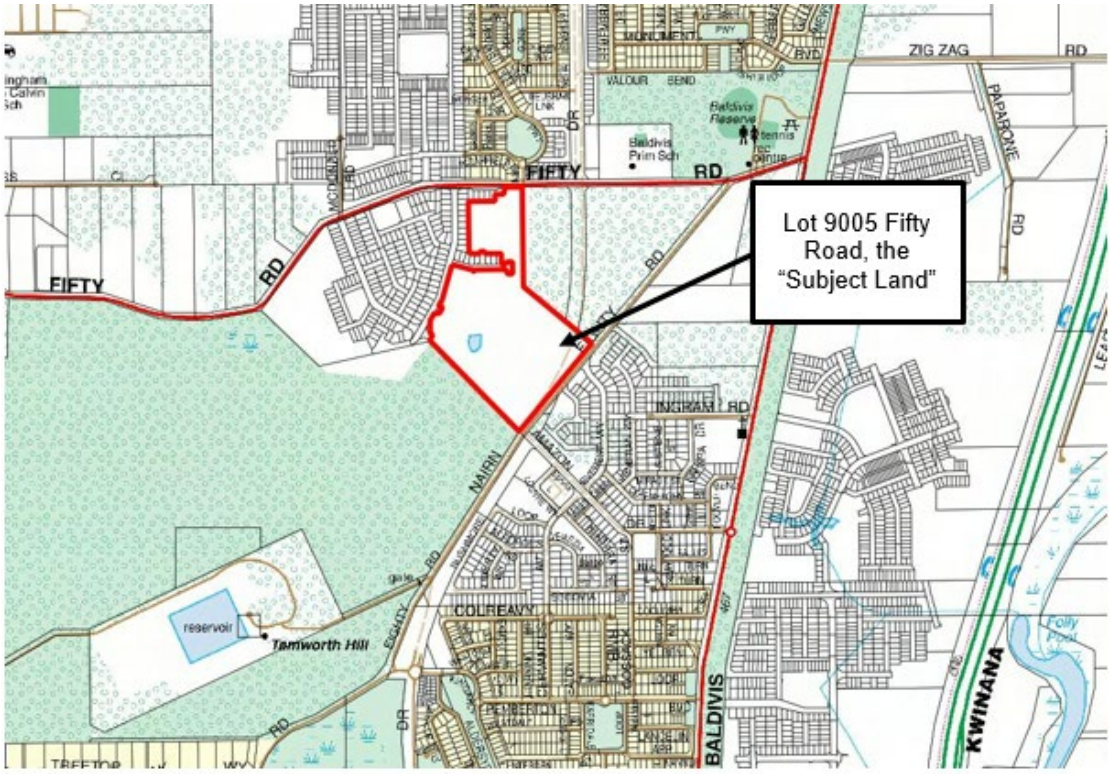


Figure 1: Location Plan

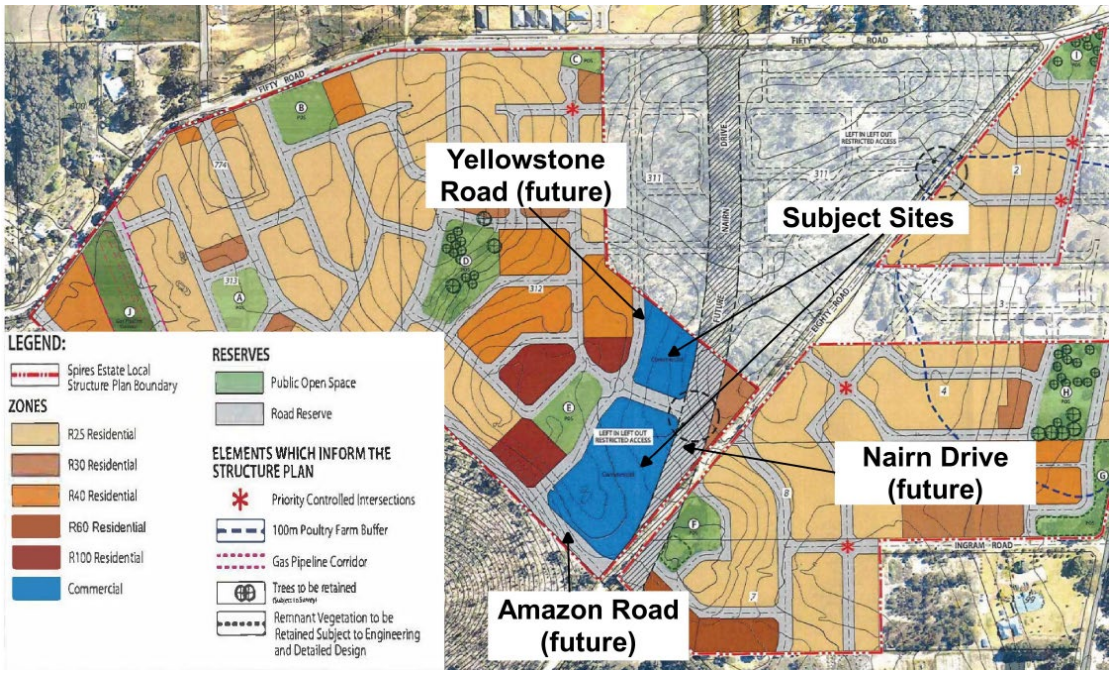


Figure 2: The Spires (Phase 2) Structure Plan Map

The subject land has been extensively cleared of vegetation, and bulk earthworks are progressing.

Figure 3: Aerial Photo of Subject Site and Surrounding Development

Context

The proposed development is sited over two future Commercial Lots comprising 1.99ha and 6,671m² in area, which constitutes the planned Baldivis North Neighbourhood Centre (BNNC), as depicted on the SP2SP map (refer to Figure 2 above).

The BNNC development adjoins:

- The north-eastern side of the future extension of Amazon Drive;
- The north-western side of the future extension of Nairn Drive, which is reserved as an 'Other Regional Road (ORR) under the Metropolitan Region Scheme (MRS);
- The south-eastern side of Yellowstone Road, being the future 'Main Street' for the BNNC;
- Lot 1401 Fifty Road to the north-east, which is a future development site, upon which the BNNC will ultimately extend. Lot 1401 is heavily vegetated and is subject to a separate planning process via a proposed Amendment to the Local Structure Plan, details of which are discussed further below; and

- Pantheon Road which bisects the BNNC. Pantheon Road will have restricted access to/from Nairn Drive when constructed.

In broader context, to the west of Yellowstone Road is a planned Public Open Space (POS) reserve and medium to high density zoned Residential land (Residential R40 and R100).

The R100 site on the corner of Yellowstone Road and Amazon Road is currently the subject of Amendment No.5 to the SP2SP, which proposes to reclassify the site's designation in order to consider a Tavern development, details of which are also discussed further below.

To the west and east of Lot 9005 are recently established residential estates.

Spires (Phase 2) Structure Plan Amendment No.5:

Proposed Amendment No.5 affects a corner site opposite the BNNC, north-west of Yellowstone Road and north-east of Amazon Drive.

The Amendment proposes to re-code residential land and reclassify the corner site from 'R100 Residential' to 'Commercial'.

In August 2021, the Council resolved to recommend to the Western Australian Planning Commission (WAPC) that the Structure Plan Amendment should not be approved until such time as the Applicant addresses various modifications including "*The proposed commercial site being zoned Special Use on the Local Structure Plan map".*

In order to protect the intent of the BNNC, the City recommended the proposed Tavern site be classified as a 'Special Use' zone, rather than a 'Commercial' zone, to remove the potential for it to be developed for commercial/retail uses, not assessed under the current scenario presented in the applicant's Retail Sustainability Assessment.

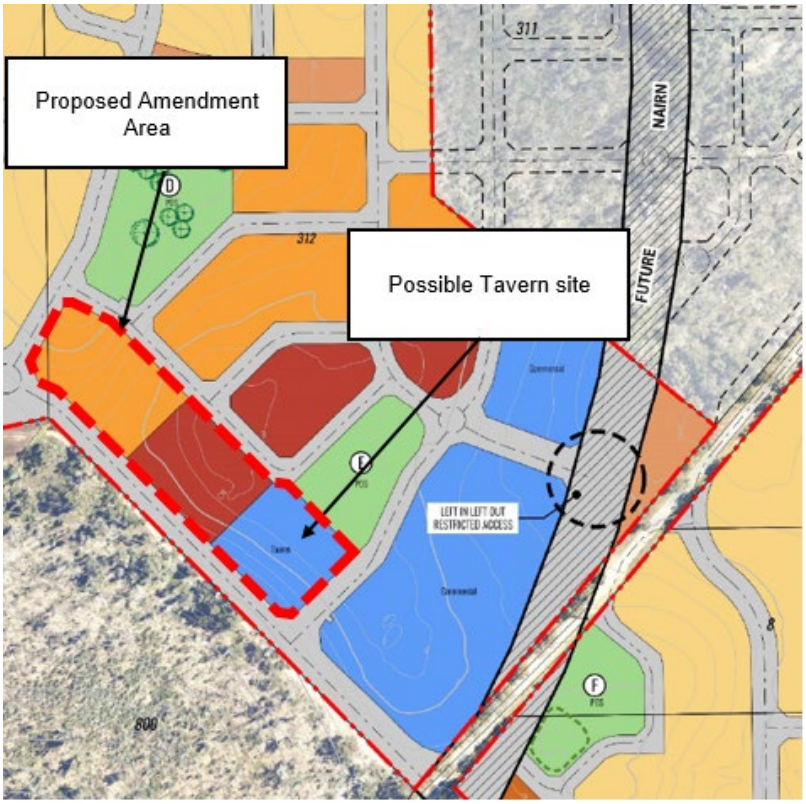


Figure 4: Proposed Amendment No.5 to the Spires (Phase 2) Structure Plan

Amendment to Adjoining Structure Plan (Lots 1401 and 1402 Fifty Road):

In January 2021, the Council considered an Amendment to the Lot 311 Fifty Road Structure Plan, which abuts the subject land (refer to Figure 5 below - now described as Lots 1401 and 1402 Fifty Road).

The Amendment proposed to re-allocate various residential density codes and increases the area allocated for Commercial Development from 0.204ha to 1.8ha, in an attempt to accommodate the following:

(i) An additional supermarket and specialty shops, to a maximum of 4,000m^2, resulting in shop/retail floor space total of up to 11,000m^2 for the overall centre; and

(ii) Potential for Bulky Goods Showrooms, Fast Food Outlets, Child Care Centre, Medical Centre, Service Station and other non-retail commercial uses.

Council resolved to recommend the WAPC to:

(i) Refuse the Amendment as proposed; and

(ii) Advised that the City would be prepared to support a modified application, reducing the proposed expansion of the Neighbourhood Centre, however, subject to a maximum retail floor space of 1,500m^2 within Lot 311 and an area of 0.6ha, subject to a range of modifications.

In June 2021, the Statutory Planning Committee of the WAPC considered the proposal, where it supported the Council's Alternate recommendation to require significant modifications to the Structure Plan.

In July 2021, the landowner appealed the decision of the WAPC's Statutory Planning Committee via the State Administrative Tribunal. The appeal is currently unresolved.

Figure 5: Statutory Planning Committee Refused Amendment to Structure Plan over Lots 1401 and 1402 Fifty Road

Details: Outline of Development Application

Region Scheme	Metropolitan Region Scheme
Region Scheme - Zone/Reserve	Urban, Other Regional Road
Local Planning Scheme	Town Planning Scheme No.2
Local Planning Scheme - Zone/Reserve	Development
Structure Plan/Precinct Plan	Spires (Phase 2) Structure Plan
Structure Plan/Precinct Plan - Land Use Designation	Commercial
Use Class and permissibility:	'P' Permitted Shop 'D' Discretionary Restaurant/Café Fast Food Outlet Office Medical Centre Recreation-Private
Lot Size:	14.74ha
Existing Land Use:	Vacant
State Heritage Register	No
Local Heritage	☑ N/A ☐ Heritage List ☐ Heritage Area
Design Review	☑ N/A ☐ Local Design Review Panel ☐ State Design Review Panel ☐ Other
Bushfire Prone Area	Yes
Swan River Trust Area	No

Proposal:

A Joint Development Assessment Panel (JDAP) application was lodged with the City on 21 June 2021, to construct a Neighbourhood Shopping Centre development on the site (Attachment 1).

The application was accompanied by the following information:

- Planning Report;
- Architectural Plans;
- Traffic Impact Assessment;
- Bushfire Management Plan;
- Environmental Noise Assessment;
- Waste Management Plan; and
- Landscape DA report.

Following an assessment of the application the City requested additional information from the Applicant on 23 July 2021, in order to address information gaps and inconsistencies.

On 13 and 16 August 2021 the Applicant submitted additional information (Attachment 2), comprising:

- A letter responding to the City's concerns;
- Modified architectural plans;
- Reponses to the City's technical queries;
- A revised Waste Management Plan (Talis Consultants);
- A Waste Management Plan for the Supermarket;
- Swept Path Diagrams;
- A revised Bushfire Management Plan; and
- Raw Traffic Data.

The following sections of the report are based on the application information, as amended.

This application seeks JDAP Approval for the following:

Shopping Centre Development

A Shopping Centre development is proposed on the southern proposed lot within the BNNC (refer to Figure 2 above), which comprises:

- A full range supermarket 3,608m² in area, which includes an integrated on-line pick up area accessed from a loading dock in the adjoining car park;
- 12 Commercial tenancies ranging in floor area from 46m² to 318m², structured around a central mall with a raised roof;
- The tenancies are intended to be used for a range of inter-changeable land uses, including 'Shop', 'Restaurant', 'Fast Food Outlet' and 'Office';
- A landscaped community 'Piazza', providing a child play area and alfresco dining opportunities between the Commercial tenancies and Yellowstone Road;
- 'Public Art' suspended from the ceiling above the central mall spine;
- Car parking in the form of 257 permanent (long term) on-site parking bays, and 16 on-street bays adjacent the site within Yellowstone Road. Car park shade structures are proposed over 146 car bays;

- Vehicle access into the car park is proposed by a full movement vehicle crossover on Yellowstone Road, while a restricted left-in/left out crossover is proposed from Amazon Drive;

- External pedestrian linkages from all sides of development;

- Bike parking areas and associated end-of-trip amenities;

- The internal spine is proposed to be fitted with transparent roller shutters to restrict access through, after hours;

- A trolley store (98m²), trolley bays and a bin store (36m²) are proposed within the car parking area;

- A future pad site (potential Fast Food) is illustrated on the Site Plan near the southern corner of the car park, however, does not form part of this Development Application. In the interim, the pad site is proposed to be landscaped and developed with temporary car parking bays;

- The proposed hours of operation of the Commercial tenancies is 6am to 10pm, Monday to Saturday, and 7am to 9pm Sundays/Public Holidays;

- It is understood that the supermarket trading hours are proposed in accordance with the Retail Trading Hours Act 1987. Approval is sought for the supermarket to operate with staff up to 24 hours per day to allow for operations such as re-stocking of the shelves, cleaning and baking;

- An entry statement is proposed in the form of wooden 'fins' with soft and hard landscaping on both sides of the road at the intersection of Amazon Drive and Yellowstone Road; and

- The submitted plans illustrate indicative signage at various locations, including a pylon sign near the corner of Amazon Drive and Nairn Drive. The application states that signage also does not form part of this Development Application.

Commercial Centre Development

A Commercial Centre development is proposed on the northern Lot within the BNNC (refer to Figure 2 above), comprising:

- A single storey Medical Centre (550m²); the proposed operating hours are unknown;

- A single storey Gymnasium (600m²), operating 24 hours per day;

- On site car parking for 117 cars;

- Bike parking areas and associated end-of-trip amenities;

- A future pad site (245m²) is illustrated on the Site Plan to the north of the Medical Centre, however, this does element does not form part of the current application; and

- A dedicated bin store within the car park.

Legislation and Policy:

Legislation

- Planning and Development Act 2005
- Metropolitan Region Scheme
- Planning and Development (Local Planning Schemes) Regulations 2015 (the Regulations)
- Town Planning Scheme No.2 (TPS2)
- Environmental Protection (Noise) Regulations 1997

State Government Policies

- State Planning Policy 3.7 - Planning in Bushfire Prone Areas (SPP3.7)
- State Planning Policy 4.2 - Activity Centres in Perth and Peel (SPP4.2)
- State Planning Policy 7.0 Design of the built Environment (SPP7.0)
- Guidelines for Planning in Bushfire Prone Areas

Local Policies

- Planning Policy 3.1.2 - Local Commercial Strategy (PP3.1.2)
- Planning Policy 3.3.14 Bicycle Parking and End of Trip Facilities (PP3.3.14)
- Planning Policy 3.3.25 Percent for Public Art - Developer Contributions (PP3.3.25)

Structure Plans

- The Spires (Phase 2) Structure Plan

Local Development Plan

- The Spires Neighbourhood Centre Local Development Plan.

Consultation:

Public Consultation

Pursuant to Clause 64(1)(c) of the Deemed Provisions of Town Planning Scheme No.2 (TPS2), the local government has the discretion to advertise, or not to advertise an application seeking Development Approval.

The City considers the proposal does not warrant advertising for public comment, for the following reasons:

- The application is not a ‘Complex Application’;

- The location of the subject site is relatively remote from existing development, with the nearest dwelling set back approximately 50m to the east, across (future portion of) Nairn Drive;

- Preceding planning processes have involved extensive community consultation, including:

  - The SP2SP, which established the location of the Neighbourhood Centre within the estate;

  - The more recently Local Development Plan (LDP), which established the development control provisions over the subject site; and

- Site Planning layout which is generally consistent with the approved LDP.

- The above processes establish reasonable community expectations that the land will be developed for a Neighbourhood Shopping Centre.

Referrals/consultation with Government/Service Agencies

The following Government departments were consulted:

- Department of Planning, Lands and Heritage (DPLH); and

- Water Corporation.

The comments received include:

Department of Planning, Lands and Heritage (DPLH)
Land Requirements The site abuts (future) Nairn Drive which is reserved as an ORR within the MRS and Category 2 per Plan No. SP 694/4. The site is not affected by the ORR reservation per Land Requirement Plan No. 1.2909/2. Transport Impact Assessment The report prepared by Transcore dated June 2021, states that the proposal is in accordance with the SP2SP area which shows restricted left in/left out access for the Nairn Drive/Pantheon Road intersection (WAPC Reference SPN/0522M-2). Signalisation is proposed in future at the Nairn Drive / Amazon Drive intersection. This is in accordance with condition 37 of the subdivision approval over the site (WAPC reference: 160788, 21 September 2018). Condition 43 of this approval states that Amazon Drive is to have a minimum width of 23 metres. Condition 45 precludes direct vehicular access to Fifty Road / Baldivis Road and Nairn Drive. SIDRA intersection analysis shows acceptable performance for the Nairn Drive / Amazon Drive intersection (2013, Saturday PM peak hour). Additional SIDRA analysis provided shows a high level of service for other minor intersections. The report states that the proposal will generate 700 vehicles per hour during Thursday PM peak hour periods with 797 vehicles per hour during Saturday peak hour periods which is broadly in accordance with Institute of Transportation Engineers common trip generation rates for similar land uses.

Department of Planning, Lands and Heritage (DPLH)
Recommendation The Department of Planning, Lands and Heritage has no objection to the proposal on ORR planning grounds.
City's Comment: The Department's submission is noted.
Water Corporation (Summarised)
The Water Corporation advised that reticulated water and sewerage services are available to the area, and that a sewer pressure main that traverses the site is in the process of being relocated into road reserve (i.e. the future alignment of Nairn Drive). The Water Corporation does not object to the application.
City's Comment: The Water Corporation's submission is also noted.

A copy of the external comments provided by the consulted Government Agencies forms part of Attachment 3.

Design Review Panel Advice

Not Applicable

Swan Valley Planning

Not Applicable

Planning Assessment:

The proposal has been assessed against all the relevant legislative requirements of the Scheme, State and Local Planning Policies, as previously outlined in the Legislation and Policy section of this report. The following matters have been identified as key considerations for the determination of this application:

State Planning Policy 3.7 - *Planning in Bushfire Prone Areas* (SPP3.7)

SPP3.7 seeks to guide the implementation of effective risk-based land use planning and development to preserve life and reduce the impact of bushfire on property and infrastructure.

As the land is designated as a bushfire prone area, the Applicant submitted a Bushfire Management Plan (BMP) in support of the application, as per the requirements of SPP3.7.

The bushfire threat for the development arises primarily due to the existing vegetation on Lot 800 DP23928 to the south-west (Bush Forever Site No.356) and Lot 1401 Fifty Road to the north-east. It is expected that the vegetation on Lot 1401 will be removed in the long term, to accommodate development on this land when approvals have been obtained. For the short term however, this vegetation poses a bushfire threat to the northern portion of the subject land.

A revised BMP was received on the 13 August 2021, which responded to the City's request to reduce the extent of the Asset Protection Zone (APZ) on the site, to cover the minimum area necessary under the Guidelines for Planning in Bushfire Prone Areas. The intent behind the request was to ensure that future landscape outcomes for the development, in respect to street tree and verge plantings and on-site landscaping are not compromised, given the inherent conflict between bushfire and environmental objectives.

The revised BMP indicates that all proposed buildings will be located in areas subject to BAL rating BAL-19 or lower, in compliance with SPP3.7, however, there is still concern regarding the extent of the proposed APZ illustrated on the revised BMP.

The amended APZ includes the road reserves of Pantheon Road and Yellowstone Road and the car parking at the rear of the Commercial Centre site, whilst the Site Plan and Landscape Master Plan indicate these areas will be planted with street trees, shrubs and shade trees within the car park, as well as a within a 3m wide Special Landscape Area intended to screen the site from Nairn Drive. The implications of this mean that the extent of landscape planting illustrated on the Site Plan and Landscape Master Plan cannot be realised due to the need to comply with APZ requirements.

The City further discussed this concern with the Applicant, which agreed that a condition can imposed requiring an updated BMP to be provided with the APZ reduced further, which only includes the portion of the site north of the proposed Medical Centre building that the BMP has rated as BAL-29 and above.

The BMP has otherwise demonstrated compliance with the Planning criteria within the Guidelines for Planning in Bushfire Prone Areas, in respect to Location; Siting and Design; Vehicle Access; and Water.

Subject to the above recommended condition, the proposal is compliant with SPP3.7.

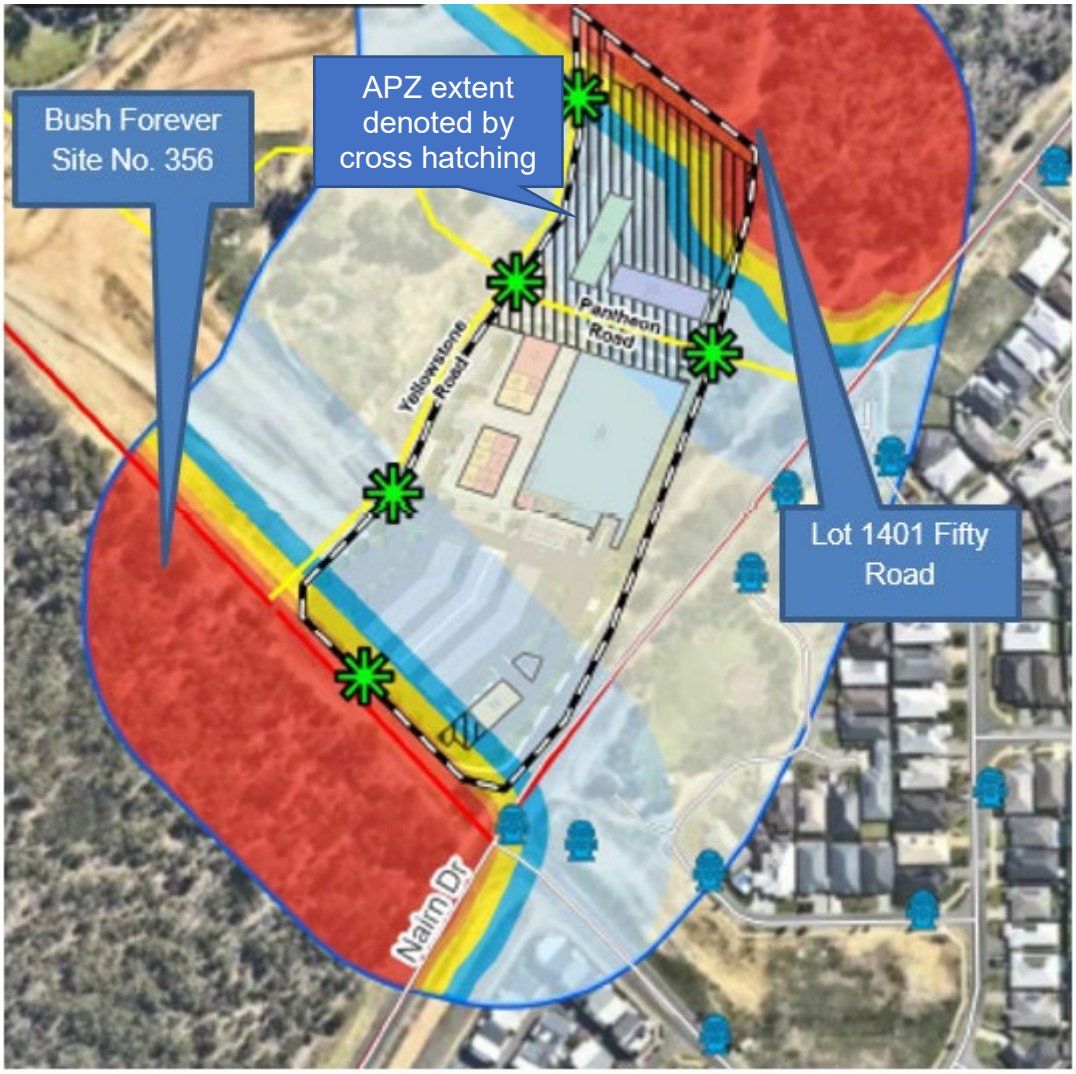


Figure 6: Bushfire Management Plan Extract – Proposed Asset Protection Zone

Figure 7: Landscape Master Plan

State Planning Policy 4.2 – Activity Centres in Perth and Peel (SPP4.2)

SPP4.2 specifies broad planning requirements for the planning and development of new activity centres and the redevelopment and the renewal of existing centres. SPP4.2 is primarily concerned with and provides provisions with respect to the distribution, function, broad land use and urban design criteria of activity centres, together with coordinating their land use and infrastructure planning.

Clause 5.1 - Activity Centre Hierarchy

Baldivis North is an identified Neighbourhood Activity Centre within the hierarchy of activity centres outlined in the City's Local Commercial Strategy.

As discussed further below in respect to PP3.1.2, the proposal is consistent with the planned hierarchy, given the function of a Neighbourhood Activity Centre is to provide for the daily and weekly household shopping and community needs, while providing a focus for medium density housing.

Clause 5.2 - Activity

A range of land uses are proposed that cater for household shopping needs, convenience services and community health needs, as well as land uses that generate activity outside of normal business hours.

Clause 5.3 - Movement

Activity centres should be designed to be accessible by a variety of transport modes. The proposed development is designed to be accessed by car, freight vehicles, bus, bicycle and by walking.

SPP4.2 suggests that decision makers set upper limits to car parking, in view of opportunities for reciprocal and shared parking; the availability of on-street parking and the need for land efficiency. As a guide, SPP4.2 recommends that two bays per 100m² are provided for Offices and four to five bays per 100m² for Shops in order to optimise the efficient provision of car parking. This is relevant to the car parking discussion later in this report.

SPP4.2 also requires that parking facilities are to be located, scaled, designed and landscaped to avoid visual domination of street and public space frontages, and to avoid discontinuity of the urban form and pedestrian amenity. The development proposes car parking that is conveniently located and effectively screened by either buildings (where possible), or by a 3m wide Special Landscaping Area located between the car parks and surrounding streets.

As discussed below under the heading of Waste Management, the City has concerns about the waste bin area proposed within the car park of the southern shopping centre site, in that waste vehicles will block the circulation aisles of the car park when collecting waste from the bin store. A condition is recommended that requires the waste bin store to be relocated into the building form, thus alleviating this concern.

Clause 5.4 - Urban Form

The buildings are designed to address the streets with active frontages in accordance with the approved LDP, with the exception of the Medical Centre building, which the

elevation plans appear to indicate has no front door fronting onto Yellowstone Road. This matter is discussed further below under SPP7.0, and is the subject of a recommended condition to mandate the need for a front door to this building.

A community 'piazza' provides a public space which promotes vitality and natural surveillance, in a location that will connect the proposed shopping centre with the planned POS, on the north-western side of Yellowstone Road.

It is noted that various design elements of the approved LDP have been derived from SPP4.2, which are discussed further below.

Overall, the application is considered to be generally consistent with SPP4.2.

Draft State Planning Policy 4.2 – Activity Centres in Perth and Peel (SPP4.2)

The local government is required by Clause 67 of the deemed provisions to have 'due regard' to a range of matters. The pertinent matter regarding this application relates to subclause b) which states that the local government is required to give due regard to any proposed planning instrument that it is seriously considering approving or adopting.

The WAPC is currently reviewing SPP4.2, and has released a draft revised Policy for comment, with the submission period closing on 12 February 2021.

The City considers the application is generally consistent with draft SPP4.2, however, it is noted an Impact Test (previously known as a Retail Sustainability Assessment) may be required for the future pad sites pursuant to Table 2: Major activity centre use floor space threshold, as these two developments are likely to exceed the specified 5,000m^2 NLA thresholds for the proposed Neighbourhood Centre.

State Planning Policy 7.0 – Design of the Built Environment

SPP7.0 provides the broad framework for the design of the built environment across Western Australia, and applies to all levels of the planning hierarchy, including the assessment of development applications.

The objectives of this policy seek to provide, *inter alia*, a coordinated strategy of design quality mechanisms to achieve design outcomes that meet government and community expectations, including:

- Design principles - performance based approach to policy;
- Design review - skilled evaluation expertise;
- Design skills - skilled design expertise.

The application has been assessed against, and found to meet 9 of the 10 design principles of SPP7.0.

As mentioned above, the Medical Centre building does not have a front door directly facing Yellowstone Road, being the 'main street' for the BNNC. As outlined in Principle 4 of SPP7.0 (Functional and Build Quality) good design provides flexible and adaptive spaces to maximise their utilisation and accommodate appropriate future requirements without the need for major modifications.

The City considers a front door is required to provide adequate activation of this building given it's context on a 'main street'; to provide for pedestrian amenity and adaptability for the tenancy to be used in the future for a different use without the need for major modification.

A condition is recommended to require the provision of a front door to the Medical Centre, in the event approval is granted.

For reasons of conciseness, the assessment against the provisions of SPP7.0 is contained within Attachment 6 to this report.

PP3.1.2 – Local Commercial Strategy

PP3.1.2 provides for a future Neighbourhood Activity Centre at the intersection of Nairn Drive and Fifty Road, which through the Structure Planning processes, has been relocated onto the subject land.

The proposed development is considered consistent with the role and function of a Neighbourhood Centre, in that:

- The extent of retail floorspace proposed (4,692m²) is within the range of 4,500m² -10,000m²; and

- The range of proposed land uses provide for the comparison, weekly shopping and convenience service needs of the community through the provision of a full sized supermarket and 12 commercial tenancies.

- The BNNC will provide an important 'community' based role in servicing the everyday needs of residents living in proximity to the centre.

The application is considered to be consistent with PP3.1.2.

It is noted that the City is in the early stages of progressing a new Commercial Strategy which includes a Needs Assessment (to be prepared for future development) in accordance with the draft SPP4.2, so as to provide future guidance on floor space increases.

PP3.3.14 Bicycle Parking and End-of-Trip Facilities

The aim of the Policy is to appropriately provide for secure, well defined and effective on site bicycle parking and end-of-trip (EOT) facilities, to encourage the use of bicycles as a means of transport and access within the City.

Bicycle Parking Requirement

Land Use	Required				Provided
	Minimum Short Term		Minimum Long Term		
	Rate	Number	Rate	Number	
Shop – Neighbourhood Centre (4,692m²)	0.30 spaces per 100m² NLA	14	0.12 spaces per 100m² NLA	6	40 bicycle parking spaces are provided on the Shopping Centre site and 10 spaces provided on the Commercial Centre site
Health Services	0.1 spaces per patient (20 patients)	2	0.1 spaces per staff (16)	2	
All other uses (Recreation-Private 600m²)	0.05 spaces per visitor (200 visitors)	10	0.1 spaces per staff (6 staff)	1	
Total Required	**26**		**9**		**50 spaces**

In accordance with the provisions of PP3.3.14, a minimum of 35 bicycle parking spaces are required. The proposed development provides a total of 50 bicycle parking spaces, in groups of 10 spaces located across the two development sites.

While the plans propose bicycle parking spaces in excess of policy requirements, the locations proposed require further consideration in order to ensure that pedestrian access is not compromised. This matter has been addressed through a recommended condition, in the event approval is granted.

End-of-Trip Facilities (EoT)

In accordance with PP3.3.14 the provision of nine long term bicycle parking spaces requires the provision of two showers (1 male, 1 female). The showers are required to be provided in a change room with lockers.

The application proposes EOT facilities within two locations (within the Medical Centre and Supermarket buildings), which exceed minimum requirements, including:

- Four Change rooms with showers; and
- 24 lockers.

A condition is recommended requiring the provision of EOT facilities in the event approval is granted.

The proposal otherwise satisfies the requirements of PP3.3.14.

PP3.3.25 Percent for Public Art – Developer Contributions

In accordance with PP3.3.25, where a proposed development has an estimated construction costs exceeding $5M, there is a requirement to provide Public Art to a value of not less than 1% of the building works.

The policy provides for the developer to nominate the method of providing Public Art, to either:

(a) Provide public artwork in a publicly visible location within the boundaries of an approved development site; or

(b) Provide a cash-in-lieu payment to enable the City to procure artwork for installation on public land within the vicinity of the approved development site.

The application proposes 'Public Art' to be provided in the mall of the shopping centre development, in a form that is suspended from the roof structure, as illustrated below in Figure 8.

The City has expressed concerns to the Applicant with respect to the selected form of public art, not being accessible to the public at large outside of business hours.

A condition of Development Approval is recommended, requiring the developer to make a Public Art contribution equal to 1% of the total construction value of the development to the satisfaction of the City.

Based on the estimated cost of Development of $12million, this is equivalent to $120,000.

Figure: 8 Proposed Public Art

Spires (Phase 2) Structure Plan

Clause 27 of Schedule 2 of the Deemed Provisions states that a decision-maker for an application for Development Approval in an area that is covered by a Structure Plan is to have due regard to, but is not bound by the Structure Plan when deciding the application.

The subject site is covered by the SP2SP which was approved by the WAPC on 12 March 2014. The SP2SP map designates the BNNC land as Commercial land, and includes the following relevant provisions:

- A Detailed Area Plan (now referred to as a LDP) is required for the land zoned Commercial;
- Prohibits direct vehicle access from the site onto Nairn Drive;
- Left in/ left out restricted access is required at the intersection of Pantheon Road and Nairn Drive.

In regards to the above provisions:

- There is no direct vehicle access proposed from the development sites onto Nairn Drive;
- The intersection of Pantheon Road and Nairn Drive shall be restricted to left in/left out access when Nairn Drive is constructed; and
- A LDP has been approved over the land.

Clause 67 of Schedule 2 of the Deemed Provisions outlines the matters to which the Local Government is to give due regard when considered relevant to an application. Where relevant, these are discussed throughout the report.

Local Development Plan

The LDP over the subject land contains development control provisions intended to achieve the following objectives:

- *"Establish a 'main street' based Neighbourhood Activity Centre, of a scale appropriate to its role as a focal point for the local community;*
- *Provide context for higher density residential development that capitalises on proximity to local services; and*
- *Provide an entry statement to the surrounding development"*.

A full assessment of the application against the provisions of the LDP is contained in Attachment 7 of this report, which concluded that the development complies with most provisions of the LDP, and that the building form proposed is of an acceptable scale for a Neighbourhood Centre in this location.

Areas where the development requires LDP discretion include:

- There are structures proposed within the shopping centre car park which do not form part of the LDP, specifically, the dedicated bin store and trolley store. The City's preference is to integrate the bin store within the supermarket building form, or for it to be appropriately screened from view rather than provide it as a free standing structure in the middle of the car park. This matter is discussed further within the Waste Management section of this report.

- No glazing is provided on the western elevation of the Gymnasium building, where the building adjoins a pedestrian access way adjacent the Medical Centre. This is considered to be a minor variation which is acceptable, as passive surveillance of the pedestrian access way is not compromised and can be achieved via sight lines through the development from the north and south.

- Buildings abutting the 'main street' must have a primary pedestrian access from the 'main street'. Yellowstone Road is the centre's 'main street'. As mentioned earlier, there is no direct access (front door) illustrated on the plans to the Medical Centre from Yellowstone Road. A front door must be provided for this tenancy for the reasons explained; which is recommended as a condition in the event Development Approval is granted.

- Pavement material used for the footpaths must carry over the driveways to maintain visual continuity of the pedestrian network. The plans appears to show asphalt driveways. This matter can be addressed though a recommended condition.

- 'Transparent' roller shutters are proposed, intended to secure the mall entries to the shopping centre in three locations, which is not a matter the LDP specifically deals with, however, are considered acceptable for use after hours.

Figure 9: Local Development Plan Variations

Clause 56 of Schedule 2 of the Deemed Provisions states that a decision-maker for an application for Development Approval in an area that is covered by a LDP that has been approved by the Local Government must have due regard to, but is not bound by the LDP when deciding the application.

City of Rockingham Town Planning Scheme No.2 (TPS2)

The land is zoned "Development" and falls within Development Area No.22 (DA22) under TPS2.

In accordance with the requirements of DA22, a Structure Plan has been approved over the land to guide subdivision and development.

The Structure Plan requires that land use permissibility shall be in accordance with the Commercial Zone under TPS2.

The proposed uses are provided for in the Commercial zone, and are all potentially permissible as indicated below:

- Shop (P use) - permitted use;
- Restaurant/Café (D use) - discretionary use;
- Fast Food Outlet (D use) - discretionary use;
- Office (D use) - discretionary use;
- Medical Centre (D use) - discretionary use ; and
- Recreation - Private (D use) - discretionary use.

Of the above uses, it is intended that the 'Office', 'Restaurant/Café', 'Fast Food Outlet' and 'Shop' uses will apply interchangeably to the Commercial tenancies within the Shopping Centre. The City considers this land use flexibility is acceptable in this instance, as:

- It dispenses with the need for separate 'change of use' applications in the future;
- Being a supermarket anchored shopping centre, there is likely to be multi-purpose shopping activity, which will reduce the demand for parking; and
- There is sufficient car parking proposed for the development when considered in conjunction with SPP4.2, which recommends parking provision in the range of four to five bays per 100m² NLA for Shops (resulting in 187-234 bays required).

Notwithstanding the above, it is noted that pursuant to Clause 61 of the Deemed Provisions, Development Approval is not required in the following circumstances:

Use	Zone	Conditions
Shop	Commercial	Nett Lettable area is no more than 300m²
Restaurant/Cafe	Commercial	Nett Lettable area is no more than 300m²

It is noted that the majority of the tenancies will not require further Development Approval for the above interchangeable land-uses pursuant to Clause 61.

Clause 4.6.3 - Parking

Onsite car parking is required to be provided in accordance with Table No.2 of TPS2. The provision of car parking is summarised as follows:

Car Parking Required		
Shopping Centre Site		
Use	**Rate**	**Number**
Shop (4,692m^2 NLA)	6 bays per 100m² NLA	282 bays
Commercial Centre Site		
Medical Centre (6 consultants)	5 bays/ practitioner	30 bays
Recreation-Private (200 people)	1 bay/ 4 persons the building is designed to accommodate	50 bays
Total bays required		**362**
Car Parking Provided		
Shopping Centre Site		257
Commercial Centre site		117
On-site Provided		**374**
On street bays		16
Total Provided		**390**

Pursuant to Clause 4.15.3 of TPS2, the car number of parking bays required by reference to Table No.2 of TPS2 must be provided on site.

The Application proposes 374 long term on-site car parking bays, when 362 bays are required.

Also taking into account the 16 car bays proposed within the adjacent street verge of Yellowstone Road, there is a theoretical 28 car bay surplus provided for the development overall.

While there is a 25 car bay shortfall on the Shopping Centre site, this is compensated for by:

- A 37 surplus car bays on the Commercial Centre site, which are conveniently located for customers of the shopping centre site to use, inclusive of the 16 car bays provided in the verge of Yellowstone Road, adjacent to the shopping centre; and

- Given the range of commercial tenancies proposed, there is likely to be some degree of multi-purpose shopping activity, which can reduce the demand for parking.

By comparison, SPP4.2 suggests that parking be provided at a rate of four to five bays per 100m² NLA for Shops, which would result in a requirement for 187-234 bays.

For the purpose of this assessment, the future pad site (inclusive of the 13 temporary car bays provided on the pad site) and the future development site are not included, as these elements fall outside the scope of this application, and will be lost upon the pad site being developed. Furthermore, the 4 on-line pick-up car bays are not included in the assessment, as these bays relate to the collection of goods purchased on-line from the supermarket; are short term parking and operate akin to service bays.

In order to secure car parking access across the Shopping Centre site and Commercial Centre site, a condition of Development Approval is recommended requiring reciprocal parking and access arrangements.

Parking provision for this development is considered to be compliant with TPS2.

Traffic

Vehicle access to the car parking areas on the northern Commercial Centre site and southern Shopping Centre site is proposed via full movement crossovers from Yellowstone Road, while a secondary left in/left out access is also proposed to the southern Shopping Centre car parking area from Amazon Road for light vehicles.

The SIDRA analysis provided with the TIA indicates generally satisfactory performance of the proposed crossovers and for the adjoining street intersections, except that the queue length at the proposed signalised intersection at Nairn Drive/ Amazon Drive (ie the north-west approach) can be expected to back up and extend past the crossover proposed on Amazon Drive at times. A left in/left out crossover in this location is considered essential for the Shopping Centre car park in order to reduce traffic volumes using the centre 'Main Street', and is supported from a Planning perspective.

In general, the City considers that the surrounding road network has the capacity to accommodate the traffic generated by this development.

Within the development sites, the City's Traffic Engineer still has some concerns about the design of the car park crossovers, gradients, vehicle swept paths and layout of the car parking areas in terms of compliance with *AS2890.1:2004, Parking facilities, Part 1: Off-street car parking*. It is considered that these matters can be addressed by the recommended standard conditions.

Waste Management:

The Waste Management Plan (WMP) prepared by Talis Consultants (dated 10 August 2021) outlines the measures proposed for the northern commercial tenancies and the southern commercial tenancies (excluding the supermarket), which include:

- Northern commercial tenancies: A private waste collection company will collect refuse and recyclable waste once a week (each) from a bin store located within car parking area. Medical waste will be disposed of separately via specialised contractor.

- Southern commercial tenancies: Waste generated by the commercial tenancies (other than the Supermarket) will be stored in a temporary bin store area adjacent to the Supermarket loading/amenities area during the day, prior to transferring to an external 36m² bin store located within the car park, outside of business hours. Waste will be collected by a private contractor twice a week (for each waste stream).

- Waste vehicles (10.7m rear loaded waste collection vehicles) will circulate within the car parks to empty the waste bins, before leaving the site in a forward direction.

- Waste collections will be timed to occur between 7am and 8am during the week, and not before 9am or after 7pm on weekends. The timing is intended to minimise conflict with other traffic using the car parks and to ensure compliance with the *Environmental Protection (Noise) Regulations 1997 (Noise Regulations)*.

Of the WMP measures proposed for the commercial tenancies on the southern Shopping Centre site, the City is concerned with the location of the stand-alone bin store within the car park, and the size and functionality of this bin store. There is concern that the bin store may be subject to general rubbish dumping and graffiti, and being a stand-alone structure, detracts from the amenity of the neighbourhood centre. It is noted that no Elevation Plans were provided for the bin store as requested by the City, so the scale and appearance of the bin store structure (and the trolley store for that matter) is unknown.

Furthermore, the City is concerned that in order to service the bin store, waste vehicles will block the vehicle circulation aisle within the car park, creating delays for customer's parking their vehicles.

It is the City's preference to integrate this bin storage area within the proposed building form, or to locate the bin store where it can be effectively screened. There would appear to be scope to accommodate an integrated waste bin store adjacent the proposed Shopping Centre building (i.e. adjoining the acoustic wall next to the bin store area for the supermarket).

Conditions that require amendments to the Site Plan and Waste Management Plan relating to the commercial tenancies are recommended in order to address this matter, in the event approval is granted.

In respect to waste management for the Supermarket, the site plan shows a dedicated bin store adjoining the eastern side of the Supermarket loading dock, which is where waste will be stored prior to collection from the loading dock. An 'indicative' acoustic wall is shown on the site plan east of the loading dock, which is a noise mitigation measure recommended in the applicant's Environmental Noise Assessment (ENA).

A *Supermarket Specific Waste Management Plan* (SSWMP) was submitted by the applicant, however, this is a high level generic document that provides minimal insight in respect to the particular waste management requirements for the proposed Supermarket.

The SSWMP indicates that typically, waste may be collected from the Supermarket up to 24 hours a day. The issue for the City here is ensuring compliance with the Noise Regulations, which is discussed further below.

To address this, a condition is also recommended requiring an updated Waste Management Plan for the Supermarket, which firms up the proposed waste collection arrangements consistent with the Acoustic Report recommended, as discussed below.

Noise:

The application lacks clarity with respect to the timing of freight deliveries to the Supermarket. The Applicant has verbally advised that the intention is for the Supermarket to accommodate freight deliveries 24 hours/7 days per week. Similarly, it is assumed here that the intention is to provide for waste collection vehicles to service the Supermarket 24 hours/7 days per week.

The ENA submitted with the application provides a preliminary noise assessment to help inform the planning decision making, which models various operational scenarios and has calculated a 2dB exceedance at night time due to refrigerated delivery truck noise.

The ENA notes that noise emissions will need to be carefully considered for each building in the detailed design phase, considering the final equipment selections, operating hours etc, and recommends (among other matters):

- That the Supermarket loading dock area incorporates a noise barrier extending from the south side of the loading dock, to be designed in consultation with a qualified acoustic consultant prior to the issuing of a Building Permit, when more details are known.

- That where waste collection is carried out outside of daytime hours, this shall be undertaking in accordance with a Noise Management Plan, which could be imposed as a condition of approval.

In order to manage the noise implications, conditions are recommended that require:

- An Acoustic Report to be submitted prior to submitting a Building Permit that demonstrates how all noise sources from the development will comply with the *Environmental Protection (Noise) Regulations 1997.* It is at this stage that the final noise mitigation measures will be determined for inclusion within a Building Permit application.

- Prior to the occupation of the development, a Final Acoustic Assessment must be prepared and provided to the City of Rockingham which demonstrates to City's satisfaction, that the completed development complies with the *Environmental Protection (Noise) Regulations 1997*.

While the Applicant's Acoustic Consultant recommends a Noise Management Plan where waste collection is carried out outside of daytime hours, the City does not support this approach as it suggests that the City is willing to accept noise exceedances outside of daylight hours when there has been no detailed modelling to indicate the noise impacts.

Engineering Plans:

The City has issued engineering approval for the commencement of civil works on Lot 9005, under the umbrella of the WAPC subdivision approvals for the estate. There are various design elements regarding the Development Application, which need to be considered in terms of how they integrate in to the civil works.

The subject application for the BNNC proposes to create a significant amount of impervious area which, if not correctly designed, would adversely impact the adjacent POS area which is being developed under the Subdivision Approval. Specifically, if not carefully managed, the amount of stormwater runoff which would be generated and contributing to the surrounding road network could exceed the allowable storage volumes.

The City also needs to assess how the proposed design levels within the Commercial lot boundaries interface with the surrounding road levels on Yellowstone and Pantheon Road and Amazon Drive.

In order to address these matters, a non-standard condition is recommended that requires the submission of Engineering Drawings for review by the City prior to the submission of a Building Permit application, in the event that Development Approval is granted.

Conclusion:

The proposed development is considered appropriate for the site, in terms of land use; scale and built form. The City is satisfied the development represents an efficient use of land.

The application is considered to be generally consistent with the planning framework, and where variations are proposed, these are generally considered acceptable, and are capable of being managed through the inclusion of appropriate conditions.

It is recommended that the application is approved, subject to conditions.

Development Application
Proposed Neighbourhood Centre Development

Lot 9005 Nairn Drive,
Baldivis, WA

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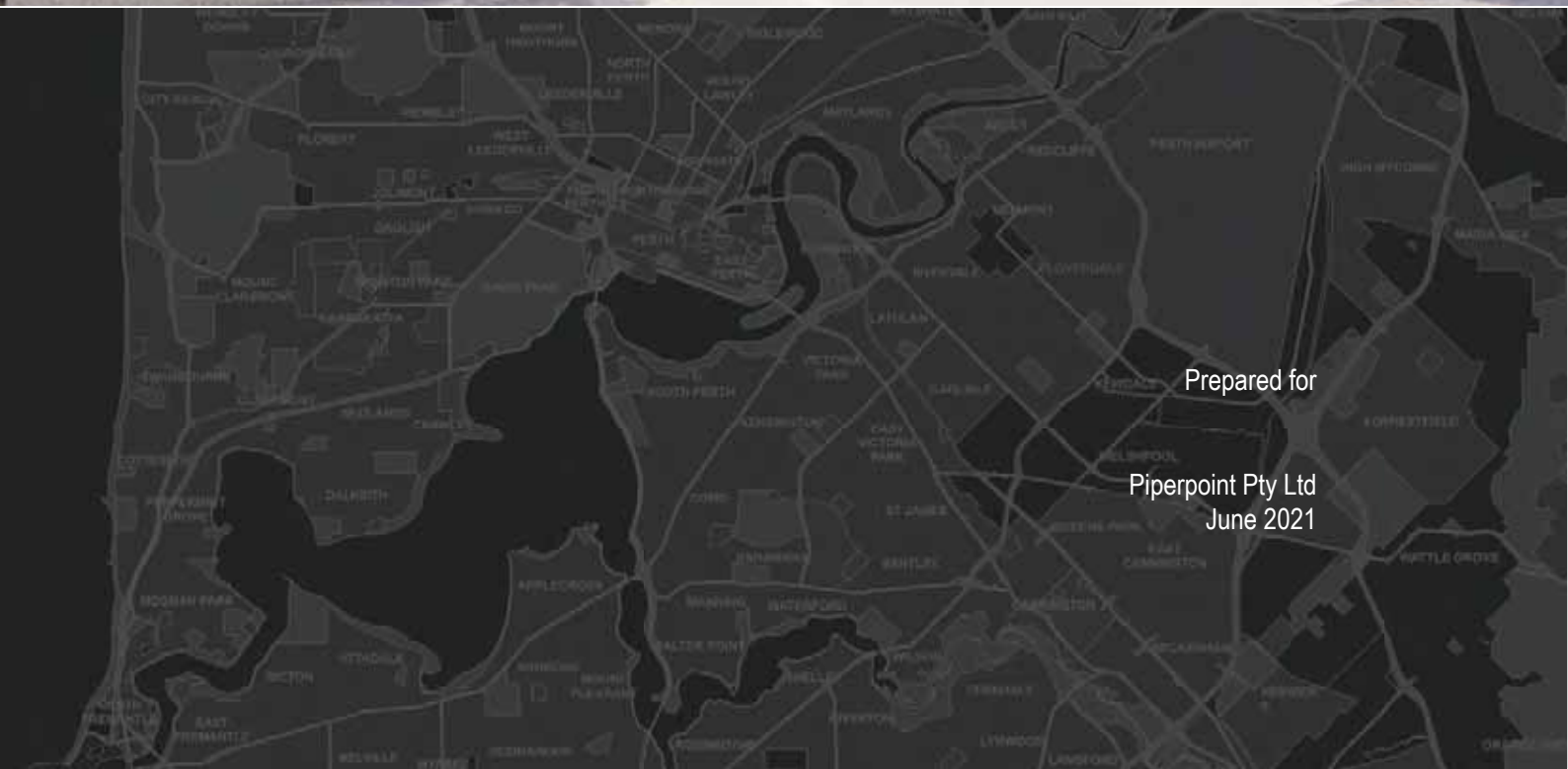

Prepared for

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Prepared by	Planning Solutions	
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1 Preliminary

1.1 Introduction

Planning Solutions acts on behalf of Piperpoint Pty Ltd, the proponent of the proposed development of a portion of Lot 9005 Nairn Drive, Baldivis (**subject site**). Planning Solutions has prepared the following report in support of a development application for a neighbourhood centre development on the subject site.

This report will discuss various elements pertinent to the proposal, including:

- Site details.
- Proposed development.
- Strategic and statutory planning framework.

The application seeks approval for the use and development of a neighbourhood centre on the subject site comprising of a supermarket, commercial tenancies, and associated car parking, access and signage. The proposed development will provide essential daily and convenience shopping for households. The proposed development contributes to much needed commercial/retail offerings to the North Baldivis locality, and surrounding communities.

The proposed development features a high quality site-specific design that contributes to an enhanced future character of the North Baldivis area while providing positive built form outcomes to residents. Further, the proposed development will result in a substantial community benefit through the generation of significant local employment opportunities, improved private recreation/health outcomes, enhanced opportunities for community interaction and activation.

The proposal warrants approval from the Metro Outer Joint Development Assessment Panel based on its merits.

1.2 Background

1.2.1 Site and development background

The proposal forms part of the Spires Private Estate development, a residential estate centred around the planned intersection of Nairn Drive and Amazon Drive, Baldivis with an ultimate dwelling yield of 2,000 dwellings.

In c. 2011, the developer of Spires Private Estate, Spatial Property Group initiated discussions with the City of Rockingham (**City**) and Baldivis North Pty Ltd – the owner of land at the corner of Nairn Drive and Fifty Road, Baldivis – to seek approval to relocate the planned neighbourhood centre on the Baldivis North site approximately 500m southwards, to the intersection of Nairn Drive and Amazon Drive. Baldivis North Pty Ltd provided its support in March 2012, and in March 2014 the Spires Local Structure Plan was approved, relocating the neighbourhood to the Spires Private Estate Baldivis.

Since obtaining approval for the Baldivis North NC in 2014, Spatial Property Group has continued to develop the residential portions of its estate, growing the resident population to a level where the development of the neighbourhood centre is becoming a commercially viable prospect.

Spatial Property Group in conjunction with the City has worked hard to ensure that Main Roads WA provided approval for a signal-controlled intersection at the Nairn Drive / Amazon Drive junction. This treatment – at Spatial Property Group's cost - was to further enable the viability of the proposed neighbourhood centre and ensure safe pedestrian movement was possible.

In 2017 Spatial Property Group, with its commercial partner the Carcione Group of Companies, began the process of detailed planning of the proposed development in accordance with the long established and accepted planning framework, with a view to obtaining approvals and commencing construction in 2021. Subdivision approval was granted in 2018 for the creation of the neighbourhood centre sites and surrounding streets. In March 2021 a local development plan approved by the City for the neighbourhood centre.

1.2.2 Pre-lodgement consultation with the City of Rockingham

Extensive consultation and pre-lodgement engagement have occurred with the City with respect to the proposed development over several years. Most recently, on 8 April 2021 representatives of the proponent, Carcione Group of Companies and Planning Solutions attended a meeting with senior officers at the City to discuss the proposed development.

The feedback provided by the City's officers has been reflected in an updated design of the development.

2 Site Details

2.1 Legal Description

Refer to **Table 1** below for a description of the land subject to the proposed development.

Table 1: Lot details

Lot No.	Deposited Plan	CT Volume/Folio	Area (m²)	Owner
9005	416296	2985/536	147,400	Piperpoint Pty Ltd

There is one easement on the Certificate of Title which does not affect the subject site.

Refer to **Appendix 1** for a copy of the Certificate of Title and Deposited Plan applicable to the subject site.

The proposed development is located on the south eastern most portion of Lot 9005, with an area of approximately 2.66ha (**development site**). Refer **Figure 1** for an aerial photograph depicting the subject site and the development area.

2.2 Regional Context

The development site is located within the municipality of the City of Rockingham in the suburb of Baldivis, approximately 40km south of the Perth city centre, approximately 6km east of the Rockingham city centre, and approximately 2km north of the Baldivis town centre.

Baldivis Road and Safety Bay Road are in close proximity to the development site; these roads connect the development site to the Kwinana Freeway, and the wider metropolitan region.

2.3 Local Context, Land Use & Topography

The development site is located in the suburb of Baldivis, surrounded by newly developed residential land uses and undeveloped bushland areas.

The development site includes the land bounded by future roads Yellowstone Road to the west, Amazon Drive to the south, Nairn Drive to the east and the adjoining Lot 1401 Fifty Road to the north. The site is bisected by future Pantheon Road. Yellowstone Road, Amazon Drive and Pantheon Road are to be constructed under the subdivision approval for the subject site.

The development site comprises part of the Spires Estate.

The development site is predominantly cleared land with small amounts of regrowth vegetation remaining on the site. The site is generally flat.

Refer to **Figure 1**.

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SCALE	1:5,000 @ A4
DATE	18 May 2021
FILE	210518 6622 Aerial Photograph.dwg
REVISION	2/RC/Rev/18.05.2021
	1/RC/First Draft/05.05.2021

Scale Bar (m) 0 50 100

AERIAL PHOTOGRAPH

LOT 9005 NAIRN DRIVE
BALDIVIS, WESTERN AUSTRALIA

FIGURE 01

3 Proposed Development

3.1 Proposed development

This application seeks approval for the development of a neighbourhood centre development on the development site comprising a range of complementary land uses and activities including a supermarket, retail / food and beverage tenancies, medical centre, gym, associated landscaping, and car parking areas.

The proposed development will provide long-planned-for and much needed retail and commercial offering to the area and will serve a diverse range of needs for the residents. It will create important local employment opportunities during both the construction and operational phases of the development. The neighbourhood centre will also function as the community hub for the North Baldivis locality.

Figure 2: Perspective drawing of the proposed development, as seen from Yellowstone Road.

The spatial arrangement of proposed development centres around a vibrant 'centre main street' along Yellowstone Road, connected by a north – south pedestrian link. The subject site is bisected by Pantheon Road with the development comprising two distinct developments: 'Shopping Centre' south of Pantheon Road, and 'Commercial Centre' north of Pantheon Road, refer **Figure 3**.

Figure 3: Location plan for the proposed development showing the Shopping Centre (red) and Commercial Centre (yellow) developments.

3.1.1 Shopping Centre

The proposed Shopping Centre development comprises the following key elements:

- A supermarket comprising:
    - A full range supermarket with a commercial floorspace of 3,608m^2, along with an adjacent/integrated online pick up area of approximately 100m^2. This component of the development will be serviced by a loading dock at the building's south east corner, which has been designed to accommodate turning movements for 19.5m long delivery vehicles.
    - Proposed opening hours of the supermarket will be in accordance with that provided by the Retail Trading Hours Act 1987 and/or in accordance with other permits/licenses as required. The supermarket may operate with staff up to 24 hours per day to allow for operations such as replenishment of stock on shelves, price label changes, cleaning, baking, and fresh food preparation.
- Twelve commercial tenancies ranging from 46m^2 to 318m^2. The tenancies are arranged around a central mall with a raised roof. The tenancies are proposed to be utilised for a range of interchangeable uses including Shop, Restaurant, Fast Food Outlet, and Office.
- Public art to be suspended above the central mall, to be designed by an artist.
- A total of 262 car bays, including 4 accessible bays and 4 online pick up bays (146 bays provided under fixed shade structure), with associated car park landscaping.
- Bicycle parking racks, distributed throughout the proposed development site.
- 96m^2 trolley store located in the car park.
- A bin store sized to accommodate the required bins for the commercial tenancies of the Shopping Centre, located in the car park.

- A single left in-left out vehicle crossover to/from Amazon Drive, and a single full movement crossover to/from Yellowstone Road.
- Attractively designed buildings articulated with awnings, shopfront glazing and high quality façade treatments.
- Extensive landscaping treatments within the community piazza, providing play areas and alfresco dining opportunities.
- Extensive tree planting is also proposed along the 3m setback area along the Nairn Drive and Amazon Drive frontages providing suitable screening for car parking and loading areas from the public domain. Entry statement for the 'main street' also provided within the setback area.
- Hours of operation for the proposed commercial tenancies will be 6.00am to 10.00pm Monday to Saturday and 7.00am to 9.00pm Sunday/Public Holidays.

A 290m^2 pad site for 'future development' with allowance for drive thru facilities, is identified in the south east corner of the car park. It is not proposed as part of this development application.

A pylon sign is identified in the south east corner of the subject site, at the intersection of Nairn Drive and Amazon Drive. It is not proposed as part of this application.

3.1.2 Commercial Centre

The proposed Commercial Centre development comprises the following key elements:

- A 550m^2 commercial tenancy proposed to be utilised as a medical centre.
- A 600m^2 commercial tenancy proposed to be utilised as a gym It is anticipated that the gym will have a capacity of 200, with up to 6 staff at any one time and 24hr operation.
- A total of 123 car bays, including 1 accessible bay, with associated landscaping.
- Bicycle parking racks, located south of the medical centre tenancy.
- A single full movement crossover to/from Yellowstone Road.
- A bin store sized to accommodate the required bins for the Commercial Centre.

A 245m^2 future development site to allow for expansion of the neighbourhood centre is located in the north west corner of the development site. It is not proposed as part of this development application.

3.1.3 Entry Statement

An entry statement is proposed at the intersection between Yellowstone Road and Amazon Drive. The entry statement consists of articulated wooden 'fins' along with soft and hard landscaping to be located on both the northern and southern intersection of Yellowstone Road and Amazon Drive. Refer to **Figure 4** for a perspective drawing of the proposed entry statement.

Figure 4: Perspective drawing of the proposed entry statement.

3.1.4 Staging

The development proposed may potentially occur in a staged process, with Stage 1 comprising the Shopping Centre development and Stage 2 being the Commercial Centre development. The decision to stage construction (or not) will be made having regard to market conditions.

3.1.5 Perimeter Roads

Amazon Drive, Yellowstone Road, and Pantheon Road are being constructed under subdivision approval, and these roads do not form part of this development application. As part of the subdivision works, 16 on-street parking bays are to be constructed in the Yellowstone Road reserve and will be available for use by people visiting the proposed development.

3.1.6 Signage

The development plans show indicative signage for the proposed development including wall signs, awning signs, and a pylon sign. Signage for the proposed development will be subject to a separate signage application to be lodged with the City.

A copy of the proposed development plans are provided at **Appendix 2**.

Figure 5: Render of the proposed development looking east across the subject site along Pantheon Road.

Figure 6: Aerial render looking south west towards the proposed supermarket from future Nairn Drive.

Figure 7: Render looking north towards the southern entrance of the neighbourhood centre entrance, internally, from the southern car park.

3.2 Supporting documentation

3.2.1 Traffic and access

The proposed neighbourhood centre development has been subject to a detailed transport analysis, in the form of a Traffic Impact Assessment (**TIA**) conducted by Transcore – refer to **Appendix 3**.

A summary of the report's conclusions are as follows:

- The intersections and proposed driveways around the subject site will all have sufficient capacity to accommodate the forecast traffic flows with full development of the proposed neighbourhood centre.
- All intersections will operate satisfactory levels with minimal traffic queues and delays.
- The impact of the neighbourhood centre traffic on the surrounding roads and neighbouring areas is not an issue for the proposed development.
- No road safety issues have been identified in relation to the proposed development.

In summary, the TIA confirms the proposal is satisfactory from a traffic and access perspective, and the traffic generation associated with the proposed development will have an insignificant impact on the surrounding road network in a 10-year post-development scenario.

Refer **Appendix 3** for a copy of the Traffic Impact Assessment.

3.2.2 Bushfire

The development site is located within a designated bushfire prone area in accordance with the Department of Fire and Emergency Services Map of Bushfire Prone Areas, and as a result a Bushfire Management Plan (**BMP**) has been prepared by Ecological Australia.

The BMP concludes that the development is expected to comply with the relevant policy measures and demonstrates that the risk from a bushfire associated with the proposed development is manageable, provided the management measures detailed are complied with.

Refer **Appendix 4** for a copy of the Bushfire Management Plan.

3.2.3 Acoustic considerations

An acoustic assessment of the proposed development has been undertaken by Lloyd George Acoustics, and provided at **Appendix 5** of this report. The acoustic assessment considers the noise generation associated with the proposed development in the context of surrounding properties and noise sensitive premises.

The assessment demonstrates that the proposed development is readily capable of complying with the *Environmental Protection (Noise) Regulations 1997*, subject to the incorporation of the minor noise attenuation recommendations. The recommendations provided in the acoustic assessment indicative only with consideration of the noise attenuation measures to be considered at the detailed design phase.

Refer **Appendix 5** for a copy of the Environmental Noise Assessment.

3.2.4 Waste Management

A Waste Management Plan has been prepared by Talis in support of the proposed development, and is provided for consideration at **Appendix 6**. A summary of the report is provided as follows:

- The proposed development includes two bin storage areas of appropriate sizes with waste collected at varying frequencies.
- It is estimated that the proposed retail/commercial tenancies at the Shopping Centre will generate approximately 12,524L of refuse and 8,328L of recyclables each week. The Commercial Centre will generate approximately 783L of refuse and 783L of recyclables each week.
- A private contractor will service the proposed development onsite, utilising a rear loader waste collection vehicle accessing the service areas within the car parks.
- The private contractor's waste collection vehicle will enter and exit the carpark in forward gear.
- A building manager will oversee the relevant aspects of waste management for the development site.

Note, the supermarket and the pad site are anticipated to manage their own waste through internal processes likely governed by national contracts.

Refer **Appendix 6** for a copy of the Waste Management Plan.

3.2.5 Landscaping

A Landscape DA Report has been prepared by Emerge Associates detailing the various landscaping treatments the comprise the proposed development. The report includes details on the landscaping, paving treatments, material palette, furniture palette, and planting palette.

The Landscape DA Report demonstrates the high quality of the proposed hard and soft landscaping for the development.

Refer **Appendix 7** for a copy of the Landscaping DA Report.

4 Statutory planning framework

4.1 Metropolitan Region Scheme

The development site is zoned Urban under the Metropolitan Region Scheme (**MRS**), and has frontage to an Other Regional Roads reserve, being future Nairn Drive. To the west of (but not abutting) the development site is land reserved for Parks and Recreation and denoted as Bush Forever.

Under the Western Australian Planning Commission's (**WAPC's**) Instrument of Delegation DEL2017/02 (as amended), authority to determine the application under the MRS is delegated to the City subject to the application being referred to the Department of Planning Lands and Heritage for transport planning related comments and recommendations.

4.2 State Planning Framework

4.2.1 State Planning Policy 3.7 Planning in Bushfire Prone Areas

A portion of the development site is within an area identified as 'bushfire prone' under the Department of Fire and Emergency Services (**DFES**) bushfire prone mapping system. The relevant provisions and requirements of *State Planning Policy 3.7 – Planning in Bushfire Prone Areas* (**SPP3.7**) therefore apply to the proposal.

A BMP has been prepared in support of the proposed development to demonstrate it meets the relevant requirements of SPP3.7, refer **Appendix 4**.

In summary, the BMP demonstrates a post-development BAL rating of BAL-12.5 to BAL-LOW. The BMP contains bushfire protection requirements to be implemented and maintained to ensure ongoing protection is achieved.

The BMP prepared by a qualified bushfire practitioner demonstrates an adequate standard of bushfire protection for the development, and the proposal is therefore consistent with SPP3.7.

4.2.2 State Planning Policy 4.2 – Activity Centres for Perth and Peel

State Planning Policy No. 4.2 – Activity Centres for Perth and Peel (**SPP4.2**) specifies broad planning requirements for the planning and development of new activity centres and the redevelopment of existing centres in Perth and Peel.

The proposed development is classified a 'Neighbourhood Centre' in the Activity Centres Hierarchy of SPP4.2. As outlined within Table 3 of SPP4.2 "*Neighbourhood centres provide for daily and weekly household shopping needs, community facilities and a small range of other convenience services.*

The proposal will provide a neighbourhood activity centre at an appropriate scale to accommodate for the needs of the local community through the provision of essential groceries and convenience goods to the residents of North Baldivis and the surrounding catchment area.

Clause 5.1.2 (1) of SPP4.2 contains provisions for neighbourhood and local centres, these include:

> *Neighbourhood centres are important local community focal points that help to provide for the main daily to weekly household shopping and community needs. They are also a focus for medium density housing.*

The proposed development provides a community piazza that will encourage integration of the surrounding community and aims to provide context for higher-density residential development that capitalises on proximity to local services, along with providing a focal point for the local community.

It is worth noting that some of the guiding principles in SPP4.2 are addressed through the approved Local Development Plan (**LDP**).

Accordingly, it is considered that the proposed development is compliant with the intent of SPP4.2.

4.2.3 State Planning Policy 7 Design and the Built Environment

State Planning Policy No. 7 – Design of the Built Environment (**SPP 7**) became operational on 24 May 2019. It is the lead policy that elevates the importance of design quality, and sets out the principles, processes and considerations which apply to the design of the built environment in Western Australia, across all levels of planning and development.

SPP7 establishes a set of ten 'Design Principles', providing a consistent framework to guide the design, review and decision-making process for planning proposals. Refer **Table 2** below for an assessment against the ten design principles of SPP7.

Table 2: Assessment against Schedule 1 – Design Principles of SPP 7

Design element		Design outcome
1.	**Context and character** Good design responds to and enhances the distinctive characteristics of a local area, contributing to a sense of place.	The project is designed to provide the emerging community with a distinct focal point for shopping, dining and casual recreation suited to the broad demographic of the immediate precinct and surrounding established residential suburbs. The project is sited with a tree lined street with a landscaped setting with established stands of trees provides a richly detailed response to the predominantly single storey residential character of the existing context.
2.	**Landscape quality** Good design recognises that together landscape and buildings operate as an integrated and sustainable system, within a broader ecological context.	Built form and landscaping have been designed concurrently through extensive collaboration between the architects and the landscape architects. Hard landscaping elements such as seating and planters have been carefully selected to reflect the contemporary clean linearity and natural material palette of the architecture. Areas are fully accessible and designed to encourage social interaction and activity to create an engaging and memorable place at the centre of the community. Plantings have been specifically chosen from a palette of 35 species to feature local species such as Perth peppermint, lemon scented gum, coastal rosemary and Ashby's banksia. These species are chosen for their resilience, low maintenance and ability to thrive in the microclimate of Baldivis. This will ensure that the quality of the landscape maintains the design intent into the future. Large and medium trees have been selected to provide shade through denser canopy foliage to reduce microclimate heat and provide protection and thermal comfort in warm weather as well as high visual amenity through enhanced green streetscapes and walkways.
3.	**Built form and scale** Good design provides development with massing and height that is appropriate to	Building scale and form deliberately reflects the predominant single storey form of the existing and proposed character of the residential precinct.

Design element		Design outcome
	its setting and successfully negotiates between existing built form and the intended future character of the local area.	The existing topography gently slopes to the north west. Massing and height are designed to place higher elements and larger masses to the larger street frontages such as Nairn Drive (Everest) whilst lower height building forms and detailed materials at a more human scale are located to the pedestrianised street frontages such as Yellowstone Road. Street level materials are selected to provide a fine grain complimenting the contemporary forms of the existing and future residential architecture of the immediate area.
4.	**Functionality and build quality** Good design meets the needs of users efficiently and effectively, balancing functional requirements to deliver optimum benefit and performing well over the full lifecycle.	Good build quality has been achieved through the careful selection of robust materials, finishes, elements and systems that are easy to maintain and weather well over time. Ground surfaces have been selected as natural stones for their longevity and high resistance to heavy traffic. Wall surface finishes at street level are selected to be easily maintained, durable and resilient to ensure the aesthetics of the original design are maintained throughout the extended life of the project. Service areas are accommodated discreetly and are located away from main thoroughfares and are integrated into the main building design through the use of similar materials for externally located enclosures. Service zones & loading areas are concealed within the main building fabric.
5.	**Sustainability** Good design optimises the sustainability of the built environment, delivering positive environmental, social and economic outcomes.	The layout of the site emphasises the principles of passive solar deign with the open spaces shaded on the north western side. The central retail mall is naturally ventilated with the roof to the central spine raised to allow natural light to illuminate the main pedestrian thoroughfares through the centre. Each end of these thoroughfares is open to allow natural cross ventilation. The microclimate of the location is also taken into consideration by the careful placement of screens at entry points affected by the prevailing south westerly winds in the cooler months. Roof spaces have provision for the addition of solar panels. Travel by foot or bicycle to and from the development for patrons and employees is encouraged from adjacent residential areas through provision of ample bike parking at each entry point and by the inclusion of appropriate end of trip facilities. This reduces vehicle traffic and associated emissions.
6.	**Amenity** Good design optimises internal and external amenity for occupants, visitors and neighbours, contributing to living and working environments that are comfortable and productive.	The design provides activation to street frontages through placement of openings and substantially glazed shopfronts. Large overhanging roof structures provide shade and shelter for year round comfort and amenity of the public, shoppers, pedestrians and diners. Elevations without glazing use a variety of materials to articulate all facades so that all street frontages are considered and there is no adverse impact on surrounding buildings and places. Loading areas are screened to mitigate potential acoustic issues with adjacent developments and residences.
7.	**Legibility**	The layout of the buildings and access pathways through the site have been considered to provide connections to existing road and path

Design element		Design outcome
	Good design results in buildings and places that are legible, with clear connections and memorable elements to help people find their way around.	networks of the existing and proposed surrounding developments. This provides easy movement and clearly recognisable routes to and through the site for pedestrians, cars and bicycles. Key entry points to each access point of the development have been designed with a prominent vertical element as a means of identifying key corners and intersections. Use of a distinctive vertical 'fin' structure as an identifiable design element recurs throughout the development as a consistent motif to assist with wayfinding to access points and accentuate important elements of the built form.
8.	**Safety** Good design optimises safety and security, minimising the risk of personal harm and supporting safe behaviour and use.	The open design and articulated building arrangement provides passive surveillance of adjacent street reserves by means of active or habitable frontage. The network of well-lit and open pedestrian linkage paths encourage activation and movement and allow for casual surveillance throughout all areas of the centre to maximise public safety. Carpark areas are kept open to provide clear sightlines with high visibility from key frontages and high pedestrian traffic zones to each area of the carpark. High level lighting is provided in accordance with CPTED principles. The central mall area is discreetly secured after hours whilst open on the public & street sides of the centre for extended trading hour uses such as food and beverage. This provides safety and security for users of the development as well as the adjacent public realm.
9.	**Community** Good design responds to local community needs as well as the wider social context, providing buildings and spaces that support a diverse range of people and facilitate social interaction.	The design provides a community piazza that will encourage active participation and social interaction opportunities for the surrounding community of the surrounding area and the immediate local precinct. This reinforces the sense of belonging and familiarity essential in fostering active and healthy community connections. Public spaces are well designed, open and welcoming and freely available for all to enjoy. Dedicated play spaces, visual and physical connections between spaces enhance pedestrian permeability. Generous alfresco areas open out to generous public open space areas to main retail frontages.
10.	**Aesthetics** Good design is the product of a skilled, judicious design process that results in attractive and inviting buildings and places that engage the senses.	The design of the development provides a logical and well considered, memorable and coherent place that is easy to navigate for visitors and everyday users. The design combines the elements of landscape, built form, material palette and functionality to create a vibrant identifiable and unique place that facilitates high levels of activity, openness and security. The development includes provision for public art in key areas as a sophisticated and integrated means of identifiable place making so important to establishing the vitality of emerging communities.

As detailed above, the proposed design addresses SPP7 and warrants approval.

4.3 City of Rockingham Town Planning Scheme No. 2

The City of Rockingham Town Planning Scheme No.2 (**TPS2**) applies to the development site. The provisions of TPS2 are supplemented by the Deemed Provisions in Schedule 2 of the *Planning and Development (Local Planning Schemes) Regulations 2015*. Where a deemed provision is inconsistent with a provision of TPS2, the deemed provision prevails.

4.3.1 Zoning

The development site is zoned 'Development' under TPS2, refer **Figure 8**. The site is also located within 'Development Area No. 22' (**DA22**) on the TPS2 Map.

Pursuant to clause 4.2.2 of TPS2, the purposes of the 'Development' zone are:

(a) To identify areas requiring comprehensive planning prior to subdivision and development.

(b) To coordinate subdivision, land use and development in areas requiring comprehensive planning.

The Structure Plan is addressed in further detail in **section 4.4.1** of this report.

DA22 – Baldivis (North) includes the land south of Kerosene Lane and east of Baldivis Road as marked on the Scheme map. DA2 requires that an approved Structure Plan shall apply to the land in order to guide subdivision and development.

Figure 8: Zoning under TPS2 (development site in yellow).

4.3.2 Land use classification and permissibility

The proposal involves the use and development of a neighbourhood centre on the development site. This application intends the commercial tenancies in the Shopping Centre to be approved for a range of land uses including Office, Restaurant/Café, and Shop such that these uses can apply interchangeably. **Table 3** below confirms the appropriate land use classification of the various activities constituting the proposed development.

Table 3: Land use classification under TPS2

TPS2 land use class and definition
Fast Food Outlet *means premises, including premises with a facility for drive-through service, used for the preparation, sale and serving of food to customers in a form ready to be eaten:* *a) without further preparation; and* *b) primarily off the premises.*
Medical Centre *Means premises other than a hospital used by 3 or more health practitioners at the same time for the investigation or treatment of human injuries or ailments and for general outpatient care.*
Office *means premises used for administration, clerical, technical, professional or other like business activities.*
Recreation - Private *means premises that are:* *c) used for indoor or outdoor leisure, recreation or sport; and* *d) not usually open to the public without charge.*
Restaurant/Café *Means premises primarily used for the preparation, sale and serving of food and drinks for consumption on the premises by customers for whom seating is provided, including premises that are licenced under the Liquor Control Act 1988.*
Shop Means premises other than a bulky goods showroom, a liquor store — large or a liquor store — small used to sell goods by retail, to hire goods, or to provide services of a personal nature, including hairdressing or beauty therapy services.

Pursuant to *Table 1 - Zoning Table* of TPS2, land use permissibility for all land uses within the 'Development' zone is stated as:

> *Subject to Clause 27 of the deemed provisions, use class permissibility shall be determined in accordance with the provisions of the relevant Structure Plan.*

Clause 27(1) of the deemed provisions provides that a Structure Plan is not binding. Accordingly, TPS2 does not prescribe land use permissibility on the subject site, and the proposed uses (and in fact any uses) are capable of approval on the subject site having due regard to the provisions of the Structure Plan.

Refer **section 4.4.1** of this report for consideration of the applicable Structure Plan.

4.3.3 Development Requirements

4.3.3.1 Car parking

Clause 4.15 and Table 2 of TPS2 set out the relevant requirements for car parking. Refer **Table 4** for an assessment against the car parking requirements of TPS2.

In respect to the tenancies proposed for interchangeable uses the car parking has been assessed based on Shop uses.

The below parking assessment has not considered the parking requirement for the pad site or the future development site. The parking requirement for these land uses will be considered based on the eventual land uses when fully developed.

Table 4: Car parking assessment

Use	Requirement	Particular	Required	Provided
Medical Centre	5 bays per practitioner	6 consultants	30 bays	385 on-site bays including 5 accessible bays & 4 online pick up bays 16 on-street bays*
Recreation – Private	1 bay for every 4 persons the building is designed to accommodate	200 people	50 bays	
Shop	6 bays per 100m² NLA	3,708m² GFA (supermarket) 1,140m² NLA (other tenancies)	291 bays	
TOTAL BAYS REQUIRED / PROVIDED (surplus / shortfall (+/-))			**371**	**401** (+30)

**Note: On-street spaces are included and count towards the required parking provision pursuant to E7R40 of the WAPC operation policy Liveable Neighbourhoods.*

With 401 car parking bays provided on-site and in the road reserves adjoining the subject site, and 371 required under TPS2, there is a surplus of 30 bays.

The car parking supply is considered appropriate to cater for the needs of the proposed development (with the surplus also catering for future development of the site), and it warrants approval accordingly.

4.3.4 Matters to be considered

Clause 67(2) of the Deemed Provisions sets out the matters to be considered in the assessment of the development application. These are addressed in **Table 5**.

Table 5: Matters to be considered

Matter to be considered	Response
(a) the aims and provisions of this Scheme and any other local planning scheme operating within the Scheme area;	Refer **section 4.3** of this report.
(b) the requirements of orderly and proper planning including any proposed local planning scheme or amendment to this Scheme that has been advertised under the Planning and Development (Local Planning Schemes) Regulations 2015 or any other proposed planning instrument that the local government is seriously considering adopting or approving;	No proposed local planning schemes or other planning instruments have been identified.
(c) any approved State planning policy	Refer **section 4.2** of this report.
(d) any environmental protection policy approved under the Environmental Protection Act 1986 section 31(d) –	No relevant environmental protection policy has been identified.
(e) any policy of the Commission	No relevant policies of the Western Australian Planning Commission have been identified.
(f) any policy of the State	No relevant policy of the State has been identified.
(fa) any local planning strategy for this Scheme endorsed by the Commission;	No current local planning strategy has been identified.
(g) any local planning policy for the Scheme area;	Refer **section 4.6** of this report.
(h) any structure plan or local development plan that relates to the development;	Refer **section 4.4.1** of this report for consideration of the Spires Estate Local Structure Plan. Refer **section 4.5** of this report for consideration of the Spires Commercial Local Development Plan.

Matter to be considered	Response
(i) any report of the review of the local planning scheme that has been published under the Planning and Development (Local Planning Schemes) Regulations 2015;	None applicable.
(j) in the case of land reserved under this Scheme, the objectives for the reserve and the additional and permitted uses identified in this Scheme for the reserve;	Not applicable.
(k) the built heritage conservation of any place that is of cultural significance	None applicable.
(l) the effect of the proposal on the cultural heritage significance of the area in which the development is located;	None applicable.
(m) the compatibility of the development with its setting, including — *(i) the compatibility of the development with the desired future character of its setting; and* *(ii) the relationship of the development to development on adjoining land or on other land in the locality including, but not limited to, the likely effect of the height, bulk, scale, orientation and appearance of the development;*	(i) The subject site is located in a new growth residential area, the proposed development will form part of the future character of the area. The scale, appearance and orientation of the proposal is consistent with the City's desired outcomes for the development and its future role as a community hub. (ii) A strong emphasis has been placed on the design of the proposed development ensuring the built form, bulk, scale and particularly orientation corresponds with the provisions of the approved Local Development Plan, TPS2 and the City's local planning policies and is sympathetic to the future nearby residential dwellings. The development has been designed to integrate with the adjacent Public Open Space, while also providing a focal point and community hub.
(n) the amenity of the locality including the following — *(i) environmental impacts of the development;* *(ii) the character of the locality;* *(iii) social impacts of the development;*	(i) The development does not introduce anything which would be detrimental to the environment. (ii) The subject site is located in a new growth residential area surrounded by low-medium density housing, undeveloped land and a Bush Forever site. The proposed development will help to establish the character of area by providing much need commercial and retail opportunities for the residents of North Baldivis. (ii) There will be no detrimental social impacts resulting from the proposed development. Conversely, the proposal will positively contribute to the locality, through the creation of an engaging development as well as the creation of jobs and the provision of essential services to support the local community. Active frontages, glazed shop fronts and increased pedestrian activity allow for an improved level of passive surveillance.
(o) the likely effect of the development on the natural environment or water resources and any means that are proposed to protect or to mitigate impacts on the natural environment or the water resource	The development does not introduce anything which would be detrimental to the environment or water resources.

Matter to be considered	Response
(p) whether adequate provision has been made for the landscaping of the land to which the application relates and whether any trees or other vegetation on the land should be preserved;	A Landscape DA Report has been prepared for the development application and is included at **Appendix 7**.
(q) the suitability of the land for the development taking into account the possible risk of flooding, tidal inundation, subsidence, landslip, bushfire, soil erosion, land degradation or any other risk	Refer **section 4.2.1** of this report for consideration of the relevant State Planning Policy relating to bushfire planning.
(r) the suitability of the land for the development taking into account the possible risk to human health or safety	No risk to human health has been identified.
(s) the adequacy of — *(i) the proposed means of access to and egress from the site; and* *(ii) arrangements for the loading, unloading, manoeuvring and parking of vehicles;*	(i) A TIA has been prepared for the development which demonstrates the proposed access arrangements are adequate. Refer **Appendix 3** for a copy of the TIA. (ii) The TIA identifies the suitability of the proposed access arrangements for service vehicles. A loading dock is provided at the south east corner of the supermarket, designed to accommodate 19m semi-trailer delivery vehicles. The WMP concludes standard 10.7m waste collection vehicles can be accommodated by within both the northern and southern sites. Refer **Appendix 6** for the WMP. Car parking is addressed in **section 4.3.3** of this report. Refer also the TIA at **Appendix 3** which considers the requirement for car parking.
(t) the amount of traffic likely to be generated by the development, particularly in relation to the capacity of the road system in the locality and the probable effect on traffic flow and safety;	A TIA has been prepared which demonstrates the existing and future road network can cater for the traffic generated by the proposed development, and the vehicle access arrangements will operate safety. Refer the TIA at **Appendix 3**.
(u) the availability and adequacy for the development of the following — *(i) public transport services;* *(ii) public utility services;* *(iii) storage, management and collection of waste;* *(iv) access for pedestrians and cyclists (including end of trip storage, toilet and shower facilities);* *(v) access by older people and people with disability;*	(i) The closest existing bus route to the subject site is Bus Route No. 568, located adjacent to the site, along Eighty Road. Future Nairn Drive will contain a bus route, with a timed interchange at the neighbourhood centre site. (ii) The subject site has access to all necessary utilities. (ii) Provision has been made for the storage and collection of waste. Refer the Waste Management Plan included at **Appendix 6**. (iv) Access for pedestrians and cyclists has been provided via the proposed pedestrian linkages, well-located bicycle parking, and landscape provisions to ensure continuity and legibility of the movement network. (v) The development includes accessible car parking bays for use by visitors to the subject site. All pedestrian paths and building entrances have been designed to facilitate universal access.

Matter to be considered	Response
(v) the potential loss of any community service or benefit resulting from the development other than potential loss that may result from economic competition between new and existing businesses;	The proposed development will not result in the loss of community service. Contrary, the proposed development will provide important, much needed, community retail / commercial services to the area. Overall, the proposal provides significant community benefit in respect of providing an attractive setting for business and social interactions, along with encouraging a range of land uses that will attract visitors to the locality.
(w) the history of the site where the development is to be located;	Refer **section 1.2.1** of this report.
(x) the impact of the development on the community as a whole notwithstanding the impact of the development on particular individuals;	It is noted the proposed development will provide additional employment opportunities for residents in the locality. The proposed development will contribute to the delivery of important commercial community services. The proposal provides an attractive setting for business and social interactions, along with encouraging a range of land uses that will attract visitors to the locality In this respect, there is a positive social outcome resulting from this development.
(y) any submissions received on the application;	To be addressed at a later stage.
(za) the comments or submissions received from any authority consulted under clause 66;	To be addressed at a later stage.
(zb) any other planning consideration the local government considers appropriate.	None identified.

4.4 Structure Plan

4.4.1 Spires Estate Local Structure Plan

Development of the subject site is subject to the provisions of the Spires Estate Local Structure Plan (**Structure Plan**). The Structure Plan map identifies the subject site as 'Commercial' (refer to **Figure 9** Structure Plan extract). The corresponding Commercial zone objective under clause 4.6.1 of TPS2 is:

> *To provide for the development of District, Neighbourhood and Local shopping facilities to cater for the present and future residents of the City consistent with the local government's Local Commercial Strategy and supported by any other Plan or Policy that the local government from time to time may adopt as a guide for the future development within the Zone.*

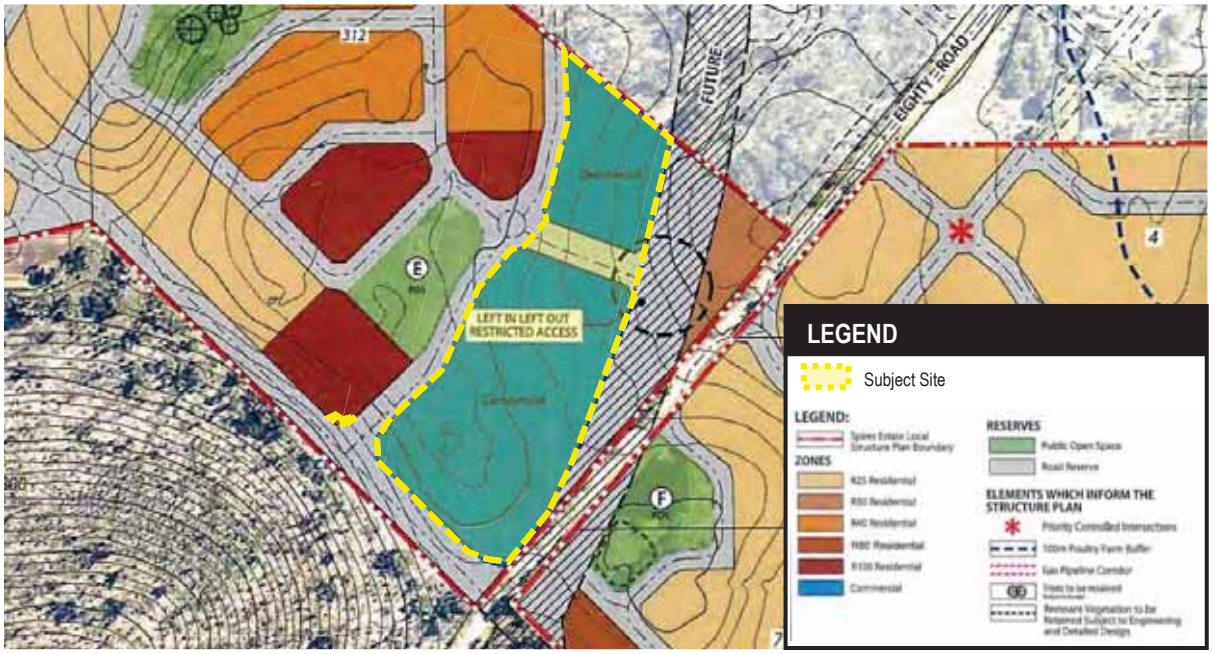


Figure 9: Extract from Spires Estate Local Structure Plan

If the land were zoned Commercial (rather than Development) under TPS2, the proposed land uses would be '**P**' or '**D**' uses, meaning the uses would be permissible under TPS2 providing the use complies with the development standards and requirements of the Scheme, or in the case of a Shop, permitted.

The permissibility of the proposed uses in the Commercial zone provides a strong indication that the use is appropriate under the Structure Plan which also designates the subject site as Commercial.

As addressed in section 4.5 below, clause 6.2 (d) of the Structure Plan requires the preparation of Detailed Area Plan (now Local Development Plan) to inform all application for land zoned 'Commercial'. A Local Development Plan has been approved by the City of Rockingham and is assessed in section 4.5 below.

The Structure Plan map also includes an annotation at the intersection of Pantheon Road and Nairn Drive for "left in, left out restricted access" – refer **Figure 9**. As the construction of Nairn Drive is not proposed and is not within the scope of this application, the intersection design and treatments at Pantheon Road will be addressed at the time Nairn Drive is constructed

Having due regard to the Structure Plan, it is considered the proposed development is entirely consistent with it, in terms of land use, local development planning, and access.

4.5 Local Development Plan

In accordance with clause 6.2 of the Spires Estate Local Structure Plan, a Local Development Plan is required to be prepared for the subject site prior to development. The *Spires Commercial Local Development Plan* (**LDP**) was approved by the City on 10 March 2021.

This development application has been assessed against the provisions of the LDP in **Table 6** below.

Table 6: Assessment against Spires Commercial Local Development Plan

Requirement	Provided	Compliance
Structure		
1. *The street annotated as 'Yellowstone Road' must be the main street for the neighbourhood centre.*	Provided.	✓
Main Street		
2. *The main street shall be designed as a low-speed traffic environment that prioritises pedestrian movement over vehicles. Traffic-calming measures should be incorporated into the design with pedestrian crossings provided that generally align with entrance points to buildings.*	Yellowstone Road has been designed to incorporate suitable road treatments to ensure a low-speed pedestrian friendly environment. This includes use of granite paving which is carried over from pedestrian spaces onto the road treatments in order to prioritise pedestrian movement. Refer the Landscape DA Report included at **Appendix 7**.	✓
3. *The main street shall accommodate on-street parking as well as loading zones for service vehicles, where practical and safe.*	16 on street parking bays are provided along Yellowstone Road, while maintaining a safe environment.	✓
4. *The main street shall be designed for a high-level of pedestrian amenity and incorporate features such as street furniture, low planting, street trees and lighting where practical and safe.*	The landscape treatment of Yellowstone Road provides bench seating, street trees, planter beds and pavement treatments, all of which enables a safe pedestrian environment.	✓
Street Interface		
5. *All buildings must provide passive surveillance of adjacent street reserves by means of active frontage.*	The proposed development provides suitable glazing to allow for passive surveillance of adjacent streets.	✓
6. *Delivery, loading and storage areas must be located and screened to minimise the visual impact on the public realm.*	The supermarket loading dock and tenancy bin storage areas are located the maximum distance feasible from the 'Main Street'. The 'Special Landscape Area' will also assist with providing suitable screening from Nairn Drive and the public realm.	✓
7. *Street elevations to be designed to create visual interest through building form, articulation of walls & openings, architectural features, texture & colour, with particular interest given to ground floor level.*	The proposed development provides well-articulated building facades, cantilevered entry statements, feature timber cladding and extensive glass on street elevations which create a visually interesting and engaging building.	✓

Requirement	Provided	Compliance
Primary Active Street Frontages		
Where identified, primary active street frontages shall:		
8. *Have a nil setback to the footpath.*	Nil setback for all Primary Active Street Frontages has been provided.	✓
9. *Have a continuous frontage with a minimum building facade height of 5.5m.*	Continuous frontages have been provided as per the LDP spatial plan with façade heights above 5.5 metres.	✓
10. *Comprise a minimum of 60% glazing for the length of the ground floor facade.*	Glazing has been provided for all Primary Active Street Frontages comprising between 60% and 100% of the ground floor façade.	✓
11. *Provide continuous pedestrian shelter that extends over the width of the adjoining footpath to the extent they do not pose a hazard for passing vehicles (e.g. delivery and service trucks). Final design of pedestrian shelter to be designed to incorporate street tree canopies.*	Continuous pedestrian shelter has been provided over the adjoining footpaths for all Primary Active Street Frontages.	✓
Secondary Active Frontage		
12. *Where identified, secondary active frontages are to be designed to provide visual interest through an architectural response.*	Architectural responses on Secondary Active Street Frontages are provided where required through the uses of elevated façade treatments, feature timber, variations in wall elements.	✓
13. *Secondary building edges shall have a nil setback to the adjoining footpath, have a continuous frontage with continuous pedestrian shelter and a minimum of 60% glazing. Final design of pedestrian shelter to be designed to incorporate street tree canopies.*	Nil setback for all Secondary Active Street Frontages has been provided. Continuous frontages have been provided as per the LDP spatial plan with continuous pedestrian shelter over the adjoining footpaths for all Secondary Active Street Frontages. Glazing has been provided for all Secondary Active Street Frontages comprising between 60% and 100% of the ground floor façade, except for the western frontage of the proposed gym building. This variation is required to provide safe pedestrian environment for the ramp access from the car park of the northern lot.	**Minor variation**
14. *Secondary Building Edges shall have a minimum height of 5.5m with additional height where architectural responses are required.*	All Secondary Active Street Frontages provide building heights above 5.5 metres. Additional height has been provided where architectural responses are required.	✓
Other Building Facades		
15. *With the exception of 'Primary Active Street Frontages', 'Secondary Active Street Frontages' and walls adjoining loading areas, building facades should avoid blank walls to enhance visual presentation through the use of features such as glazing (where*	No blank walls have been as part of the proposed development. The use profiled metal cladding, decorative mesh, patterned concrete and façade articulation avoid provide for visually engaging frontages.	✓

Requirement	Provided	Compliance
conducive to the floor plan and use), alternative colours, finishes and textures and/or intrusions and extrusions in the wall.		
Community Piazza		
16. *The 'Community Piazza' should be designed to provide landscaping, shade, public bench seating/casual seating opportunities, alfresco style dining, and children's play space.*	The proposed 'Community Piazza' provides for a small play space, raised planter beds, grassed space, bench seating, pause benches within the entry plaza, and alfresco dining with trellis planting to provide a high quality public space for residents. Refer the Landscape DA Report included at **Appendix 7**.	✓
17. *Café/restaurant business opportunities are to be designed to interface with the 'Community Piazza' to support amenity for residents.*	The proposed development allows the tenancies adjacent to the 'Community Piazza' to utilised for Restaurant/Café land uses. Full height glazing along the entire building frontage will allow for interface between the tenancies and the Piazza.	✓
Vehicle Access		
18. *Intersection treatments for vehicle access points to the Neighbourhood Centre are to be provided in accordance with the LDP.*	Intersection treatments and vehicle access points are provided in accordance with the LDP.	✓
19. *Alternative intersection treatments may be considered where a Transport Impact Assessment is provided to the satisfaction of the City of Rockingham.*	No alternate intersection treatments proposed.	✓
Pedestrian Access		
20. *For buildings abutting the main street, primary pedestrian access to building entries is to be provided from the main street.*	All buildings abutting Yellowstone Road have pedestrian access from Yellowstone Road. Further, the primary pedestrian access point for the development is also provided on Yellowstone Road, which includes the articulated entry statement.	✓
Landscaping		
21. *The paving material used for the footpath must be carried across driveways to maintain visual continuity of the pedestrian network & aid pedestrian legibility.*	Suitable paving materials and treatments have been incorporated to ensure a low-speed pedestrian friendly environment and maintain visual continuity of the pedestrian network. The includes use of granite paving which is carried over from pedestrian spaces onto the road treatments will assist with improving pedestrian legibility. Refer the Landscape DA Report included at **Appendix 7**.	✓
22. *Where landscaping strips adjoin car parking areas, loading areas and buildings facades, the Landscape Plan that accompanies the Development Application is to provide details demonstrating screening of the areas through the use of shrubs and tree planting.*	Details of the proposed screening is provided in the Landscape DA Report included at **Appendix 7**.	✓

Requirement	Provided	Compliance
23. A minimum of 10% of the site area should be provided as landscaping. This may include shade trees and landscaping areas within car parks.	10.59% of the site is provided as landscaping.	✓
24. Car parking areas are to include shade trees/shade devices at a minimum rate of 1 tree per 6 car bays.	146 car parking bays in the southern car park will be under fixed shade structures. Shade trees will be provided at suitable rates for all other bays.	✓
25. Street trees are to be planted at a rate of one tree every 10 metres where vehicle access, parking, and sightlines permit.	Street trees are provided at suitable intervals, with tree-to-tree grates where possible.	✓
26. The 'Special Landscape Areas' notated on the LDP shall be landscaped to provide screening to the adjacent car park area, as seen from Nairn Drive and Amazon Drive, to the satisfaction of the City of Rockingham.	Details of the proposed screening for the 'Special Landscape Areas' is provided in the Landscape DA Report included at **Appendix 7**.	✓
Robustness		
27. The ground floor of all buildings in the commercial area must be designed with a minimum 'floor to ceiling' height of 3.2 metres.	Minimum floor to ceiling height of 3.75 metres provided.	✓
28. The ground level of all buildings in the commercial area must be designed for disabled access regardless of the initial use.	Provided.	✓
Noise Management		
29. A Development Application that includes either of the 'Loading Areas' depicted on the LDP is to be accompanied by an Acoustic Assessment prepared by a suitably qualified Acoustic Consultant that outlines strategies to mitigate and manage the potential impacts of noise from delivery vehicles and activities on surrounding sensitive land uses.	An Environmental Noise Assessment has been prepared by Lloyd George Acoustics, and is contained at **Appendix 5**. The assessment details the appropriate noise mitigation measures required for the proposed development.	✓

4.6 Local Planning Policies

4.6.1 Planning Policy 3.1.2 Local Commercial Strategy

The City's *Planning Policy 3.1.2 Local Commercial Strategy* (**PP3.1.2**) establishes the objectives, principles, and key strategies for retailing and commercial development in the City.

PP3.1.2 contains objectives for commercial centres within the City including:

> *Promote Neighbourhood Centres, Local Centres and corner shops as performing a vital role in providing day to day convenience shopping for the neighbourhood as well as an important focus for neighbourhood services and community facilities*

The proposed development will cater for some day to day needs of local residents, and provides an activity centre that will enable a range of land uses and encourage integration within the surrounding community, supporting improved social interactions between residents and visitors to the proposed development.

The subject site is located in Precinct 4 – Baldivis and referred to as 'Baldivis North' under PP3.1.2. Table 2.8 of PP3.1.2 provides descriptions for neighbourhood centres in the Baldivis precinct on elements such as retail anchor tenants, potential mix of uses and the role of neighbourhood centres. The proposed development provides sufficient commercial development to meet the day to day needs of local residents and provides an activity centre that will provide for a range of land uses and encourage integration within the surrounding community, supporting improved social interactions between residents and visitors to the neighbourhood centre.

PP3.1.2 has also been addressed through the LDP approval process, and has created site specific development requirements for the proposal, having regard to the policy.

Table 2.8 of PP3.1.2 also provides a typical floorspace provision for the neighbourhood centre to be generally 4,500m² to 10,000m² of retail floorspace. The proposal will facilitate the development of a neighbourhood centre within this range.

The proposal is therefore considered acceptable under PP3.1.2.

4.6.2 Local Planning Policy 3.3.14 Bicycle Parking and End-of-Trip Facilities

The City's *Planning Policy 3.3.14 – Bicycle Parking and End-of-trip Facilities* (**PP3.3.14**) sets out the bicycle parking requirements for commercial land uses. The requirements are set out in **Table 7** and **Table 8**.

In respect to the tenancies proposed for multiple uses the bicycle parking has been assessed based on indicative tenancy arrangements and staff numbers.

Table 7: Bicycle parking requirements of PP3.3.14

Use	Minimum short term parking	Calculation	Required	Minimum long term parking	Calculation	Required	Provided
Shop (Neighbourhood Centre)	0.20 spaces per 100m² NLA	4,848m² NLA	10 spaces	0.1 spaces per 100m² NLA	4,848m² NLA	5 spaces	50 bike racks provided throughout the subject site.
Health Services	0.1 spaces per patient (max on site at any one time)	20 patients	2 spaces	0.1 spaces per staff	16 staff	2 spaces	
All other uses (Recreation – Private)	0.05 spaces per visitor	200 visitors	4 spaces	0.1 spaces per staff	6 staff	1 space	
TOTAL			**18 spaces**			**11 spaces**	**50 spaces**

With 50 bicycle parking racks provided on-site, and 29 required under PP3.3.14, there is a surplus of 21 racks. Additionally, due to the nature of the proposed development reciprocal use of spaces by multiple users would be anticipated.

The development provides in bicycle parking in easily accessible locations at the major entry points to the proposed centre. The bicycle parking is located in public view to ensure passive surveillance of parked bicycles and arranged to ensure the parking and manoeuvring of vehicles will not damage bicycles. The overprovision of bicycle parking facilities will encourage the use of bicycles for a variety of journeys.

Table 8: End-of-trip requirements of PP3.3.14

Requirement	Particular	Required	Provided
One shower following the first five (5) long-term parking spaces, plus an additional shower for each four (4) bicycle parking spaces thereafter	11 spaces required	3 showers	Two end of trip facilities provided in each portion of the development site (Shopping Centre and Commercial). Each end of trip facility contains: • 2x unisex changes rooms with shower • 12x lockers • Bicycle storage
One change room or direct access to a communal change room per shower	3 showers required	3 change rooms	
One clothing locker for each long-term bicycle parking space	11 spaces required	11 lockers	

With 4 change rooms (all with showers provided) and 24 lockers provided over the development site, and 3 (with 3 showers and 11 lockers required under PP3.3.14, there is a surplus of 1 change room (and 1 shower) and 13 lockers. Additionally the majority of staff of the proposed development are expected to work predominantly part-time, casual or varied hours, reducing the demand for the end of trip facilities at peak periods.

The development provides end of trip facilities at two locations throughout the proposed development to improve convenience for bicycle users.

The supply of bicycle parking racks and end of trip facilities is considered appropriate to cater for the needs of the proposed development and future development of the site, and it warrants approval accordingly.

4.6.3 Planning Policy 3.3.25 Percent for Public Art – Developer Contribution

The City's *Planning Policy 3.3.25 Percent for Public Art – Developer Contribution* (**PP3.3.25**) applies to all developments where the construction value is in excess of $5,000,000. The policy requires developers of prescribed development projects within the City to contribute at least 1% towards public art.

The proposed public art is to be provided in the mall of the Shopping Centre development, suspended from the roof structure. Refer to **Figure 10** for a render of the proposed public art contribution.

Figure 10: Render of Shopping Centre mall looking south west showing proposed artwork.

Note: the art shown is conceptual only and an artist will be engaged to design the artwork in accordance with PP3.3.25.

With an estimated development cost in excess of $5,000,000, the City's PP3.3.25 applies to the proposed development. The particulars of this contribution in accordance with PP3.3.25 will be determined following approval of the proposed development.

5 Conclusion

The application seeks approval for a neighbourhood centre development on the subject site. The proposed development is appropriately located on a prominent site and warrants approval for the following reasons:

- The proposed development will result in a substantial community benefit through the provision of essential, and much needed, retail/shopping services and the generation of significant local employment opportunities.
- The proposed neighbourhood centre will result in an attractive community hub for the locality, encouraging social interaction and a sense of community.
- The proposed land uses are capable of approval under the Scheme and have been demonstrated to be appropriate in the context of the development.
- The development generally complies with the local planning framework, including the approval Local Development Plan with any variations suitably justified.
- The various technical reporting prepared in support of the development confirms the proposal is acceptable from a traffic impact, parking and acoustic amenity perspective.
- The proposed development is designed to a high standard, and will result in a positive built form outcome for the site and future community of North Baldivis in which it is located.

Having regard for the above, in considering the applicable planning framework, the proposed development warrants approval from the Metro Outer Joint Development Assessment Panel.

Appendix 1:
Certificate of Title and Deposited Plan

WESTERN AUSTRALIA

REGISTER NUMBER	
9005/DP416296	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
1	**4/8/2020**

VOLUME **2985** FOLIO **536**

RECORD OF CERTIFICATE OF TITLE

UNDER THE TRANSFER OF LAND ACT 1893

The person described in the first schedule is the registered proprietor of an estate in fee simple in the land described below subject to the reservations, conditions and depth limit contained in the original grant (if a grant issued) and to the limitations, interests, encumbrances and notifications shown in the second schedule.

BGRoberts

REGISTRAR OF TITLES

LAND DESCRIPTION:

LOT 9005 ON DEPOSITED PLAN 416296

REGISTERED PROPRIETOR:
(FIRST SCHEDULE)

PIPERPOINT PTY LTD OF 11 FIRST AVENUE APPLECROSS WA 6153

(AF O440539) REGISTERED 28/7/2020

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1. EASEMENT BURDEN CREATED UNDER SECTION 167 P. & D. ACT FOR SEWERAGE PURPOSES TO WATER CORPORATION - SEE DEPOSITED PLAN 416296 AS CREATED ON DEPOSITED PLAN 400943

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required.
* Any entries preceded by an asterisk may not appear on the current edition of the duplicate certificate of title.
Lot as described in the land description may be a lot or location.

----------END OF CERTIFICATE OF TITLE----------

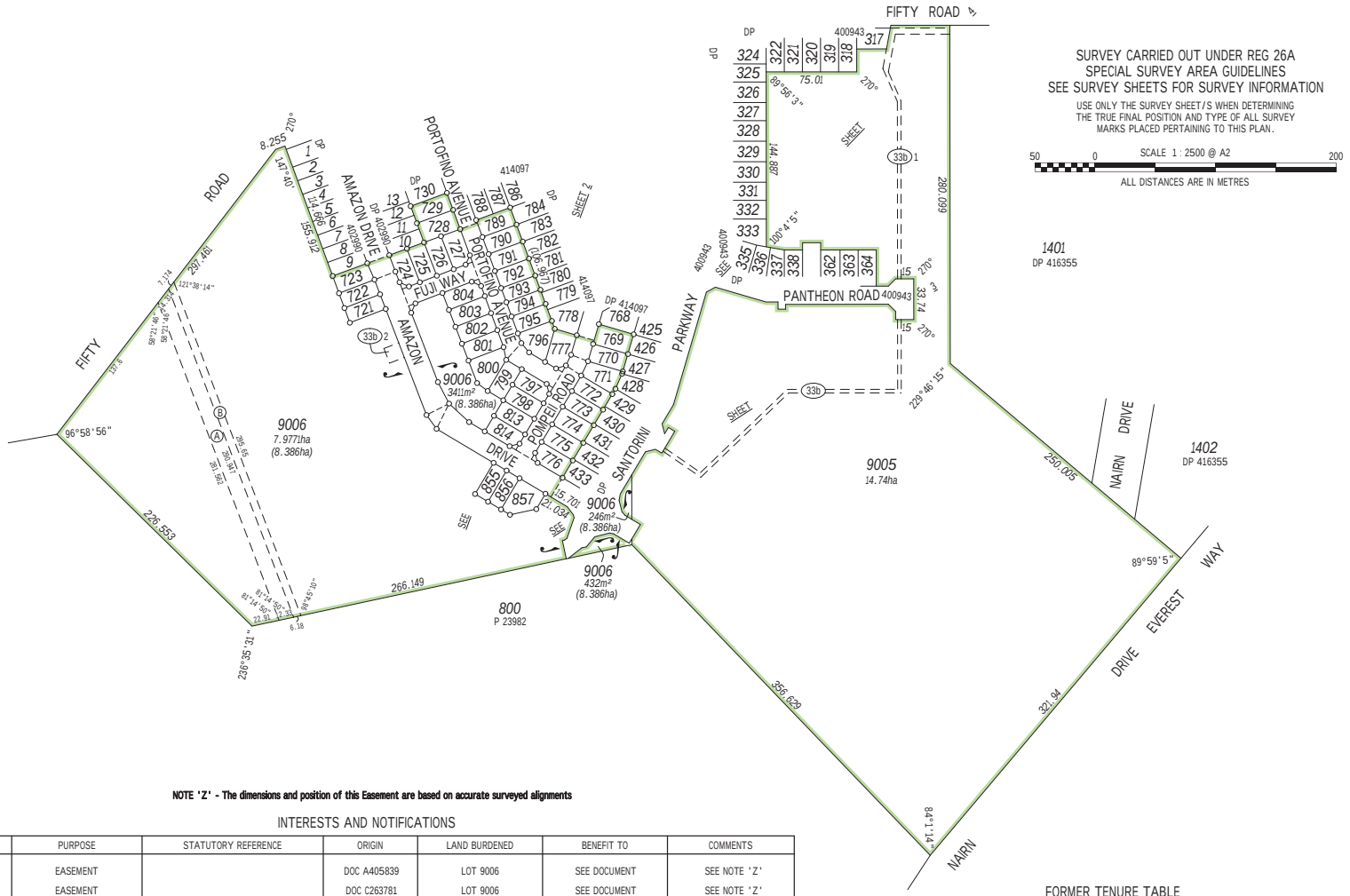
STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND:	DP416296
PREVIOUS TITLE:	2955-393
PROPERTY STREET ADDRESS:	NO STREET ADDRESS INFORMATION AVAILABLE.
LOCAL GOVERNMENT AUTHORITY:	CITY OF ROCKINGHAM

VERSION	AMENDMENT	AUTHORISED BY	DATE

HELD BY LANDGATE IN DIGITAL FORMAT ONLY
LIMITED IN DEPTH TO 60.96 METRES



NOTE 'Z' - The dimensions and position of this Easement are based on accurate surveyed alignments

INTERESTS AND NOTIFICATIONS

SUBJECT	PURPOSE	STATUTORY REFERENCE	ORIGIN	LAND BURDENED	BENEFIT TO	COMMENTS
(A)	EASEMENT		DOC A405839	LOT 9006	SEE DOCUMENT	SEE NOTE 'Z'
(B)	EASEMENT		DOC C263781	LOT 9006	SEE DOCUMENT	SEE NOTE 'Z'
(33b)	EASEMENT (Sewerage)	SEC 167 OF THE P.& D. ACT REG 33 (b)	DP 400943	LOT 9005	WATER CORPORATION	
(33b)1	EASEMENT (Sewerage)	SEC 167 OF THE P.& D. ACT REG 33 (b)	DP 400943	LOT 9005	WATER CORPORATION	
(33b)2	EASEMENT (Sewerage)	SEC 167 OF THE P.& D. ACT REG 33 (b)	THIS PLAN	LOT 9006	WATER CORPORATION	
	RESTRICTIVE COVENANT	SEC 136D OF THE T.L.A.	THIS PLAN & DOC□□□□□□□	ALL LOTS EXCEPT 9005 & 9006	ALL LOTS EXCEPT 9005 & 9006	
	NOTIFICATION	SEC 165 OF THE P & D ACT	DOC □□□□□□2	LOTS 775, 776 & 855-857		FIRE MANAGEMENT PLAN
	NOTIFICATION	SEC 165 OF THE P & D ACT	DOC □□□□□□□	ALL LOTS EXCEPT 9005 & 9006		THE PARMELIA HIGH PRESSURE GAS PIPELINE

FORMER TENURE TABLE

LOT	FORMER TENURE	ON PLAN / DIAGRAM	TITLE
9005	PT LOT 9003	DP 414097	2955-393
721-729, 770-777, 789-804, 813, 814, 855-857, 9006	PT LOT 9004	DP 414097	2955-394
769	PT LOT 9003 PT LOT 9004	DP 414097 DP 414097	2955-393 2955-394

MNG
MC MULLEN NOLAN GROUP
PO Box 3526, Success W.A. 6964
Tel: (08) 6436 1599
Fax: (08) 6436 1500
Email: info@mngsurvey.com.au
MNG Ref : 310211dp-043d - Stage 12 - DP416296.CSD

TYPE	FREEHOLD S.S.A. YES
PURPOSE	SUBDIVISION
PLAN OF	LOTS 721-729, 769-777, 789-804, 813, 814, 855-857, 9005, 9006, ROADS, EASEMENT AND RESTRICTIVE COVENANT
FORMER TENURE	SEE FORMER TENURE TABLE
LOCAL AUTHORITY	CITY OF ROCKINGHAM
LOCALITY	BALDIVIS
D.O.L. FILE	
FIELD RECORD	129665

SURVEYOR'S CERTIFICATE - REG 54

I, Nigel J. SIMPSON
hereby certify that this plan is accurate and is a correct representation of the -
(a) *survey; and/or
(b) *calculations from measurements recorded in the field records,
[* delete if inapplicable]
undertaken for the purposes of this plan and that it complies with the relevant written law(s) in relation to which it is lodged.

Nigel Simpson 2020.07.01 10:57:46 +08'00'
LICENSED SURVEYOR DATE

LODGED

□-Jul-2020
DATE FEE PAID ASSESS No.

I.S.C.

EXAMINED

□□M□r□□□□□□□□ □-Jul-2020
DATE

WESTERN AUSTRALIAN PLANNING COMMISSION
FILE 156452
Delegated under S.16 P&D Act 2005 DATE 28-Jul-2020

IN ORDER FOR DEALINGS
SUBJECT TO
□□□ □□□□r□□ □□□□□□□□ □□□
□□□□ □□□ □□□ □□□□ □□□□ □□□ □□□ □□□
□□□□ □8 □□□□2 □□□ □□□

28-Jul-2020
FOR INSPECTOR OF PLANS AND SURVEYS DATE

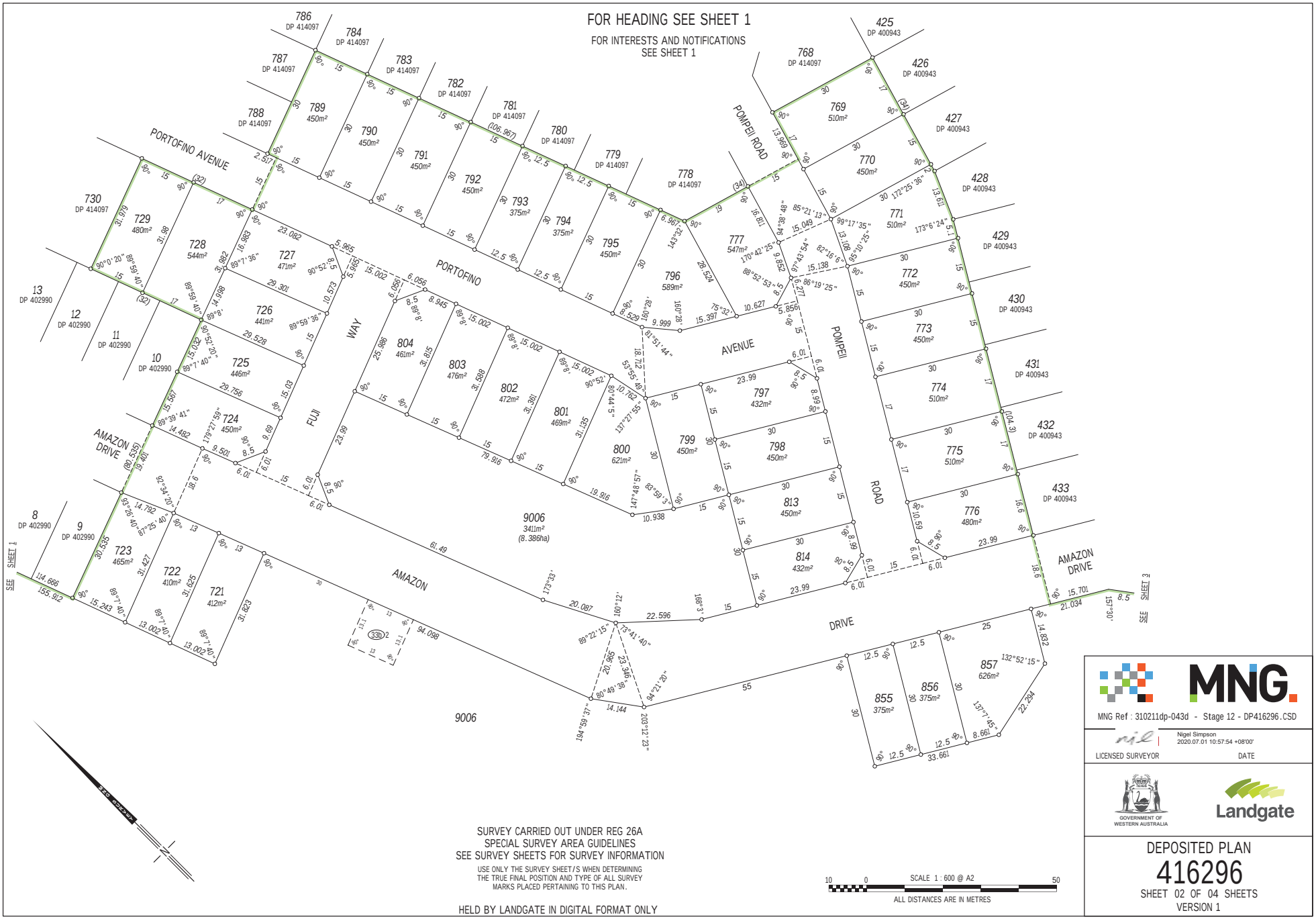
APPROVED REG26A (4)
28.7.2020
INSPECTOR OF PLANS AND SURVEYS (S. 18 Licensed Surveyors Act 1909) DATE

GOVERNMENT OF WESTERN AUSTRALIA
Landgate

DEPOSITED PLAN
416296
SHEET 01 OF 04 SHEETS
(PLUS SURVEY SHEET(S))
VERSION 1

FOR HEADING SEE SHEET 1

FOR INTERESTS AND NOTIFICATIONS
SEE SHEET 1



SURVEY CARRIED OUT UNDER REG 26A
SPECIAL SURVEY AREA GUIDELINES
SEE SURVEY SHEETS FOR SURVEY INFORMATION

USE ONLY THE SURVEY SHEET/S WHEN DETERMINING THE TRUE FINAL POSITION AND TYPE OF ALL SURVEY MARKS PLACED PERTAINING TO THIS PLAN.

HELD BY LANDGATE IN DIGITAL FORMAT ONLY

SCALE 1 : 600 @ A2

ALL DISTANCES ARE IN METRES

MNG Ref : 310211dp-043d - Stage 12 - DP416296.CSD

LICENSED SURVEYOR

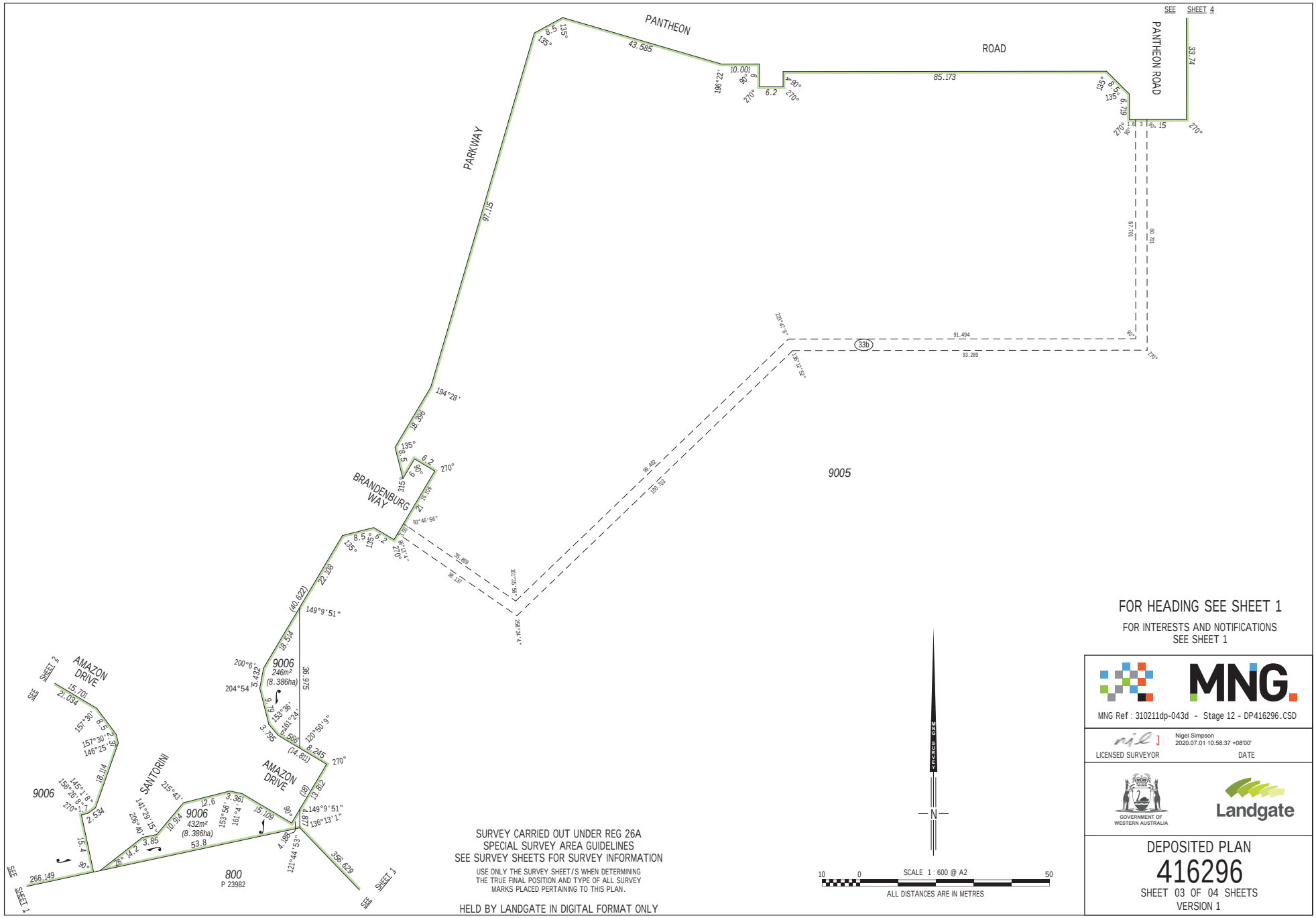
Nigel Simpson
2020.07.01 10:57:54 +08'00'

DATE

GOVERNMENT OF WESTERN AUSTRALIA

Landgate

DEPOSITED PLAN
416296
SHEET 02 OF 04 SHEETS
VERSION 1



FOR HEADING SEE SHEET 1

FOR INTERESTS AND NOTIFICATIONS
SEE SHEET 1

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GOVERNMENT OF WESTERN AUSTRALIA

Landgate

DEPOSITED PLAN

416296

SHEET 03 OF 04 SHEETS

VERSION 1

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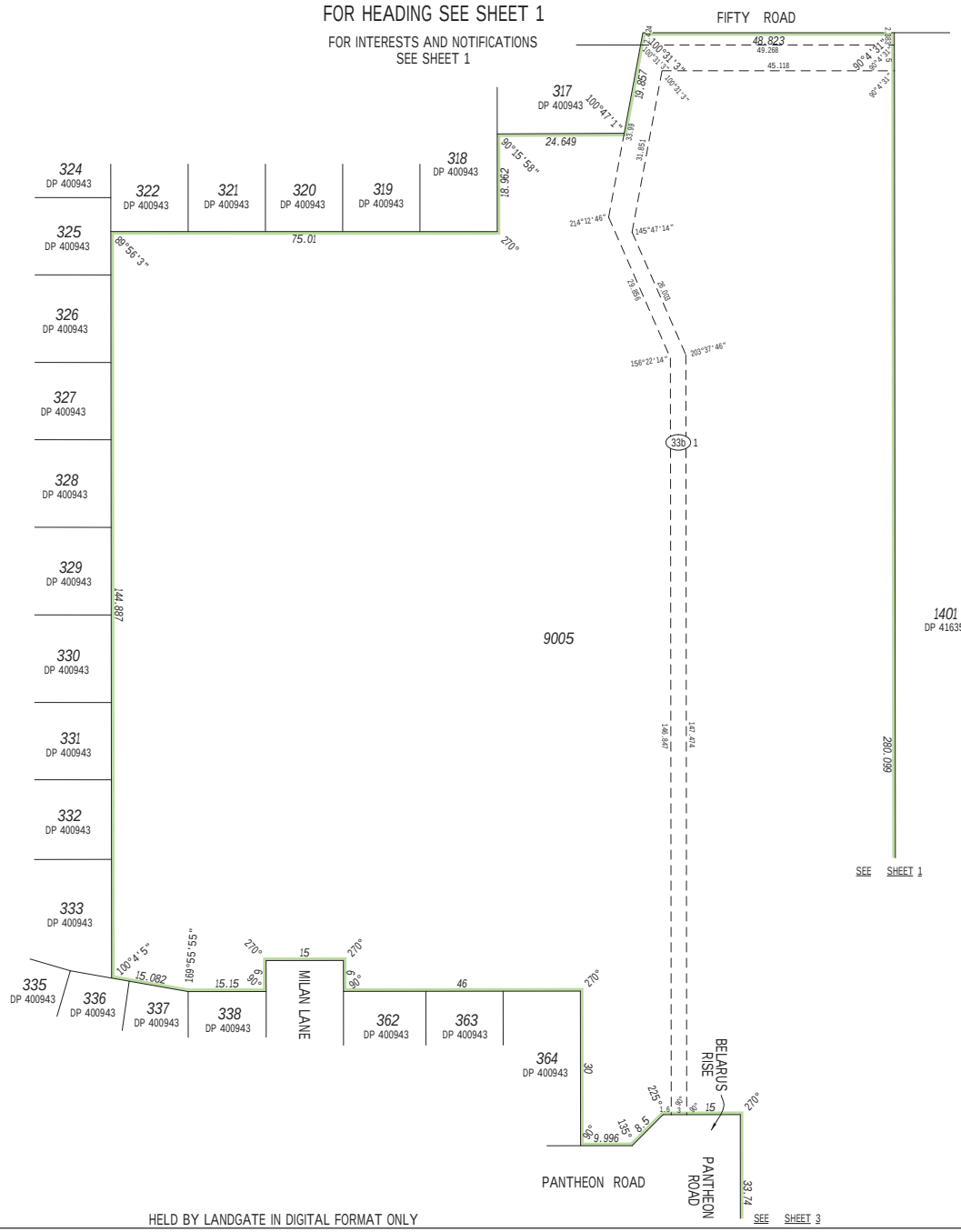
FOR INTERESTS AND NOTIFICATIONS
SEE SHEET 1



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SPECIAL SURVEY AREA GUIDELINES
SEE SURVEY SHEETS FOR SURVEY INFORMATION

USE ONLY THE SURVEY SHEET/S WHEN DETERMINING THE TRUE FINAL POSITION AND TYPE OF ALL SURVEY MARKS PLACED PERTAINING TO THIS PLAN.

MNG

MNG Ref : 310211dp-043d - Stage 12 - DP416296.CSD

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Nigel Simpson
2020.07.01 10:58:44 +08'00'
DATE

GOVERNMENT OF WESTERN AUSTRALIA

Landgate

DEPOSITED PLAN
416296
SHEET 04 OF 04 SHEETS
VERSION 1

N

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ALL DISTANCES ARE IN METRES

HELD BY LANDGATE IN DIGITAL FORMAT ONLY

AMENDMENTS TABLE (SURVEY SHEETS ONLY)

VER.	AMENDMENT	AUTHORISED BY	DATE

FOR SURVEY INFORMATION ONLY

SURVEY INFORMATION COMPRISES
SURVEY SHEET ..... A .....

SURVEY CARRIED OUT UNDER REG 26A
SPECIAL SURVEY AREA GUIDELINES

ALL BEARINGS AND DISTANCES ON THIS SHEET ARE THE RESULT OF LEAST SQUARES ADJUSTMENTS CARRIED OUT ON FIELD OBSERVATIONS

GRID DATUM IS PCG94

Connection from EFB145501/9144
To EFB148242/9100
Bearing 199°44'43"
Distance 85.29

EFB145501/9149 Nail in Manhole
EFB145501/9144 Deck Spike
EFB148242/9102 Nail in Manhole
EFB148242/9101 Deck Spike in Bitumen
EFB148242/9100 Nail in Beam (moved for clarity)
EFB148242/9103 Deck Spike in Bitumen
EFB148242/9104 Nail in Beam
EFB148242/9105 Deck Spike in Bitumen
EFB142069/9134 Deck Spike in Paving

PORTOFINO WAY
POMPEII AVENUE
FUJI DRIVE
AMAZON DRIVE
ROAD 9006

SURVEYOR'S CERTIFICATE - REG 54

I, Nigel J. SIMPSON
hereby certify that this plan is accurate and is a correct representation of the -
(a) *survey; and/or
(b) *calculations from measurements recorded in the field records,
[* delete if inapplicable]
undertaken for the purposes of this plan and that it complies with the relevant written law(s) in relation to which it is lodged.

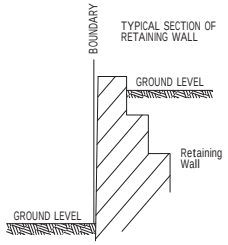
SURVEYOR'S CERTIFICATE - REG 55E(d)

The marks shown on these plans of survey were in place on 11/03/2019

Nigel Simpson
2020.07.28 12:17:44 +08'00'

LICENSED SURVEYOR DATE

TYPICAL SECTION OF RETAINING WALL



NOT TO SCALE

THIS SUBDIVISION CONTAINS RETAINING WALLS WHICH ARE LOCATED WITHIN THE HIGH LOTS.

LEGEND

- Standard Survey Mark (SSM)
- Permanent Survey Mark (PSM)
- Permanent Control Mark (PCM)
- Temporary Control Mark (TCM)
- Peg unless stated otherwise
- Nail in Path
- Nail and Plate in wall
- Rivet
- Spike
- Drill Hole
- Deck Spike
- Deck Spike and Plate

SURVEY SHEET PROCESSED
DATE: 11/01/2021 L.O.

SCALE 1 : 600 @ A2
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ALL DISTANCES ARE IN METRES

HELD BY LANDGATE IN DIGITAL FORMAT ONLY

MNG Ref: 310211ss-52b - EFB148242.CSD

GOVERNMENT OF WESTERN AUSTRALIA

Landgate

DEPOSITED PLAN
416296
SURVEY SHEET A
VERSION 1

Appendix 2:
Development Plans

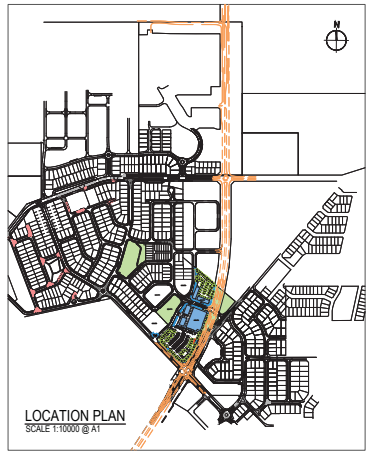
Spires Commercial

Lot 9005, Future Lot 461 Nairn Drive & Lot 462 Eighty Road

Thursday 17th June 2021

Subdivision Plan - 1:2000 @ A3

Spires Commercial



Lot Boundaries and Typography - 1:2000 @ A3

Spires Commercial

Masterplan - 1:1000 @ A3

Spires Commercial

dm|g

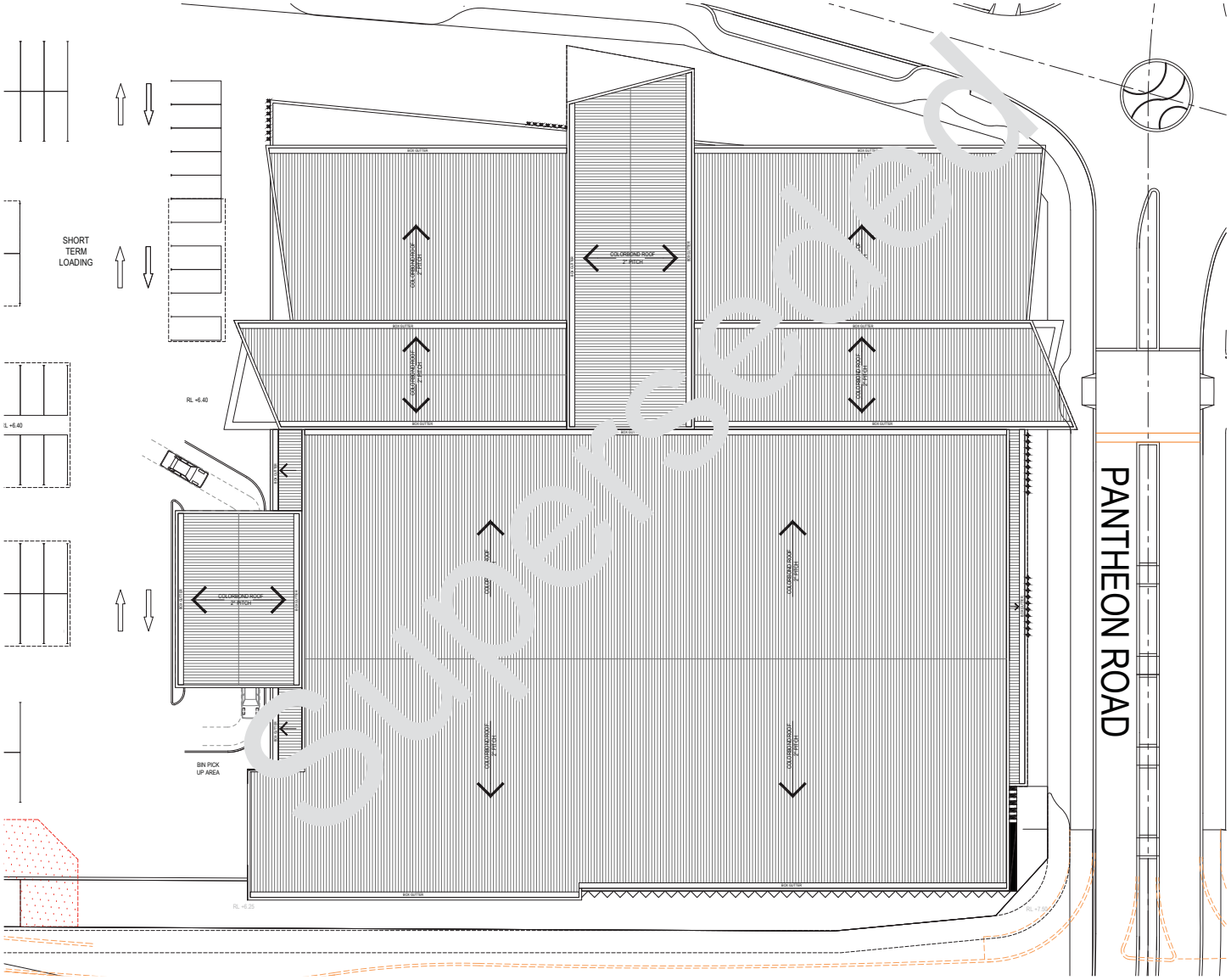
SUBJECT SITE AREA

2 x END OF TRIP FACILITIES EACH WITH:

- 2 x UNISEX CHANGE ROOMS (INCL. SHOWER)
- 12 x LOCKERS
- BIKE STORAGE

Shopping Centre Roof Plan - 1:500 @ A3

Spires Commercial



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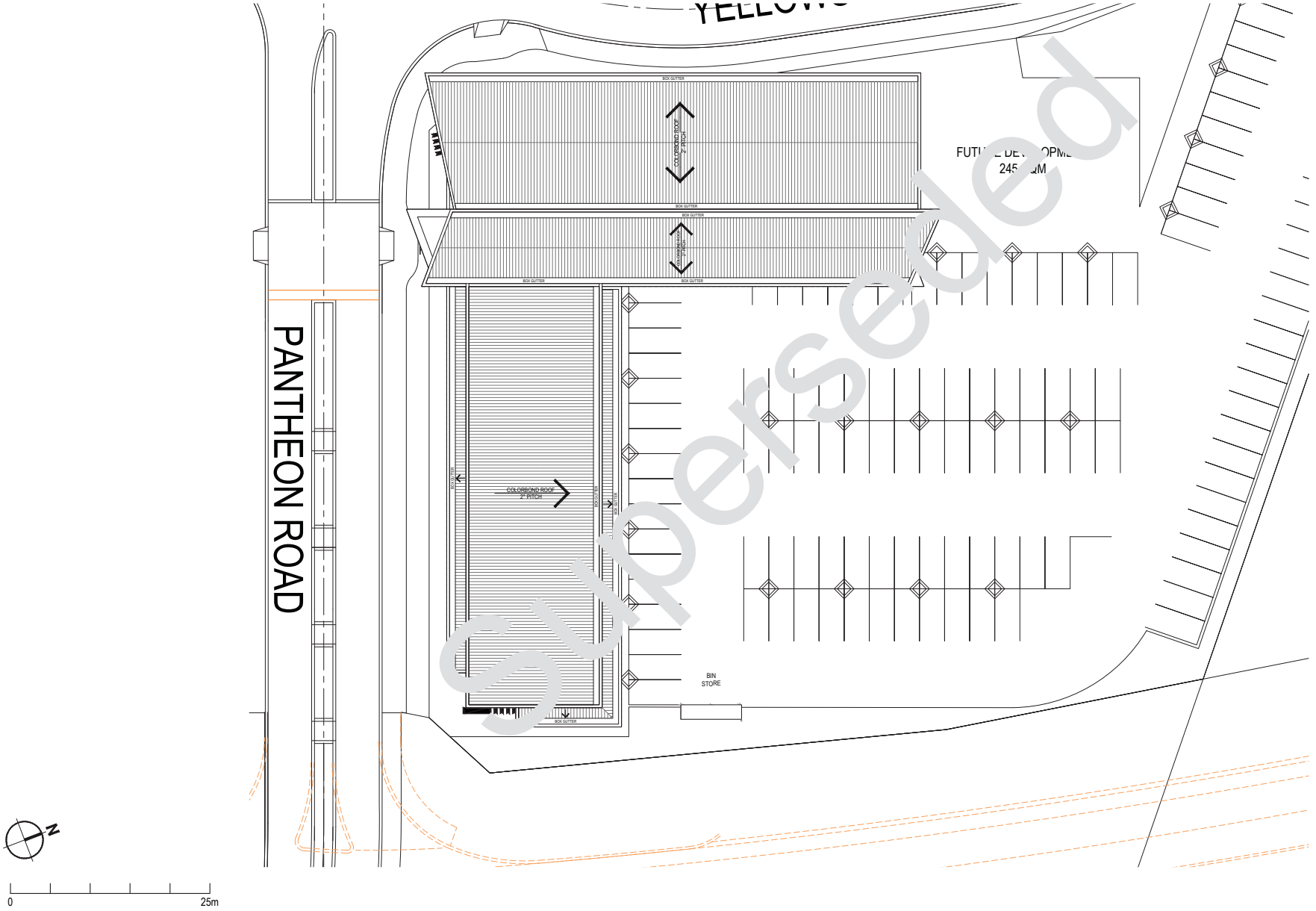
0 25m

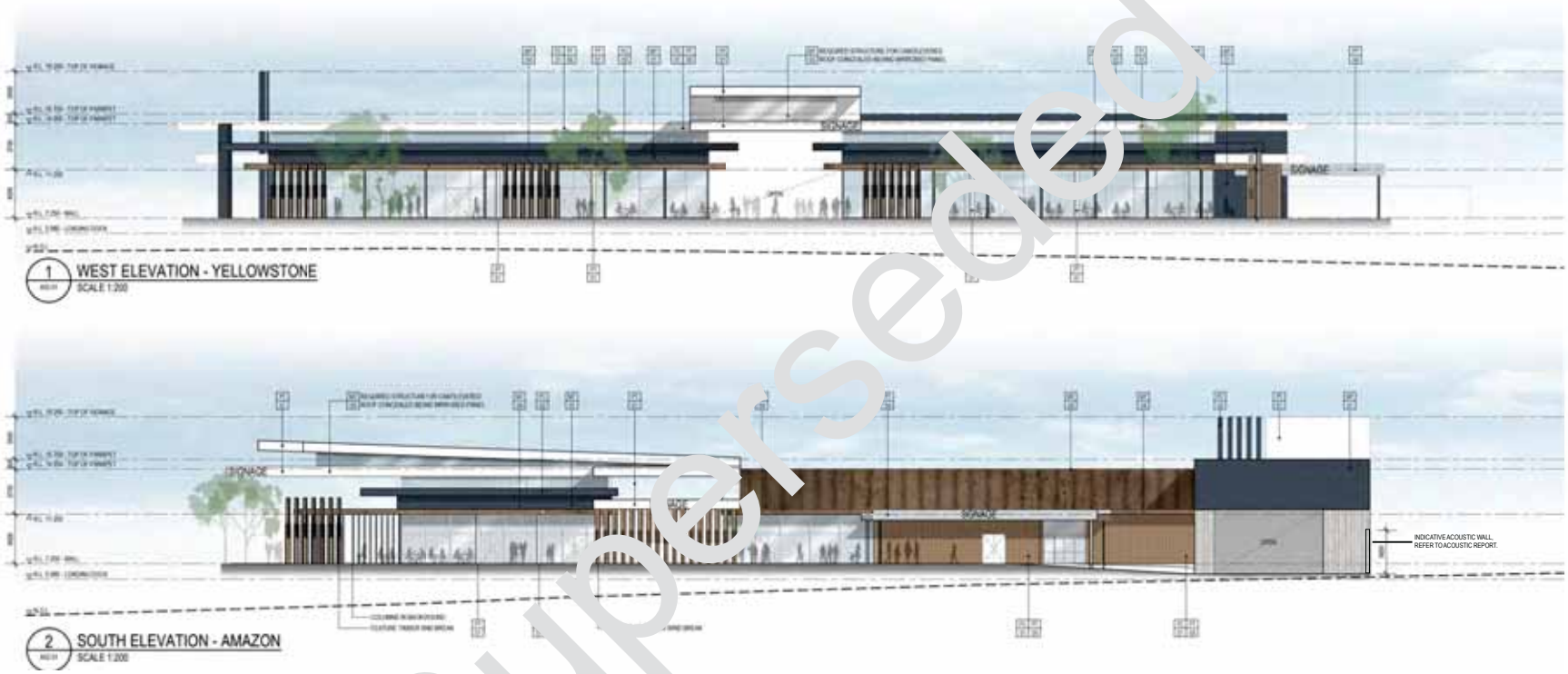
Commercial Centre Roof Plan - 1:500 @ A3

Spires Commercial



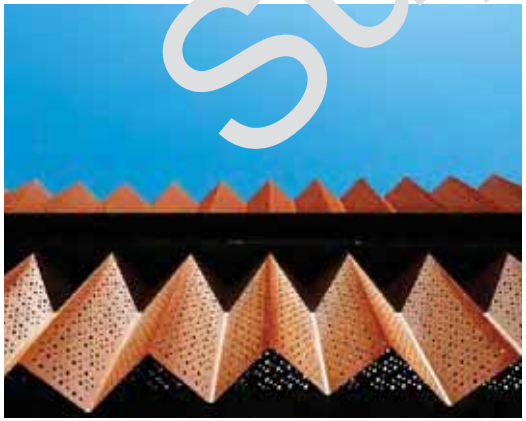
Shopping Centre Elevations - 1:400 @ A3

Spires Commercial



1 WEST ELEVATION - YELLOWSTONE
SCALE 1:200

2 SOUTH ELEVATION - AMAZON
SCALE 1:200



Project Palette

Spires Commercial


Timber Cladding


Folded Perforated Metal Cladding


Profiled Metal Cladding


Timber Battened Ceiling


Corten


Green Alfresco Dining

Shopping Centre Elevations - 1:400 @ A3

Spires Commercial

3 EAST ELEVATION - NAIRN
SCALE 1:200

4 NORTH ELEVATION - PANTHEON
SCALE 1:200

Project Palette

Spires Commercial


Corten Mesh


Feature Canopy


Feature Basalt Paving


Granite Paving


Commissioned Local Artwork (Example Only)

Shopping Centre Sections - 1:400 @ A3

Spires Commercial

1 SECTION
SCALE 1:200

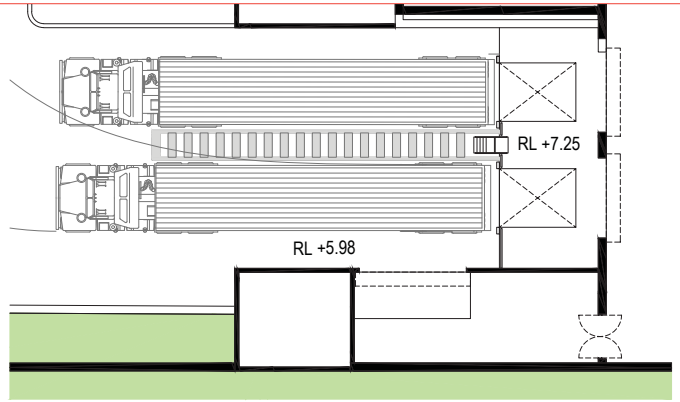
2 SECTION
SCALE 1:200

Shopping Centre Sections - 1:400 @ A3

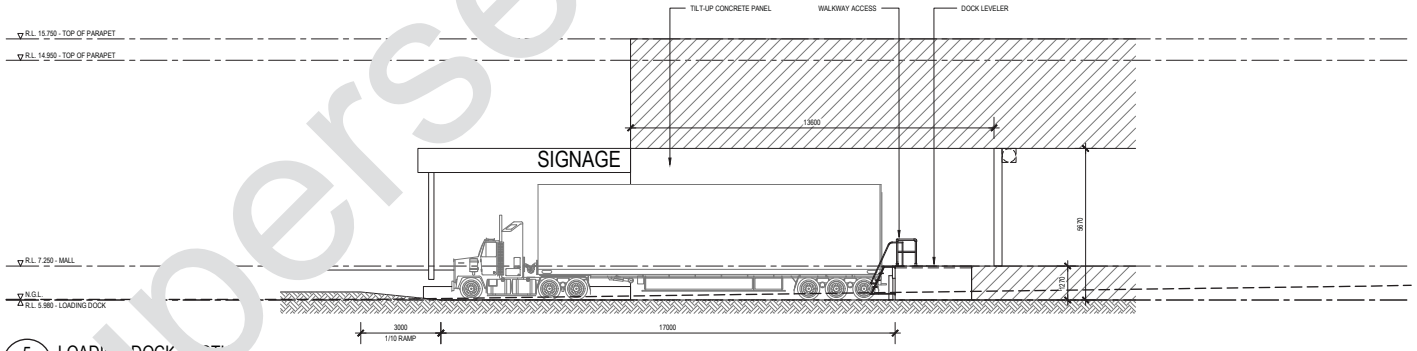
Spires Commercial

Loading Dock Sections - 1:200 @ A3

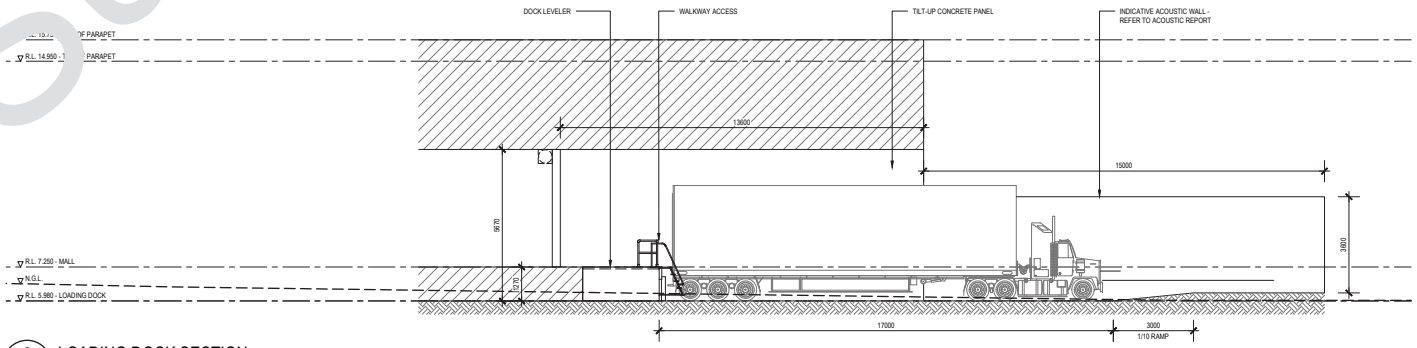
Spires Commercial



LOADING DOCK PLAN
SCALE 1:100



5 A02.01 LOADING DOCK SECTION
SCALE 1:100



6 A02.01 LOADING DOCK SECTION
SCALE 1:100

Commercial Centre Sections - 1:400 @ A3

Spires Commercial





Commercial Centre Sections - 1:400 @ A3

Spires Commercial





Materials Palette Legend

Spires Commercial

FC-01	MT-01	MT-02	MT-03	MT-	PT-01/PC-01	PT-02/PC-02	PT-03/PC-03	PT-04/PC-04	PT-05	CE-01	CE-01
TIMBER CLADDING	PROFILED METAL CLADDING	DECORATIVE MESH	MIRRO METAL ANEL	CORTEN	PAINT/ POWDERCOAT	PAINT/ POWDERCOAT	PAINT/ POWDERCOAT	PAINT/ POWDERCOAT	PAINT/ POWDERCOAT	PATTERNED CONCRETE	PATTERNED CONCRETE

Shopping Centre - Western Entrance

Spires Commercial

Shopping Centre - Western Entrance

Spires Commercial

Shopping Centre - Southern East Elevation

Spires Commercial

Shopping Centre - Southern Entrance

Spires Commercial

Shopping Centre - F&B View to Park

Spires Commercial

Shopping Centre - Mall View to Medical Centre

Spires Commercial

Shopping Centre - Pantheon Road Entrance

Spires Commercial

Shopping Centre - Pantheon Road East

Spires Commercial

Shopping Centre - Aerial

Spires Commercial

Amazon Gateway Entrance Statement

Spires Commercial

Appendix 3:
Traffic Impact Assessment

PREPARED FOR:

June 2021

Document history and status

Author	Revision	Approved by	Date	Revision type
R White	r01	B Bordbar	14/05/2021	
R White	r01a	B Bordbar	18/06/2021	

File name: t15185-rw-r01a.docx

Author: Robin White

Project manager: Behnam Bordbar

Client: Carcione Nominees Pty Ltd

Project: Spires Commercial, Nairn Drive, Baldivis

Document revision: r01a

Project number: t15.185

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1.0 Introduction

This Transport Impact Assessment has been prepared by Transcore in relation to the proposed Spires Commercial shopping centre in Baldivis in the City of Rockingham.

The site is located on the western side of the future Nairn Drive alignment and the northern side of Amazon Drive, as shown in Figure 1. That figure depicts the zones and reservations of the Metropolitan Region Scheme (MRS) and shows the Other Regional Roads Reservation (blue road) for Nairn Drive.

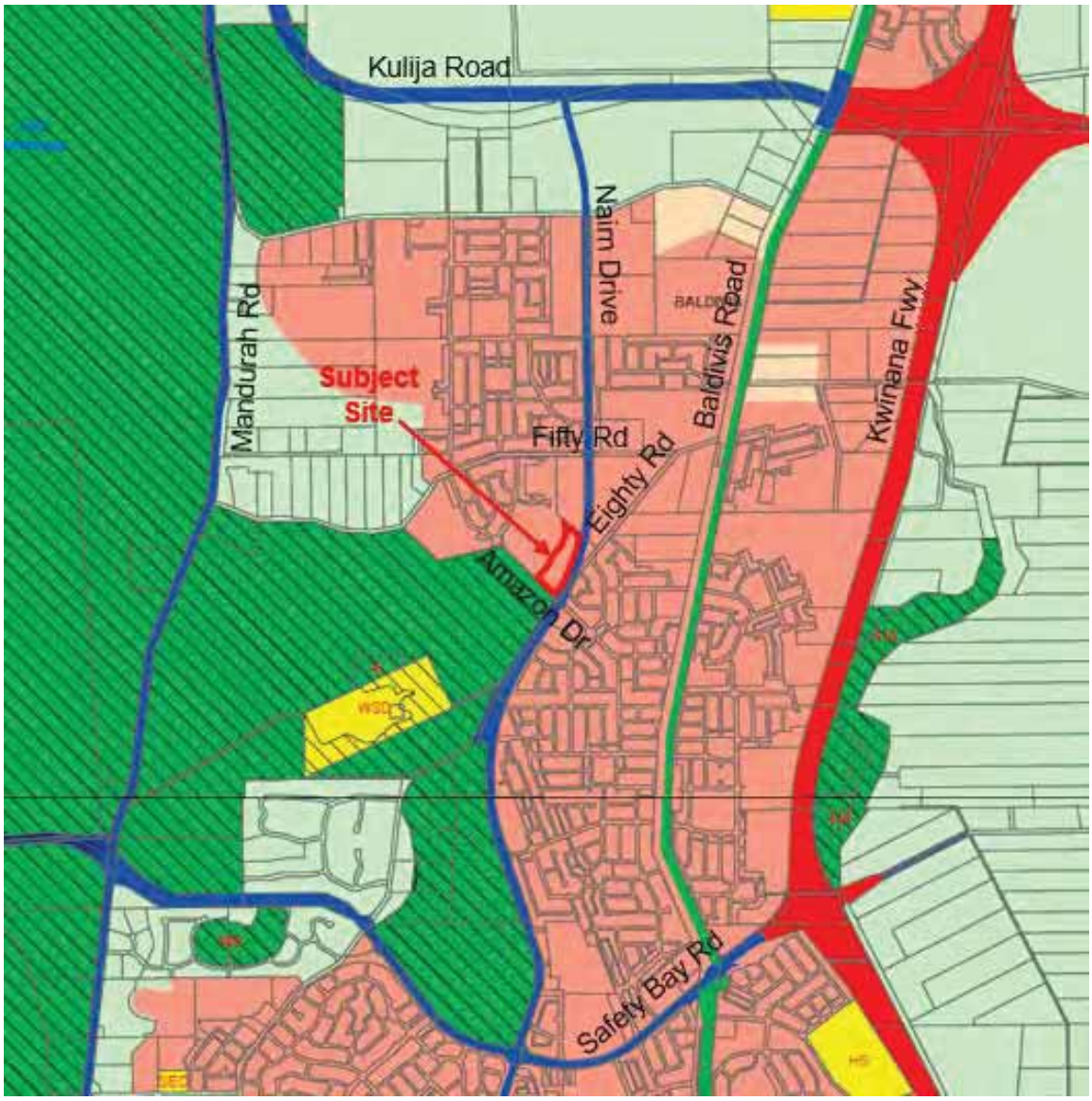


Figure 1: Site location

Key issues that will be addressed in this report include access arrangements, intersection capacity and parking provision.

2.0 Development Proposal

The proposed development is a neighbourhood shopping centre. The overall layout of the proposed development is shown on the proposed masterplan in Figure 2 and at Appendix A.

Figure 2: Proposed Development

The proposed shopping centre totals approximately 6,558m^2 floor area. The breakdown of floor areas shown on the masterplan are summarised in Table 1.

Table 1: Proposed land use

Land Use	Floor Area
Supermarket	3608 m^2
Online pickup & airlock	156 m^2
Shops (12 tenancies)	1140 m^2
Pad site (fast food)	290 m^2
Medical centre	519 m^2
Recreation / private (gym)	600 m^2
Future development	245 m^2
Total	**6558 m^2**

As can be seen on the masterplan, the proposed shopping centre will be located on two lots divided by an east west “main street” (Pantheon Road), which connects from the future Nairn Drive on the eastern side of the site to Yellowstone Road on the western side of the site.

It should be noted that Amazon Drive, Pantheon Road and Yellowstone Road would be constructed under the subdivision approval and are not part of this development application.

Pantheon Road will connect through to Eighty Road in the interim period until Nairn Drive is constructed in future.

Pantheon Road will have a left in / left out intersection initially on Eighty Road and ultimately on Nairn Drive, so right turn access from Nairn Drive will be accommodated by the planned signalised 4-way intersection at Nairn Drive / Amazon Drive as shown on the masterplan.

Primary access to the southern car park will be via a full movement driveway on Yellowstone Road, with secondary access via a left in / left out driveway on Amazon Drive. The northern car park will be accessed via a full movement driveway on Yellowstone Road.

The southern site has a loading dock at the southeast corner of the supermarket, designed to accommodate 19m semi-trailer delivery vehicles. Delivery vehicles and waste collection vehicles will access via the Yellowstone Road driveway and will not use the Amazon Drive left in / left out driveway.

The northern site will only be serviced by rigid trucks (not semi-trailers) for deliveries and waste collection.

3.0 Existing Situation

3.1 Existing Land Use

As shown in Figure 3, the site is currently vacant land.

Figure 3: Existing land use (April 2021)

Substantial residential development has already occurred east of Eighty Road and residential subdivision development is progressing to the northwest of the subject site.

The vegetated land south of Amazon Drive / west of Nairn Drive is a Bush Forever site and will not be developed, whereas the vegetated land north of the subject site is planned for future residential subdivision development.

3.2 Existing Road Network

Nairn Drive is covered by an Other Regional Roads reservation in the MRS as shown in Figure 1 and is planned as a future dual carriageway road with two lanes in each direction. Nairn Drive is currently constructed south of Amazon Drive with one lane each way as the first carriageway of that future dual carriageway standard. This section of Nairn Drive has a posted speed limit of 70km/h and no direct driveway access from abutting residential or commercial properties.

Eighty Road connects to Nairn Drive north of Amazon Drive and currently operates as the continuation of this through route until future construction of the future Nairn Drive extension. It is constructed as a two-lane rural road and has a posted speed limit of 70km/h.

Amazon Drive is constructed east of Nairn Drive but not yet constructed on the western side of Nairn Drive. It is constructed as a two-lane, single-carriageway urban road and the default built up area speed limit of 50km/h applies.

The Nairn Dr / Eighty Rd / Amazon Dr intersection is currently constructed as a Give Way controlled T-intersection with left and right turn lanes provided on each approach as appropriate, as shown in Figure 4.

Figure 4: Existing Nairn Dr / Eighty Rd / Amazon Dr intersection

3.3 Existing Traffic Flows

A 7-day traffic count (7-13 December 2020) of existing traffic volumes on Eighty Road south of Fifty Road recorded average weekday traffic flows of 5,338 vehicles per day (vpd) with 4,513vpd on Saturday and 3,908vpd on Sunday.

3.4 Road Safety

Information available on the Main Roads WA website indicates that no crashes were recorded at the Nairn Dr / Eighty Rd / Amazon Dr intersection during the 2016 – 2020 five-year period.

3.5 Public Transport

The closest existing bus route to the subject site is bus route No. 568 from Warnbro Train Station, which currently travels along Eighty Road in the vicinity of the subject site, as shown in Figure 5. It currently provides hourly service on all days and more frequent service (up to 3 per hour) during weekday AM and PM peak periods.

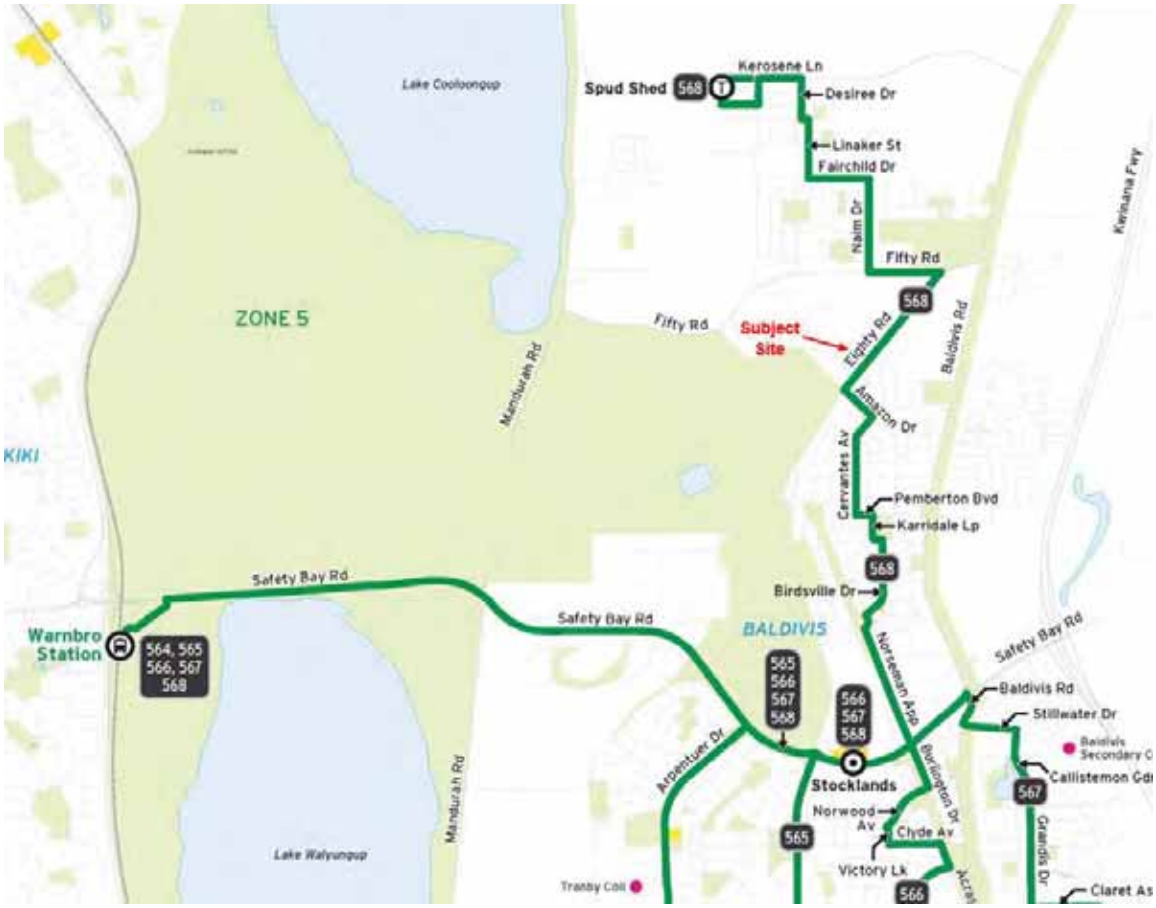


Figure 5: Existing public transport

3.6 Pedestrian and Cyclist Facilities

There is an existing footpath on the southern side of Amazon Drive east of Nairn Drive, as can be seen in Figure 4. Nairn Drive and Eighty Road do not have footpaths in the vicinity of the subject site. However, Nairn Drive south of Amazon Drive has been constructed with on-road cycle lanes or hard shoulders suitable for use by cyclists.

The Perth Bike Maps (see Figure 6) published by the Department of Transport indicate that Nairn Drive, Eighty Road, Fifty Road and Baldivis Road are considered a good road riding environment.

Figure 6: Perth Bike Map

3.7 Changes to Surrounding Road Network

Nairn Drive will ultimately be extended northwards from the Amazon Drive intersection and Eighty Road will then connect to Amazon Drive further east through the local road network, as shown in the Spires Estate structure plan at Figure 7. Amazon Drive will be constructed north-westwards from Nairn Drive as part of the development of this structure plan area.

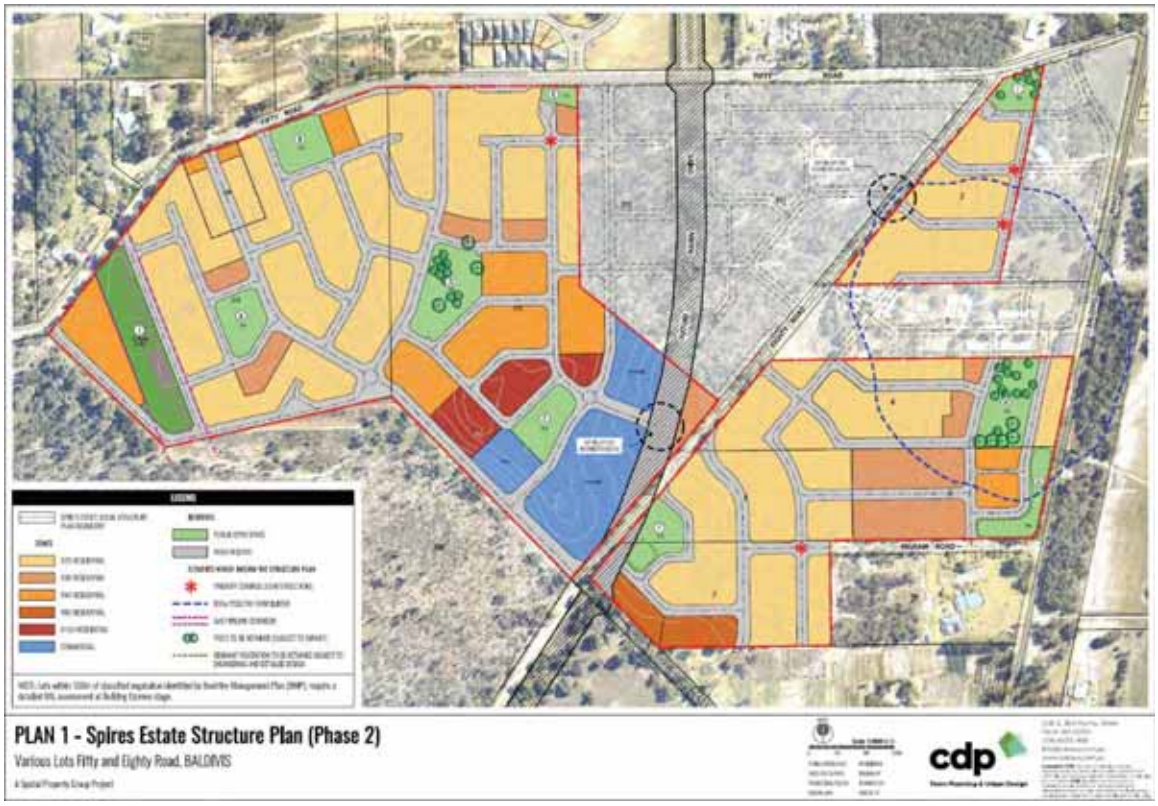


Figure 7: Spires Estate Structure Plan

The applicant is currently liaising with Main Roads WA for final approval of the proposed signalised intersection at Nairn Drive / Eighty Rd / Amazon Rd. This signalised intersection is to be constructed concurrently with the proposed development on the subject site.

3.8 Integration with Surrounding Area

The proposed development is consistent with the planning of the Spires Estate Structure Plan shown in Figure 7.

4.0 Traffic Assessment

4.1 Assessment Period

An assessment year of 2031 has been adopted for this transport impact assessment, which is consistent with recent analysis undertaken for a proposed amendment to the Spires Estate structure plan and the intersection analysis undertaken for the proposed Nairn Drive / Amazon Drive signalised intersection.

The proposed shopping centre development would have highest traffic generation during the Saturday late morning / midday peak period and the combined peak of shopping centre and road network traffic would occur during the weekday PM peak period. Accordingly, traffic analysis has been undertaken for 2031 weekday PM peak and Saturday peak periods.

4.2 Traffic Generation

The traffic volume anticipated to be generated by the proposed shopping centre has been calculated using formulae provided in the New South Wales *Guide to Traffic Generating Developments* (2002). Those formulae take account of different types of land use within the proposed development (supermarket, specialty stores, office/medical, etc.) to provide a more accurate estimate of traffic generation for the particular mix of land uses that are actually proposed.

The land use components for this calculation are as follows:

- A(S) = slow trade = 0m^2
- A(F) = faster trade = 0m^2
- A(SM) = supermarket = 3764m^2
- A(SS) = specialty shops = 2275m^2
- A(OM) = office / medical = 519m^2

In the following formulae each area is input as per 1000m^2 (i.e. 3764m^2 is input as 3.764 in these calculations).

Thursday PM peak hour traffic generation
= 20A(S) + 51A(F) + 155A(SM) + 46A(SS) + 22A(OM) = 700vph

Saturday peak hour traffic generation
= 38A(S) + 13A(F) + 147A(SM) + 107A(SS) + 0A(OM) = 797vph

4.3 Traffic Distribution

Transcore has progressively developed a subregional traffic model of weekday traffic flows for future development of the Mandurah-Rockingham area using the EMME transport modelling software package. This model has been developed in more

detail for various projects in the Baldivis area including the Spires Estate structure plan. The future traffic scenario modelled in this area reflects full development of the Baldivis area.

The EMME traffic model is based on the traditional four-stage model processes which includes trip generation, mode split, trip distribution and trip assignment. However, the trip generation within this model considered only private vehicle trips and therefore the mode split stage was not adopted. The mode split was taken into consideration when generating the trip production rates for the trip generation stage. The trips were divided into five different categories based on the trip purposes: Work, Education, Social, Other and Non-Home Based (NHB) trips.

The distribution of the trips is determined by the traffic model using the principles of gravity model in proportion to the location of trip productions and attractors for work trips, education trips and other trips (shopping, social, recreational, etc.) among all the land uses in the traffic model.

The traffic model has been utilised to determine the traffic distribution for trips to and from the northern and southern sites of the proposed shopping centre. This takes into account the effect on route choices resulting from the left in / left out intersection of Pantheon Rd on Nairn Drive and the left in / left out driveway connection onto Amazon Drive, so approach and departure routes will be significantly different in some cases.

The resulting modelled traffic distribution of the proposed development is summarised in Table 2.

Table 2: Traffic distribution

Approach / departure route	Southern site		Northern site	
	In	Out	In	Out
Nairn Drive south	38%	40%	40%	36%
Amazon Drive east	20%	22%	21%	18%
Nairn Drive north	5%	29%	1%	0%
Yellowstone Rd north	23%	2%	34%	41%
Pantheon Rd west	1%	1%	4%	5%
Amazon Drive west	13%	6%	0%	0%
Total	100%	100%	100%	100%

The traffic movements generated by the proposed development have been manually assigned on the adjacent road network (with Nairn Drive ultimate alignment constructed) and the resulting traffic movements generated by this development are shown in Figure 8 (PM peak) and Figure 9 (Saturday peak).

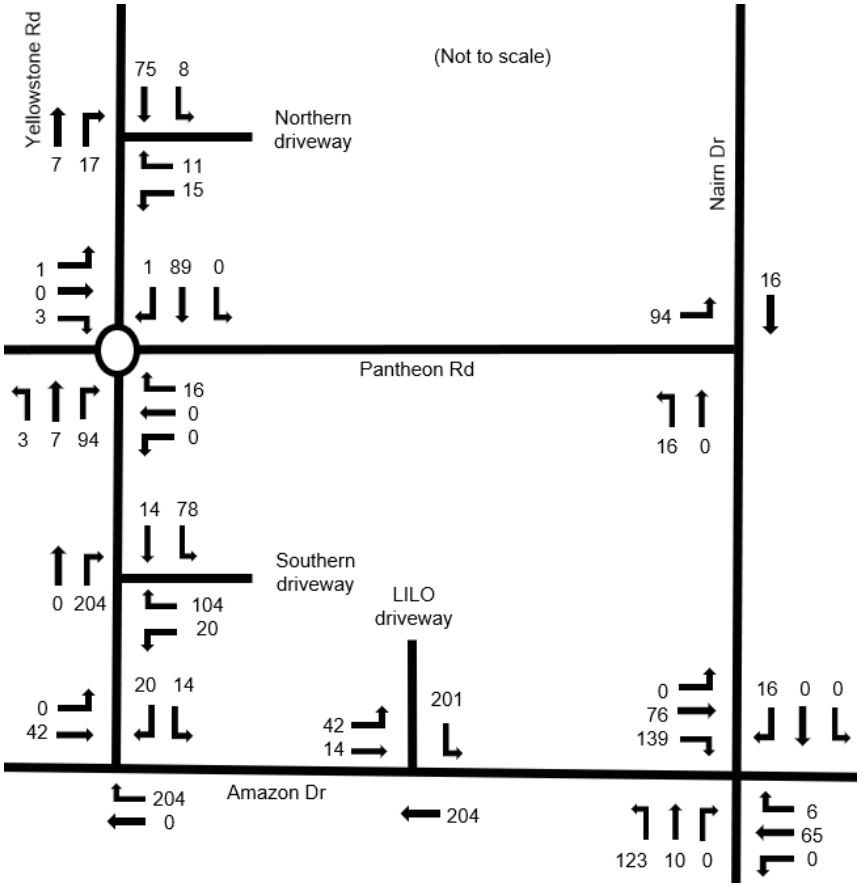


Figure 8: Weekday PM peak hour traffic generated by the proposed development

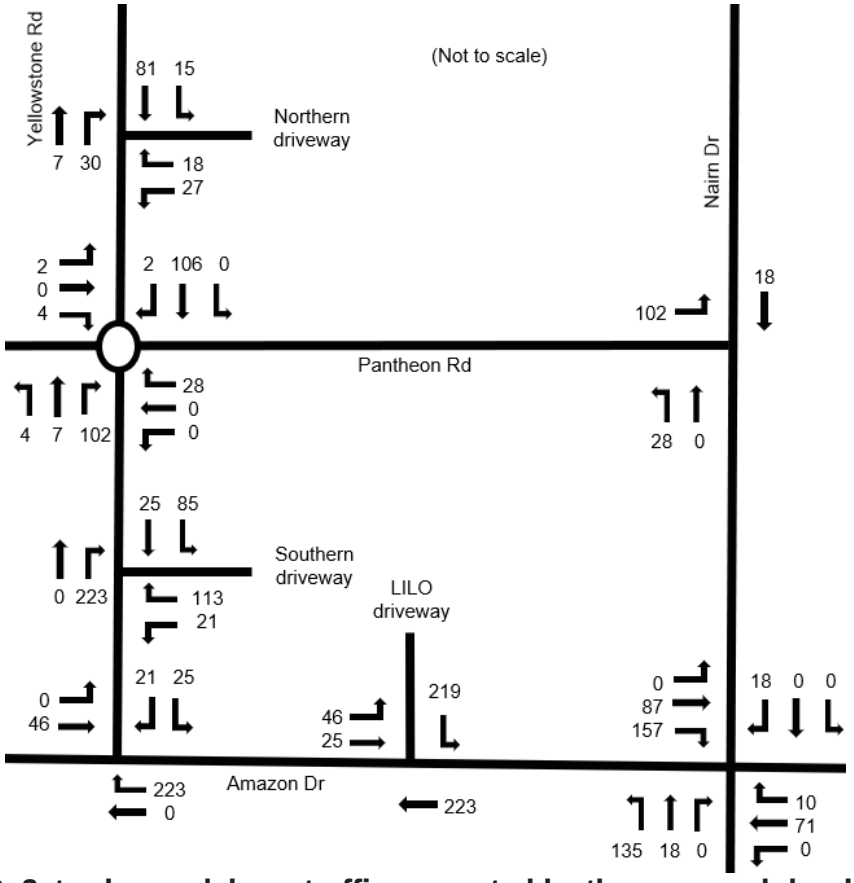


Figure 9: Saturday peak hour traffic generated by the proposed development

4.4 Future Traffic Flows

For the Nairn Dr / Amazon Dr signalised intersection analysis, 2031 AM and PM peak hour traffic flows were calculated from the modelled daily traffic flows at that intersection. Daily traffic flows at the Nairn Drive / Amazon Drive intersection were extracted from the EMME traffic model and separated into three components by select link analysis in the traffic model:

- Trips to/from the neighbourhood centre (Spires commercial centre);
- Local residential trips to/from residential subdivision within the Spires LSP area and neighbouring areas (bounded by Amazon Drive, Fifty Rd and Baldivis Rd); and
- Other traffic.

Weekday AM and PM peak hour traffic flows for each component were then calculated by applying appropriate peak hour factors. A similar method has been applied to calculate Saturday peak hour traffic flows at that intersection for this assessment. The resulting PM peak and Saturday peak hour traffic flows at this intersection and the shopping centre traffic shown in Figure 8 and Figure 9 have then been used as the foundation for manual calculation of the 2031 total traffic flows on the road network around the subject site.

Total future traffic flows at the intersections and driveways around the subject site during the 2031 PM peak hour and 2031 Saturday peak hour are shown in Figure 10 and Figure 11, respectively.

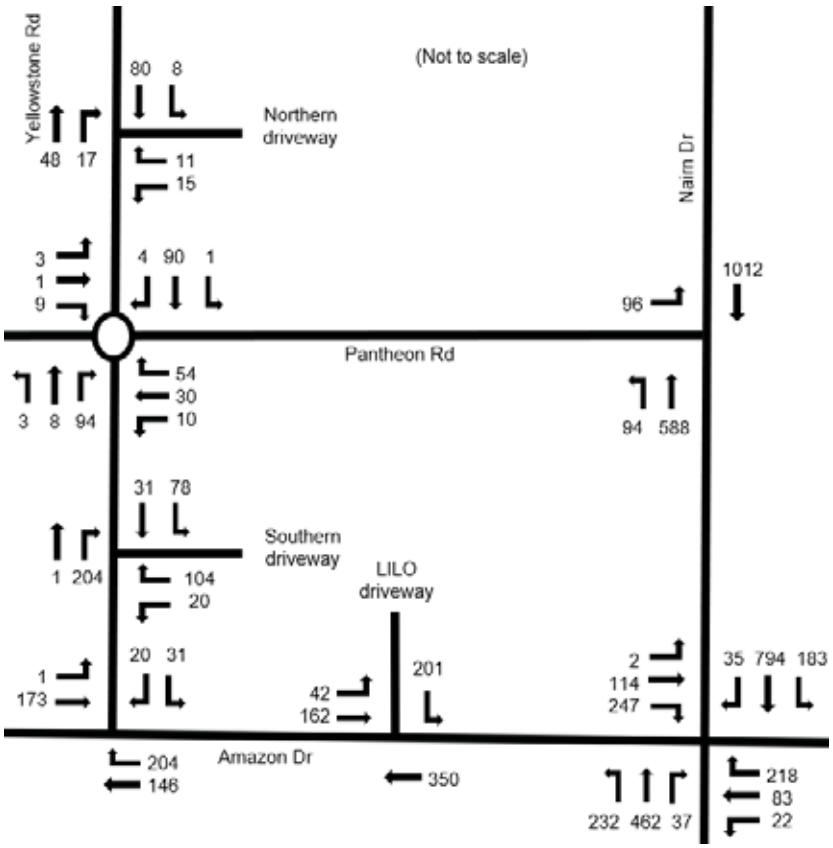


Figure 10: 2031 PM peak hour traffic flows

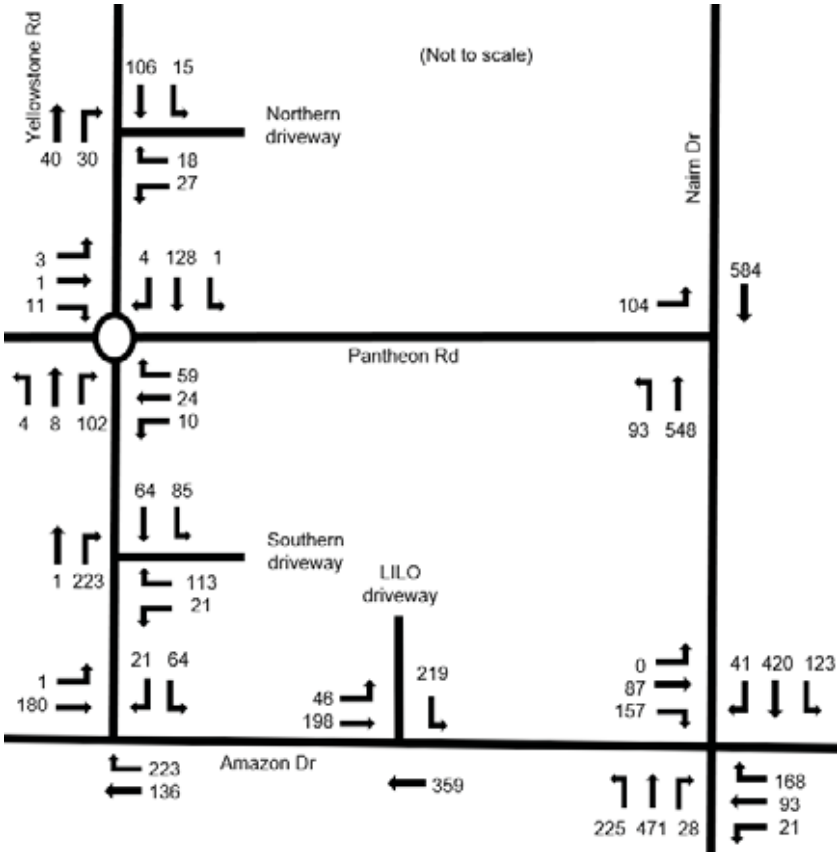


Figure 11: 2031 Saturday peak hour traffic flows

4.5 Analysis of Intersections and Development Accesses

The seven intersections and driveways shown in Figure 10 and Figure 11 have been analysed as a network of intersections using Network analysis in the SIDRA computer software package, for the 2031 PM and Saturday peak hour traffic flows shown in those figures.

SIDRA is an intersection modelling tool commonly used by traffic engineers for all types of intersections. SIDRA outputs are presented in the form of Degree of Saturation, Level of Service, Average Delay and 95% Queue. These characteristics are defined as follows:

- Degree of Saturation is the ratio of the arrival traffic flow to the capacity of the approach during the same period. The Degree of Saturation ranges from close to zero for infrequent traffic flow up to one for saturated flow or capacity.
- Level of Service is the qualitative measure describing operational conditions within a traffic stream and the perception by motorists and/or passengers. In general, there are 6 levels of service, designated from A to F, with Level of Service A representing the best operating condition (i.e. free flow) and Level of Service F the worst (i.e. forced or breakdown flow).
- Average Delay is the average of all travel time delays for vehicles through the intersection.

- 95% Queue is the queue length below which 95% of all observed queue lengths fall.

The SIDRA analysis has been undertaken in accordance with current MRWA operational modelling guidelines including separate input of different classes of heavy vehicles and the parameters specified by MRWA for those vehicle classes.

The results of the SIDRA analysis are summarised in Appendix B

The signalised intersection will operate at a degree of saturation of less than 0.9 in both 2031 peak periods and with all movements ranging from level of service B to D, which represents satisfactory operation of this signalised intersection.

All of the other intersections and driveways analysed will have all movements operating at level of service A (the best possible rating) with minimal traffic queues and delays.

These results confirm that the intersections and proposed driveways around the subject site will all have sufficient capacity to accommodate the forecast traffic flows with full development of the proposed shopping centre.

4.6 Impact on Surrounding Roads and Neighbouring Areas

This proposed shopping centre is an integral part of the Spires Estate structure plan and the road network around it is designed specifically to service and accommodate this development and the surrounding structure plan. Accordingly, the impact of the shopping centre traffic on the surrounding roads and neighbouring areas is not an issue for concern for this proposed development.

4.7 Road Safety

No particular road safety issues have been identified in relation to the proposed development.

5.0 Parking

The proposed parking provision consists of:

- 262 parking spaces in the southern car park including 4 disabled bays and 4 on-line pick-up bays; and
- 123 parking spaces including 1 disabled bay in the northern car park.

Primary access to the southern car park will be via a full movement driveway on Yellowstone Road, with secondary access via a left in / left out driveway on Amazon Drive. The northern car park will be accessed via a full movement driveway on Yellowstone Road.

The southern site has a loading dock at the southeast corner of the supermarket, designed to accommodate 19m semi-trailer delivery vehicles. Delivery vehicles and waste collection vehicles will access via the Yellowstone Road driveway and will not use the Amazon Drive left in / left out driveway.

The northern site will only be serviced by rigid trucks (not semi-trailers) for deliveries and waste collection.

6.0 Public Transport

The existing bus services in this area have been noted in Section 3.5 of this report and will provide a satisfactory level of public transport accessibility to the site, particularly during weekday AM and PM peak periods.

7.0 Pedestrians and Cyclists

The masterplan at Appendix A shows that paths will be provided on the verge of Amazon Drive and Eighty Road (and ultimately on Nairn Drive) adjacent to the proposed development and on both sides of Yellowstone Road and Pantheon Road as part of the proposed development.

Pedestrian connections into the northern and southern sites will connect directly to the paths on Yellowstone Road and Pantheon Road, as well as a central path link through the southern car park from Amazon Drive.

The proposed traffic signals at the Nairn Drive / Amazon Drive signalised intersection will include pedestrian facilities to assist pedestrian and cyclists crossing these roads to and from the proposed shopping centre.

Appropriate bicycle parking facilities for visitors and staff and end-of-trip facilities for staff are provided for on the masterplan in accordance with the City of Rockingham requirements.

8.0 Conclusions

This Transport Impact Assessment has been prepared by Transcore in relation to the proposed Spires Commercial shopping centre in Baldivis in the City of Rockingham.

The site is located on the western side of the future Nairn Drive alignment and the northern side of Amazon Drive, in accordance with the current Spires Estate Structure Plan. The structure plan includes Yellowstone Road, which will form the western boundary of the proposed development, and Pantheon Road which will form an east west "main street" dividing the proposed shopping centre site into two separate lots.

It should be noted that Amazon Drive, Pantheon Road and Yellowstone Road would be constructed under the subdivision approval and are not part of this development application.

Pantheon Road will connect through to Eighty Road in the interim period until Nairn Drive is constructed in future. Pantheon Road will have a left in / left out intersection initially on Eighty Road and ultimately on Nairn Drive.

The proposed Nairn Drive / Amazon Drive signalised intersection is planned to be constructed concurrently with this proposed development, so the signalised intersection will accommodate right turn vehicle movements to and from Nairn Drive generated by the proposed development.

Primary access to the southern car park will be via a full movement driveway on Yellowstone Road, with secondary access via a left in / left out driveway on Amazon Drive. The northern car park will be accessed via a full movement driveway on Yellowstone Road.

The peak period of traffic flows generated by the proposed development would typically occur during the Saturday late morning / lunchtime period when the proposed development is anticipated to generate traffic flows of approximately 800 vph (approximately 400 in / 400 out). The busiest period for combined road network and development traffic would typically occur during the weekday PM peak period when the proposed development is anticipated to generate approximately 700 vph (approximately 350 in / 350 out).

Traffic analysis has been undertaken for the two peak periods identified for this site, for modelled traffic growth to the year 2031. The traffic analysis indicates that all of the intersections and driveways around this site will all operate satisfactorily under the projected future traffic flows.

The proposed masterplan for this development includes appropriate paths on each of the frontage roads around the site and pedestrian connections into the northern and southern sites will connect directly to the paths on Yellowstone Road and Pantheon Road, as well as a central path link through the southern car park from Amazon Drive.

The proposed traffic signals at the Nairn Drive / Amazon Drive signalised intersection will include pedestrian facilities to assist pedestrians and cyclists crossing these roads to and from the proposed shopping centre.

Appropriate bicycle parking facilities for visitors and staff and end-of-trip facilities for staff are provided for on the masterplan in accordance with the City of Rockingham requirements.

In conclusion, the findings of this Transport Impact Assessment are supportive of the proposed development.

Appendix A

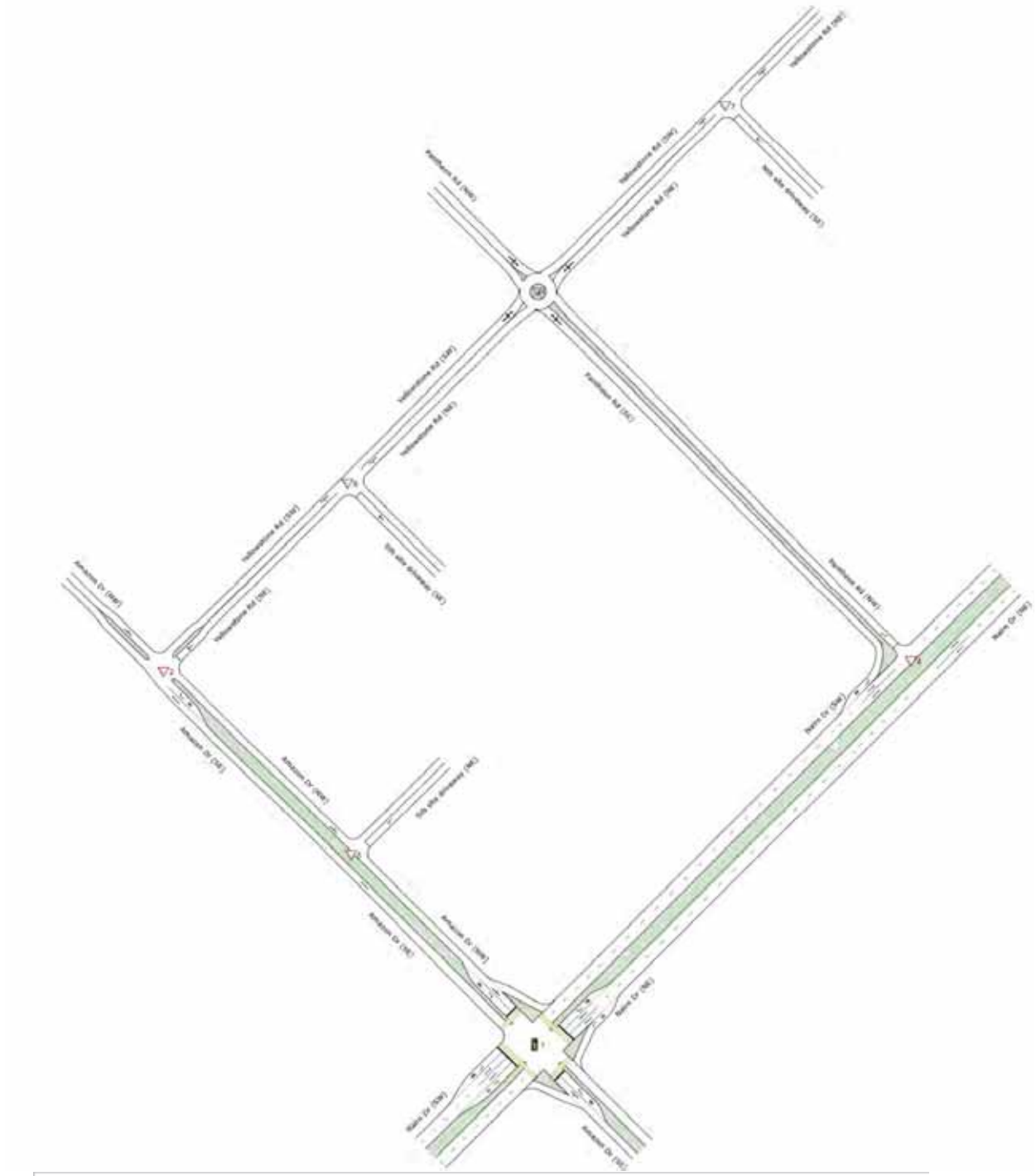
PROPOSED MASTERPLAN

Masterplan - 1:1000 @ A3

Spires Commercial

Appendix B

SIDRA INTERSECTION ANALYSIS



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
1	NA	Nairn-Amazon 2031PM signals-filter right on Amazon
2	NA	Amazon-Yellowstone 2031PM T-intersection
3	NA	Yellowstone-Pantheon 2031PM roundabout
4	NA	Nairn-Pantheon 2031PM Left-In Left-Out
5	NA	Amazon driveway 2031PM Left-In Left-Out
6	NA	Yellowstone Sth driveway 2031PM
7	NA	Yellowstone Nth driveway 2031PM

Table B1a: SIDRA results – Nairn Dr / Amazon Dr signalised intersection – 2031 PM peak hour

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Amazon Dr (SE)														
4	L2	23	3.3	23	3.3	0.230	33.6	LOS C	4.0	30.2	0.80	0.75	0.80	38.2
5	T1	87	3.3	87	3.3	0.230	29.1	LOS C	4.0	30.2	0.80	0.75	0.80	27.8
6	R2	229	3.3	229	3.3	*0.863	54.0	LOS D	11.7	89.4	1.00	1.03	1.37	20.5
Approach		340	3.3	340	3.3	0.863	46.2	LOS D	11.7	89.4	0.94	0.94	1.19	23.4
NorthEast: Nairn Dr (NE)														
7	L2	193	3.3	193	3.3	0.182	12.2	LOS B	3.0	23.0	0.45	0.70	0.45	44.0
8	T1	836	6.3	836	6.3	*0.866	43.3	LOS D	20.5	161.3	1.00	1.02	1.26	32.6
9	R2	37	3.3	37	3.3	*0.306	52.8	LOS D	1.7	12.6	0.99	0.73	0.99	13.2
Approach		1065	5.7	1065	5.7	0.866	38.0	LOS D	20.5	161.3	0.90	0.95	1.10	33.7
NorthWest: Amazon Dr (NW)														
10	L2	2	3.3	2	3.3	0.273	35.9	LOS D	4.3	32.7	0.85	0.70	0.85	10.4
11	T1	120	3.3	120	3.3	0.273	31.4	LOS C	4.3	32.7	0.85	0.70	0.85	29.2
12	R2	260	3.3	260	3.3	0.845	50.7	LOS D	12.9	98.3	1.00	1.00	1.30	25.1
Approach		382	3.3	382	3.3	0.845	44.6	LOS D	12.9	98.3	0.95	0.91	1.16	26.2
SouthWest: Nairn Dr (SW)														
1	L2	244	3.3	244	3.3	*0.811	51.3	LOS D	11.6	88.1	1.00	0.91	1.23	23.9
2	T1	486	6.3	486	6.3	0.263	13.8	LOS B	6.1	47.9	0.61	0.52	0.61	46.0
3	R2	39	3.3	39	3.3	0.072	30.7	LOS C	1.2	9.3	0.75	0.72	0.75	39.0
Approach		769	5.2	769	5.2	0.811	26.6	LOS C	11.6	88.1	0.74	0.65	0.81	35.4
All Vehicles		2557	4.9	2557	4.9	0.866	36.6	LOS D	20.5	161.3	0.87	0.85	1.03	31.2

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Amazon Dr (SE)											
P2	Full	21	38.3	LOS D	0.0	0.0	0.92	0.92	217.7	215.3	0.99
NorthEast: Nairn Dr (NE)											
P3	Full	21	38.3	LOS D	0.0	0.0	0.92	0.92	223.7	222.5	0.99
NorthWest: Amazon Dr (NW)											
P4	Full	5	38.3	LOS D	0.0	0.0	0.92	0.92	217.7	215.3	0.99
SouthWest: Nairn Dr (SW)											
P1	Full	5	38.3	LOS D	0.0	0.0	0.92	0.92	226.6	226.0	1.00
All Pedestrians		53	38.3	LOS D	0.0	0.0	0.92	0.92	221.0	219.3	0.99

Table B1b: SIDRA results – Nairn Dr / Amazon Dr signalised intersection – 2031 Saturday peak hour

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Amazon Dr (SE)														
4	L2	22	3.3	22	3.3	0.207	24.3	LOS C	3.2	24.0	0.76	0.69	0.76	42.3
5	T1	98	3.3	98	3.3	0.207	19.7	LOS B	3.2	24.0	0.76	0.69	0.76	32.4
6	R2	177	3.3	177	3.3	0.559	31.6	LOS C	5.6	42.8	0.93	0.80	0.93	27.2
Approach		297	3.3	297	3.3	0.559	27.1	LOS C	5.6	42.8	0.86	0.76	0.86	30.1
NorthEast: Nairn Dr (NE)														
7	L2	129	3.3	129	3.3	0.146	13.1	LOS B	1.9	14.3	0.54	0.71	0.54	43.4
8	T1	442	6.3	442	6.3	*0.837	38.5	LOS D	8.6	67.4	1.00	0.98	1.37	34.7
9	R2	43	3.3	43	3.3	*0.279	41.2	LOS D	1.5	11.3	0.97	0.73	0.97	16.0
Approach		615	5.5	615	5.5	0.837	33.3	LOS C	8.6	67.4	0.90	0.90	1.17	35.3
NorthWest: Amazon Dr (NW)														
10	L2	2	3.3	2	3.3	0.265	28.2	LOS C	3.6	27.5	0.81	0.68	0.81	12.9
11	T1	136	3.3	136	3.3	0.265	23.7	LOS C	3.6	27.5	0.81	0.68	0.81	32.5
12	R2	301	3.3	301	3.3	*0.814	37.7	LOS D	11.4	86.7	1.00	0.99	1.26	29.5
Approach		439	3.3	439	3.3	0.814	33.3	LOS C	11.4	86.7	0.94	0.89	1.12	30.3
SouthWest: Nairn Dr (SW)														
1	L2	237	3.3	237	3.3	*0.834	44.2	LOS D	9.2	69.9	1.00	0.95	1.35	26.3
2	T1	496	6.3	496	6.3	0.348	16.6	LOS B	6.1	47.7	0.75	0.63	0.75	43.0
3	R2	29	3.3	29	3.3	0.050	23.8	LOS C	0.7	5.2	0.71	0.70	0.71	42.1
Approach		762	5.3	762	5.3	0.834	25.5	LOS C	9.2	69.9	0.83	0.73	0.94	36.1
All Vehicles		2113	4.6	2113	4.6	0.837	29.6	LOS C	11.4	86.7	0.88	0.82	1.03	33.6

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
SouthEast: Amazon Dr (SE)											
P2	Full	21	28.4	LOS C	0.0	0.0	0.90	0.90	207.8	215.3	1.04
NorthEast: Nairn Dr (NE)											
P3	Full	21	28.4	LOS C	0.0	0.0	0.90	0.90	213.8	222.5	1.04
NorthWest: Amazon Dr (NW)											
P4	Full	5	28.4	LOS C	0.0	0.0	0.90	0.90	207.8	215.3	1.04
SouthWest: Nairn Dr (SW)											
P1	Full	5	28.4	LOS C	0.0	0.0	0.90	0.90	216.7	226.0	1.04
All Pedestrians		53	28.4	LOS C	0.0	0.0	0.90	0.90	211.1	219.3	1.04

Table B2a: SIDRA results – Amazon Dr / Yellowstone Rd T-intersection – 2031 PM peak hour

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Amazon Dr (SE)														
5	T1	155	3.3	155	3.3	0.082	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
6	R2	214	3.3	214	3.3	0.143	4.8	LOS A	0.7	5.3	0.32	0.55	0.32	24.0
Approach		368	3.3	368	3.3	0.143	2.8	NA	0.7	5.3	0.18	0.32	0.18	43.4
NorthEast: Yellowstone Rd (NE)														
7	L2	33	3.3	33	3.3	0.059	5.1	LOS A	0.2	1.7	0.35	0.58	0.35	24.1
9	R2	21	3.0	21	3.0	0.059	8.6	LOS A	0.2	1.7	0.35	0.58	0.35	41.9
Approach		54	3.2	54	3.2	0.059	6.5	LOS A	0.2	1.7	0.35	0.58	0.35	36.9
NorthWest: Amazon Dr (NW)														
10	L2	2	3.0	2	3.0	0.097	4.6	LOS A	0.0	0.0	0.00	0.01	0.00	49.9
11	T1	182	3.3	182	3.3	0.097	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	49.9
Approach		184	3.3	184	3.3	0.097	0.1	NA	0.0	0.0	0.00	0.01	0.00	49.9
All Vehicles		606	3.3	606	3.3	0.143	2.3	NA	0.7	5.3	0.14	0.25	0.14	45.5

Table B2b: SIDRA results – Amazon Dr / Yellowstone Rd T-intersection – 2031 PM peak hour

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Amazon Dr (SE)														
5	T1	144	3.3	144	3.3	0.076	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
6	R2	234	3.3	234	3.3	0.158	4.8	LOS A	0.8	5.9	0.33	0.55	0.33	23.9
Approach		378	3.3	378	3.3	0.158	3.0	NA	0.8	5.9	0.20	0.34	0.20	42.6
NorthEast: Yellowstone Rd (NE)														
7	L2	67	3.3	67	3.3	0.087	5.2	LOS A	0.3	2.6	0.33	0.57	0.33	24.9
9	R2	22	3.0	22	3.0	0.087	9.0	LOS A	0.3	2.6	0.33	0.57	0.33	42.2
Approach		89	3.2	89	3.2	0.087	6.1	LOS A	0.3	2.6	0.33	0.57	0.33	34.8
NorthWest: Amazon Dr (NW)														
10	L2	2	3.0	2	3.0	0.101	4.6	LOS A	0.0	0.0	0.00	0.01	0.00	49.9
11	T1	189	3.3	189	3.3	0.101	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	49.9
Approach		192	3.3	192	3.3	0.101	0.1	NA	0.0	0.0	0.00	0.01	0.00	49.9
All Vehicles		659	3.3	659	3.3	0.158	2.6	NA	0.8	5.9	0.16	0.28	0.16	44.7

Table B3a: SIDRA results – Yellowstone Rd / Pantheon Rd roundabout – 2031 PM peak hour

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Pantheon Rd (SE)														
4	L2	11	3.0	11	3.0	0.093	4.8	LOS A	0.5	3.5	0.29	0.56	0.29	27.0
5	T1	32	3.0	32	3.0	0.093	4.4	LOS A	0.5	3.5	0.29	0.56	0.29	43.3
6	R2	57	3.0	57	3.0	0.093	7.3	LOS A	0.5	3.5	0.29	0.56	0.29	27.0
Approach		99	3.0	99	3.0	0.093	6.1	LOS A	0.5	3.5	0.29	0.56	0.29	37.2
NorthEast: Yellowstone Rd (NE)														
7	L2	1	3.0	1	3.0	0.091	4.6	LOS A	0.5	3.5	0.29	0.46	0.29	31.1
8	T1	95	3.0	95	3.0	0.091	4.4	LOS A	0.5	3.5	0.29	0.46	0.29	31.1
9	R2	4	3.0	4	3.0	0.091	7.4	LOS A	0.5	3.5	0.29	0.46	0.29	44.2
Approach		100	3.0	100	3.0	0.091	4.6	LOS A	0.5	3.5	0.29	0.46	0.29	32.9
NorthWest: Pantheon Rd (NW)														
10	L2	3	3.0	3	3.0	0.013	5.0	LOS A	0.1	0.5	0.33	0.57	0.33	42.1
11	T1	1	3.0	1	3.0	0.013	4.7	LOS A	0.1	0.5	0.33	0.57	0.33	42.1
12	R2	9	3.0	9	3.0	0.013	7.6	LOS A	0.1	0.5	0.33	0.57	0.33	42.1
Approach		14	3.0	14	3.0	0.013	6.8	LOS A	0.1	0.5	0.33	0.57	0.33	42.1
SouthWest: Yellowstone Rd (SW)														
1	L2	3	3.0	3	3.0	0.099	4.5	LOS A	0.5	3.8	0.26	0.59	0.26	41.9
2	T1	8	3.0	8	3.0	0.099	4.3	LOS A	0.5	3.8	0.26	0.59	0.26	27.5
3	R2	99	3.0	99	3.0	0.099	7.3	LOS A	0.5	3.8	0.26	0.59	0.26	27.5
Approach		111	3.0	111	3.0	0.099	7.0	LOS A	0.5	3.8	0.26	0.59	0.26	28.8
All Vehicles		323	3.0	323	3.0	0.099	6.0	LOS A	0.5	3.8	0.28	0.54	0.28	34.2

Table B3b: SIDRA results – Yellowstone Rd / Pantheon Rd roundabout – 2031 Saturday peak hour

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Pantheon Rd (SE)														
4	L2	11	3.0	11	3.0	0.096	5.1	LOS A	0.5	3.7	0.34	0.58	0.34	26.4
5	T1	25	3.0	25	3.0	0.096	4.7	LOS A	0.5	3.7	0.34	0.58	0.34	43.0
6	R2	62	3.0	62	3.0	0.096	7.6	LOS A	0.5	3.7	0.34	0.58	0.34	26.4
Approach		98	3.0	98	3.0	0.096	6.6	LOS A	0.5	3.7	0.34	0.58	0.34	35.5
NorthEast: Yellowstone Rd (NE)														
7	L2	1	3.0	1	3.0	0.128	4.7	LOS A	0.7	5.0	0.31	0.47	0.31	30.9
8	T1	135	3.0	135	3.0	0.128	4.5	LOS A	0.7	5.0	0.31	0.47	0.31	30.9
9	R2	4	3.0	4	3.0	0.128	7.5	LOS A	0.7	5.0	0.31	0.47	0.31	44.1
Approach		140	3.0	140	3.0	0.128	4.6	LOS A	0.7	5.0	0.31	0.47	0.31	32.2
NorthWest: Pantheon Rd (NW)														
10	L2	3	3.0	3	3.0	0.016	5.1	LOS A	0.1	0.6	0.34	0.57	0.34	42.0
11	T1	1	3.0	1	3.0	0.016	4.8	LOS A	0.1	0.6	0.34	0.57	0.34	42.0
12	R2	12	3.0	12	3.0	0.016	7.7	LOS A	0.1	0.6	0.34	0.57	0.34	42.0
Approach		16	3.0	16	3.0	0.016	7.0	LOS A	0.1	0.6	0.34	0.57	0.34	42.0
SouthWest: Yellowstone Rd (SW)														
1	L2	4	3.0	4	3.0	0.107	4.5	LOS A	0.6	4.2	0.27	0.59	0.27	41.9
2	T1	8	3.0	8	3.0	0.107	4.3	LOS A	0.6	4.2	0.27	0.59	0.27	27.5
3	R2	107	3.0	107	3.0	0.107	7.3	LOS A	0.6	4.2	0.27	0.59	0.27	27.5
Approach		120	3.0	120	3.0	0.107	7.0	LOS A	0.6	4.2	0.27	0.59	0.27	29.0
All Vehicles		374	3.0	374	3.0	0.128	6.0	LOS A	0.7	5.0	0.31	0.54	0.31	33.3

Table B4a: SIDRA results – Nairn Dr / Pantheon Rd LILO intersection – 2031 PM peak hour

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
NorthEast: Nairn Dr (NE)														
4	T1	1065	6.3	1065	6.3	0.288	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach		1065	6.3	1065	6.3	0.288	0.1	NA	0.0	0.0	0.00	0.00	0.00	49.9
NorthWest: Pantheon Rd (NW)														
1	L2	101	3.0	101	3.0	0.103	6.1	LOS A	0.4	3.2	0.39	0.59	0.39	42.9
Approach		101	3.0	101	3.0	0.103	6.1	LOS A	0.4	3.2	0.39	0.59	0.39	42.9
SouthWest: Nairn Dr (SW)														
2	L2	99	3.0	99	3.0	0.054	4.4	LOS A	0.0	0.0	0.00	0.47	0.00	40.2
3	T1	619	6.3	619	6.3	0.167	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach		718	5.8	718	5.8	0.167	0.6	NA	0.0	0.0	0.00	0.06	0.00	49.3
All Vehicles		1884	5.9	1884	5.9	0.288	0.6	NA	0.4	3.2	0.02	0.06	0.02	49.2

Table B4b: SIDRA results – Nairn Dr / Pantheon Rd LILO intersection – 2031 Saturday peak hour

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
NorthEast: Nairn Dr (NE)														
4	T1	615	6.3	615	6.3	0.166	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach		615	6.3	615	6.3	0.166	0.1	NA	0.0	0.0	0.00	0.00	0.00	49.9
NorthWest: Pantheon Rd (NW)														
1	L2	109	3.0	109	3.0	0.109	6.0	LOS A	0.5	3.5	0.38	0.58	0.38	43.0
Approach		109	3.0	109	3.0	0.109	6.0	LOS A	0.5	3.5	0.38	0.58	0.38	43.0
SouthWest: Nairn Dr (SW)														
2	L2	98	3.0	98	3.0	0.054	4.4	LOS A	0.0	0.0	0.00	0.47	0.00	40.2
3	T1	577	6.3	577	6.3	0.156	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach		675	5.8	675	5.8	0.156	0.7	NA	0.0	0.0	0.00	0.07	0.00	49.3
All Vehicles		1399	5.8	1399	5.8	0.166	0.8	NA	0.5	3.5	0.03	0.08	0.03	49.0

Table B5a: SIDRA results – Amazon Dr / southern site LILO driveway – 2031 PM peak hour

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Amazon Dr (SE)														
4	T1	368	6.3	368	6.3	0.199	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach		368	6.3	368	6.3	0.199	0.0	NA	0.0	0.0	0.00	0.00	0.00	49.9
NorthEast: Sth site driveway (NE)														
1	L2	212	3.0	212	3.0	0.176	5.2	LOS A	0.7	5.0	0.29	0.54	0.29	27.3
Approach		212	3.0	212	3.0	0.176	5.2	LOS A	0.7	5.0	0.29	0.54	0.29	27.3
NorthWest: Amazon Dr (NW)														
2	L2	44	3.0	44	3.0	0.130	4.1	LOS A	0.0	0.0	0.00	0.11	0.00	42.9
3	T1	171	6.3	171	6.3	0.130	0.0	LOS A	0.0	0.0	0.00	0.11	0.00	42.3
Approach		215	5.6	215	5.6	0.130	0.8	NA	0.0	0.0	0.00	0.11	0.00	42.5
All Vehicles		795	5.2	795	5.2	0.199	1.6	NA	0.7	5.0	0.08	0.17	0.08	39.4

Table B5b: SIDRA results – Amazon Dr / southern site LILO driveway – 2031 PM peak hour

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Amazon Dr (SE)														
4	T1	378	6.3	378	6.3	0.204	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Approach		378	6.3	378	6.3	0.204	0.0	NA	0.0	0.0	0.00	0.00	0.00	49.9
NorthEast: Sth site driveway (NE)														
1	L2	231	3.0	231	3.0	0.176	5.4	LOS A	0.8	5.7	0.33	0.56	0.33	26.9
Approach		231	3.0	231	3.0	0.176	5.4	LOS A	0.8	5.7	0.33	0.56	0.33	26.9
NorthWest: Amazon Dr (NW)														
2	L2	48	3.0	48	3.0	0.141	4.1	LOS A	0.0	0.0	0.00	0.10	0.00	43.2
3	T1	208	6.3	208	6.3	0.141	0.0	LOS A	0.0	0.0	0.00	0.10	0.00	42.9
Approach		257	5.7	257	5.7	0.141	0.8	NA	0.0	0.0	0.00	0.10	0.00	43.0
All Vehicles		865	5.2	865	5.2	0.204	1.7	NA	0.8	5.7	0.09	0.18	0.09	39.2

Table B6a: SIDRA results – Yellowstone Rd / southern site driveway – 2031 PM peak hour

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Sth site driveway (SE)														
10	L2	21	3.3	21	3.3	0.126	4.7	LOS A	0.4	3.4	0.19	0.57	0.19	29.4
12	R2	109	3.0	109	3.0	0.126	5.9	LOS A	0.4	3.4	0.19	0.57	0.19	29.4
Approach		131	3.0	131	3.0	0.126	5.7	LOS A	0.4	3.4	0.19	0.57	0.19	29.4
NorthEast: Yellowstone Rd (NE)														
1	L2	82	3.0	82	3.0	0.062	4.6	LOS A	0.0	0.0	0.00	0.38	0.00	39.3
2	T1	33	3.0	33	3.0	0.062	0.0	LOS A	0.0	0.0	0.00	0.38	0.00	35.8
Approach		115	3.0	115	3.0	0.062	3.3	NA	0.0	0.0	0.00	0.38	0.00	38.6
SouthWest: Yellowstone Rd (SW)														
8	T1	1	3.0	1	3.0	0.135	0.4	LOS A	0.7	5.0	0.24	0.53	0.24	25.9
9	R2	215	3.3	215	3.3	0.135	5.0	LOS A	0.7	5.0	0.24	0.53	0.24	32.5
Approach		216	3.3	216	3.3	0.135	4.9	NA	0.7	5.0	0.24	0.53	0.24	32.4
All Vehicles		461	3.2	461	3.2	0.135	4.7	NA	0.7	5.0	0.17	0.50	0.17	33.3

Table B6b: SIDRA results – Yellowstone Rd / southern site driveway – 2031 Saturday peak hour

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Sth site driveway (SE)														
10	L2	22	3.3	22	3.3	0.144	4.8	LOS A	0.5	3.9	0.28	0.60	0.28	28.8
12	R2	119	3.0	119	3.0	0.144	6.2	LOS A	0.5	3.9	0.28	0.60	0.28	28.8
Approach		141	3.0	141	3.0	0.144	6.0	LOS A	0.5	3.9	0.28	0.60	0.28	28.8
NorthEast: Yellowstone Rd (NE)														
1	L2	89	3.0	89	3.0	0.084	4.6	LOS A	0.0	0.0	0.00	0.31	0.00	40.6
2	T1	67	3.0	67	3.0	0.084	0.0	LOS A	0.0	0.0	0.00	0.31	0.00	37.9
Approach		157	3.0	157	3.0	0.084	2.6	NA	0.0	0.0	0.00	0.31	0.00	39.8
SouthWest: Yellowstone Rd (SW)														
8	T1	1	3.0	1	3.0	0.154	0.6	LOS A	0.8	5.8	0.29	0.54	0.29	25.5
9	R2	235	3.3	235	3.3	0.154	5.1	LOS A	0.8	5.8	0.29	0.54	0.29	32.1
Approach		236	3.3	236	3.3	0.154	5.1	NA	0.8	5.8	0.29	0.54	0.29	32.1
All Vehicles		534	3.1	534	3.1	0.154	4.6	NA	0.8	5.8	0.20	0.49	0.20	33.4

Table B7a: SIDRA results – Yellowstone Rd / northern site driveway – 2031 PM peak hour

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Nth site driveway (SE)														
10	L2	16	3.0	16	3.0	0.021	4.8	LOS A	0.1	0.6	0.18	0.51	0.18	28.1
12	R2	12	3.0	12	3.0	0.021	5.1	LOS A	0.1	0.6	0.18	0.51	0.18	43.1
Approach		27	3.0	27	3.0	0.021	4.9	LOS A	0.1	0.6	0.18	0.51	0.18	39.3
NorthEast: Yellowstone Rd (NE)														
1	L2	8	3.0	8	3.0	0.049	4.6	LOS A	0.0	0.0	0.00	0.05	0.00	48.5
2	T1	84	3.0	84	3.0	0.049	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	49.4
Approach		93	3.0	93	3.0	0.049	0.4	NA	0.0	0.0	0.00	0.05	0.00	49.3
SouthWest: Yellowstone Rd (SW)														
8	T1	51	3.0	51	3.0	0.038	0.1	LOS A	0.1	0.8	0.11	0.14	0.11	48.2
9	R2	18	3.0	18	3.0	0.038	4.9	LOS A	0.1	0.8	0.11	0.14	0.11	40.6
Approach		68	3.0	68	3.0	0.038	1.4	NA	0.1	0.8	0.11	0.14	0.11	47.3
All Vehicles		188	3.0	188	3.0	0.049	1.4	NA	0.1	0.8	0.07	0.15	0.07	47.5

Table B7b: SIDRA results – Yellowstone Rd / northern site driveway – 2031 Saturday peak hour

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: Nth site driveway (SE)														
10	L2	28	3.0	28	3.0	0.037	4.9	LOS A	0.1	1.0	0.21	0.52	0.21	27.8
12	R2	19	3.0	19	3.0	0.037	5.3	LOS A	0.1	1.0	0.21	0.52	0.21	42.9
Approach		47	3.0	47	3.0	0.037	5.1	LOS A	0.1	1.0	0.21	0.52	0.21	38.9
NorthEast: Yellowstone Rd (NE)														
1	L2	16	3.0	16	3.0	0.067	4.6	LOS A	0.0	0.0	0.00	0.07	0.00	48.3
2	T1	112	3.0	112	3.0	0.067	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	49.2
Approach		127	3.0	127	3.0	0.067	0.6	NA	0.0	0.0	0.00	0.07	0.00	49.1
SouthWest: Yellowstone Rd (SW)														
8	T1	42	3.0	42	3.0	0.042	0.3	LOS A	0.2	1.3	0.19	0.23	0.19	47.1
9	R2	32	3.0	32	3.0	0.042	5.0	LOS A	0.2	1.3	0.19	0.23	0.19	38.2
Approach		74	3.0	74	3.0	0.042	2.3	NA	0.2	1.3	0.19	0.23	0.19	45.1
All Vehicles		248	3.0	248	3.0	0.067	1.9	NA	0.2	1.3	0.10	0.20	0.10	46.4

Appendix 4:
Bushfire Management Plan

Bushfire Management Plan:
Development Application: Lot 9005 Nairn Drive, Baldivis

Planning Solutions

BPAD
Bushfire
Planning & Design
Accredited Practitioner
Level 3

DOCUMENT TRACKING

Project Name	Bushfire Management Plan: Development Application: Lot 9005 Nairn Drive, Baldivis
Project Number	21PER-18667
Project Manager	James Leonard
Prepared by	Maitland Ely
Reviewed by	James Leonard and Daniel Panickar (BPAD Level 3 – 37802)
Approved by	Daniel Panickar (BPAD Level 3 – 37802)
Status	Final
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Template 2.8.1

Version control	
Version	**Purpose**
v1	Draft – Submission to client
v2	Final Draft
v3	Final

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1. Introduction

1.1 Proposal details

Eco Logical Australia (ELA) was commissioned by Planning Solutions to prepare a Bushfire Management Plan (BMP) to support a Development Application (DA) for Lot 9005 Nairn Drive, Baldivis (hereafter referred to as the subject site, Figure 1). The proposed development is for a neighbourhood centre commercial development which will comprise a supermarket, retail tenancies, car parking and associated infrastructure. The development area is depicted in Figure 2.

The subject site is within a designated bushfire prone area as per the *Western Australia State Map of Bush Fire Prone Areas* (DFES 2019; Figure 3), which triggers bushfire planning requirements under State *Planning Policy 3.7 Planning in Bushfire Prone Areas* (SPP 3.7; Western Australian Planning Commission [WAPC] 2015) and reporting to accompany submission of the development application in accordance with the associated *Guidelines for Planning in Bushfire Prone Areas v 1.3* (the Guidelines; WAPC 2017).

The subject site is within the City of Rockingham and is neighboured by residential dwellings to the southeast and northwest and bushland on the remaining northeast and southwest sides. The subject site is also a part of the Spires Estate, Baldivis and is zoned 'Development' under the City of Rockingham Town Planning Scheme No. 2 (TPS 2).

This assessment has been prepared by ELA Bushfire Consultant Rowland Ely with quality assurance undertaken by Senior Bushfire Consultant James Leonard and Principal Bushfire Consultant Daniel Panickar (FPAA BPAD Level 3 Certified Practitioner No. BPAD 24802).

1.2 Purpose and application of the plan

The primary purpose of this BMP is to act as a technical supporting document to inform planning assessment. This BMP is also designed to provide guidance on how to plan for and manage the bushfire risk to the subject site through implementation of a range of bushfire management measures in accordance with the Guidelines.

1.3 Environmental considerations

SPP 3.7 policy objective 5.4 recognises the need to consider bushfire risk management measures alongside environmental, biodiversity and conservation values.

The subject site has been previously cleared, with only a small amount of vegetation remaining in centre of lot. ELA is not aware of any environmental approvals required to clear this vegetation.

No revegetation is proposed within the development and landscaping will be maintained in a low-threat state.

Figure 1: Site Overview

Legend

- Subject site
- 100m site assessment
- 150m site assessment

0 65 130 260
Metres

Datum/Projection:
GDA 1994 MGA Zone 50

N

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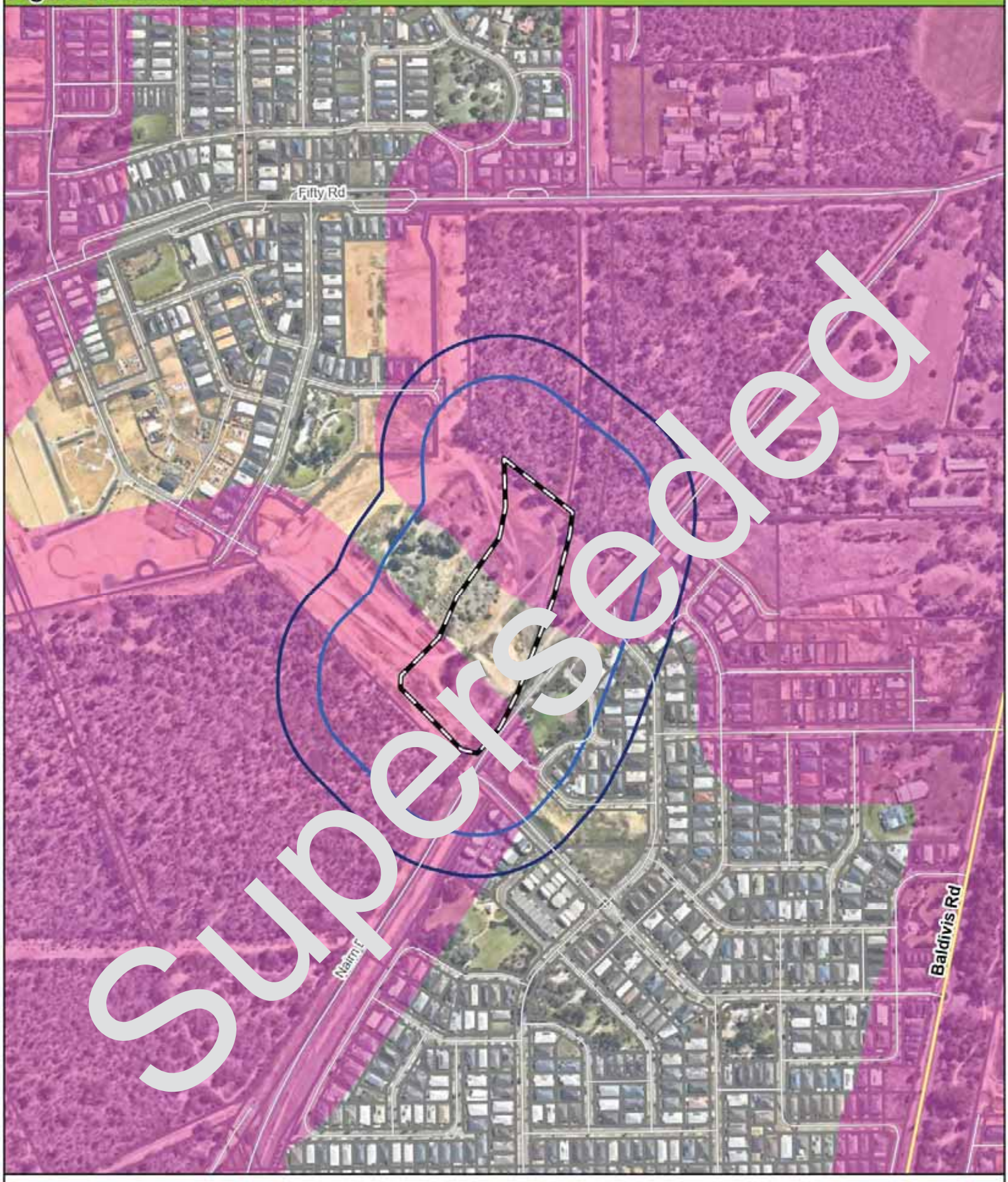
Figure 2: Site Plan

Masterplan - 1:1000 @ A3

Spires Commercial

Figure 3: Bushfire Prone Areas



Legend

- Subject site
- 100m site assessment
- 150m site assessment
- Bushfire Prone Mapping (DFES 2019)

0 50 100 200
Metres
Datum/Projection:
GDA 1994 MGA Zone 50

N

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2. Bushfire assessment results

2.1 Bushfire assessment inputs

The following section is a consideration of spatial bushfire risk and has been used to inform the bushfire assessment in this report.

2.1.1 Fire Danger Index

A blanket Fire Danger Index (FDI) of FDI 80 is adopted for Western Australia, as outlined in Standard *AS 3959: 2018 Construction of Buildings in Bushfire Prone Areas* (SA 2018) and endorsed by Australasia Fire and Emergency Service Authorities Council (AFAC).

2.1.2 Vegetation classification and slope under vegetation

Vegetation and effective slope (i.e. slope under vegetation) within the subject site and surrounding 150 m (the assessment area) were assessed in accordance with the Guidelines and AS 3959:2018 with regard given to the *Visual guide for bushfire risk assessment in Western Australia* (DoP 2016). Site assessment was undertaken on 14 April 2021.

Classified vegetation and effective slope for the proposed development from each of the identified vegetation plots are identified below, Table 1 and Figure 4.

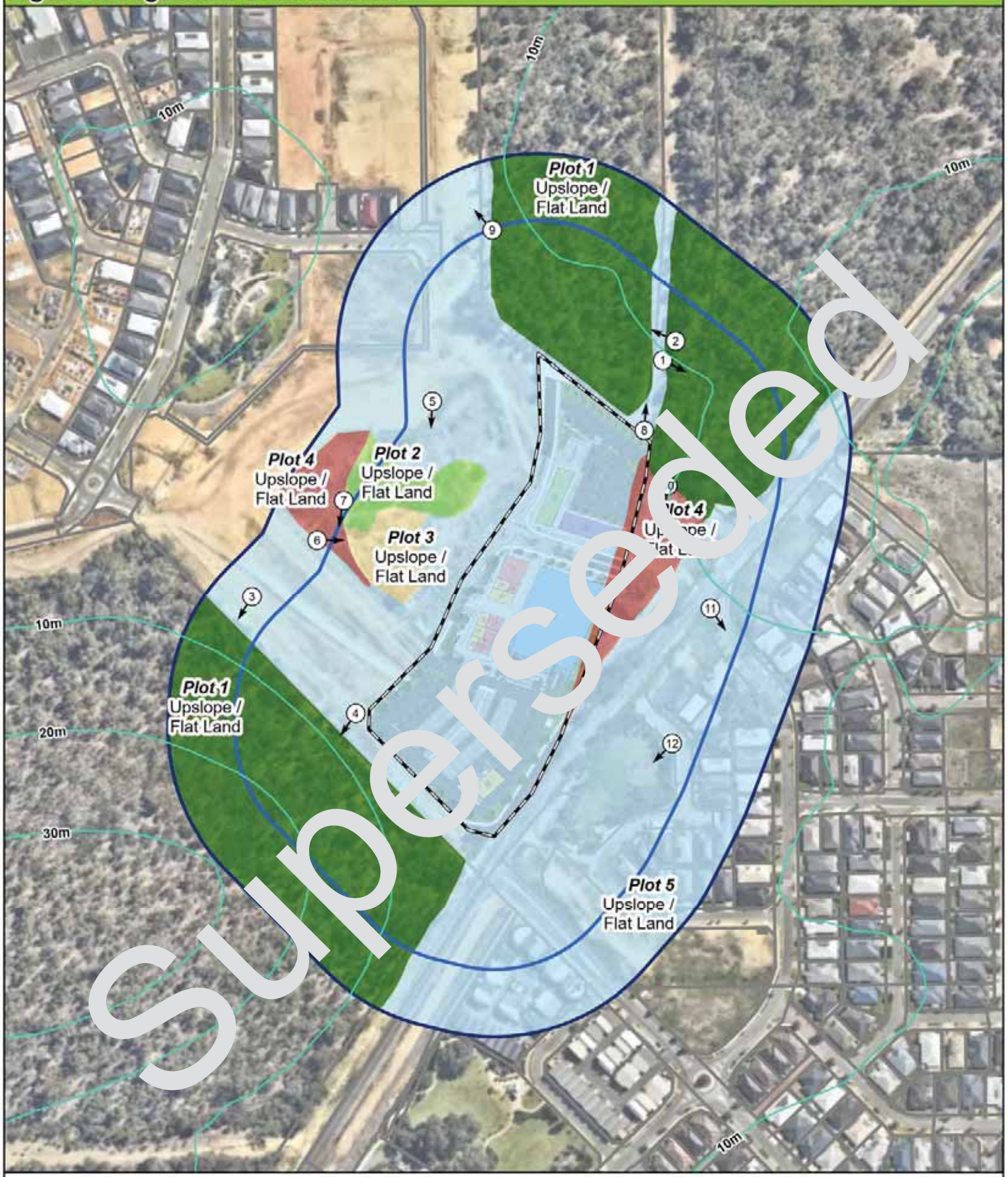
Table 1: Classified vegetation as per AS 3959: 2018

Plot	Vegetation Classification	Effective Slope
1	Class A Forest	All upslopes and flat land (0 degrees)
2	Class B Woodland	All upslopes and flat land (0 degrees)
3	Class C Shrubland	All upslopes and flat land (0 degrees)
4	Class G Grassland	All upslopes and flat land (0 degrees)
5	Excluded AS 3959:2009 2.2.3.2 (e) & (f)	All upslopes and flat land (0 degrees)

Photographs relating to each area and vegetation type are included in Appendix A.

Vegetation that is within the approved subdivision (WAPC 156452) will be cleared and/ or maintained as excluded vegetation in accordance with clause 2.2.3.2 of AS 3959-2018 as part of the landscaping for the surrounding Development. A 'post-development' vegetation classification map is provided in Figure 5.

Figure 4: Vegetation Classification



Legend

- Subject site
- 100m site assessment
- 150m site assessment
- Photo location
- Contour

Vegetation classification

- Class A forest
- Class B woodland
- Class C shrubland
- Class G grassland
- Excluded as per clause 2.2.3.2 (e) and (f)

0 30 60 120
Metres
Datum/Projection:
GDA 1994 MGA Zone 50

N

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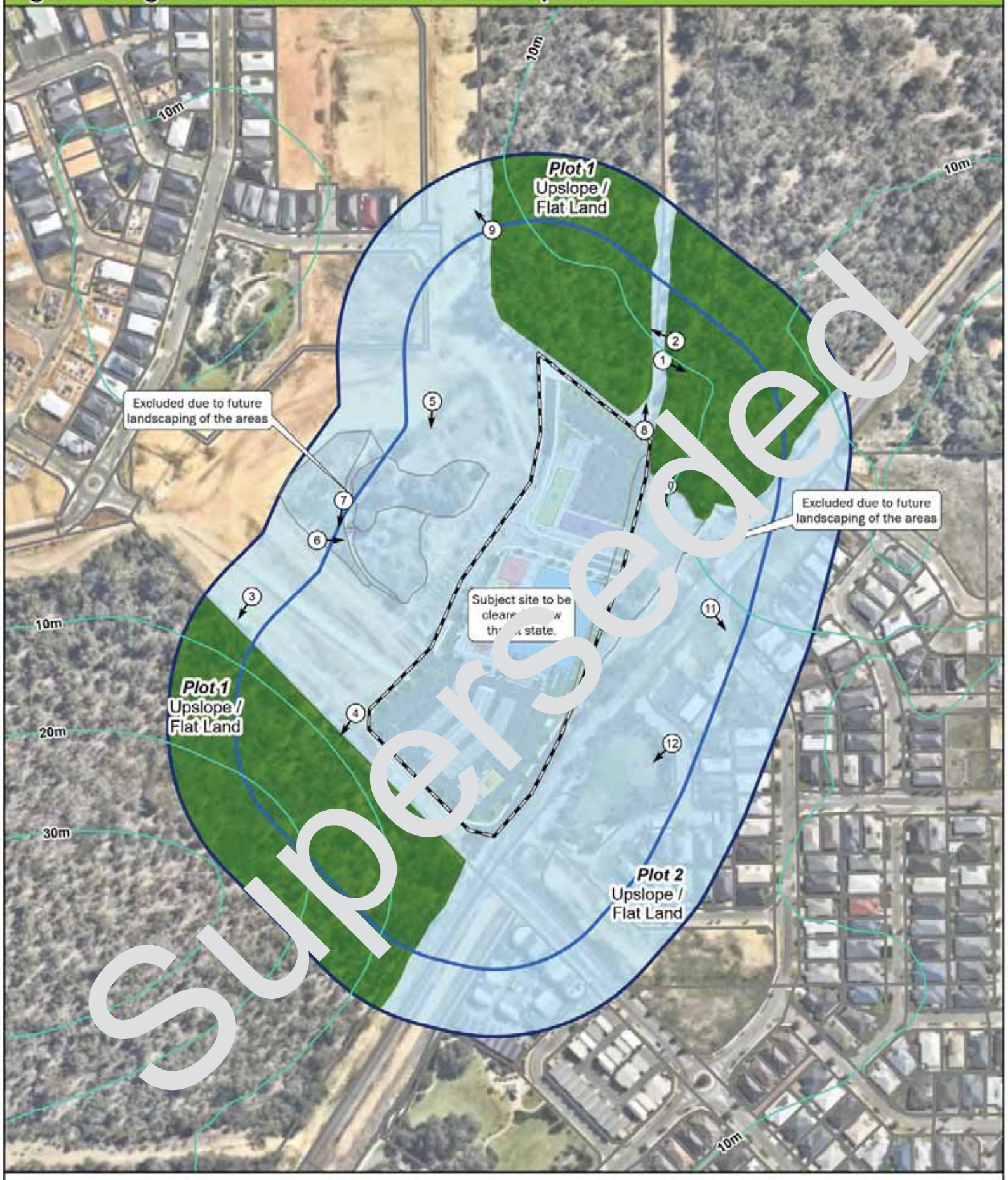
Figure 5: Vegetation Classification Post-Development



Legend

- Subject site
- 100m site assessment
- 150m site assessment
- Photo location
- Contour

Vegetation classification

- Class A forest
- Excluded as per clause 2.2.3.2 (e) and (f)

0 30 60 120
Metres
Datum/Projection:
GDA 1994 MGA Zone 50

N

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2.2 Bushfire assessment outputs

A Bushfire Attack Level (BAL) assessment has been undertaken in accordance with SPP 3.7, the Guidelines, AS 3959: 2018and the bushfire assessment inputs in Section 2.1.

2.2.1 BAL assessment

All land located within 100 m of the classified vegetation depicted in Figure 4 considered bushfire prone and is subject to a BAL assessment in accordance with AS 3959:2018.

A Method 1 BAL assessment (as outlined in AS 3959:2018) has been completed for the proposed development and incorporates the following factors:

- Fire Danger Index (FDI) rating;
- Vegetation class;
- Slope under classified vegetation; and
- Distance between proposed development area and the classified vegetatio

Based on the identified BAL, construction requirements for proposed buildings can then be assigned. The BAL rating gives an indication of the expected level of bushfire attack (i.e. radiant heat flux, flame contact and ember penetration) that may be received by proposed buildings and subsequently informs the standard of construction required to increase building survivability.

2.2.2 Method 1 BAL assessment

Table 2 and Figure 6 display the Method 1 BAL assessment (in the form of BAL contours) that has been completed for the proposed development in accordance with AS 3959:2018methodology.

The BAL assessment factors in clearing and management of vegetation on the property and within the 100 m assessment area as depicted in Figure 6. Consequently, only one of the plots (Plot 1) in Table 1 has been assessed in Table 2 as all other plots will either: be cleared and maintained as per an exclusion under clause 2.2.3.2 of AS 3959:2018; are already excluded under the same clause; or are outside of the 100 m assessment area.

Table 2: Method 1 BAL calculation (BAL contours)

Plot and vegetation classification	Effective slope	Hazard separation distance	BAL rating	Post-vegetation management
Class A Forest	All slopes and flat land (0 degrees)	0-<16	BAL-FZ	No development proposed in this area
		16-<21	BAL-40	No development proposed in this area
		21-<31	BAL-29	No development proposed in this area
		31-<42	BAL-19	Development proposed in this area
		42-<100	BAL-12.5	Development proposed in this area

ALL OTHER PLOTS ARE EITHER EXCLUDED UNDER CLAUSE 2.2.3.2 OR GREATER THAN 100 M FROM THE SUBJECT SITE

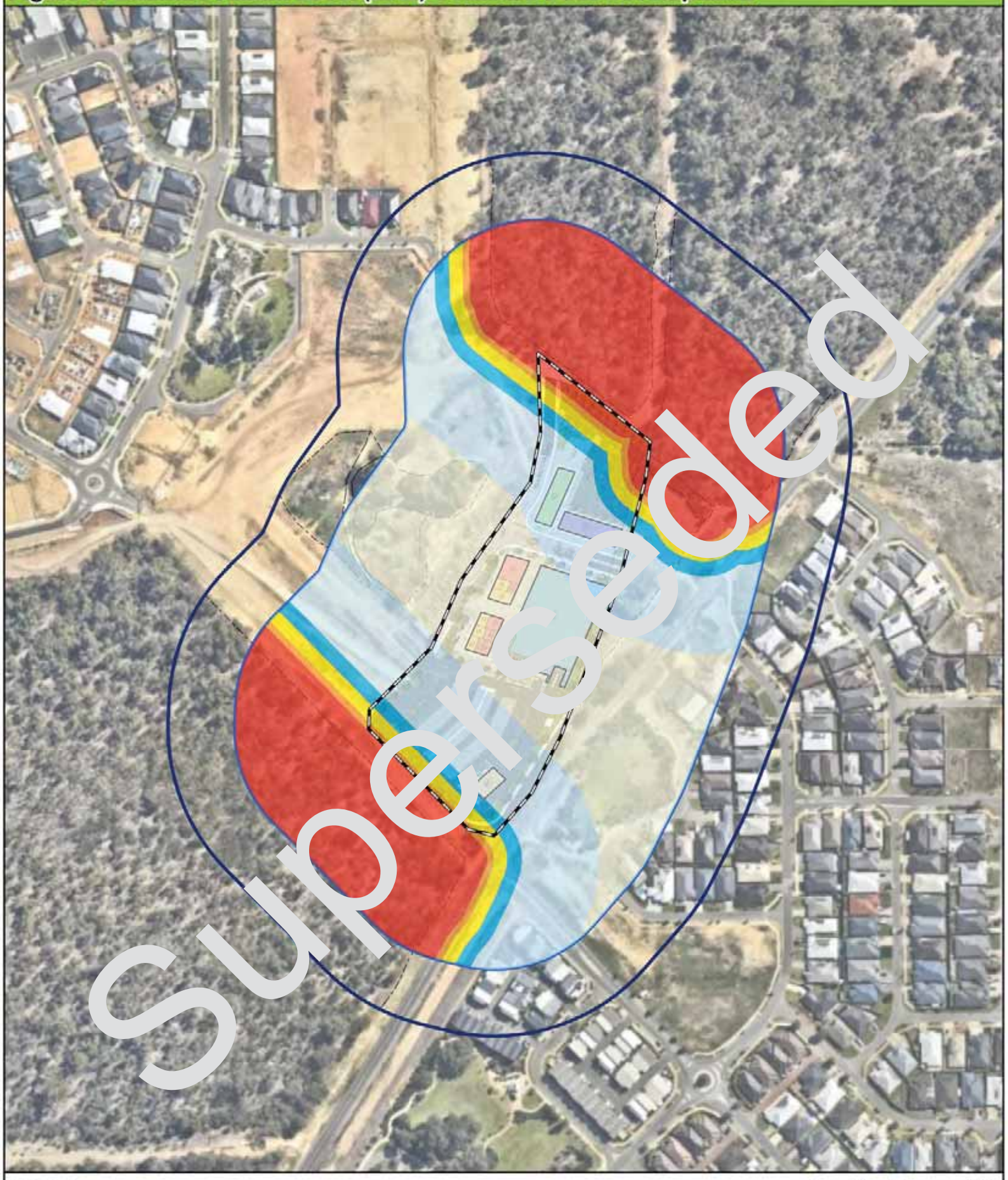
Based on the site assessment inputs and BAL assessment undertaken, the proposed North Baldivis Commercial Centre within the subject site has all buildings within the subject site are located in areas subject to BAL ratings of BAL-19 or lower.

2.3 Identification of issues arising from the BAL assessment

Vegetation within 100 m of the subject site, that also occurs within the bounds of the subdivision approval will be landscaped and maintained as excluded vegetation in accordance with clause 2.3.2 of AS 3959:2018. The proposed clearing area will be managed as an Asset Protection Zone (APZ). Following this management, all buildings within the DA will be exposed to BAL ratings of ≤BAL-19.

Should there be any changes in development design or vegetation/hazard extent that requires a modified bushfire management response, then the above BAL ratings will need to be reassessed for the affected areas and documented in a brief addendum to this BMP.

Figure 6: Bushfire Attack Level (BAL) Contours Post-Development



Legend

- Subject site
- Buildings
- 100m site assessment
- 150m site assessment
- Bushfire Hazard Interface

Bushfire Attack Level (BAL)

- BAL - FZ
- BAL - 40
- BAL - 29
- BAL - 19
- BAL - 12.5
- BAL - LOW

0 30 60 120
Metres

Datum/Projection:
GDA 1994 MGA Zone 50

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3. Assessment against the Bushfire Protection Criteria

3.1 Compliance

The proposed development is required to comply with policy measures 6.2 and 6.5 of SPP 3.7 and the Guidelines. Implementation of this BMP is expected to meet objectives 5.1-5.4 of SPP 3.7.

In response to the above requirements of SPP 3.7 and the Guidelines, bushfire risk management measures, as outlined, have been devised for the proposed development in accordance with the deemed acceptable solutions to meet compliance with bushfire protection criteria.

Table 3 outlines the Acceptable Solutions (AS) that are relevant to the proposal and summarises how the intent of each Bushfire Protection Criteria has been achieved. No Performance Solutions (PS) have been proposed for this proposal. These management measures are depicted on Figure 7 where relevant.

Table 3: Summary of solutions used to achieve bushfire protection criteria

Bushfire Protection Criteria	AS	PS	N/A	Comment
Element 1: Location A1.1 Development location	☒	☐	☐	All proposed buildings within the subject site will be located in an area subject to BAL ratings of ≤BAL-19 or below (Figure 6; Figure 7). The proposed development is considered to be compliant with A1.1.
Element 2: Siting and design of development A2.1 Asset Protection Zone (APZ)	☒	☐	☐	The proposed development has an APZ sufficient for the potential radiant heat flux to not exceed 29 kW/m² and will be managed in accordance with the requirements of '*Standards for Asset Protection Zones*' (WAPC 2017; Appendix B). The APZ can be contained within the boundaries of the lot or managed in perpetuity in a low fuel state. The proposed development is considered to be compliant with A2.1.
Element 3: Vehicular access A3.1 Two access routes	☒	☐	☐	There are five proposed vehicular access points from the subject site that join onto the existing road network (Figure 7). All roads are public roads and comply with requirements outlined in the Guidelines (Appendix C). The proposed development is considered to be compliant with A3.1.
A3.2 Public road	☐	☐	☐	One public road is proposed as part of this development (Pantheon Rd; Figure 7). This road complies with requirements outlined in the Guidelines (Appendix C). The proposed development is considered to be compliant with A3.2.
A3.3 Cul-de-sac	☐	☐	☒	No cul-de-sacs are proposed as part of this subdivision.
A3.4 Battle-axe	☐	☐	☒	No battle axe lots are proposed.

Bushfire Protection Criteria	AS	PS	N/A	Comment
A3.5 Private Driveway longer than 50 m	☒	☐	☐	The proposed internal road network for the carparks is considered a private driveway. This network complies with the requirements outlined in the Guidelines (Appendix C). The proposed development is considered to be compliant with A3.5.
A3.6 Emergency Access way	☒	☐	☐	No emergency access way is required.
A3.7 Fire-service access routes	☒	☐	☐	No fire service access routes are required or proposed.
A3.8 Firebreak width	☐	☐	☒	No fire breaks are required or proposed as the subject site area will be cleared and developed permanent structures, despite the area being larger than the required size for a firebreak as per the City of Rockingham Fire Control Notice (CoR 2020).
Element 4: Water A4.1 Reticulated areas	☒	☐	☐	The subject site will be connected to a reticulated water supply. The proposed development is considered to be compliant with A4.1. A4.2 and A4.3 are not applicable to this proposed development.
A4.2 Non-Reticulated areas	☐	☐	☒	Reticulated water is present within the area.
A4.3 Individual Lots within non-reticulated areas	☐	☐		Reticulated water is present within the area.

NOTE – AS- ACCEPTABLE SOLUTION, PS- PERFORMANCE SOLUTION, N/A- NOT APPLICABLE

3.2 Additional Bushfire Requirements

The Guidelines state:

> *The bushfire construction requirements of the Building Code of Australia only apply to certain types of residential buildings (being Class 1, 2 or 3 buildings and/or Class 10a buildings or decks associated with a Class 1, 2 or 3 building) in designated bushfire prone areas. As such, AS 3959 does not apply to all buildings. Only vulnerable or high-risk land uses that fall within the relevant classes of buildings as set out in the Building Code of Australia will be required to comply with the bushfire construction requirements of the Building Code of Australia. As such, the planning process focuses on the location and siting of vulnerable and high-risk land uses rather than the application of bushfire construction requirements.*

As none of the proposed structures is a Class 1, 2 or 3 building and/or Class 10a building or deck associated with a Class 1, 2 or 3 building, construction to AS 3959: 2018 is not required for this proposal.

The general fire safety construction provisions within the National Construction Code (NCC) are considered suitable for bushfire construction measures, however ember protection measures in sections 3 and 5 of AS 3959: 2018 are recommended to be incorporated where applicable.

All landscaping areas within the subject site will be maintained in accordance with Standards for Asset Protection Zones (Appendix B).

Figure 7: Spatial representation of the bushfire management strategies

Legend

- Subject site
- 100m site assessment
- Hydrant
- Access point
- APZ
- Proposed Cadastral Boundaries
- Access / egress route
- Future Access / egress route

Bushfire Attack Level (BAL)

- BAL - FZ
- BAL - 40
- BAL - 29
- BAL - 19
- BAL - 12.5
- BAL - LOW

0 65 130 260
Metres
Datum/Projection:
GDA 1994 MGA Zone 50

N

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4. Implementation and enforcement

Implementation of the BMP applies to the developer, future owners within the subject site and the local government to ensure bushfire management measures are adopted and implemented on an ongoing basis. A summary of the bushfire management measures described in **Section 3**, as well as a works program, is provided in **Table 4**. These measures will be implemented to ensure the ongoing protection of life and property assets is achieved. Timing and responsibilities are also defined to assist with implementation of each measure.

Table 4: Proposed work program

No	Bushfire management measure	Responsibility
Prior to issue of titles		
1	Construct internal road network as per plan in **Figure 7.**	Develop
2	Provide reticulated water supply to all lots and hydrants in accordance with Water Corporation Standard 'No. 63 Water Reticulation Standard' or other relevant standard if appropriate.	Developer
Prior to issue of Building Permit		
3	Ensure building is located outside BAL-FZ and BAL-40 as per the design in **Figure 7**.	Developer
Prior to occupancy		
4	Ensure APZs are cleared around the development as depicted in **Figure 7**.	Developer
5	Construct proposed building to relevant construction standard in AS 3959: 2018.	Owners
Ongoing management		
6	Maintain APZs to the standard in the Guidelines.	Owners

5. Conclusion

In the author's professional opinion, the bushfire protection requirements listed in this assessment provide an adequate standard of bushfire protection for the proposed development. As such, the proposed development is consistent with the aim and objectives of SPP 3.7 and associated guidelines and is recommended for approval.

6. References

City of Rockingham, Fire Control Notice, 2020. Fire Control Notice. Available from Fire control - City of Rockingham *Prone Areas, [Online]*, Government of Western Australia, available from: http://www.dfes.wa.gov.au/regulationandcompliance/bushfireproneareas/Pages/default.aspx

Department of Planning (DoP), 2016, *Visual guide for bushfire risk assessment in Western Australia*. DoP, Perth.

Standards Australia, 2018, *Construction of buildings in bushfire-prone areas, AS 3959:-2018*. SAI Global, Sydney.

Western Australian Planning Commission, 2015, *State Planning Policy 3.7 Planning in Bushfire Prone Areas*. WAPC, Perth.

Western Australian Planning Commission,2017, *Guidelines for Planning in Bushfire Prone Areas Version 1.3 (including appendices),* WAPC, Perth.

Western Australian Planning Commission, 2019, *A guide to developing a Bushfire Emergency Evacuation Plan, October 2019*.

Appendix A – Classified Vegetation Photos

Plot	1	Classification or Exclusion Clause	Class A Forest

Photo Point 1

Classified vegetation within this plot is comprised of trees to 30 m high with 30%-70% foliage cover, with an understory containing low trees and tall shrubs. This is an area of vegetation under Clause 2.2.3.1 of AS 3959: 2018 table 2.3 this plot is classified as Forest (A).

Plot	1	Classification or Exclusion Clause	Class A Forest

Photo Point 2

Classified vegetation within this plot is comprised of trees 30m high with 30%-70% foliage cover, with an understory containing low trees and tall shrubs. This is an area of vegetation under Clause 2.2.3.1 of AS 3959: 2018 table 2.3 and is classified as Forest (A).

Plot	1	Classification or Exclusion Clause	Class A Forest

Photo Point 3

Classified vegetation within this plot is comprised of trees 30m high with 30%-70% foliage cover, with an understory containing low trees and tall shrubs. This is an area of vegetation under Clause 2.2.3.1 of AS 3959: 2018 table 2.3 and is classified as Forest (A).

Plot		Classification or Exclusion Clause	Class A Forest

Photo Point

Classified vegetation within this plot is comprised of trees 30m high with 30%-70% foliage cover, with an understory containing low trees and tall shrubs. This is an area of vegetation under Clause 2.2.3.1 of AS 3959: 2018 table 2.3 and is classified as Forest (A).

Plot 2	Classification or Exclusion Clause	Class B Woodland

Photo Point 5

Classified vegetation within this plot is comprised of trees 10-30m tall with foliage cover of 10%-30% and an understory containing isolated shrubs. This plot is an area of vegetation under Clause 2.2.3.1 of AS 3959: 2018 table 2.3 and is classified as Woodland (B).

Plot 3	Classification or Exclusion Clause	Class C Shrubland

Photo Point 6

Classified vegetation within this plot is comprised of shrubs <2m high with >30% foliage cover. This is an area of vegetation under Clause 2.2.3.1 of AS 3959: 2018 table 2.3 and is classified as Shrubland (C).

Plot 4	Classification or Exclusion Clause	Class G G

Photo Point 7

Classified vegetation within this plot is compris of shrubs and grasses. This is ar of vegetation under Clause 2.2.3.1 of 3959: 18 table 2.3 and is classified as Grassland).

Plot 5	Classi ion or E usion Clause	Excluded AS 3959: 2018 2.2.3.2 (e) & (f)

Point

Non-vegetated a t is permanently cleared of . This area also has plan to potentially b ome a road in the future. This plot has been uded under Clause 2.2.3.2 (e) and (959: 2018.

Plot	5	Classification or Exclusion Clause	**Excluded AS 3959: 2018 2.2.3.2 (e) & (f)**

Photo Point 9

Non-vegetated area that is permanently cleared of vegetation. This area has future develop plans. This plot has been excluded under Clause 2.2.3.2 (e) of AS 3959: 2018.

Plot	5	Classification or Exclusion Clause	Excluded AS 3959: 2018 2.2.3.2 (e) & (f)

Photo Point 10

Vegetation present is regarded as low threat due to factors such as flammability, moisture content and fuel load. Due to future landscaping plans for this area it has been excluded under Clause 2.2.3.2 (e) and (f) of AS 3959: 2018.

Plot	5	Classification or Exclusion Clause	Excluded AS 3959: 2018 2.2.3.2 (e) & (f)

Photo Point 11

Non-vegetated area that is permanently clear of vegetation, containing roads and buildings. This plot has been excluded under Clause 2.2.3.2 (e) and (f) of AS 3959: 2018.

Plot	5	Classification or Exclusion Clause	Excluded AS 3959: 2018 2.2.3.2 (e) & (f)

Photo Point 12

Vegetation present is regarded as low threat due to factors such as flammability, moisture content and fuel load as it is parkland. This plot has been excluded under Clause 2.2.3.2 (e) and (f) of AS 3959: 2018.

Appendix B – Standards for Asset Protection Zones

The following standards have been extracted from the *Guidelines for Planning in Bushfire Prone Areas v 1.3* (WAPC 2017).

Every habitable building is to be surrounded by, and every proposed lot can achieve, an APZ depicted on submitted plans, which meets the following requirements:

a. Width: Measured from any external wall or supporting post or column of the proposed building, and of sufficient size to ensure the potential radiant heat impact of a fire does not exceed 29 kW/m² (BAL 29) in all circumstances.

b. Location: the APZ should be contained solely within the boundaries of the lot on which a building is situated, except in instances where the neighbouring lot or lots will be managed in a low-fuel state on an ongoing basis, in perpetuity (see explanatory notes).

c. Management: the APZ is managed in accordance with the requirements of '*Standards for Asset Protection Zones*' (below):

- Fences: within the APZ are constructed from non-combustible materials (e.g. iron, brick, limestone, metal post and wire). It is recommended that solid or slatted non-combustible perimeter fences are used
- Objects: within 10 metres of a building, combustible objects must not be located close to the vulnerable parts of the building i.e. windows and doors
- Fine Fuel load: combustible dead vegetation matter less than 6 millimetres in thickness reduced to and maintained at an average of two tonnes per hectare
- Trees (> 5 metres in height): trunks at maturity should be a minimum distance of 6 metres from all elevations of the building, branches at maturity should not touch or overhang the building, lower branches should be removed to a height of 2 metres above the ground and or surface vegetation, canopy cover should be less than 15% with tree canopies at maturity well spread to at least 5 metres apart as to not form a continuous canopy (**Figure 8**).

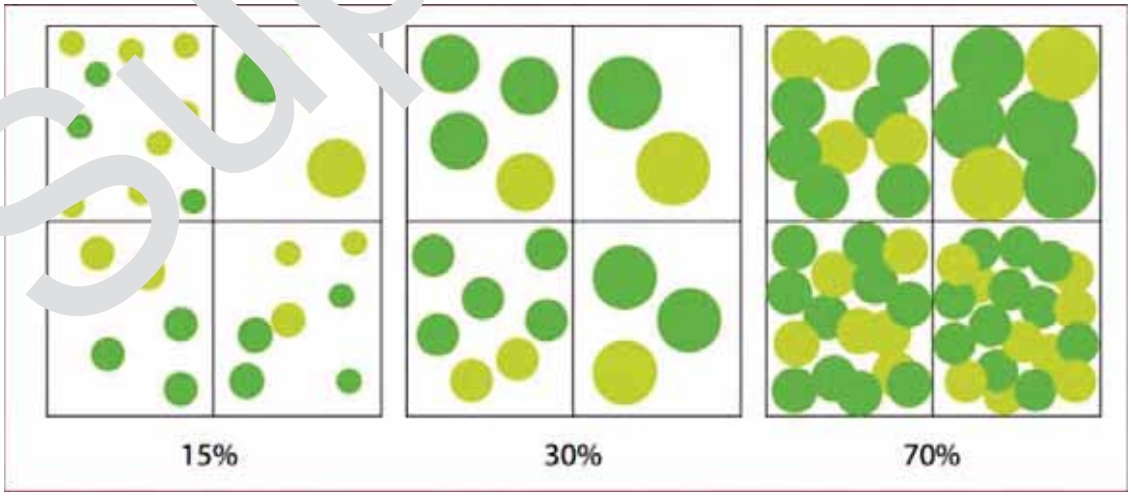

Figure 8: Illustrated tree canopy cover projection (WAPC 2017)

- **Shrubs (0.5 metres to 5 metres in height):** should not be located under trees or within 3 metres of buildings, should not be planted in clumps greater than 5m^2 in area, clumps of shrubs should be separated from each other and any exposed window or door by at least 10 metres. Shrubs greater than 5 metres in height are to be treated as trees
- **Ground covers (<0.5 metres in height):** can be planted under trees but must be properly maintained to remove dead plant material and any parts within 2 metres of a structure, but 3 metres from windows or doors if greater than 100 millimetres in height. Ground covers greater than 0.5 metres in height are to be treated as shrubs
- **Grass:** should be managed to maintain a height of 100 millimetres or less.

Additional notes

The Asset Protection Zone (APZ) is an area surrounding a building that is managed to reduce the bushfire hazard to an acceptable level. Hazard separation in the form of using subdivision design elements or excluded and low threat vegetation adjacent to the lot may be used to minimise the dimensions of the APZ within the lot.

The APZ should be contained solely within the boundaries of the lot on which the building is situated, except in instances where the neighbouring lot or lots will be managed in a low-fuel state on an ongoing basis, in perpetuity. The APZ may include public roads, waterways, footpaths, buildings, rocky outcrops, golf courses, maintained parkland as well as cultivated gardens in an urban context, but does not include grassland or vegetation on a neighbouring rural lot, farmland, wetland reserves and unmanaged public reserves.

Appendix C - Vehicular access technical requirements (WAPC 2017)

Technical requirements	Public road	Cul-de-sac	Private driveway	Emergency access way	Fire service access route
Minimum trafficable surface (m)	6*	6	4	6*	6*
Horizontal distance (m)	6	6	6	6	6
Vertical clearance (m)	4.5	N/A	4.5	4.5	4.5
Maximum grade <50 m	1 in 10	1 in 10	1 in 10	1 in 10	1 in 10
Minimum weight capacity (t)	15	15	15	15	15
Maximum crossfall	1 in 33	1 in 33	1 in 33	1 in 33	1 in 33
Curves minimum inner radius	8.5	8.5	8.5	8.5	8.5
* Refer to E3.2 Public roads: Trafficable surface					

Appendix D – Local Government Firebreak Notice

Firebreak specifications for the City of Rockingham under the Fire Control Notice, 2020. The six specifications for firebreaks in the City of Rockingham have requirements including width and height of fire break as well as the surface structure of the firebreak. All requirements can be found in the link below under the Fire Control Notice tab. For the subject site due to it being less than an area of 4047m^2 no firebreak is required.

Fire control - City of Rockingham

ecological AUSTRALIA
A TETRA TECH COMPANY

1300 646 131
www.ecoaus.com.au

Appendix 5:
Environmental Noise Assessment

Environmental Noise Assessment – Development Application

Lot 9005 Nairn Drive, Baldivis

Reference: 21036236-01A

Prepared for:

Carcione Nominees Pty Ltd C/- Planning Solutions

Report: 21036236-01A

Lloyd George Acoustics Pty Ltd

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Date:	Rev	Description	Prepared By	Verified
07-May-21	0	Issued to Client	Matt Moyle	Terry George
11-Jun-21	A	Amended operating hours	Matt Moyle	Terry George

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Appendices

A Terminology

1 INTRODUCTION

This report has been prepared to consider the potential noise impacts associated with a proposed commercial development (Local Centre) at Lot 9005 Nairn Drive, Baldivis - refer *Figure 1-1*. The development referred to as The Spires and generally located on *Figure 1-2*, is to consist of the following uses and typical noise emission sources:

- Gym/Recreational Centre – Mechanical plant;
- Supermarket – Mechanical plant (including refrigeration units) and refrigerated truck in loading area;
- Retail – Mechanical plant;
- Restaurants – Mechanical plant including kitchen exhaust fans and patron noise from alfresco areas;
- Medical Offices – Mechanical plant;
- General – Car door closing noise in all car parks.

Figure 1-1 Project Locality (Souce: Landgate)

Figure 1-2 Overall Site Plan

To the north and west may be future residences as part of the local centre development. The nearest existing residences are those to the south and east across Nairn Drive.

Appendix A contains a description of some of the terminology used throughout this report.

2 CRITERIA

Environmental noise in Western Australia is governed by the *Environmental Protection Act 1986*, through the *Environmental Protection (Noise) Regulations 1997* (the Regulations).

Regulation 7 defines the prescribed standard for noise emissions as follows:

"7. (1) Noise emitted from any premises or public place when received at other premises –

(a) Must not cause or significantly contribute to, a level of noise which exceeds the assigned level in respect of noise received at premises of that kind; and

(b) Must be free of –

i. tonality;

ii. impulsiveness; and

iii. modulation,

when assessed under regulation 9"

A "…noise emission is taken to significantly contribute to a level of noise if the noise emission … exceeds a value which is 5 dB below the assigned level…"

Tonality, impulsiveness and modulation are defined in Regulation 9. Noise is to be taken to be free of these characteristics if:

(a) The characteristics cannot be reasonably and practicably removed by techniques other than attenuating the overall level of noise emission; and

(b) The noise emission complies with the standard prescribed under regulation 7 after the adjustments of *Table 2-1* are made to the noise emission as measured at the point of reception.

Table 2-1 Adjustments Where Characteristics Cannot Be Removed

Where Noise Emission is Not Music			Where Noise Emission is Music	
Tonality	**Modulation**	**Impulsiveness**	**No Impulsiveness**	**Impulsiveness**
+ 5 dB	+ 5 dB	+ 10 dB	+ 10 dB	+ 15 dB

Note: The above are cumulative to a maximum of 15dB.

The baseline assigned levels (prescribed standards) are specified in Regulation 8 and are shown in *Table 2-2*.

Table 2-2 Baseline Assigned Noise Levels

Premises Receiving Noise	Time Of Day	Assigned Level (dB)		
		L_{A10}	L_{A1}	L_{Amax}
Noise sensitive premises: highly sensitive area[1]	0700 to 1900 hours Monday to Saturday (Day)	45 + influencing factor	55 + influencing factor	65 + influencing factor
	0900 to 1900 hours Sunday and public holidays (Sunday)	40 + influencing factor	50 + influencing factor	65 + influencing factor
	1900 to 2200 hours all days (Evening)	40 + influencing factor	50 + influencing factor	55 + influencing factor
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and public holidays (Night)	35 + influencing factor	45 + influencing factor	55 + influencing factor

1. ***highly sensitive area*** means that area (if any) of noise sensitive premises comprising —
   (a) a building, or a part of a building, on the premises that is used for a noise sensitive purpose; and
   (b) any other part of the premises within 15 metres of that building or that part of the building.

The total influencing factor (zoning and traffic), applicable at the noise sensitive premises has been calculated to range from 2-3 dB as shown in *Table 2-3* (refer *Figure 2-1* for receiver locations). With regards to road traffic, Nairn Drive is currently not considered a secondary or major road, with no nearby traffic counts available at the time of this assessment. Over time, traffic may be expected to increase on this road and once 6,000 vehicles per day is reached, the influencing factor would increase by 2 dB for residences within 100 metres.

Table 2-3 Influencing Factor Calculation

Receiver	Commercial Land		Road Traffic		Total Influencing Factor
	With 100m	Within 450m	Within 100m	Within 450m	
R1 – Future West	1.7 dB (33%)	0.8 dB (16%)	-	-	**3 dB**
R2 – Future North	2.0 dB (40%)	0.8 dB (16%)	-	-	**3 dB**
R3 –East	0.9 dB (17%)	0.8 dB (16%)	-	-	**2 dB**
R4 – South	0.7 dB (13%)	0.8 dB (16%)	-	-	**2 dB**

Table 2-4 shows the assigned noise levels including the influencing factor and transport factor at the receiving locations.

Figure 2-1 Site and Receiver Locations

Table 2-4 Assigned Noise Levels

Premises Receiving Noise	Time Of Day	Assigned Level (dB)		
		L_{A10}	L_{A1}	L_{Amax}
R1, R2	0700 to 1900 hours Monday to Saturday (Day)	48	58	68
	0900 to 1900 hours Sunday and public holidays (Sunday)	43	53	68
	1900 to 2200 hours all days (Evening)	43	53	58
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and public holidays (Night)	38	48	58
R3, R4	0700 to 1900 hours Monday to Saturday (Day)	47	57	67
	0900 to 1900 hours Sunday and public holidays (Sunday)	42	52	67
	1900 to 2200 hours all days (Evening)	42	52	57
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and public holidays (Night)	37	47	57

It is noted the assigned noise levels are statistical levels and therefore the period over which they are determined is important. The Regulations define the Representative Assessment Period (RAP) as *a period of time of not less than 15 minutes, and not exceeding 4 hours*, which is determined by an *inspector* or *authorised person* to be appropriate for the assessment of a noise emission, having regard to the type and nature of the noise emission. An *inspector* or *authorised person* is a person appointed under Sections 87 & 88 of the *Environmental Protection Act 1986* and include Local Government Environmental Health Officers and Officers from the Department of Environment Regulation. Acoustic consultants or other environmental consultants are not appointed as an *inspector* or *authorised person*. Therefore, whilst this assessment is based on a 4 hour RAP, which is assumed to be appropriate given the nature of the operations, this is to be used for guidance only.

2.1 Reversing Alarms on Vehicles

With regards to noise from reversing alarms, regulation 3(1)(h) states:

(1) Nothing in these regulations applies to the following noise emissions —

(h) noise emissions from —

(i) a reversing alarm fitted to a motor vehicle, mobile plant, or mining or earthmoving equipment;

If -

(iii) it is a requirement under another written law that such an alarm be fitted; and

(iv) it is not practicable to fit an alarm that complies with the written law under which it is required to be fitted and emits noise that complies with these regulations;

It is considered that any reversing alarms fitted to commercial vehicles (e.g. delivery or garbage trucks) are not necessarily exempt under the Regulations, since they are not specifically required under another written law. That is only a safe workplace must be provided, which can be undertaken in a variety of ways.

The commonly used fixed noise output tonal reversing alarms also known as 'reversing beeper' emit, by their very nature, tonal and modulating noise at high levels. As such, this type of reversing alarm generally cannot comply with the Regulations even at distant receivers. Alternative alarms such as broadband alarms are commonly used to minimise the impact.

2.2 Refrigerated Deliveries

With regards to noise from vehicles, regulation 3(1)(a) states:

(1) Nothing in these regulations applies to the following noise emissions —

(a) noise emissions from the propulsion and braking systems of motor vehicles on a road;

The above regulation clearly exempt such noise sources as vehicles braking or engine/exhaust noise however, any equipment fixed to the truck e.g. AC compressors, are not exempt.

2.3 Waste Collection and Site Cleaning (Specified Works)

Regulation 14A provides requirements for such activities as the collection of waste, landscaped area maintenance and car park cleaning. Such activities can also be exempt from having to comply with regulation 7, provided they are undertaken in accordance with regulation 14A(2) as follows:

- during daytime hours, defined as:
  - 07:00 to 19:00 Monday to Saturday (excluding public holiday), or
  - 09:00 to 19:00 on a Sunday or public holiday
- in the quietest reasonable and practicable manner; and
- using the quietest equipment reasonably available.

In the case where specified works are to be carried outside daytime hours and their noise emissions are likely not to comply with regulation 7, the works also need to be carried out according to a Noise Management Plan which has been approved by the local government authority CEO.

3 METHODOLOGY

Computer modelling has been used to predict noise levels at each nearby receiver. The software was *SoundPLAN 8.2* using the ISO 9613-2 (ISO 171534-3 improved method) algorithms. These algorithms have been selected as they include the influence of wind and atmospheric stability. Input data required in the model are:

- Meteorological Information;
- Topographical data;
- Ground Absorption; and
- Source sound power levels.

3.1 Meteorological Information

Meteorological information utilised is provided in *Table 3-1* and is considered to represent worst-case conditions for noise propagation. At wind speeds greater than those shown, sound propagation may be further enhanced, however background noise from the wind itself and from local vegetation is likely to be elevated and dominate the ambient noise levels.

Table 3-1 Modelling Meteorological Conditions

Parameter	Day (0700-1900)	Night (1900-0700)
Temperature (^{o}C)	20	15
Humidity (%)	50	50
Wind Speed (m/s)	Up to 5m/s	Up to 5m/s
Wind Direction*	All	All

* Note that the modelling package used allows for all wind directions to be modelled simultaneously.

It is generally considered that compliance with the assigned noise levels needs to be demonstrated for 98% of the time, during the day and night periods, for the month of the year in which the worst-case weather conditions prevail. In most cases, the above conditions occur for more than 2% of the time and therefore must be satisfied.

3.2 Topographical Data

Topographical data was based on that publicly available from *Google* in the form of spot heights and combined with the site plan and building plans provided by the project team to create a 3-dimensional noise model – refer *Figure 3-1*. Parapets up to 1.4m in height were assumed atop each new building – refer *Figure 3-1*.

Existing surrounding houses in the area are noted as being single storey and as such, future houses are also assumed to be single storey.

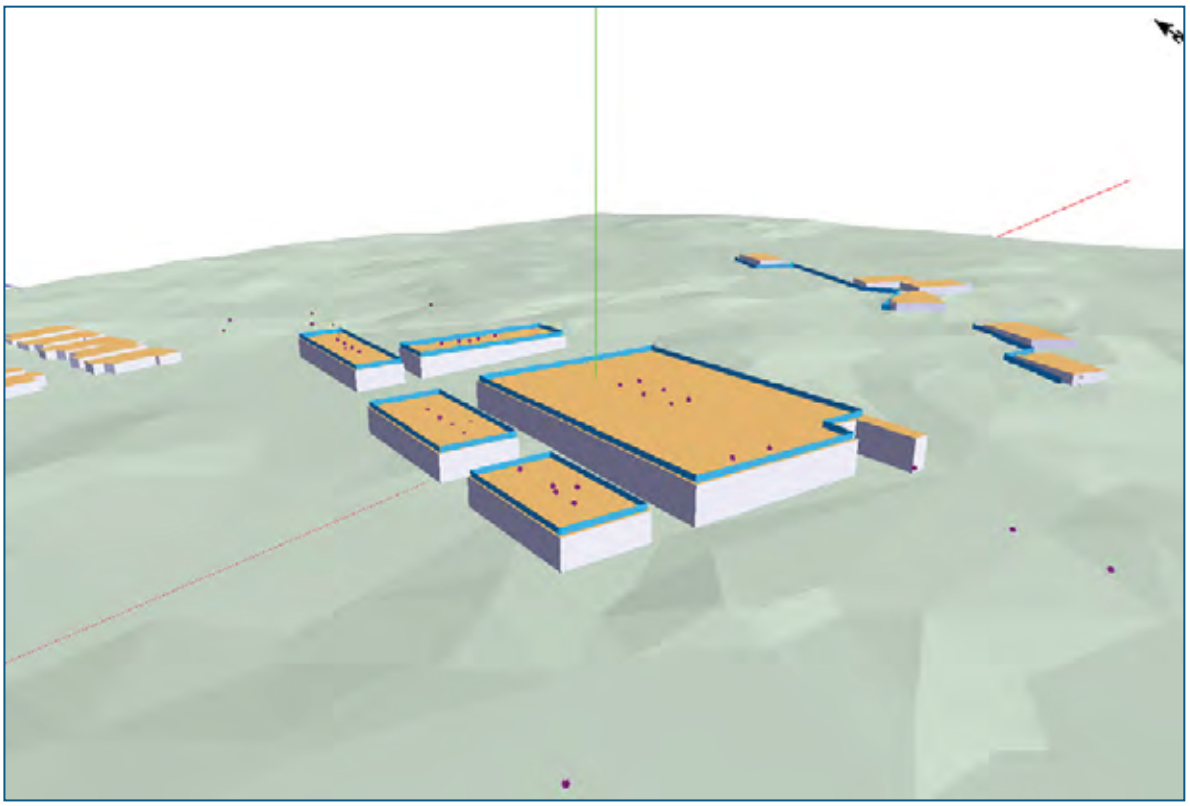


Figure 3-1 Image of Noise Model from South

3.3 Ground Absorption

Ground absorption varies from a value of 0 to 1, with 0 being for an acoustically reflective ground (e.g. water or bitumen) and 1 for acoustically absorbent ground (e.g. grass). In this instance, a value of 0.0 has been used as an average across the study area.

3.4 Source Sound Levels

The sound power levels used in the modelling are provided in *Table 3-2*. As detailed design has not yet been undertaken, all data has been obtained from previous similar projects and are therefore indicative only.

Table 3-2 Source Sound Power Levels

Description	Octave Band Centre Frequency (Hz)								Overall dB(A)
	63	125	250	500	1k	2k	4k	8k	
Supermarket – Refrigerated Truck, L_1	86	79	92	0	92	91	85	76	**96**
Supermarket – Rooftop Refrigeration Plant, L_{10}	-	90	85	83	83	78	71	68	**87**
Supermarket – A/C (4 off), L_{10}	91	91	80	77	75	72	65	62	**81**
Shop/cafe block 1 – A/C (4 off) , L_{10}	62	69	67	62	58	53	48	42	**64**
Shop/cafe block 2 – A/C (4 off) , L_{10}	62	69	67	62	58	53	48	42	**64**
Recreational – A/C (4 off) , L_{10}	62	69	67	62	58	53	48	42	**64**
Medical– A/C (4 off) , L_{10}	62	69	67	62	58	53	48	42	**64**
Restaurant - Kitchen Exhaust Fan, L_{10}	77	76	72	63	63	58	59	55	**69**
Alfresco Patrons per table, L_{10}	53	64	68	70	62	60	57	53	**70**
Car Doors Closing, dB L_{max}	71	74	77	81	80	78	72	61	**84**

With regards to the noise sources: the following is noted:

- The majority of noise sources are modelled as point sources. The exception to this is patrons to Restaurant alfresco areas are area sources 1.2 metres above ground.
- All mechanical plant have been located on the roof of the buildings at a height of 0.5 to 1.0 metres, nominally positioned atop each building;
- Refrigeration unit to Supermarket delivery truck modelled 3.0 metres above ground;
- Car door noise is modelled as 1 metre above ground and positioned in the most critical locations.

3.5 Noise Modelling Scenarios

The noise modelling considers various scenarios and these are based on assumptions of what will be operating at different times of the day, as well as the duration of the noise.

The following worst case scenarios are assumed and modelled:

1. Sunday/Evening L_{A10} – All plant operating for all tenancies, including alfresco noise.
2. Night L_{A10} – Refrigeration Plant for supermarket only.
3. Night L_{A1} - Refrigeration Plant for supermarket and refrigerated truck delivery in supermarket loading dock.
4. Night L_{Amax} – Car park door closing noise.

4 RESULTS & ASSESSMENT

The noise modelling results are discussed for each of the four time periods described in *Table 3-3*.

4.1 Sunday/Evening Operations L_{A10}

The results for the Sunday/Evening time modelling are provided in *Table 4-1*. Note where there are multiple receivers in the same vicinity, the highest level is reported. Where mechanical plant noise is concerned, a + 5 dB adjustment for tonality is applied.

Table 4-1 Predicted Noise Levels, dB L_{A10}

Receiver	Level, dB L_{A10}	Dominant Source	Adjusted Level, dB L_{A10}	Evening Assigned Level, dB L_{A10}	Night Assigned Level, dB	Exceedance, dB
R1	28	AC and Refrig Plant	33	43	38	*Complies*
R2	32	AC and Patrons	37	43	38	*Complies*
R3	34	AC Plant	39	42	37	*Complies / +2*
R4	32	AC and Refrig Plant	37	42	37	*Complies*

The results indicate that the Evening and Sunday L_{A10} scenarios are compliant, which in turn demonstrates compliance during the day (7.00am to 7.00pm Monday to Saturday). The Night scenario is compliant at all locations except R3, though this is due to AC Plant. It should be noted that final plant selections and positions of all plant may vary this outcome. The noise from dining patrons is predicted to be compliant at all times.

4.2 Night Operations L_{A10}

Results for night time noise emissions are provided in *Table 4-2*. A + 5 dB adjustment for tonality is applied since the refrigeration plant is dominant.

Table 4-2 Predicted Noise Levels, dB L_{A10}

Receiver	Level, dB L_{A10}	Dominant Source	Adjusted Level, dB L_{A10}	Assigned Level, dB L_{A10}	Exceedance, dB
R1	23	Refrig Plant	28	38	*Complies*
R2	25	Refrig Plant	30	38	*Complies*
R3	30	Refrig Plant	35	37	*Complies*
R4	29	Refrig Plant	34	37	*Complies*

The results demonstrate that the night operating L_{A10} scenarios are compliant. It should be noted again that final plant selections and positions of night-time running plant may vary this outcome.

4.3 Night Operations L_{A1}

Results for night time noise emissions are provided in *Table 4-3.* A + 5 dB adjustment for tonality is applied since the noise sources are both mechanical plant.

Table 4-3 Predicted Noise Levels, dB L_{A1}

Receiver	Level, dB L_{A1}	Dominant Source	Adjusted Level, dB L_{A1}	Assigned Level, dB L_{A1}	Exceedance, dB
R1	35	Refrig Delivery Truck	40	48	*Complies*
R2	26	Refrig Plant	31	48	*Complies*
R3	41	Refrig Delivery Truck	46	47	*Complies*
R4	44	Refrig Delivery Truck	49	47	*+2*

The results demonstrate that the night operating L_{A1} scenario has the capacity to exceed the assigned levels, due to refrigerated delivery truck noise. It should be noted that final design and elevations of the loading bay area may vary this outcome at detailed design stage. Given the potential for refrigerated trucks to cause exceedences, mitigation measures should be considered.

4.4 Night (Carpark) L_{Amax}

Results for this noise source and time are provided In *Table 4-4.* Where car door noise is dominant and especially during the night, a + 10 dB adjustment for impulsiveness is applied.

Table 4-4 Predicted Noise Levels, dB L_{A10}

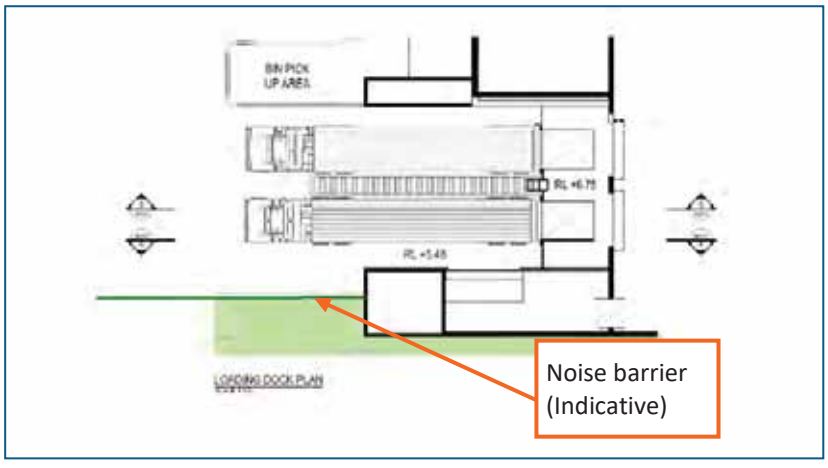
Receiver	Level, dB L_{Amax}	Dominant Source	Adjusted Level, dB L_{Amax}	Assigned Level, dB L_{Amax}	Exceedance, dB
R1	22	Car Doors	32	58	*Complies*
R2	48	Car Doors	58	58	*Complies*
R3	28	Car Doors	38	57	*Complies*
R4	33	Car Doors	43	57	*Complies*

The results demonstrate that car park noise from car doors complies at all times. The highest noise levels are predicted to future dwellings to the north of the development.

5 RECOMMENDATIONS

As the assessment is for DA approval only at this stage, the following recommendations are indicative only. However, they do indicate that noise emissions will need to be carefully considered in the detailed design where applicable –

- All tenancies:
    - Mechanical plant to be selected to be as quiet as reasonably available with detailed design including low speed mode at night and including attenuators fitted in ductwork of fan systems such as the kitchen supply/exhaust.
    - Sound levels to be in line with those assumed in *Table 3-2*.
    - Waste collection to occur during daytime hours, defined as:
        - 07:00 to 19:00 Monday to Saturday (excluding public holiday), or
        - 09:00 to 19:00 on a Sunday or public holiday
- Supermarket:
    - Sound levels to be in line with those assumed in *Table 3-2* including selecting plant that has a low speed option for night operations and/or acoustic screening installed to night plant such as refrigeration condensers;
    - Rooftop plant to be located close to high parapet walls or within an enclosed plant deck.
    - Plant to be mounted using vibration isolators.
    - Loading Dock area to incorporate a noise barrier extending from the south side of the dock (refer image below) to effectively screen refrigeration units of large cold delivery trucks. The barrier should be designed in consultation with a qualified acoustical consultant prior to building permit issue when more details are available.



    - Operating hours are assumed to be within 6.00am to 10.00pm Monday to Saturday and 7.00am to 9.00pm Sunday/Public Holidays;

- Recreational Centre:
    - Gym to provide either background music only or have a sound system with noise limiters fitted if higher music levels desirable;
    - Gym to incorporate floor impact isolation to minimise disturbance from dropping of weights and the like.
- Retail and dining:
    - Operating hours assumed to be within 6.00am to 10.00pm Monday to Saturday and 7.00am to 9.00pm Sunday/Public Holidays ;
    - Sound levels to be in line with those assumed in *Table 3-2*.
- Delivery Vehicles
    - Where a safe workplace can be provided, audible reversing alarms shall be turned off and alternative methods used such as spotters etc. Audible 'beeper' reversing alarms are only acceptable if it is deemed there is no other way to provide a safe workplace. Where an audible alarm is required, consideration should be given to the suitability of broadband type alarms, as these have less environmental noise impacts.;
    - Where possible normal (non-refrigerated) delivery trucks to turn engines off whilst unloading;
    - Refrigeration unit on trucks may need to be turned off if unloading for long durations (more than 24-minutes in a 4-hour period);
    - Delivery companies are to be advised of the above requirements.

Note that car door closing noise was calculated to be compliant at all times.

6 CONCLUSION

The analysis undertaken is preliminary at this stage, however highlights that as each building enters detailed design, noise emissions must be considered in further detail considering final equipment selections, operating hours, location and the like. For initial guidance, *Section 5* discusses possible noise mitigation requirements, noting these would be subject to change depending on the outcome(s) of the detailed analysis.

It is recommended that an environmental noise assessment report forms a condition of Building License and as information for each tenancy becomes known in greater detail, such an assessment is undertaken by a suitably qualified acoustical consultant (member firm of the Association of Australasian Acoustical Consultants).

Appendix A

Terminology

The following is an explanation of the terminology used throughout this report.

Decibel (dB)
The decibel is the unit that describes the sound pressure and sound power levels of a noise source. It is a logarithmic scale referenced to the threshold of hearing.

A-Weighting
An A-weighted noise level has been filtered in such a way as to represent the way in which the human ear perceives sound. This weighting reflects the fact that the human ear is not as sensitive to lower frequencies as it is to higher frequencies. An A-weighted sound level is described as L_A dB.

Sound Power Level (L_w)
Under normal conditions, a given sound source will radiate the same amount of energy, irrespective of its surroundings, being the sound power level. This is similar to a 1kW electric heater always radiating 1kW of heat. The sound power level of a noise source cannot be directly measured using a sound level meter but is calculated based on measured sound pressure levels at known distances. Noise modelling incorporates source sound power levels as part of the input data.

Sound Pressure Level (L_p)
The sound pressure level of a noise source is dependent upon its surroundings, being influenced by distance, ground absorption, topography, meteorological conditions etc and is what the human ear actually hears. Using the electric heater analogy above, the heat will vary depending upon where the heater is located, just as the sound pressure level will vary depending on the surroundings. Noise modelling predicts the sound pressure level from the sound power levels taking into account ground absorption, barrier effects, distance etc.

L_{ASlow}
This is the noise level in decibels, obtained using the A frequency weighting and the S (Slow) time weighting as specified in IEC 61672-1:2002. Unless assessing modulation, all measurements use the slow time weighting characteristic.

L_{AFast}
This is the noise level in decibels, obtained using the A frequency weighting and the F (Fast) time weighting as specified in IEC 61672-1:2002. This is used when assessing the presence of modulation only.

L_{APeak}
This is the greatest absolute instantaneous sound pressure in decibels using the A frequency weighting as specified in IEC 61672-1:2002.

L_{Amax}
An L_{Amax} level is the maximum A-weighted noise level during a particular measurement.

L_{A1}
An L_{A1} level is the A-weighted noise level which is exceeded for one percent of the measurement period and is considered to represent the average of the maximum noise levels measured.

L_{A10}
An L_{A10} level is the A-weighted noise level which is exceeded for 10 percent of the measurement period and is considered to represent the "*intrusive*" noise level.

L_{Aeq}
The equivalent steady state A-weighted sound level ("equal energy") in decibels which, in a specified time period, contains the same acoustic energy as the time-varying level during the same period. It is considered to represent the "average" noise level.

L_{A90}
An L_{A90} level is the A-weighted noise level which is exceeded for 90 percent of the measurement period and is considered to represent the "*background*" noise level.

One-Third-Octave Band
Means a band of frequencies spanning one-third of an octave and having a centre frequency between 25 Hz and 20 000 Hz inclusive.

L_{Amax} assigned level
Means an assigned level which, measured as a $L_{A\ Slow}$ value, is not to be exceeded at any time.

L_{A1} assigned level
Means an assigned level which, measured as a $L_{A\ Slow}$ value, is not to be exceeded for more than 1% of the representative assessment period.

L_{A10} assigned level
Means an assigned level which, measured as a $L_{A\ Slow}$ value, is not to be exceeded for more than 10% of the representative assessment period.

Tonal Noise
A tonal noise source can be described as a source that has a distinctive noise emission in one or more frequencies. An example would be whining or droning. The quantitative definition of tonality is:

the presence in the noise emission of tonal characteristics where the difference between -

(a) the A-weighted sound pressure level in any one-third octave band; and

(b) the arithmetic average of the A-weighted sound pressure levels in the 2 adjacent one-third octave bands,

is greater than 3 dB when the sound pressure levels are determined as $L_{Aeq,T}$ levels where the time period T is greater than 10% of the representative assessment period, or greater than 8 dB at any time when the sound pressure levels are determined as $L_{A\ Slow}$ levels.

This is relatively common in most noise sources.

Modulating Noise
A modulating source is regular, cyclic and audible and is present for at least 10% of the measurement period. The quantitative definition of modulation is:

a variation in the emission of noise that —

(a) is more than 3 dB $L_{A\ Fast}$ or is more than 3 dB $L_{A\ Fast}$ in any one-third octave band;

(b) is present for at least 10% of the representative.

Impulsive Noise
An impulsive noise source has a short-term banging, clunking or explosive sound. The quantitative definition of impulsiveness is:

a variation in the emission of a noise where the difference between $L_{A\ peak}$ and $L_{A\ Max\ slow}$ is more than 15 dB when determined for a single representative event;

Major Road
Is a road with an estimated average daily traffic count of more than 15,000 vehicles.

Secondary / Minor Road
Is a road with an estimated average daily traffic count of between 6,000 and 15,000 vehicles.

Influencing Factor (IF)

$$= \frac{1}{10}(\%\ \text{Type A}_{100} + \%\ \text{Type A}_{450}) + \frac{1}{20}(\%\ \text{Type B}_{100} + \%\ \text{Type B}_{450})$$

where:

$\%\ \text{Type A}_{100}$ = the percentage of industrial land within a100m radius of the premises receiving the noise

$\%\text{TypeA}_{450}$ = the percentage of industrial land within a 450m radius of the premises receiving the noise

$\%\ \text{Type B}_{100}$ = the percentage of commercial land within a100m radius of the premises receiving the noise

$\%\text{TypeB}_{450}$ = the percentage of commercial land within a 450m radius of the premises receiving the noise

+ Traffic Factor (maximum of 6 dB)

= 2 for each secondary road within 100m

= 2 for each major road within 450m

= 6 for each major road within 100m

Representative Assessment Period
Means a period of time not less than 15 minutes, and not exceeding four hours, determined by an inspector or authorised person to be appropriate for the assessment of a noise emission, having regard to the type and nature of the noise emission.

Background Noise
Background noise or residual noise is the noise level from sources other than the source of concern. When measuring environmental noise, residual sound is often a problem. One reason is that regulations often require that the noise from different types of sources be dealt with separately. This separation, e.g. of traffic noise from industrial noise, is often difficult to accomplish in practice. Another reason is that the measurements are normally carried out outdoors. Wind-induced noise, directly on the microphone and indirectly on trees, buildings, etc., may also affect the result. The character of these noise sources can make it difficult or even impossible to carry out any corrections.

Ambient Noise
Means the level of noise from all sources, including background noise from near and far and the source of interest.

Specific Noise
Relates to the component of the ambient noise that is of interest. This can be referred to as the noise of concern or the noise of interest.

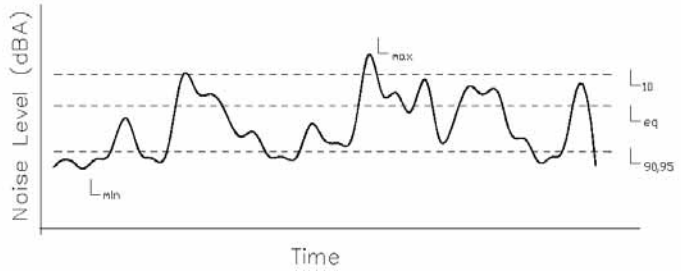
Peak Component Particle Velocity (PCPV)
The maximum instantaneous velocity in mm/s of a particle at a point during a given time interval and in one of the three orthogonal directions (x, y or z) measured as a peak response. Peak velocity is normally used for the assessment of structural damage from vibration.

Peak Particle Velocity (PPV)
The maximum instantaneous velocity in mm/s of a particle at a point during a given time interval and is the vector sum of the PCPV for the x, y and z directions measured as a peak response. Peak velocity is normally used for the assessment of structural damage from vibration.

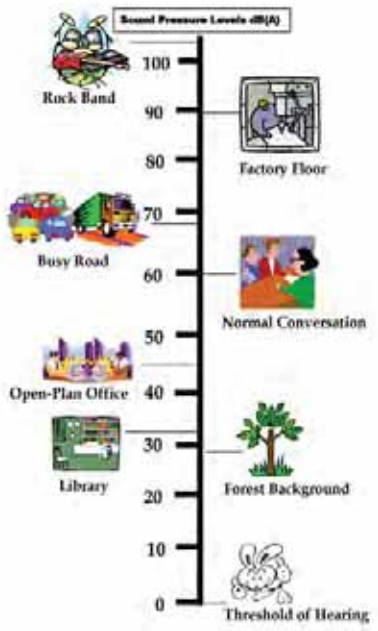
RMS Component Particle Velocity (PCPV)
The maximum instantaneous velocity in mm/s of a particle at a point during a given time interval and in one of the three orthogonal directions (x, y or z) measured as a root mean square (rms) response. RMS velocity is normally used for the assessment of human annoyance from vibration.

Peak Particle Velocity (PPV)
The maximum instantaneous velocity in mm/s of a particle at a point during a given time interval and is the vector sum of the PCPV for the x, y and z directions measured as a root mean square (rms) response. RMS velocity is normally used for the assessment of human annoyance from vibration.

Chart of Noise Level Descriptors



Typical Noise Levels



Appendix 6:
Waste Management Plan

talis consultants

Waste Management Plan

Lot 9005 Nairn Drive, Baldivis

Prepared for Car[illegible]one [illegible]minees

18 June 202[illegible]

Projec[illegible] [illegible]umber: [illegible]W210[illegible]

Assets | Engineering | Environment | Noise | Spatial | Waste

DOCUMENT CONTROL					
Version	**Description**	**Date**	**Author**	**Reviewer**	**Approver**
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Approval for release

Name	**Position**	**File Reference**
Rachel Hayton	Project Manager – Waste Management Consultant	TW21039_Waste Management Plan_3.0
Signature	Rachel Hayton Digitally signed by Rachel Hayton Date: 2021-06-18 16:31:57	

Executive Summary

Carcione Nominees is seeking development approval for the proposed commercial development located at Lot 9005 Nairn Drive, Baldivis (the Proposal).

To satisfy the conditions of the development application the City of Rockingham (the City) requires the submission of a Waste Management Plan (WMP) that will identify how waste is to be stored and collected from the Proposal. Talis Consultants has been engaged to prepare this WMP to satisfy the City's requirements.

A summary of the bin size, numbers, collection frequency and collection method is provided in the below table.

Proposed Waste Collection Summary

Waste Type	Generation (L/week)	Bin Size (L)	Number of Bins	Collection Frequency	Collection
Central Commercial Bin Storage Area					
Refuse	12,524	660	Ten	Twice each week	Private Contractor
Recycling	8,328	660	Seven	Twice each week	Private Contractor
Northern Commercial Bin Storage Area					
Refuse	783	660	Two	Once each week	Private Contractor
Recycling	783	660	Two	Once each week	Private Contractor

A private contractor will service the proposed onsite, directly from the respective Bin Storage Areas.

Building management or the caretaker will oversee the relevant aspects of waste management at the Proposal.

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1 Introduction

Carcione Nominees is seeking development approval for the proposed commercial development located at Lot 9005 Nairn Drive, Baldivis (the Proposal).

To satisfy the conditions of the development application the City of Rockingham (the City) requires the submission of a Waste Management Plan (WMP) that will identify how waste is to be stored and collected from the Proposal. Talis Consultants has been engaged to prepare this WMP to satisfy the City's requirements.

The Proposal is bordered by Fifty Service Road to the north, Nairn Drive to the east, [illegible] Drive to the south and Yellowstone Road to the west, as shown in Figure 1.

1.1 Objectives and Scope

The objective of this WMP is to outline the equipment and procedures that will be adopted to manage waste (refuse and recyclables) at the Proposal. Specifically, the WMP demonstrates that the Proposal is designed to:

- Adequately cater for the anticipated volume of waste to be generated;
- Provide adequately sized Bin Storage Areas (including appropriate bins; and
- Allow for efficient collection of bins by appropriate waste collection vehicles.

To achieve the objective, the scope of the WMP comprises:

- Section 2: Waste Generation;
- Section 3: Waste Storage;
- Section 4: Waste Collection;
- Section 5: Waste Management; and
- Section 6: Conclusion.

2 Waste Generation

The following section shows the waste generation rates used and the estimated waste volumes to be generated at the Proposal.

2.1 Proposed Tenancies

The anticipated volume of refuse and recyclables is based on the floor area (m^2) of the commercial tenancies at the Proposal. The indicative tenancy mix at Proposal is as follows:

- Southern Commercial Tenancies:
  - Pad Site – 290m^2.
- Central Commercial Tenancies:
  - T1 – Pizza – 70m^2;
  - T2 – Massage – 51m^2;
  - T3 – Beauty/Nail – 61m^2;
  - T4 – Kebab – 70m^2;
  - T5 – Hair Salon – 70m^2;
  - T6 – Modern Asian – 76m^2;
  - T7 – Optometrist/Fashion/Gift – 96[illegible]m^2;
  - T8 – Café – 155m^2;
  - T9 – F&C – 81m^2;
  - T10 – Barber – 46m^2;
  - T11 – Pharmacy/Lo[illegible]o – 31[illegible]m^2;
  - T12 – Health Food [illegible]46[illegible]m^2;
  - Online Sho[illegible] Up [illegible] – 1[illegible]m^2; and
  - Superm[illegible]ket – 3,6[illegible]m^2.
- Northern C[illegible]mercial T[illegible]ancies:
  - T1[illegible]nd T14[illegible]cal and Paramedical – 519m^2; and
  - T15 – [illegible]m – 60[illegible]m^2.

Note, the P[illegible] Site (F[illegible]st Food) and Online Shop Pick Up BOH/Supermarket is anticipated to include their [illegible] back[illegible]ouse and manage their waste through their own internal processes governed by [illegible]nal c[illegible]tracts, and therefore has not been included as part of this report.

2.2 Waste Generation Rates

The estimated amount of refuse and recyclables to be generated by the Proposal is based on the City of Melbourne's *Guidelines for Preparing a Waste Management Plan* (2017).

It should also be noted that a conservative approach has been taken with regards to waste generation across the Proposal by overestimating the potential waste volumes for the commercial tenancies. Seven days of operation has been assumed for all commercial tenancies. This is considered to be an over estimation as it is not uncommon for food and beverage tenancies to close

operations post weekend trading therefore resulting in an over estimation of waste volumes generated.

Table 2-1 shows the waste generation rates which have been applied to the Proposal.

Table 2-1: Waste Generation Rates

Tenancy Use Type	City of Melbourne Guideline Reference	Refuse Generation Rate	Recycling Generation Rate
Central Commercial Tenancies			
Pizza	Takeaway/Café	150L/100m^2/day	150L/100m^2/day
Massage	Shop (non-food)	50L/100m^2/day	50L/100m^2/day
Beauty/Nail	Shop (non-food)	50L/100m^2/day	50L/100m^2/day
Kebab	Takeaway/Café	150L/100m^2/day	150L/100m^2/day
Hair Salon	Hairdresser	60L/100m^2/day	60L/100m^2/day
Modern Asia	Restaurant	660L/100m^2/day	660L/100m^2/day
Optometrist/Fashion/Gift	Shop (non-food)	50L/100m^2/day	50L/100m^2/day
Café	Café	200L/100m^2/day	200L/100m^2/day
F&C	Café	200L/100m^2/day	200L/100m^2/day
Barber	Hairdresser	60L/100m^2/day	60L/100m^2/day
Pharmacy/Lotto	Shop (non-food)	50L/100m^2/day	50L/100m^2/day
Health Food	Delicatessen/Convenience Store	50L/100m^2/day	50L/100m^2/day
Northern Commercial Tenancies			
Medical and Paramedical	Office	10L/100m^2/day	10L/100m^2/day
Gym	Office	10L/100m^2/day	10L/100m^2/day

As medical waste is highly dependent on the nature and scale of medical practices undertaken, there are currently no medical/clinical waste generation rates available within published waste management guidelines. The Pharmacy, Medical and Paramedical tenancies will typically manage medical waste (i.e. sharps, infectious waste, pathological waste, pharmaceuticals, chemical waste and non-regulated medical waste) in-situ, therefore storage space is not required within the Bin Storage Areas. Therefore, medical waste has not been included within this waste generation assessment.

2.3 Waste Generation Volumes

Waste generation is estimated by volume in litres (L) as this is generally the influencing factor when considering bin size, numbers and storage space required.

2.3.1 Central Commercial Tenancies

Waste generation volumes for the Central Commercial tenancies in litres per week (L/week) adopted for this waste assessment is shown in Table 2-2. It is estimated that the Central Commercial tenancies will generate 12,524L of refuse and 8,328L of recyclables each week.

Table 2-2: Estimated Waste Generation – Central Commercial Tenancies

Commercial Tenancies	Area (m^2)	Waste Generation Rate (L/100m^2/day)	Waste Gene[illegible]on (L/week)
REFUSE			
Pizza	70	150	735
Massage	51	50	[illegible]
Beauty/Nail	61	50	[illegible]
Kebab	70	150	735
Hair Salon	70	60	[illegible]
Modern Asia	76	660	3,511
Optometrist/Fashion/Gift	96	50	336
Café	155	[illegible]	3,255
F&C	81	[illegible]	1,701
Barber	46	60	193
Pharmacy/Lotto	318	[illegible]	1,113
Health Food	46	80	258
		Total	**12,524**
[illegible]CYCLABLES			
Pizza	70	150	735
Massage	[illegible]	50	179
Beauty/Nail	[illegible]	50	214
Kebab	[illegible]0	150	735
Hair Salon	70	60	294
Modern Asia	76	200	1,064
Optometrist/Fas[illegible]n/Gift	96	50	336
Café	155	200	2,170
[illegible]	81	200	1,134
Barb[illegible]	46	60	193
[illegible]armacy/[illegible]otto	318	50	1,113
Health Fo[illegible]	46	50	161
		Total	**8,328**

2.3.2 Northern Commercial Tenancies

Waste generation volumes for the Northern Commercial tenancies in litres per week (L/week) adopted for this waste assessment is shown in Table 2-3. It is estimated that the Northern Commercial tenancies will generate 783L of refuse and 783L of recyclables each week.

Table 2-3: Estimated Waste Generation – Northern Commercial Tenancies

Commercial Tenancies	Area (m^2)	Waste Generation Rate (L/100m^2/day)	Waste Generation (L/week)
REFUSE			
Medical and Paramedical	519	10	363
Gym	600	10	420
		Total	**783**
RECYCLABLES			
Medical and Paramedical	519	10	[illegible]
Gym	600	10	[illegible]
		[illegible]**al**	**783**

3 Waste Storage

Waste materials generated within the Proposal will be collected in the bins located in the Bin Storage Areas, as discussed in the following sub-sections.

3.1 Internal Bins

The Proposal will also have a minimum of two bins to facilitate the separate disposal of refuse and recycling within each commercial tenancy. The bins will be transferred by tenants, staff and cleaners, or their authorised representative, to the respective Bin Storage Area and be deposited into the appropriate bin.

All bins will be colour coded and labelled in accordance with Australian Standard (AS 4123) to assist the tenants, staff and cleaners to dispose of their separate waste materials in the correct bins.

3.2 Bin Sizes

Table 3-1 gives the typical dimensions of standard bins sizes that may utilised at the Proposal. It should be noted that these bin dimensions are approximate and can vary slightly between suppliers.

Table 3-1: Typical Bin Dimensions

Dimensions	Bin Sizes			
	240L	360L	660L	1,100L
Depth (mm)	730	848	780	1,070
Width (mm)	[illegible]	680	1,260	1,240
Height (mm)	1,060	1,100	1,200	1,300
Area (mm^2)	427	577	983	1,327

Reference: SULO Bin Specification Data Sheet

3.3 Bin Storage Areas

The waste generation volumes are best practice estimates and the number of bins to be utilised represent the maximum requirements once the Proposal is fully operational. Bin requirements may be impacted as the development becomes operational and the nature of the tenants and waste management requirements are known.

3.3.1 Central Commercial Bin Storage Area

To ensure sufficient area is available for storage of the bins, the amount of bins required for the Central Commercial Bin Storage Area was modelled utilising the estimated waste generation in Table 2-2, bin sizes in Table 3-1 and based on collection of refuse and recyclables twice each week.

Based on the results shown in Table 3-2, the Central Commercial Bin Storage Area has been sized to accommodate:

- Ten 660L refuse bins; and
- Seven 660L recycling bins.

Table 3-2: Bin Requirements for the Central Commercial Bin Storage Area

Waste Stream	Waste Generation (L/week)	Number of Bins Required			
		240L	360L	660L	1,100L
Refuse	12,524	27	18	10	6
Recycling	8,328	18	12	7	4

The configuration of these bins within the Central Commercial Bin Storage Area is shown in Figure 2. It is worth noting that the number of bins and corresponding placement of bins shown in Figure 2 represents the maximum requirements assuming two collections each week of refuse and recyclables. Increased collection frequencies would reduce the required number of bins.

3.3.2 Northern Commercial Bin Storage Area

To ensure sufficient area is available for storage of the bins, the amount of bins required for the Northern Commercial Bin Storage Area was modelled utilising the estimated waste generation in Table 2-3, bin sizes in Table 3-1 and based on collection of refuse and recyclables once each week.

Based on the results shown in Table 3-3, the Northern Commercial Bin Storage Area has been sized to accommodate:

- Two 660L refuse bins; and
- Two 660L recycling bins.

Table 3-3: Bin Requirements for the Northern Commercial Bin Storage Area

Waste Stream	Waste Generation (L/week)	Number of Bins Required			
		240L	360L	660L	1,100L
Refuse	783	4	3	2	1
Recycling	783	4	3	2	1

The configuration of these bins within the Northern Commercial Bin Storage Area is shown in Figure 3. It is worth noting that the number of bins and corresponding placement of bins shown in Figure 3 represents the maximum requirements assuming one collection each week of refuse and recyclables. Increased collection frequencies would reduce the required number of bins.

3.4 Bin Storage Area Design

The design of the Bin Storage Areas will take into consideration:

- Located behind the building setback line and not to be visible from the property boundary or areas trafficable by the public;
- Constructed of material of suitable thickness;
- Smooth impervious floor draining to the sewer system;
- Taps for washing of bins and Bin Storage Area;
- Undercover where possible and designed not to permit stormwater to enter into the drain;
- Ventilated to a suitable standard;
- Adequate aisle/door widths for easy manoeuvring of bins in and out;

- Doors to the Bin Storage Area self-closing and vermin proof;
- Doors to the Bin Storage Area wide enough to fit bins through;
- No double stacking of bins;
- Appropriate signage; and
- Bins are reasonably secured from theft and vandalism.

Bin numbers and storage space within the Bin Storage Areas will be monitored by building management/the caretaker during the operation of the Proposal to ensure that the number of bins and collection frequency is sufficient.

4 Waste Collection

A private contractor will service the Proposal and provide the Central Commercial tenancies with:

- Ten 660L refuse bins, collected twice each week; and
- Seven 660L recycling bins, collected twice each week.

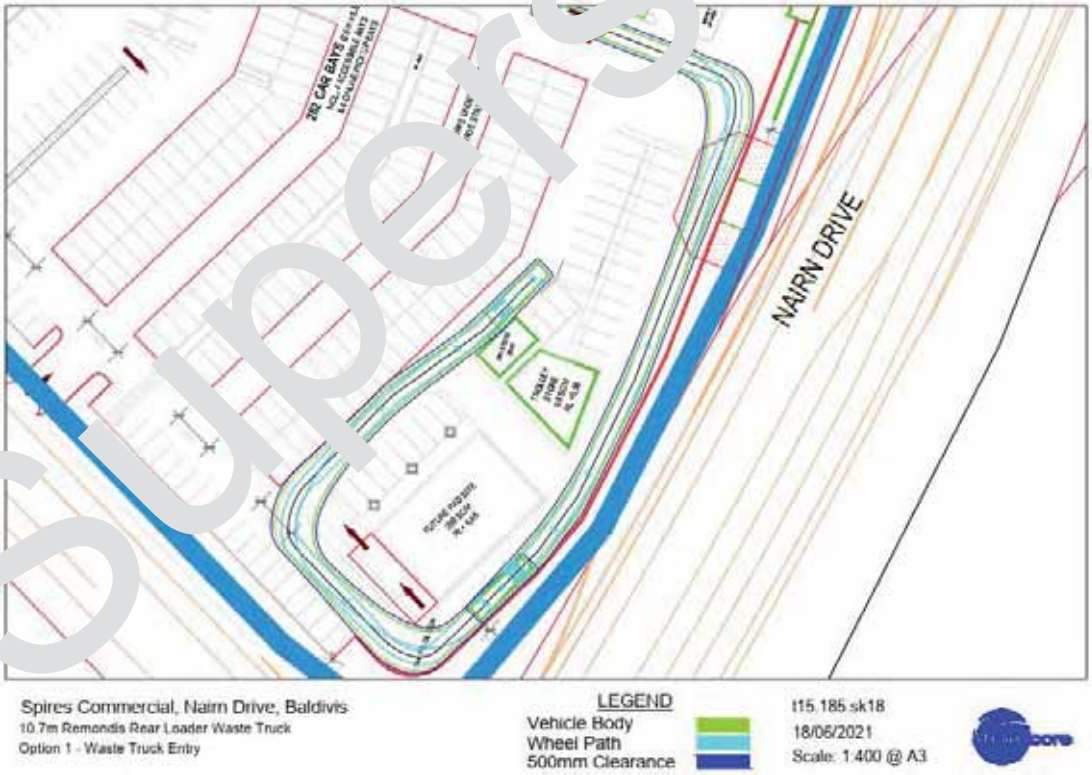
A private contractor will service the Proposal and provide the Northern Commercial tenancies with:

- Two 660L refuse bins, collected once each week; and
- Two 660L recycling bins, collected once each week.

The private contractor will collect refuse and recyclables from the respective bin storage area utilising a rear loader waste collection vehicle.

The private contractor's waste collection vehicle will service the bins onsite, directly from the respective Bin Storage Area. The private contractor's waste collection vehicle will travel with left hand lane traffic flow and turn into the Proposal in forward gear into the Proposal's carpark and pull up adjacent to the Bin Storage Areas for servicing, as shown in the Transcore traffic report (refer Diagram 1).

Diagram 1: Waste Collection Swept Path - Entry



It is proposed that servicing will be conducted outside of normal operating hours to allow the waste collection vehicle to utilise the empty carpark for manoeuvring and mitigate impacts on local traffic movements during peak traffic hours.

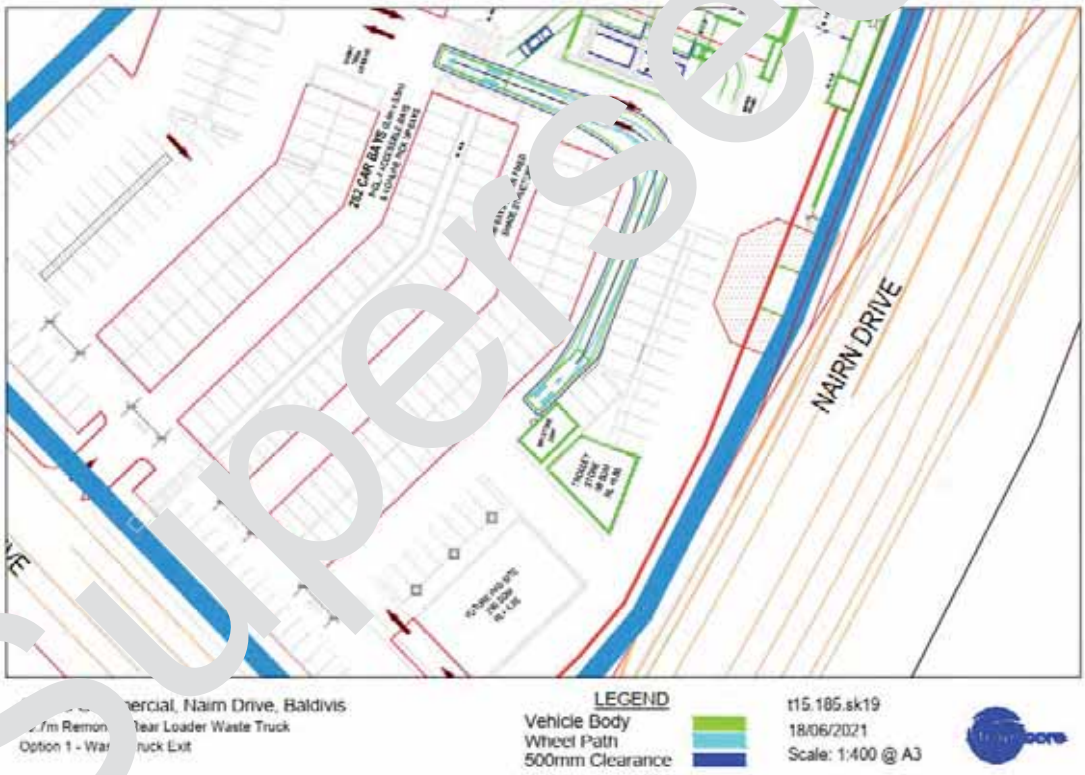
The private contractor waste collection staff will ferry bins to and from the waste collection vehicle and the Bin Storage Areas during servicing. The private contractor will be provided with key/PIN code access to the Bin Storage Areas and security access gates to facilitate servicing, if required.

Once servicing is complete the private contractor's waste collection vehicle will exit in a forward motion, moving with traffic flow, refer Diagram 2.

The above servicing method will preserve the amenity of the area by removing the requirement f bins to be presented to the street on collection days. In addition, servicing of bins onsite will duce the noise generated in the area during collection. Noise from waste vehicles must comply w h the Environmental Protection (Noise) Regulations and such vehicles should not service the site efore 7.00am or after 7.00pm Monday to Saturday, or before 9.00am or after 7.00pm Sundays a Public Holidays.

The ability for a 10.7m rear loader waste collection vehicle to access the Proposal in a safe manner has been assessed by Transcore.

Diagram 2: Waste Collection Swept Path - E



4.1 Sharps and Controlled Medical Waste

The volume of sharps and controlled medical waste generated at the Proposal will be dependent on the nature and scale of the medical practises undertaken. Appropriate containers will be placed in all locations where particular categories of medical waste may be generated. Instructions on identification and separation of these medical wastes will be posted at each waste collection point to remind tenants and staff of procedures. Suitably qualified medical waste service providers will be engaged to determine storage and collection requirements.

4.2 Bulk and Speciality Waste

Bulk and speciality waste materials will be removed from the Proposal as they are generated. Removal of these wastes will be monitored by building management/the caretaker, who will liaise with tenants, staff and cleaners to assist with the removal of these wastes, as required.

5 Waste Management

Building management/the caretaker will be engaged to complete the following tasks:

- Monitoring and maintenance of bins and the Bin Storage Areas;
- Cleaning of bins and Bin Storage Areas, when required;
- Ensure all tenants, staff and cleaners at the Proposal are made aware of this WMP their responsibilities thereunder;
- Monitor tenants, staff and cleaners behaviour and identify requirements for further education and/or signage;
- Monitor bulk and speciality waste accumulation and assist with its removal, as required;
- Regularly engage with tenants, staff and cleaners to develop opportunities to reduce waste volumes and increase resource recovery; and
- Regularly engage with the private contractors to ensure efficient and effective waste service is maintained.

6 Conclusion

As demonstrated within this WMP, the Proposal provides sufficiently sized Bin Storage Areas for storage of refuse and recyclables, based on the estimated waste generation volumes and suitable configuration of bins. This indicates that adequately designed Bin Storage Areas have been pro ded, and collection of refuse and recyclables can be completed from the Proposal.

The above is achieved using:

- Central Commercial Bin Storage Area:
  - Ten 660L refuse bins, collected twice each week; and
  - Seven 660L recycling bins, collected twice each week.
- Northern Commercial Bin Storage Area:
  - Two 660L refuse bins, collected once each week; and
  - Two 660L recycling bins, collected once each week.

A private contractor will service the Proposal onsite, directly f[illegible] Storage Areas.

Building management/the caretaker will oversee the releva[illegible]cts o[illegible]waste management at the Proposal.

Figures

Figure 1: Locality Plan

Figure 2: Central Commercial Bin Storage Area

Figure 3: Northern Commercial Bin Storage Area

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LEGEND

- Site Boundary
- Cadastre

LOCALITY

North Baldivis Commercial Centre
Lot 9005 Nairn Drive
Baldivis, WA 6171

Carcione Nominees

N
0 20 40 60 80 100 m
Coordinate System: GDA 1994 MGA Zone 50
Projection: Transverse Mercator, Datum: GDA 1994
Scale @ A3: 1:3,000

Prepared:	T Daymond	Date:	12/04/2021
Reviewed:	D Patel	Revision:	A
Project:	TW21039		

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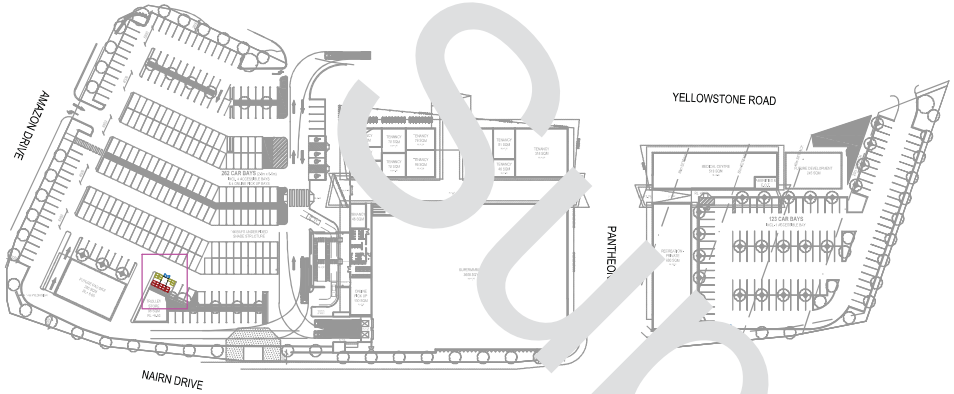
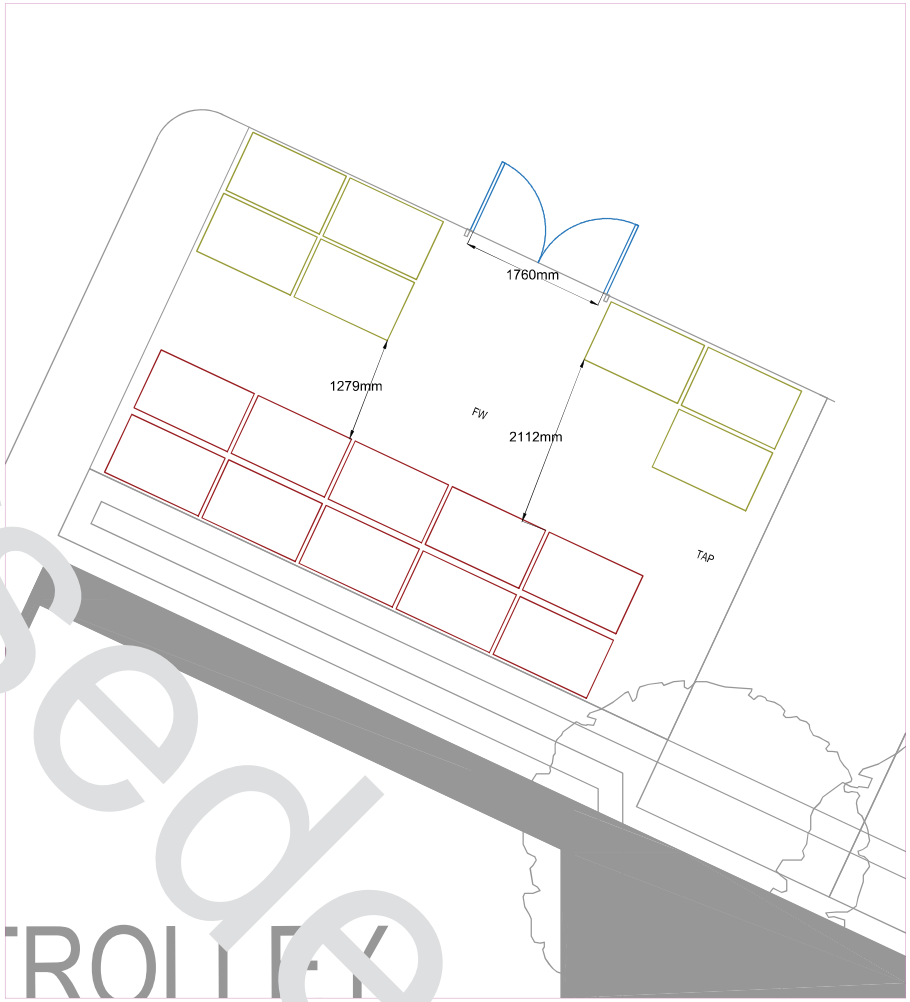
Figure 01

Document Path: \\server\Talis\SECTIONS\Waste\PROJECTS\TW2021\TW21039 - Lot 9005 Nairn Drive, Baldivis WMP\GIS\Maps\TW21039_01_Locality_RevA.mxd





Legend:

Central Commercial Bin Storage Area

10 x 660L refuse (780mm x 1,260mm)

7 x 660L recycling (780mm x 1,260mm)

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Client: Carcione Nominees

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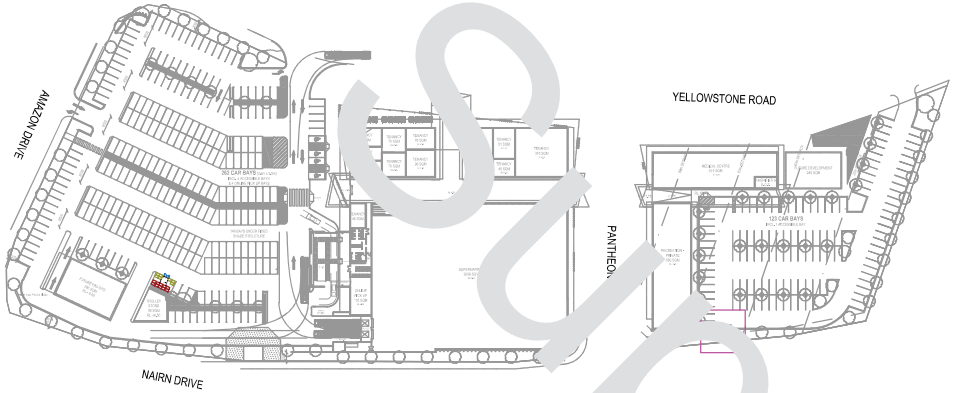
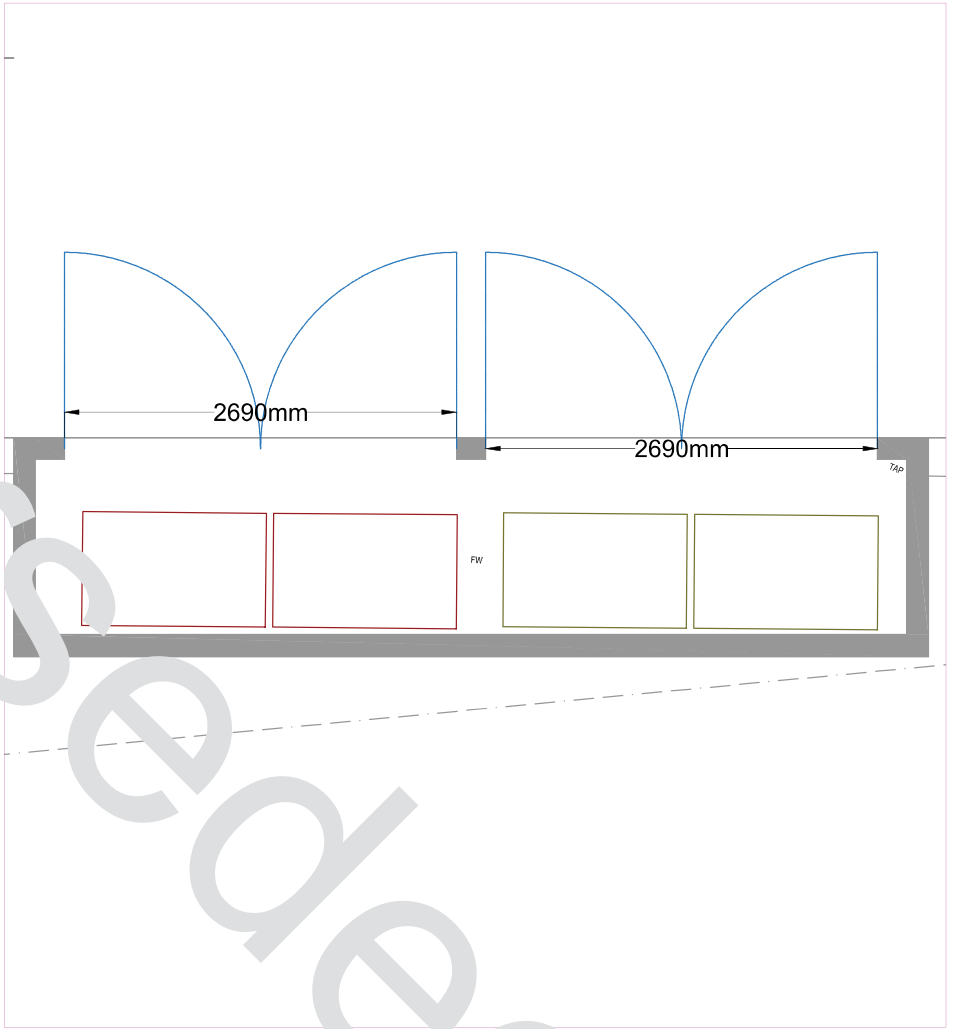
No.	Date	Drawn / Chkd	Amendment / Issue	App.
B	18/06/21	DP / RH	SECOND ISSUE	RH
A	10/05/21	DP / RH	FIRST ISSUE	RH

Project: Lot 9005 Nairn Drive, Baldivis

Title: Central Commercial Bin Storage Area

Drawn by:	DP	Job No:	TW21039
Checked by:	RH	File No:	TW21039DWG001
Approved by:	RH	Fig. No: 002	Rev: B
Scale:	NTS		
Date:	18/06/21		





Legend:

Northern Commercial Bin Storage Area

- 2 x 660L refuse (780mm x 1,260mm)
- 2 x 660L recycling (780mm x 1,260mm)

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No.	Date	Drawn/Chkd	Amendment / Issue	App.
B	18/06/21	DP/RH	SECOND ISSUE	RH
A	10/05/21	DP/RH	FIRST ISSUE	RH

Project: Lot 9005 Nairn Drive, Baldivis

Title: Northern Commercial Bin Storage Area

Drawn by:	DP	Job No:	TW21039
Checked by:	RH	File No:	TW21039DWG002
Approved by:	RH	Fig. No: 003	Rev: B
Scale:	NTS		
Date:	18/06/21		

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