

PART D – SHIRE OF MURRAY

1. Declarations of Due Consideration

2. Disclosure of Interests

3. Form 1 DAP Applications

- 3.1 Lots 401, 154, 155 (578, 580, 590) Pinjarra Road, Furnissdale - Mixed Commercial Development – DAP/26/03077

4. Form 2 DAP Applications

Nil

5. Section 31 SAT Reconsiderations

Nil

Part D – Item 3.1 - Lots 401, 154, 155 (578, 580, 590) Pinjarra Road, Furnissdale – Mixed Commercial Development

Form 1 – Responsible Authority Report (Regulation 12)

DAP Name:	Metro Outer	
Local Government Area:	Shire of Murray	
Applicant:	Apex Planning	
Owner:	Furnissdale Management Pty Ltd	
Value of Development:	\$16.16 million ☐ Mandatory (Regulation 5) ☒ Opt In (Regulation 6)	
Responsible Authority:	Shire of Murray	
Authorising Officer:	Rod Peake – Director Planning and Sustainability	
LG Reference:	P086/2026	
DAP File No:	DAP/26/03077	
Application Received Date:	6 March 2026	
Report Due Date:	29 May 2026	
Application Statutory Process Timeframe:	90 Days (with an additional 35 days agreed)	
Attachment(s):	1. Planning Report and Appendices Appendix A – Certificate of Title. Appendix B – Updated Development Plans. Appendix C – Landscape Plan. Appendix D – Traffic Impact Assessment. Appendix E – Concept Stormwater Management Plan. Appendix F – Bulk Earthworks Plan. Appendix G – Site and Soil Evaluation. Appendix H – Acoustic Assessment. Appendix I – Bushfire Management Plan. Appendix J - Signage Assessment 2. Summary of Public Submissions. 3. Design Review Advice. 4. Government Agency Submissions. 5. Extracts of Barragup Furnissdale Activity Centre Local Planning Policy.	
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 Development Assessment Panel resolves to:

1. **Accept** that the Motor Vehicle Wash land use component of DAP Application reference DAP/26/03077 is compatible with the objectives of the zoning table in accordance with Clause 5.2.4 of the Shire of Murray Local Planning Scheme No. 4;
2. **Approve** DAP Application reference DAP/26/03077 and accompanying plans
 - Aerial Perspective, A0.11, Revision B, dated 23 Feb 2026;
 - Bulky Goods Showroom – T4 Corner, A0.12, Rev B, dated 23 June 2026;
 - Hardware Outlet – T6 Corner, A013, Rev B, dated 23 June 2026;
 - Bulky Goods Showroom, A0.14, Rev B, dated 23 June 2026;
 - Gym Perspective, A0.15, Rev B, dated 23 June 2026;
 - Fuel Station, A0.16, Rev B, dated 23 June 2026;
 - Bulky Goods Showroom – T3, A0.17, Rev A, dated 23 June 2026;
 - Pinjarra Road Elevations & Ronlyn Road Elevations, A0.18, Rev A, dated 23 June 2026;
 - Site Plan, A021, Rev W, dated 23 June 2026;
 - Site Roof Plan, A0.22, Rev D, dated 23 June 2026;
 - Tenancy 1 Plan, A1.01, Rev C, dated 23 June 2026;
 - Tenancy 2 Plan, A1.02, Rev C, dated 23 June 2026;
 - Tenancy 3 Plan, A1.03, Rev D, dated 23 June 2026;
 - Tenancy 4-6, A1.04, Rev G, dated 23 June 2026;
 - Tenancy 7, A1.07, Rev D, dated 23 June 2026;
 - Fuel Station elevation, A2.01, Rev D, dated 23 June 2026;
 - Car Wash Elevation, A2.02, Rev C, dated 23 June 2026;
 - T3 Gym Elevation, A2.03, Rev D, dated 23 June 2026;
 - T4-T6 Elevation, A2.04, Rev E, dated 23 June 2026;
 - T7 Elevation, A2.05, Rev C, dated 23 June 2026;
 - Site 1 Elevation, A2.51, Rev D, dated 23 June 2026;
 - Site 2 Elevation, A2.52, Rev E, dated 23 June 2026;
 - Pylon Sign, A9.01, Rev B, dated 23 June 2026; and
 - Fuel Pylon A9.02, Rev A, dated 23 Feb 2026.

in accordance with the Shire of Murray Local Planning Scheme No. 4 and Clause 68 of Schedule 2 (Deemed Provisions) of the *Planning and Development (Local Planning Schemes) Regulations 2015*, and Clause 21 of the *Peel Region Scheme* subject to the following conditions:

Conditions

1. This decision constitutes planning approval only and is valid for a period of 4 years from the date of approval. If the subject development is not substantially commenced within the specified period, the approval shall lapse and be of no further effect.

Street Network, Access and Parking

2. Prior to lodgement of a building permit application, the Pinjarra Road access, including the left-turn slip lane, is to be designed to the satisfaction of the local government on the advice of Main Roads WA with drainage, kerbing and street lighting. The subject works are to be constructed in accordance with the approved design to the satisfaction of the Local Government and Main Roads WA at the cost of the landowner / developer, prior to the occupation of the development.
3. Prior to the lodgement of a building permit application, a queuing analysis for the Drive Through Coffee tenancy is to be submitted to and approved by the Local Government. The analysis is to be based on the operational and peak demand characteristics of comparable drive through coffee operations, including nearby examples, and is to demonstrate that queuing associated with both servery lanes will not obstruct the main site entry from Pinjarra Road or the adjoining internal circulation aisles. The site layout is to be amended to accommodate the demonstrated queue length, to the satisfaction of the Local Government, prior to the issue of a building permit.
4. Prior to occupancy the landowner / developer is to make a payment to the Local Government equivalent to 10% of the cost of the signalisation of the intersection of Pinjarra Road and Ronlyn Road pursuant to the Shire of Murray Local Planning Scheme No. 4.
5. Prior to occupation, the portion of the subject lots which is affected by the Pinjarra Road 'Primary Regional Roads' reservation under the Peel Region Scheme is to be set aside and ceded to the Crown free of cost and without any compensation. The land required for 'road widening purposes' is to be shown as 'Road Widening' on a diagram or plan of survey (deposited plan).
6. Prior to occupancy the Pinjarra Road frontage is to be upgraded along the frontage of the subject land to an urban standard to the satisfaction of the Local Government on the advice of Main Roads WA, with drainage and kerbing at the cost of the landowner / developer.
7. Prior to occupancy the portion of the Pinjarra Road median located opposite the new left-in/left-out crossover is to be modified to the satisfaction of the local government on the advice of Main Roads WA and constructed at the cost of the landowner / developer. The median works are to restrict the potential for vehicles leaving the subject land via the new left-in/left-out to cross over the Pinjarra Road median.
8. Prior to occupancy an easement in gross in favour of the public at large in accordance with Sections 195 and 196 of the Land Administration Act 1997 is to be placed on the certificate of titles for the development site specifying access rights over the main access driveways within the development site, extending to the eastern boundary of the site.
9. The parking bays and internal driveways are to be designed in accordance with the *Australian Standard for Off Street Parking* (AS 2890). Such areas are to be constructed, kerbed, drained and line-marked and thereafter maintained in a sound state of repair to the satisfaction of the Local Government.

10. Prior to occupancy the development must provide of bicycle end of trip facilities in accordance with the Guide to Traffic Engineering Practice, Austroads Part 14 and the Australian Standard for Off-street Carparking – Bicycles (AS2890.3).
11. Prior to occupancy a dual use path is to be constructed within the 10m Pinjarra Road widening area across the full frontage of the site and is to connect with the existing path along Pinjarra Road to the east and west of the development site. Pedestrian paths within the development site are to be extended to connect with the dual use path. The existing path within the Pinjarra Road reserve adjacent to the development site is to be removed.
12. Prior to occupancy the portion of Ronlyn Road abutting the development site is to be upgraded to an 'urban' standard to the satisfaction of the Local Government, as follows:
 - a) the undergrounding of the above ground powerlines; and
 - b) for the portion north of the proposed roundabout, a dual use path is to be constructed within the eastern verge which connects to the dual use path referred to in Condition 11.
13. Prior to the lodgement of an application for a building permit, a detailed design of the proposed Ronlyn Road roundabout is to be submitted to, and endorsed by, the Local Government. The detailed design is to be prepared in accordance with the relevant Austroads guidelines, Australian Standards, and the Local Government's technical specifications, and the roundabout is to be constructed in accordance with the endorsed design to the satisfaction of the Local Government prior to occupation of the development. Any land within the development site required to accommodate the ultimate roundabout design is to be ceded to the Local Government free of cost and without payment of compensation, prior to the issue of a building permit.

Construction Management

14. Prior to commencement of site works, a construction management plan is to be prepared to the satisfaction of the local government addressing the following:
 - a) access to and from the site;
 - b) the delivery of materials and equipment to the site;
 - c). the storage of materials and equipment on the site;
 - d) the parking arrangements for contractors and subcontractors;
 - e) management of construction waste;
 - f) dust control;
 - g) hours during which onsite construction works are to be limited; and
 - h) other matters that have the potential to impact nearby properties.

The approved construction management plan is to be implemented at all times during site works to the satisfaction of the Local Government.

15. Within 3 months from the practical completion of the development, the site of Stage 2 is to be rehabilitated inclusive of the reinstatement of topsoil and seed planting to the satisfaction of the Local Government.

16. Prior to the lodgement of a building permit application, a Risk Management Plan addressing the separation of the Service Station from the adjoining caravan park is to be prepared to the satisfaction of the Local Government, on the advice of the Department of Health. The Plan is to address vapour recovery infrastructure (VR1 and, where applicable, VR2) and any other design or operational measures necessary to minimise potential health and amenity impacts to the caravan park. Any amendments to the design necessary to give effect to the Plan are to be incorporated into the building permit application, to the satisfaction of the Local Government.

Plant and Equipment

17. All services such as air conditioning plant and compressors shall be located away from public areas. All services and service yards shall be screened from view of streets and other public areas, including car parking areas in a design or manner keeping with the style and materials of the adjacent building. Roof mounted equipment such as air conditioning plant and antennae shall be screened from view of the street and other public areas, including car parking areas, by the roof form or parapets.
18. The transformers abutting Pinjarra Road are to be screened in material(s) and colour(s) that are in keeping with the prevailing development to minimise visual impact on the streetscape to the satisfaction of the Local Government.

Landscaping

19. Prior to the lodgement of a building permit application, a Landscaping Plan is to be submitted to and approved by the Local Government. The Plan is to address all landscape areas within the development site and the adjoining road verges to Pinjarra Road and Ronlyn Road, and is to include, in particular, the following detail:
 - (i) the landscaping treatment of the 10 metre road widening area to Pinjarra Road;
 - (ii) identification of existing trees and natural landscape areas to be retained;
 - (iii) those areas to be reticulated or irrigated, and the method of irrigation proposed;
 - (iv) provision of shade trees at a minimum rate of 1 tree per 4 car parking bays within all car parking areas; and
 - (v) the species, size and location of all proposed trees, shrubs and groundcovers.

The landscaping is to be implemented in accordance with the approved Landscaping Plan prior to first occupation of the development to the satisfaction of the Local Government.

All landscaped areas, including the road verges referred to above, are to thereafter be maintained in a healthy condition to the satisfaction of the Local Government, with any dead, diseased or damaged plants replaced with equivalent species, for the life of the development.

Signage

20. Prior to the lodgement of a building permit application, an amended signage plan is to the satisfaction of the Local Government must be prepared and include the following detail:
 - (i) Signage fronting the internal accessway is to be modified to reduce the height to no more than 6m in height with a signage face of 4m;
 - (ii) Relocated the proposed Service Station Pylon sign eastwards to align with the fuel station canopy; and
 - (iii) Reduction in the size of wall signage panels.
21. The windows on tenancy 6 (Hardware Outlet) fronting Ronlyn Road are to be constructed and maintained with clear, unobscured glazing, free of tinting, reflective film, painted-out sections, signage, or internal shelving, stock or fixtures placed so as to obstruct visibility through the glazing, for the life of the development, to the satisfaction of the Local Government.

Drainage and Servicing

22. Prior to commencement of any of the approved uses, the development shall be connected to a suitable on-site wastewater treatment system with secondary treatment and nutrient retentive qualities to the satisfaction of the Local Government on the advice of the Department of Health and connected to the reticulated water network.
23. Prior to the lodgement of a building permit application, detailed engineering drawings and specifications for the stormwater drainage system are to be submitted to and approved by the Local Government. The stormwater drainage system is to be constructed in accordance with the approved drawings and specifications, to the satisfaction of the Local Government, prior to first occupation of the development and is to be thereafter maintained to a functional standard for the life of the development.
24. No bins, waste or other storage materials are permitted outside approved bin stores or service yards.
25. A solid fence to a height of at least 1.8 metres is constructed along the rear boundary of the development site where it abuts Lot 188.
26. The landowner is to contribute proportionally to a pre-funding arrangement to a value determined by the Water Corporation of WA (WCWA), in accordance with WCWA's established Developer Constructed Headworks Process, for the purpose of bringing forward its capital works program to provide reticulated sewerage infrastructure to the local catchment area. The proportional contribution shall be calculated based on the total area the development site bares to the total area of the catchment which is to be serviced by the WCWA reticulated sewerage infrastructure. Prior to the development first being occupied, the landowner is to enter into a legal agreement supported by an absolute caveat to secure this obligation to the satisfaction of the local government on advice from the Water Corporation. Any caveat lodged to protect the above agreement shall be removed by the local government once the works for the future WCWA reticulated sewerage infrastructure to service the local catchment area has been completed.

Advice Notes

1. In relation to Condition 5, Main Roads Western Australia has advised the local government that the overall cost of signalisation of the Pinjarra Road and Ronlyn Road intersection was \$3,401,566.09, the contribution required under the condition is \$340,156.61.
2. Main Roads Western Australia has advised that no longitudinal installation of utility services will be permitted within the 10m 'road widening' area of Pinjarra Road.
3. The amended location of the proposed Service Station Pylon sign is to align with the previously approved location (DAP/17/01349).
4. The applicant is advised that separate approvals may be required prior to the commencement of any clearing or development works, including a Native Vegetation Clearing Permit under the Environmental Protection Act 1986 and, where applicable, approval or a determination under the Environment Protection and Biodiversity Conservation Act 1999. It is the applicant's responsibility to obtain all necessary environmental approvals.
5. The site is located within the Peel Harvey Coastal Plain Catchment, a nutrient sensitive area under State Planning Policy 2.9 Water. The onsite effluent disposal system will be required to incorporate secondary treatment with nutrient removal capability, to the satisfaction of the Local Government and Department of Health, and is subject to separate approval under the Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974.

Details: outline of development application

Region Scheme	Peel Region Scheme
Region Scheme - Zone/Reserve	Urban and Primary Regional Road
Local Planning Scheme	Shire of Murray Local Planning Scheme No. 4
Local Planning Scheme - Zone/Reserve	Commercial & Service Commercial
Structure Plan/Precinct Plan	N/A
Structure Plan/Precinct Plan - Land Use Designation	N/A
Use Class and permissibility:	Service Station – “A” Hardware Outlet – “D” Health Studio – “P” Bulky Goods Showrooms – “P” Food Outlet with a Drive Through Facility – “D” Motor Vehicle Wash – “Use Not Listed”
Lot Size:	6.22ha
Existing Land Use:	Vacant Land
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:

The proposed development is the first stage of a two (2) staged development. The intent is to use the sand from stage two (2) to fill proposed stage one (1).

Stage one (1) is a mixed commercial development with seven (7) tenancies comprising of the following:

- Two (2) Bulky Goods Showrooms;
- One (1) Hardware Outlet;
- One (1) Motor Vehicle Wash (Use not Listed);
- One (1) Health Studio (Gym);
- One (1) Service Station (Fuel Station); and
- One (1) Food Outlet with a Drive Through Facility (Drive-thru Coffee).

Key details are summarised in the table below:

Proposed Land Use	Service Station – “A” Hardware Outlet – “D” Health Studio – “P” Bulky Goods Showrooms – “P” Food Outlet with a Drive Through Facility – “D” Motor Vehicle Wash – “Use Not Listed”
Proposed Net Lettable Area	Bulky Goods Showroom (3,620m ²) Hardware Outlet (2,178m ²) Motor Vehicle Wash (241m ²) Health Studio (1,430m ²) Service Station (223m ²) Food Outlet with a Drive Through Facility (31.29m ²)
Proposed No. Storeys	Single
Proposed No. Dwellings	N/A

Background:

Site Context

The site is located at the intersection of Pinjarra Road and Ronlyn Road, Furnissdale with Pinjarra Road being a Primary Distributor Road under the control of Main Roads. The site totals 6.22 hectares. The site has a 244m frontage to Pinjarra Road and 221m frontage to Ronlyn Road. The application proposes a staged development with the subject application being stage 1 and the fill required for stage 1 being extracted from stage 2.



Figure 1. Location Plan

The site was historically used for Special Rural uses with dwellings and outbuildings being contained on each lot. The structures on Lots 401 and 154 were removed in 2016 and the structures on Lot 155 were removed in 2023.

Previous Planning Decisions

On 9 June 2010, a Scheme Amendment was lodged with the Shire to rezone the site from 'Special Rural' to 'Service Commercial' and introduce a development contribution area (DSA 3). The Scheme Amendment was gazetted on 7 February 2012.

On 29 August 2018, the former Metro South-West JDAP issued development approval (**Figure 2**) for a mixed commercial development comprising of 'Showrooms', 'Take Away' food outlets, 'Service Station', a supermarket 'Shop' and a 'Public Amusement'.

On 2 May 2023, an extension of time was granted by the Shire of Murray for the above approval for a further 2 years with the approval being valid until 29 August 2025.

On 15 April 2025, a modified approval (**Figure 3**) was granted by the Shire of Murray which removed the retail (supermarket) component of the development and extended the approval by a further 2 years. This approval remains valid until 29 August 2027.

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in **Figure 4**. Subdivision clearance has not been lodged or granted at the time of writing this report. The applicant's report indicates that this is to occur by the end of 2026.



Figure 4. Approved lot reconfiguration

Legislation and Policy:

Legislation

- Planning and Development (Local Planning Schemes) Regulations 2015 (Regulations).
- Peel Region Scheme (PRS).
- Shire of Murray Local Planning Scheme No.4 (LPS4).

State Government Policies

- State Planning Policy 2.9 Planning for Water (SPP 2.9).
- State Planning Policy 3.7 Planning in Bushfire Prone Areas (SPP3.7).
- Perth and Peel @ 3.5 million.
- South Metropolitan Peel Sub-Regional Planning Framework.
- State Planning Policy 4.2 – Activity Centres.
- State Planning Policy 7.0 – Design of the Built Environment.

Structure Plans/Activity Centre Plans

Nil.

Local Policies

Barragup Furnissdale Activity Centre Local Planning Policy
 Natural Landscapes in Urban Areas Local Planning Policy
 Signs Local Planning Policy

Consultation:

Public Consultation

In accordance with Regulation 64(4) of the Deemed Provisions under the *Planning and Development (Local Planning Schemes) Regulations 2015*. Public consultation was undertaken as follows:

- Letters sent to the landowner/s of the properties shown in **Figure 5** below;
- Notice published on the Shire's website and Murray News.
- A sign erected on-site.

The advertising period was 42 days which included the Easter period. Advertising occurred from 1 April 2026 to 13 May 2026. Copies of the application and supporting documents were available for inspection online and at the Shire's Administration Office for the duration of the advertising period.

At the close of advertising two (2) submissions were received, one (1) in support of the application and one (1) objecting to the proposal. The concerns raised are summarised as follows:

Issue Raised	Officer comments
Number of services stations already existing along Pinjarra Road.	The availability of existing service stations in the locality is not however a relevant planning consideration in the assessment of this application. Rather planning decisions are to be based on the suitability of the proposed land use having regard to relevant planning matters such as the applicable planning framework, land use compatibility, traffic, amenity, environmental impacts, and orderly and proper planning.



Figure 5. Scope of written Consultation

Referrals/consultation with Government/Service Agencies

The proposal was referred to the following government agencies:

- Department of Health (DoH);
- Main Roads Western Australia (MRWA);
- Department of Water and Environmental Regulation (DWER);
- Water Corporation; and
- Department of Planning, Lands and Heritage (DPLH).

All agency responses are provided in **Attachment 4**. A summary of the agency comments is below.

Department of Health (DoH)

Industrial Interface

There is an existing sensitive land use (caravan park) in close proximity to the proposed service station. DoH recommends that the service station be designed and determined in compliance with the '*Position Statement: Service Stations and Sensitive Land Uses*'. Until separation distances are maintained and offsite public health impacts quantified, particularly to the existing caravan park, the Department of Health is unable to support the application in its current configuration.

Water supply and wastewater disposal

The treatment and disposal of wastewater generated on site is required to comply with the *Health (Treatment of Sewage and Disposal of Effluent and*

Liquid Waste) Regulations 1974 (the Regulations) and must meet the requirements of State Planning Policy 2.9 Water (SPP 2.9). The proposal is located within a sensitive water resource area and will require a minimum of 2 secondary treatment systems.

The documentation indicates that Lots 401 and 154 have been amalgamated but it did not include Lot 155. Wastewater is required to be disposed of within that same time. Lot 155 presents a risk.

The site and soil evaluation were undertaken in springtime, late September, approximately 4 weeks after the DoH's recommended timeframe of the end of August. As such, there were 5 days above 27°C where much drainage and drying would have occurred. Although Perth had reasonable rainfalls for 2025, these events did not meet historic average rainfalls. These factors could have a significant effect on wastewater management in this low-lying, high-water table area, specifically in consideration of winter conditions and higher rainfall years.

The proponent is to ensure there are no neighbouring bores that may be subject to contamination from the proposed fuel station.

Shire Comment

See further comment in the Planning Assessment section of this report regarding the service station location in proximity to the caravan park. It is acknowledged that there is currently a valid planning approval in place for a service station on this site and remains valid until August 2027.

Separate wastewater systems have been proposed for Lot 155 (tenancies 1-3) and another system for Lots 154 and 401 (tenancies 4-6) which are in the process of being amalgamated. It is acknowledged by the applicant that stage 2 cannot be delivered until such time as reticulated sewerage becomes available. A separate onsite effluent disposal application will be required to be approved by the DoH.

Main Roads Western Australia (MRWA)

A separate determination will be needed for access to Pinjarra Road by the Commissioner of Main Roads.

The Left-In-Left-Out (LILO) access to Pinjarra Road was supported on Lot 155 on the basis that there would be appropriate Rights of Carriage being established over the adjoining lots.

A 10% contribution for the cost of the previous signalisation of the Pinjarra Road/Ronlyn Road intersection being \$340,156.61. It is noted that this was previously a condition of approval and requested to be implemented on this proposal.

MRWA has concerns with the proposed drive-through coffee shop will impact the LILO with queuing.

MRWA support the signage based on a 10-year approval noting that Pinjarra Road is planned to be widened to 3 through carriage lanes.

The location of the pylon sign at the intersection of Pinjarra Road and Ronlyn Road was not supported by MRWA.

It was recommended that vegetation within the road widening be removed.

10 conditions were recommended by MRWA of which all have been incorporated with modified wording as required.

Shire Comment

The Shire acknowledges that a separate approval will be required for access to Pinjarra Road.

Reinstatement of the previous condition regarding a contribution for the signalised intersection is supported.

The applicant has provided justification from a traffic consultant that the proposed pylon signs will not obstruct views or pose a safety hazard. The Shire recommends that rather than have a 10 year approval for the signage abutting the LILLO that the location of the pylon signage be amended to reflect the previously approved location.

All 10 conditions recommended by MRWA have been incorporated. It is noted that several of the conditions proposed by MRWA have been modified, mainly due to the associated timeframes for satisfying the condition. It is, however, considered that the intent of the conditions has been retained. The DAP is not bound by a notice of delegation and retains the ability to issue a decision under both LPS4 and the PRS.

The Shire's Technical Services have also expressed concern with the proposed limited queuing for the proposed Food Outlet with a Drive Through Facility (Drive Through Coffee) with the risk of conflict with the main inbound driveway from Pinjarra Road and a primary two way internal circulation aisle serving a key car parking area. Officers consider the queue length provided in both directions to be insufficient, particularly based on local existing examples of similar facilities. Coffee drive-throughs typically generate sharp, concentrated peak demand (particularly weekday mornings) well in excess of average demand. On this basis, the current design is considered to introduce a significant circulation risk to the development, with the potential for queuing to obstruct both the shared site entry from Pinjarra Road and a main internal circulation aisle. There is capacity to relocate the coffee outlet further to the west and introduce additional queueing and a condition is included to address this issue.

Department of Water and Environmental Regulation (DWER)

Noted that the site is located within the Peel-Harvey Coastal Plain Catchment.

Recommended that advice be obtained from DoH regarding the Site and Soil Evaluation.

Based on the information provided the volume of effluent will be below the threshold to be a prescribed premises.

Stated that the site is located within an Environmentally Sensitive Area and a Native Vegetation Clearing Permit will be required.

The department rely on local EHO's to review acoustic reports in the first instance.

Shire Comment

As noted in the native vegetation section of this report it will be the applicant's responsibility to obtain the necessary clearing approvals.

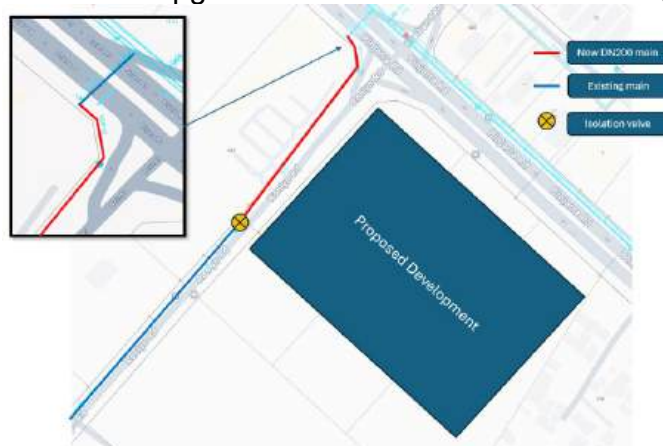
Water Corporation

Water

A portion of the existing water main along Ronlyn Road towards Pinjarra Road is due to be upgraded. This is anticipated to occur in 2036.

If the subject proposal occurs prior to the upgrade there may be a risk of supply interruption.

The proponent will need to be advised that short sections of Ronlyn Road will need to be upgraded to DN200 as shown below (Red).



Wastewater

Wastewater services cannot be provided as there is no wastewater infrastructure in proximity to the subject site.

This area is dependent on the Barragup pump station which is currently within the 5-year plans for upgrading. Due to approvals and required liaison with MRWA and landowners the anticipated date for this area to be serviced by reticulated until at least 2032.

It is requested that condition 28 of the original DAP determination (P290/2017) be applied as part of this proposal.

Shire Comment

See Planning Assessment section of the report. It is noted that the applicant has objected to condition 28 of the original approval and recommended alternative wording:

“Within 12 months of such time that reticulated sewer infrastructure is extended along the site frontage and is reasonably available to the subject development, the proponent is to commence the process of establishing a connection to this infrastructure and removing the existing onsite effluent disposal infrastructure from the site, to the satisfaction of the Shire of Murray.”

Design Review Panel Advice

The Shire obtained advice from an independent urban designer (Mackay Urban Design) on 2 April 2026 (**Attachment 3**).

The advice identified a number of strengths with the proposal, however noted that there was detail missing which could not be assessed. ‘Principle 5 – Sustainability’ and ‘Principle 4 – Functionality and Build Quality’ were both noted as being unable to be adequately assessed due to the absence of internal floor plans for the ‘Showroom’ tenancies and no sustainability strategy. The advice also recommended a master plan be provided over the entire site to demonstrate that the ‘Main Street’ objectives for the ‘Neighbourhood Centre’ (commercial zoned land) would not be compromised by the proposed staged approach.

The design review advice recommended the following actions:

- Including a covered connection between the fuel canopy and kiosk on the Service Station.
- Using pitched roofs on the smaller buildings as a character response.
- Improving pedestrian connections by connecting internal carpark footpaths through the site to the public footpath.
- Change of levels or treatments to prioritise pedestrians at crossing points.
- Adding staff breakout spaces.
- Undertaking a character analysis to identify elements of the local character that can be interpreted through architecture, materials, colour and landscape.
- Acknowledge the bushfire constraints but recommended increased tree density.
- Avoid landscape areas that are exclusively mulched and reduce the use of turf in the verge.
- The colour palette was considered to be overpowering and lacks reference to place. Corporate colours should be avoided and limited to signage.

In response to the comments of the DRP and the Shire, the applicant submitted amended plans and further information. The main changes of the design are:

- Added glazing on the Ronlyn Road frontage.
- Landscaped planter boxes;
- Red asphalt for pedestrian linkages;
- Increased articulation of the roof and raising the height of the corner to address dual frontage; and

- Contiguous awnings which address both street frontages.

The abovementioned changes are a positive improvement in the design and supported by the Shire.

Planning Assessment:

The proposal has been assessed against all the relevant requirements of the Scheme, State and Local Planning Policies 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:

- Peel Region Scheme Approval Requirements
- Local Planning Scheme;
- Barragup Funissdale Activity Centre Local Planning Policy;
- Signage;
- Native Vegetation;
- Wastewater Servicing; and
- Service Station – Sensitive Land Use Interface.

Peel Region Scheme (PRS) Approval Requirements

Under the [Clause 21 Resolution](#) of the PRS, development approval is required on land within and abutting a Regional Road Reservation where direct access is proposed to the regional road.

Under the [Notice of Delegation](#) this decision is delegated to the Local Government (or DAP) *“where the local government accepts the advice and/or recommendation of Main Roads Western Australia.”*

It is noted that several of the conditions proposed by MRWA have been modified, mainly due to the associated timeframes for satisfying the condition. It is, however, considered that the intent of the conditions has been retained. The DAP is not bound by a notice of delegation and retains the ability to issue a decision under both LPS4 and the PRS.

Local Planning Scheme

The subject site is zoned ‘Commercial’ and ‘Service Commercial’ under the Scheme. With the proposed stage 1 being located within the ‘Service Commercial’ portion of the site. The development avoids the 10 metre wide Peel Region Scheme Primary Regional Road reservation adjacent along the frontage of Pinjarra Road.

At the time of lodgement, the appropriate use classification for tenancies 4-6 was ‘Showroom’. On 26 May 2026, Scheme Amendment No.322 was Gazetted which updated the terminology of ‘Showroom’ with ‘Bulky Goods Showroom’. The permissibility of ‘Bulky Goods Showroom’ remains a Permitted (P) use.

In the revised plans submitted on 25 June 2026, the landuse of proposed tenancy 6 has been amended to be ‘Hardware Outlet’ which was previously ‘Not Permitted’ (X) use within the ‘Service Commercial’ zone. With the Gazettal of Scheme Amendment No.322 it is now a Discretionary (D) use.

The use of 'Motor Vehicle Wash' is a Use not Listed under LPS4. The proposal has been advertised accordingly and has been considered consistent with the objectives for the zone in accordance with Clause 5.2.3.

The lots fall within Development Contribution Areas (DCA) 2 and 3 as defined under Schedule 13 of the local Scheme. Contributions within the DCA areas are summarised below:

- DCA 2 – traffic signals at the intersection of Pinjarra Road, Ronlyn Rd and Husband Rd.
- DCA 3 – Temporary waste water pump station located in the south-west corner of Lot 401 adjacent to Ronlyn Rd, Furnissdale.

The original approval for similar landuse dated 29 August 2018 required;

- Contribution of 10% of the cost of the signalised intersection of Pinjarra Road and Ronlyn Road (Condition 16).
- Contributions towards the provision of reticulated sewerage and a legal agreement ensuring delivery of those contributions (Condition 28).

The above conditions are deemed sufficient to meet the Scheme requirements if implemented on the current application.

Barragup Furnissdale Activity Centre Local Planning Policy

The subject site falls within the 'Business Precinct' of the Barragup Furnissdale Activity Centre LPP.

The application has been assessed against the Policy provisions and is considered consistent, with the exception of the following proposed variations.

Item	Requirement	Proposal	Compliance
Business Precinct			
Development Height	Development is to present a minimum two storey façade (or equivalent) and no more than three storeys (or equivalent).	The façade of the main showroom tenancies is single storey and varies from 12.225m. The Hardware Outlet is 14.75m.	Bulky goods and large format retail, and service stations are inherently single level developments. Whilst the service station is a typical scale for such a development, the heights of the main building are approximately consistent with a three storey building scale with a the variation in parapet height between the Hardware Outlet and the Showroom tenancies and height variations along the main building façade provides massing differentiation and visual interest to the streetscape avoiding a flat, monotonous building line.

Setbacks	East of Ronlyn Road, buildings are to be setback a minimum of 15.5 metres and a maximum of 21 metres to the ultimate alignment of Pinjarra Road, being the boundary of the Primary Regional Road reservation identified under the Peel Region Scheme, and secondary streets with adjacent shared driveways as shown on the plan attached to this policy.	Main building bulk of tenancies 4-6 is setback 44m.	While the setback exceeds the Policy range, the standard in the Policy was drafted around a generic Business Precinct concept and does not fully anticipate the scale of integrated, single-ownership development now proposed across the amalgamated lots. The increased setback delivers the Policy's underlying access and movement objectives more effectively than strict compliance would: it enables a single, coordinated internal vehicle and pedestrian network serving all tenancies, consolidated at-grade parking clear of the Pinjarra Road frontage, and a consistent building line across Tenancies 4 - 6 rather than the fragmented setbacks that would result from staged, lot by lot development. The resulting layout is considered to achieve Objective 1 (a comprehensively planned activity centre) and Objective 2 (safe, functional, coordinated access) and is supported.
Building form and character	• Elevations address street. • Buildings on corner lots to address both street frontages. • Large expanses of blank walls to be avoided. • Where more than one building is planned the design must present as a harmonious image.	• In line with the DRP advice and on the advice of the Shire the first panel fronting Ronlyn Road has been updated to be glazed. • Main entrances align with signage panels and is central to façade. •	The applicant has been responsive to design review, with the Ronlyn Road frontage has been amended to introduce glazing specifically to address wall articulation concerns raised through the DRP process. Entrances are clearly delineated and consistently located, satisfying the legibility objective. The tenancy layout presents a coordinated, harmonious composition across Tenancies 4 – 6 through consistent lines, awning treatment and material palette.

	• Main entrances to be clearly identifiable and in the front elevation and clearly visible from street.		
Materials and colours	Materials to be articulated and colours to be muted tones.	Hardware outlet is bright red. Modified plans have incorporated brick piers and customorb cladding between glazing. Remainder muted tones.	The proposal on balance has achieve a suitable balance between corporate branding and cohesive design.

The current proposal is overall consistent with the intent of the Barrigup- Furnissdale Activity Centre Local Planning Policy and reflects the current planning approval which is valid until 29 August 2027.

Signage

The original DAP approval had 3 pylon signs fronting Pinjarra Road being 8.825m for the service station pylon sign and the 2 angled pylon signs ranging in height from 10m to 11m.

The previously approved service station signage was approved further east (**Figure 6**), closer to the angled parking bays. The Shire's Signs – Local Planning Policy requires at least a 40m from another pylon sign on either the same or adjacent site. The Shire recommends relocating the proposed Service Station pylon sign to the previously approved location, which would meet the policy requirement. The proposed 11m pylon sign abutting the LILLO appears to be close to where the previously approved sign was albeit slightly closer to the LILLO. It is recommended that the applicant consult with the Shire of Murray and Main Roads Western Australia to refine the design of the pylon sign to the west of the LILLO (Condition 21).

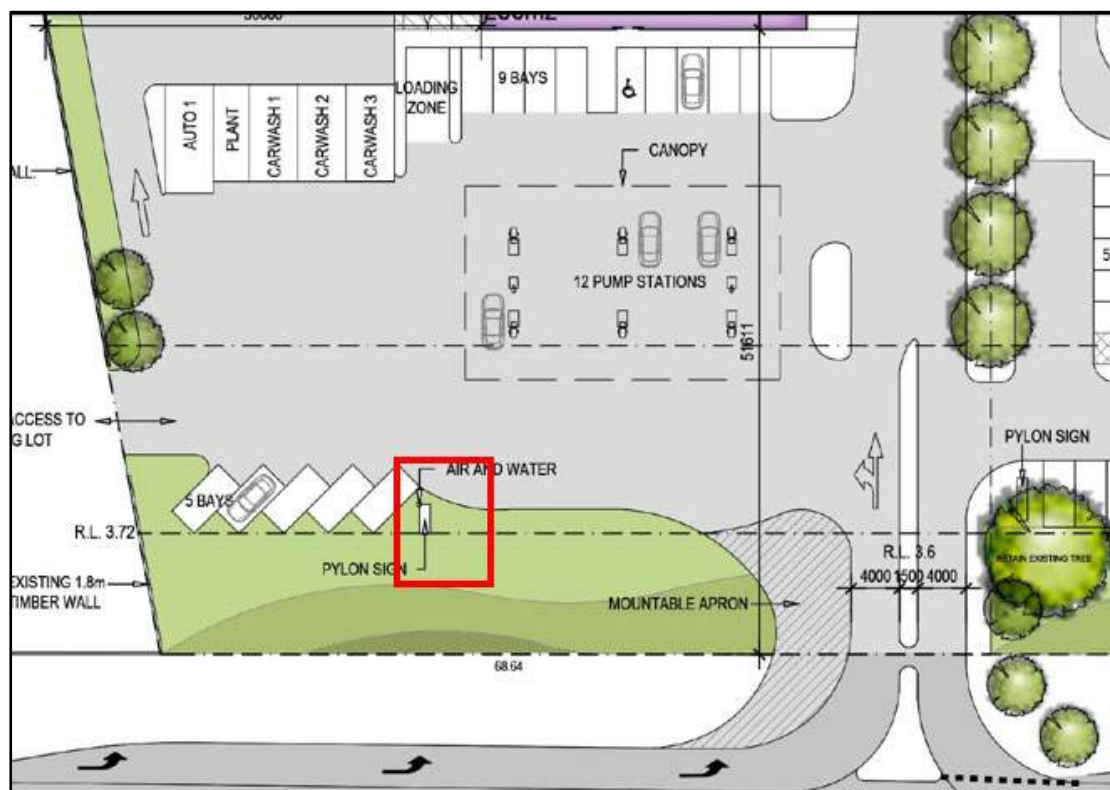


Figure 6. Previously approved location of service station pylon sign

The proposed pylon sign for the service station is 8.01m. The 4 identical pylon signs are all 10.85m. The applicant has provided an assessment of the sight lines.

Condition 39 of the original DAP required the 10m to 11m angled pylon sign fronting Ronlyn Road to be reduced to 6m (**Figure 7**). This was on the basis that Ronlyn Road is a future Mainstreet with a local neighbourhood commercial centre. It is recommended that this condition be carried forward (Condition 17). The Shire notes that there was no sign previously on the internal access road in the location shown in **Figure 8**. It is recommended that this also be reduced in height to match the signage fronting Ronlyn Road.

The Shire's Signs – Local Planning Policy requires wall signs not exceed 2m in aggregate area on any one wall or 25% of the wall area. The Shire estimates the wall signage on tenancies 4 and 5 to be approximately 33m². The Shire recommends the signage panels be reducing in size (Condition 21 point iii).



Figure 7. Location of sign to be receded in height

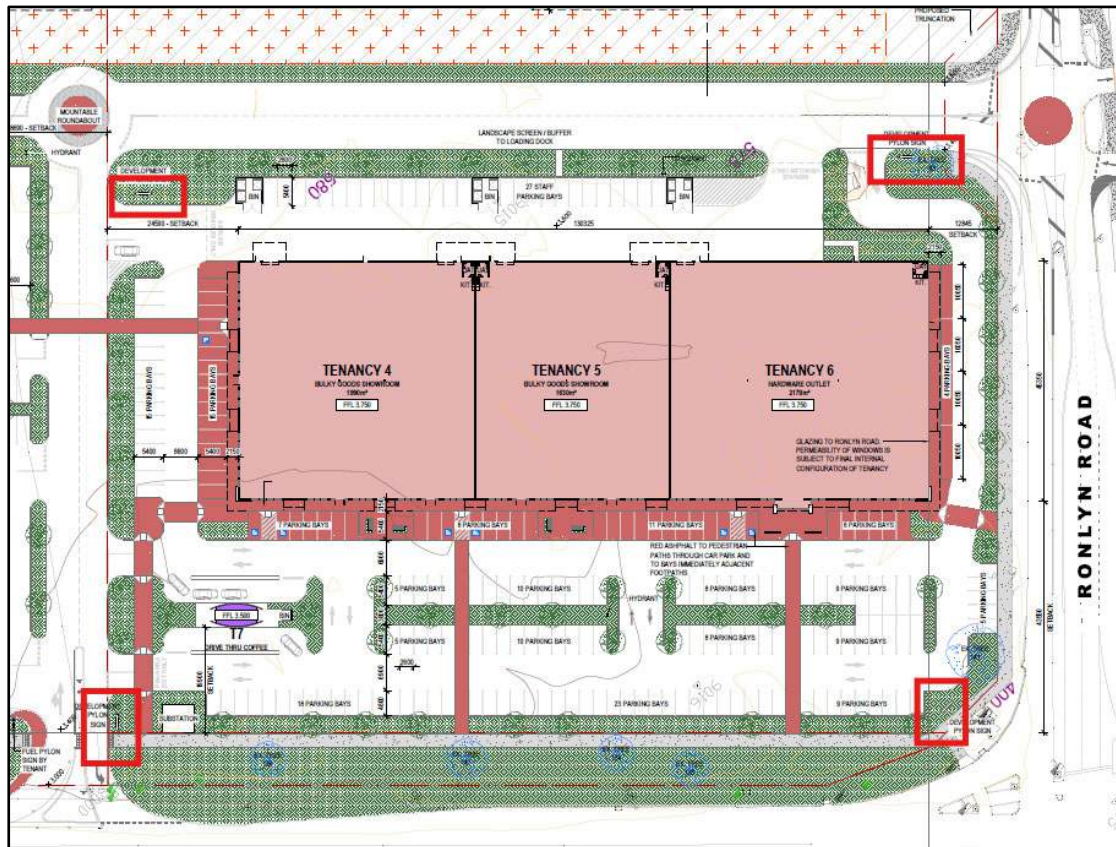


Figure 8. Location of proposed 11m pylon signs

Native Vegetation

A substantial portion of Lot 154 (580) Pinjarra Road is mapped as the *Banksia Woodlands of the Swan Coastal Plain* Threatened Ecological Community (TEC) under the Environment Protection and Biodiversity Conservation Act 1999, with a smaller portion at the rear of Lot 155 (590) Pinjarra Road also identified as forming part of the TEC. While there is an existing development approval that remains current, any clearing of native vegetation associated with the approved or proposed development must be separately authorised under the relevant environmental legislation. Advice received from the Department of Water and Environmental Regulation indicates that a Native Vegetation Clearing Permit under the Environmental Protection Act 1986 will be required. In addition, as the site contains a listed TEC, the applicant may also require approval or a determination under the Environment Protection and Biodiversity Conservation Act 1999 before undertaking any clearing or works that may impact the protected ecological community. An advice note is therefore recommended to inform the applicant that separate environmental approvals may be required prior to the commencement of any clearing or development works.



Figure 6. Extent of Banksia Woodland TEC

Wastewater Servicing

The subject land is unsewered. Water Corporation has confirmed that no wastewater infrastructure currently exists in proximity to the site, with servicing of this catchment dependent on the future upgrade of the Barragup pump station. While this upgrade is listed within Water Corporation's forward capital works program, Water Corporation has advised that, having regard to the approvals process and required liaison with

Main Roads WA and affected landowners, reticulated sewer is not anticipated to be available to service this area until at least 2032.

In the interim, the application proposes servicing by way of an onsite effluent disposal system, designed and approved in accordance with Department of Health requirements. This is an accepted approach to servicing development in unsewered areas where reticulated infrastructure is not presently available. Given the site's location within the Peel Harvey Coastal Plain Catchment, a sensitive area for nutrient export under SPP 2.9 Water, the onsite effluent disposal system will be required to incorporate secondary treatment with nutrient removal capability, subject to confirmation through a suitable site and soil evaluation to Department of Health requirements. This can be addressed through the separate approval process for the onsite effluent disposal system.

The absence of reticulated sewer particularly with the fragmented land ownership in the precinct however raises a separate and important planning consideration as to how the future cost of extending that infrastructure to this catchment is to be fairly apportioned.

Water Corporation has requested the imposition of the same condition (No. 28) as was applied on the previous approval for this site, requiring the landowner to contribute proportionally to any pre-funding arrangement established under Water Corporation's Developer Constructed Headworks Process, secured by way of a legal agreement and caveat.

28. *"The landowner is to contribute proportionally to any reasonable pre-funding arrangement agreed between the adjoining landowner and Water Corporation of WA (WCWA), in accordance with WCWA's established Developer Constructed Headworks Process, for the purpose of bringing forward its capital works program to provide reticulated sewerage infrastructure to the local catchment area. The proportional contribution shall be calculated based on the total area the development site bares to the total area of the catchment which is to be serviced by the WCWA reticulated sewerage infrastructure. Prior to the development first being occupied, the landowner is to enter into a legal agreement supported by a subject to claim caveat to cover this obligation to the satisfaction of the local government on advice from the Water Corporation. Any caveat lodged to protect the above agreement shall be removed by the local government once the works for the future WCWA reticulated sewerage infrastructure to service the local catchment area has been completed".*

The applicant has objected to the imposition of an equivalent condition on this approval, proposing instead the following alternative:

"Within 12 months of such time that reticulated sewer infrastructure is extended along the site frontage and is reasonably available to the subject development, the proponent is to commence the process of establishing a connection to this infrastructure and removing the existing onsite effluent disposal infrastructure from the site, to the satisfaction of the Shire of Murray."

The applicant's proposed wording is not supported, and it is recommended that a condition consistent with condition 28 be retained, for the following reasons:

- The two conditions address different obligations. The applicant's wording deals only with the mechanical act of connecting to infrastructure once it happens to become available. It imposes no obligation to contribute toward the cost of delivering that infrastructure in the first place. Former condition 28 is a headworks cost sharing mechanism. The applicant's wording is a connection timing mechanism. Substituting one for the other does not achieve the same planning outcome rather it removes the funding contribution obligation entirely.
- Without a contribution mechanism, the development obtains a benefit at no cost. Approval of the application allows the development to proceed now, on an interim onsite system, while the site will nonetheless ultimately benefit from the future pump station upgrade once delivered. In the absence of a proportional contribution requirement, this development would bear none of the cost of the infrastructure from which it will eventually benefit, with that cost instead falling entirely to other landowners in the catchment or to Water Corporation's broader capital program.
- A legal agreement supported by a caveat runs with the land and binds successors in title over what is likely to be a lengthy period (potentially a decade or more, on Water Corporation's current advice). The applicant's proposed wording contains no equivalent security instrument, which is a significant weakness given the timeframe involved and the potential for a change in land ownership before infrastructure is delivered.
- A similar condition has already been applied to other sites in this precinct and to previous approvals granted for this site. Applying weaker or substantively different wording to this site risks inconsistent treatment of landowners contributing to the same shared infrastructure, and may compromise the integrity of the proportional contribution calculation, which depends on a consistent basis being applied across all contributing sites in the catchment.

Service Station – Sensitive Land Use Interface

The proposed Service Station occupies the same location as the existing, valid approval, with the canopy and fuel bowsers retained in the same position relative to the caravan park. The building/kiosk has, however, been reoriented.

The Department of Health has advised it is unable to support the application in its current form, having regard to the proximity of the caravan park, and has recommended assessment against the Department's *Position Statement: Service Stations and Sensitive Land Uses* (2024). That Position Statement addresses health risk from benzene and VOC emissions and applies a risk-based separation framework, with mitigating design features notably Stage II vapour recovery capable of supporting reduced separation where fitted.

As the canopy and bowsers, being the principal emission sources, remain in their previously approved position, the separation distance to the caravan park is unchanged from the existing approval. The reorientation of the kiosk building alone is not considered to increase risk to the caravan park. It is recommended that a condition be included to undertake a risk assessment to minimise the impacts of the service station on the adjoining caravan park as far as practical recognising the existing approval to address DoH's concerns.

Conclusion:

The proposed development is recommended for approval under the Shire of Murray Town Planning Scheme No. 4, Peel Region Scheme and Deemed Provisions subject to the conditions listed above.

Proposed Mixed Commercial Development

Application for Planning Approval



Lots 401, 154, 155 (578, 580, 590) Pinjarra Road, Furnissdale

February 2026

Prepared for Furnissdale Management Pty Ltd

DOCUMENT CONTROL

DESCRIPTION	DATE
260227 25-369 DA report - Furnissdale (rev0).docx	27 February 2026

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1 INTRODUCTION

Apex Planning has prepared this application for planning approval with regard to a mixed commercial development proposed at Lots 401, 154, 155 (578, 580, 590) Pinjarra Road, Furnissdale (hereafter referred to as the **development site**).

The proposal involves the establishment of a brand new service commercial development comprising bulky goods showrooms, a service station, car wash, gym, and small drive-through coffee outlet on the site.

The proposed service commercial development will improve the amenity of the local area by establishing appropriate commercial uses with new architecturally designed buildings, a significant provision of landscaping, and appropriate access arrangements to the surrounding road network.

The proposed land use mix and development typology is entirely consistent with the Service Commercial zoning of the land. The proposal is supported by a range of expert technical inputs which demonstrate its suitability for establishment on the development site.

The application warrants the support of the Shire of Murray (**Shire**) and the approval of the Metro Outer DAP.

1.1 PRE-LODGEEMENT ENGAGEMENT

Pre-lodgement consultation has occurred with the Shire and Main Roads WA (**MRWA**) with regard to the subject development.

The landowner of the site has engaged in numerous discussions with the Shire's planning team over the course of 2025 regarding the proposed development, and a pre-lodgement meeting was attended by the landowner, Shire, and Apex Planning in December 2025.

In February 2026, the landowner, Apex Planning, Porter Consulting Engineers, and Transcore attended a videoconference meeting with representatives of Main Roads WA to discuss access considerations.

The feedback received from the Shire and MRWA during the pre-lodgement phase of the project has informed the finalisation of the application materials.

2 LAND DESCRIPTION

2.1 LOT DETAILS AND ENCUMBRANCES

The land subject of this application for planning approval is described in **Table 1** below.

Table 1: Lot details				
Lot	Deposited Plan / Diagram	Volume	Folio	Ownership
401	63717	2741	792	Furnissdale Management Pty Ltd
154	20014	1186	442	
155	20014	1742	137	

The Certificates of Title are provided at **Appendix 1**. There are no encumbrances listed on the CTs.

2.2 SUBDIVISION APPROVAL

On 28th January 2026, the WAPC granted conditional approval to a Form 1A application (WAPC ref 202397) which would reconfigure the lot boundaries of Lots 401 and 154 as shown in the below image:



The approved lot configuration is reflected on the development plans of the subject application, demonstrating no conflict between buildings and lot boundaries.

The proponent is currently in the process of condition clearances, with a view to having the subdivision completed by the end of 2026.

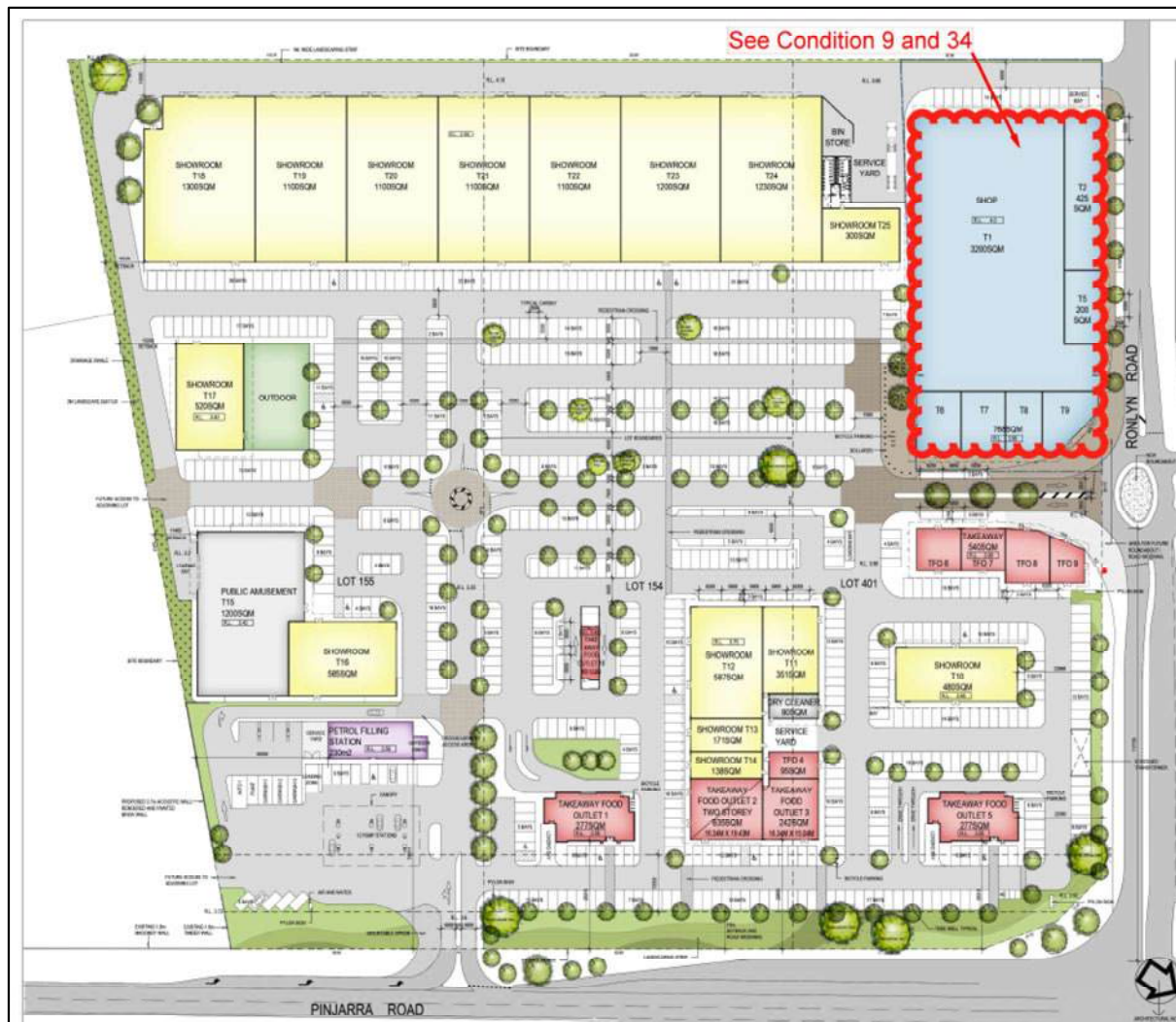
Application for planning approval

Lots 401, 154, 155 (578, 580, 590) Pinjarra Road, Furnissdale

2.3 DEVELOPMENT APPROVAL

The development site has benefit of a current development approval for a mixed commercial development, originally granted by the former Metro South-West JDAP in August 2018. The approval has been modified/extended a number of times, most recently in April 2025, and remains valid until 29 August 2027.

An extract of the currently approved site layout is provided below:



The approved development comprises a land use mix which is similar to the subject application, and includes a combination of showrooms, takeaway food outlets, a service station / car wash, and the like.

Importantly, the approved development has access arrangements which include a left in / left out crossover to Pinjarra Road and a full movement roundabout to Ronlyn Road. The access arrangements are identical to those which are proposed by the subject application.

3 CONTEXTUAL CONSIDERATIONS

The following section describes the contextual characteristics of the site and local area. Refer to **Figure 1: Aerial Photo** which illustrates the development site and surroundings.

3.1 EXISTING SITE CONDITIONS

The development site is currently comprised of three lots (Lots 401, 154, 155) which collectively comprise 6.2175ha. All three lots have frontage to Pinjarra Road, whilst Lot 401 has corner frontage to both Pinjarra Road and Ronlyn Road.

All three lots are undeveloped and contain scattered vegetation and vehicular access tracks.

Based on services mapping, reticulated water and power is available in the immediate area. The development site is remote from reticulated sewer, with the nearest gravity-fed sewer line located approximately 1.1km south-west on Ronlyn Road.

In terms of its topography, the site is generally flat with a gentle fall of approximately 0.5-0.6m toward Pinjarra Road.

3.2 DESCRIPTION OF CONTEXT

The development site is within the locality of Furnissdale and is located approximately:

- 12.5km north-west of the Pinjarra Secondary Centre.
- 3.5km south-east of the Mandurah Strategic Centre.
- 67km south of the Perth CBD.

The development site is located at the southern corner of the signalised intersection of Pinjarra Road and Ronlyn Road.

Pinjarra Road is a Primary Distributor road (under the control of Main Roads) which runs between Mandurah (west) and Pinjarra (east), and connects to the key transport routes of Forrest Highway, South Western Highway, and Mandurah Road. Pinjarra Road in the vicinity of the site is constructed as dual carriageway standard (with associated turning lanes) and wide central median.

Ronlyn Road is a Local Distributor road which runs between Pinjarra Road and Riverside Drive, providing a more localised function for the wider Furnissdale locality. Ronlyn Road in the vicinity of the site is constructed as a two-way undivided road with associated turning lanes at the Pinjarra Road signalised intersection.

The development site is generally adjacent to existing commercial and service commercial development which relies on its visibility to / exposure from / access via Pinjarra Road, noting the existence of:

- A Spudshed facility to the north-west, on the opposite side of Ronlyn Road.

- An agglomeration of service commercial uses to the north-east, on the opposite side of Pinjarra Road, which include showrooms, trade supply, a caravan sales facility, drive-through liquor store, and service station.

The development site adjoins two separate lots along its south-eastern boundary, of which one contains the Peel Caravan Park and the other a semi-rural lot containing a detached dwelling and a large external area with sheds and paddock. The site adjoins a large, mostly vegetation site along its south-western boundary.

In terms of town planning context, the development site forms part of the emerging Barragup Furnissdale Activity Centre, which is anchored by a planned neighbourhood centre and is predominantly comprised of a Business precinct, with a small sliver of land at its north-western periphery identified as a Residential precinct.

The development site and adjacent land is mostly within the Business precinct of the activity centre (indicating an intended future service commercial context for the interface with Pinjarra Road), with an area fronting Ronlyn Road at the western corner of the site within the Neighbourhood Centre precinct.

A footpath exists on the southern side of Pinjarra Road along the frontage of the development site, which links to the wider pathway network along Pinjarra Road.

In terms of public transportation, bus stops exist within the Pinjarra Road verges opposite the site which are part of the 600, 604, 605 routes and collectively offer a link between Mandurah Station and Pinjarra.

Refer to **Figure 1: Aerial Photo** on the subsequent page, which illustrates the development site and surroundings.



Figure 1: Aerial Photo

**Lots 401, 154, 155 (578, 580, 590) Pinjarra Road,
Furnissdale**



Drawn: Alessandro Stagno

Rev: 0

Source: MNG Access

Date: 4 February 2026

apex
planning

4 PROPOSED DEVELOPMENT

4.1 SERVICE COMMERCIAL DEVELOPMENT

In reference to the development plans at **Appendix 2**, the subject application seeks approval for the establishment of a service commercial development within a 3.2677ha portion of the site fronting Pinjarra Road and Ronlyn Road.

The service commercial development will activate undeveloped commercial land at a key corner location and includes a range of complementary uses / urban support services to benefit the growing urban population of the surrounding area and high number of vehicles using Pinjarra Road. The subject application represents the first stage of commercial development on the site, positioned within the front half.

The development is presented in a well-arranged layout with appropriate access arrangements, substantial landscape provision, and compliant car parking. Two main internal access driveways are provided, which connect to the external road network via a left turn only crossover to Pinjarra Road and a full movement roundabout to Ronlyn Road. The main access driveways provide linkages to the internal car parking areas for each building, enabling resilient and coordinated internal circulation.

The built form / design approach for the development provides a suitable architectural response which incorporates articulation, presence, ground level permeability, texture, and cohesiveness whilst allowing each individual building to be distinguished through its colour palette and integrated signage. The corner sections of buildings include elevated / accentuated features to provide a sense of scale. A holistic approach has been adopted for the site's semi-rural contextual response, incorporating a considerable provision of landscaping/trees and hardscape treatments for pathways.

Extracts of 3D images are provided below, illustrating the proposed development:



The specifics of the service commercial development are outlined below:

- Tenancy 1: A 24 hour service station facility at the eastern corner of the site addressing the eastern frontage to Pinjarra Road. The service station includes a 223sqm convenience building and associated refuelling area comprising eight bowzers (sixteen refuelling positions) beneath a canopy.
- Tenancy 2: A 24 hour car wash facility south of the service station, which includes two auto-wash bays and a manual/caravan wash bay and associated plant room. The car wash facility is designed as a covered commercial building. It is important to note that the subject application intends to make provision for the car wash facility, though it is not intended to construct the car wash until such time that reticulated sewer becomes available to the site.
- Tenancy 3: A 24 hour gym facility south of the car wash, provided within a 1,430sqm building with a servicing nib for waste storage and loading.
- Tenancy 4, 5, 6: Three bulky goods showrooms within a consolidated building totalling 5,798sqm located at the western side of the site which addresses the Pinjarra Road and Ronlyn Road frontages. Due to the anticipated size of service vehicles, the bulky goods showrooms are to be serviced via covered loading areas at the rear of the building, not visible from the road network and screened from other directions by a generous landscaping buffer. Each tenancy has a dedicated detached bin store adjacent to its respective loading area.
- Tenancy 7: A small drive-through coffee outlet within the Pinjarra Road setback area of T4-6, comprised of a 28sqm structure with associated drive-through lanes on either side and a small detached bin enclosure.
- The proposal provides 290 parking spaces which are distributed throughout dedicated car parking areas for each building. Six motorcycle bays are also provided to encourage alternate transport modes. Pedestrian movement and crossing areas are provided throughout the site to promote a shared environment and allow patrons to move between the various areas comfortably and safely.
- Various signage on the buildings, as well as three freestanding signs along the Pinjarra Road frontage and one freestanding sign along Ronlyn Road frontage. An assessment is provided against the Shire's signage policy later in this report.

The following sub-sections provide an overview of the specific elements of the development proposal.

4.2 LANDSCAPING

A landscape plan prepared by Urban Retreat is provided at **Appendix 2**. The subject development provides 6,275sqm of soft landscaping throughout the site, which manifests itself within generous landscape buffer strips along street frontages and islands in the car park. The soft landscaping provision represents 19.2% of the Stage 1 development area, and around 10% of the overall site area. It is noted that landscape planting throughout the site is somewhat constrained due to the site's bushfire management requirements, including the need to achieve Asset Protection Zone / low threat planting per the State bushfire framework.

As part of the landscaping approach, 63 new trees will be planted throughout the Stage 1 area and 6 existing mature trees are identified for retention where practical to do so. A total canopy cover of 1,233sqm is achieved. Additionally, existing vegetation within the 21m buffer of the stage 2 area will be retained.

The species selection is robust, locationally appropriate and based on the environment in which the various trees, grasses/shrubs/groundcovers will be positioned within the site to ensure viability.

The planting arrangements are intended to complement the development's interface with the public realm and enhance the site's presentation to the street.

4.3 TRAFFIC AND ACCESS

The proposed development is supported by a comprehensive Transport Impact Assessment produced by Transcore (refer to **Appendix 4**). The TIA is prepared in accordance with the requirements of the WA Planning Commission's traffic impact assessment guidelines. The outcomes of the TIA are outlined as follows:

- The proposed development would conservatively generate approximately 135 and 238 new trips during the typical weekday AM and PM peak hours, and 282 trips during the Saturday midday peak (accounting for passing trade).
- The net addition of traffic to the Pinjarra Road / Ronlyn Road / Husband Road intersection shows satisfactory operations in both the post-development and 10 year scenario, with negligible increases in overall queues/delays and no major change to level of service.
- Satisfactory operation of the proposed Pinjarra Road crossover and Ronlyn Road roundabout for all scenarios.
- Satisfactory movement of service vehicles through the dedicated service areas for each building, depicted on swept path plans forming part of the TIA. This includes:
 - The movement of a 19m fuel tanker through the site to perform refuelling for the service station.
 - The movement of 19m semi-trailer delivery vehicle through the rear of the bulky goods showroom building.
 - The movement of 12.5m service vehicle to the service station service yard, the rear of the bulky goods showroom building, and the loading area of the gym building.
- A conservative stacking / queuing capacity analysis for the service station, demonstrating no impact to the internal site car park driveway system during the critical peak-hour. Compliant stacking provided for the drive-through coffee.
- No particular transport or safety issues identified.

The TIA demonstrates that the proposed development is acceptable from a traffic generation point of view.

4.3.1 ACCESS, CIRCULATION, AND SERVICING ARRANGEMENTS

The access arrangements of the proposed development include:

- A left in / left out crossover to Pinjarra Road, which is designed to accommodate a pedestrian crossing point and a turning pocket for the entry movement at the approach to the crossover. The crossover width will be 11.4m at the future property boundary to Pinjarra Road.
- A mountable roundabout to Ronlyn Road which enables full movement access into the site whilst maintaining the existing access of the adjacent Spudshed site.

The site access points connect to two main access driveways, which link to the dedicated car parking areas for each building and designed such that the main access driveways will maintain an unimpeded flow of traffic at all times. The internal driveway system includes provision for future connection to the adjoining land to the east in accordance with the Shire's Barragup Furnissdale Activity Centre Policy.

The circulation system through the proposed development has been carefully considered to separate movements of service vehicles and patrons as much as practical, including an area for service vehicles only provided at the rear of the bulky goods showroom building.

Servicing arrangements throughout the development are anticipated to include:

- For the service station, bulk fuel deliveries undertaken by a 19m fuel tanker via a remote filling point located at the western end of the forecourt, and typical servicing by a 12.5m vehicle via its service yard at the southern side of the building.
- For the car wash, waste collection to the small bin store which can occur easily via the driveways.
- For the gym, waste collection and deliveries within the servicing nib integrated into the building by a 12.5m vehicle which is accessed via the southern driveway.
- For the bulky goods showrooms, servicing to occur at the integrated rear loading areas at the back of the building via the dedicated service vehicle area. Servicing will be carried out by vehicles up to 19m, and waste collection by a 12.5m vehicle.
- For the drive-through coffee outlet, servicing to occur via the adjacent driveway by a small commercial vehicle.

Patrons will have easy and comfortable vehicular access to all parking areas on the site via the main internal driveways, with a series of pedestrian pathways providing connectivity to the entrance of each building and to the external pathway network.

The proposed access, circulation, and servicing arrangements are satisfactory.

4.4 CIVIL DESIGN

The project civil consulting engineers, Porters, have prepared the following civil design inputs to support the development proposal:

- Conceptual stormwater management plan for the development which meets the Shire's standards and specifications (refer to **Appendix 4**).
- Bulk earthworks plan depicting the earthworks design for the subject proposal, including cut and fill arrangements across the site (refer to **Appendix 5**).

The site's stormwater system is divided into four catchment areas to allow runoff to be infiltrated as close to source as possible. The stormwater system is designed to capture and contain stormwater runoff as per the Shire's specifications through a series of soakwells, drainage pipes, and drainage cells with sufficient storage volume to accommodate the requisite rainfall event.

As part of the stormwater quality management approach, the refuelling area of the service station will be bunded and separated so that all runoff in this area is directed to a SPEL system which captures and treats stormwater.

As part of the civil design approach, it is necessary to carry out bulk earthworks involving fill throughout the Stage 1 development area. The extent of fill is generally less than 0.5m across the site, allowing finished floor levels of 3.75m AHD to be achieved for the main buildings and 3.5m AHD for the drive-through coffee outlet. The intention is to undertake earthworks in such a manner that levels will integrate with those at the street boundaries.

A key component of the earthworks approach is to extract material from a portion of the Stage 2 area at the rear of the site, to be used as fill for the Stage 1 area. The existing levels in the Stage 2 area will be cut to 2.9m AHD, and a 21m wide buffer is retained along the periphery to ensure it is screened from the public realm.

4.5 EFFLUENT DISPOSAL

As the development site is currently remote from reticulated sewer, an onsite effluent disposal system is required to service the proposed land uses until such time that a reticulated system becomes available. A site and soil evaluation (**SSE**) has been prepared in support of the development proposal, and is provided at **Appendix 7**.

The SSE confirms that the site is within a 'sewerage sensitive area', necessitating secondary treatment systems in the form of Aerobic Treatment Units. Based on the assessment undertaken, separate leach drain fields are provided for the two future lots forming the development site which have been determined to be suitably sized to cater for the needs of the proposed land uses (except for the car wash). As noted earlier in this report, provision is made for the car wash on the development plans, however it is not intended to deliver the car wash until such time that reticulated sewer becomes available.

Detailed hydraulic design plans can be provided at building permit stage in accordance with a suitable condition of planning approval.

4.6 WASTE MANAGEMENT DETAILS

Each building of the proposed service commercial development has a dedicated waste area intended to service the proposed land uses. These include:

- An integrated bin store within the service yard of the service station.
- A small bin store attached to the plant room of the car wash.
- An integrated bin store within the service nib / loading area of the gym.
- Three detached bin stores adjacent to each loading area for the three bulky goods showroom tenancies.
- A small detached bin store adjacent to the drive-through coffee outlet.

Waste collection will be undertaken by private contractor and the frequency will depend on the specific requirement of the land use.

All bin stores will be designed compliantly with relevant health regulations, with wash down facilities and a graded drain connected to the site's sewer system. The bin stores will be maintained to a high standard by the respective operators and regularly cleaned to prevent odours.

A waste management plan can be provided at building permit stage in accordance with a condition of planning approval, which confirms the specific details of the relevant waste management arrangements.

4.7 ACOUSTIC COMPLIANCE

An environmental noise assessment has been prepared for the subject development, noting it involves 24 hour land uses and the site is in proximity to sensitive receivers (particularly Peel Caravan Park to the south-east). The acoustic assessment is provided at **Appendix 8**.

The acoustic assessment covers noise associated with mechanical plant, vehicular movements / car parking, truck movements and associated refrigeration units, and the operation of the car wash / service station / gym.

The acoustic assessment demonstrates compliance with the *Environmental Protection (Noise) Regulations 1997* can be achieved at all times, subject to:

- Mechanical services (including air conditioning units) located on the roof to be screened from neighbouring premises.
- Refrigeration / condensing units to have a 'quiet' function.
- A 2.4m high acoustic fence to be provided along a portion of the eastern boundary, as shown on the development plans.
- Automatically closing doors for the car wash, to be closed during the wash cycle.

5 STATUTORY PLANNING ASSESSMENT

5.1 PEEL REGION SCHEME

The lots forming the development site are zoned Urban under the PRS. The proposed development seeks to establish service commercial uses which will support the ongoing growth of the wider urban areas and vehicular traffic using Pinjarra Road. The proposal is consistent with the intent of the Urban zone.

The site also fronts the Pinjarra Road Primary Regional Roads reservation, which is under the control of Main Roads WA. A portion of the lots is impacted by the extent of the reserve.

In accordance with the provisions of the PRS and its associated instrument of delegation, it is anticipated that the subject application will be referred to Main Roads for a recommendation per the processes established therein.

5.2 DRAFT OPERATIONAL POLICY 1.12 PLANNING PROPOSALS ADJOINING REGIONAL ROADS IN WESTERN AUSTRALIA

In March 2023, the WAPC published draft OP 1.12 for public comment which seeks to consolidate DC 1.7 General Road Planning and DC 5.1 Regional Roads Vehicular Access. As the proposal involves the creation of a new access point to Pinjarra Road, the provisions of these policies are applicable.

Per Section 5.2 of draft OP 1.12, new driveway access to Regional Roads may be approved following consultation with the relevant authority (in this instance Main Roads) and the local government, subject to a number of criteria being addressed which pertain to the effects of the proposal on traffic flow / road safety of the regional road, the position / configuration of driveways, and the design of driveways based on their intended use.

In support of the subject proposal's access arrangements, the following is noted:

- The proposed access arrangements, which involve a left turn only crossover to Pinjarra Road with an associated left turn pocket, have been previously assessed and approved for a similar development proposal as explained earlier in this report. The previous approval remains valid until August 2027. The access arrangements are identical to the subject application.
- The access arrangements and traffic considerations of the subject development have been assessed as part of the TIA forming part of the application materials. The TIA demonstrates the proposed access arrangements are satisfactory and will not create a detrimental impact to the external road network, including through SIDRA assessments and traffic flow/distribution analysis.
- As the proposed Pinjarra Road crossover caters for left turn movements only, its potential for negative impacts to the function of the road are minimised. The crossover includes a compliantly designed left turn pocket which ensures traffic entering the site can do so safely without impeding traffic flow. The crossover is aligned at a right angle to Pinjarra Road and is appropriately designed to

cater for the movements of a 19m semi trailer, which is the largest vehicle anticipated to use the site.

- The provision of a left turn only crossover to Pinjarra Road is appropriate for a development of this typology and scale, as it includes land uses which tend to capture passing traffic during peak periods (ie service station), and allows patrons to more directly access the development via the higher order road rather than indirectly navigating toward their intended destination on the site.

The proposed access arrangements are therefore in line with the criteria of draft OP1.12 and warrant the support of the Shire and Main Roads.

5.3 STATE PLANNING POLICY 2.9 WATER

SPP2.9 and its associated guidelines were endorsed in December 2025 and consolidates a number of previous water-based policies of the State government, including the former Government Sewerage Policy.

SPP2.9 encourages all “water-related matters” to be considered at the earliest possible stage of the planning process. In this instance, the proposal’s stormwater and wastewater arrangements are relevant.

A concept stormwater management plan is included with the application materials which demonstrates the stormwater system has been considered as part of the design process, allowing for the necessary onsite infrastructure (soakwells, drainage pipework, drainage cells) to cater for the requisite rainfall event. As part of the stormwater arrangements, measures are included to optimise the quality of stormwater runoff, including the use of a SPEL system as part of the service station.

As the site is currently remote from the nearest gravity-fed reticulated sewer (which is at least 1.1km from the site), it is not possible to connect to this service. As a result, onsite effluent disposal is required to service the proposed land uses. An SSE has been prepared as part of the proposal which demonstrates the site is capable of accommodating the required onsite effluent disposal systems per the SPP2.9 guidelines. This includes a secondary treatment system in the form of an ATU, as the site is within a sewerage sensitive area. The development plans depict the ‘land application area’ (ie the unencumbered area where treated wastewater will be distributed for further in-soil treatment) in the form of leach fields.

The proposed development is consistent with SPP2.9 and its associated guidelines and warrants support.

5.4 STATE PLANNING POLICY 3.7 BUSHFIRE

The development site is within an area identified as ‘bushfire prone’ by Department of Fire and Emergency Services mapping. A bushfire assessment is therefore required per the provisions of SPP3.7 and its associated guidelines.

A Bushfire Management Plan (**BMP**) is provided at **Appendix 9** which demonstrates a compliant Bushfire Attack Level (**BAL**) rating of BAL-29 can be achieved for all

proposed buildings subject to the creation of an Asset Protection Zone throughout the external car parking areas and within 29m of the buildings.

The proposed development is consistent with the criteria of the State bushfire policy framework and warrants support.

5.5 SHIRE OF MURRAY LOCAL PLANNING SCHEME NO. 4

Under the Shire's LPS4, the land subject of the subject application is zoned Service Commercial. Refer to **Figure 2 – Zoning Map**.

In accordance with Clause 6.12.1, *"it is the intention of the Council to encourage a range of non-retail commercial uses within the Service Commercial zone"*. The subject application seeks approval for the following uses:

- Service Station / Petrol Filling Station: an 'SA' use (discretionary subject to mandatory advertising).
- Motor Vehicle Wash: use not listed, subject to Clause 5.2.3 of the Scheme.
- Health Centre / Studio: a 'P' permitted use.
- Showrooms: a 'P' permitted use.
- Take-away Food Outlet: a 'P' permitted use.

The proposed uses are appropriate for establishment on land zoned for Service Commercial purposes. It is noted that discretion is required for the Service Station and Motor Vehicle Wash uses. These uses are evidently service commercial in nature, noting they are car-based uses which provide a convenient service to the public and rely on good visibility/exposure and accessibility to the external road network. The uses are complementary to the other uses proposed as part of the subject application, and provide patrons with opportunities for multi-use trips.

In accordance with Clause 6.12.2 of the Scheme, the Shire is to have regard to traffic generation, impact on amenity, scale of development, and compatibility with adjacent land uses when considering a DA in the service commercial zone. The subject application and details herein demonstrate the proposed development is entirely appropriate for establishment on the site. In this regard:

- A traffic assessment supports the application and shows an acceptable impact to the road network, as well as the appropriateness of the proposed access arrangements.
- The scale of the development is consistent with what is envisaged for the Business precinct under the Shire's Barragup Furnissdale Activity Centre Policy, which encourages buildings achieving a 2-3 storey scale.
- The site is mostly adjacent to commercial and service commercial uses, except for the Peel Caravan Park along the eastern boundary. An acoustic assessment has been prepared which demonstrates acoustic compliance can be achieved at that property

In addition to the above, it is noted that Clause 7.4 of the Scheme permits open storage outside of the front boundary setback area provided it is screened by landscaping, fencing or other means.

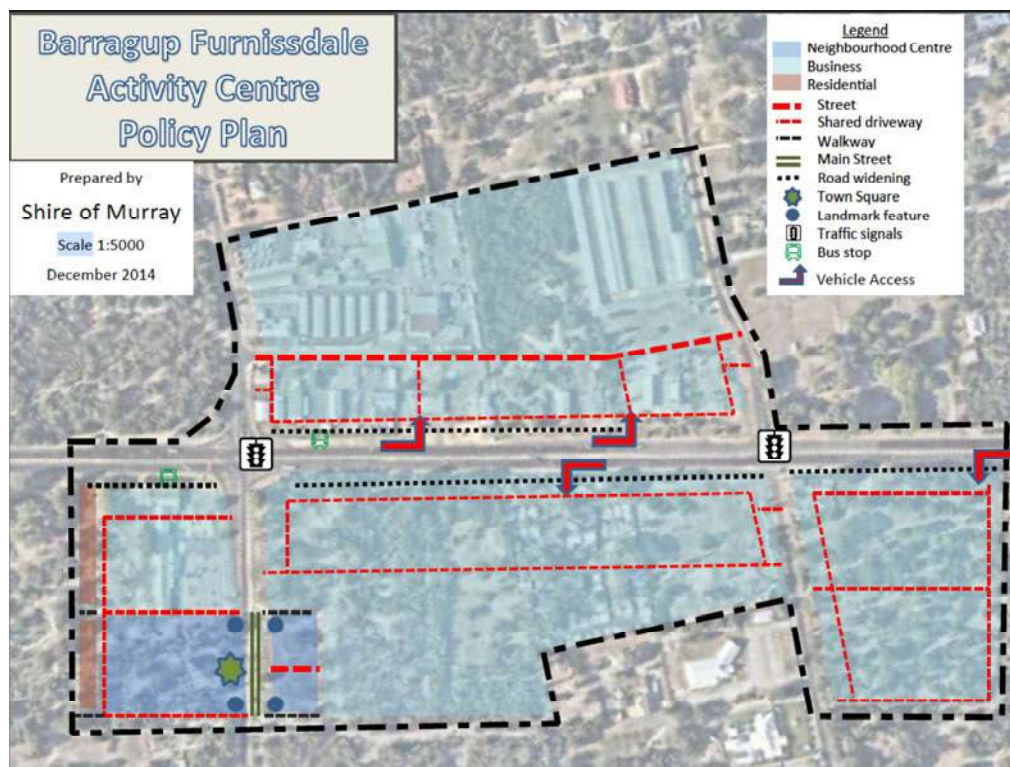
The development site is also within the following Development Contribution Areas (DCAs):

- DCA 2: requires landowners to contribute 10% of the estimated costs of signalisation for the signalised intersection of Pinjarra Road / Ronlyn Road / Husband Road.
- DCA 3: requires landowners to make a proportionate contribution for a temporary waste water pump station which is intended to be located at the south-western corner of Lot 401. It is understood from investigations undertaken by the proponent that a permanent reticulated sewer solution is part of local planning and capital works program, and may occur in the coming 5-year horizon. Therefore, a contribution under DCA3 is unlikely to be warranted.

5.6 BARRAGUP FURNISSDALE ACTIVITY CENTRE LOCAL PLANNING POLICY

The Shire's Barragup Furnissdale Activity Centre LPP seeks to set a framework and provisions for development falling within the boundaries of the activity centre (including the development site).

An extract of the policy plan is provided below, which shows the development site is within the Business precinct and is intended to contain shared driveways linking to land to the east:



In accordance with the 'vehicular and pedestrian access' requirements of the policy, the subject development:

- Provides a well distributed left turn only vehicular access point to Pinjarra Road with a suitable left turn pocket. The access has previously been considered and approved, and will benefit the emerging precinct and it links to a planned shared reciprocal accessway.
- Provides a full movement access point to Ronlyn Road in the form of a roundabout which is separated from Pinjarra Road by approximately 85 metres.
- Provides east-west driveways which are intended to connect to the adjoining eastern properties to facilitate a shared access arrangement through the precinct.

The development site forms part of the Business precinct and is in a key location with corner frontage to Pinjarra Road (a regional road) and Ronlyn Road. In accordance with the character statement of the policy, this precinct is intended to provide for uses that require relatively large sites for retailing of bulky goods, highway focused commercial and service activities, all of which are catered for by the subject development.

A holistic approach has been adopted in responding to the site context and reinforcing the semi-rural character of the area, with the development incorporating a well articulated and 'broken up' built form approach integrating with a considerable provision of landscaping throughout the street setback areas and within the car parks to enable the planting of locationally appropriate trees, shrubs, and groundcovers. Hardscape areas and pedestrian pathways throughout the site will be coloured with a dark red to reference the treatments typically found in rural townsites.

The following response is provided to the elements set out within the "design guidelines" of the policy:

- Height: all proposed buildings provide a scale equivalent to 2-3 storeys.
- Setbacks: the policy anticipates a setback of 15.5-21 metres to the ultimate alignment of Pinjarra Road and secondary streets. The subject application provides a Pinjarra Road setback of 13 metres to the service station convenience building and canopy, 19.9m to the drive-through coffee outlet, and 43.9m for the bulky goods showroom building. The proposed setbacks are appropriate in a service commercial context for the following reasons:
 - The setback of the service station is marginally non-compliant, falling short by approximately 2.5 metres. It is typical for service station facilities to be positioned closer to their primary street as it improves accessibility for patrons and allows this particular land use which tends to comprise smaller buildings / structures (compared to a showroom) to have improved exposure, particularly in a regional road environment.
 - The proposed setback of the bulky goods showroom building reinforces its primary orientation toward Pinjarra Road. The setback ensures the car parking areas can be consolidated and positioned in the front setback area where there is a connection to the front of the building. This is important, because reducing the setback would result in separated parking areas

which would mostly occur at the rear of the building (where there is essentially no surveillance). Patrons purchasing bulky goods would also be required to walk a considerable distance between parking areas and the entrance to the relevant tenancy, which is an operational issue. In a car-based service commercial context, operators also expect that customers can view car parking areas as they approach the site so they can determine parking availability.

- The bulky goods building presents with a 3 storey scale, noting a general top of parapet height of approximately 9.2 metres. This ensures that despite the increased setback, that presence to the street is achieved.
- Building form and character: the design of buildings achieves the building form and character provisions, noting:
 - The elevations of all relevant buildings address their street frontages, as evident for the service station building and the bulky goods showroom building. The primary street frontage of the bulky goods building contains entrances to the tenancies, with alternating roof forms, materiality, and distinct colour treatments to distinguish each tenancy. The service station building is oriented toward the canopy for operational reasons, but addresses Pinjarra Road with design features and a window. A high standard of architectural design is evidently achieved across all buildings.
 - The corner sections of the proposed bulky goods and gym buildings provide an accentuated upright feature which improves the perception of scale and presence.
 - The proposed built form approach avoids large unrelieved expanses of wall or roof, with each façade treated as appropriate based on its position on the site.
 - Entry points are clearly designed as focal points and are easily identifiable based on the 'sectioning' of the primary façade, with protection for pedestrians provided along all frontages by way of an articulated awning.
- Materials and colours: the design of buildings achieves the materials and colours provisions, noting:
 - The proposed buildings do not provide a broad / uniform finish. Design detailing is a key element of the architectural approach which 'sections' out the buildings into smaller elements through alternating forms and primary colours.
 - Feature elements are incorporated which include steel columns, the use of customorb sheeting in between sections as a rural keynote, and articulated roof lines.
 - The facades are broken up into distinct 'top and bottom' elements through the treatment of the fascia and ground level.
 - The buildings are designed cohesively but are still distinguishable from one another through the careful use of colour palettes.
 - The rear sections of the buildings are appropriately broken down with rebated panels and vertical sectioning.

- Landscaping: the proposed development provides 19.2% of the Stage 1 area as soft landscaping, with minimum 2m wide landscaping strips along street frontages and generous landscape strips included within the car parks. A total of 69 trees are catered for within the design, which equates to 1 tree / 4.2 parking bays. The landscaping provisions of the policy are achieved.
- Car parking and access: the subject development provides 290 parking spaces, which meets the Shire's relevant requirements for each land use. Based on the relevant parking standards from the Scheme and Shire's policies, parking is required as follows:
 - Health Studio: 47.6 bays based on 1 bay / 30sqm GFA
 - Service Station: 11.15 bays based on 1 bay / 20sqm GFA
 - Showrooms: 57.98 bays based on 1 bay / 100sqm GFA
 - Take Away Food Outlet: 5.6 bays based on 1 bay / 5sqm waiting area
 - Car wash: no rate, but assume no bays given nature of use
- Bicycles: provision will be made for bike parking, and end of trip facilities are accommodated within the buildings.
- Servicing and storage: servicing areas are located at the rear of buildings and are appropriately screened from view of the public realm. Additionally, any mechanical plant will also be suitably screened.
- Fencing: not applicable, as no fencing proposed in street setback areas.
- Signage: a high standard of signage is achieved, as signage has been considered as part of the architectural design of the project. As evident from the elevations, signage is integrated into the design of buildings and is not an 'after-thought'. Signage zones are integrated into the fascias of the gym and bulky goods buildings, and signage for the service station and car wash facilities is addressed in the usual manner.

As evident from the above, the subject application interacts positively with the relevant provisions of the Shire's activity centre policy and warrants support.

5.7 NATURAL LANDSCAPE IN URBAN AREAS LOCAL PLANNING POLICY

The Shire's natural landscape in urban areas policy applies to development proposals for land in urban areas, including the development site. The subject application is consistent with the Shire's policy, noting:

- Effort has been made to retain 6 mature trees throughout the site, as shown on the development plans.
- A total of 69 trees are accounted for throughout the site which exceeds the minimum rate of 1 tree / 4 parking bays and accounts for the minimum 1 tree / 450sqm of site area requirement.

5.8 SIGNS LOCAL PLANNING POLICY

The development requires assessment against the Shire's Signs Local Planning Policy, noting signage forms part of the subject application.

The proposal involves the following signage:

- Tenancy 1 (service station): BP logo and insignia on the retail building and canopy on the primary and Pinjarra Road elevations.
- Tenancy 2 (car wash): simple car wash lettering signage on the fascia of the north east, north west, and south west elevations.
- Tenancy 3 (gym): signage zones integrated within the fascia panels on the north east and north west elevations.
- Tenancy 4-6 (bulky goods): signage zones integrated within the fascia panels on the north east, north west, south east, and south west elevations. The signage will be comprised of panels which integrate within the fascias in a colour and style befitting that particular part of the building.
- Three freestanding signs along the Pinjarra Road frontage, of which two relate to all tenancies except the service station and are 10.85m high and the other is dedicated to the service station and is 8m high. An additional 10.85m high freestanding sign is proposed to the Ronlyn Road frontage.

It is anticipated that a signage strategy would be required as a condition of development approval, noting the extent of signage proposed throughout the development. The signs on each building are classified as wall signs, and are sized according to the scale and position of the building on which they are located. Signage is a fundamental element of any service commercial development and as evident, has been well considered as part of the architectural design of buildings to maintain congruity and cohesiveness.

Discretion is required regard the freestanding signage, noting each of the signs exceeds the maximum height of 6 metres and width of 2 metres, and more than one sign per street frontage is proposed along Pinjarra Road. The proposed freestanding signs are appropriate and warrant support, noting:

- The additional height for the signs is warranted, noting the regional road function of Pinjarra Road which necessitates the ability for patrons to identify and distinguish the signs from a relatively large distance. It is also noted that the pylon signs need to display a considerable amount of information. The main pylon signage will include for multiple tenancies, whilst the fuel pylon sign is legally required to clearly display the price of all fuel products sold onsite as well as any other relevant promotional information relevant to the facility.
- The Pinjarra Road frontage of the development is well in excess of 200 metres, meaning the provision of three signs along this frontage easily achieves the policy's intended separation of minimum 40 metres between signs.
- The design of the signs is entirely consistent with the style and character of the proposed buildings, ensuring congruity and cohesiveness.

- Freestanding signage of the scale and nature proposed is entirely typical of service commercial developments throughout the Perth and Peel regions. Appropriate exposure and identifiability are key considerations for service commercial developments.
- Freestanding signs exceeding 6m height were approved as part of the previous application on the site.

Having regard for the above, the proposed signage is acceptable and warrants the Shire's support.

5.9 EPA GUIDANCE STATEMENT NO. 3

The EPA's guidance statement for 'separation distances between industrial and sensitive land uses' was introduced in 2005 and provides guidance on the use of generic separation distances (buffers) between certain developments and 'sensitive' land uses.

The separation distances set out by EPA Guidance Statement No.3 are not absolute, and lesser distances are commonly accepted where it is demonstrated through justification that the potential impacts associated with the proposed development can be suitably managed.

For service stations, the potential impacts listed by the document are *gaseous, noise, odour and risk*. The subject development seeks approval for a 24 hour service station facility, which involves a suggested buffer distance based on 24 hour operations proposed.

In considering separation distances, it is important to note that:

- The modern service station is designed to a high standard and employs best practice design features relating to the storage and handling of fuel, stormwater treatment, external lighting, and noise mitigation to reduce external impact.
- The storage and handling of fuel is a highly regulated activity, separate to the development approvals process. A site cannot store or sell fuel without first obtaining a licence from the Department of Mines, Industry Regulation and Safety (**DMIRS**) which requires strict criteria to be met and assessed through various detailed scientific assessments as part of the process regulated under the *Dangerous Goods Safety Act 2005*.

Table 2 below provides a response to the potential impacts listed by the guidance statement, demonstrating that a lesser separation distance is warranted and acceptable.

Table 2: response to EPA separation guidelines
Gaseous/Odour
The proposed service station is in the same position as an approved service station, which remains approved until August 2027.

Notwithstanding, the service station will incorporate the VR1 vapour recovery system which ensures all vapour and fumes resulting from bulk refuelling is captured and directed into the fuel tanker via an airtight hose cock.

In addition to the above, the dangerous goods licensing process addresses impacts associated with vapour. The fuel bowzers are required to achieve prescribed setbacks under the Dangerous Goods licensing requirements and a site-specific assessment is undertaken under that process to ensure the facility's design and layout meets regulatory requirements before fuel can be stored and sold from the site. The following considerations are assessed as part of the dangerous goods licensing process:

- Spill and leak containment
- Segregation of dangerous goods
- Control of ignition sources in hazardous areas
- Control of hazardous substances that includes any gas, vapour, mist, fume or dust
- Design, construction, maintenance and location of storage or handling systems, including location and separation distances so that as far as reasonably practicable they can be operated with minimal risk to people, property and the environment
- Underground storage or handling systems for petroleum products designed, installed, operated and maintained so they don't leak

Noise

The development has been assessed against the *Environmental Protection (Noise) Regulations 1997* by way of an environmental noise assessment. The assessment demonstrates the proposed development will generate acceptable and compliant noise levels over a 24 hour period.

Risk

The facility must obtain a dangerous goods licence under the *Dangerous Goods Safety Act 2004* before any fuel can be stored, handled or sold from the site. This process is regulated under separate legislation, and a licence is obtained after the development approvals process by a specialised consultant. The site has been designed to ensure it can obtain a dangerous goods licence.

A risk assessment is required as part of an application for a dangerous goods licence. The risk assessment:

- Identifies all hazards relating to the dangerous good proposed to be stored at the site;
- For each hazard, assesses the probability of the hazard causing a dangerous goods incident, and assesses the consequences of the incident to people, property and the environment; and
- Identifies any required risk control measures.

If a coherent and acceptable risk assessment is not prepared, then a dangerous goods licence will not be issued. Risk is therefore comprehensively addressed through the dangerous goods licensing process.

6 CONCLUSION

This application for planning approval involves the development of Lots 401, 154, 155 (578, 580, 590) Pinjarra Road, Furnissdale to establish a new service commercial development comprising bulky goods showrooms, service station, car wash, gym, and small drive-through coffee outlet.

The information presented in this application for planning approval demonstrates the proposed development is appropriate for the site and warrants the Shire's support for the following reasons:

- The development is entirely consistent with the site's Service Commercial zoning under LPS4 and is suitably located to offer service commercial uses to the benefit of the surrounding community and travelling public.
- The proposal will activate a currently undeveloped site which is at a key high-exposure location along Pinjarra Road.
- The proposal is consistent with the applicable requirements of the planning framework, including the Shire's LPS4 and local planning policies.
- The built form approach is of a high quality and will improve the amenity of the site and its surroundings.
- The proposal is supported by a number of expert technical assessments demonstrating it is acceptable.

It is respectfully requested that the Shire of Murray support the application and that the Metro Outer DAP grant approval.

WESTERN



AUSTRALIA

TITLE NUMBER

Volume

Folio

1186

442

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.

BG Roberts
REGISTRAR OF TITLES



LAND DESCRIPTION:

LOT 154 ON DIAGRAM 20014

REGISTERED PROPRIETOR: (FIRST SCHEDULE)

FURNISSDALE MANAGEMENT PTY LTD OF 18 RICHARDSON STREET WEST PERTH WA 6005
(T Q611141) REGISTERED 8/10/2025

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

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.
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: 1186-442 (154/D20014)
PREVIOUS TITLE: 1184-105
PROPERTY STREET ADDRESS: 580 PINJARRA RD, FURNISSDALE.
LOCAL GOVERNMENT AUTHORITY: SHIRE OF MURRAY

WESTERN



AUSTRALIA

TITLE NUMBER

Volume

Folio

1742

137

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.

BG Roberts
REGISTRAR OF TITLES



LAND DESCRIPTION:

LOT 155 ON DIAGRAM 20014

REGISTERED PROPRIETOR: (FIRST SCHEDULE)

FURNISSDALE MANAGEMENT PTY LTD OF 18 RICHARDSON STREET WEST PERTH WA 6005
(T Q611141) REGISTERED 8/10/2025

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

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.
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: 1742-137 (155/D20014)
PREVIOUS TITLE: 1244-696
PROPERTY STREET ADDRESS: 590 PINJARRA RD, FURNISSDALE.
LOCAL GOVERNMENT AUTHORITY: SHIRE OF MURRAY

WESTERN



AUSTRALIA

TITLE NUMBER

Volume

Folio

2741

792

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.

BG Roberts
REGISTRAR OF TITLES



LAND DESCRIPTION:

LOT 401 ON DEPOSITED PLAN 63717

REGISTERED PROPRIETOR: (FIRST SCHEDULE)

FURNISSDALE MANAGEMENT PTY LTD OF 18 RICHARDSON STREET WEST PERTH WA 6005
(T Q611141) REGISTERED 8/10/2025

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

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.
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: DP63717
PREVIOUS TITLE: 2168-589
PROPERTY STREET ADDRESS: 578 PINJARRA RD, FURNISSDALE.
LOCAL GOVERNMENT AUTHORITY: SHIRE OF MURRAY



AERIAL PERSPECTIVE
NOT TO SCALE

THIS DRAWING AND ALL INFORMATION SHOWN IS THE EXCLUSIVE PROPERTY OF "Y ARCHITECTURE STUDIO" AND IS SUBMITTED ONLY ON A CONFIDENTIAL BASIS. THE RECIPIENT AGREES NOT TO REPRODUCE THE DRAWING AND TO RETURN IT UPON REQUEST AND THAT NO DISCLOSURE OF THE DRAWING OR THE INFORMATION SHOWN WILL BE MADE TO ANY THIRD PARTY WITHOUT THE PRIOR WRITTEN CONSENT FROM "Y ARCHITECTURE STUDIO".

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VARIATIONS TO WORK SHOWN MUST BE CLAIMED AND APPROVED.

NOTE LEGEND

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
A	18.02.26	ISSUED FOR DA	YN	YN
B	23.02.26	ISSUED FOR DA	YN	YN

ARCHITECT:
y. architecture
STUDIO

yip@y-architecture-studio / 0430 394 223 / ABWA 3028

PRELIMINARY

PROJECT:
FURNISSDALE DEVELOPMENT
LOTS 154, 155, 401 (507-590)
PINJARRA ROAD, FURNISSDALE

DRAWING TITLE:
ARTIST IMPRESSION

DRAWING NO.
A0.11

REVISION:
B

JOB NO:
163

SCALE:
NTS

NORTH:

DRAWN BY:
YN

CHECKED BY:
YN



BULKY GOODS SHOWROOM - T4 CORNER
NOT TO SCALE

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NOTE LEGEND

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
A	18.02.26	ISSUED FOR DA	YN	YN
B	23.06.26	ISSUED FOR DA	YN	YN

ARCHITECT:

y. architecture
STUDIO

yip@y-architecture-studio / 0430 394 223 / ABWA 3028

PRELIMINARY

PROJECT:
FURNISSDALE DEVELOPMENT
LOTS 154, 155, 401 (507-590)
PINJARRA ROAD, FURNISSDALE

DRAWING TITLE:
ARTIST IMPRESSION

DRAWING NO. A0.12		REVISION: B
JOB NO: 163	SCALE: NTS	NORTH:
DRAWN BY: YN	CHECKED BY: YN	



HARDWARE OUTLET - T6 CORNER
NOT TO SCALE

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A	18.02.26	ISSUED FOR DA	YN	YN
B	23.06.26	ISSUED FOR DA	YN	YN

ARCHITECT:

y. architecture
STUDIO

yip@y-architecture-studio / 0430 394 223 / ABWA 3028

PRELIMINARY

PROJECT:
FURNISSDALE DEVELOPMENT
LOTS 154, 155, 401 (507-590)
PINJARRA ROAD, FURNISSDALE

DRAWING TITLE:
ARTIST IMPRESSION

DRAWING NO. A0.13		REVISION: B
JOB NO: 163	SCALE: NTS	NORTH:
DRAWN BY: YN	CHECKED BY: YN	



BULKY GOODS SHOWROOM - T4 & REAR LOADING
NOT TO SCALE

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NOTE LEGEND

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
A	18.02.26	ISSUED FOR DA	YN	YN
B	23.06.26	ISSUED FOR DA	YN	YN

ARCHITECT:

y. architecture
STUDIO

yip@y-architecture-studio / 0430 394 223 / ABWA 3028

PRELIMINARY

PROJECT:
FURNISSDALE DEVELOPMENT
LOTS 154, 155, 401 (507-590)
PINJARRA ROAD, FURNISSDALE

DRAWING TITLE:
ARTIST IMPRESSION

DRAWING NO. A0.14		REVISION: B
JOB NO: 163	SCALE: NTS	NORTH:
DRAWN BY: YN	CHECKED BY: YN	



GYM - T3 PERSPECTIVE
NOT TO SCALE

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NOTE LEGEND

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
A	18.02.26	ISSUED FOR DA	YN	YN
B	23.06.26	ISSUED FOR DA	YN	YN

ARCHITECT:

y. architecture
STUDIO

yip@y-architecture-studio / 0430 394 223 / ABWA 3028

PRELIMINARY

PROJECT:
FURNISSDALE DEVELOPMENT
LOTS 154, 155, 401 (507-590)
PINJARRA ROAD, FURNISSDALE

DRAWING TITLE:
ARTIST IMPRESSION

DRAWING NO. A0.15		REVISION: B
JOB NO: 163	SCALE: NTS	NORTH:
DRAWN BY: YN	CHECKED BY: YN	



FUEL STATION
NOT TO SCALE

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NOTE LEGEND

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
A	23.02.26	ISSUED FOR DA	YN	YN
B	23.06.26	ISSUED FOR DA	YN	YN

ARCHITECT:

y. architecture
STUDIO

yip@y-architecture-studio / 0430 394 223 / ABWA 3028

PRELIMINARY

PROJECT:
FURNISSDALE DEVELOPMENT
LOTS 154, 155, 401 (507-590)
PINJARRA ROAD, FURNISSDALE

DRAWING TITLE:
ARTIST IMPRESSION

DRAWING NO. A0.16		REVISION: B
JOB NO: 163	SCALE: NTS	NORTH:
DRAWN BY: YN	CHECKED BY: YN	



BULKY GOODS SHOWROOM - T3 CORNER
NOT TO SCALE

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NOTE LEGEND

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
A	23.06.26	ISSUED FOR DA	YN	YN

ARCHITECT:

y. architecture
STUDIO

yip@y-architecture-studio / 0430 394 223 / ABWA 3028

PRELIMINARY

PROJECT:
FURNISSDALE DEVELOPMENT
LOTS 154, 155, 401 (507-590)
PINJARRA ROAD, FURNISSDALE

DRAWING TITLE:
ARTIST IMPRESSION

DRAWING NO. A0.17		REVISION: A
JOB NO: 163	SCALE: NTS	NORTH:
DRAWN BY: YN	CHECKED BY: YN	



PINJARRA ROAD ELEVATION - T4, T5, T6
NOT TO SCALE



RONLYN ROAD ELEVATION - HARDWARE OUTLET T6
NOT TO SCALE

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NOTE LEGEND

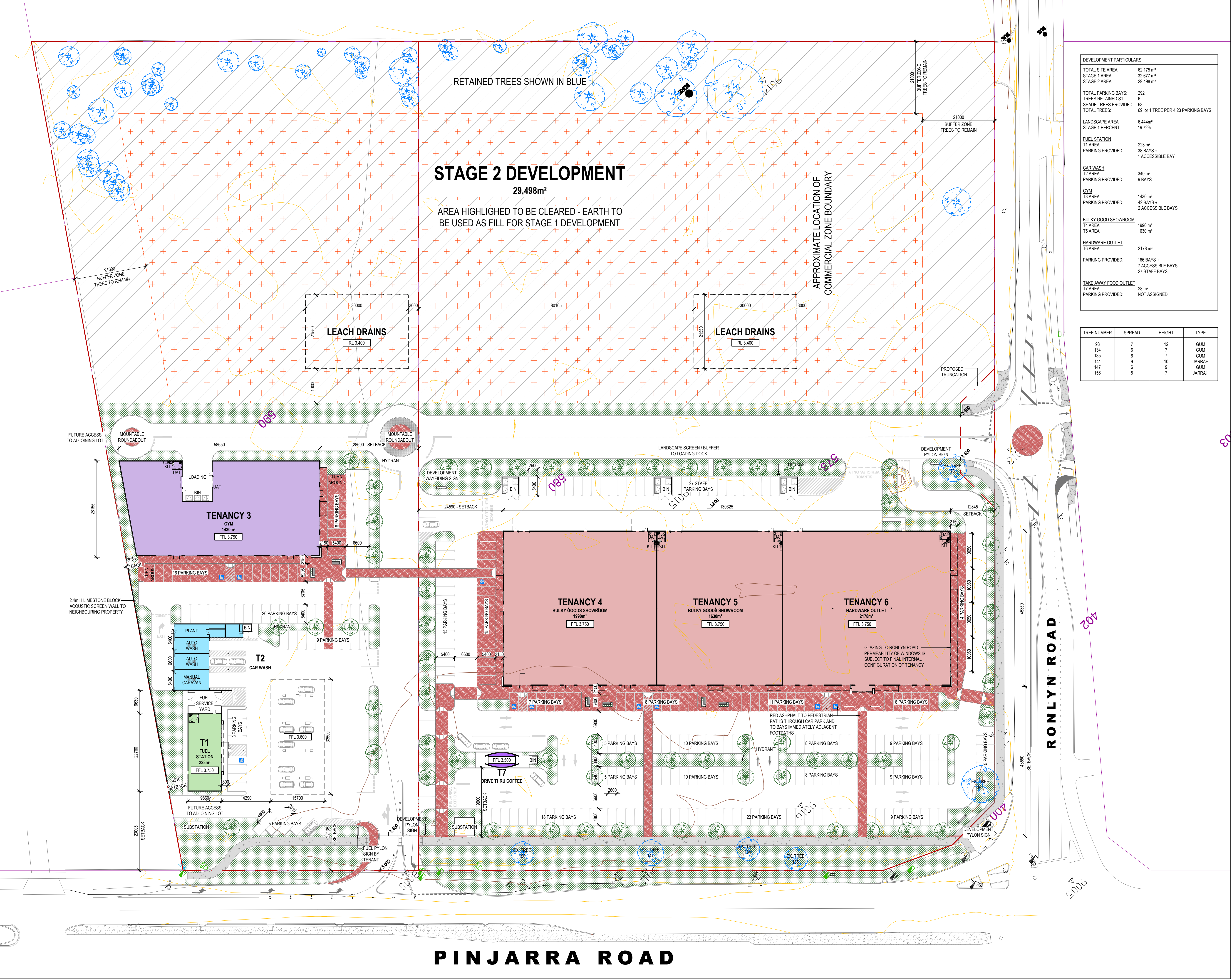
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
A	23.06.26	ISSUED FOR DA	YN	YN

ARCHITECT:

y. architecture
STUDIO

yip@y-architecture-studio / 0430 394 223 / ABWA 3028

PRELIMINARY		
PROJECT: FURNISSDALE DEVELOPMENT LOTS 154, 155, 401 (507-590) PINJARRA ROAD, FURNISSDALE		
DRAWING TITLE: ARTIST IMPRESSION		
DRAWING NO. A0.18		REVISION: A
JOB NO: 163	SCALE: NTS	NORTH:
DRAWN BY: YN	CHECKED BY: YN	



DEVELOPMENT PARTICULARS	
TOTAL SITE AREA:	62,175 m²
STAGE 1 AREA:	32,677 m²
STAGE 2 AREA:	29,498 m²
TOTAL PARKING BAYS:	292
TREES RETAINED S1:	6
SHADE TREES PROVIDED:	63
TOTAL TREES:	69 or 1 TREE PER 4.23 PARKING BAYS
LANDSCAPE AREA:	6,444m²
STAGE 1 PERCENT:	19.72%
FUEL STATION	
T1 AREA:	223 m²
PARKING PROVIDED:	38 BAYS + 1 ACCESSIBLE BAY
CAR WASH	
T2 AREA:	340 m²
PARKING PROVIDED:	9 BAYS
GYM	
T3 AREA:	1430 m²
PARKING PROVIDED:	42 BAYS + 2 ACCESSIBLE BAYS
BULKY GOOD SHOWROOM	
T4 AREA:	1990 m²
T5 AREA:	1630 m²
HARDWARE OUTLET	
T6 AREA:	2178 m²
PARKING PROVIDED:	166 BAYS + 7 ACCESSIBLE BAYS 27 STAFF BAYS
TAKE AWAY FOOD OUTLET	
T7 AREA:	28 m²
PARKING PROVIDED:	NOT ASSIGNED

TREE NUMBER	SPREAD	HEIGHT	TYPE
93	7	12	GUM
134	6	7	GUM
135	6	7	GUM
141	9	10	JARRAH
147	6	9	GUM
156	5	7	JARRAH

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NOTE LEGEND

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
Q	17.02.26	ISSUED FOR DA	YN	YN
R	23.02.26	ISSUED FOR DA	YN	YN
S	12.03.26	FIRE WALL REMOVED	YN	YN
T	19.03.26	ISSUE FOR PRICING	YN	YN
U	03.06.26	ISSUE FOR DA	YN	YN
V	10.06.26	ISSUE FOR DA	YN	YN
W	23.06.26	ISSUE FOR DA	YN	YN

ARCHITECT:

y. architecture
STUDIO

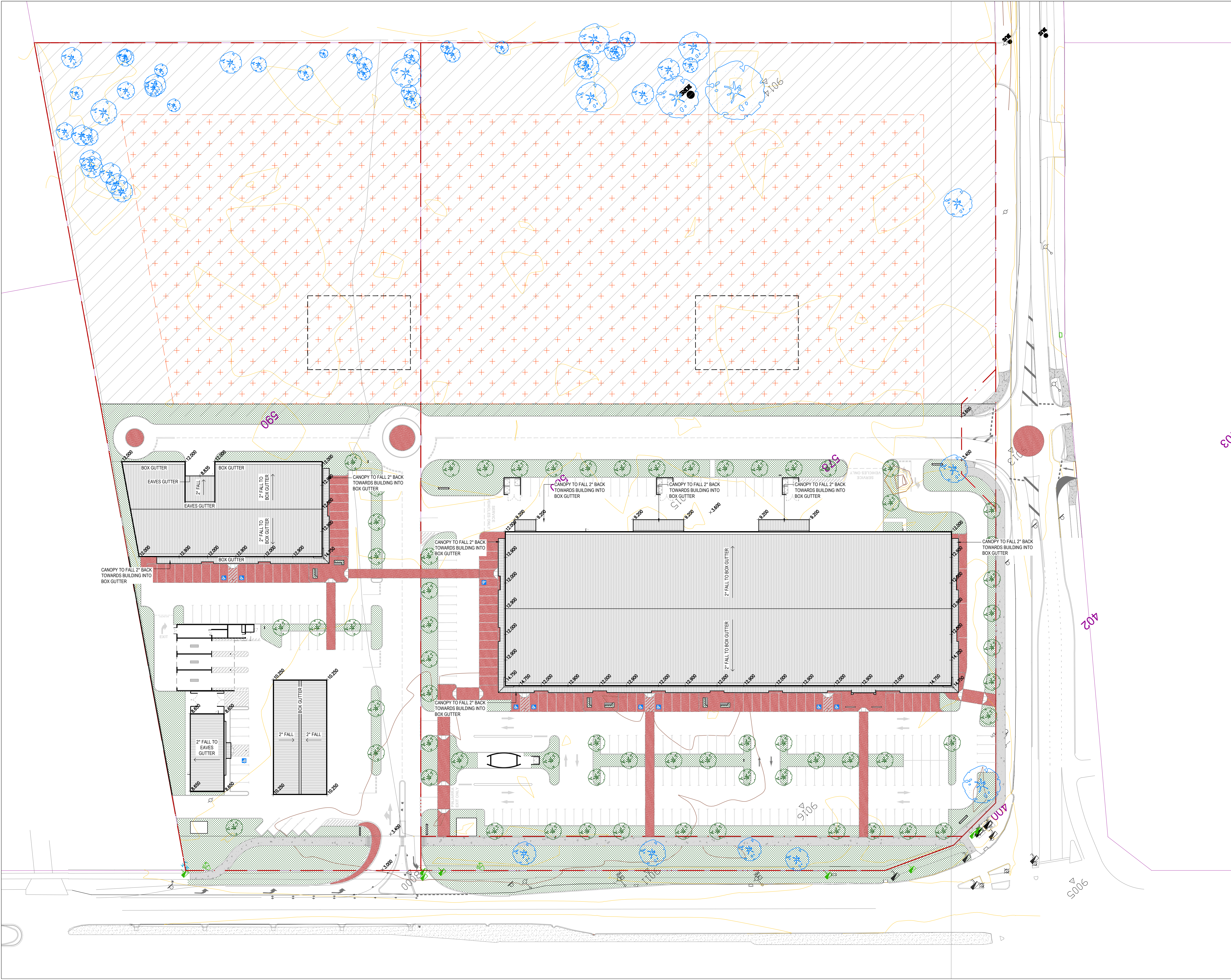
yip@y-architecture-studio / 0430 394 223 / ABWA 3028

PRELIMINARY

PROJECT:
FURNISSDALE DEVELOPMENT
LOTS 154, 155, 401 (507-590)
PINJARRA ROAD, FURNISSDALE

DRAWING TITLE:
SITE PLAN

DRAWING NO.	REVISION:
A0.21	W
JOB NO:	SCALE:
163	1:500 @ A1
DRAWN BY:	CHECKED BY:
YN	YN
	NORTH:



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REV.	DATE	DESCRIPTION	DRAWN	CHECKED
A	17.02.26	ISSUED FOR DA	YN	YN
B	19.03.26	ISSUE FOR PRICING	YN	YN
C	10.06.26	ISSUED FOR DA	YN	YN
D	23.06.26	ISSUED FOR DA	YN	YN

ARCHITECT:
y. architecture
STUDIO

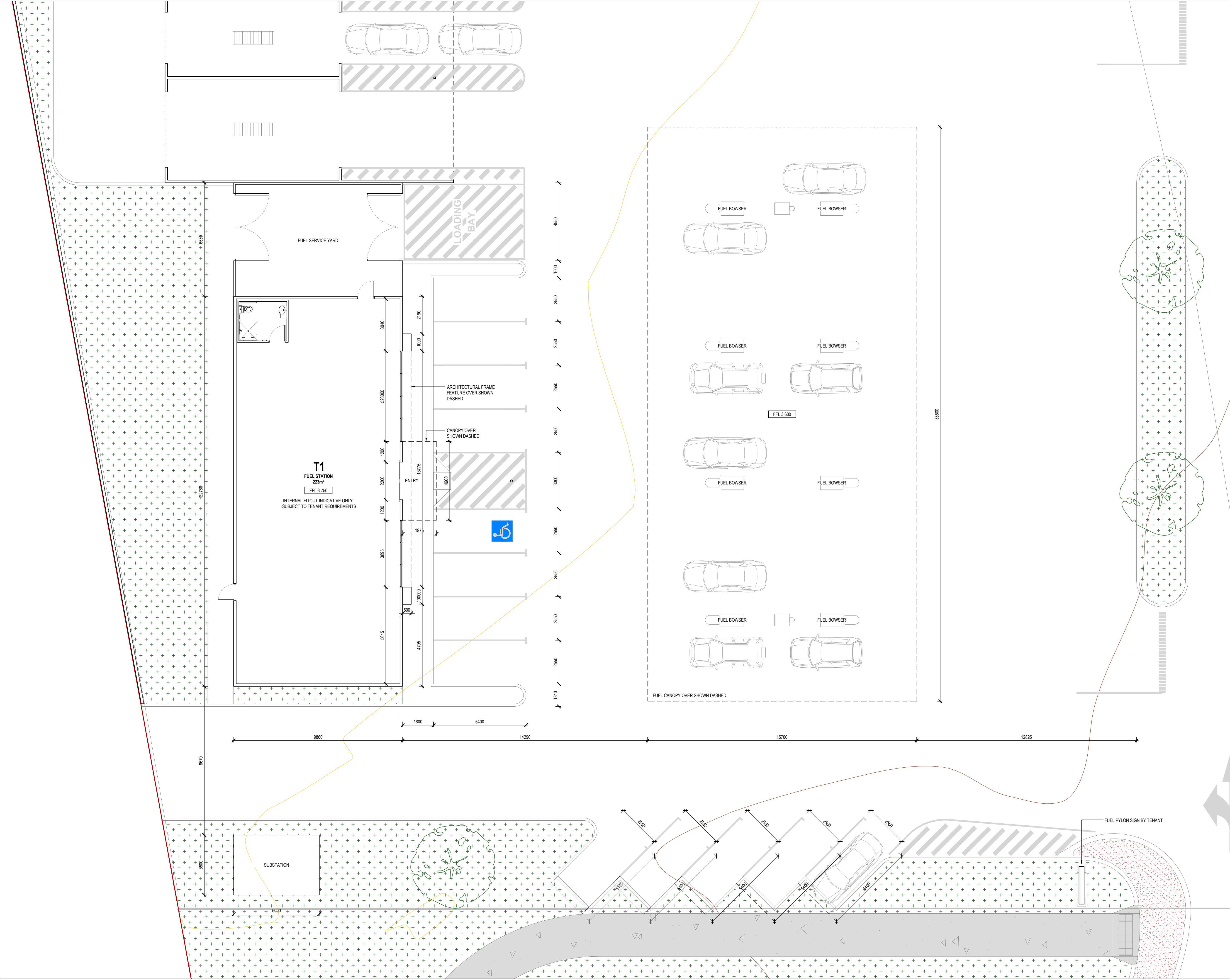
yip@y-architecture-studio / 0430 394 223 / ABWA 3028

PRELIMINARY

PROJECT:
FURNISSDALE DEVELOPMENT
LOTS 154, 155, 401 (507-590)
PINJARRA ROAD, FURNISSDALE

DRAWING TITLE:
SITE ROOF PLAN

DRAWING NO. A0.22	REVISION: D
JOB NO: 163	SCALE: 1:500 @ A1
DRAWN BY: YN	CHECKED BY: YN
	NORTH:



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A	17.02.26	ISSUED FOR DA	YN	YN
B	19.03.26	ISSUED FOR PRICING	YN	YN
C	23.06.26	ISSUED FOR DA	YN	YN

ARCHITECT:

y. architecture
STUDIO

yip@y-architecture-studio / 0430 394 223 / ABWA 3028

PRELIMINARY

PROJECT:
FURNISSDALE DEVELOPMENT
LOTS 154, 155, 401 (507-590)
PINJARRA ROAD, FURNISSDALE

DRAWING TITLE:
TENANCY 1 PLAN
FUEL STATION

DRAWING NO.
A1.01

REVISION:
C

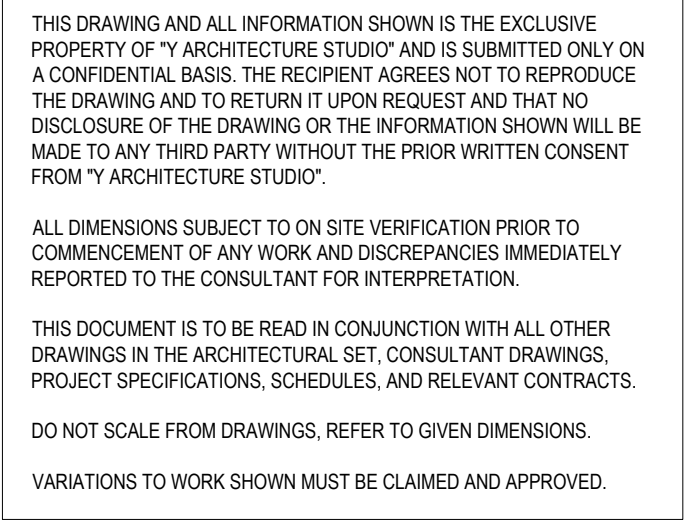
JOB NO:
163

SCALE:
1:100 @ A1

NORTH:

DRAWN BY:
YN

CHECKED BY:
YN



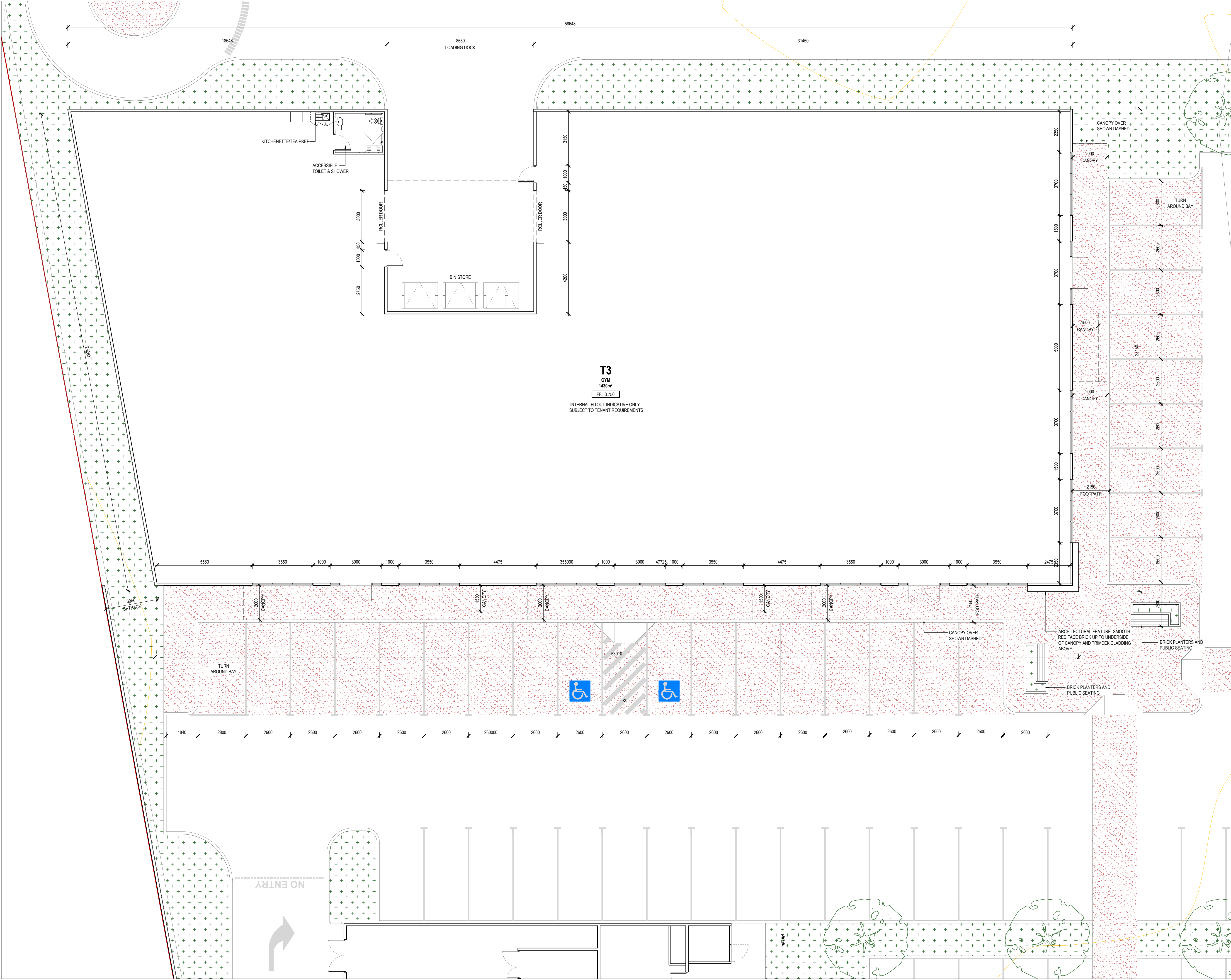
ARCHITECT:

y. architecture
STUDIO

yip@y-architecture.studio / 0430 394 223 / ABWA 3028

PROJECT:
FURNISSDALE DEVELOPMENT
LOTS 154, 155, 401 (507-590)
PINJARRA ROAD, FURNISSDALE

DRAWING NO. A1.02		REVISION: C
JOB NO: 163	SCALE: 1:100 @ A1	NORTH: 
DRAWN BY: YN	CHECKED BY: YN	



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A	17.02.26	ISSUED FOR DA	YN	YN
B	23.02.26	ISSUED FOR DA	YN	YN
C	10.06.26	ISSUED FOR DA	YN	YN
D	23.06.26	ISSUED FOR DA	YN	YN

ARCHITECT:

y. architecture
STUDIO

yip@y-architecture-studio / 0430 394 223 / ABWA 3028

PRELIMINARY

PROJECT:
FURNISSDALE DEVELOPMENT
LOTS 154, 155, 401 (507-590)
PINJARRA ROAD, FURNISSDALE

DRAWING TITLE:
TENANCY 3 PLAN
GYM

DRAWING NO.
A1.03

JOB NO:
163

DRAWN BY:
YN

REVISION:
D

SCALE:
1:100 @ A1

CHECKED BY:
YN

DRAWING NO.

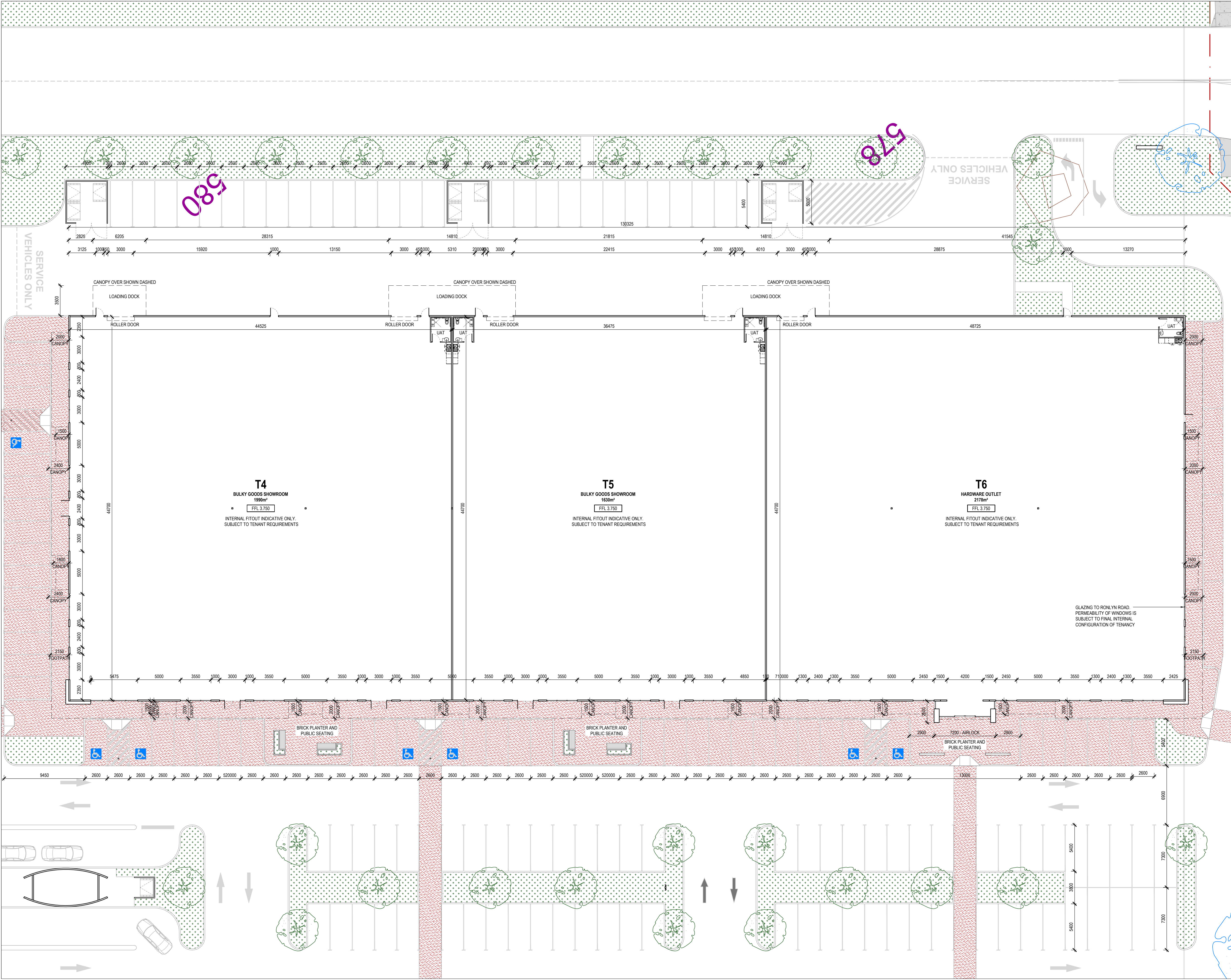
REVISION:

JOB NO:

SCALE:

DRAWN BY:

CHECKED BY:



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CANOPY OVER SHOWN DASHED

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B	23.02.26	ISSUED FOR DA	YN	YN
C	27.02.26	ISSUED FOR DA	YN	YN
D	18.03.26	ISSUED FOR COORDINATION	YN	YN
E	19.03.26	ISSUED FOR PRICING	YN	YN
F	10.06.26	ISSUED FOR DA	YN	YN
G	23.06.26	ISSUED FOR DA	YN	YN

ARCHITECT:

y. architecture
STUDIO

yip@y-architecture-studio / 0430 394 223 / ABWA 3028

PRELIMINARY

PROJECT:
FURNISSDALE DEVELOPMENT
LOTS 154, 155, 401 (507-590)
PINJARRA ROAD, FURNISSDALE

DRAWING TITLE:
TENANCY 4, 5, 6 PLAN
BULKY GOODS SHOWROOM

DRAWING NO.
A1.04

REVISION:
G

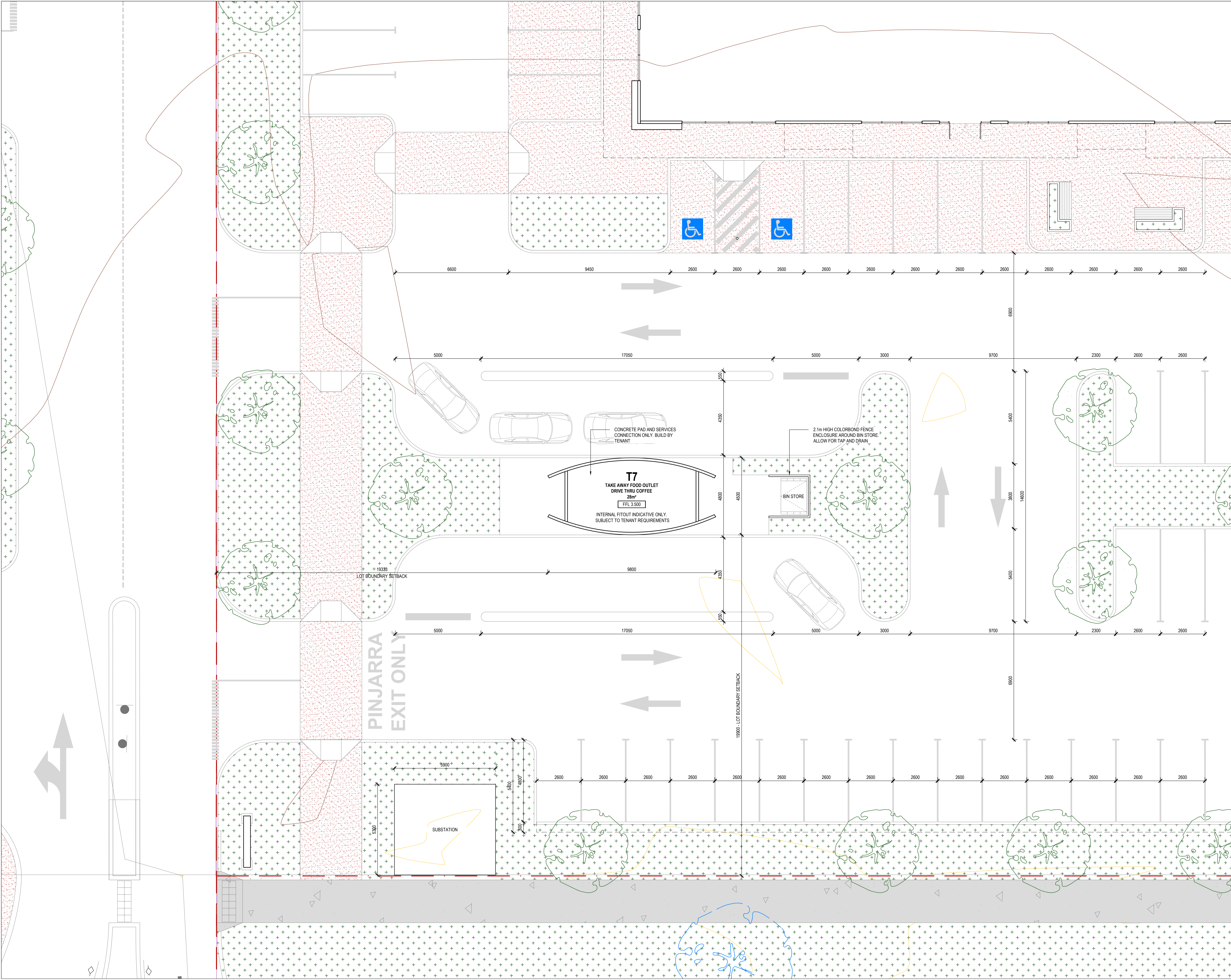
JOB NO:
163

SCALE:
1:200 @ A1

DRAWN BY:
YN

CHECKED BY:
YN

NORTH:



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DO NOT SCALE FROM DRAWINGS, REFER TO GIVEN DIMENSIONS.

VARIATIONS TO WORK SHOWN MUST BE CLAIMED AND APPROVED.

NOTE LEGEND

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
A	17.02.26	ISSUED FOR DA	YN	YN
B	19.03.26	ISSUED FOR PRICING	YN	YN
C	10.06.26	ISSUED FOR DA	YN	YN
D	23.06.26	ISSUED FOR DA	YN	YN

ARCHITECT:

y. architecture
STUDIO

yip@y-architecture-studio / 0430 394 223 / ABWA 3028

PRELIMINARY

PROJECT:
FURNISSDALE DEVELOPMENT
LOTS 154, 155, 401 (507-590)
PINJARRA ROAD, FURNISSDALE

DRAWING TITLE:
TENANCY 7 PLAN
TAKE AWAY FOOD OUTLET

DRAWING NO.
A1.07

REVISION:
D

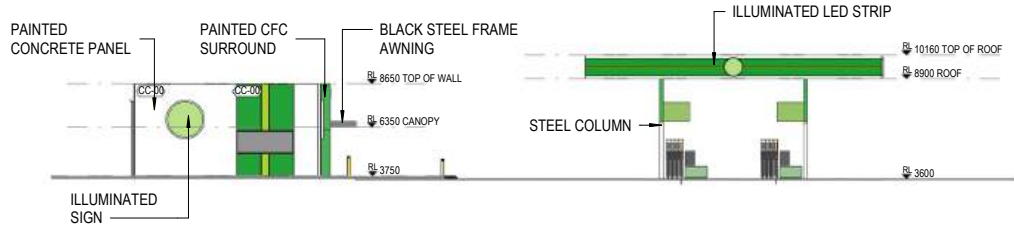
JOB NO:
163

SCALE:
1:100 @ A1

DRAWN BY:
YN

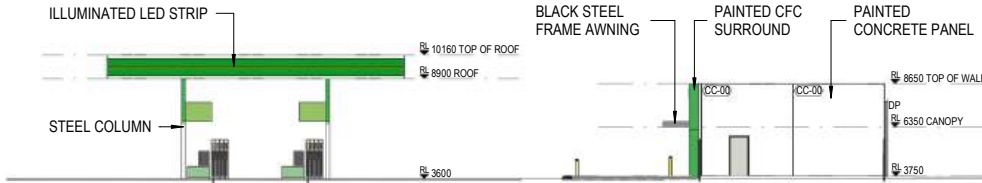
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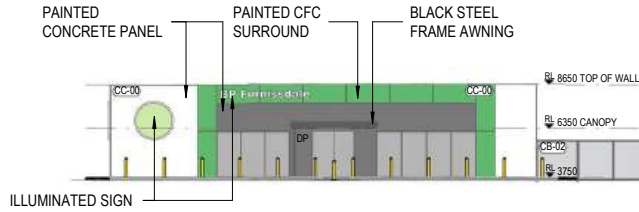
T1 - FUEL STATION - NORTH EAST ELEVATION

1 : 200



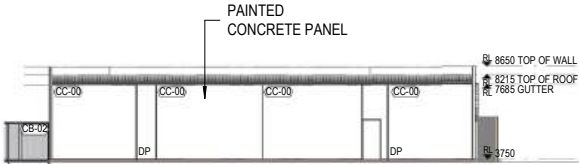
T1 - FUEL STATION - SOUTH WEST ELEVATION

1 : 200



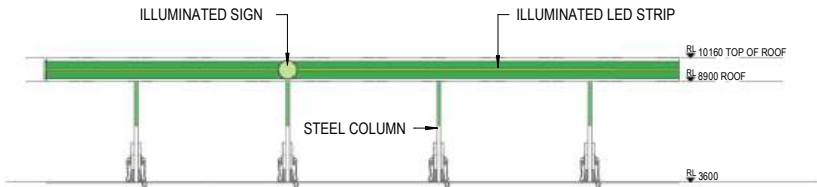
T1 - FUEL STATION - NORTH WEST ELEVATION 1

1 : 200



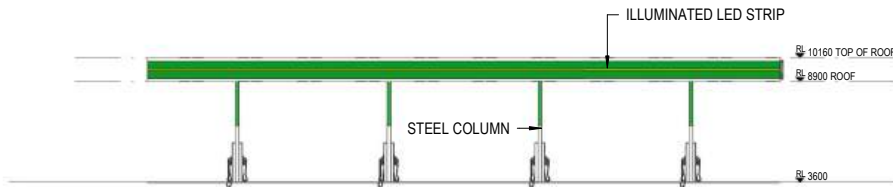
T1 - FUEL STATION - SOUTH EAST ELEVATION 1

1 : 200



T1 - FUEL STATION - NORTH WEST ELEVATION 2

1 : 200



T1 - FUEL STATION - SOUTH EAST ELEVATION 2

1 : 200

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NOTE LEGEND

CC-01	CHARCOAL PAINT
CC-02	MID GREY PAINT
CC-03	LIGHT GREY PAINT
CC-04	BRICK RED PAINT
CC-05	CORPORATE COLOURS OF FUTURE TENANTS
CC-06	CUSTOM ORB CLADDING - CLASSIC CREAM
CC-07	COLORBOND FENCE - SHALE GREY
CC-08	TRIMDEK - GALVANISED STEEL
CC-09	MASONRY BRICK TILE FIXED TO CONCRETE PANEL
CC-10	MASONRY BRICK - SMOOTH RED FACE BRICK

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
A	23/02/26	ISSUE FOR DA	YJ	YN
B	20/03/26	ISSUE FOR PRICING	YJ	YN
C	12/06/26	ISSUE FOR DA	YJ	YN
D	23/06/26	ISSUE FOR DA	YJ	YN

BUILDER:

CLIENT:

ARCHITECT:

y. architecture
STUDIO

yp@y-architecture.studio / 0430 394 223 / ABWA 3028

PRELIMINARY		
PROJECT: FURNISSDALE DEVELOPMENT LOTS 154, 155, 401 (507-590) PINJARRA ROAD, FURNISSDALE		
DRAWING TITLE: T1 - FUEL STATION ELEVATION		
DRAWING NO. A2.01	REVISION: D	
JOB NO: 163	SCALE: 1 : 200@A1	NORTH:
DRAWN BY: YJ	CHECKED BY: YN	

T2 - CAR WASH - NORTH EAST ELEVATION

1 : 200

T2 - CAR WASH - NORTH WEST ELEVATION

1 : 200

T2 - CAR WASH - SOUTH WEST ELEVATION

1 : 200

T2 - CAR WASH - SOUTH EAST ELEVATION

1 : 200

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VARIATIONS TO WORK SHOWN MUST BE CLAIMED AND APPROVED.

NOTE LEGEND	
	CHARCOAL PAINT
	MID GREY PAINT
	LIGHT GREY PAINT
	BRICK RED PAINT
	CORPORATE COLOURS OF FUTURE TENANTS
	CUSTOM ORB CLADDING - CLASSIC CREAM
	COLORBOND FENCE - SHALE GREY
	TRIMDEK - GALVANISED STEEL
	MASONRY BRICK TILE FIXED TO CONCRETE PANEL
	MASONRY BRICK - SMOOTH RED FACE BRICK

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
A	23/02/26	ISSUE FOR DA	YJ	YN
B	12/06/26	ISSUE FOR DA	YJ	YN
C	23/06/26	ISSUE FOR DA	YJ	YN

BUILDER:

CLIENT:

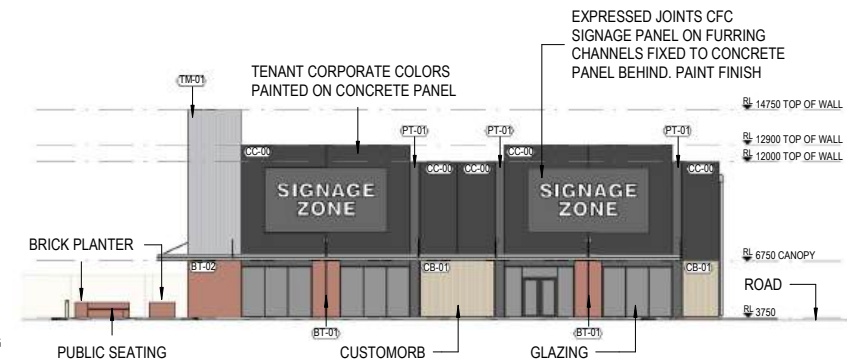
ARCHITECT:

y. architecture

STUDIO

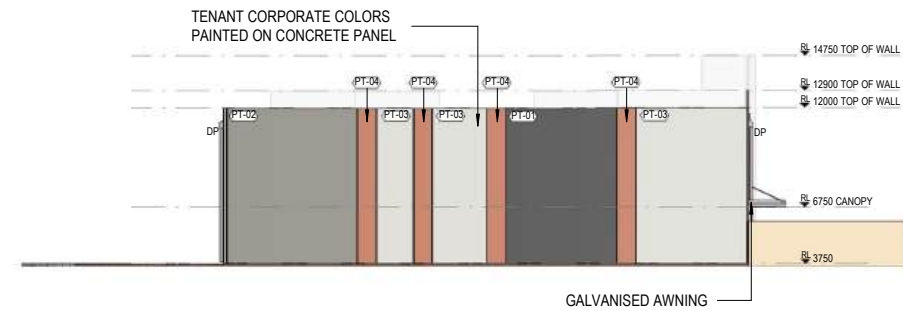
yp@y-architecture.studio / 0430 394 223 / ABWA 3028

PRELIMINARY		
PROJECT: FURNISSDALE DEVELOPMENT LOTS 154, 155, 401 (507-590) PINJARRA ROAD, FURNISSDALE		
DRAWING TITLE: T2 - CAR WASH ELEVATION		
DRAWING NO. A2.02		REVISION: C
JOB NO: 163	SCALE: 1 : 200@A1	NORTH:
DRAWN BY: YJ	CHECKED BY: YN	



T3 - GYM - NORTH WEST ELEVATION

1 : 200



T3 - GYM - SOUTH EAST ELEVATION

1 : 200

VARIATIONS TO WORK SHOWN MUST BE CLAIMED AND APPROVED.

PT40	CHARCOAL PAINT
PT30	MID GREY PAINT
PT05	LIGHT GREY PAINT
PT00	BRICK RED PAINT
CE00	CORPORATE COLOURS OF FUTURE TENANTS
CE01	CUSTOM ORB CLADDING - CLASSIC CREAM
CE02	COLORBOND FENCE - SHALE GREY
TM01	TRIMDEK - GALVANISED STEEL
TM02	MASONRY BRICK TILE FIXED TO CONCRETE PANEL
BT02	MASONRY BRICK - SMOOTH RED FACE BRICK

[illegible]

BUILDER:

CLIENT:

ARCHITECT:

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STUDIO

yip@y-architecture.studio / 0430 394 223 / ABWA 3028

PRELIMINARY

PROJECT:

FURNISSDALE DEVELOPMENT
LOTS 154, 155, 401 (507-590)
PINJARRA ROAD, FURNISSDALE

DRAWING TITLE:

T3 - GYM ELEVATION

DRAWING NO.

A2.03

JOB NO:

163

SCALE:

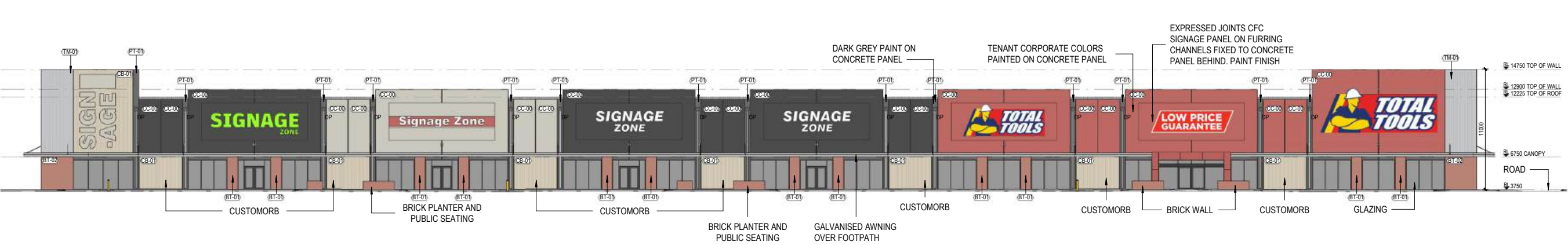
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DRAWN BY:

YJ

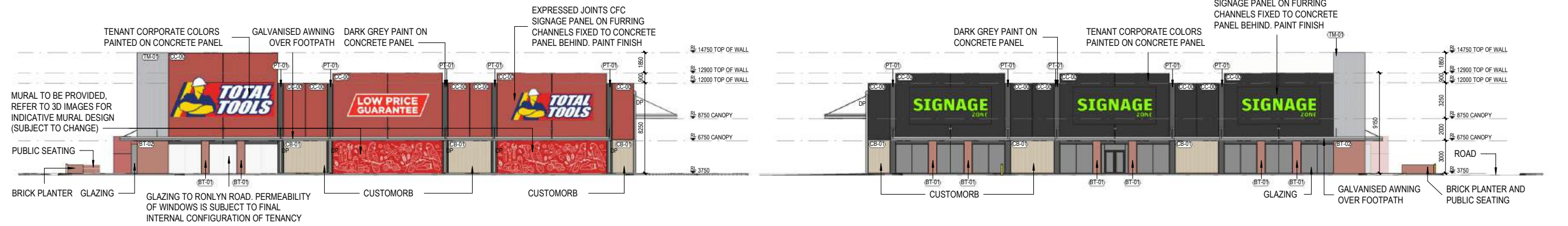
BIRTH:





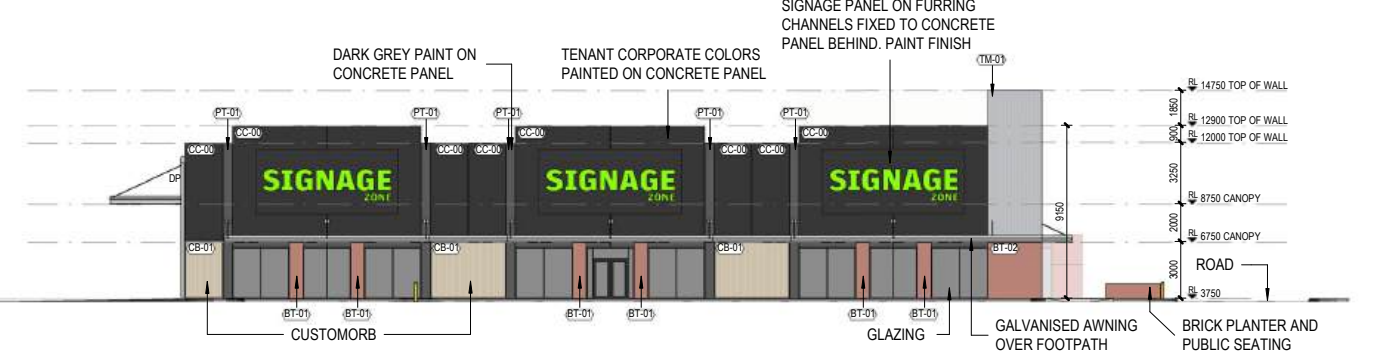
T4, T5, T6 - BULKY GOODS SHOWROOM & HARDWARE OUTLET - NORTH EAST ELEVATION

1 : 200



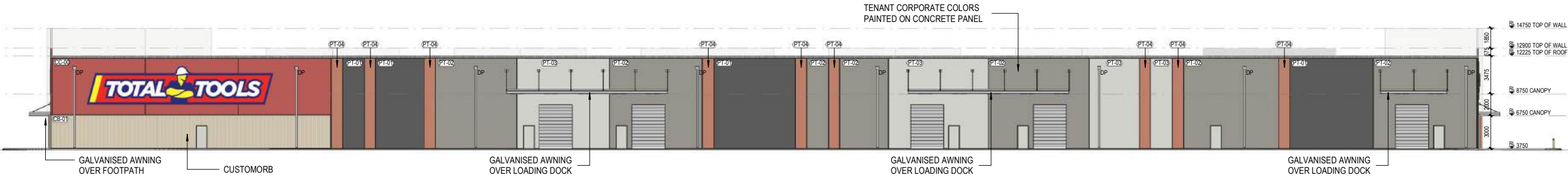
T6 - HARDWARE OUTLET - NORTH WEST ELEVATION

1 : 200



T4 - BULKY GOODS SHOWROOM - SOUTH EAST ELEVATION

1 : 200



T4, T5, T6 - BULKY GOODS SHOWROOM & HARDWARE OUTLET - SOUTH WEST ELEVATION

1 : 200

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NOTE LEGEND

- PT-01 CHARCOAL PAINT
- PT-02 MID GREY PAINT
- PT-03 LIGHT GREY PAINT
- PT-04 BRICK RED PAINT
- CC-00 CORPORATE COLOURS OF FUTURE TENANTS
- CB-01 CUSTOM ORB CLADDING - CLASSIC CREAM
- CB-02 COLORBOND FENCE - SHALE GREY
- TM-01 TRIMDEK - GALVANISED STEEL
- BT-01 MASONRY BRICK TILE FIXED TO CONCRETE PANEL
- BT-02 MASONRY BRICK - SMOOTH RED FACE BRICK

REV	DATE	DESCRIPTION	DRAWN	CHECKED
A	17/02/26	ISSUE FOR DA	YJ	YN
B	25/02/26	ISSUE FOR DA	YJ	YN
C	20/03/26	ISSUE FOR PRICING	YJ	YN
D	12/06/26	ISSUE FOR DA	YJ	YN
E	23/06/26	ISSUE FOR DA	YJ	YN

BUILDER:

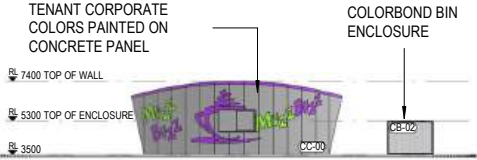
CLIENT:

ARCHITECT:

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STUDIO

yp@y-architecture.studio / 0430 394 223 / ABWA 3028

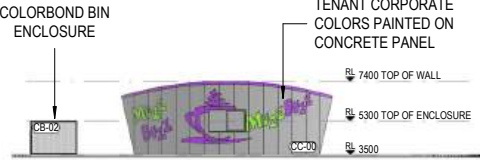
PRELIMINARY		
PROJECT: FURNISSDALE DEVELOPMENT LOTS 154, 155, 401 (507-590) PINJARRA ROAD, FURNISSDALE		
DRAWING TITLE: T4, T5, T6 - ELEVATION		
DRAWING NO. A2.04	REVISION: E	
JOB NO: 163	SCALE: 1 : 200@A1	NORTH:
DRAWN BY: YJ	CHECKED BY: YN	



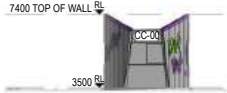
T7 - NORTH EAST ELEVATION
1 : 200



T7 - NORTH WEST ELEVATION
1 : 200



T7 - SOUTH WEST ELEVATION
1 : 200



T7 - SOUTH EAST ELEVATION
1 : 200

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NOTE LEGEND

- CHARCOAL PAINT
- MID GREY PAINT
- LIGHT GREY PAINT
- BRICK RED PAINT
- CORPORATE COLOURS OF FUTURE TENANTS
- CUSTOM ORB CLADDING - CLASSIC CREAM
- COLORBOND FENCE - SHALE GREY
- TRIMDEK - GALVANISED STEEL
- MASONRY BRICK TILE FIXED TO CONCRETE PANEL
- MASONRY BRICK - SMOOTH RED FACE BRICK

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
A	23/02/26	ISSUE FOR DA	YJ	YN
B	12/06/26	ISSUE FOR DA	YJ	YN
C	23/06/26	ISSUE FOR DA	YJ	YN

BUILDER:

CLIENT:

ARCHITECT:

y. architecture
STUDIO

yip@y-architecture.studio / 0430 394 223 / ABWA 3028

PRELIMINARY

PROJECT:
FURNISSDALE DEVELOPMENT
LOTS 154, 155, 401 (507-590)
PINJARRA ROAD, FURNISSDALE

DRAWING TITLE:
T7 - TAKEAWAY FOOD OUTLET
ELEVATION

DRAWING NO. A2.05	REVISION: C
JOB NO: 163	SCALE: 1 : 200@A1
DRAWN BY: YJ	CHECKED BY: YN
NORTH: 	



NORTH EAST ELEVATION 1 - PINJARRA ROAD
1 : 200



NORTH EAST ELEVATION 2 - PINJARRA ROAD
1 : 200



NORTH WEST ELEVATION - RONLYN ROAD
1 : 200

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NOTE LEGEND

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
A	24/02/26	ISSUE FOR DA	YJ	YN
B	20/03/26	ISSUE FOR PRICING	YJ	YN
C	12/06/26	ISSUE FOR DA	YJ	YN
D	23/06/26	ISSUE FOR DA	YJ	YN

BUILDER:

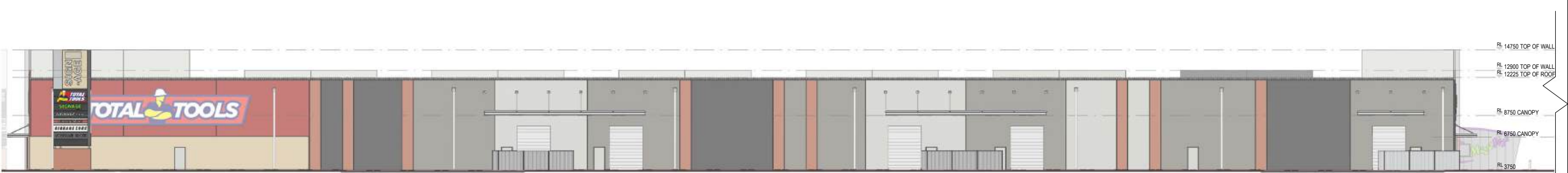
CLIENT:

ARCHITECT:

y. architecture
STUDIO

yp@y-architecture.studio / 0430 394 223 / ABWA 3028

PRELIMINARY		
PROJECT: FURNISSDALE DEVELOPMENT LOTS 154, 155, 401 (507-590) PINJARRA ROAD, FURNISSDALE		
DRAWING TITLE: SITE ELEVATION 1		
DRAWING NO. A2.51		REVISION: D
JOB NO: 163	SCALE: 1 : 200@A1	NORTH:
DRAWN BY: YJ	CHECKED BY: YN	



SOUTH WEST ELEVATION 1

1 : 200



SOUTH WEST ELEVATION 2

1 : 200



SOUTH EAST ELEVATION

1 : 200

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NOTE LEGEND

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
A	24/02/26	ISSUE FOR DA	YJ	YN
B	25/02/26	ISSUE FOR DA	YJ	YN
C	20/03/26	ISSUE FOR PRICING	YJ	YN
D	12/06/26	ISSUE FOR DA	YJ	YN
E	23/06/26	ISSUE FOR DA	YJ	YN

BUILDER:

CLIENT:

ARCHITECT:

y. architecture
STUDIO

yp@y-architecture.studio / 0430 394 223 / ABWA 3028

PRELIMINARY

PROJECT:
FURNISSDALE DEVELOPMENT
LOTS 154, 155, 401 (507-590)
PINJARRA ROAD, FURNISSDALE

DRAWING TITLE:
SITE ELEVATION 2

DRAWING NO. A2.52	REVISION: E
JOB NO: 163	SCALE: 1 : 200@A1
DRAWN BY: YJ	CHECKED BY: YN
NORTH: 	

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VARIATIONS TO WORK SHOWN MUST BE CLAIMED AND APPROVED.

NOTE LEGEND

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
A	23.02.26	ISSUED FOR DA	YN	YN
B	23.06.26	ISSUED FOR DA	YN	YN

ARCHITECT:

y. architecture
STUDIO

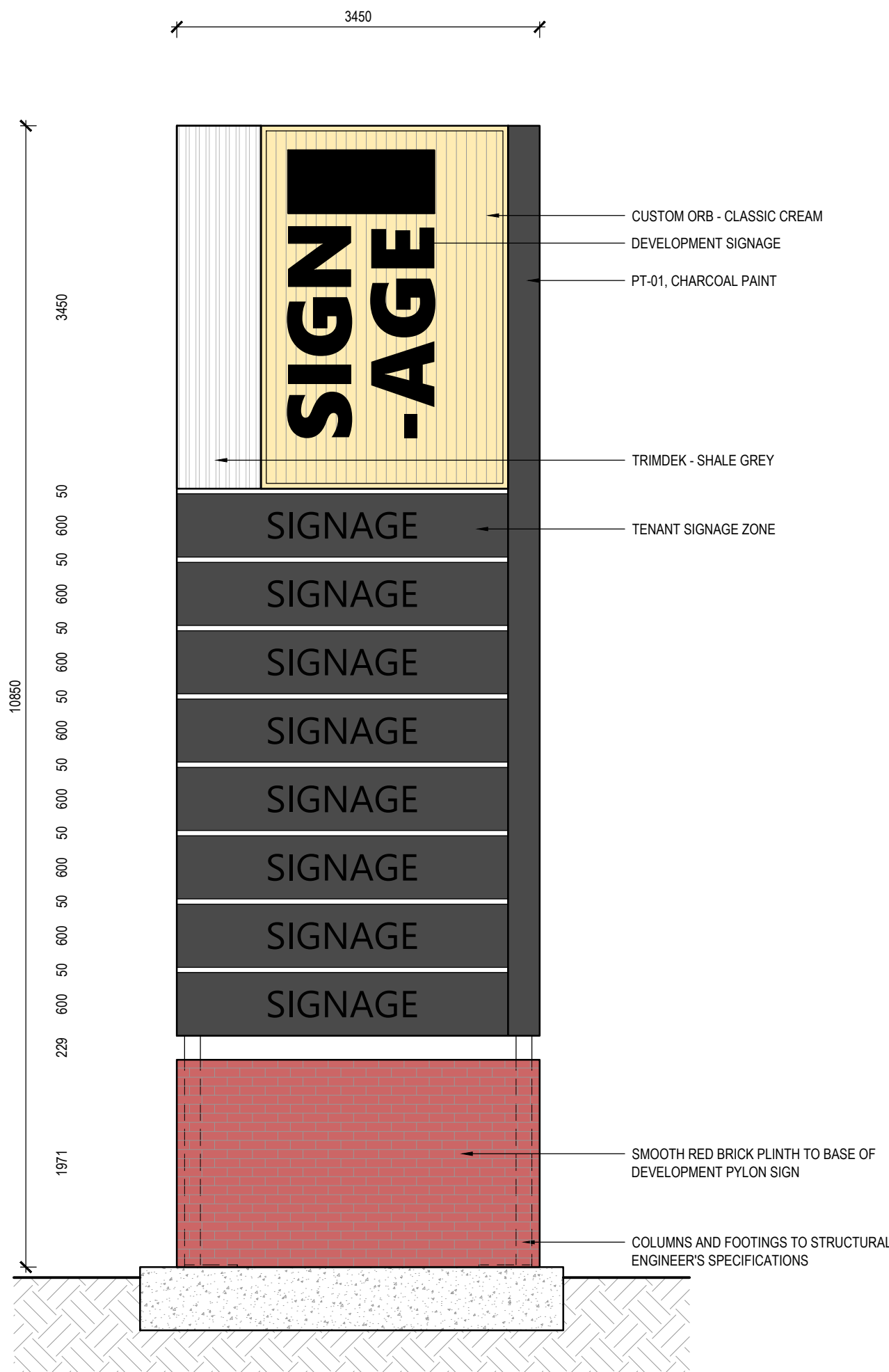
yip@y-architecture-studio / 0430 394 223 / ABWA 3028

PRELIMINARY

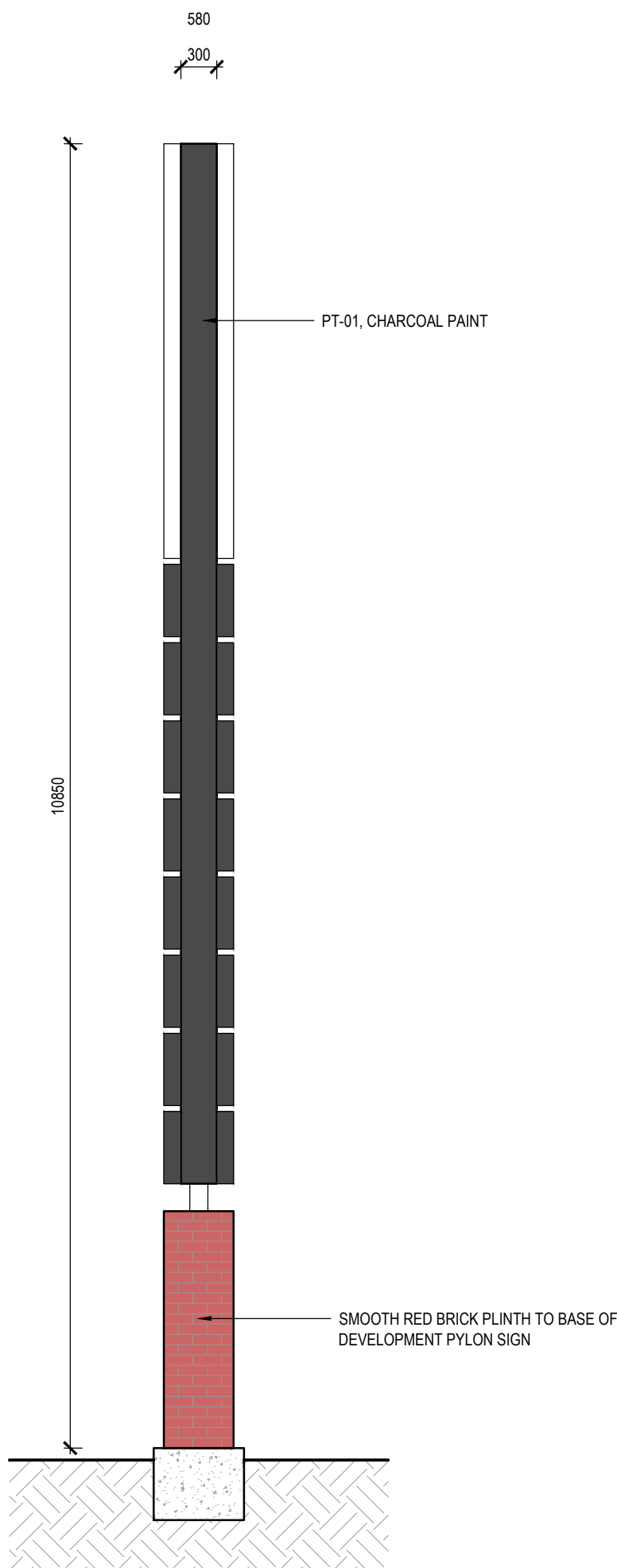
PROJECT:
FURNISSDALE DEVELOPMENT
LOTS 154, 155, 401 (507-590)
PINJARRA ROAD, FURNISSDALE

DRAWING TITLE:
DEVELOPMENT PYLON SIGN

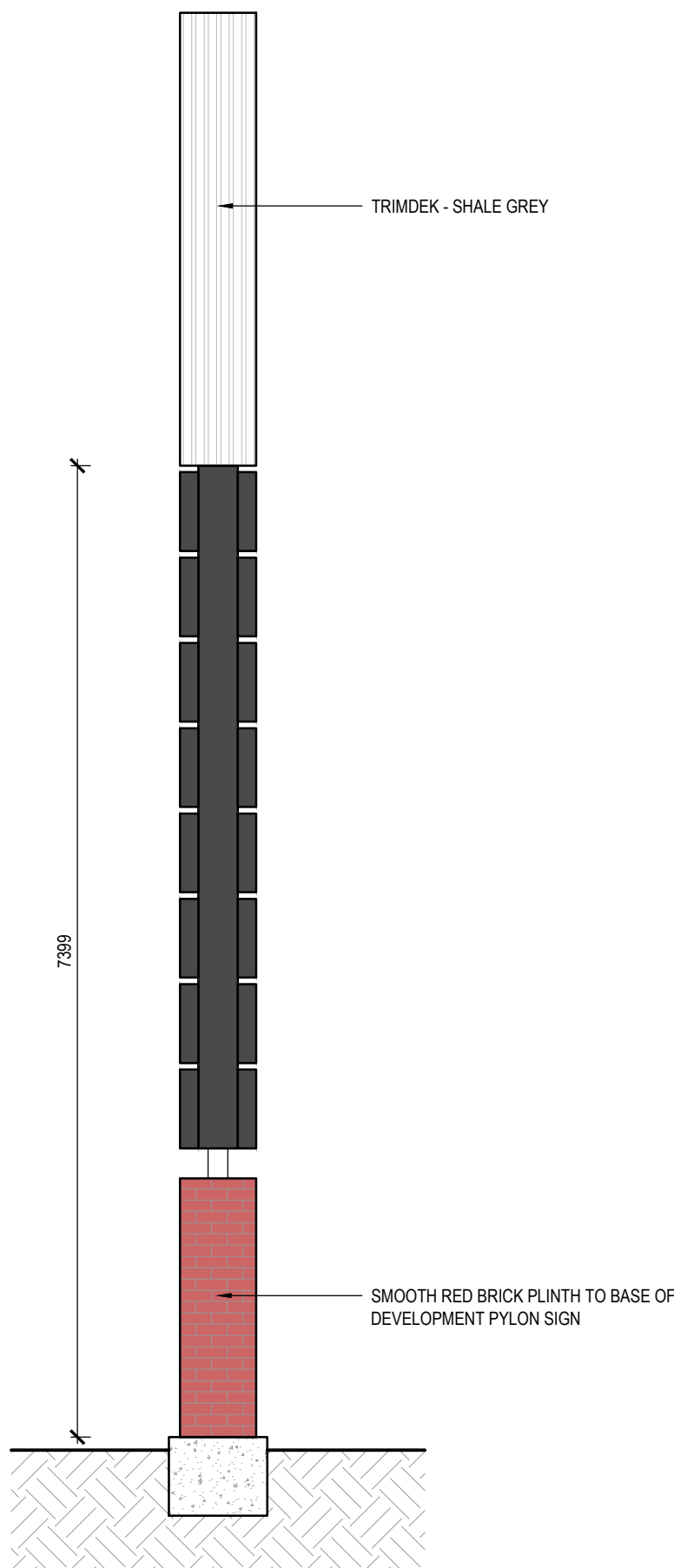
DRAWING NO. A9.01		REVISION: B
JOB NO: 163	SCALE: NTS	NORTH:
DRAWN BY: YN	CHECKED BY: YN	



DEVELOPMENT PYLON SIGN - FRONT
SCALE 1:50 @ A1



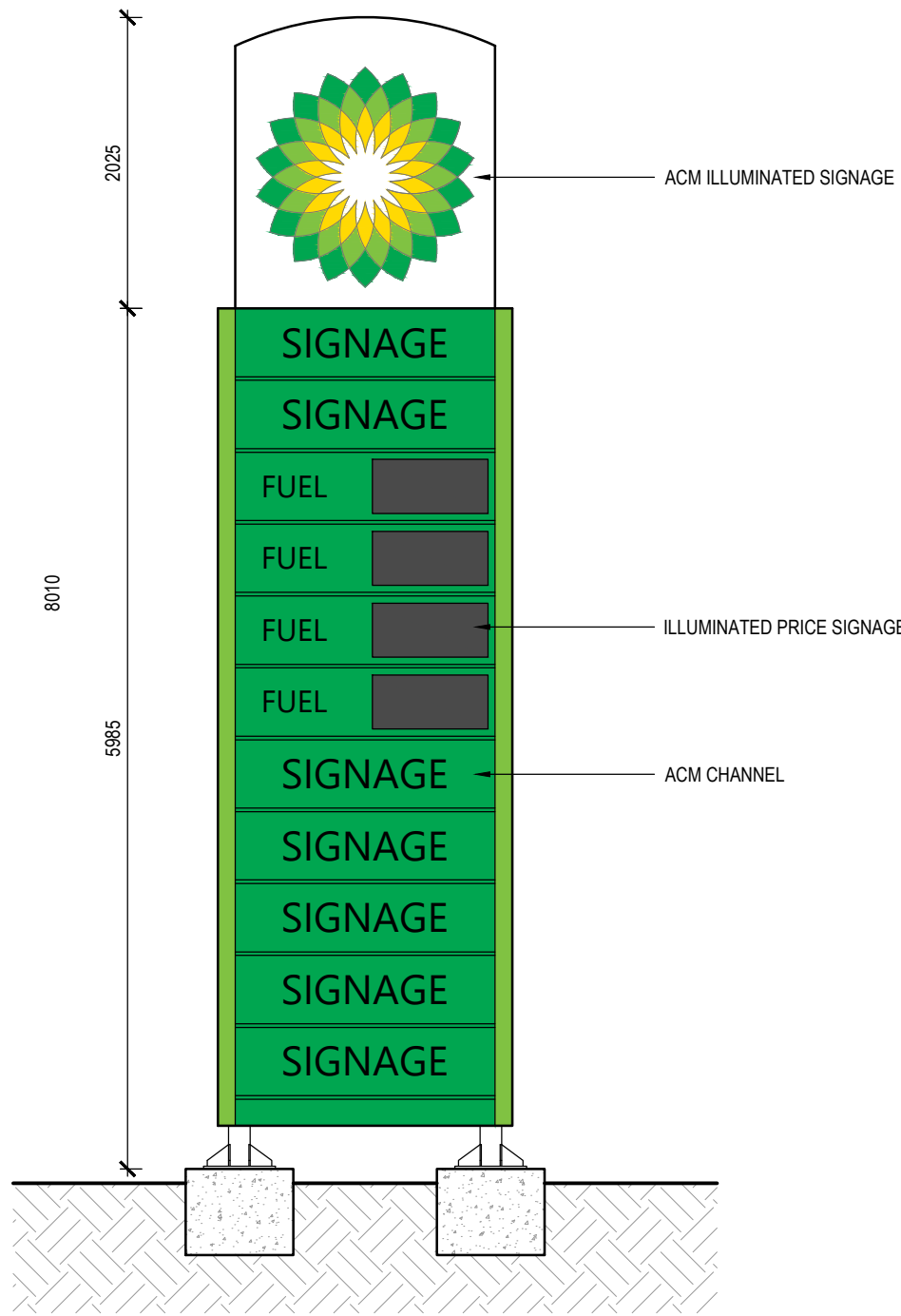
DEVELOPMENT PYLON SIGN - SIDE
SCALE 1:50 @ A1



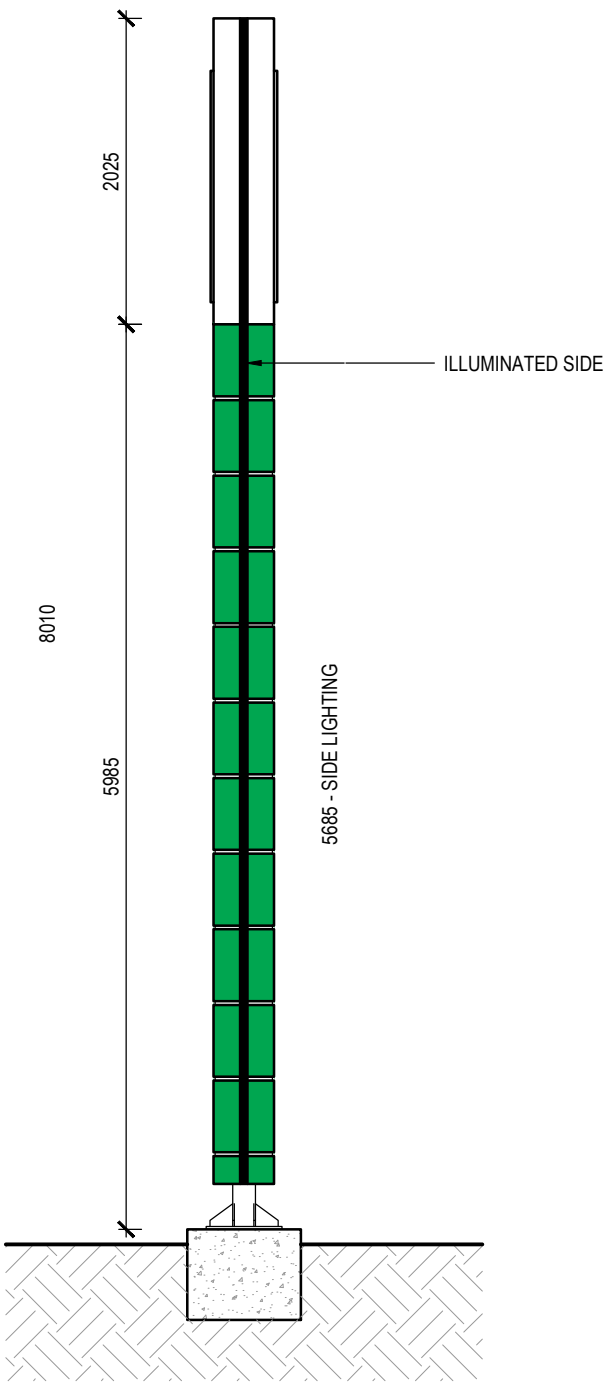
DEVELOPMENT PYLON SIGN - SIDE
SCALE 1:50 @ A1



DEVELOPMENT PYLON SIGN - 3D
NOT TO SCALE



FUEL PYLON SIGN - FRONT
SCALE 1:50 @ A1



FUEL PYLON SIGN - SIDE
SCALE 1:50 @ A1



FUEL PYLON SIGN - 3D
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PRELIMINARY

PROJECT:
FURNISSDALE DEVELOPMENT
LOTS 154, 155, 401 (507-590)
PINJARRA ROAD, FURNISSDALE

DRAWING TITLE:
FUEL PYLON

DRAWING NO. A9.02	REVISION: A
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JOB NO: 163	SCALE: NTS	NORTH:
DRAWN BY: YN	CHECKED BY: YN	



Proposed Commercial Development

Lots 154, 155, 401 (578-590)

Pinjarra Road, Furnissdale

Transport Impact Assessment

PREPARED FOR:
Vesta Funds

February 2026

Document history and status

Author	Revision	Approved by	Date approved	Revision type
M Rasouli	r01	B Bordbar	03/02/2026	Draft
M Rasouli	r01a	B Bordbar	011/02/2026	Final
M Rasouli	r01b	B Bordbar	27/02/2026	Second Final

File name: t25.163.mr.r01b

Author: Mohammad Rasouli

Project manager: Mohammad Rasouli

Client: Vesta Funds

Project: Proposed Mixed Commercial Development

Document revision: r01b

Project number: t25.163

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1 Introduction and Background

This Transport Impact Assessment (TIA) is prepared by Transcore on behalf of Vesta Funds for the proposed commercial development situated at Lots 154, 155, 401 (578-590) in Furnissdale, WA.

Transcore was the traffic engineer for the 2018 approved development plan for the same site and, during that project, liaised extensively with the Shire of Murray and Main Roads WA to establish the satisfactory and acceptable access arrangements for the site, ensuring satisfactory traffic operations at the crossovers and surrounding intersections. The approved access arrangements included a left in/left out crossover on Pinjarra Road and a roundabout intersection on Ronlyn Road.

Due to the extensions to the approved development, the 2018 approval is still valid.

The proposed development is similar to that which was approved in 2018, albeit in a different configuration. The access arrangements are identical to those in the 2018 approval. A copy of the approved development plan is provided in **Appendix A**.

Porter Consultants have prepared a 15% design for the approved left in/left out crossover on Pinjarra Road, which is included in **Appendix B**. This design features a left turn slip lane on Pinjarra Road. Porter Consultants have also prepared a concept design for the approved roundabout intersection on Ronlyn Road which is included in **Appendix B**.

As outlined earlier it is important to reiterate that the proposed development plan will not alter the location or layout of the previously approved development access/egress arrangements on Pinjarra Road and Ronlyn Road.

The subject site is currently vacant and is located at south-east corner of the signalised intersection of Pinjarra Road/ Ronlyn Road/Husband Road (refer to **Figure 1**).

This TIA report establishes the traffic generation and distribution associated with the proposed development. Additionally, it will assess the operation of the site crossovers and the performance of the signalised intersection of Pinjarra Road/ Ronlyn Road/Husband Road as a network.





Figure 1: Location of the subject site

2 Development Proposal

The proposed development will be developed in two stages. Stage 1 of the commercial development comprises the following elements:

- ✚ A service station with a carwash;
- ✚ Bulky goods showroom tenancies with total GFA of about 5,798m²;
- ✚ A drive through coffee outlet; and,
- ✚ A Gym with total GFA of about 1,430m².

The Stage 1 development plan is shown in **Appendix C**. The balance of the site which is shown as Stage 2 development is subject to a separate future development application and may include approximately 7,000m² of showroom tenancies.

For the purpose of a comprehensive assessment, the traffic generation and distribution of the Stage 2 development has been factored in the assessments of the development external crossovers and the existing signalised intersection at Pinjarra Road/ Ronlyn Road/Husband Road.

The proposed access/egress arrangements for the subject site include a left in/left out intersection with a left turn pocket on Pinjarra Road and one full movement crossover intersections on Ronlyn Road. The Ronlyn Road crossover is proposed to integrate with the existing Spudshed crossovers on the opposite side of Ronlyn Road and therefore a roundabout is proposed for this location as per the original approval. The Stage 2 of the development would provide another crossover on Ronlyn Road to the south of stage 1 crossover which will function as a full-movement, priority-controlled crossover. For a robust assessment, the Stage 2 crossover is assumed to be utilised exclusively by service vehicles. As a result, all trips from both Stage 1 and Stage 2 have been allocated to the development intersection crossovers on Pinjarra Road and the northern Ronlyn Road crossover.

It should be noted that the location and layout of the proposed development crossover intersections are in line with the approved development plan which were established through extensive liaison with Shire of Murray and Main Roads WA as part of the original 2018 approval. The 2018 approval has been extended and is currently valid.

Turn path analysis has been undertaken for each individual loading dock within the development to ensure satisfactory operation of the service vehicles entering and exiting the loading dock areas. Turn path analysis have also been undertaken for the fuel tanker associated with the proposed service station at the south west corner of the site. The proposed intersection crossover on Pinjarra Road is designed to accommodate the movements of a 19m fuel tanker.

Pedestrian and cyclist access to the proposed development would be facilitated through direct connection to the existing and proposed pedestrian and shared paths on abutting roads and through the internal car park walkways as shown in the development plan.

3 Existing Situation

3.1 Existing Road Network

The subject site is located at the south-east corner of the signalised intersection of Ronlyn Road/ Pinjarra Road/Husband Road. The existing road hierarchy of the adjoining roads are shown in **Figure 2**.

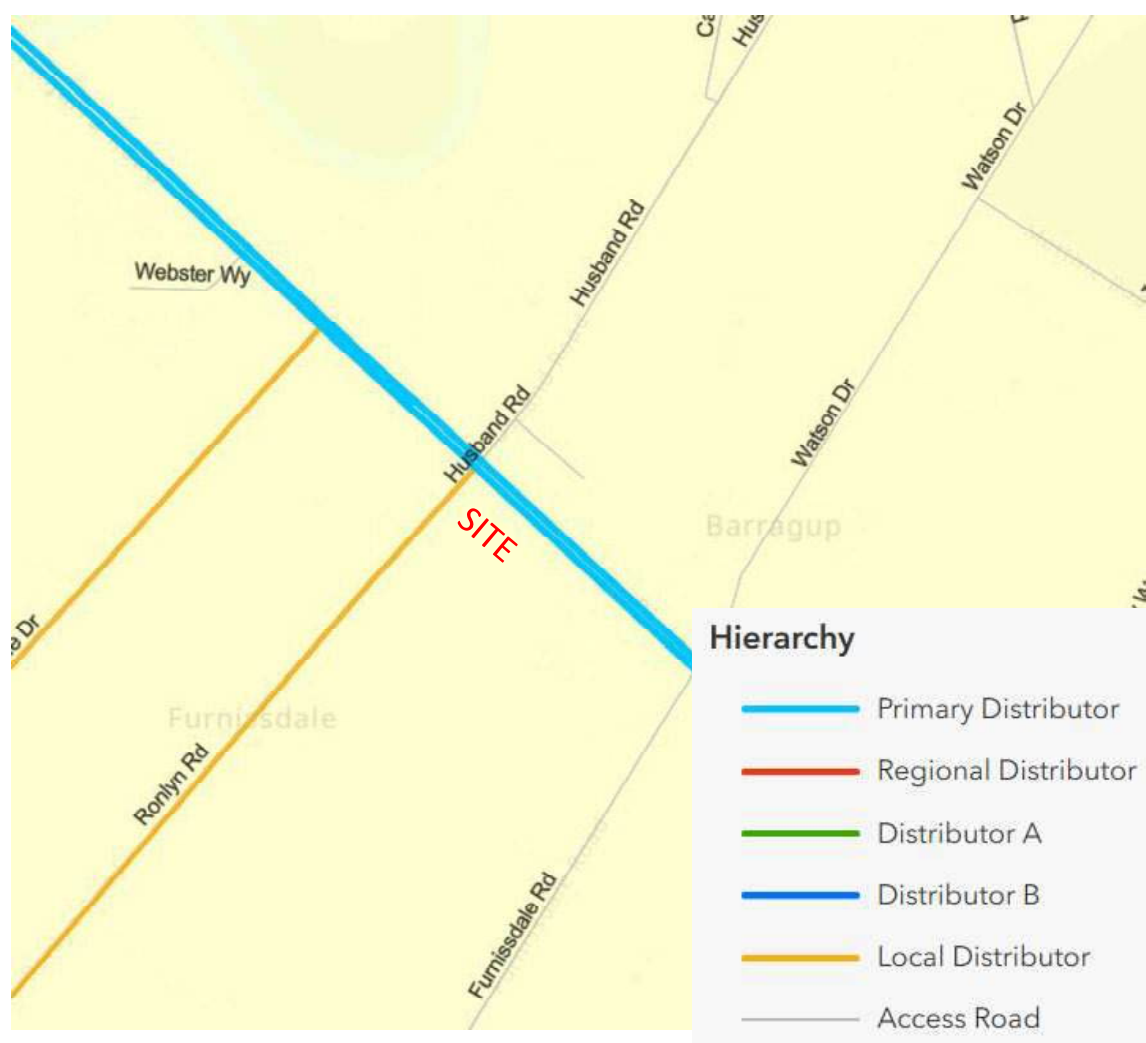


Figure 2: Main Roads WA Functional Road Hierarchy

Pinjarra Road is a Primary Distributor road according to the Main Roads WA Functional Road Hierarchy document. It is of dual divided carriageway standard with a median of about 7m wide and speed limit of 80 km/h in the vicinity of the subject site (refer **Figure 3**).



Figure 3: Pinjarra Road looking west at the subject site

Ronlyn Road is classified as an Access Road (MRWA, Functional Road Hierarchy), with speed limit of 60km/h. It has a 20m road reserve and is constructed as single carriageway with about 6m pavement towards the south of the subject site. Ronlyn Road is widened at the intersection with Pinjarra Road with separate left and right turn lanes.



Figure 4: Ronlyn Road looking north in the vicinity of the subject site

3.2 Existing Traffic Volumes

The latest peak hour traffic turn volumes at the signalised intersection of Pinjarra Road/ Ronlyn Road/ Husband Road, obtained from Main Roads WA SCATS data and traffic volumes for the abutting roads are presented in **Figure 5**. Transcore undertook manual traffic counts at the existing Spudshed crossover on Ronlyn Road in November 2025.

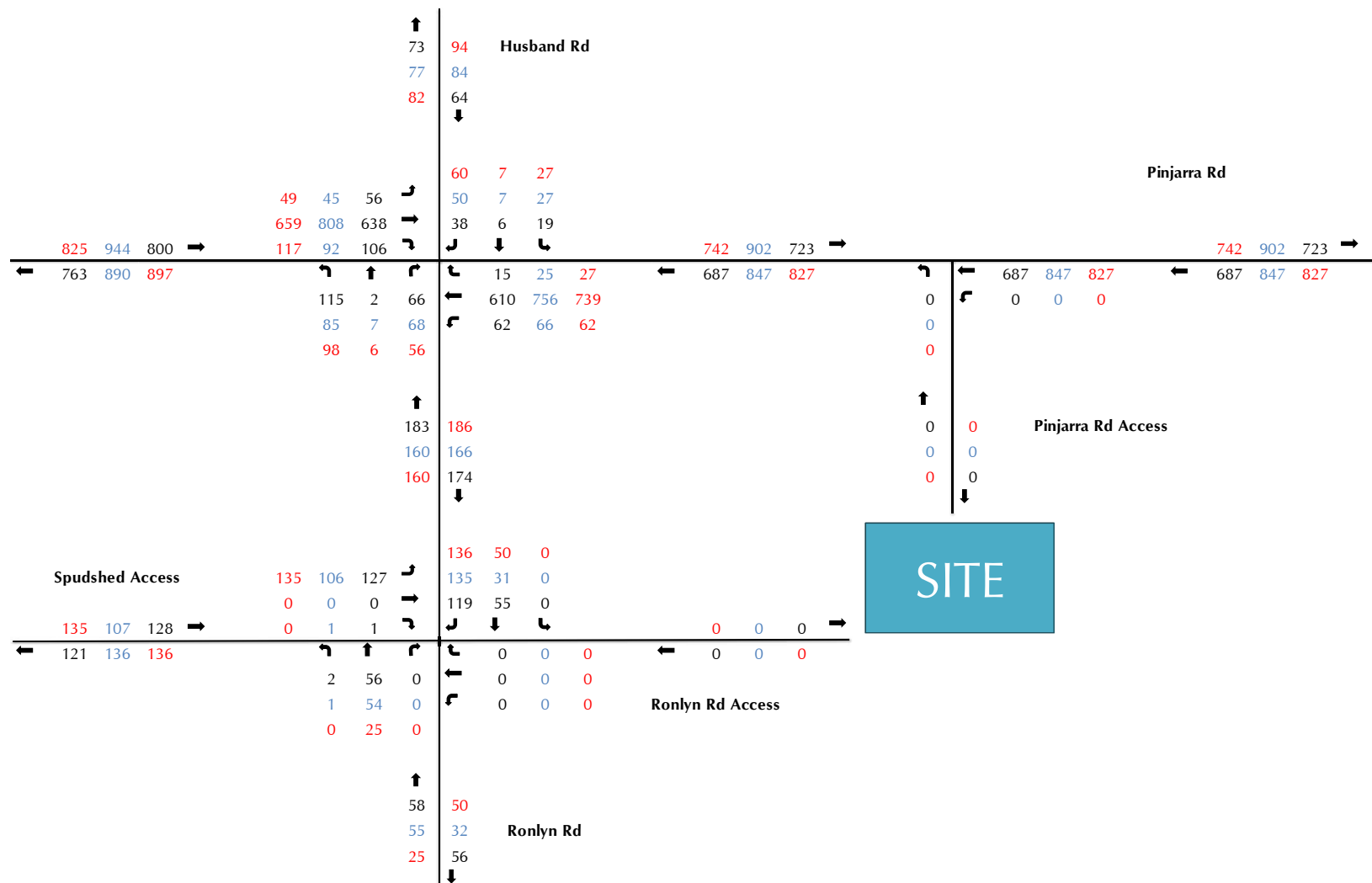


Figure 5: Existing traffic volumes – Weekday AM Weekday PM Weekday and Mid-day Saturday peak hours

3.3 Heavy Vehicles

Restricted Access Vehicle (RAV) Network routes are designated for access by large heavy vehicle combinations, which is managed by Main Roads WA.

Pinjarra Road adjacent to the site forms part of RAV Tandem Drive Network 4 as shown in **Figure 6**. The RAV Tandem Drive Network 4 classification permits a variety of prime mover and trailer combinations, such as B-doubles up to a maximum length of 27.5m. Ronlyn Road and Husband Road are not part of the RAV network and are permitted to accommodate "as of right" vehicles (up to 19m semi-trailers).

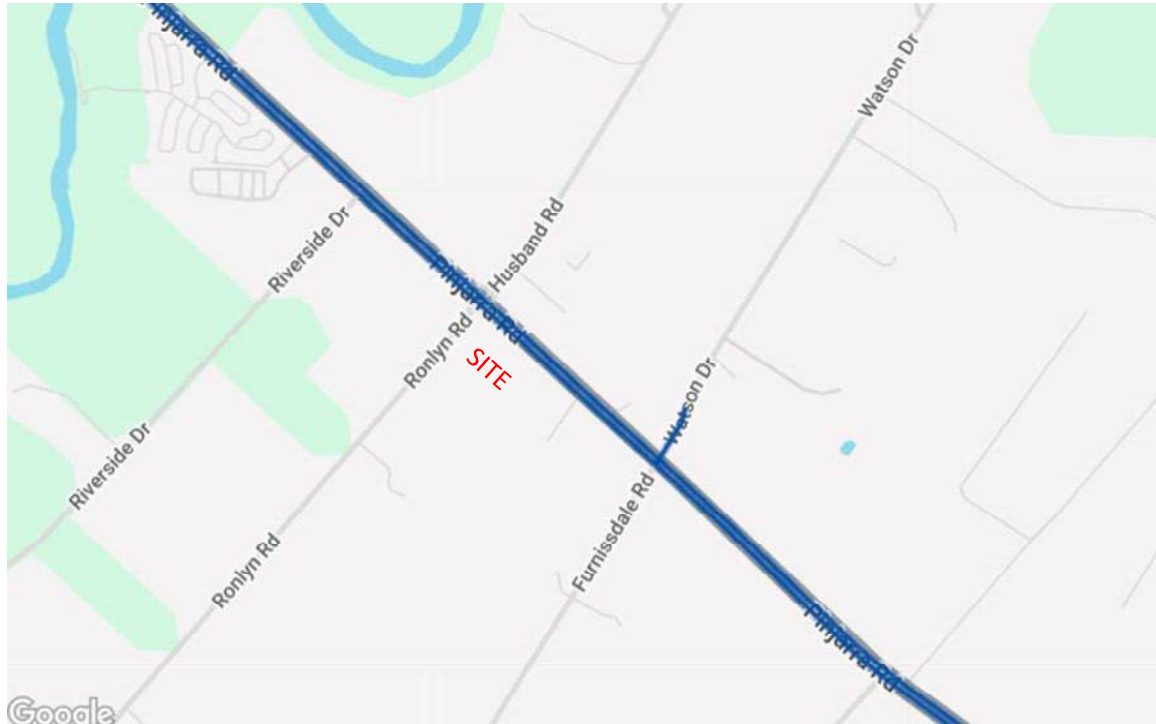


Figure 6: Existing heavy vehicle road network classification (RAV)

3.4 Public Transport Access

Available nearby public transport services are shown in **Figure 7**. The site enjoys multiple bus routes along Pinjarra Road with connectivity to Mandurah Train Station. Bus stops are available fronting the subject site on Pinjarra Road.

Bus route 600 travels between Mandurah Station to Pinjarra via Pinjarra Road and Ravenswood. Bus route 604 travels between Mandurah Station to South Yunderup via North Yunderup. Bus route 605 travels between Mandurah Station to Pinjarra, serving areas including Ravenswood and Murray Bend. All bus services operate Monday to Saturday, with no service on Sundays or public holidays.

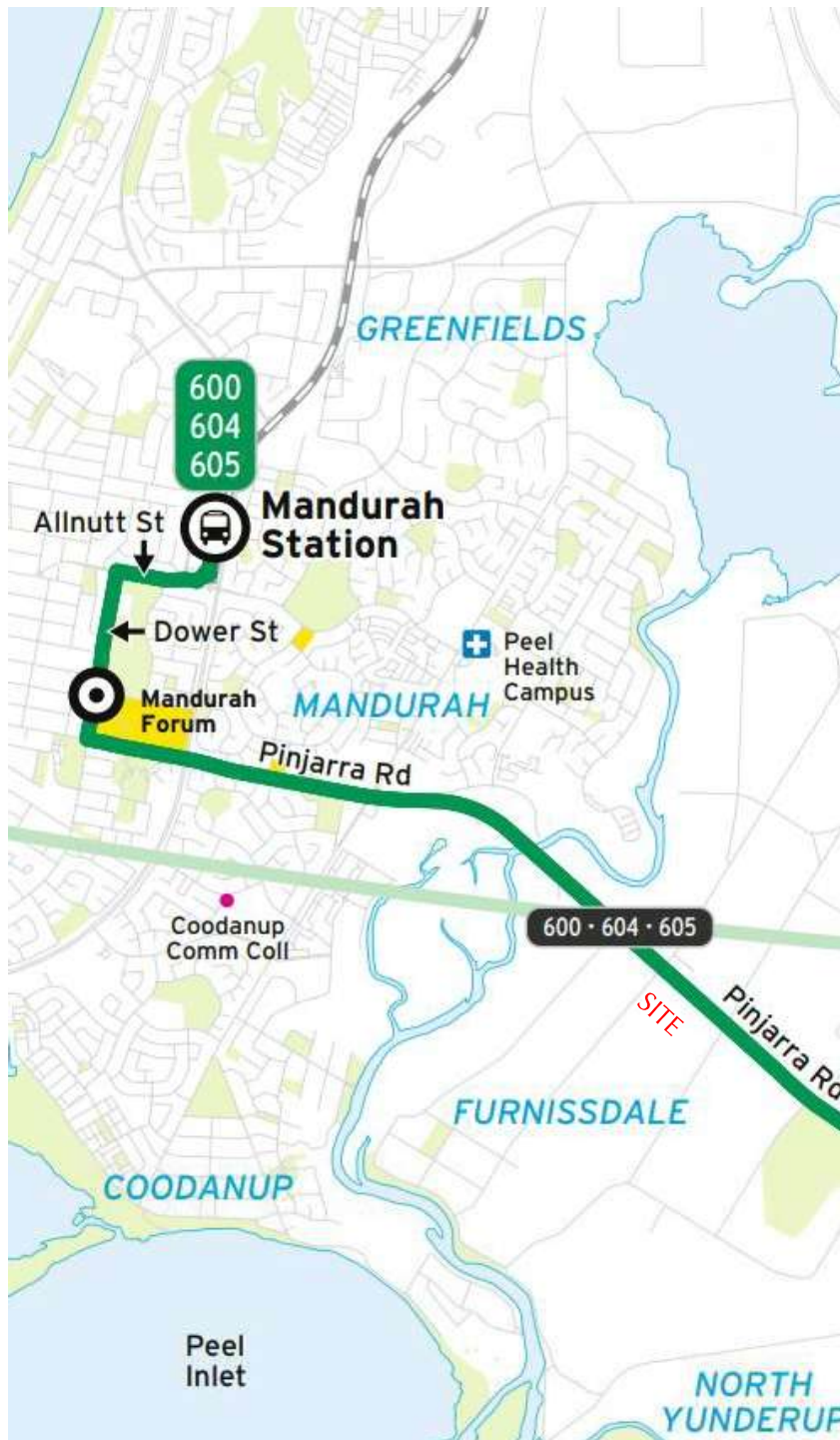


Figure 7: Existing bus routes (source: Transperth)

3.5 Pedestrian and Cyclist Facilities

Currently there are shared paths along south side of Pinjarra Road and west side of Ronlyn Road. Pedestrian and cyclists can use these paths to access the site.

3.6 Crash Data

Information available on the Main Roads WA website indicates 8 crashes at the signalised intersection of Pinjarra Road/ Ronlyn Road/ Husband Road during the last five-year period ending in December 2024.

According to **Table 1**, the predominant type of collision was rear-end and right-angle crashes.

Table 1. Crash Statistics for Pinjarra Road/ Ronlyn Road/ Husband Road

Intersection				Total Crashes	Casualty
Pinjarra Road/ Ronlyn Road/ Husband Road				8	0
Rear End	Right angle	Sideswipe Same Dirn	Daylight	PDO Major	Medical
5	3	0	8	3	3

4 Changes to Surrounding Transport Networks

The development proposes a left in/ left out crossover intersection on Pinjarra Road in line with the original approved development plan. Appropriate left turn slip lane is proposed at the crossover to satisfy Main Roads WA and Austroads requirements and improve safety and operation of the crossover. The development also proposes a roundabout on Ronlyn Road.

Porter consultants have prepared a 15% design for the proposed left in/ left out crossover intersection on Pinjarra Road which is provided in [Appendix B](#). Porter Consultants have also prepared a concept design for the roundabout intersection on Ronlyn Road which is included in [Appendix B](#).

An extract from the Peel Region Scheme (PRS) map in the vicinity of the subject site is shown in [Figure 8](#). The PRS map indicates the required future road widenings along Pinjarra Road in this vicinity. This includes a 10.0m road widening along the Pinjarra Road frontage of the site. The proposed development site plan allows for the proposed 10.0m future road widening along Pinjarra Road.



Figure 8: Peel Region Scheme map

5 Integration with Surrounding Area

The proposed development is a commercial development which is in line with the existing and future surrounding land uses in the area. It is also in line with the land uses approved in the original development plan.

6 Traffic Assessment

6.1 Assessment Period

The assessment years that are adopted for the analysis are 2027 for post development and 2037 for 10-year post development scenarios.

The peak period for the proposed development is anticipated to be the Saturday lunchtime peak period. Accordingly, traffic analysis in this report assesses weekday AM and PM peaks (in line with WAPC guidelines) and the Saturday peak hour.

6.2 Trip Generation and Distribution

The traffic generation rates used in this assessment have been obtained from various sources, as indicated in **Table 2**.

In order to establish the appropriate trip rates for Bulky goods/ Showroom stores reference was made to the “The Guide to Transport Impact Assessment Technical guidance for transport practitioners TS 00085 | Version 1.1”. This Guide supersedes the Guide to Traffic Generating Developments (GTGD 2002) and Updated Traffic Surveys Technical Direction (TDT 2013/04a). For the purpose of conservative assessments, the trip rate for hardware stores which is higher than bulky goods were applied to the proposed bulky goods/ showroom land uses.

Based on the feedback received from a number of Western Australia service station operators that the trip rates published in the ITE Trip Generation Manual (various Editions) significantly overestimate the actual patronage numbers, Transcore undertook extensive traffic surveys during 2022. As part of this survey, a total of 15 service stations were surveyed, in order to establish more accurate local traffic generation rates for this type of land use in Western Australia. All of the sites selected entailed different operators in order to ensure robust data with a high level of confidence. The surveys were undertaken on Mondays, Tuesdays and Wednesdays in order to include trade activity during the discounted fuel days as well and to ensure a conservative approach.

The following sites were surveyed for the purpose of the study:

- 7-Eleven, 194 Great Eastern Hwy, Ascot WA
- Ampol, 204 Great Eastern Hwy, Ascot WA
- BP, 1 Canham Way, Greenwood WA
- BP, 88 Gilbertson Road, Kardinya WA
- BP, 848 Canning Hwy, Applecross WA
- Coles Express, 73A Frobisher Street, Osborne Park WA
- Puma, 58 Montana Crescent, Alkimos WA
- Ampol 3, Morwell Street, Yanchep WA
- Liberty, 2341 Albany Highway, Gosnells WA

- 7-Eleven, 931 Wanneroo Road, Wanneroo WA
- 7-Eleven, 13 Lakes Road, Greenfield WA
- Shell, 582 Stirling Highway, Mosman WA
- Puma, Cnr Johnson Street & Helena Street, Guildford WA
- United, 2 Feilman Drive, Leda WA
- United, 101 Terrier Place, Southern River WA

Accordingly, the trip rates which were used to estimate traffic generation for the service station components of the proposed development are as follows:

- Weekday daily: 162.20vpd per filling point;
- Weekday AM peak hour: 9.49vph per filling point; and,
- Weekday PM peak hour: 11.27vph per filling point.

It is estimated that the proposed service station (16 filling points) would generate the following total traffic flows:

- Weekday daily: 2,595 vpd;
- Weekday road network AM peak hour: 152 vph
- Weekday road network PM peak hour: 180 vph;

The traffic survey by Transcore did not capture the Saturday peak hour and therefore, conservatively the same trip rate for PM peak hour was used for the Saturday peak hour.

The traffic volumes likely to be generated by the proposed car wash have been estimated based on Transcore's experience, information available to Transcore and observations of similar businesses within the Perth Metro area.

The peak patronage of carwashes occurs during the weekends which doesn't coincide with the peak hour of the road network. However, for a robust assessment, it is assumed that the road network peak trip generation for the proposed auto car wash would be similar to the peak hour trip generation during a weekend. The manual wash bay normally generates less traffic than auto wash bay, however, in order to provide a conservative approach, the trip rates for auto bays were applied to the manual wash bay.

Accordingly, the trip rate of the proposed car wash is estimated as below:

Auto Car Wash – per wash bay

Weekday road network AM and PM peak hour: 7 trips per hour per bay; and,
Weekday road network Saturday peak hour: 7 trips per hour per bay.

Accordingly, the trip generation of the proposed car wash are estimated as below:

Proposed Car Wash

Weekday AM and PM peak hour: $7 \times 3 = 21$ trips; and,
Weekday Saturday peak hour: $7 \times 3 = 21$ trips.

Trips associated with the proposed development may be internal trips (eg. visiting multiple land uses) or passing-trade trips (trips already on the road network and not specifically generated by the proposed development), or primary trips (new trips).

The ITE Trip Generation Handbook (3rd Edition) provides additional information on internal trips within a mixed-use development and on pass-by and primary trips for various types of land use. Based on this information, it is estimated that approximately 20% of the trips visiting the site would be internal trips (cross trade) in line with the original TIA prepared for the approved development plan. The passing trade and primary trip components of the trip generation, allowing for cross trade, are provided in **Table 3**.

Accordingly, it is estimated that the proposed development including stage 2 would generate about 6,304 daily trips with about 289 AM peak hour trips, 641 PM peak hour trips and 791 Saturday mid-day peak hour trips (refer **Table 2**).

The stage 1 development trip generation is shown in red in below tables. As evident, the stage 1 development would generate about 4,456 daily trips with about 228 AM peak hour trips, 406 PM peak hour trips and 477 Saturday mid-day peak hour trips.

The distribution of traffic to and from the proposed development was evaluated by considering the catchment area of the proposed development as well as the available access and egress routes to and from the site and in line with the assumptions used in the original TIA for the approved development plan.

Consequently, the directional distribution of primary trips to and from the site is assumed to be as follows:

- ✚ 40% of the trips would be distributed to the Pinjarra Road west towards Mandurah;
- ✚ 30% of the trips would distribute to the Pinjarra Road east towards Pinjarra;
- ✚ 20% of the trips would distribute to Ronlyn Road south; and,
- ✚ 10% of the trips would distribute to Husband Road north.

The passing trip distribution would be mainly via Pinjarra Road (about 80%) and the balance would be relevant to Husband Road and Ronlyn Road.

Accordingly, total development traffic is shown in **Figure 9**.

Table 2: Weekday daily, morning peak, afternoon peak and Saturday peak hour trip generation for the proposed development

Source	Land use	GFA/ bays	Daily Rate	AM Peak	Sat Peak	PM Peak	Cross Trade	Daily Trips	AM trips	Saturday trips	PM trips	AM		Sat-Lunch time		PM	
												IN	OUT	IN	OUT	IN	OUT
Transcore	Service Station	16	162.20	9.49	11.27	11.27	0.20	2076	121	144	144	61	61	72	72	72	72
Transcore	Carwash	3	60	7	7	7	0.20	144	17	17	17	8	8	8	8	8	8
RTA(TDT 2013 04a)	Showroom stage 1	5798	0.33	0.01	0.056	0.042	0.20	1531	51	260	195	28	23	130	130	97	97
RTA(TDT 2013 04a)	Showroom stage 2	7000	0.33	0.01	0.056	0.042	0.20	1848	62	314	235	34	28	157	157	118	118
ITE 11(#936)	Café	28	10.02	1.00	0.61	0.35	0.20	224	22	14	8	11	11	7	7	4	4
ITE 11(#492)	Gym	1430	0.42	0.01	0.04	0.04	0.20	480	16	42	42	8	8	24	18	24	18
Total traffic								6304	289	791	641	151	139	398	392	324	318
Stage 1 traffic								4456	228	477	406	117	111	241	235	206	200

Table 3: Passing trade and primary trips components of the trip generation

Passing Trade		Passing Trade Component						Primary Trips Component					
		AM		Sat-Lunch time		PM		AM		Sat-Lunch time		PM	
		IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
60%		36	36	43	43	43	43	25	25	29	29	29	29
0%		0	0	0	0	0	0	8	8	8	8	8	8
42%		12	10	55	55	41	41	16	13	75	75	56	56
42%		14	12	66	66	49	49	20	16	91	91	69	69
0%		0	0	0	0	0	0	11	11	7	7	4	4
0%		0	0	0	0	0	0	8	8	24	18	24	18
		62	58	164	164	133	133	89	81	234	228	191	185
		48	46	98	98	84	84	69	65	143	137	122	116

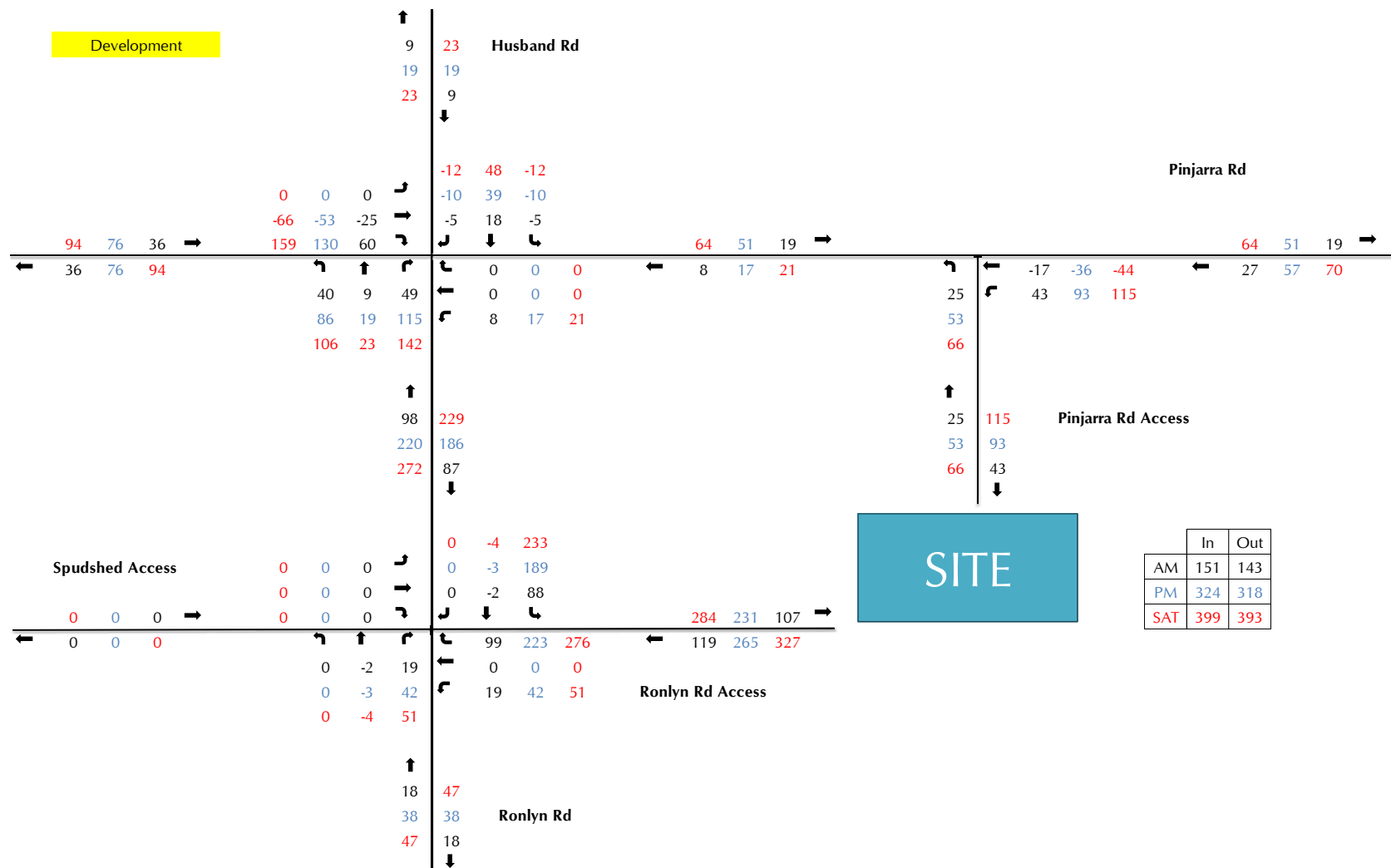


Figure 9: Proposed development traffic – AM Weekday, PM Weekday and Mid-day Saturday peak hours

6.3 Traffic Flow Forecasts

The existing traffic volumes were established by review of the SCATS data at the existing signalised intersection of Pinjarra Road/ Ronlyn Road/ Husband Road and the manual counts at the existing Spudshed crossover on Ronlyn Road undertaken by Transcore (refer to **Figure 5**).

The total post development traffic for the assessment year of 2027 and 2037 was calculated with the existing background traffic plus the development traffic. For both assessment years of 2027 and 2037 a 2% annual traffic growth was applied to the background traffic.

The total projected traffic volumes for years 2027 and 2037 are presented in **Figure 10** and **Figure 11**.

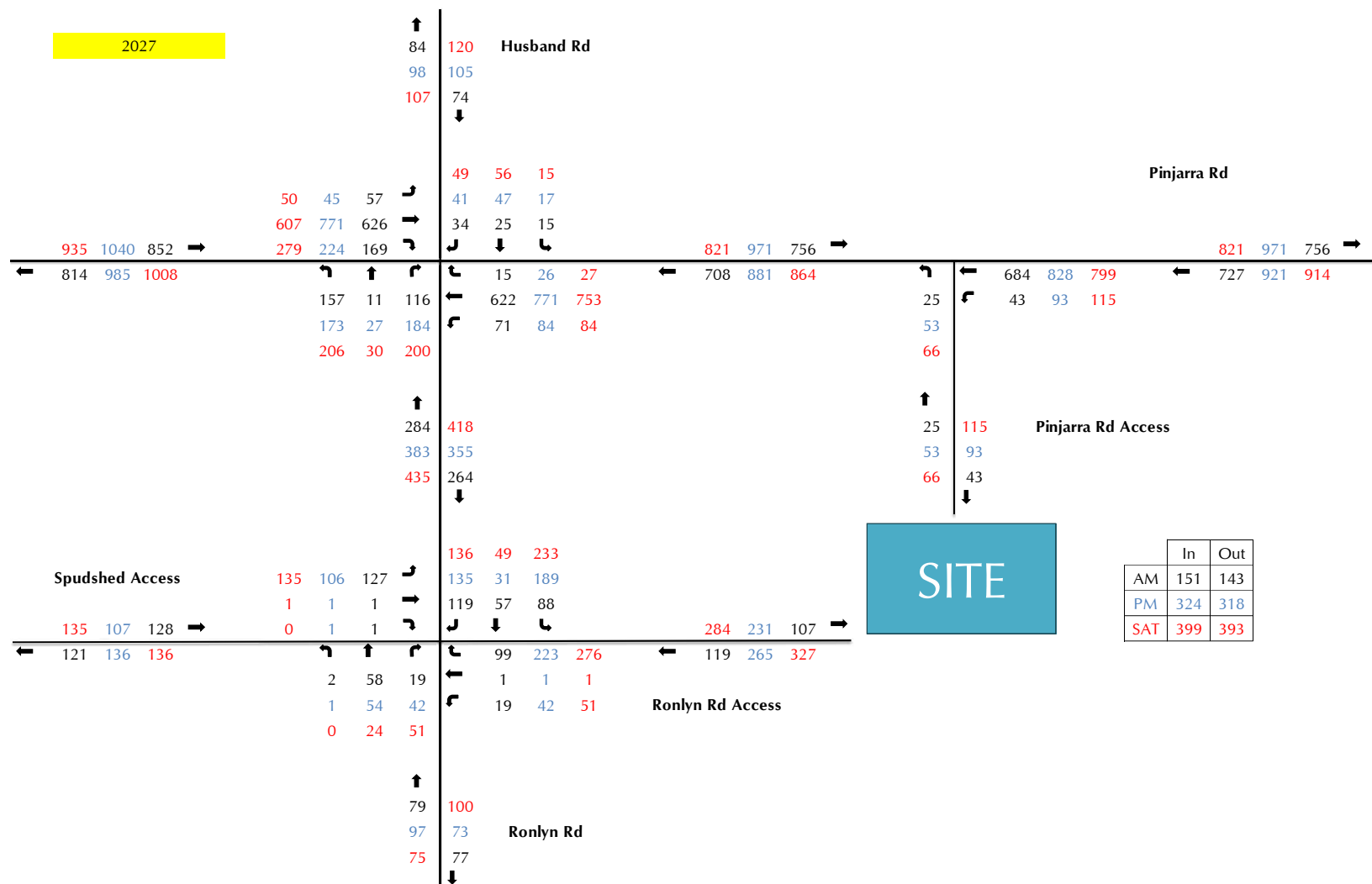


Figure 10: Total (2027) traffic – AM Weekday, PM Weekday and Mid-day Saturday peak hours

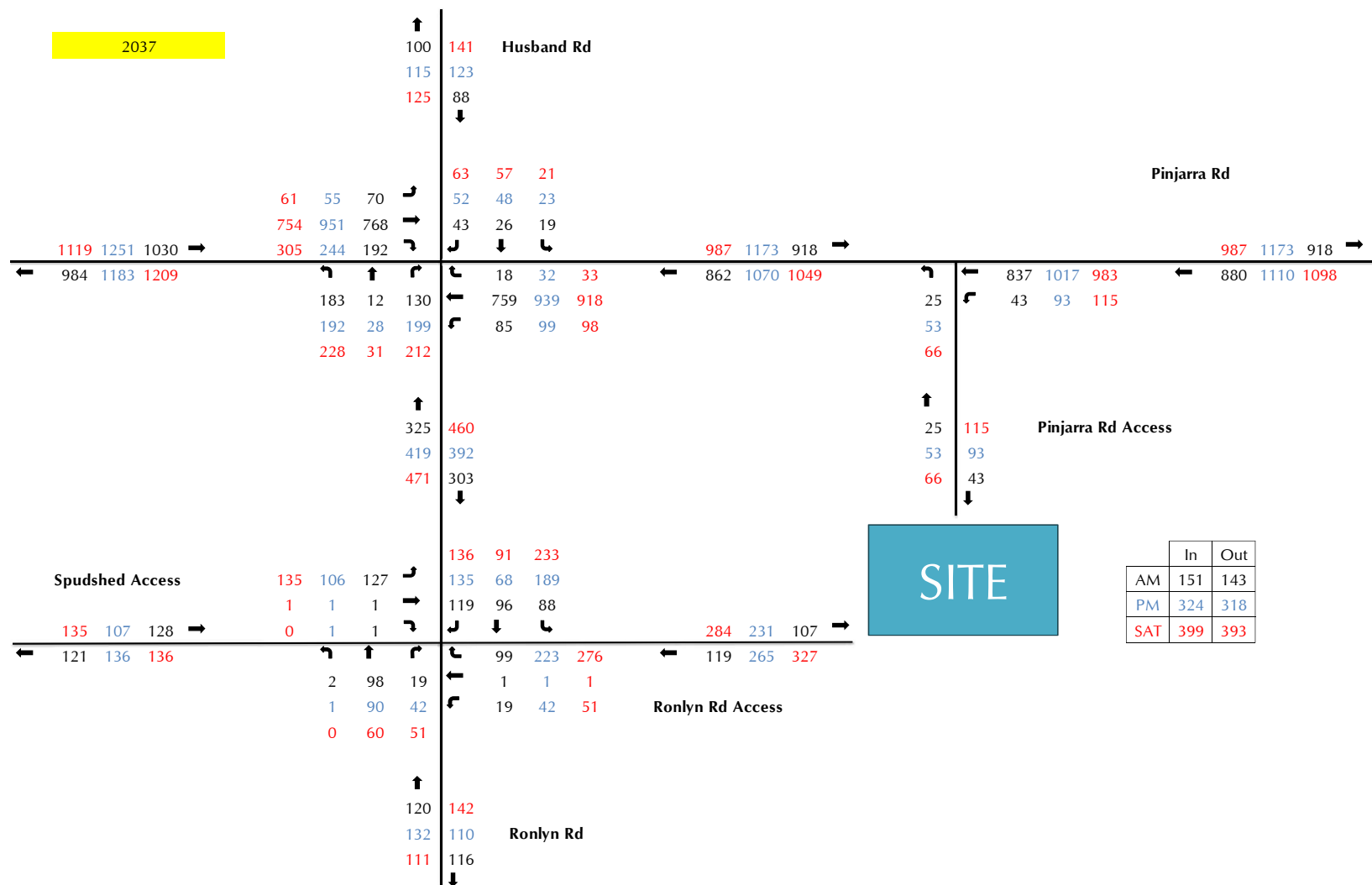


Figure 11: Total (2037) traffic – AM Weekday, PM Weekday and Mid-day Saturday peak hours

6.4 Analysis of Local Intersections & Crossovers

Capacity network analysis was undertaken using the SIDRA computer software package for existing, year 2027 and year 2037. 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.

Network SIDRA models (refer **Figure 12**) were developed to assess the traffic operation of the existing signalised intersection and the proposed development crossover intersections on Pinjarra Road and Ronlyn Road as an integrated traffic network.

The results of the SIDRA analysis are summarised in **Appendix D**. The SIDRA intersection models were coded with reference to Main Roads WA Operation Modelling Guidelines. All relevant parameters such as heavy vehicle groups, PCU factors etc. were coded as per Main Roads WA Guidelines.

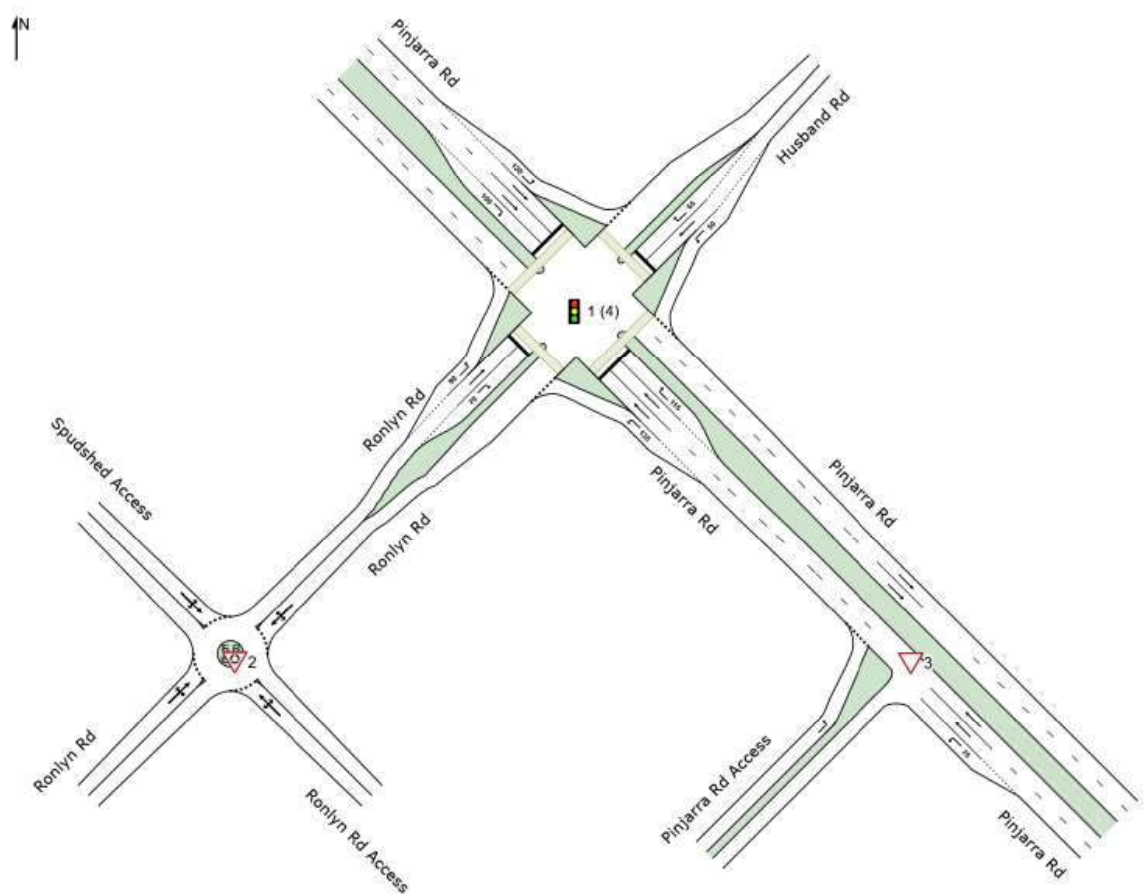


Figure 12: SIDRA Network Model

SIGNALISED INTERSECTION OF PINJARRA ROAD/ RONLYN ROAD/ HUSBAND ROAD

The SIDRA analysis results, and site observations indicate that the existing signalised intersection is presently operating satisfactorily with overall LoS C.

The addition of the development-generated traffic to the intersection would result in negligible increases in overall queues and delays with no major change in overall LoS for the intersection for both assessments years.

PINJARRA ROAD CROSSOVER (LEFT IN/ LEFT OUT)

SIDRA analysis indicates that the proposed left in/ left out crossover intersection on Pinjarra Road will operate satisfactorily with LoS A during assessed peak hours. All movements operate with good level of services with minimal delays and queuing.

RONLYN ROAD ROUNDABOUT

SIDRA analysis indicates that the proposed roundabout on Ronlyn Road will operate satisfactorily for future scenarios with good level of services for all movements.

NETWORK OPERATION

Relevant SIDRA network outputs were reviewed for the assessed peak hours to establish the operation of the development crossovers and the signalised intersection as an integrated network. The critical period for this analysis is the mid-day Saturday peak hour.

As detailed in **Figure 13** and **Figure 14** there would be occasional queue back from the signalised intersection to the development crossover on Pinjarra Road in 2037 on critical Saturday peak hour modelling scenario. However, SIDRA assessments indicate that the reported queue does not impact on the traffic operations of Pinjarra Road and would dissipate quickly. As a result, the reported queue would not impact the traffic operation of this development crossover.

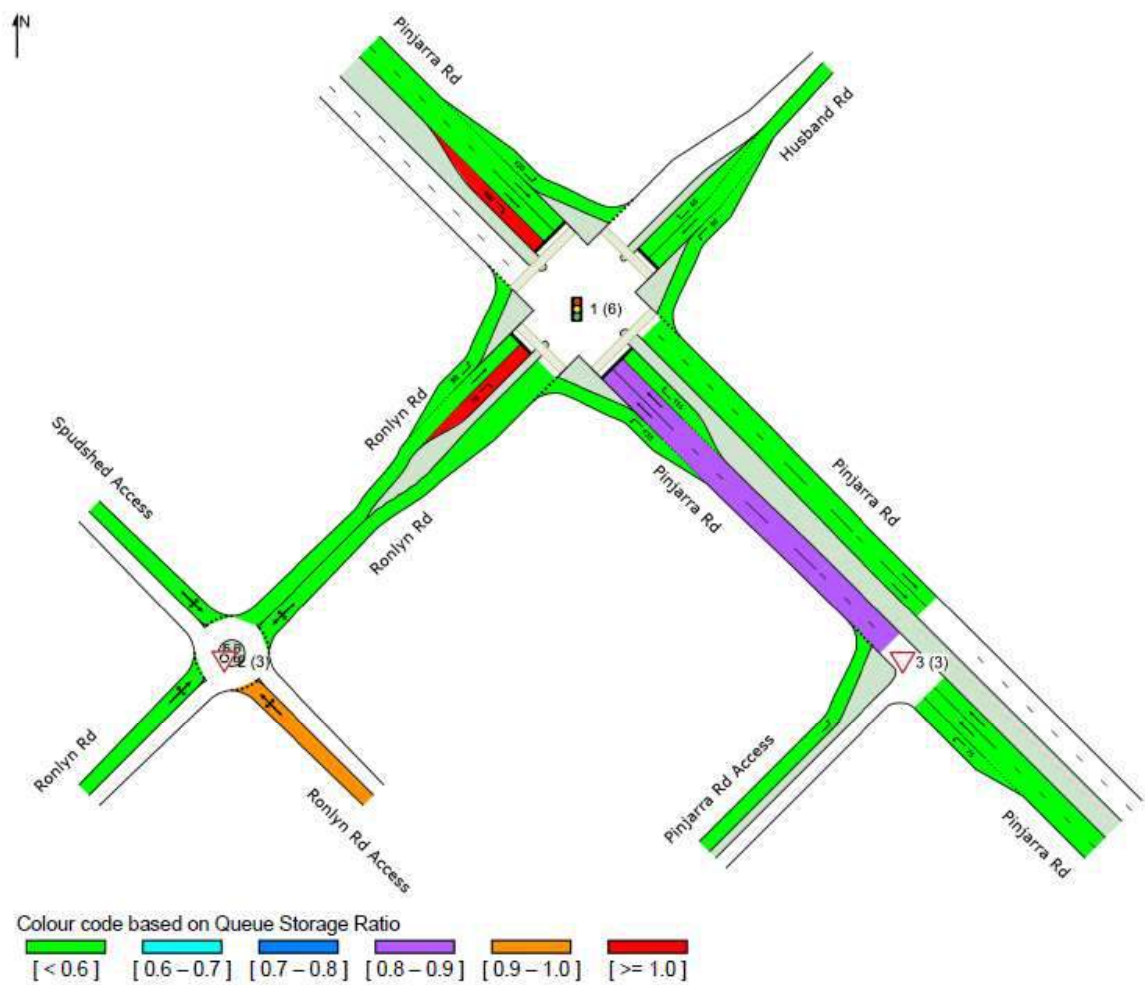


Figure 13: Mid-day Saturday peak hour network analysis – queue storage ratio (2027)

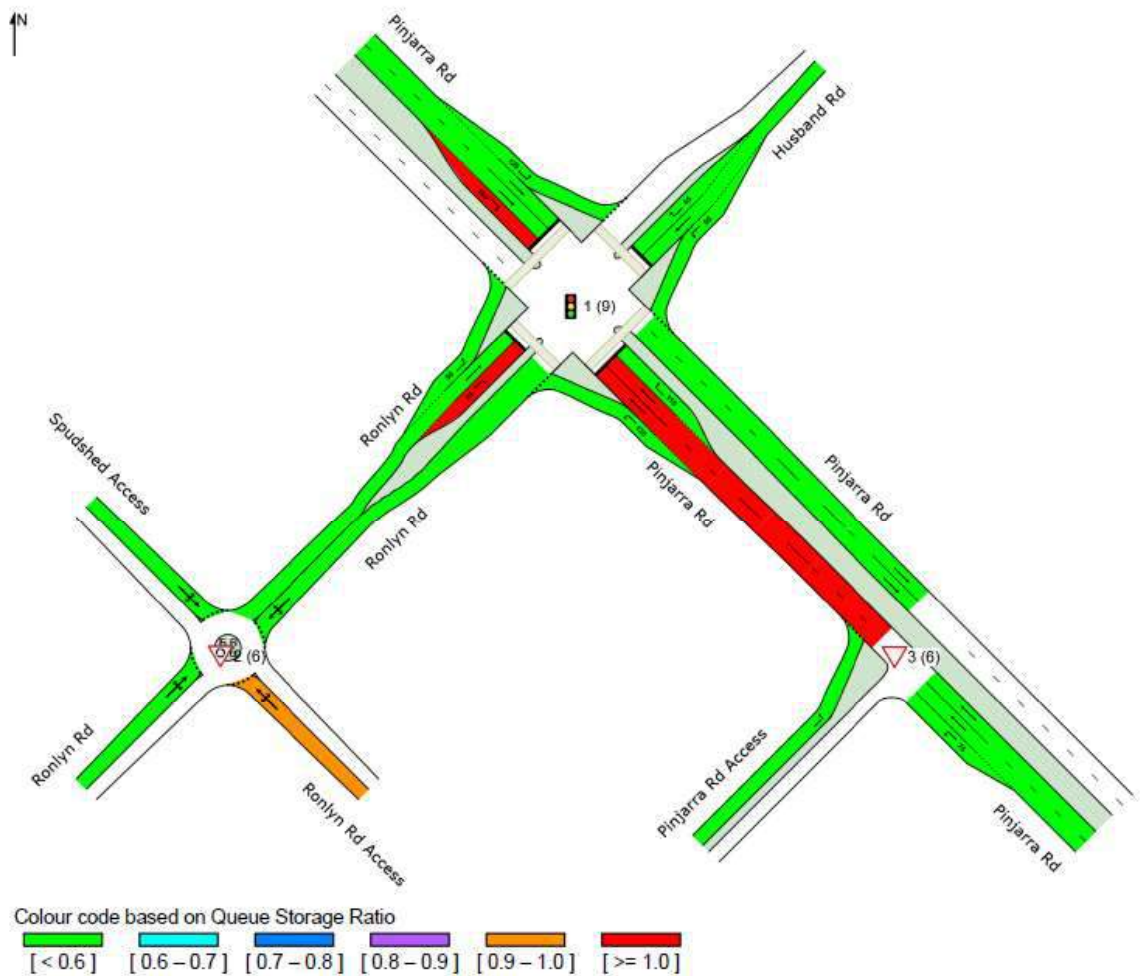


Figure 14: Mid-day Saturday peak hour network analysis – queue storage ratio (2037)

6.5 Impact on Surrounding Roads

The WAPC *Transport Impact Assessment Guidelines* (2016) provides the following guidance on the assessment of traffic impacts:

“As a general guide, an increase in traffic of less than 10 percent of capacity would not normally be likely to have a material impact on any particular section of road, but increases over 10 percent may. All sections of road with an increase greater than 10 percent of capacity should therefore be included in the analysis. For ease of assessment, an increase of 100 vehicles per hour for any lane can be considered as equating to around 10 percent of capacity. Therefore, any section of road where development traffic would increase flows by more than 100 vehicles per hour for any lane should be included in the analysis.”

The proposed development will not increase traffic on any lanes on the surrounding road network by more than 100vph, except the section of Ronlyn Road between the development crossover and the signalised intersection. However, SIDRA analysis undertaken indicated that overall the existing signalised intersection would operate satisfactorily in future for all the assessed peak hours.

6.6 Impact on Neighbouring Areas

Due to the location of the subject site, its accessibility via major regional road, significant passing trade component and limited number of residential dwellings within the immediate vicinity, the traffic impact from the development in the area will be limited.

6.7 Traffic Noise and Vibration

Due to the location of the subject site, its accessibility via major regional road, significant passing trade component, the traffic impact from the development in the area will be limited.



7 Parking

The site plan in **Appendix C** shows that the proposed Stage 1 development plan and parking provision for each land use as described below:

Fuel Station

The fuel station includes a total of 12 parking bays for customers, along with 1 bay specifically designated for accessible parking, ensuring compliance with accessibility requirements.

Car Wash

The car wash facility has 10 parking bays.

Gym

The gym provides a total of 45 parking bays for members and visitors, along with 2 accessible bays to accommodate individuals with disabilities, enhancing accessibility for all patrons.

Bulky Goods Showroom

The bulky goods showroom offers a comprehensive parking solution with 186 customer parking bays, 7 dedicated accessible bays, and 27 staff bays to accommodate employees. This arrangement supports the parking demand associated with bulky goods retail, ensuring sufficient space for both customers and staff.

It is therefore, expected that the parking provision on the site would address the parking demand and requirements of the proposed development.

8 Queue Analysis

The stacking capacity of the proposed small drive through coffee outlet was reviewed against the RTA Guidelines requirements. A queue length analysis model was developed for the proposed service station to investigate the queuing capacity of the proposed service station.

Section 5.8.1 of RTA Traffic Generating Developments document deals with the parking requirements for the drive-in and take-away food outlets. With respect to the drive through facilities this section states that:

An exclusive area for queuing of cars for a drive through is required (queue length of 5 to 12 cars measured from pick up point). There should also be a minimum of four car spaces for cars queued from the ordering point.

The proposed coffee outlet would provide a drive through facility with two customer order and pick up points on both sides of the facility with 6 car spaces available from the ordering points (3 on each side) which satisfies the RTA requirements.

It should be noted that the proposed coffee outlet is a small drive through facility which would not generate vehicular trips similar to Fast food outlets. Therefore, the stacking capacity suggested by the RTA Traffic Generating Developments is considered conservative for the proposed coffee outlet.

Queue length analysis model for service station

The stacking capacity of the service station component of the proposed development and detailed queue analysis at the filling points have been assessed in more detail to investigate the impacts of the higher-than-average site patronage during peak weekday operational periods. This analysis was undertaken to investigate the capacity of the service station to operate satisfactory under amplified traffic activity conditions (i.e. “cheap fuel” day).

Based on the estimated peak hour trip generation for the service station outlined in this report, it is estimated that the subject service station would attract up to 90 inbound vehicles during the regular weekday PM peak hour (busiest peak hour). In order to ensure a robust assessment, it is assumed that the trade on “cheap fuel” day would be 50% higher than the typical peak weekday PM hour. Accordingly, it is conservatively assumed that the proposed service station would attract about 135 cars per hour during this occasion.

Experience and observations indicates that, under normal circumstances, the rate of service per fill point (time taken for a vehicle to arrive, park at a fill point, get fuel, pay for fuel and leave the fill point and service station site) is usually between 2-3 minutes. In some circumstances refuelling time may extend to about 5 minutes when window washing or other similar activities are practiced. However, during the “cheap fuel” day periods and due to high turnover of vehicles and “pressure” from the patrons waiting behind the parked vehicle to access the bowser, the refuelling activity is always

shortened and typically in order of up to 3min maximum. In this case, and in order to allow for a robust assessment, the service time is assumed to be conservatively 4 minutes. Accordingly, a service rate of 240sec (15 vehicles per hour) was assumed for weekday PM peak “cheap fuel” peak hour.

A queue length analysis was undertaken to assess the provision of storage for vehicles within the service station. For this purpose, an M/M/1 queuing model was adopted for each COB. The M/M/1 is a single-server queue model that can be used to approximate simple systems.

The queuing model adopts the following assumptions:

- Vehicles arrive randomly following Poisson’s probability distribution;
- Service time is exponentially distributed;
- There is one server per queue, i.e., there are two queues, one for each COB, instead of a single queue being served by two COBs;
- The capacity of the queue in which arriving users wait before being served is infinite (for the purposes of identifying queue space requirements);
- The population of users (i.e., the pool of users) available to join the system is infinite; and,
- The queue is serviced on a first come, first served basis.

The results of the queuing analysis are detailed in **Figure 15**.

In summary, critical “cheap fuel” hour queuing analysis of the service station established the following for the worst-case scenario:

- The system utilisation is at 56% during the “cheap fuel” hour;
- The expected number in the system (refuelling) is 9 vehicles; and,
- The 95th percentile queue within the whole system is 14 cars (all cars refuelling and no car is waiting).

The queue length usually adopted for robust analysis is the 95th percentile queue. Assuming equal queue distribution it is estimated that in the worst-case scenario there will be no waiting behind one of the refuelling vehicles. Therefore, there would be no queue back to the adjacent internal driveways and crossovers.

M/M/s - Drive Through Queuing Analysis (Poisson Arrival and Service Rates)

M/M/s	vph	vps
Arrival rate	135.24	0.0375667
Service rate	15	0.0041667
Number of servers	16	16
Utilization	56.35%	56.35%
P(0), probability that the system is empty	0.0001	0.0001
Lq, expected queue length	0.0326 (cars)	6.0000 (metres)
L, expected number in system	9.0486 (cars)	60.0000 (metres)
Wq, expected time in queue	0.0002 (hours)	0.8686 (seconds)
W, expected total time in system	0.0669 (hours)	240.8686 (seconds)
Probability that a customer waits	0.0253	0.0253
95% Queue	14.0000 (cars)	84.0000 (metres)

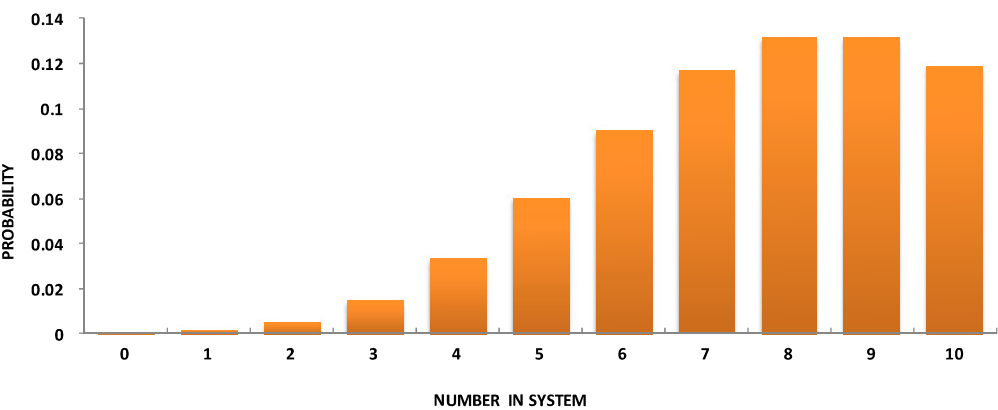


Figure 15: PM peak hour queuing analysis

9 Provision of Heavy Vehicles

A 19m fuel tanker is proposed to service the proposed service station via the left-in/left-out crossover on Pinjarra Road. After servicing, the tanker will make a clockwise manoeuvre within the service station and will exit the site using the same crossover in forward gear.

Waste collection and deliveries at the service station will be managed by an 8.8m service vehicle, which will reverse into a dedicated loading bay near the proposed convenience store. The vehicle will then exit the site through the same left-in/left-out crossover on Pinjarra Road in forward gear.

For the proposed tenancies 4 to 6, there will be loading bays at the rear of the buildings, accessible by a one-way access driveway. A service truck up to 12.5m long will be able to access each tenancy's loading bay. While one 12.5m truck is servicing a tenancy, another can pass by, ensuring smooth operations. These trucks will exit the site via the proposed roundabout on Ronlyn Road. For conservative assessments the one-way access driveway and its crossover were designed to accommodate 19m semi-trailers as well.

The proposed gym will be serviced by an 8.8m truck, entering and exiting through the proposed left-in/left-out crossover on Pinjarra Road. Internal roundabouts within the development plan will be mountable to facilitate turning movements of service vehicles.

The Rolyn Road roundabout is planned to operate with a fully mountable centre island.

To minimise traffic conflicts during peak hours, it is recommended that service vehicles operate outside of the peak traffic and development operating times.

Turn path analyses, presented in **Appendix E**, confirm that the movements of both the fuel tanker and service vehicles are satisfactory.

10 Public Transport Access

Details of the available public transport services in this locality are provided in section 3.4 of the report.

11 Pedestrian Access

Details of the pedestrian and cyclist facilities in this locality are provided in section 3.5 of the report.

12 Conclusions

This TIA is prepared on behalf of Vesta Funds for the proposed commercial development to be located at Lots 154, 155, and 401 (507-590) in Furnissdale, WA.

As the traffic engineer for the 2018 approved development plan for the same site, Transcore liaised extensively with the Shire of Murray and Main Roads WA to establish crossover arrangements for the site, ensuring efficient traffic operations. The approved crossover arrangements consist of a left in/left out crossover on Pinjarra Road and a roundabout intersection on Ronlyn Road. The 2018 approval has been extended and is currently valid.

The proposed current development plan is not proposing to change the location or layout of the previously approved crossovers on Pinjarra Road and Ronlyn Road compared to the 2018 approved development plan.

The proposed development will be implemented in two stages, with Stage 1 featuring a commercial development that includes a service station with a car wash, commercial tenancies, and a drive-through coffee outlet. The development plan for Stage 1 is presented in **Appendix A**. The remaining portion of the site, designated as Stage 2, will be addressed in a separate future development application and may include around 7,000 m² of showroom tenancies.

For a thorough assessment, the traffic generation and distribution anticipated from the Stage 2 development have been factored into the assessments of the external development crossovers as well as the existing signalised intersection at Pinjarra Road and Ronlyn Road.

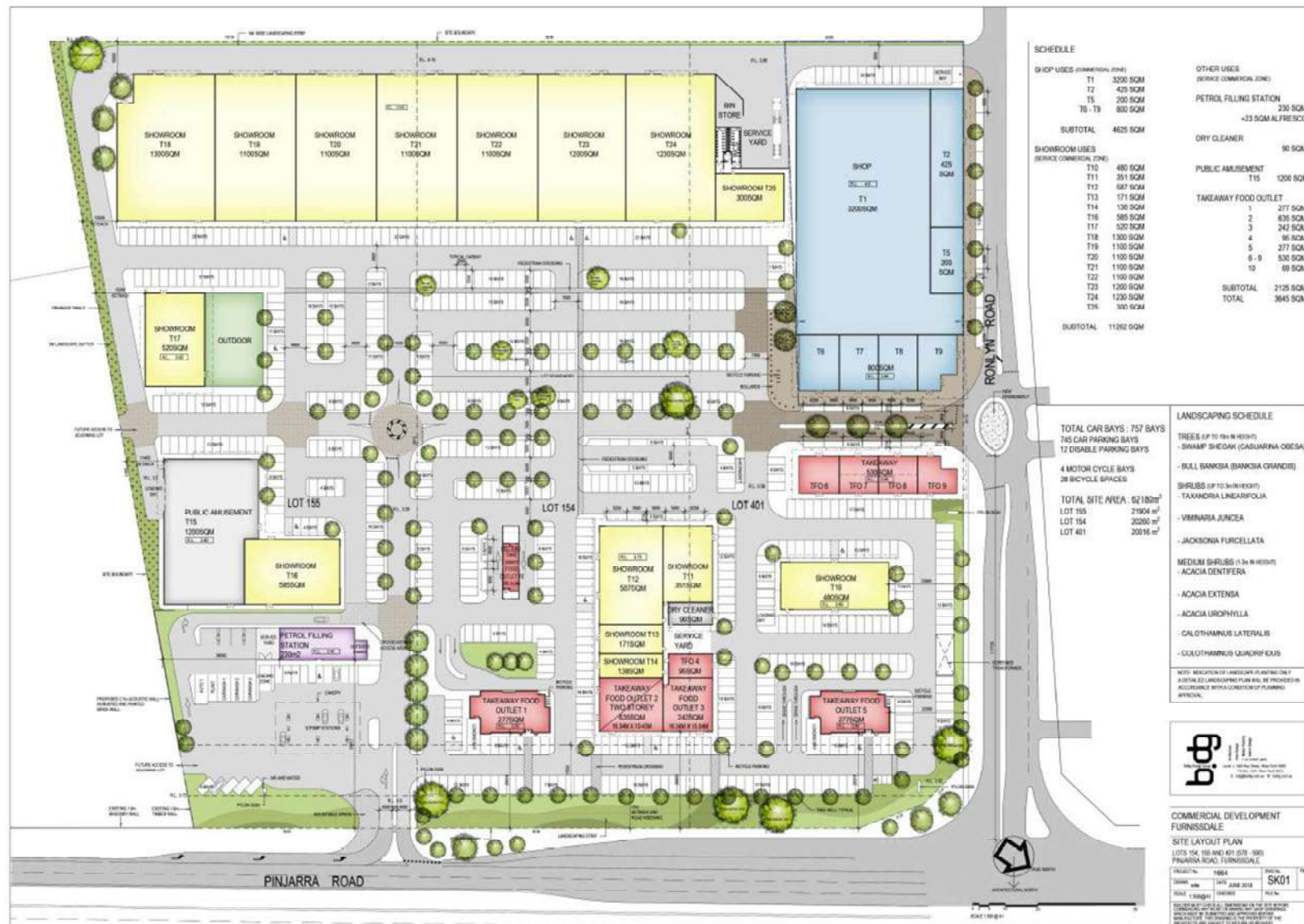
It is estimated that the proposed Stage 1 development would generate about 4,456 daily trips with about 228 AM peak hour trips, 406 PM peak hour trips and 477 Saturday mid-day peak hour trips.

SIDRA models were developed to evaluate the traffic operations at the existing signalised intersection and the proposed development crossovers on Pinjarra Road and Ronlyn Road. This SIDRA network analysis demonstrates that the signalised intersection and the development access/egress points are reported to operate satisfactorily under future scenarios during the assessed peak hours.

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

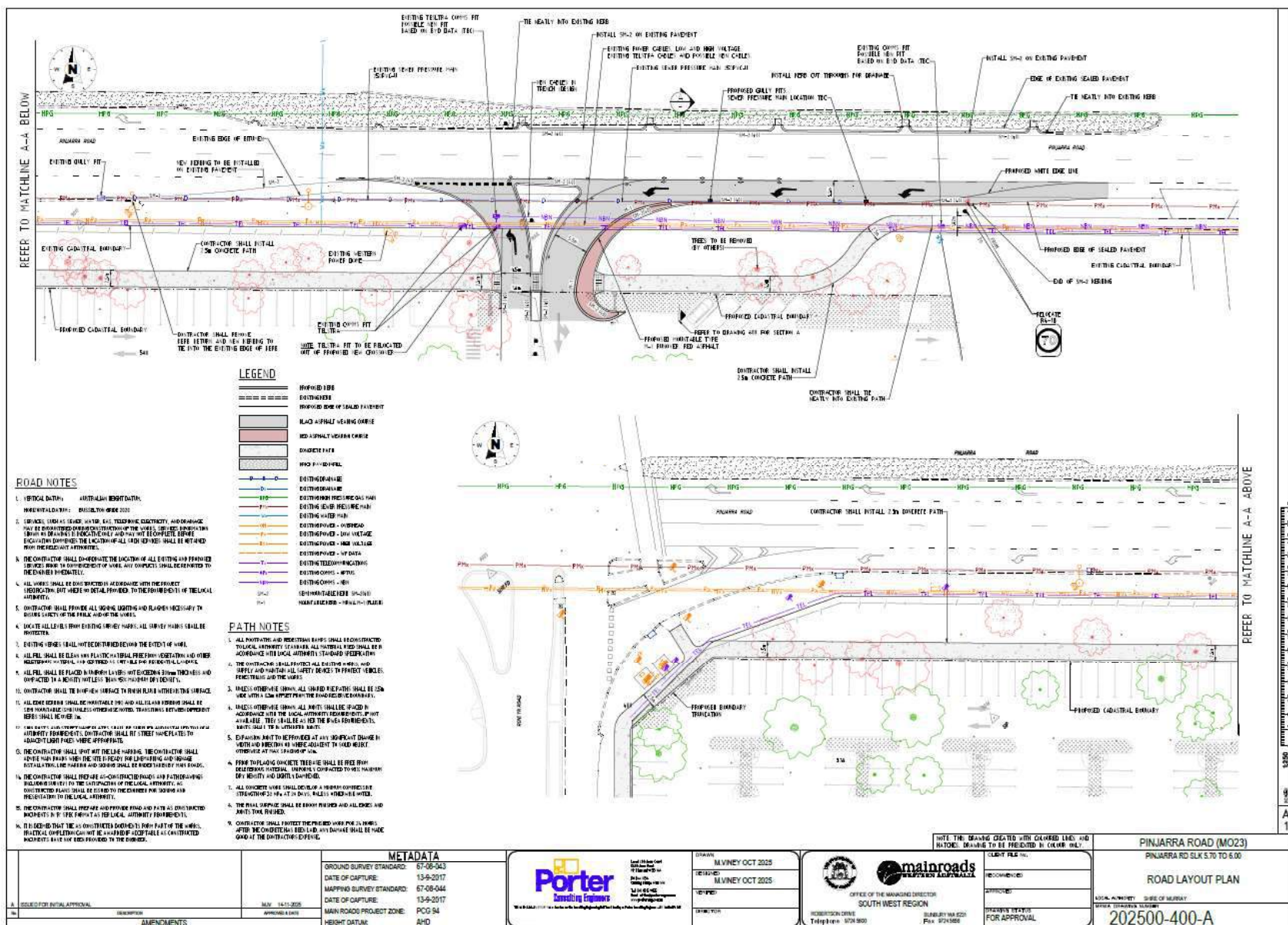
Appendix A

APPROVED DEVELOPMENT PLAN



Appendix B

PROPOSED 15% DESIGN FOR THE PINJARRA ROAD LEFT IN/ LEFT OUT CROSSOVER



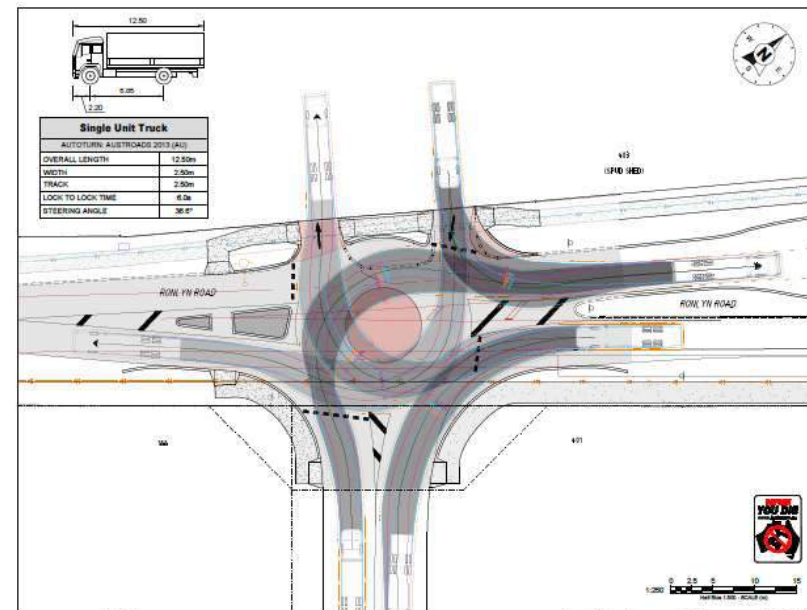
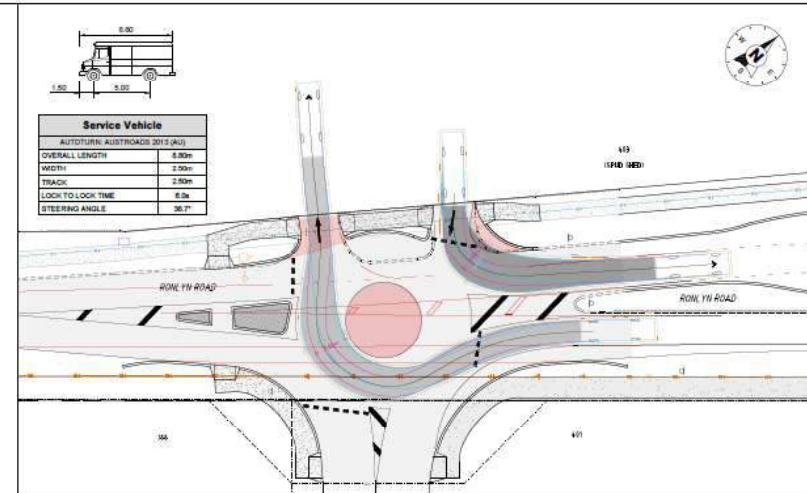
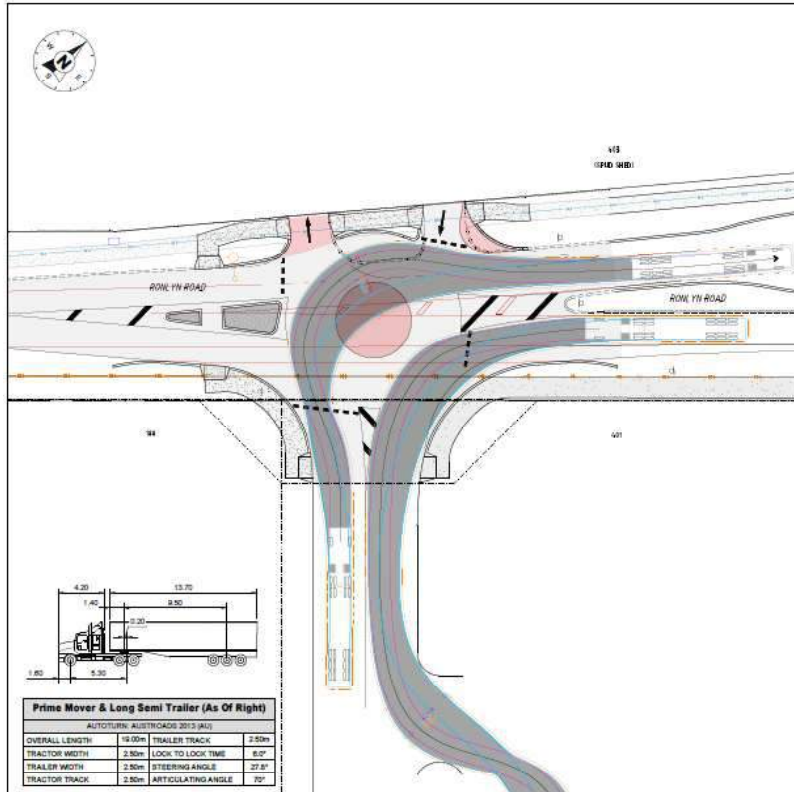
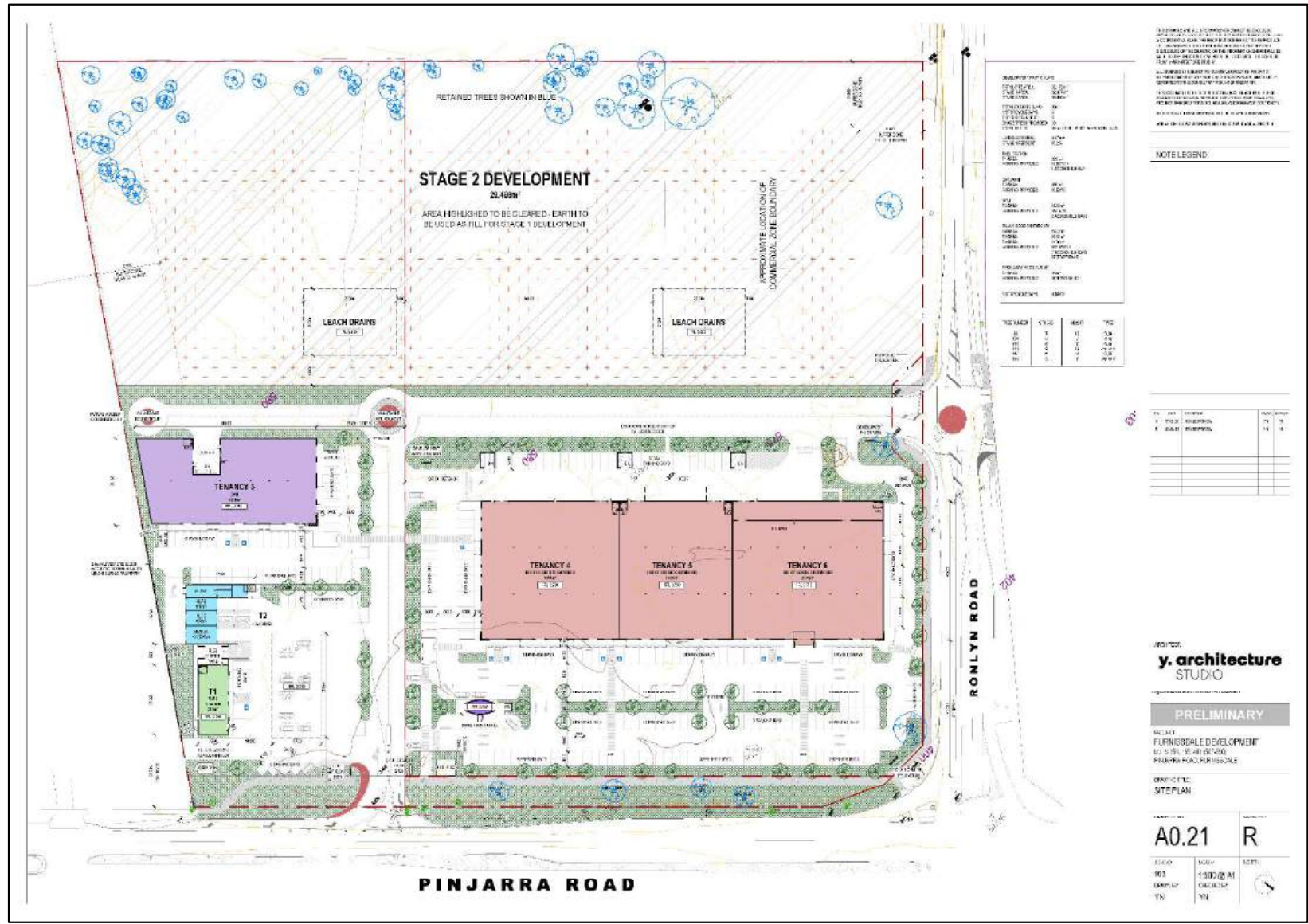


FIGURE: LOT 401 (578) PINJARRA ROAD FURNISSDALE		CLIENT: FURNISSDALE MANAGEMENT PTY LTD	DATE: 25-10-13/1/801	SCALE: A1	PROJECT: RONLYN ROAD ROUNDABOUT SWEPT PATHS	FOR APPROVAL	

Appendix C

DEVELOPMENT PLAN



Appendix D

INTERSECTION ANALYSIS – SIDRA RESULTS

Existing



MOVEMENT SUMMARY

 **Site: [1] Pinjarra Rd & Ronlyn Rd & Husband Rd - Existing - AM** (Existing (2026))

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

NA

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 84.0 seconds (Site User-Given Phase Times)

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles to Depart	Aver. Speed
			[Total HV]		[Total HV]					[Veh.	Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
SouthEast: Pinjarra Rd															
4	L2	All MCs	65	9.5	65	9.5	0.045	6.8	LOS A	0.1	1.2	0.06	0.73	0.06	44.1
5	T1	All MCs	642	11.7	642	11.7	* 0.576	26.6	LOS C	11.2	93.3	0.89	0.76	0.89	48.3
6	R2	All MCs	16	8.0	16	8.0	0.071	42.2	LOS D	0.6	4.8	0.91	0.69	0.91	36.2
Approach			723	11.4	723	11.4	0.576	25.2	LOS C	11.2	93.3	0.82	0.76	0.82	47.7
NorthEast: Husband Rd															
7	L2	All MCs	20	9.1	20	9.1	0.017	6.5	LOS A	0.1	0.9	0.17	0.80	0.17	45.8
8	T1	All MCs	6	16.7	6	16.7	* 0.025	34.3	LOS C	0.2	2.2	0.89	0.59	0.89	31.7
9	R2	All MCs	40	9.1	40	9.1	0.153	41.6	LOS D	1.5	12.7	0.92	0.72	0.92	36.3
Approach			66	9.8	66	9.8	0.153	30.3	LOS C	1.5	12.7	0.69	0.73	0.69	38.4
NorthWest: Pinjarra Rd															
10	L2	All MCs	59	11.4	59	11.4	0.034	6.8	LOS A	0.0	0.2	0.01	0.61	0.01	54.2
11	T1	All MCs	672	10.3	672	10.3	0.497	25.6	LOS C	11.3	92.6	0.87	0.74	0.87	48.9
12	R2	All MCs	112	9.0	112	9.0	* 0.427	44.4	LOS D	4.4	37.9	0.96	0.78	0.96	28.5
Approach			842	10.2	842	10.2	0.497	26.8	LOS C	11.3	92.6	0.82	0.73	0.82	46.3
SouthWest: Ronlyn Rd															
1	L2	All MCs	121	9.8	121	9.8	0.101	6.9	LOS A	0.9	7.8	0.22	0.88	0.22	44.9
2	T1	All MCs	2	0.0	2	0.0	0.007	33.6	LOS C	0.1	0.5	0.88	0.54	0.88	32.0
3	R2	All MCs	69	8.9	69	8.9	* 0.262	42.3	LOS D	2.7	22.2	0.94	0.75	0.94	29.0
Approach			193	9.3	193	9.3	0.262	20.0	LOS B	2.7	22.2	0.48	0.83	0.48	37.4
All Vehicles			1824	10.6	1824	10.6	0.576	25.6	LOS C	11.3	93.3	0.78	0.75	0.78	45.7



MOVEMENT SUMMARY

 **Site: [1 (2)] Pinjarra Rd & Ronlyn Rd & Husband Rd - Existing - PM (Existing (2026))**

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

NA

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 84.0 seconds (Site User-Given Phase Times)

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles Rate to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh]	[Dist] m				km/h
SouthEast: Pinjarra Rd															
4	L2	All MCs	69	9.5	69	9.5	0.048	6.8	LOS A	0.1	1.1	0.05	0.71	0.05	45.0
5	T1	All MCs	796	11.7	796	11.7	* 0.687	27.4	LOS C	14.5	120.6	0.93	0.81	0.94	47.8
6	R2	All MCs	26	8.0	26	8.0	0.118	42.7	LOS D	1.0	8.2	0.91	0.71	0.91	36.1
Approach			892	11.4	892	11.4	0.687	26.2	LOS C	14.5	120.6	0.86	0.80	0.87	47.2
NorthEast: Husband Rd															
7	L2	All MCs	28	9.1	28	9.1	0.025	7.0	LOS A	0.2	1.7	0.22	0.87	0.22	44.0
8	T1	All MCs	7	16.7	7	16.7	* 0.029	34.4	LOS C	0.3	2.6	0.89	0.60	0.89	31.7
9	R2	All MCs	53	9.1	53	9.1	0.221	43.2	LOS D	2.0	17.1	0.94	0.74	0.94	35.7
Approach			88	9.7	88	9.7	0.221	30.8	LOS C	2.0	17.1	0.70	0.77	0.70	37.8
NorthWest: Pinjarra Rd															
10	L2	All MCs	47	11.4	47	11.4	0.028	6.8	LOS A	0.0	0.2	0.02	0.62	0.02	53.3
11	T1	All MCs	851	10.3	851	10.3	0.607	26.0	LOS C	14.8	121.2	0.90	0.78	0.90	48.7
12	R2	All MCs	97	9.0	97	9.0	* 0.371	44.1	LOS D	3.8	32.6	0.96	0.77	0.96	28.6
Approach			995	10.2	995	10.2	0.607	26.9	LOS C	14.8	121.2	0.86	0.77	0.86	46.8
SouthWest: Ronlyn Rd															
1	L2	All MCs	89	9.8	89	9.8	0.079	7.7	LOS A	0.8	7.3	0.27	0.97	0.27	43.3
2	T1	All MCs	7	0.0	7	0.0	0.023	34.0	LOS C	0.3	1.9	0.89	0.59	0.89	31.9
3	R2	All MCs	72	8.9	72	8.9	* 0.297	43.6	LOS D	2.8	23.3	0.95	0.75	0.95	28.6
Approach			168	9.0	168	9.0	0.297	24.1	LOS C	2.8	23.3	0.59	0.86	0.59	35.1
All Vehicles			2143	10.6	2143	10.6	0.687	26.6	LOS C	14.8	121.2	0.83	0.79	0.84	45.7



MOVEMENT SUMMARY

Site: [1 (3)] Pinjarra Rd & Ronlyn Rd & Husband Rd - Existing - SAT (Existing (2026))

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

NA

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 80.0 seconds (Site User-Given Phase Times)

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles	Aver. Speed
			[Total HV]		[Total HV]										
			veh/h	%	veh/h	%	v/c	sec		Veh. veh	Dist m		Rate to Depart		km/h
SouthEast: Pinjarra Rd															
4	L2	All MCs	65	9.5	65	9.5	0.046	6.9	LOS A	0.2	1.3	0.07	0.74	0.07	43.9
5	T1	All MCs	778	11.7	778	11.7	* 0.785	32.8	LOS C	15.4	128.0	0.99	0.92	1.11	44.6
6	R2	All MCs	28	8.0	28	8.0	0.122	40.5	LOS D	1.0	8.3	0.91	0.71	0.91	36.9
Approach			872	11.4	872	11.4	0.785	31.1	LOS C	15.4	128.0	0.91	0.90	1.03	44.3
NorthEast: Husband Rd															
7	L2	All MCs	28	9.1	28	9.1	0.023	6.6	LOS A	0.2	1.3	0.18	0.83	0.18	44.9
8	T1	All MCs	7	16.7	7	16.7	* 0.026	31.4	LOS C	0.2	2.4	0.87	0.59	0.87	33.0
9	R2	All MCs	63	9.1	63	9.1	* 0.252	41.2	LOS D	2.3	19.6	0.94	0.74	0.94	36.4
Approach			99	9.7	99	9.7	0.252	30.5	LOS C	2.3	19.6	0.72	0.76	0.72	38.4
NorthWest: Pinjarra Rd															
10	L2	All MCs	52	11.4	52	11.4	0.031	6.8	LOS A	0.0	0.3	0.02	0.62	0.02	53.3
11	T1	All MCs	694	10.3	694	10.3	0.578	27.3	LOS C	11.8	96.9	0.92	0.78	0.92	47.9
12	R2	All MCs	123	9.0	123	9.0	* 0.449	42.3	LOS D	4.6	39.8	0.96	0.78	0.96	29.2
Approach			868	10.2	868	10.2	0.578	28.2	LOS C	11.8	96.9	0.87	0.77	0.87	45.5
SouthWest: Ronlyn Rd															
1	L2	All MCs	103	9.8	103	9.8	0.009	7.8	LOS A	1.0	8.6	0.30	1.07	0.30	41.5
2	T1	All MCs	6	0.0	6	0.0	0.018	31.0	LOS C	0.2	1.5	0.87	0.57	0.87	33.2
3	R2	All MCs	59	8.9	59	8.9	0.233	41.0	LOS D	2.2	18.0	0.94	0.74	0.94	29.5
Approach			168	9.1	168	9.1	0.233	20.3	LOS C	2.2	18.0	0.54	0.94	0.54	36.1
All Vehicles			2007	10.6	2007	10.6	0.785	28.9	LOS C	15.4	128.0	0.85	0.84	0.90	43.9



2027



MOVEMENT SUMMARY

 Site: [1 (4)] Pinjarra Rd & Ronlyn Rd & Husband Rd - 2027 - AM (2027)

Network: [1] AM (2027)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

NA

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 65.0 seconds (Site Practical Cycle Time)

Network Scenario: 1 | Local Volumes

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number Rate to Depart	Aver. Speed
			[Total HV]		[Total HV]					[Veh. veh	Dist] m				km/h
			veh/h	%	veh/h	%	v/c	sec							
SouthEast: Pinjarra Rd															
4	L2	All MCs	75	9.5	75	9.5	0.055	6.9	LOSA	0.2	1.6	0.08	0.64	0.08	39.8
5	T1	All MCs	655	11.7	655	11.7	*0.867	35.7	LOS D	12.2	101.6	1.00	1.05	1.37	36.8
6	R2	All MCs	16	8.0	16	8.0	0.090	36.8	LOS D	0.5	4.0	0.93	0.69	0.93	31.9
Approach			745	11.4	745	11.4	0.867	32.9	LOS C	12.2	101.6	0.91	1.00	1.24	36.8
NorthEast: Husband Rd															
7	L2	All MCs	16	9.1	16	9.1	0.013	6.5	LOSA	0.1	0.6	0.20	0.84	0.20	34.7
8	T1	All MCs	26	16.7	26	16.7	*0.105	27.8	LOS C	0.8	7.6	0.91	0.65	0.91	31.9
9	R2	All MCs	36	9.1	36	9.1	0.145	34.4	LOS C	1.1	9.0	0.93	0.71	0.93	39.0
Approach			78	11.7	78	11.7	0.145	26.5	LOS C	1.1	9.0	0.77	0.72	0.77	36.5
NorthWest: Pinjarra Rd															
10	L2	All MCs	60	11.4	60	11.4	0.035	6.8	LOSA	0.0	0.0	0.00	0.58	0.00	55.4
11	T1	All MCs	659	10.3	659	10.3	0.721	27.9	LOS C	10.4	85.4	0.99	0.87	1.08	34.3
12	R2	All MCs	178	9.0	178	9.0	*0.867	45.8	LOS D	6.6	57.3	1.00	1.02	1.49	26.0
Approach			897	10.1	897	10.1	0.867	30.0	LOS C	10.4	85.4	0.92	0.88	1.09	33.9
SouthWest: Ronlyn Rd															
1	L2	All MCs	165	9.8	165	9.8	0.125	7.1	LOSA	1.2	10.6	0.25	1.00	0.25	41.8
2	T1	All MCs	12	0.0	12	0.0	0.037	26.9	LOS C	0.3	2.4	0.90	0.61	0.90	35.3
3	R2	All MCs	122	8.9	122	8.9	*0.491	36.1	LOS D	3.8	32.1	0.98	0.78	0.98	11.5
Approach			299	9.0	299	9.0	0.491	19.7	LOS B	3.8	32.1	0.57	0.90	0.57	30.7
All Vehicles			2019	10.5	2019	10.5	0.867	29.4	LOS C	12.2	101.6	0.86	0.92	1.05	34.7



MOVEMENT SUMMARY

Site: [3] Pinjarra Rd Access - 2027 - AM (2027)
 Network: [1] AM (2027)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

NA

Site Category: (None)

Give-Way (Two-Way)

Network Scenario: 1 | Local Volumes

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%				[Veh. veh	Dist] m				km/h
SouthEast: Pinjarra Rd															
4	L2	All MCs	45	2.0	45	2.0	0.025	6.4	LOS A	0.0	0.0	0.00	0.61	0.00	54.2
5	T1	All MCs	720	11.7	720	11.7	0.200	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	69.9
Approach			765	11.1	765	11.1	0.200	0.4	NA	0.0	0.0	0.00	0.04	0.00	68.6
NorthWest: Pinjarra Rd															
11	T1	All MCs	796	10.3	796	10.3	0.219	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	79.9
Approach			796	10.3	796	10.3	0.219	0.0	NA	0.0	0.0	0.00	0.00	0.00	79.9
SouthWest: Pinjarra Rd Access															
1	L2	All MCs	26	2.0	26	2.0	0.030	1.8	LOS A	0.1	0.8	0.41	0.29	0.41	16.3
Approach			26	2.0	26	2.0	0.030	1.8	LOS A	0.1	0.8	0.41	0.29	0.41	16.3
All Vehicles			1587	10.6	1587	10.6	0.219	0.2	NA	0.1	0.8	0.01	0.02	0.01	74.5



MOVEMENT SUMMARY



Site: [2] Ronlyn Rd Access + 2027 - AM (2027)

Network: [1] AM (2027)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

NA

Site Category: (None)

Roundabout

Network Scenario: 1 | Local Volumes

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist] m				km/h
SouthEast: Ronlyn Rd Access															
4	L2	All MCs	20	2.0	20	2.0	0.119	1.8	LOS A	0.7	5.4	0.37	0.37	0.37	45.5
5	T1	All MCs	1	2.0	1	2.0	0.119	1.2	LOS A	0.7	5.4	0.37	0.37	0.37	16.0
6	R2	All MCs	104	2.0	104	2.0	0.119	2.7	LOS A	0.7	5.4	0.37	0.37	0.37	14.5
Approach			125	2.0	125	2.0	0.119	2.5	LOS A	0.7	5.4	0.37	0.37	0.37	28.8
NorthEast: Ronlyn Rd															
7	L2	All MCs	93	2.0	93	2.0	0.200	5.5	LOS A	1.0	7.9	0.10	0.60	0.10	30.1
8	T1	All MCs	60	8.5	60	8.5	0.200	5.1	LOS A	1.0	7.9	0.10	0.60	0.10	48.0
9	R2	All MCs	125	2.0	125	2.0	0.200	7.5	LOS A	1.0	7.9	0.10	0.60	0.10	26.8
Approach			278	3.4	278	3.4	0.200	6.3	LOS A	1.0	7.9	0.10	0.60	0.10	36.2
NorthWest: Spudshed Access															
10	L2	All MCs	134	2.0	134	2.0	0.134	1.8	LOS A	0.7	5.2	0.39	0.31	0.39	14.6
11	T1	All MCs	1	2.0	1	2.0	0.134	1.2	LOS A	0.7	5.2	0.39	0.31	0.39	16.4
12	R2	All MCs	1	2.0	1	2.0	0.134	2.7	LOS A	0.7	5.2	0.39	0.31	0.39	46.8
Approach			136	2.0	136	2.0	0.134	1.8	LOS A	0.7	5.2	0.39	0.31	0.39	16.0
SouthWest: Ronlyn Rd															
1	L2	All MCs	2	2.0	2	2.0	0.089	6.8	LOS A	0.5	4.5	0.42	0.58	0.42	46.0
2	T1	All MCs	61	13.5	61	13.5	0.089	6.6	LOS A	0.5	4.5	0.42	0.58	0.42	48.5
3	R2	All MCs	20	2.0	20	2.0	0.089	8.8	LOS A	0.5	4.5	0.42	0.58	0.42	46.5
Approach			83	10.5	83	10.5	0.089	7.2	LOS A	0.5	4.5	0.42	0.58	0.42	48.0
All Vehicles			622	3.8	622	3.8	0.200	4.7	LOS A	1.0	7.9	0.26	0.49	0.26	36.4



MOVEMENT SUMMARY

Site: [1 (5)] Pinjarra Rd & Ronlyn Rd & Husband Rd - 2027 - PM (2027)

Network: [2] PM (2027)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

NA

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 75.0 seconds (Site Practical Cycle Time)

Network Scenario: 1 | Local Volumes

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number Rate to Depart	Aver. Speed
			[Total HV]		[Total HV]					[Veh.	Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
SouthEast: Pinjarra Rd															
4	L2	All MCs	88	9.5	88	9.5	0.070	7.2	LOSA	0.3	2.9	0.13	0.71	0.13	35.5
5	T1	All MCs	812	11.7	812	11.7	*0.869	38.1	LOS D	17.1	142.2	1.00	1.05	1.30	35.6
6	R2	All MCs	27	8.0	27	8.0	0.118	38.6	LOS D	0.9	7.6	0.91	0.71	0.91	31.2
Approach			927	11.4	927	11.4	0.869	35.2	LOS D	17.1	142.2	0.91	1.00	1.17	35.4
NorthEast: Husband Rd															
7	L2	All MCs	18	9.1	18	9.1	0.016	7.2	LOSA	0.1	0.9	0.27	0.91	0.27	33.6
8	T1	All MCs	49	16.7	49	16.7	*0.218	33.5	LOS C	1.7	16.9	0.94	0.70	0.94	29.1
9	R2	All MCs	43	9.1	43	9.1	0.196	39.9	LOS D	1.5	12.7	0.94	0.73	0.94	36.9
Approach			111	12.5	111	12.5	0.218	31.8	LOS C	1.7	16.9	0.83	0.74	0.83	33.6
NorthWest: Pinjarra Rd															
10	L2	All MCs	47	11.4	47	11.4	0.028	6.8	LOSA	0.0	0.0	0.00	0.58	0.00	55.4
11	T1	All MCs	812	10.3	812	10.3	0.718	28.7	LOS C	14.1	115.7	0.97	0.86	1.02	33.8
12	R2	All MCs	236	9.0	236	9.0	*0.869	49.6	LOS D	10.0	86.2	1.00	1.01	1.39	24.7
Approach			1095	10.1	1095	10.1	0.869	32.2	LOS C	14.1	115.7	0.93	0.88	1.05	32.4
SouthWest: Ronlyn Rd															
1	L2	All MCs	182	9.8	182	9.8	0.147	8.6	LOSA	2.2	19.1	0.36	1.22	0.36	40.5
2	T1	All MCs	28	0.0	28	0.0	0.100	32.4	LOS C	1.0	7.0	0.92	0.66	0.92	32.6
3	R2	All MCs	194	8.9	194	8.9	*0.869	49.6	LOS D	8.2	68.7	1.00	1.04	1.43	8.8
Approach			404	8.7	404	8.7	0.869	29.9	LOS C	8.2	68.7	0.70	1.09	0.91	24.7
All Vehicles			2537	10.4	2537	10.4	0.869	32.9	LOS C	17.1	142.2	0.89	0.95	1.06	32.5



MOVEMENT SUMMARY

Site: [3 (2)] Pinjarra Rd Access - 2027 - PM (2027)

Network: [2] PM (2027)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

NA

Site Category: (None)

Give-Way (Two-Way)

Network Scenario: 1 | Local Volumes

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV] veh/h	%	[Total HV] veh/h	%	v/c	sec		[Veh. veh	Dist] m				km/h
SouthEast: Pinjarra Rd															
4	L2	All MCs	98	2.0	98	2.0	0.054	6.4	LOS A	0.0	0.0	0.00	0.61	0.00	54.2
5	T1	All MCs	872	11.7	872	11.7	0.242	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	69.8
Approach			969	10.7	969	10.7	0.242	0.7	NA	0.0	0.0	0.00	0.06	0.00	67.8
NorthWest: Pinjarra Rd															
11	T1	All MCs	1022	10.3	1022	10.3	0.281	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	79.8
Approach			1022	10.3	1022	10.3	0.281	0.0	NA	0.0	0.0	0.00	0.00	0.00	79.8
SouthWest: Pinjarra Rd Access															
1	L2	All MCs	56	2.0	56	2.0	0.071	2.4	LOS A	0.2	1.9	0.47	0.39	0.47	15.3
Approach			56	2.0	56	2.0	0.071	2.4	LOS A	0.2	1.9	0.47	0.39	0.47	15.3
All Vehicles			2047	10.3	2047	10.3	0.281	0.4	NA	0.2	1.9	0.01	0.04	0.01	73.8



MOVEMENT SUMMARY



Site: [2 (2)] Ronlyn Rd Access + 2027 - PM (2027)

Network: [2] PM (2027)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

NA

Site Category: (None)

Roundabout

Network Scenario: 1 | Local Volumes

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance												
Mov ID	Turn	Mov Class	Demand	Arrival	Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue	Prop. Qued	Eff. Stop of Rate to Depart	Number Cycles	Aver. Speed
			[Total HV]	[Total HV]				[Veh.]	Dist.]			
			veh/h	% veh/h	v/c	sec		veh	m	km/h		
SouthEast: Ronlyn Rd Access												
4	L2	All MCs	44	2.0	0.260	1.8	LOSA	1.8	13.4	0.41	0.38	45.3
5	T1	All MCs	1	2.0	0.260	1.3	LOSA	1.8	13.4	0.41	0.38	15.8
6	R2	All MCs	235	2.0	0.260	2.8	LOSA	1.8	13.4	0.41	0.38	14.3
Approach			280	2.0	0.260	2.6	LOSA	1.8	13.4	0.41	0.38	28.4
NorthEast: Ronlyn Rd												
7	L2	All MCs	199	2.0	0.283	5.7	LOSA	1.6	12.6	0.16	0.59	29.7
8	T1	All MCs	33	8.5	0.283	5.3	LOSA	1.6	12.6	0.16	0.59	47.9
9	R2	All MCs	142	2.0	0.283	7.7	LOSA	1.6	12.6	0.16	0.59	26.5
Approach			374	2.6	0.283	6.4	LOSA	1.6	12.6	0.16	0.59	32.1
NorthWest: Spudshed Access												
10	L2	All MCs	112	2.0	0.129	2.7	LOSA	0.7	5.1	0.51	0.42	13.3
11	T1	All MCs	1	2.0	0.129	2.2	LOSA	0.7	5.1	0.51	0.42	15.3
12	R2	All MCs	1	2.0	0.129	3.7	LOSA	0.7	5.1	0.51	0.42	45.9
Approach			114	2.0	0.129	2.7	LOSA	0.7	5.1	0.51	0.42	14.8
SouthWest: Ronlyn Rd												
1	L2	All MCs	1	2.0	0.125	7.8	LOSA	0.7	6.1	0.55	0.65	44.6
2	T1	All MCs	57	13.5	0.125	7.8	LOSA	0.7	6.1	0.55	0.65	46.9
3	R2	All MCs	44	2.0	0.125	9.8	LOSA	0.7	6.1	0.55	0.65	45.0
Approach			102	8.4	0.125	8.7	LOSA	0.7	6.1	0.55	0.65	46.0
All Vehicles			869	3.0	0.283	5.0	LOSA	1.8	13.4	0.34	0.51	33.6



MOVEMENT SUMMARY

Site: [1 (6)] Pinjarra Rd & Ronlyn Rd & Husband Rd - 2027 - SAT (2027)

Network: [3] SAT (2027)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

NA

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 80.0 seconds (Site Practical Cycle Time)

Network Scenario: 1 | Local Volumes

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number Rate to Depart	Aver. Speed
			[Total HV]		[Total HV]					[Veh. veh	Dist] m				km/h
			veh/h	%	veh/h	%	v/c	sec							
SouthEast: Pinjarra Rd															
4	L2	All MCs	88	9.5	88	9.5	0.069	7.6	LOS A	0.5	4.1	0.17	0.73	0.17	34.9
5	T1	All MCs	793	11.7	793	11.7	*0.883	42.2	LOS D	18.1	150.5	1.00	1.07	1.32	33.7
6	R2	All MCs	28	8.0	28	8.0	0.100	38.0	LOS D	1.0	8.0	0.88	0.71	0.88	31.4
Approach			909	11.4	909	11.4	0.883	38.7	LOS D	18.1	150.5	0.92	1.02	1.19	33.6
NorthEast: Husband Rd															
7	L2	All MCs	16	9.1	16	9.1	0.014	6.9	LOS A	0.1	0.7	0.24	0.85	0.24	35.2
8	T1	All MCs	59	16.7	59	16.7	*0.271	36.4	LOS D	2.2	21.7	0.95	0.72	0.95	27.9
9	R2	All MCs	52	9.1	52	9.1	0.218	41.5	LOS D	1.9	16.1	0.94	0.73	0.94	36.3
Approach			126	12.6	126	12.6	0.271	34.8	LOS C	2.2	21.7	0.86	0.74	0.86	32.9
NorthWest: Pinjarra Rd															
10	L2	All MCs	53	11.4	53	11.4	0.032	6.8	LOS A	0.0	0.0	0.00	0.58	0.00	55.4
11	T1	All MCs	639	10.3	639	10.3	0.588	28.9	LOS C	11.2	91.4	0.93	0.79	0.93	33.7
12	R2	All MCs	294	9.0	294	9.0	*0.883	51.9	LOS D	13.4	115.4	1.00	1.02	1.37	24.0
Approach			985	10.0	985	10.0	0.883	34.6	LOS C	13.4	115.4	0.90	0.84	1.01	31.3
SouthWest: Ronlyn Rd															
1	L2	All MCs	217	9.8	217	9.8	0.175	9.0	LOS A	2.7	23.6	0.37	1.33	0.37	39.4
2	T1	All MCs	32	0.0	32	0.0	0.116	35.0	LOS D	1.1	8.3	0.93	0.67	0.93	31.4
3	R2	All MCs	211	8.9	211	8.9	*0.883	52.9	LOS D	9.6	80.2	1.00	1.05	1.43	8.3
Approach			459	8.7	459	8.7	0.883	30.9	LOS C	9.6	80.2	0.70	1.16	0.90	24.4
All Vehicles			2480	10.4	2480	10.4	0.883	35.4	LOS D	18.1	150.5	0.87	0.96	1.05	31.1



MOVEMENT SUMMARY

Site: [3 (3)] Pinjarra Rd Access - 2027 - SAT (2027)

Network: [3] SAT (2027)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

NA

Site Category: (None)

Give-Way (Two-Way)

Network Scenario: 1 | Local Volumes

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]		[Total HV]					[Veh.	Dist]				
			veh/h	%	veh/h	%				veh	m				
			veh/h	%	veh/h	%	v/c	sec							km/h
SouthEast: Pinjarra Rd															
4	L2	All MCs	121	2.0	121	2.0	0.067	6.4	LOS A	0.0	0.0	0.00	0.61	0.00	54.2
5	T1	All MCs	841	11.7	841	11.7	0.234	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	69.8
Approach			962	10.5	962	10.5	0.234	0.9	NA	0.0	0.0	0.00	0.08	0.00	67.3
NorthWest: Pinjarra Rd															
11	T1	All MCs	864	10.3	864	10.3	0.238	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	79.8
Approach			864	10.3	864	10.3	0.238	0.0	NA	0.0	0.0	0.00	0.00	0.00	79.8
SouthWest: Pinjarra Rd Access															
1	L2	All MCs	69	2.0	69	2.0	0.086	2.4	LOS A	0.3	2.3	0.46	0.38	0.46	15.4
Approach			69	2.0	69	2.0	0.086	2.4	LOS A	0.3	2.3	0.46	0.38	0.46	15.4
All Vehicles			1896	10.1	1896	10.1	0.238	0.5	NA	0.3	2.3	0.02	0.05	0.02	72.9



MOVEMENT SUMMARY

 Site: [2 (3)] Ronlyn Rd Access + 2027 - SAT (2027)

Network: [3] SAT (2027)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

NA

Site Category: (None)

Roundabout

Network Scenario: 1 | Local Volumes

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number To Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%				[Veh. veh	Dist] m				km/h
SouthEast: Ronlyn Rd Access															
4	L2	All MCs	54	2.0	54	2.0	0.324	2.1	LOS A	2.4	18.1	0.47	0.40	0.47	45.1
5	T1	All MCs	1	2.0	1	2.0	0.324	1.5	LOS A	2.4	18.1	0.47	0.40	0.47	15.6
6	R2	All MCs	291	2.0	291	2.0	0.324	3.1	LOS A	2.4	18.1	0.47	0.40	0.47	14.0
Approach			345	2.0	345	2.0	0.324	2.9	LOS A	2.4	18.1	0.47	0.40	0.47	27.9
NorthEast: Ronlyn Rd															
7	L2	All MCs	245	2.0	245	2.0	0.338	5.8	LOS A	2.1	16.2	0.19	0.59	0.19	29.7
8	T1	All MCs	52	8.5	52	8.5	0.338	5.4	LOS A	2.1	16.2	0.19	0.59	0.19	47.9
9	R2	All MCs	143	2.0	143	2.0	0.338	7.8	LOS A	2.1	16.2	0.19	0.59	0.19	26.5
Approach			440	2.8	440	2.8	0.338	6.4	LOS A	2.1	16.2	0.19	0.59	0.19	33.3
NorthWest: Spudshed Access															
10	L2	All MCs	142	2.0	142	2.0	0.169	3.0	LOS A	0.9	7.0	0.55	0.45	0.55	12.8
11	T1	All MCs	1	2.0	1	2.0	0.169	2.5	LOS A	0.9	7.0	0.55	0.45	0.55	15.0
12	R2	All MCs	1	2.0	1	2.0	0.169	4.0	LOS A	0.9	7.0	0.55	0.45	0.55	45.6
Approach			144	2.0	144	2.0	0.169	3.0	LOS A	0.9	7.0	0.55	0.45	0.55	14.0
SouthWest: Ronlyn Rd															
1	L2	All MCs	1	2.0	1	2.0	0.101	8.2	LOS A	0.6	4.7	0.58	0.68	0.58	43.8
2	T1	All MCs	25	13.5	25	13.5	0.101	8.2	LOS A	0.6	4.7	0.58	0.68	0.58	45.9
3	R2	All MCs	54	2.0	54	2.0	0.101	10.2	LOS B	0.6	4.7	0.58	0.68	0.58	44.1
Approach			80	5.6	80	5.6	0.101	9.6	LOS A	0.6	4.7	0.58	0.68	0.58	44.7
All Vehicles			1009	2.6	1009	2.6	0.338	5.0	LOS A	2.4	18.1	0.37	0.51	0.37	32.6



2037



MOVEMENT SUMMARY

Site: [1 (7)] Pinjarra Rd & Ronlyn Rd & Husband Rd - 2037 - AM (2037)

Network: [4] AM (2037)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

NA

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 75.0 seconds (Site Practical Cycle Time)

Network Scenario: 1 | Local Volumes

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number Cycles	Aver. Speed
			[Total HV]		[Total HV]					[Veh.	Dist]			Rate to Depart	
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
SouthEast: Pinjarra Rd															
4	L2	All MCs	89	9.5	89	9.5	0.067	7.1	LOSA	0.3	2.7	0.10	0.65	0.10	39.5
5	T1	All MCs	799	11.7	799	11.7	*0.811	32.6	LOS C	15.4	128.0	0.99	0.96	1.17	38.6
6	R2	All MCs	19	8.0	19	8.0	0.089	39.3	LOS D	0.6	5.3	0.91	0.70	0.91	30.9
Approach			907	11.4	907	11.4	0.811	30.2	LOS C	15.4	128.0	0.90	0.92	1.06	38.4
NorthEast: Husband Rd															
7	L2	All MCs	20	9.1	20	9.1	0.017	7.0	LOSA	0.1	1.0	0.23	0.87	0.23	34.9
8	T1	All MCs	27	16.7	27	16.7	*0.120	32.9	LOS C	0.9	9.2	0.92	0.66	0.92	29.4
9	R2	All MCs	45	9.1	45	9.1	0.212	40.3	LOS D	1.6	13.4	0.95	0.73	0.95	36.7
Approach			93	11.3	93	11.3	0.212	30.9	LOS C	1.6	13.4	0.79	0.74	0.79	34.7
NorthWest: Pinjarra Rd															
10	L2	All MCs	74	11.4	74	11.4	0.043	6.8	LOSA	0.0	0.0	0.00	0.58	0.00	55.4
11	T1	All MCs	808	10.3	808	10.3	0.677	26.8	LOS C	13.5	110.6	0.95	0.82	0.96	35.0
12	R2	All MCs	202	9.0	202	9.0	*0.811	46.7	LOS D	8.1	70.2	1.00	0.95	1.27	25.7
Approach			1084	10.1	1084	10.1	0.811	29.1	LOS C	13.5	110.6	0.89	0.83	0.95	34.4
SouthWest: Ronlyn Rd															
1	L2	All MCs	193	9.8	193	9.8	0.160	8.4	LOSA	2.3	19.7	0.36	1.17	0.36	40.4
2	T1	All MCs	13	0.0	13	0.0	0.044	31.9	LOS C	0.4	3.1	0.91	0.62	0.91	32.8
3	R2	All MCs	137	8.9	137	8.9	*0.635	42.9	LOS D	5.2	43.2	1.00	0.83	1.07	9.9
Approach			342	9.0	342	9.0	0.635	23.1	LOS C	5.2	43.2	0.64	1.01	0.67	28.7
All Vehicles			2426	10.5	2426	10.5	0.811	28.8	LOS C	15.4	128.0	0.86	0.88	0.95	35.2



MOVEMENT SUMMARY

Site: [3 (4)] Pinjarra Rd Access - 2037 - AM (2037)

Network: [4] AM (2037)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

NA

Site Category: (None)

Give-Way (Two-Way)

Network Scenario: 1 | Local Volumes

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance														
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number Rate to Depart
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist] m			
SouthEast: Pinjarra Rd														
4	L2	All MCs	45	2.0	45	2.0	0.025	6.4	LOS A	0.0	0.0	0.00	0.61	0.00
5	T1	All MCs	881	11.7	881	11.7	0.245	0.1	LOS A	0.0	0.0	0.00	0.00	0.00
Approach			926	11.2	926	11.2	0.245	0.4	NA	0.0	0.0	0.00	0.03	0.00
NorthWest: Pinjarra Rd														
11	T1	All MCs	966	10.3	966	10.3	0.266	0.0	LOS A	0.0	0.0	0.00	0.00	0.00
Approach			966	10.3	966	10.3	0.266	0.0	NA	0.0	0.0	0.00	0.00	0.00
SouthWest: Pinjarra Rd Access														
1	L2	All MCs	26	2.0	26	2.0	0.034	2.4	LOS A	0.1	0.9	0.46	0.35	0.46
Approach			26	2.0	26	2.0	0.034	2.4	LOS A	0.1	0.9	0.46	0.35	0.46
All Vehicles			1919	10.6	1919	10.6	0.266	0.2	NA	0.1	0.9	0.01	0.02	0.01



MOVEMENT SUMMARY

 Site: [2 (4)] Ronlyn Rd Access + 2037 - AM (2037)

Network: [4] AM (2037)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

NA

Site Category: (None)

Roundabout

Network Scenario: 1 | Local Volumes

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number Rate to Depart	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]				[Veh. veh	Dist] m				km/h
			veh/h	%	veh/h	%	v/c	sec							
SouthEast: Ronlyn Rd Access															
4	L2	All MCs	20	2.0	20	2.0	0.123	2.1	LOS A	0.7	5.7	0.42	0.39	0.42	45.2
5	T1	All MCs	1	2.0	1	2.0	0.123	1.5	LOS A	0.7	5.7	0.42	0.39	0.42	15.7
6	R2	All MCs	104	2.0	104	2.0	0.123	3.0	LOS A	0.7	5.7	0.42	0.39	0.42	14.1
Approach			125	2.0	125	2.0	0.123	2.8	LOS A	0.7	5.7	0.42	0.39	0.42	28.3
NorthEast: Ronlyn Rd															
7	L2	All MCs	93	2.0	93	2.0	0.228	5.5	LOS A	1.2	9.5	0.10	0.59	0.10	30.3
8	T1	All MCs	101	8.5	101	8.5	0.228	5.1	LOS A	1.2	9.5	0.10	0.59	0.10	48.2
9	R2	All MCs	125	2.0	125	2.0	0.228	7.5	LOS A	1.2	9.5	0.10	0.59	0.10	27.0
Approach			319	4.1	319	4.1	0.228	6.2	LOS A	1.2	9.5	0.10	0.59	0.10	38.9
NorthWest: Spudshed Access															
10	L2	All MCs	134	2.0	134	2.0	0.140	2.1	LOS A	0.7	5.5	0.44	0.35	0.44	14.3
11	T1	All MCs	1	2.0	1	2.0	0.140	1.5	LOS A	0.7	5.5	0.44	0.35	0.44	16.1
12	R2	All MCs	1	2.0	1	2.0	0.140	3.0	LOS A	0.7	5.5	0.44	0.35	0.44	46.6
Approach			136	2.0	136	2.0	0.140	2.1	LOS A	0.7	5.5	0.44	0.35	0.44	15.6
SouthWest: Ronlyn Rd															
1	L2	All MCs	2	2.0	2	2.0	0.136	6.9	LOS A	0.8	7.2	0.44	0.58	0.44	46.2
2	T1	All MCs	103	13.5	103	13.5	0.136	6.7	LOS A	0.8	7.2	0.44	0.58	0.44	48.7
3	R2	All MCs	20	2.0	20	2.0	0.136	8.9	LOS A	0.8	7.2	0.44	0.58	0.44	46.6
Approach			125	11.5	125	11.5	0.136	7.1	LOS A	0.8	7.2	0.44	0.58	0.44	48.3
All Vehicles			705	4.6	705	4.6	0.228	5.0	LOS A	1.2	9.5	0.28	0.51	0.28	38.9



MOVEMENT SUMMARY

 Site: [1 (8)] Pinjarra Rd & Ronlyn Rd & Husband Rd - 2037 - PM (2037)

Network: [5] PM (2037)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

NA

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 90.0 seconds (Site Practical Cycle Time)

Network Scenario: 1 | Local Volumes

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number Rate to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%				[Veh. veh	Dist] m				km/h
			veh/h		veh/h		v/c	sec							
SouthEast: Pinjarra Rd															
4	L2	All MCs	104	9.5	104	9.5	0.079	7.5	LOS A	0.6	4.9	0.15	0.72	0.15	35.5
5	T1	All MCs	988	11.7	988	11.7	*0.872	41.1	LOS D	24.2	200.7	1.00	1.03	1.22	34.2
6	R2	All MCs	34	8.0	34	8.0	0.134	43.7	LOS D	1.3	10.9	0.90	0.72	0.90	29.4
Approach			1126	11.4	1126	11.4	0.872	38.0	LOS D	24.2	200.7	0.92	0.99	1.11	34.0
NorthEast: Husband Rd															
7	L2	All MCs	24	9.1	24	9.1	0.024	8.1	LOS A	0.2	1.9	0.31	0.96	0.31	32.9
8	T1	All MCs	51	16.7	51	16.7	*0.250	41.4	LOS D	2.1	21.0	0.95	0.71	0.95	26.0
9	R2	All MCs	55	9.1	55	9.1	0.230	45.8	LOS D	2.3	19.1	0.94	0.74	0.94	34.8
Approach			129	12.0	129	12.0	0.250	37.0	LOS D	2.3	21.0	0.83	0.77	0.83	31.6
NorthWest: Pinjarra Rd															
10	L2	All MCs	58	11.4	58	11.4	0.035	6.8	LOS A	0.0	0.3	0.01	0.59	0.01	55.1
11	T1	All MCs	1001	10.3	1001	10.3	0.729	30.2	LOS C	19.9	162.9	0.95	0.84	0.97	33.0
12	R2	All MCs	257	9.0	257	9.0	*0.872	56.3	LOS E	12.8	110.6	1.00	0.99	1.33	22.7
Approach			1316	10.1	1316	10.1	0.872	34.3	LOS C	19.9	162.9	0.92	0.86	0.99	31.3
SouthWest: Ronlyn Rd															
1	L2	All MCs	202	9.8	202	9.8	0.181	11.4	LOS B	3.3	29.0	0.45	1.34	0.45	38.5
2	T1	All MCs	29	0.0	29	0.0	0.117	40.0	LOS D	1.2	8.8	0.94	0.67	0.94	29.4
3	R2	All MCs	209	8.9	209	8.9	*0.872	56.8	LOS E	10.5	87.6	1.00	1.02	1.36	7.8
Approach			441	8.7	441	8.7	0.872	34.9	LOS C	10.5	87.6	0.74	1.14	0.91	22.8
All Vehicles			3013	10.5	3013	10.5	0.872	35.9	LOS D	24.2	200.7	0.89	0.95	1.02	31.2



MOVEMENT SUMMARY

Site: [3 (5)] Pinjarra Rd Access - 2037 - PM (2037)

Network: [5] PM (2037)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

NA

Site Category: (None)

Give-Way (Two-Way)

Network Scenario: 1 | Local Volumes

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number Cycles	Aver. Speed
			[Total HV]		[Total HV]					[Veh. veh	Dist]		Rate to Depart		km/h
			veh/h	%	veh/h	%	v/c	sec			m				
SouthEast: Pinjarra Rd															
4	L2	All MCs	98	2.0	98	2.0	0.054	6.4	LOS A	0.0	0.0	0.00	0.61	0.00	54.2
5	T1	All MCs	1071	11.7	1071	11.7	0.339	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	69.7
Approach			1168	10.9	1168	10.9	0.339	0.6	NA	0.0	0.0	0.00	0.05	0.00	68.0
NorthWest: Pinjarra Rd															
11	T1	All MCs	1235	10.3	1235	10.3	0.340	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	79.7
Approach			1235	10.3	1235	10.3	0.340	0.0	NA	0.0	0.0	0.00	0.00	0.00	79.7
SouthWest: Pinjarra Rd Access															
1	L2	All MCs	56	2.0	56	2.0	0.093	3.4	LOS A	0.3	2.1	0.52	0.48	0.52	14.0
Approach			56	2.0	56	2.0	0.093	3.4	LOS A	0.3	2.1	0.52	0.48	0.52	14.0
All Vehicles			2459	10.4	2459	10.4	0.340	0.4	NA	0.3	2.1	0.01	0.04	0.01	73.9



MOVEMENT SUMMARY

 Site: [2 (5)] Ronlyn Rd Access + 2037 - PM (2037)

Network: [5] PM (2037)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

NA

Site Category: (None)

Roundabout

Network Scenario: 1 | Local Volumes

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]				[Veh.]	[Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
SouthEast: Ronlyn Rd Access															
4	L2	All MCs	44	2.0	44	2.0	0.272	2.2	LOS A	1.9	14.3	0.46	0.40	0.46	45.0
5	T1	All MCs	1	2.0	1	2.0	0.272	1.6	LOS A	1.9	14.3	0.46	0.40	0.46	15.5
6	R2	All MCs	235	2.0	235	2.0	0.272	3.1	LOS A	1.9	14.3	0.46	0.40	0.46	13.9
Approach			280	2.0	280	2.0	0.272	3.0	LOS A	1.9	14.3	0.46	0.40	0.46	27.9
NorthEast: Ronlyn Rd															
7	L2	All MCs	199	2.0	199	2.0	0.312	5.7	LOS A	1.9	14.6	0.17	0.59	0.17	29.8
8	T1	All MCs	72	8.5	72	8.5	0.312	5.3	LOS A	1.9	14.6	0.17	0.59	0.17	48.0
9	R2	All MCs	142	2.0	142	2.0	0.312	7.7	LOS A	1.9	14.6	0.17	0.59	0.17	26.6
Approach			413	3.1	413	3.1	0.312	6.3	LOS A	1.9	14.6	0.17	0.59	0.17	35.1
NorthWest: Spudshed Access															
10	L2	All MCs	112	2.0	112	2.0	0.134	3.0	LOS A	0.7	5.3	0.54	0.44	0.54	12.8
11	T1	All MCs	1	2.0	1	2.0	0.134	2.5	LOS A	0.7	5.3	0.54	0.44	0.54	14.9
12	R2	All MCs	1	2.0	1	2.0	0.134	4.0	LOS A	0.7	5.3	0.54	0.44	0.54	45.6
Approach			114	2.0	114	2.0	0.134	3.1	LOS A	0.7	5.3	0.54	0.44	0.54	14.3
SouthWest: Ronlyn Rd															
1	L2	All MCs	1	2.0	1	2.0	0.174	7.9	LOS A	1.0	9.1	0.57	0.65	0.57	44.7
2	T1	All MCs	95	13.5	95	13.5	0.174	8.0	LOS A	1.0	9.1	0.57	0.65	0.57	47.1
3	R2	All MCs	44	2.0	44	2.0	0.174	10.0	LOS A	1.0	9.1	0.57	0.65	0.57	45.2
Approach			140	9.8	140	9.8	0.174	8.6	LOS A	1.0	9.1	0.57	0.65	0.57	46.4
All Vehicles			946	3.6	946	3.6	0.312	5.3	LOS A	1.9	14.6	0.36	0.52	0.36	35.7



MOVEMENT SUMMARY

 Site: [1 (9)] Pinjarra Rd & Ronlyn Rd & Husband Rd - 2037 - SAT (2037)

Network: [6] SAT (2037)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

NA

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 95.0 seconds (Site Practical Cycle Time)

Network Scenario: 1 | Local Volumes Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number Rate to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist] m				km/h
SouthEast: Pinjarra Rd															
4	L2	All MCs	103	9.5	103	9.5	0.080	7.8	LOS A	0.7	5.9	0.17	0.72	0.17	35.4
5	T1	All MCs	966	11.7	966	11.7	*0.898	47.5	LOS D	26.1	216.4	1.00	1.08	1.27	31.5
6	R2	All MCs	35	8.0	35	8.0	0.114	42.5	LOS D	1.4	11.3	0.87	0.72	0.87	29.8
Approach			1104	11.4	1104	11.4	0.898	43.6	LOS D	26.1	216.4	0.92	1.03	1.15	31.5
NorthEast: Husband Rd															
7	L2	All MCs	22	9.1	22	9.1	0.021	7.4	LOS A	0.2	1.4	0.26	0.89	0.26	34.8
8	T1	All MCs	60	16.7	60	16.7	*0.308	44.3	LOS D	2.7	26.6	0.96	0.73	0.96	25.0
9	R2	All MCs	66	9.1	66	9.1	0.269	47.7	LOS D	2.9	24.3	0.95	0.75	0.95	34.2
Approach			148	12.2	148	12.2	0.308	40.3	LOS D	2.9	26.6	0.85	0.76	0.85	31.0
NorthWest: Pinjarra Rd															
10	L2	All MCs	64	11.4	64	11.4	0.039	6.8	LOS A	0.0	0.3	0.01	0.59	0.01	55.1
11	T1	All MCs	794	10.3	794	10.3	0.609	30.9	LOS C	15.8	129.7	0.91	0.79	0.91	32.6
12	R2	All MCs	321	9.0	321	9.0	*0.898	59.8	LOS E	17.3	149.6	1.00	1.02	1.34	21.8
Approach			1179	10.0	1179	10.0	0.898	37.4	LOS D	17.3	149.6	0.89	0.84	0.98	30.0
SouthWest: Ronlyn Rd															
1	L2	All MCs	240	9.8	240	9.8	0.213	11.9	LOS B	4.0	34.5	0.46	1.34	0.46	36.8
2	T1	All MCs	33	0.0	33	0.0	0.134	42.6	LOS D	1.4	10.3	0.94	0.68	0.94	28.5
3	R2	All MCs	223	8.9	223	8.9	*0.898	61.6	LOS E	12.1	100.8	1.00	1.04	1.40	7.3
Approach			496	8.7	496	8.7	0.898	36.3	LOS D	12.1	100.8	0.74	1.17	0.92	22.3
All Vehicles			2927	10.4	2927	10.4	0.898	39.7	LOS D	26.1	216.4	0.87	0.96	1.03	29.4



MOVEMENT SUMMARY

Site: [3 (6)] Pinjarra Rd Access - 2037 - SAT (2037)

Network: [6] SAT (2037)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

NA

Site Category: (None)

Give-Way (Two-Way)

Network Scenario: 1 | Local Volumes

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV] veh/h	%	[Total HV] veh/h	%	v/c	sec		[Veh. veh	Dist] m				km/h
SouthEast: Pinjarra Rd															
4	L2	All MCs	121	2.0	121	2.0	0.067	6.4	LOS A	0.0	0.0	0.00	0.61	0.00	54.2
5	T1	All MCs	1035	11.7	1035	11.7	0.356	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	69.7
Approach			1156	10.7	1156	10.7	0.356	0.8	NA	0.0	0.0	0.00	0.06	0.00	67.6
NorthWest: Pinjarra Rd															
11	T1	All MCs	1039	10.3	1039	10.3	0.286	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	79.8
Approach			1039	10.3	1039	10.3	0.286	0.0	NA	0.0	0.0	0.00	0.00	0.00	79.8
SouthWest: Pinjarra Rd Access															
1	L2	All MCs	69	2.0	69	2.0	0.123	3.3	LOS A	0.3	2.6	0.52	0.49	0.52	14.1
Approach			69	2.0	69	2.0	0.123	3.3	LOS A	0.3	2.6	0.52	0.49	0.52	14.1
All Vehicles			2264	10.2	2264	10.2	0.356	0.5	NA	0.3	2.6	0.02	0.05	0.02	73.1



MOVEMENT SUMMARY

 Site: [2 (6)] Ronlyn Rd Access + 2037 - SAT (2037)

Network: [6] SAT (2037)

Output produced by SIDRA INTERSECTION Version: 10.0.8.241

NA

Site Category: (None)

Roundabout

Network Scenario: 1 | Local Volumes

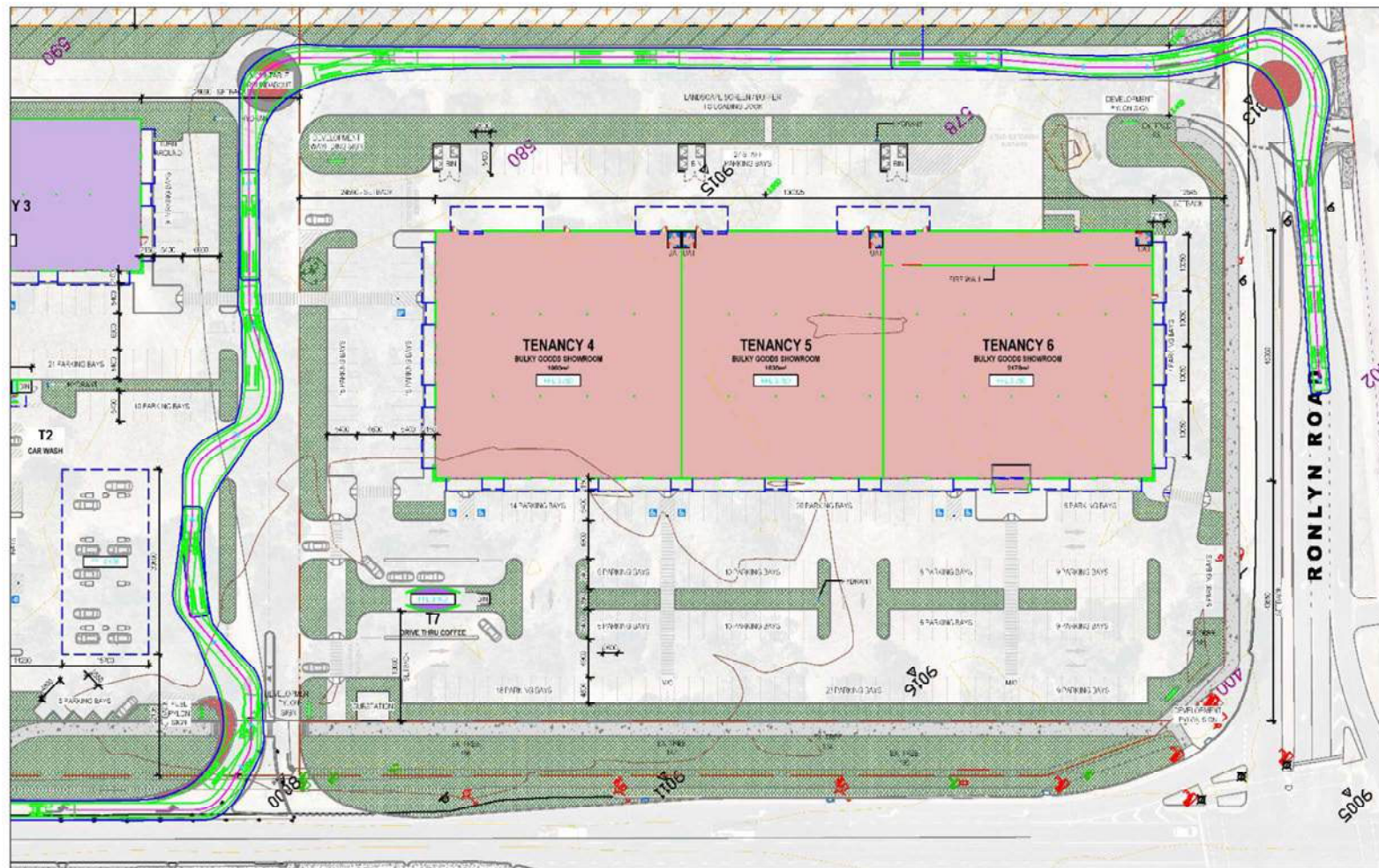
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Rate	Number Cycles to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist] m				km/h
SouthEast: Ronlyn Rd Access															
4	L2	All MCs	54	2.0	54	2.0	0.341	2.5	LOS A	2.6	19.4	0.52	0.43	0.52	44.7
5	T1	All MCs	1	2.0	1	2.0	0.341	2.0	LOS A	2.6	19.4	0.52	0.43	0.52	15.2
6	R2	All MCs	291	2.0	291	2.0	0.341	3.5	LOS A	2.6	19.4	0.52	0.43	0.52	13.5
Approach			345	2.0	345	2.0	0.341	3.3	LOS A	2.6	19.4	0.52	0.43	0.52	27.2
NorthEast: Ronlyn Rd															
7	L2	All MCs	245	2.0	245	2.0	0.371	5.8	LOS A	2.4	18.9	0.20	0.58	0.20	29.8
8	T1	All MCs	96	8.5	96	8.5	0.371	5.4	LOS A	2.4	18.9	0.20	0.58	0.20	47.9
9	R2	All MCs	143	2.0	143	2.0	0.371	7.8	LOS A	2.4	18.9	0.20	0.58	0.20	26.6
Approach			484	3.3	484	3.3	0.371	6.3	LOS A	2.4	18.9	0.20	0.58	0.20	36.0
NorthWest: Spudshed Access															
10	L2	All MCs	142	2.0	142	2.0	0.176	3.4	LOS A	1.0	7.3	0.58	0.48	0.58	12.3
11	T1	All MCs	1	2.0	1	2.0	0.176	2.8	LOS A	1.0	7.3	0.58	0.48	0.58	14.6
12	R2	All MCs	1	2.0	1	2.0	0.176	4.3	LOS A	1.0	7.3	0.58	0.48	0.58	45.3
Approach			144	2.0	144	2.0	0.176	3.4	LOS A	1.0	7.3	0.58	0.48	0.58	13.5
SouthWest: Ronlyn Rd															
1	L2	All MCs	1	2.0	1	2.0	0.153	8.3	LOS A	0.9	7.8	0.60	0.67	0.60	44.0
2	T1	All MCs	63	13.5	63	13.5	0.153	8.4	LOS A	0.9	7.8	0.60	0.67	0.60	46.2
3	R2	All MCs	54	2.0	54	2.0	0.153	10.3	LOS B	0.9	7.8	0.60	0.67	0.60	44.4
Approach			118	8.2	118	8.2	0.153	9.3	LOS A	0.9	7.8	0.60	0.67	0.60	45.4
All Vehicles			1092	3.2	1092	3.2	0.371	5.3	LOS A	2.6	19.4	0.40	0.53	0.40	34.7



Appendix E

TURN PATH ANALYSIS



Lots 401, 154 & 155 (578-590) Pinjarra Road, Furnissdale
 Austroads 2023: 19.0m Semi-Trailer
 19.0m fuel tanker entry and exit movements

LEGEND
 Vehicle Body
 Wheel Path
 500mm Clearance

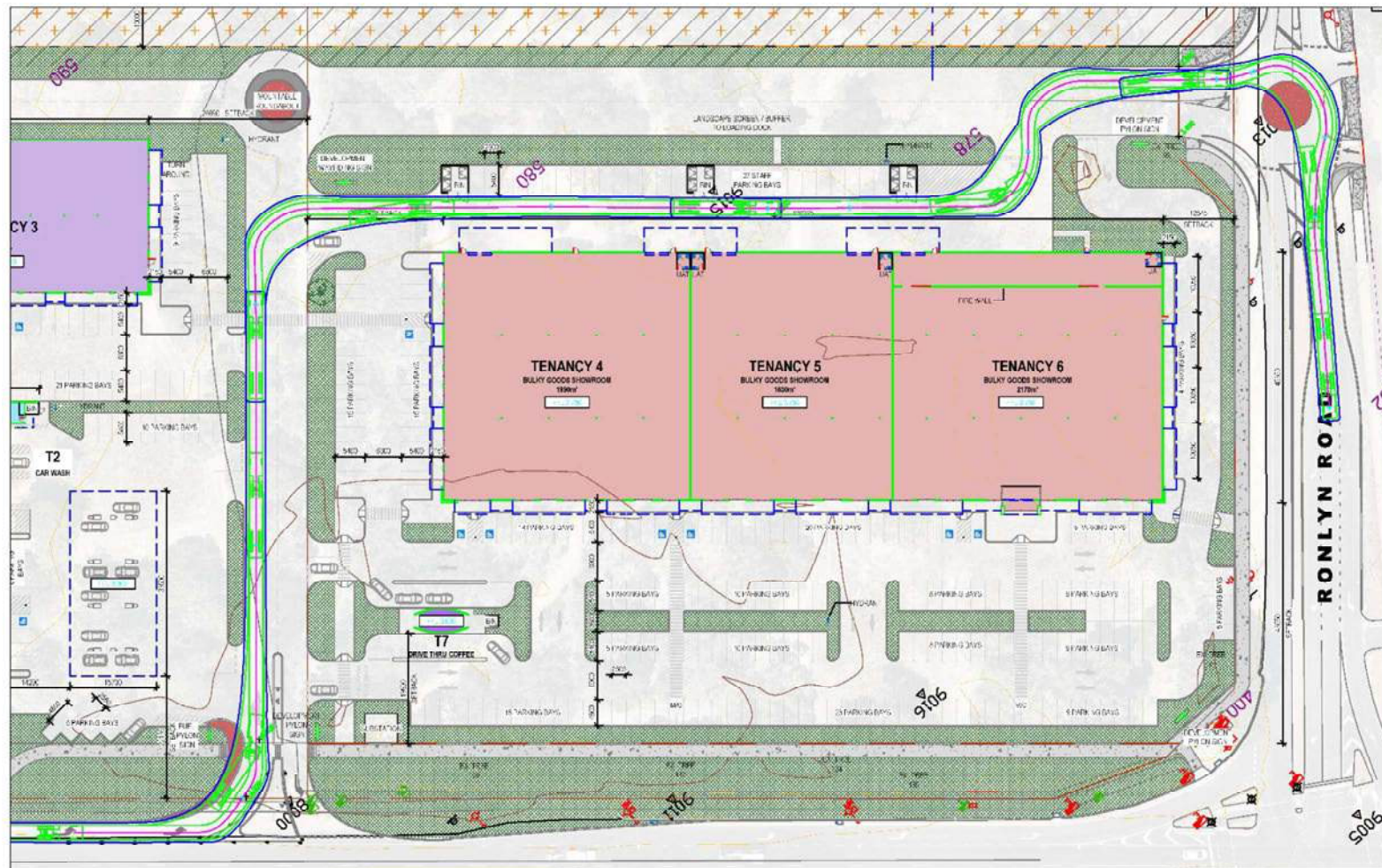


t25.163.sk01d

27/02/2026

Scale: 1:650 @ A3





Lots 401, 154 & 155 (578-590) Pinjarra Road, Furnissdale
 Austroads 2023: 19.0m Semi-Trailer
 19.0m semi-trailer clockwise movements through tenancies 4A - 6

LEGEND
 Vehicle Body
 Wheel Path
 500mm Clearance

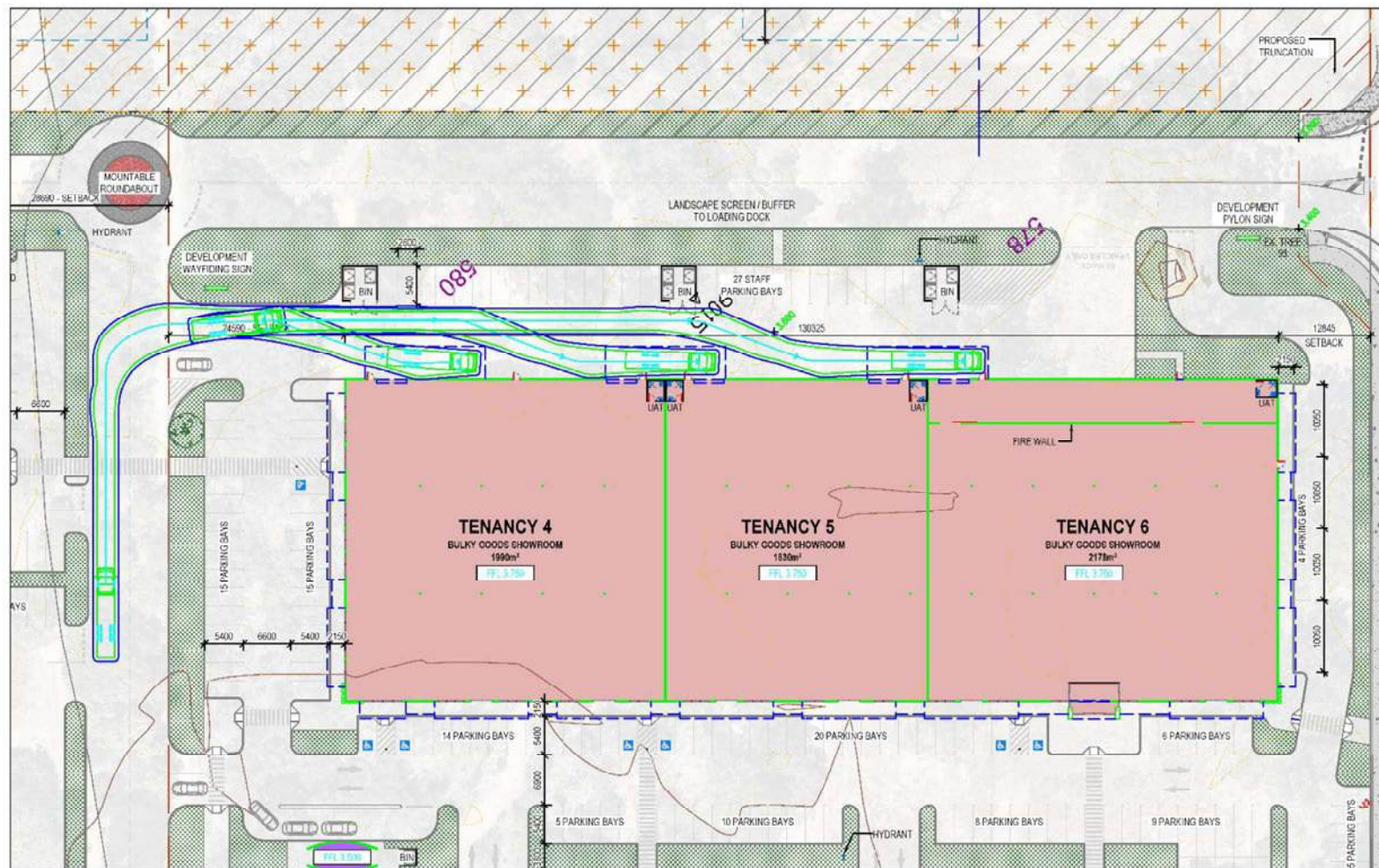


t25.163.sk04e

27/02/2026

Scale: 1:650 @ A3





Lots 401, 154 & 155 (578-590) Pinjarra Road, Furnissdale
 Austroads 2023: 12.5m SU Trucks
 12.5m trucks' entries to the service yards of tenancies 4A - 6

LEGEND
 Vehicle Body
 Wheel Path
 500mm Clearance

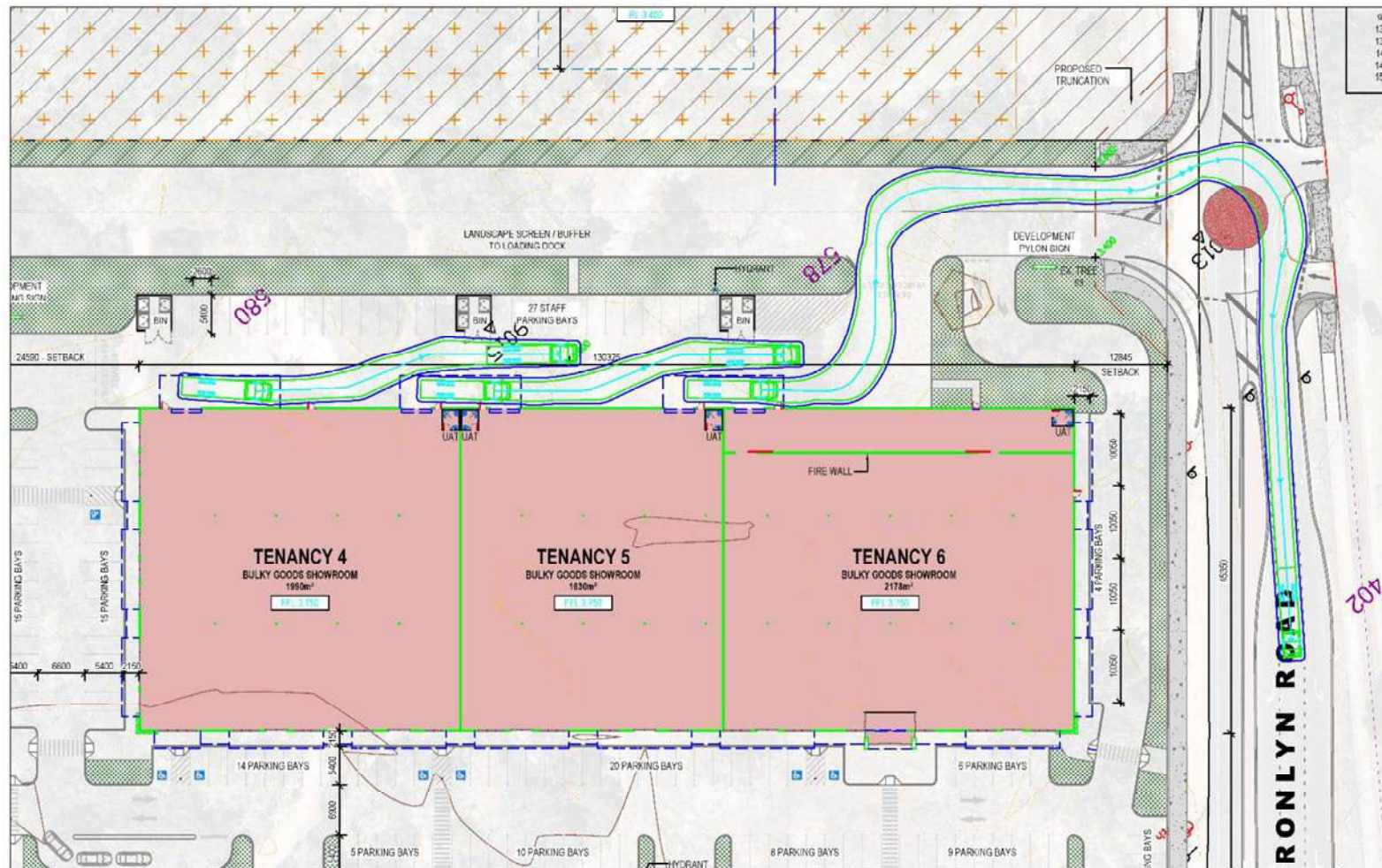


t25.163.sk05d

27/02/2026

Scale: 1:500 @ A3





Lots 401, 154 & 155 (578-590) Pinjarra Road, Furnissdale
 Austroads 2023: 12.5m SU Trucks
 12.5m trucks' exits from the service yards of tenancies 4A - 6

LEGEND
 Vehicle Body
 Wheel Path
 500mm Clearance

t25.163.sk06e

27/02/2026

Scale: 1:500 @ A3



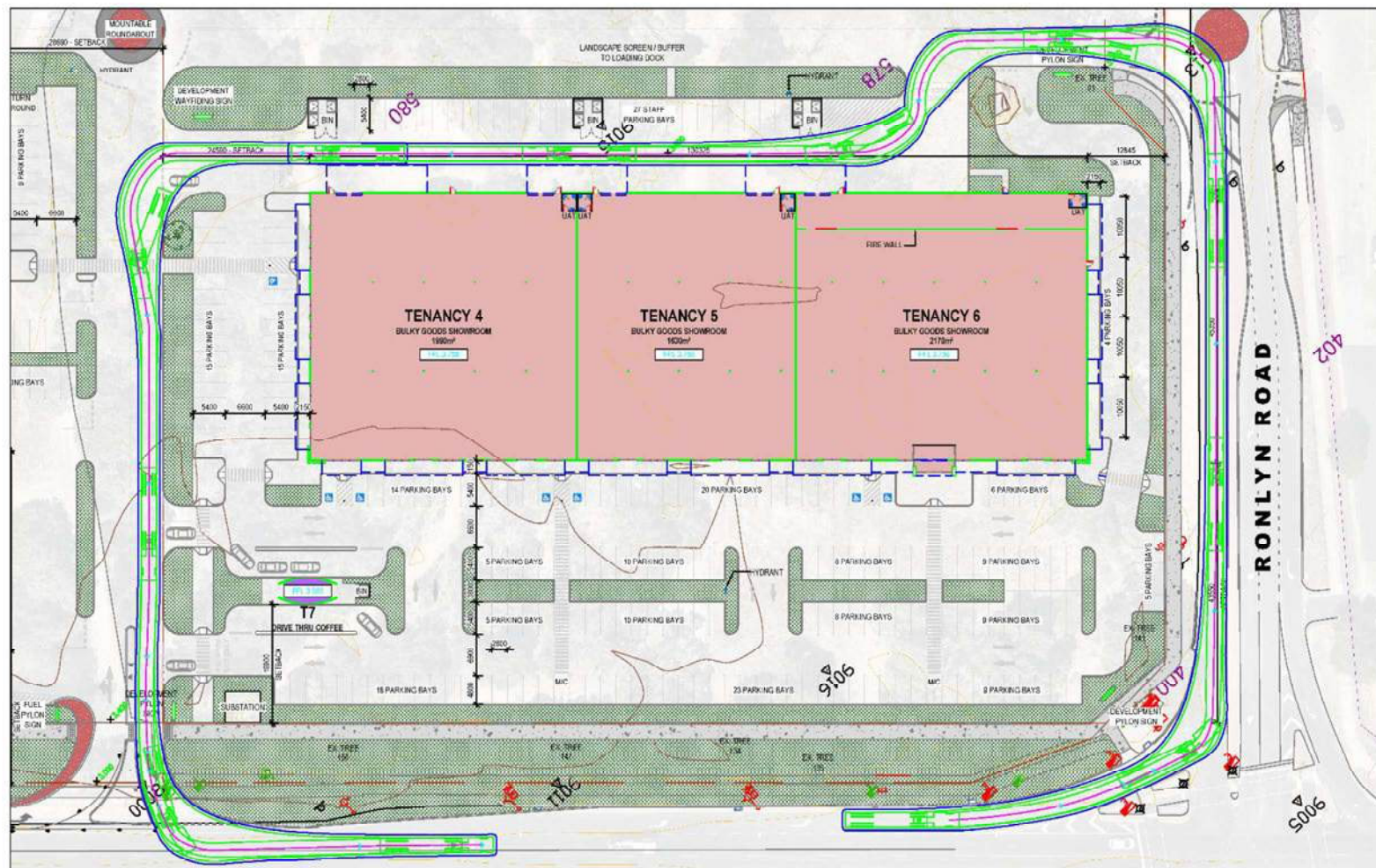


LEGEND



Scale: 1:400 @ A3





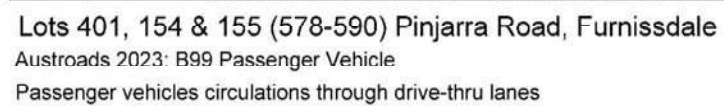
Lots 401, 154 & 155 (578-590) Pinjarra Road, Furnissdale
 Austroads 2023: 19.0m Semi-Trailer
 19.0m semi-trailer counter-clockwise movements through tenancies 4A - 6

LEGEND
 Vehicle Body
 Wheel Path
 500mm Clearance



t25.163.sk12d
 27/02/2026
 Scale: 1:600 @ A3

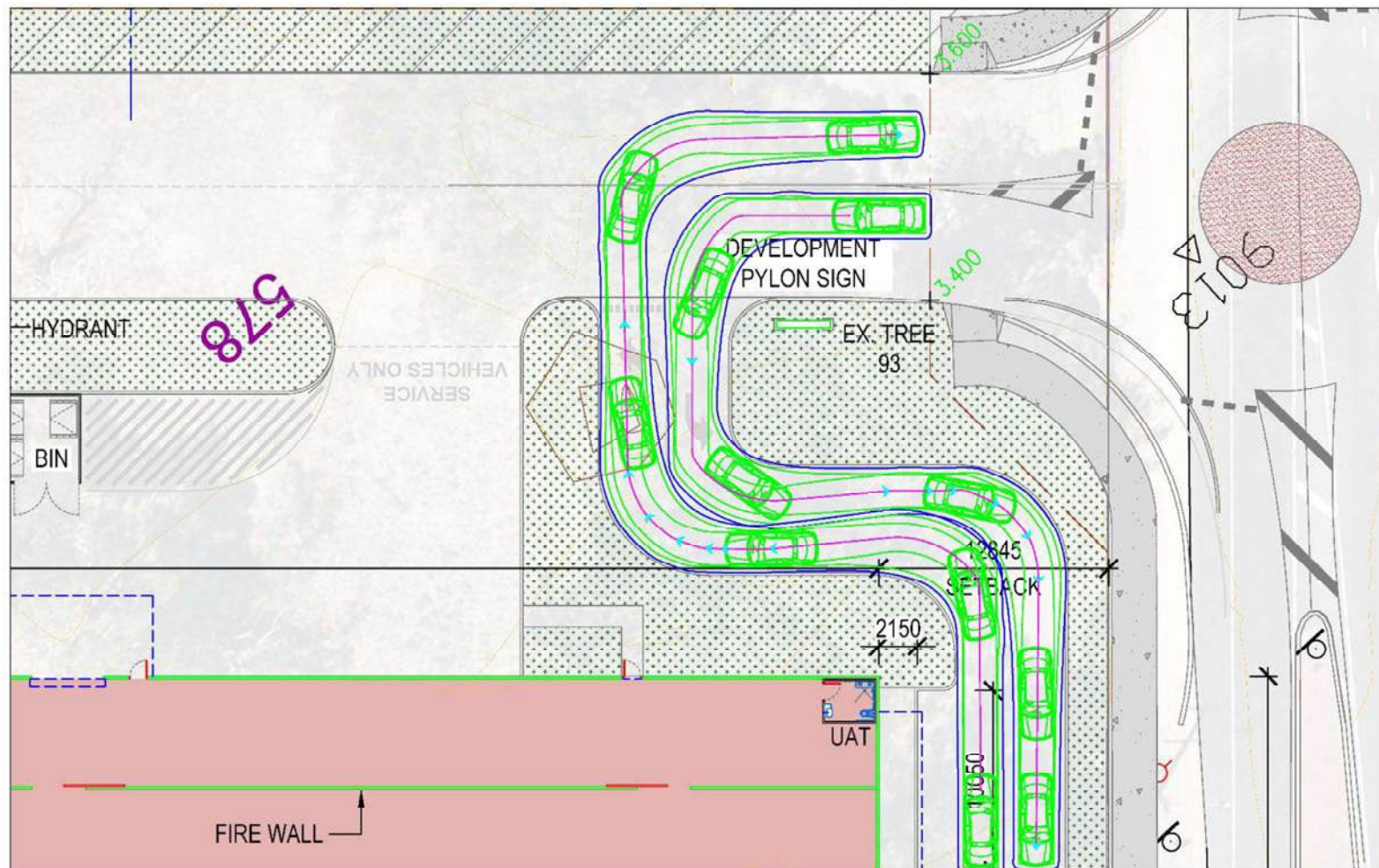




Vehicle Body
Wheel Path
300mm Clearance

Scale: 1:400 @ A3





Lots 401, 154 & 155 (578-590) Pinjarra Road, Furnissdale
 Austroads 2023: B99 Passenger Vehicle
 Passenger vehicles circulations

LEGEND
 Vehicle Body
 Wheel Path
 300mm Clearance



t25.163.sk14b

27/02/2026

Scale: 1:200 @ A3



Our Ref: JT/L019.26
Job No: 25-10-131

12 February 2026

Furnissdale Management Pty Ltd
c/- IvyBridge Capital
PO Box Z5508
Perth St Georges Tce WA 6831

Attention: Jorrit Muller

Dear Jorrit,

**578, 580 & 590 PINJARRA ROAD, FURNISSDALE
STORMWATER MANAGEMENT PLAN**

The Site Stormwater Management Plan has been prepared in support of the proposed development at 578, 580 & 590 Pinjarra Road (Lots 401, 154 & 155), Furnissdale. The Site is situated in the Shire of Murray at the corner of Pinjarra Road and Ronlyn Road, as shown in *figure 1* below.

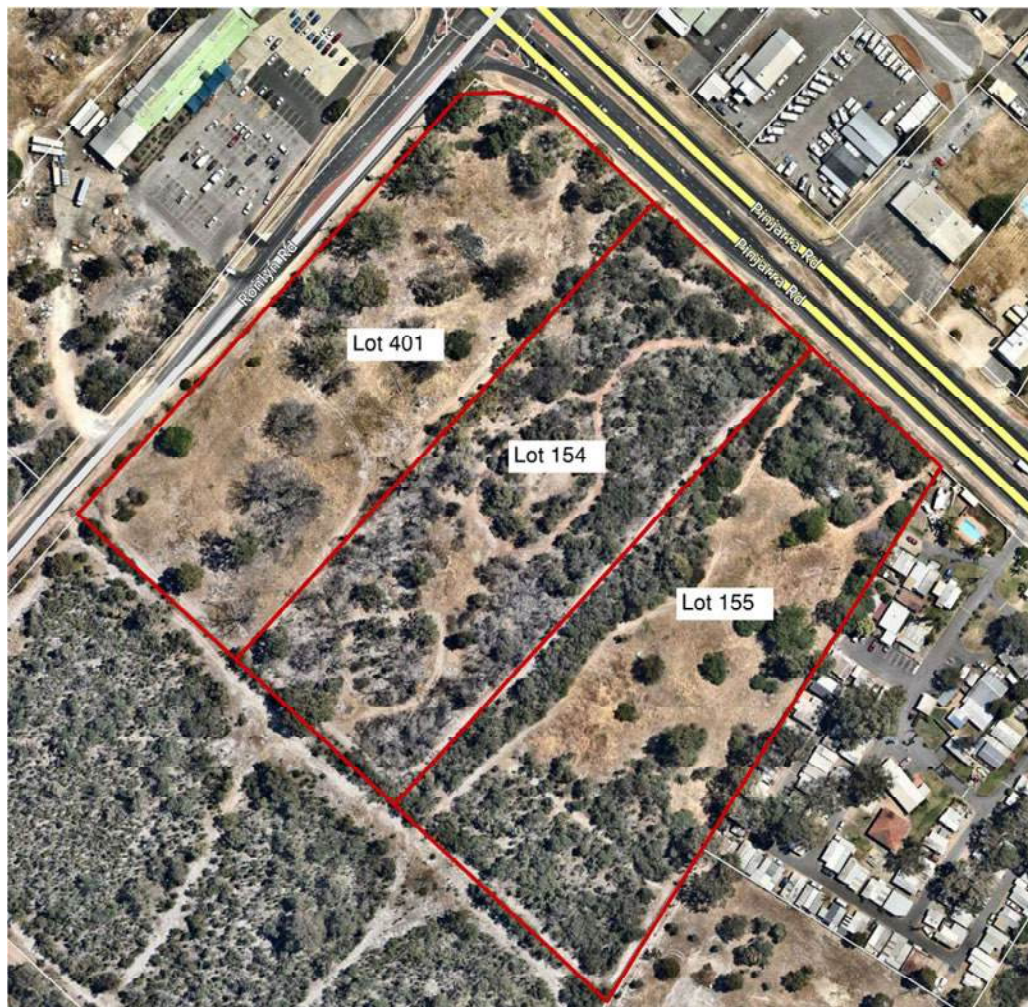


Figure 1 – Site location plan, Site bound in Red.

The proposed development includes bulky goods showrooms, a petrol station and a gym. A copy of the proposed development layout is presented in Attachment A.

LANDFORM

A Geotechnical Investigation¹ was undertaken in May 2013 which described the existing soil profile as follows:

- TOPSOIL: SAND (SP): fine to medium grained, dark grey, sub-rounded to sub-angular with some tree and shrub roots, loose to medium dense, extending to a depth of between about 0.2 m to 0.3 m; overlying
- SAND (SP): fine to coarse grained, sub-rounded to sub-angular, pale grey to grey, white, yellow and brown, with interbedded dark brown weakly cemented sand (coffee rock) between depths of about 0.2 m and 2.0 m (not present at all test locations), loose to very dense zones, extending to the maximum depth investigated of 6.2 m.

Topography

A feature survey² prepared shows the natural topography is relatively flat across the site, with levels ranging from RL 2.70m to 3.50m.

Groundwater

There have been three investigations that have measured groundwater levels at the site. The geotechnical investigation undertaken in May 2013 did not encounter groundwater in any test pits (up to 3.0m depth). An ASS investigation undertaken in August 2008 reported groundwater levels to be at approximately RL 1.0m. The Site and Soil Evaluation³ undertaken in September 2025 found groundwater levels at 1.7 – 1.9m below ground level (RL 1.45 – 1.5m). Based on these investigations, a maximum groundwater level of RL 1.5m has been used for design.

Acid Sulphate Soils

The 2013 geotechnical investigation included sampling of material from lot 401 to determine the presence of ASS, their assessment concluded that there was no indication of ASS on lot 401. The ASS investigation undertaken in 2008 on lots 154 & 155 found presence of ASS in black sand encountered on site at depths between 1.0 – 1.5m. Based on these findings and the expectation that the site works will result in disturbance of the black sand, the geotechnical engineer has recommended the preparation of an ASS management plan prior to commencement of works.

Infiltration Rates

The Site and Soil Evaluation investigation completed a field-saturated hydraulic conductivity test using a Constant Head Field Permeator which determine the infiltration rate to be 6.93m/day. An infiltration rate of 5m/day has been allowed to accommodate minor clogging over time.

STORMWATER DESIGN PRINCIPALS

The stormwater system will be designed to comply with the Shire of Murray requirements for drainage and water management⁴. The relevant sections from the guidelines are listed below:

1. Demonstrate in areas of commercial and industrial development, that downstream peak-flow rates and levels for the critical 1-in-10-year and 1-in-100-year annual exceedance

¹ Golder Associates - 137642049-001-R-Rev1

² MNG - Job No. 100991 (19 Sept 2017)

³ West Soil & Water - Project Number: 20250918

⁴ Murray Drainage and Water Management Plan – June 2011

- probability events are not increased, except where additional downstream capacity exists and the downstream asset owner/manager has given approval.
2. Retain the volume of the one-hour-duration 1-in-1 year annual exceedance probability event from constructed impervious areas at source
 3. Biofiltration systems to be sized at a minimum of 2% of the connected impervious area they receive runoff from.
 4. Soil amendment to include a 300-mm-deep layer of material that will reduce nutrient export (with a PRI greater than 10) and should be undertaken across a minimum of 10% of the site including, but not limited to, all landscaped public open space and landscaped drainage features.
 5. Swales and bioretention or infiltration systems to be designed with sufficient clearance from groundwater levels to ensure they do not remain permanently wet.
 6. No flooding of building habitable floor levels as well as utility facility floor levels should be allowed to occur in a major rainfall event.

STORMWATER MANAGEMENT PLAN

Stormwater Quantity Management

Stormwater storage volumes have been designed to satisfy Shire of Murray requirements to maintain pre-development discharge in the critical 1% Annual Exceedance Probability (AEP) event and zero discharge in the 1 year, one hour duration event.

Site Attribute	Design Consideration
Roof Area (runoff coef. = 1.0)	0.915Ha
Hardstand Area (runoff coef. = 0.9)	1.90Ha
Infiltration rate	5m/day
Groundwater Levels	1.5m AHD
Building FFL	3.75m
Clearance from Building FFL to Overflow	Min. 0.5m (varies)
Design Storm events & rainfall intensity	1% AEP, 1 hour – 41.1mm/hr
Storage Volumes	1% AEP, 1 hour Run-off: 1,080m ³ Soakage Volume: 334m ³ Outflow Volume: 212m ³ Storage Volume: 545m ³ Total Volume Provided: 1,091m ³
Stormwater Storage Solutions	Soakwells: 40 x Ø1.2m x 1.2m depth Graf Ecobloc Drainage Cells: 746 (No.) x 800mm (w) x 800mm (l) x 350mm (h) Drainage Swales: 1,080m ² infiltration area, 324m ³ volume

The concept stormwater calculation table is presented in *Attachment B* and the concept stormwater design is presented in *Attachment C*.

Catchments

In detailed design stage, the site shall be divided into 4 catchment areas in order to infiltrate stormwater as close to source as possible and to minimize pipe sizes. Catchment areas and associated storage volumes will be sized based on downpipe locations and associated roof catchments.

Overflow Design

The storage volume provided will fully contain the 24 hour 1% AEP event and 1 hour 10% AEP event. During a shorter duration 1% AEP event, the proposed levels have been designed to allow minor ponding within the carparking area prior to overflow to adjacent roads. Building FFL's have been set at minimum 0.5m above overflow levels.

Rainfall events in excess of the design rainfall events will result in overflows to Pinjarra Road and Ronlyn Road via overflow from swales as indicated on *Attachment C*.

Pavement Design

A rise and fall pavement will be designed throughout to achieve the required falls to prevent ponding and to convey stormwater to the vegetated swales for first flush treatment.

It is expected imported clean fill may be required to achieve the required pavement and building levels. Shallow retaining structures may be required along the boundary in some locations although this may be designed out at detailed design stage.

Storage Structures

In order to achieve the required storage volumes, below ground soakwells, drainage cells and swales will be constructed with interconnecting pipes. Final positioning of the storage structures will be confirmed at detailed design stage upon receipt of information on other services.

Preliminary levels as shown on the Stormwater Management Plan have been determined such that the base level of storage structures are a minimum of 0.5m above the maximum groundwater level of RL 1.5m.

Maintenance

A maintenance schedule shall be provided as part of the as constructed documentation from the contractor. This should include a schedule for clearing of soakwells and drainage cells.

Stormwater Quality Management

The majority of trafficable areas will be graded towards vegetated swales in order to capture and treat hydrocarbons prior to runoff reaching the groundwater table. Vegetation and filter media profile shall be determined by the landscaping consultant during the detailed design process.

Vegetated swale areas are in excess of 1,000m² which exceeds the minimum requirement of 2% impervious site area. Vegetated swales shall be set at a minimum RL of 3.0m which provides 1.5m clearance to maximum groundwater levels.

The fuel station canopy and tanker fill point shall be bunded to prevent fuel spills reaching the site stormwater infiltration structures. These areas shall be drained to waste grates which connect to a SPEL Spillceptor or approved equivalent.

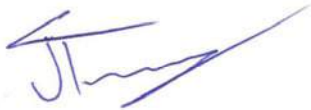
CONCLUSION

There are no drainage constraints that prohibit this site from being developed as a commercial site.

The following works are recommended to progress to detailed design stage:

1. Detailed earthworks model to confirm pavement levels and retaining wall heights required along the site boundaries.
2. Assessment of roof catchments and downpipe locations to determine catchment areas and finalise drainage cell volumes and pipe sizing.
3. Coordination with landscape consultant to ensure suitable filter media material and thickness is provided in drainage swales.

Yours faithfully,



JARRYD TREACY
SENIOR CIVIL ENGINEER

Enc.

ATTACHMENT A – CONCEPT DEVELOPMENT LAYOUT

THIS DRAWING AND ALL INFORMATION SHOWN IS THE EXCLUSIVE PROPERTY OF "Y ARCHITECTURE STUDIO" AND IS SUBMITTED ONLY ON A CONFIDENTIAL BASIS. THE RECIPIENT AGREES NOT TO REPRODUCE THE DRAWING AND TO RETURN IT UPON REQUEST AND THAT NO DISCLOSURE OF THE DRAWING OR THE INFORMATION SHOWN WILL BE MADE TO ANY THIRD PARTY WITHOUT THE PRIOR WRITTEN CONSENT FROM "Y ARCHITECTURE STUDIO".

ALL DIMENSIONS SUBJECT TO ON SITE VERIFICATION PRIOR TO COMMENCEMENT OF ANY WORK AND DISCREPANCIES IMMEDIATELY REPORTED TO THE CONSULTANT FOR INTERPRETATION.

THIS DOCUMENT IS TO BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS IN THE ARCHITECTURAL SET, CONSULTANT DRAWINGS, PROJECT SPECIFICATIONS, SCHEDULES, AND RELEVANT CONTRACTS.

DO NOT SCALE FROM DRAWINGS. REFER TO GIVEN DIMENSIONS.

VARIATIONS TO WORK SHOWN MUST BE CLAIMED AND APPROVED.

NOTE LEGEND

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
J	13.11.25	T2 - LARGE FORMAT RETAIL	YN	YN
K	05.01.26	REDUCED SETBACK TO PINJARRA	YN	YN
		ADDITIONAL TENANCY SPLITS		
		ADDITIONAL TREES RETAINED		
L	05.01.26	REVISED PARKING & QUEUE FOR T7	YN	YN
M	23.01.26	ISSUED FOR COORDINATION	YN	YN
N	30.01.26	ISSUED FOR COORDINATION	YN	YN
O	05.02.26	ISSUED FOR DA	YN	YN

ARCHITECT:

y. architecture
STUDIO

yo@y-architecturstudio / 0430 394 223 / ABWA 3028

PRELIMINARY

PROJECT:
FURNISSDALE DEVELOPMENT
LOTS 154, 155, 401 (507-590)
PINJARRA ROAD, FURNISSDALE

DRAWING TITLE:
SITE PLAN

DRAWING NO.

A0.21

REVISION:

0

JOB NO:

163

SCALE:

1:500 @ A1

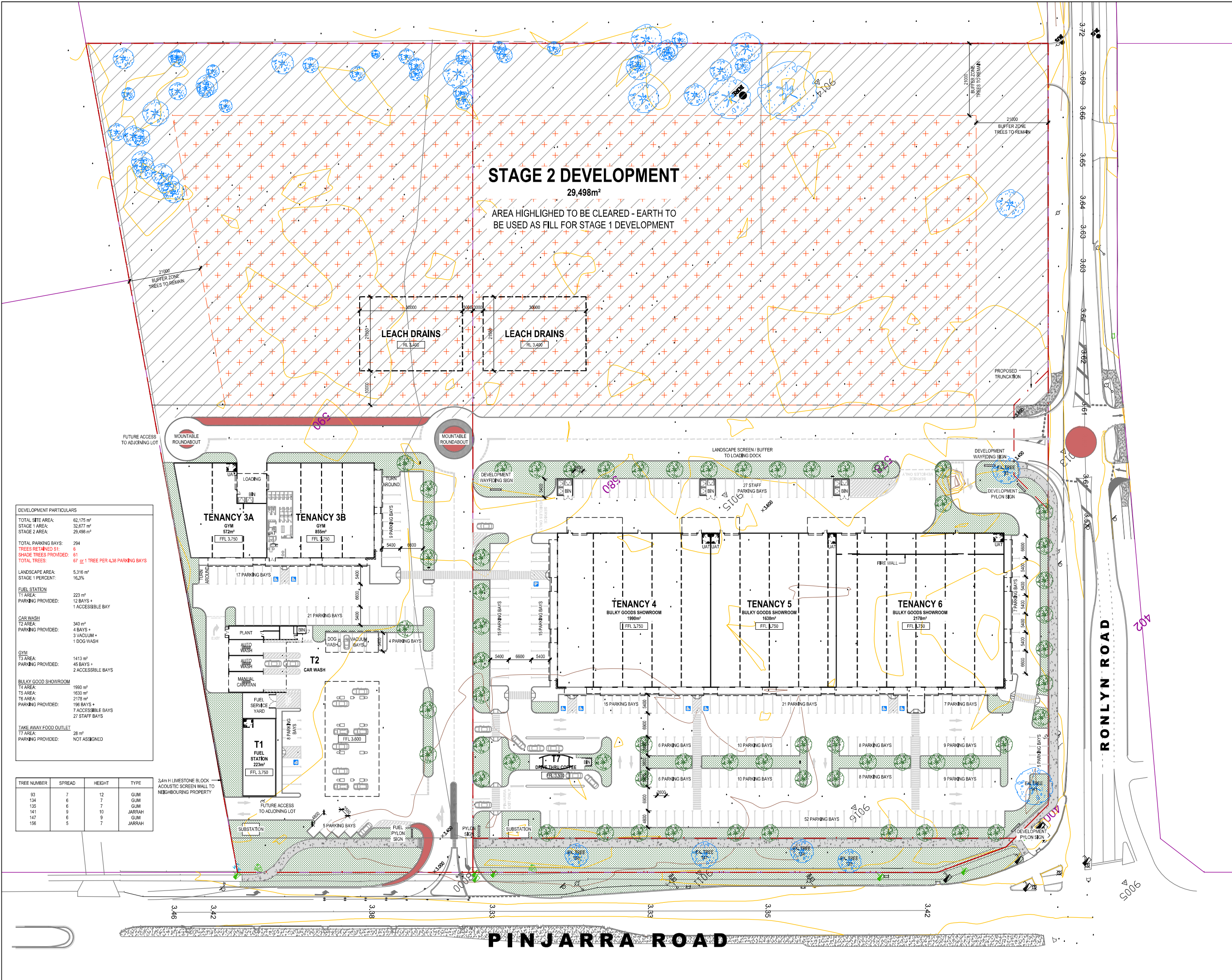
NORTH:

DRAWN BY:

YN

CHECKED BY:

YN



ATTACHMENT B – CONCEPT STORMWATER CALCULATIONS

Date	11/02/2026
Engineer	JT
Summary	Maintain 1% AEP Cris
Scenario	1% AEP 1hr duration

File Name	T019.26
Revision	A
Reference Document	L019.26
IFD Used	Furnissdale (32.5375 (S) 115.7875 (E))
Ground Conditions	Highly permeable sand
Groundwater	Max GWL = 1.5m AHD

Level 2, 58 Kishorn Road
Mount Pleasant WA 6153
PO Box 1036
Canning Bridge WA 6153
Tel: (08) 9315 9955
Fax: (08) 9315 9959
office@portereng.com.au
www.portereng.com.au

Soakwell details

Swale Details

Length (m)	= 450.000	
Width (m)	= 2.400	
Height (m)	= 0.200	
Side Slopes = 1:	6.000	
Freeboard (m)	= 0.000	to pavement
TWL	= 3.25	m
Base RL	= 3.1	m
Base Area (m ²)	= 1080.00	
Swale cross section (m ²)	= 0.72	
Volume (m ³)	= 324.00	

Run-off Coefficient (Cp) = $m(0.0133 \times 10160 - 0.233)$
 $m = 1.2$ (100yr ARI)
 $10160 = 29\text{mm/hr}$
 $C_p = 0.1832$

6 minute	225.1
30 minute	94.2
1 hour	58.9
3 hour	29.7
6 hour	20.2
12 hour	13.7
24 hour	8.7

Drainage Cells

Location 1			Cell Dimensions	
Height	0.35	x	0	= 0.35
Height	0.35	x	1	
Length	0.80	x	36	= 28.8
Width	0.80	x	6	= 4.8

Location 2					
Height	0.35	x	0	=	0.35
Height	0.35	x	1	=	
Length	0.80	x	42	=	33.6
Width	0.80	x	5	=	4

Location	3	x	0	=	0.35
Height	0.35	x	1	=	0.35
Length	0.80	x	40	=	32
Width	0.80	x	4	=	3.2

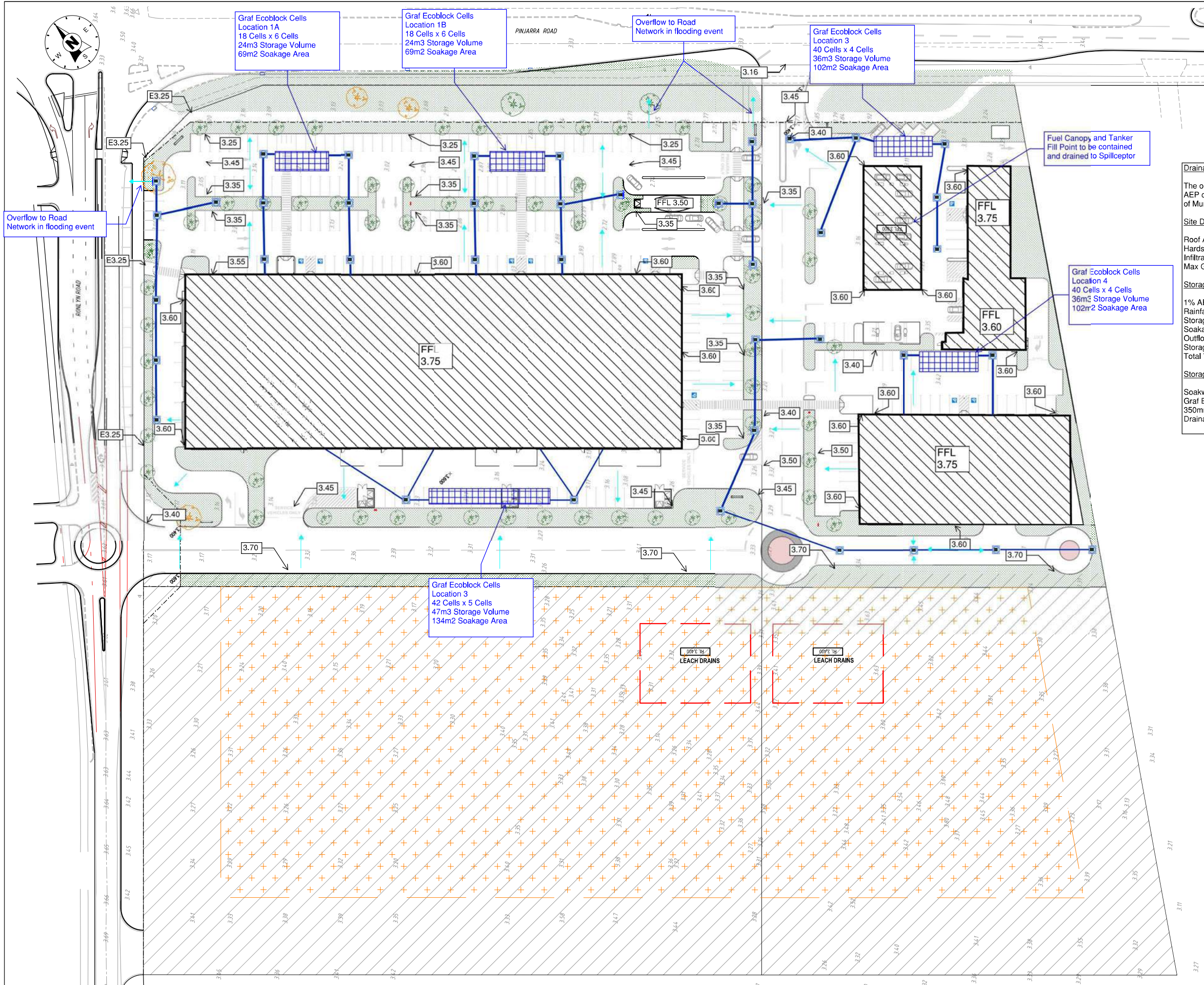
Location 4					
Height	0.35	x	0	=	0.35
Height	0.35	x	1		
Length	0.80	x	40	=	32
Width	0.80	x	4	=	3.2

Total Base Area (m²) = 477.44

Total Storage Volume (m^3) = 167.1

Roof Area (ha) = 0.915		Event		1EY (1 Year)						0.2 EY (5 Year)						10% AEP (10 Year)						1% AEP (100 Year)							
Co-efficient of Runoff = 1.00		Duration		6 min	30 min	1 hour	3 hour	6 hour	12 hour	6 min	30 min	1 hour	3 hour	6 hour	12 hour	6 min	30 min	1 hour	3 hour	6 hour	12 hour	6 min	30 min	1 hour	3 hour	6 hour	12 hour	24 hour	
Hardstand Area (ha) = 1.900		Intensities		67.7	28.2	18.3	9.09	5.77	3.61	95.10	39.6	25.4	12.50	8.07	5.15	109	45.6	29	14.30	9.35	6.05	157	65.70	41.10	20.70	14.10	9.54	6.09	
Co-efficient of Runoff = 0.90		Q (m³/s)		0.4940	0.2058	0.1335	0.0663	0.0421	0.0263	0.6940	0.2890	0.1854	0.0912	0.0589	0.0376	0.7954	0.3328	0.2116	0.1044	0.0682	0.0412	1.1457	0.4794	0.2999	0.1511	0.1029	0.0696	0.0444	
		Volume		177.9	370.4	480.8	716.4	909.5	1138.1	249.8	520.2	667.3	985.2	1272.0	1623.5	286.4	599.0	761.9	1127.0	1473.8	1907.3	412.5	863.0	1079.7	1631.4	2222.5	3009.5	3839.9	
Infiltration Rate of Soakage (m/day) = 5.0		SW Vol.		54.29	54.29	54.29	54.29	54.29	54.29	54.29	54.29	54.29	54.29	54.29	54.29	54.29	54.29	54.29	54.29	54.29	54.29	54.29	54.29	54.29	54.29	54.29	54.29	54.29	
		Soak Vol		0.94	4.71	9.42	28.27	56.55	113.10	0.94	4.71	9.42	28.27	56.55	113.10	0.94	4.71	9.42	28.27	56.55	113.10	0.94	4.71	9.42	28.27	56.55	113.10	226.15	
		SW Total		55.23	59.00	63.71	82.56	110.84	167.38	55.23	59.00	63.71	82.56	110.84	167.38	55.23	59.00	63.71	82.56	110.84	167.38	55.23	59.00	63.71	82.56	110.84	167.38	280.44	
		Outflow Total (L/s)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		Outflow Volume (m3)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Drm Cell Volume		167.10	167.10	167.10	167.10	167.10	167.10	167.10	167.10	167.10	167.10	167.10	167.10	167.10	167.10	167.10	167.10	167.10	167.10	167.10	167.10	167.10	167.10	167.10	167.10	167.10	
		Drm Cell Soak Vol		9.95	49.73	99.47	298.40	596.80	1193.60	9.95	49.73	99.47	298.40	596.80	1193.60	9.95	49.73	99.47	298.40	596.80	1193.60	9.95	49.73	99.47	298.40	596.80	1193.60	2387.21	
		Drm Cell Total Vol		177.05	216.84	266.57	465.50	763.90	1360.70	177.05	216.84	266.57	465.50	763.90	1360.70	177.05	216.84	266.57	465.50	763.90	1360.70	177.05	216.84	266.57	465.50	763.90	1360.70	2554.34	
		Swale Vol		324.00	324.00	324.00	324.00	324.00	324.00	324.00	324.00	324.00	324.00	324.00	324.00	324.00	324.00	324.00	324.00	324.00	324.00	324.00	324.00	324.00	324.00	324.00	324.00	324.00	
		Swale Soak		22.50	112.50	225.00	675.00																						

ATTACHMENT C – CONCEPT STORMWATER DESIGN



Drainage Summary Table

The on site stormwater system has been designed to contain the 1% AEP critical event and 10% AEP critical event, in accordance with Shire of Murray requirements.

Site Details

Roof Area (C=1.0): 0.915Ha
Hardstand area (C=0.9): 1.90Ha
Infiltration Rate: 5m/day
Max Groundwater Level: 1.5m AHD

Storage Volume Calculations

1% AEP, 1 Hour Duration Event
Rainfall Intensity: 41.1mm/hr
Storage Volume Required: 1,080m³
Soakage Volume: 334m³
Outflow Volume: 212m³
Storage Volume: 545m³
Total Volume Provided: 1,091m³

Storage Details

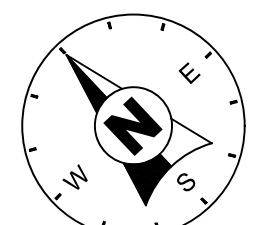
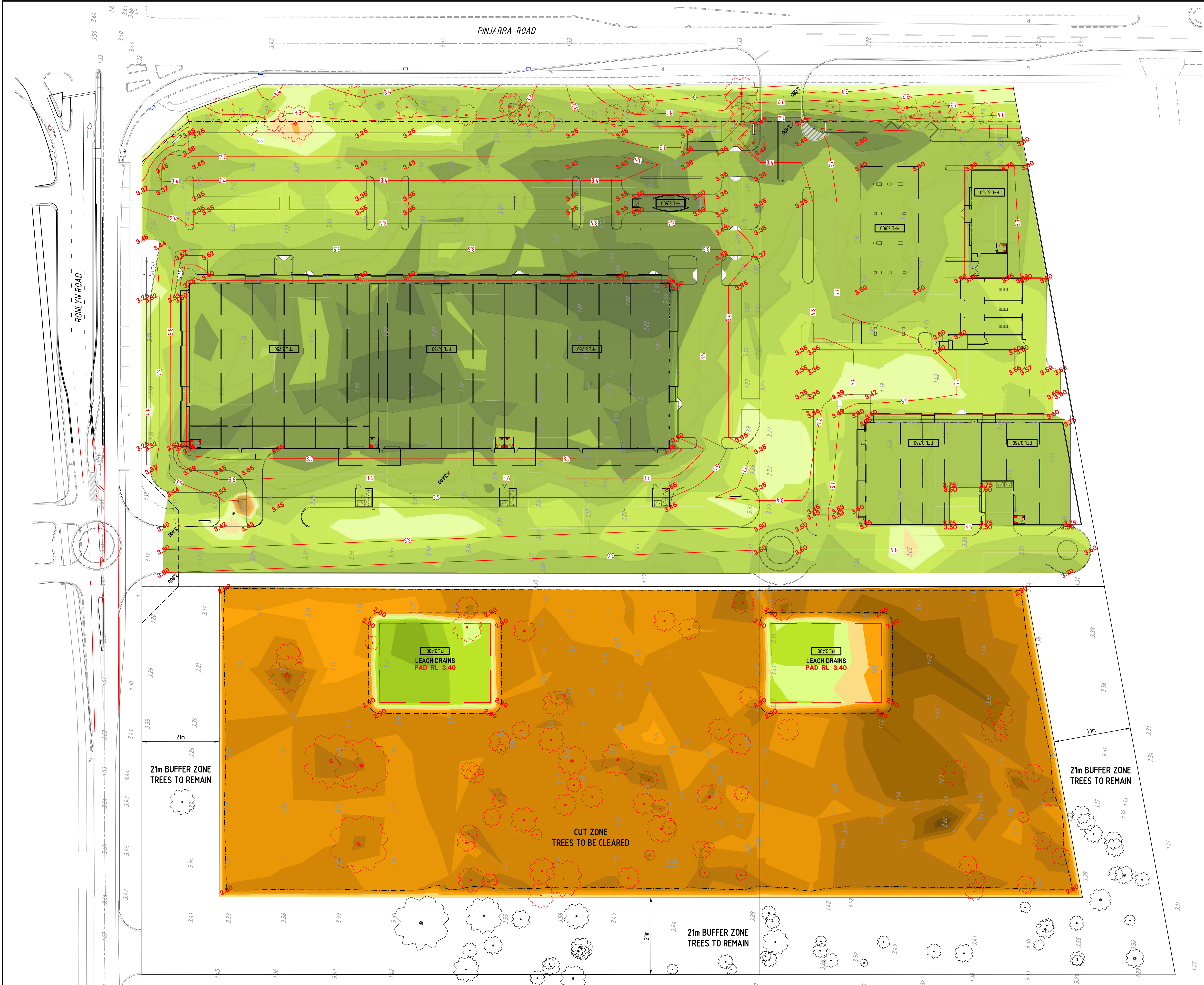
Soakwells: 40 x Ø1.2m x 1.2m depth
Graf Ecobloc Drainage Cells: 746 (No.) x 800mm (w) x 800mm (l) x 350mm (h)
Drainage Swales: 1080m² infiltration area, 324m³ volume

LEGEND

- PROPOSED DRAINAGE PIPE
- AREA OF PAVEMENT
- AREA OF BUILDING
- AREA OF LANDSCAPING
- PROPOSED GRAF ECOBLOCK CELLS
- PROPOSED SOAKWELL (Ø1.2m x 1.2m DEPTH)
- PROPOSED FINISHED PAVEMENT LEVELS
- INDICATES OVERLAND FLOW PATH
- INDICATES DRAINAGE PIPE FLOW DIRECTION



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STATUS: FOR APPROVAL		DATE: Feb-26		DESIGN: JT		DRAWN: MEG		FILE NAME: \25-10-131\ACAD\2510131-500.dwg		APPD	
DATE: 12-2-2026		SITE LAYOUT UPDATED TO ARCH REV P		SECTION A: ADDED		ISSUED FOR APPROVAL		REVISION		BY	



STAGE 1			
TOPSOIL STRIP - 100mm (REUSED IN LANDSCAPED AREAS)		-3358 m³	
DEPTH RANGE HEATMAP			
INCREMENT = 100mm			
DESIGN ABOVE EXISTING GROUND		+700	TO +99999
		+600	TO +700
		+500	TO +600
		+400	TO +500
		+300	TO +400
		+200	TO +300
		+100	TO +200
DESIGN BELOW EXISTING GROUND		0	TO +100
		0	TO -100
		-100	TO -200
		-200	TO -300
		-300	TO -400
		-400	TO -500
		-500	TO -600
	-600	TO -700	
	-700	TO -99999	
EARTHWORKS VOLUMES			
AVAILABLE CUT		-12 m³	
REQUIRED FILL		11825 m³	
BALANCE		11813 m³	
POSITIVE = DEFECIT NEGATIVE = SURPLUS			
PAVEMENT MATERIAL VOLUME (265mm THK)		5035 m³	
BUILDING SLAB VOLUME (125mm THK)		1150 m³	
BALANCE		5628 m³	

STAGE 2			
TOPSOIL STRIP - 100mm (STOCKPILED OR RESPREAD)		-1912 m³	
DEPTH RANGE HEATMAP			
INCREMENT = 100mm			
DESIGN ABOVE EXISTING GROUND		+700	TO +99999
		+600	TO +700
		+500	TO +600
		+400	TO +500
		+300	TO +400
		+200	TO +300
		+100	TO +200
		0	TO +100
		0	TO -100
		-100	TO -200
DESIGN BELOW EXISTING GROUND		-200	TO -300
		-300	TO -400
		-400	TO -500
		-500	TO -600
		-600	TO -700
		-700	TO -99999
	EARTHWORKS VOLUMES		
AVAILABLE CUT		-5967 m³	
REQUIRED FILL		205 m³	
BALANCE		-5762 m³	
POSITIVE = DEFECIT NEGATIVE = SURPLUS			

IVY BRIDGE CAPITAL

**SERVICE STATION,
GYM AND BULKY GOODS SHOWROOMS**

LOTS 154, 155, 401 (507-590)
PINJARRA ROAD, FURNISSDALE

ENVIRONMENTAL ACOUSTIC ASSESSMENT

FEBRUARY 2026

OUR REFERENCE: 35994-3-26022

DOCUMENT CONTROL PAGE

ENVIRONMENTAL ACOUSTIC ASSESSMENT

**SERVICE STATION,
GYM AND BULKY GOODS SHOWROOMS**

Job No: 26022

Document Reference: 35994-3-26022

FOR

IVY BRIDGE CAPITAL

DOCUMENT INFORMATION				
Author:	Paul Daly	Checked By:	Tim Reynolds	
Date of Issue:	12 February 2026			
REVISION HISTORY				
Revision	Description	Date	Author	Checked
1	Revised Layout Plan	23/02/2026	PLD	
2	Removal of Vacuum Bays	27/02/2026	PLD	
DOCUMENT DISTRIBUTION				
Copy No.	Version No.	Destination	Hard Copy	Electronic Copy
1	3	Ivy Bridge Capital Attn: Jorrit Muller Email: jmuller@ivybridge.com.au		✓

This report has been prepared in accordance with the scope of services and on the basis of information and documents provided to Herring Storer Acoustics by the client. To the extent that this report relies on data and measurements taken at or under the times and conditions specified within the report and any findings, conclusions or recommendations only apply to those circumstances and no greater reliance should be assumed. The client acknowledges and agrees that the reports or presentations are provided by Herring Storer Acoustics to assist the client to conduct its own independent assessment.

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APPENDICES

APPENDIX A – DEVELOPMENT PLANS

APPENDIX B – NOISE CONTOUR PLOTS

1. INTRODUCTION

Herring Storer Acoustics were commissioned by Ivy Bridge Capital to undertake an acoustic assessment of noise emissions associated with a proposed to be located on Lots 154, 155, 401 (507-590) Pinjarra Road, Furnissdale.

This report is to provide an assessment of proposed noise emissions from the Service Station and other commercial units with respect to compliance with the requirements of the *Environmental Protection (Noise) Regulations 1997*. We understand that this has been requested by council as part of obtaining development approval.

It is understood that the development is likely to consist of a service station, coffee drive thru outlet, Gym (2 off), Car wash and 3 Commercial Bulky Goods Showrooms units, therefore noise sources considered as part of this assessment include:

- Plant by way of the air conditioning, exhaust systems and refrigeration
- Car movements on site
- Car and Truck engine starts and doors closing
- Truck movements on site using the service station and the refuelling truck
- Truck mounted refrigeration units
- Carwash Facility
- Internal Gym and Commercial units' noise / usage

We note that from information received from DWER, the bitumised area would be considered as a road, thus noise relating to motor vehicles is exempt from the *Environmental Protection (Noise) Regulations 1997*. We note that these noise sources are rarely critical in the determination of compliance. However, for completeness, they have been included in the assessment, for information purposes only.

For information, a plan of the proposed development is shown in Figure 1.1, with further details contained in Appendix A.

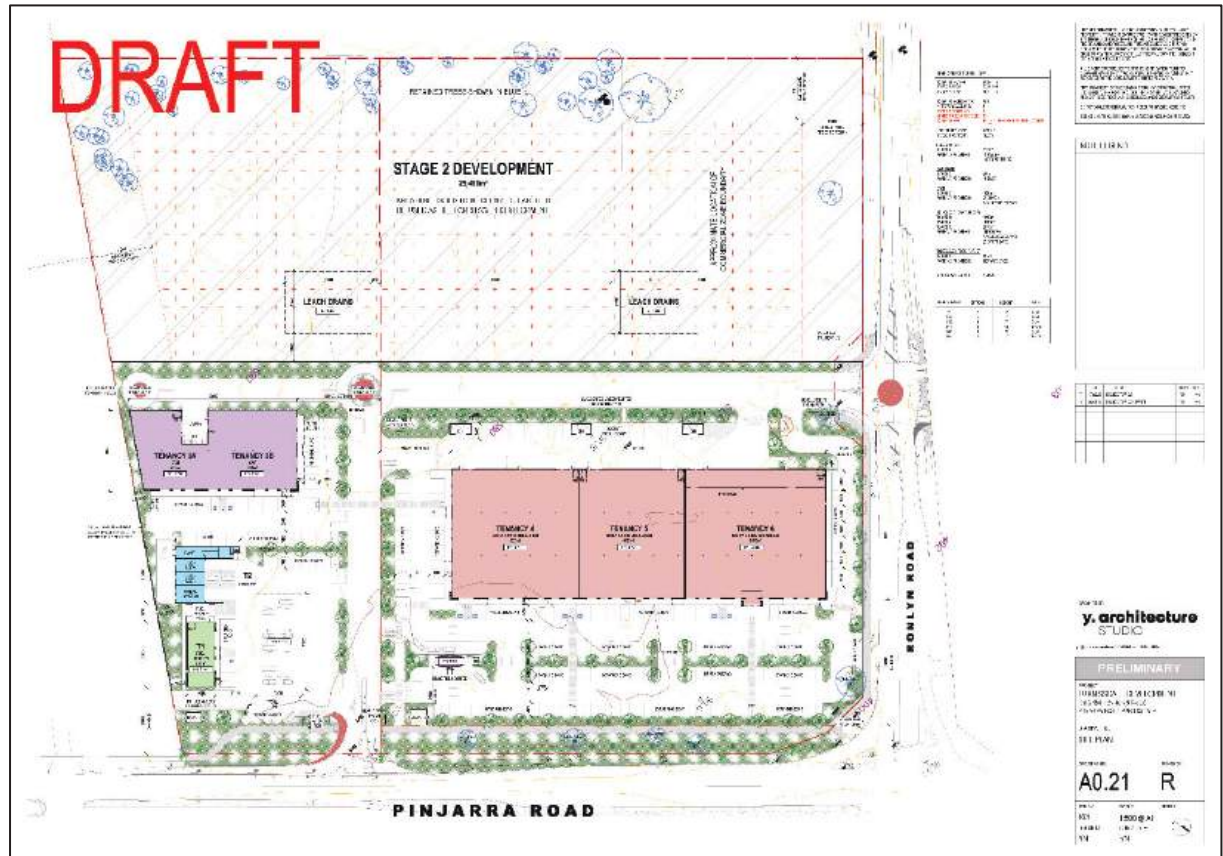


FIGURE 1.1 PROPOSED DEVELOPMENT PLAN

2. SUMMARY

The closest neighbouring residences to this development are located to the east (Peel Caravan park). As the service station and carwash would be potentially open 24 hours per day, noise received at the neighbouring noise (highly) sensitive premises from these noise sources needs to comply with the appropriate assigned noise levels for the night period.

The noise associated with car and truck movements on site would be of short term duration and compliance with the assigned L_{A1} noise levels, are required. Noise from the mechanical services would occur for more than 10% of the time, hence noise received at the neighbouring premises needs to comply with the assigned L_{A10} noise levels.

It is noted that as the development would be considered as a public place, noise emissions associated with the vehicles on site need to be considered individually.

Noise emissions from car and truck doors closing and engines starting, need to comply with the assigned L_{Amax} noise levels.

Finally, noise emissions from the car wash units have also been assessed to comply with the assigned night period noise level.

The following is noted to ensure the above compliance:

- 1 The mechanical services would be located on the roof, which would be around 5.7 metres above ground. The mechanical services would be screened from the neighbouring premises, (hence has been included in the assessment).
- 2 The refrigeration condensing units to be “Quiet” series / type condensing units.
- 3 A 2.4m Noise Wall is required on the eastern boundary (location detailed Appendix A).
- 4 The auto wash contains speed doors which are closed during the wash cycle.

Based on the design provided, noise received at the neighbouring premises from the development would be deemed to comply with the Regulatory requirements at all times with noise mitigation further outlined in this report.

3. CRITERIA

The allowable noise level at the surrounding locales is prescribed by the *Environmental Protection (Noise) Regulations 1997*. Regulations 7 & 8 stipulate maximum allowable external noise levels. For highly sensitive area of a noise sensitive premises this is determined by the calculation of an influencing factor, which is then added to the base levels shown below in Table 3.1. The influencing factor is calculated for the usage of land within two circles, having radii of 100m and 450m from the premises of concern. For other areas within a noise sensitive premises, the assigned noise levels are fixed throughout the day, as listed in Table 3.1.

TABLE 3.1 - BASELINE ASSIGNED OUTDOOR NOISE LEVEL

Premises Receiving Noise	Time of Day	Assigned Level (dB)		
		L _{A10}	L _{A1}	L _{Amax}
Noise sensitive premises: highly sensitive area	0700 - 1900 hours Monday to Saturday (Day)	45 + IF	55 + IF	65 + IF
	0900 - 1900 hours Sunday and Public Holidays (Sunday / Public Holiday Day)	40 + IF	50 + IF	65 + IF
	1900 - 2200 hours all days (Evening)	40 + IF	50 + IF	55 + IF
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holidays (Night)	35 + IF	45 + IF	55 + IF

Note: L_{A10} is the noise level exceeded for 10% of the time.
L_{A1} is the noise level exceeded for 1% of the time.
L_{Amax} is the maximum noise level.
IF is the influencing factor.

Under the Regulations, a 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 m of that building or that part of the building.
- It is a requirement that received noise be free of annoying characteristics (tonality, modulation and impulsiveness), defined below as per Regulation 9.

“impulsiveness” means a variation in the emission of a noise where the difference between L_{Apeak} and L_{Amax(Slow)} is more than 15 dB when determined for a single representative event;

“modulation” means a variation in the emission of noise that –

- (a) is more than 3 dB $L_{A\text{Fast}}$ or is more than 3 dB $L_{A\text{Fast}}$ in any one-third octave band;
- (b) is present for more at least 10% of the representative assessment period; and
- (c) is regular, cyclic and audible;

“tonality”

means 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_{ASlow} levels.

Where the noise emission is not music, if the above characteristics exist and cannot be practicably removed, then any measured level is adjusted according to Table 3.2 below.

TABLE 3.2 - ADJUSTMENTS TO MEASURED LEVELS

Where tonality is present	Where modulation is present	Where impulsiveness is present
+5 dB(A)	+5 dB(A)	+10 dB(A)

Note: These adjustments are cumulative to a maximum of 15 dB.

The closest residence adjacent to the development have been identified using Shire of Murray Intramaps. It is noted that the nearest highly sensitive premises (Peel Caravan Park) are within 100m of Pinjarra Road, which is a Major Road. Thus, the Influencing Factor has been determined, as outlined in Table 3.3, with Figure 3.1 showing the receiver location, and Figure 3.2 detailing the Shire of Murray zoning map.



FIGURE 3.1 - RESIDENTIAL LOCATIONS

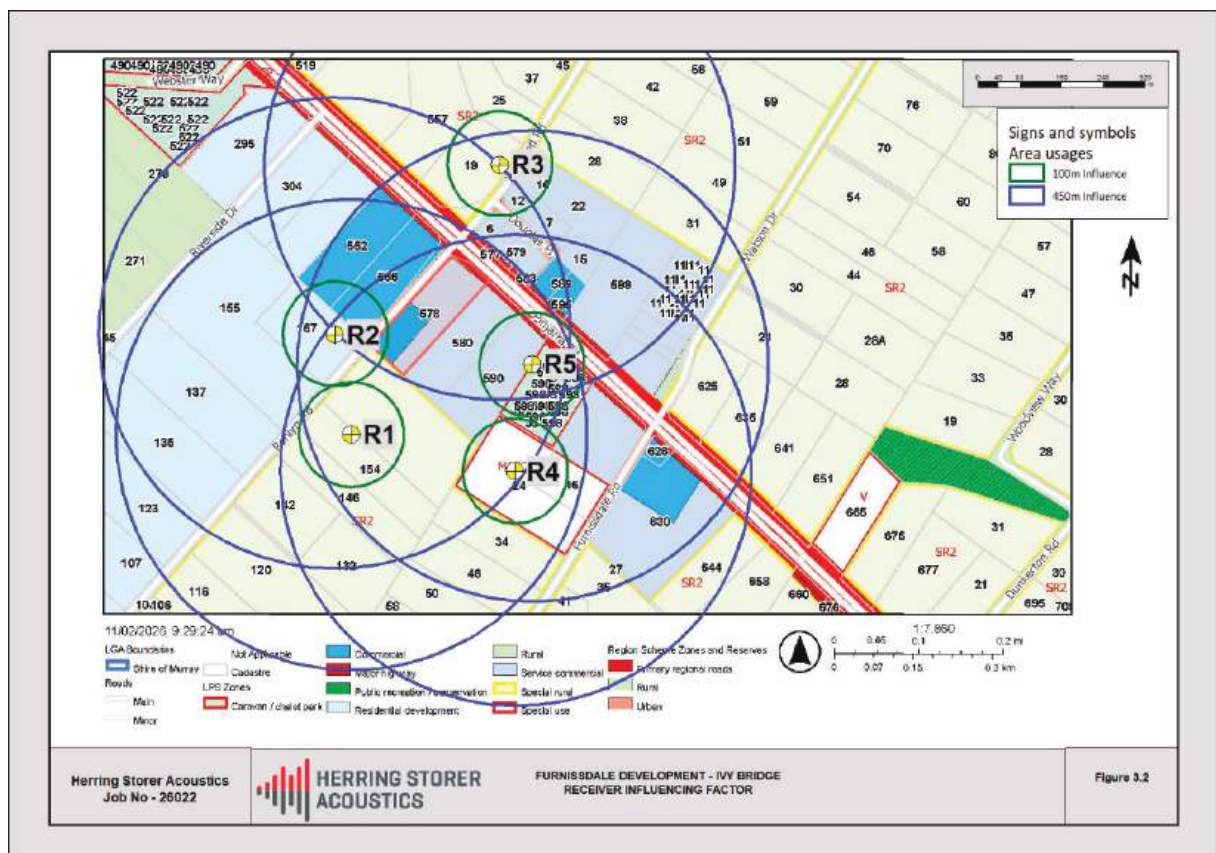


FIGURE 3.2 - RESIDENTIAL ZONING – INFLUENCING FACTOR

TABLE 3.3 – CALCULATION OF INFLUENCING FACTOR

Description	Highly Noise Sensitive Premises				
	R1	R2	R3	R4	R5
Commercial (Inner Circle)	0	80% = +4.0 dB	20% = +1.0 dB	80% = +4.0 dB	80% = +4.0 dB
Commercial (Outer Circle)	60% = +1.0 dB	60% = +3.0 dB	40% = +2.0 dB	60% = +3.0 dB	60% = +3.0 dB
Roads Major (Inner Circle)	0	0	0	0	+6
Roads Major (Outer Circle)	+ 2 dB	+ 2 dB	+ 2 dB	+ 2 dB	0
TOTAL	3 dB	9 dB	5 dB	9 dB	13 dB

The Assigned Noise Levels at the closest neighbouring residences would be as listed in Tables 3.4.

TABLE 3.4 - ASSIGNED OUTDOOR NOISE LEVEL

Premises Receiving Noise	Time of Day	Assigned Level (dB)		
		L _{A10}	L _{A1}	L _{Amax}
R1 (+3)	0700 - 1900 hours Monday to Saturday (Day)	48	58	68
	0900 - 1900 hours Sunday and Public Holidays (Sunday / Public Holiday Day)	43	53	68
	1900 - 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
R2 (+9)	0700 - 1900 hours Monday to Saturday (Day)	54	64	74
	0900 - 1900 hours Sunday and Public Holidays (Sunday / Public Holiday Day)	49	59	74
	1900 - 2200 hours all days (Evening)	49	59	64
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holidays (Night)	44	54	64
R3 (+5)	0700 - 1900 hours Monday to Saturday (Day)	50	60	70
	0900 - 1900 hours Sunday and Public Holidays (Sunday / Public Holiday Day)	45	55	70
	1900 - 2200 hours all days (Evening)	45	55	60
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holidays (Night)	40	50	60
R4 (+9)	0700 - 1900 hours Monday to Saturday (Day)	54	64	74
	0900 - 1900 hours Sunday and Public Holidays (Sunday / Public Holiday Day)	49	59	74
	1900 - 2200 hours all days (Evening)	49	59	64
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holidays (Night)	44	54	64
R5 (+13)	0700 - 1900 hours Monday to Saturday (Day)	58	68	78
	0900 - 1900 hours Sunday and Public Holidays (Sunday / Public Holiday Day)	53	63	78
	1900 - 2200 hours all days (Evening)	53	63	68
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holidays (Night)	48	58	68
Commercial Premise	All Hours	60	70	80

Note: L_{A10} is the noise level exceeded for 10% of the time.
L_{A1} is the noise level exceeded for 1% of the time.
L_{Amax} is the maximum noise level.

Additional to the above, with regards to vehicles accessing the site, we note that as anyone can access the site and the operators of the premises have no control on who can enter the car park these areas would be designated as public places. Regulation 6 of the *Environmental Protection (Noise) Regulations 1997* relates to noise emissions from public places and under this Regulation, "*the person who is causing or permitting that noise to be emitted is to be treated as the occupier...*". Therefore, noise emissions from each individual vehicle using the car park needs to comply with the assigned noise levels.

4. DEVELOPMENT

For this commercial development it has been assumed operations could be 7 days a week, hence noise emissions have been assumed to be present prior to 0900 on a Sunday or public holiday, being the most stringent assessment criteria.

5. MODELLING

Modelling of the noise propagation from the proposed development was carried out using an environmental noise modelling computer program, "SoundPlan". Calculations were carried out using the EPA standard weather conditions as stated in the Environmental Protection Authority's "*Draft Guidance for Assessment of Environmental Factors No.8 - Environmental Noise*".

Noise emissions from the development include:

- Plant by way of the air conditioning, exhaust systems and refrigeration
- Car movements on site
- Car and Truck engine starts and doors closing
- Truck movements on site using the service station and the refuelling truck
- Truck mounted refrigeration units
- Carwash Facility
- Internal Gym and Commercial units' noise / usage.

To determine the noise received at the neighbouring premises, noise modelling was undertaken for the following scenarios:

- 1 Plant; air conditioning, exhaust systems, refrigeration plant (including truck mounted refrigeration units).
- 2 Car movements on site.
- 3 Cars starting and doors closing.
- 4 Truck movements on site, including the refuelling tanker.
- 5 Trucks starting and doors closing.

With regards to noise emissions, the following are noted:

- 1 Preliminary assessment showed a noise wall would be required between the interface of the development and the eastern boundary (Peel Caravan Park). This has been included in the predictive noise model at a height of 2.4m. The wall has been assumed to be a minimum surface density of 15kg/m^2 and located as per the plans in Appendix A.
- 2 For the modelling of cars, the noise sources (i.e. cars) were located not only at the petrol bowzers, parking bays, but also at the entry crossover point to the development. Thus, ensuring noise modelling was undertaken for the worst-case locations.
- 3 The trucks have been located at the petrol bowzers, entry and exit routes and at the crossovers. Additionally, the truck mounted refrigeration unit has been located at the truck bowser area. Thus, ensuring noise modelling was undertaken for the worst-case locations.
- 4 Noise associated with the mechanical services does not take into account any diversity of operation. Such diversity would occur during the night period. Thus, this is a conservative assessment. At this stage of the project, the mechanical service has not been design. Therefore, the noise sources have been based on designs used for the same or similar tenancies.
- 5 The mechanical services would be located on the roof, which would be around 5.7 metres above ground. The mechanical services would be screened from the neighbouring premises, hence has been included in the assessment.
- 6 The refrigeration condensing units to be "Quiet" series / type condensing units.
- 7 The Car Wash plant room is constructed of concrete or similar and breakout noise is proposed to meet the EP(N)R 1997.
- 8 The auto wash contains speed doors which are closed during the wash cycle.
- 9 Gym operations are to be contained within the building with no breakout of noise, such as music. Hence a "doors closed" operation has been considered.

Based on previous experience and the measured noise levels from existing facilities with the same operations, Table 5.1 to 5.3 contains the sound power level used for the modelling. As the buildings are assumed to attenuate the noise levels due to the structure (concrete walls etc.) for internal noise emissions, the focus of the noise egress has been on the open roller doors at each location (loading operations). The commercial units have only single doors; hence a noise source has been situated at each unit for loading. Figure 5.1 to 5.3 detail the noise source locations.

TABLE 5.1 – GENERAL SOUND POWER LEVELS

Item of Equipment	Sound Power Level, (dB(A))
Cars moving	79
Truck moving	89
Car Start	85
Car Door	87
Truck Start	94
Truck Door	95
Truck Mounted Refrigeration Unit	86

TABLE 5.2 – MECHANICAL SERVICES NOISE LEVELS

Tenancy	Plant Item	Noise Level dB(A)
Petrol Station / Convenience Store	Air Conditioning Condensing Units	2 at 52 dB(A) @ 1m
	Refrigeration Condenser	1 at 61 dB(A) @ 1m
Drive Trough (Coffee / Food Outlet)	Air Conditioning Condensing Units	2 at 57 dB(A) @ 1m
	Exhaust Fan	1 at 60 dB(A) @ 1m
Other Tenancies (Bulk Goods)	Air Conditioning Condensing Units	4 at 57 dB(A) @ 1m (each Tenancy)

TABLE 5.3 – GYM UNITS INTERNAL SOUND POWER LEVELS

Tenancy	Quantity	Sound Power Level dB(A)
Music	Per tenancy	95 @1m from speaker
Instructor Amplified Voice	Per tenancy	95 @1m from speaker
Auto wash (Doors Closed)	2	87

The above noise sources need to comply with the following assigned noise levels:

- L_{A10} - Mechanical services, Car wash and truck mounted refrigeration unit.
- L_{A1} - Car and truck movements.
- L_{AMax} - Car and truck engine starts and doors closing.

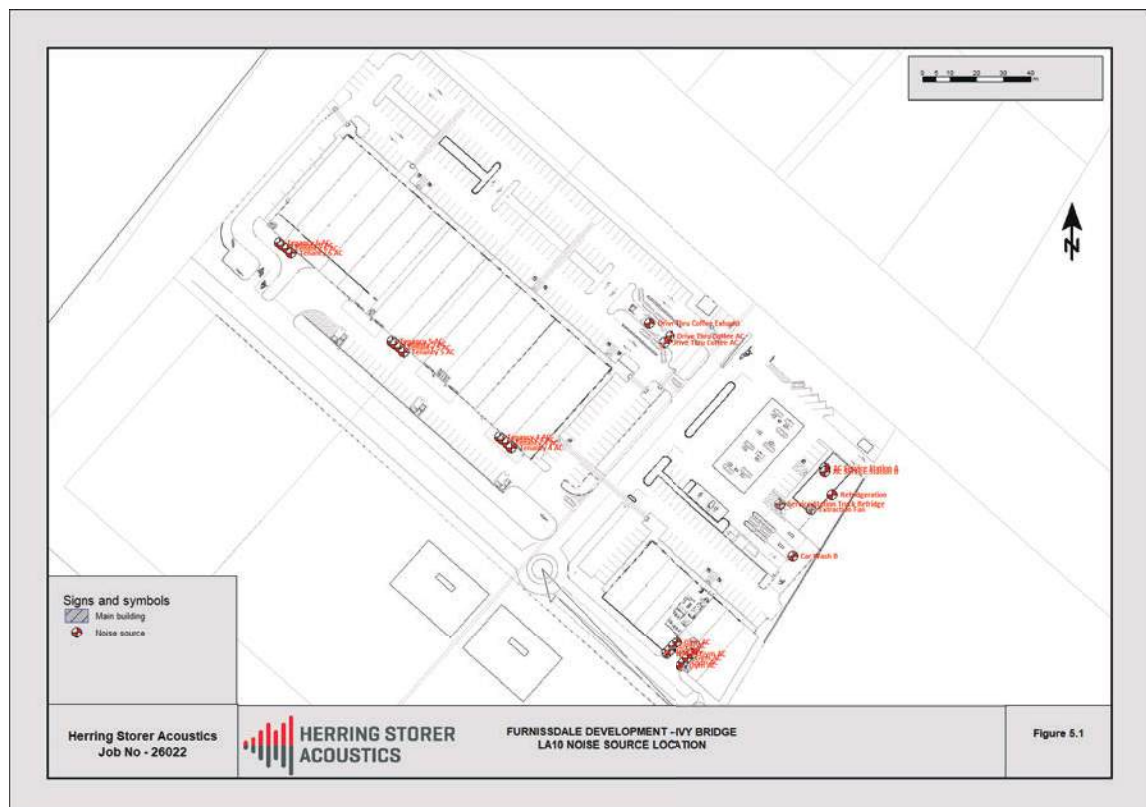


FIGURE 5.1 – L_{A10} NOISE SOURCE LOCATIONS

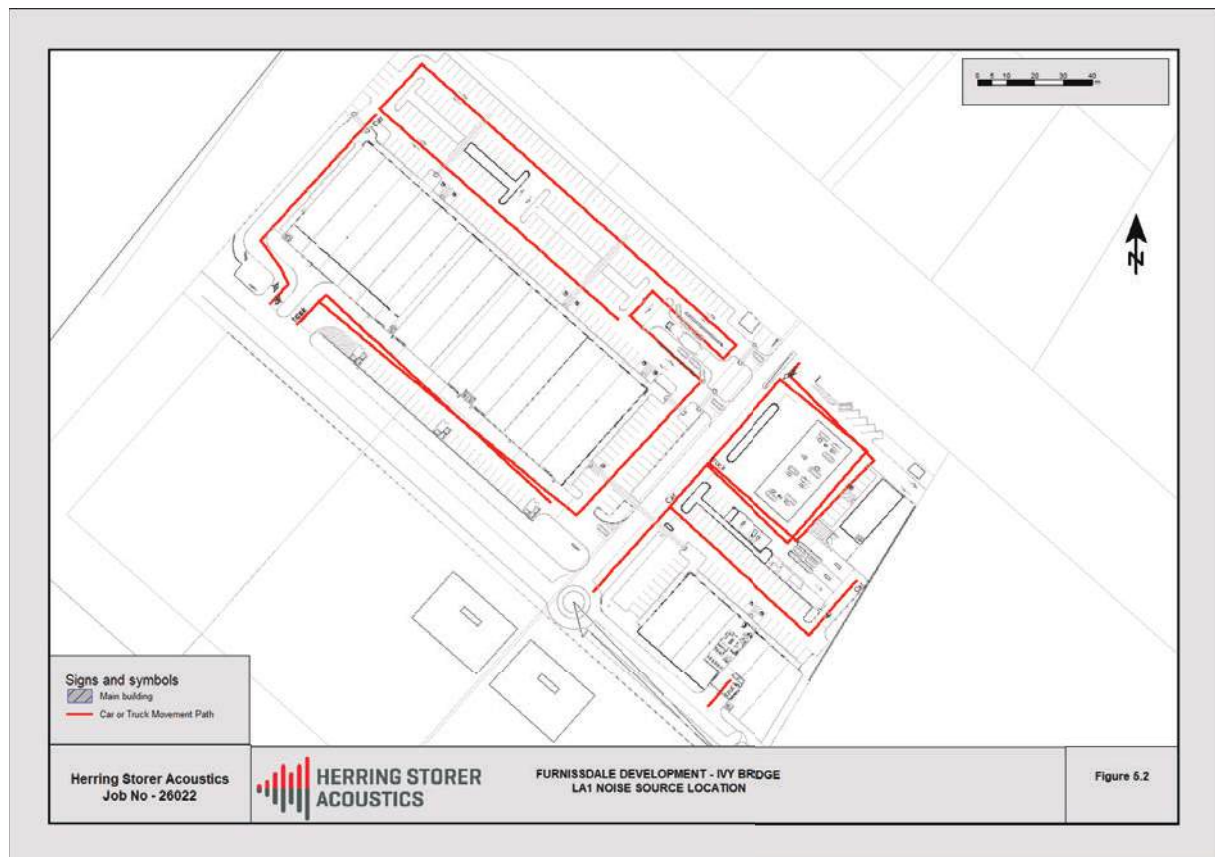


FIGURE 5.2 – L_{A1} NOISE SOURCE LOCATIONS

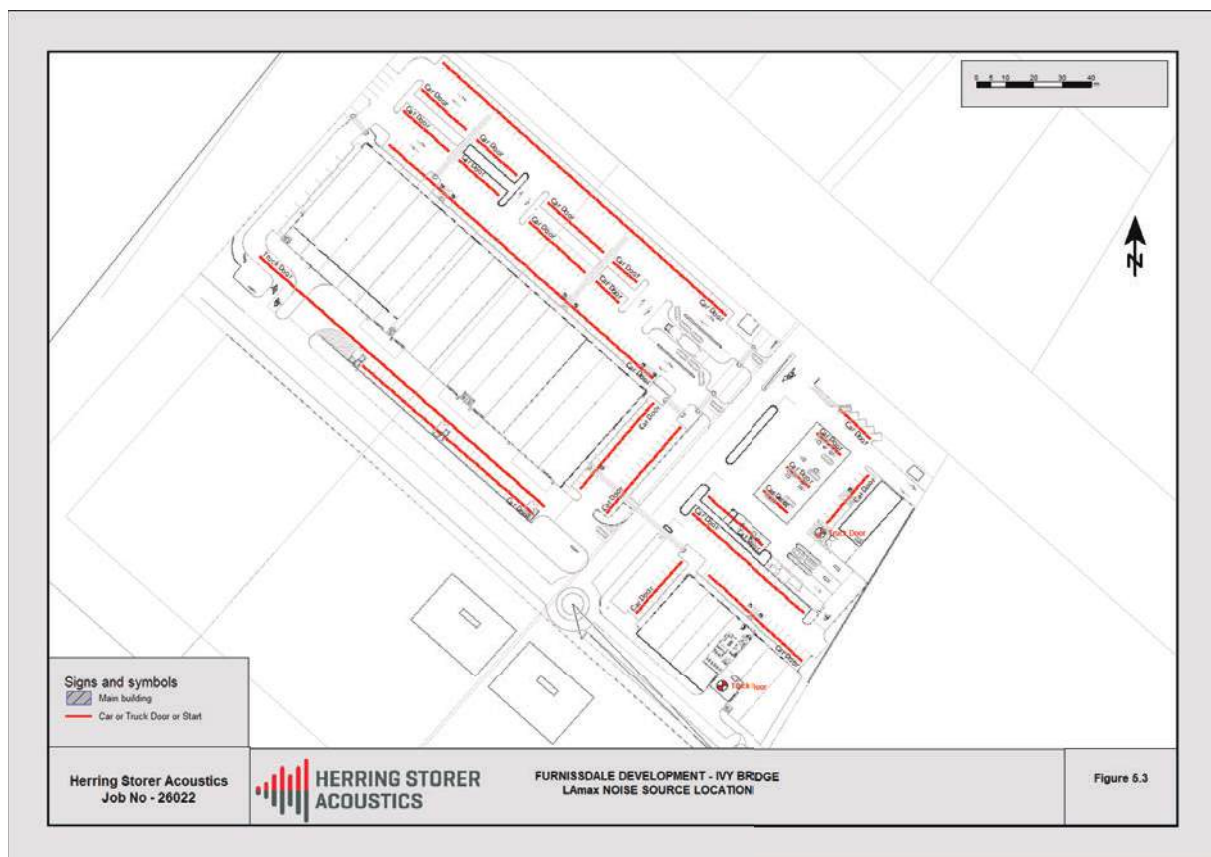


FIGURE 5.3 – L_{Amax} NOISE SOURCE LOCATIONS

6. RESULTS

Calculations were undertaken to all the premises located around the development. The resultant noise levels listed in Table 6.1 for the residential locations for the worst-case operating conditions.

TABLE 6.1 – WORST CASE CALCULATED NOISE LEVELS

Item	Calculated Noise Levels (dB(A))				
	Residence 1	Residence 2	Residence 3	Residence 4	Residence 5
Mechanical services (including truck mounted refrigeration unit) + Carwash	17	29	28	16	46
Cars (Movement)	15	27	23	17	38
Trucks (Movement)	16	28	24	18	39
Car Start	14	26	22	16	32
Car Door Slam	17	29	25	19	35
Truck Start	21	33	29	23	39
Truck Door Slam	22	34	30	24	40

7. ASSESSMENT

Given the above possible noise sources, we believe that assessments of the following scenarios are required.

7.1 L_{A10} NOISE EMISSIONS

Noise emissions from the mechanical services and car wash would be steady state and would operate for the majority of time. Hence noise received from these items need to comply with the assigned L_{A10} noise level.

As noise emissions from the refrigeration condensers could be considered tonal however in isolation from other sources, i.e., without the car wash facility, they would be greater than 10 dB below the assigned noise level due to screening, hence unlikely to be audible above background. For the car wash, which is the dominant noise source, previous noise level measurements show that it is a broadband noise and does not contain tonal characteristics.

Tables 7.1 to 7.3 summarises the applicable Assigned Noise Levels, and assessable noise level emissions for each identified case that needed to be considered.

**TABLE 7.1 – ASSESSMENT OF L_{A10} NOISE LEVEL EMISSIONS
MECHANICAL SERVICES AND CAR WASH**

Location	Assessable Noise Level, dB(A)	Applicable Times of Day	Applicable Assigned L_{A10} Noise Level (dB)	Exceedance to Assigned Noise Level (dB)
Residence 1	17	0700 - 1900 hours Monday to Saturday	48	Complies
		0900 - 1900 hours Sunday and Public Holidays, and 1900 - 2200 hours all days	43	Complies
		2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holidays	38	Complies
Residence 2	29	0700 - 1900 hours Monday to Saturday	54	Complies
		0900 - 1900 hours Sunday and Public Holidays, and 1900 - 2200 hours all days	49	Complies
		2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holidays	44	+1
Residence 3	28	0700 - 1900 hours Monday to Saturday	50	Complies
		0900 - 1900 hours Sunday and Public Holidays, and 1900 - 2200 hours all days	45	Complies
		2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holidays	40	+1
Residence 4	16	0700 - 1900 hours Monday to Saturday	48	Complies
		0900 - 1900 hours Sunday and Public Holidays, and 1900 - 2200 hours all days	43	Complies
		2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holidays	38	Complies
Residence 5	46	0700 - 1900 hours Monday to Saturday	58	Complies
		0900 - 1900 hours Sunday and Public Holidays, and 1900 - 2200 hours all days	53	Complies
		2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holidays	48	Complies

7.2 L_{A1} NOISE EMISSIONS

Noise emissions from car and truck movements on site need to comply with the assigned L_{A1} noise level. As the critical period for compliance for this source is the night period, this scenario includes noise emissions from the sources associated with L_{A1} noise levels. However, as under the Regulations, each of these sources needs to be considered individually, it is the highest calculated noise levels used for assessment, rather than the cumulative overall noise levels.

Based on the definitions of tonality, noise emissions from car and truck movements, being an L_{A1} , being present for less than 10% of the time, would not be considered tonal. Thus, no penalties would be applicable.

Tables 7.2 to 7.3 summarise the applicable Assigned Noise Levels for the most stringent time period i.e. night, and assessable noise level emissions for each identified noise.

TABLE 7.2 – ASSESSMENT OF L_{A1} NOISE LEVEL EMISSIONS FROM CARS

Location	Assessable Noise Level, dB(A)	Applicable Times of Day	Applicable Assigned L _{A1} Noise Level (dB)	Exceedance to Assigned Noise Level (dB)
Residence 1	15	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holiday	48	Complies
Residence 2	27		54	Complies
Residence 3	23		50	Complies
Residence 4	17		54	Complies
Residence 5	38		58	Complies

TABLE 7.3 – ASSESSMENT OF L_{A1} NOISE LEVEL EMISSIONS FROM TRUCKS

Location	Assessable Noise Level, dB(A)	Applicable Times of Day	Applicable Assigned L _{A1} Noise Level (dB)	Exceedance to Assigned Noise Level (dB)
Residence 1	16	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holiday	48	Complies
Residence 2	28		54	Complies
Residence 3	24		50	Complies
Residence 4	18		54	Complies
Residence 5	39		58	Complies

7.3 L_{AMAX} NOISE EMISSIONS

Noise emissions from car and truck engine starts and doors closing on site need to comply with the assigned L_{AMax} noise level. As the critical period for compliance for this source is the night period, this scenario includes noise emissions from the sources associated with L_{AMax} noise levels. However, as under the Regulations, each of these sources needs to be considered individually, it is the highest calculated noise levels used for assessment, rather than the cumulative overall noise levels.

Based on the definitions of tonality, noise emissions from a car and truck starting, being an L_{AMax}, being present for less than 10% of the time, would not be considered tonal. Thus, no adjustments would be applicable, and the assessment would be as listed in Table 5.1. However, noise associated with the closing of car and truck doors could be impulsive and to be conservative, a +10 dB(A) adjustment for impulsiveness would be applied. Additionally, car and truck starts could be impulsive, hence a + 10 dB adjustment has also been applied to these levels.

Tables 7.4 to 7.7 summarise the applicable Assigned Noise Levels, and assessable noise level emissions for each identified noise.

TABLE 7.4 – ASSESSMENT OF L_{AMAX} NOISE LEVEL EMISSIONS FROM CAR STARTS

Location	Assessable Noise Level, dB(A)	Applicable Times of Day	Applicable Assigned L _{AMax} Noise Level (dB)	Exceedance to Assigned Noise Level (dB)
Residence 1	24	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holiday	58	Complies
Residence 2	36		64	Complies
Residence 3	32		60	Complies
Residence 4	26		64	Complies
Residence 5	42		68	

TABLE 7.5 – ASSESSMENT OF L_{AMAX} NOISE LEVEL EMISSIONS FROM CAR DOORS

Location	Assessable Noise Level, dB(A)	Applicable Times of Day	Applicable Assigned L _{AMax} Noise Level (dB)	Exceedance to Assigned Noise Level (dB)
Residence 1	27	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holiday	58	Complies
Residence 2	39		64	Complies
Residence 3	35		60	Complies
Residence 4	29		64	Complies
Residence 5	45		68	

TABLE 7.6 – ASSESSMENT OF L_{AMAX} NOISE LEVEL EMISSIONS FROM TRUCK STARTS

Location	Assessable Noise Level, dB(A)	Applicable Times of Day	Applicable Assigned L _{AMax} Noise Level (dB)	Exceedance to Assigned Noise Level (dB)
Residence 1	31	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holiday	58	Complies
Residence 2	43		64	Complies
Residence 3	39		60	Complies
Residence 4	33		64	Complies
Residence 5	49		68	

TABLE 7.7 – ASSESSMENT OF L_{AMAX} NOISE LEVEL EMISSIONS FROM TRUCK DOORS

Location	Assessable Noise Level, dB(A)	Applicable Times of Day	Applicable Assigned L _{AMax} Noise Level (dB)	Exceedance to Assigned Noise Level (dB)
Residence 1	32	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holiday	58	Complies
Residence 2	44		64	Complies
Residence 3	40		60	Complies
Residence 4	34		64	Complies
Residence 5	50		68	

From the above assessments, it can be seen that noise received at the neighbouring residence, complies with the requirements of the *Environmental Protection (Noise) Regulations 1997* at all times.

It is noted that the 2.4m wall at the interface to the east is critical in maintaining compliance for the carwash operations.

Additionally, as the mechanical services would only be design as part of the next design phase, it is recommended that an acoustic review of the mechanical services be undertaken once the design has been finalised, to ensure compliance is achieved.

8. CONCLUSION

The closest neighbouring residences to this development are located to the east (Peel Caravan park). As the service station and carwash would be potentially open 24 hours per day, noise received at the neighbouring noise (highly) sensitive premises from these noise sources needs to comply with the appropriate assigned noise levels for the night period.

The noise associated with car and truck movements on site would be of short term duration and compliance with the assigned L_{A1} noise levels, are required. Noise from the mechanical services would occur for more than 10% of the time, hence noise received at the neighbouring premises needs to comply with the assigned L_{A10} noise levels.

It is noted that as the development would be considered as a public place, noise emissions associated with the vehicles on site need to be considered individually.

Noise emissions from car and truck doors closing and engines starting, need to comply with the assigned L_{Amax} noise levels.

Finally, noise emissions from the car wash units have also been assessed to comply with the assigned night period noise level.

The following is noted to ensure the above compliance:

- 1 The mechanical services would be located on the roof, which would be around 5.7 metres above ground. The mechanical services would be screened from the neighbouring premises, (hence has been included in the assessment).
- 2 The refrigeration condensing units to be "Quiet" series / type condensing units.
- 3 A 2.4m Noise Wall is required on the eastern boundary (location detailed Appendix A).
- 4 The auto wash contains speed doors which are closed during the wash cycle.

Based on the design provided, noise received at the neighbouring premises from the development would be deemed to comply with the Regulatory requirements at all times with noise mitigation further outlined in this report.

APPENDIX A

PLAN

DRAFT

STAGE 2 DEVELOPMENT

29,498m²

AREA HIGHLIGHTED TO BE CLEARED - EARTH TO
BE USED AS FILL FOR STAGE 1 DEVELOPMENT

APPROXIMATE LOCATION OF
COMMERCIAL ZONE BOUNDARY

LEACH DRAINS

LEACH DRAINS

TENANG
018
10000
11.1435

8150-BC

TENANCY 4
H. B. F. OGDON SHERRILL
1989-90

TENANCY

TENANCY

BROOKLYN ROAD

PINJARRA ROAD

[illegible]

10-11 READERS	11-12	13-17	TOTAL
80	7	10	97
121	8	7	136
175	5	7	187
110	8	10	128
147	8	8	163
155	5	7	167

THE STRONGMAN BALL PERFORMANCE is THE ULTIMATE PROOF OF A MAN'S ABILITY TO ENDURE EXTREME PHYSICAL AND MENTAL STRESS. THE STRONGMAN BALL PERFORMANCE IS THE ULTIMATE PROOF OF A MAN'S ABILITY TO ENDURE EXTREME PHYSICAL AND MENTAL STRESS. THE STRONGMAN BALL PERFORMANCE IS THE ULTIMATE PROOF OF A MAN'S ABILITY TO ENDURE EXTREME PHYSICAL AND MENTAL STRESS.

NOTE LEGEND

[illegible]

ARCHITECT

y. architecture
STUDIO

shafiq-rahman@uic.edu | 312.996.3233 / 312.996.4242

PRELIMINARY

PROJECT:
FURNISSDALE DEVELOPMENT
LOTS 154-185, 401-507-693
PINJARRA ROAD, FURNISSDALE

SITE PLAN

05450000

NOTES

A0.21

R

Job No.

SCALE

NORTH

163

1:500 @ A1

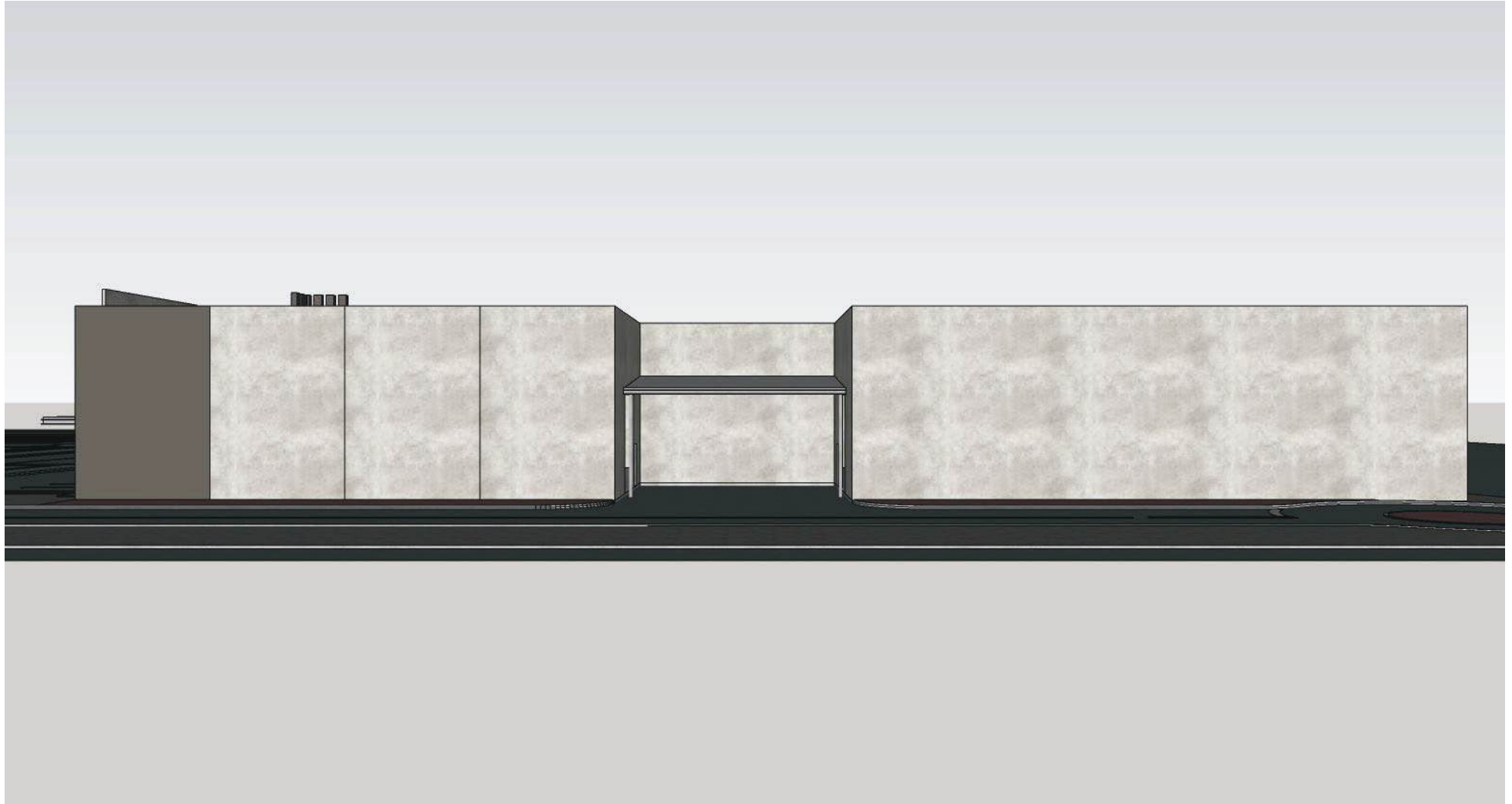
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1994 Jan 31.

CHECKED BY _____

1









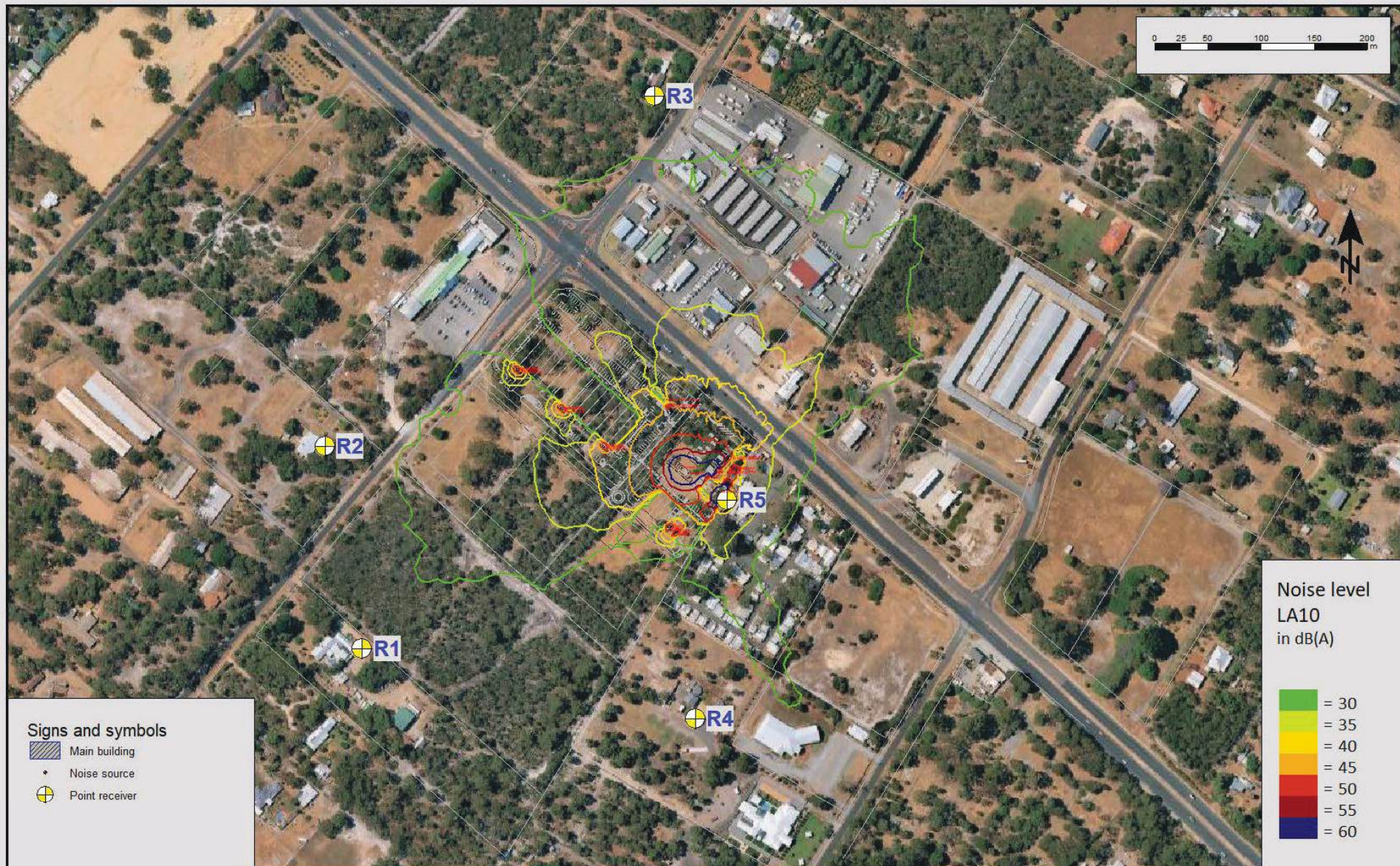






APPENDIX B

NOISE CONTOUR PLOT

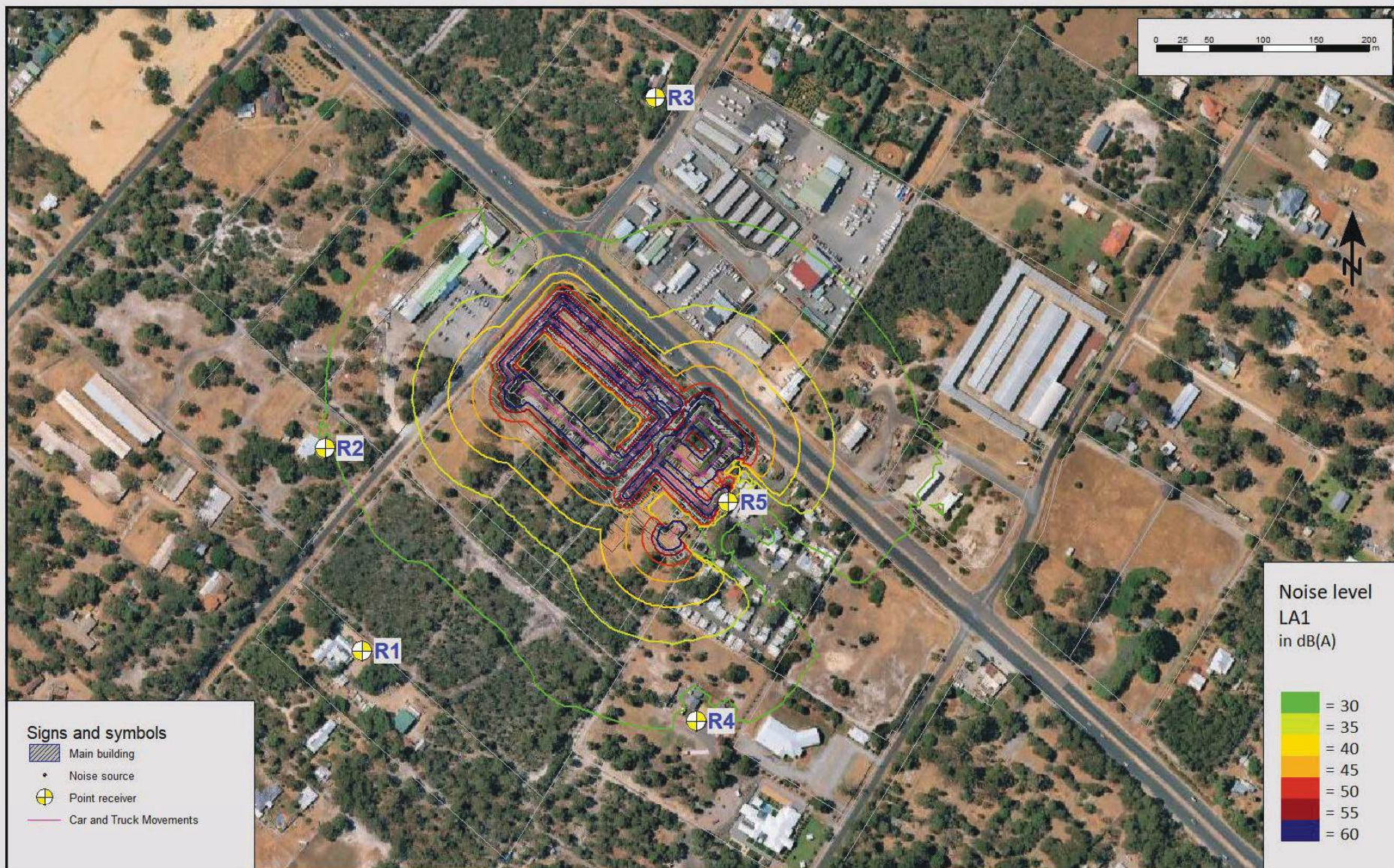


Herring Storer Acoustics
Job No - 26022



FURNISSDALE DEVELOPMENT - IVY BRIDGE
LA10 NOISE CONTOUR PLOT

Figure B1
Ref# 005

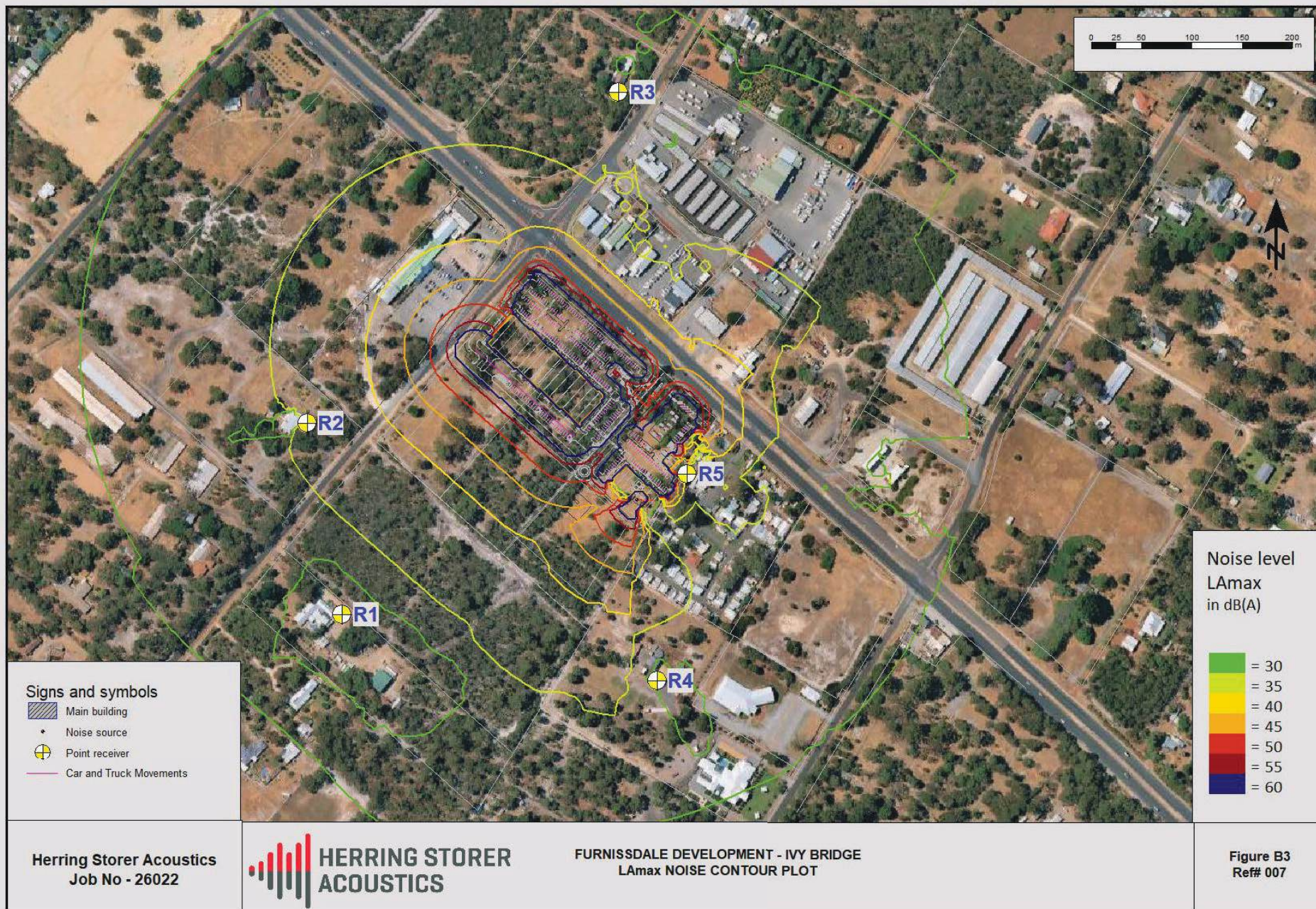


Herring Storer Acoustics
Job No - 26022



FURNISSDALE DEVELOPMENT - IVY BRIDGE
LA1 NOISE CONTOUR PLOT

Figure B2
Ref# 006





**Bushfire Management Plan
Proposed Mixed Commercial
Units – Stage 1**

**Lot 401.155.154 No. 578-590
Pinjarra Road Furnissdale 6209**

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Executive Summary

Bushfires present a significant risk to people, property and the environment. Each year, thousands of bushfires destroy or damage houses, sheds and garages, commercial and industrial buildings, vehicles and vast hectares of bushland across Western Australia. People have also been killed or seriously injured during bushfires. Therefore, reducing the likelihood and impact of bushfires is crucial for maintaining safer communities, mitigating the potential loss of life, property and infrastructure and the associated financial and emotional impact.

This Bushfire Management Plan has been commissioned by client to detail the bushfire management methods and requirements that will need to be implemented for the development Lot 401.155.154 No. 578-590 Pinjarra Road Furnissdale 6209 (The Site). The proposed development includes the construction of a proposed new mixed commercial units on the subject site. The Bushfire Management Plan has been prepared in accordance with the bushfire protection criteria and acceptable solutions as outlined in Guidelines for Planning in Bushfire Prone Areas (November 2024). The major recommendations made within the plan include the construction of the new mixed commercial units to BAL-29 in accordance with AS3959 and the implementation of applicable bushfire protection measures, to satisfy the requirements of State Planning Policy 3.7 Planning in Bushfire Prone Areas (WAPC 2015).

Approved by:



John Greenwood
MSc(Curtin) BAppSc (Building Surveying) MAIBS, MAIB

Document Control

Report Version	Purpose	Issue Date	Report Author
Rev 1	Bushfire Management Plan (BMP) for simple development application	17/01/2026	John Greenwood BPAD Level 2

Disclaimer: The measures contained in this bushfire management plan are considered to be minimum standards and they do not guarantee that a building will not be damaged in a bushfire. All surveys, forecasts, projections and recommendations made in this report associated with the project are made in good faith on the basis of information available to WABAL at the time; and achievement of the level of implementation of fire precautions will depend among other things on the actions of the landowners or occupiers over which WABAL has no control. Notwithstanding anything contained therein, WABAL will not, except as the law may require, be liable for any loss or other consequences (whether or not due to the negligence of the consultants, their servants or agents) arising out of the services rendered by the consultants.

Any recommendations made within this Plan relating to the clearing or modification of vegetation to meet setback requirements does not constitute approval or authority to modify or remove vegetation. All such approvals must be undertaken in consultation with the relevant authorities (where applicable).

1.0 Proposal Details

The proposed development consists of the construction of new proposed new mixed commercial units as shown in Figure 1 below. For the purpose of this assessment, it is assumed that the new mixed commercial units use will comply with the City's local planning scheme.

The application of State Planning Policy 3.7 is triggered by the site being located within an area that is designated as being prone to bushfires as per Figure 2 below. The proposal consists of a development application where a Bushfire Attack Level (BAL) rating of BAL-29 (including the proposed Asset Protection Zone in accordance with Schedule 1 of the Guidelines for Planning in Bushfire Prone Areas) applies for the proposed new mixed commercial units.

Figure 1: Proposed Site Plan

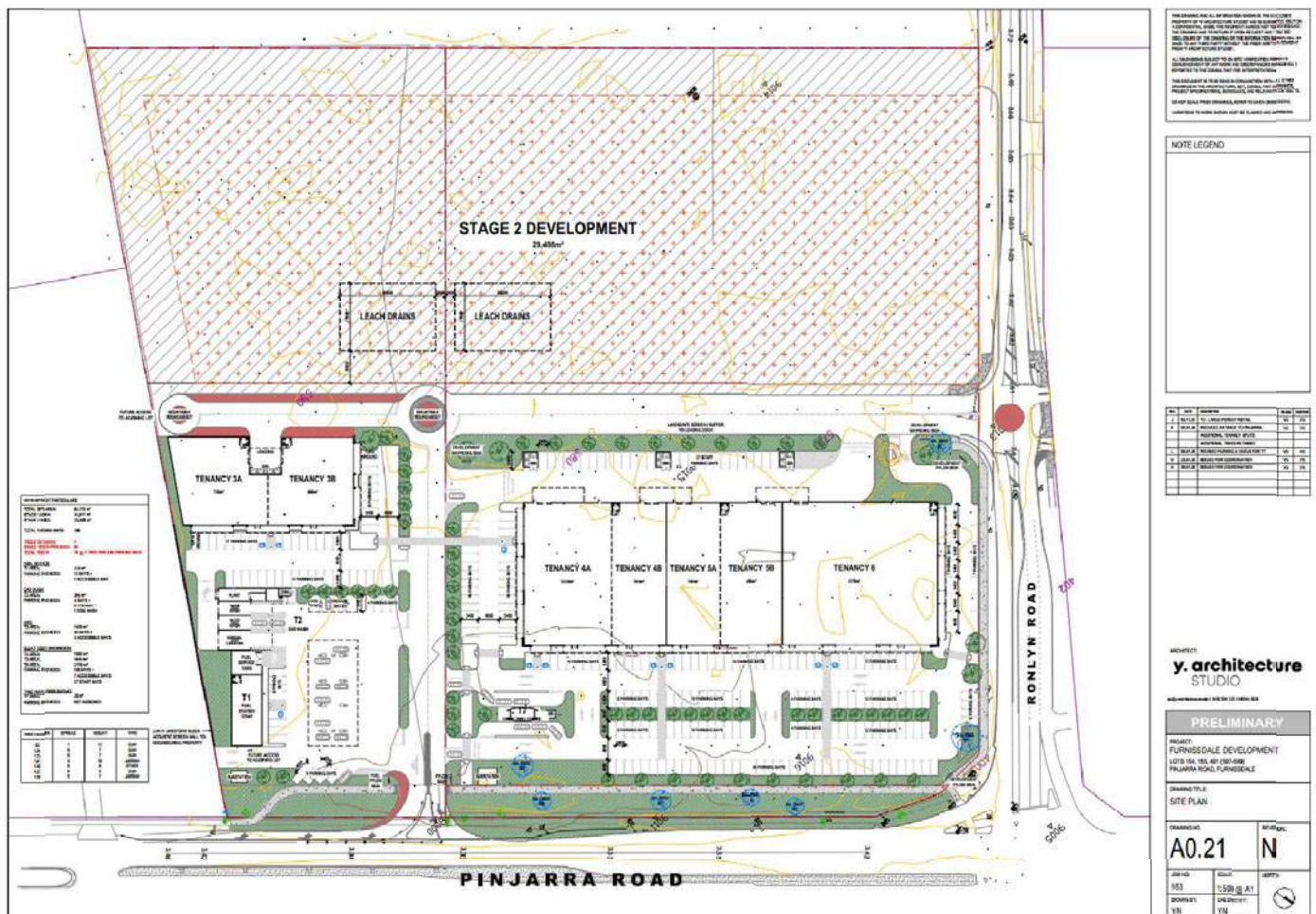
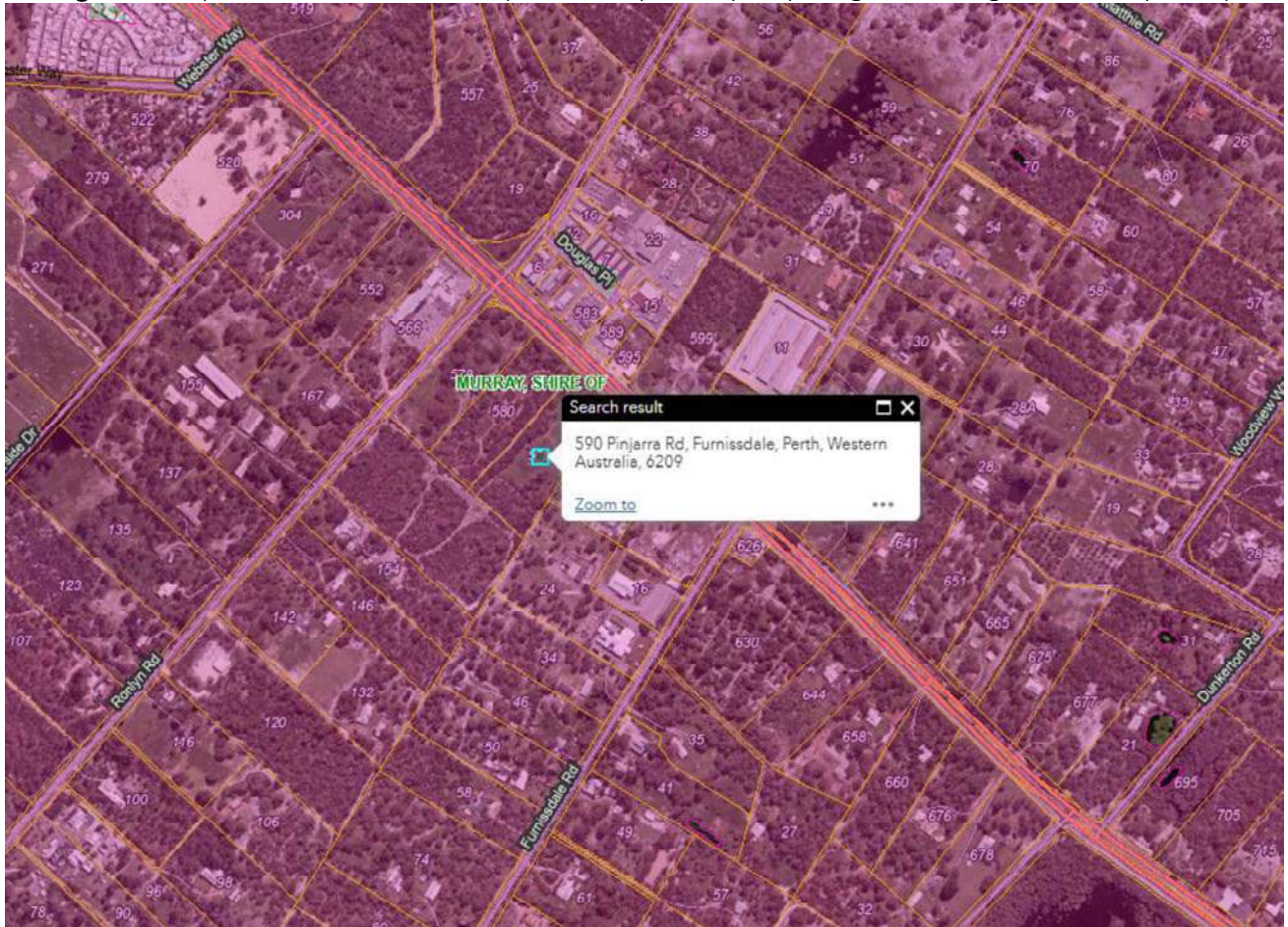


Figure 2: Map of Bushfire Prone Areas (Source: <https://maps.slip.wa.gov.au/landgate/bushfireprone/>)



2.0 Environmental Considerations

Some bushfire prone areas also have high biodiversity values. SPP 3.7 policy objective recognises the need to consider bushfire risk management measures alongside environmental, biodiversity and conservation values.

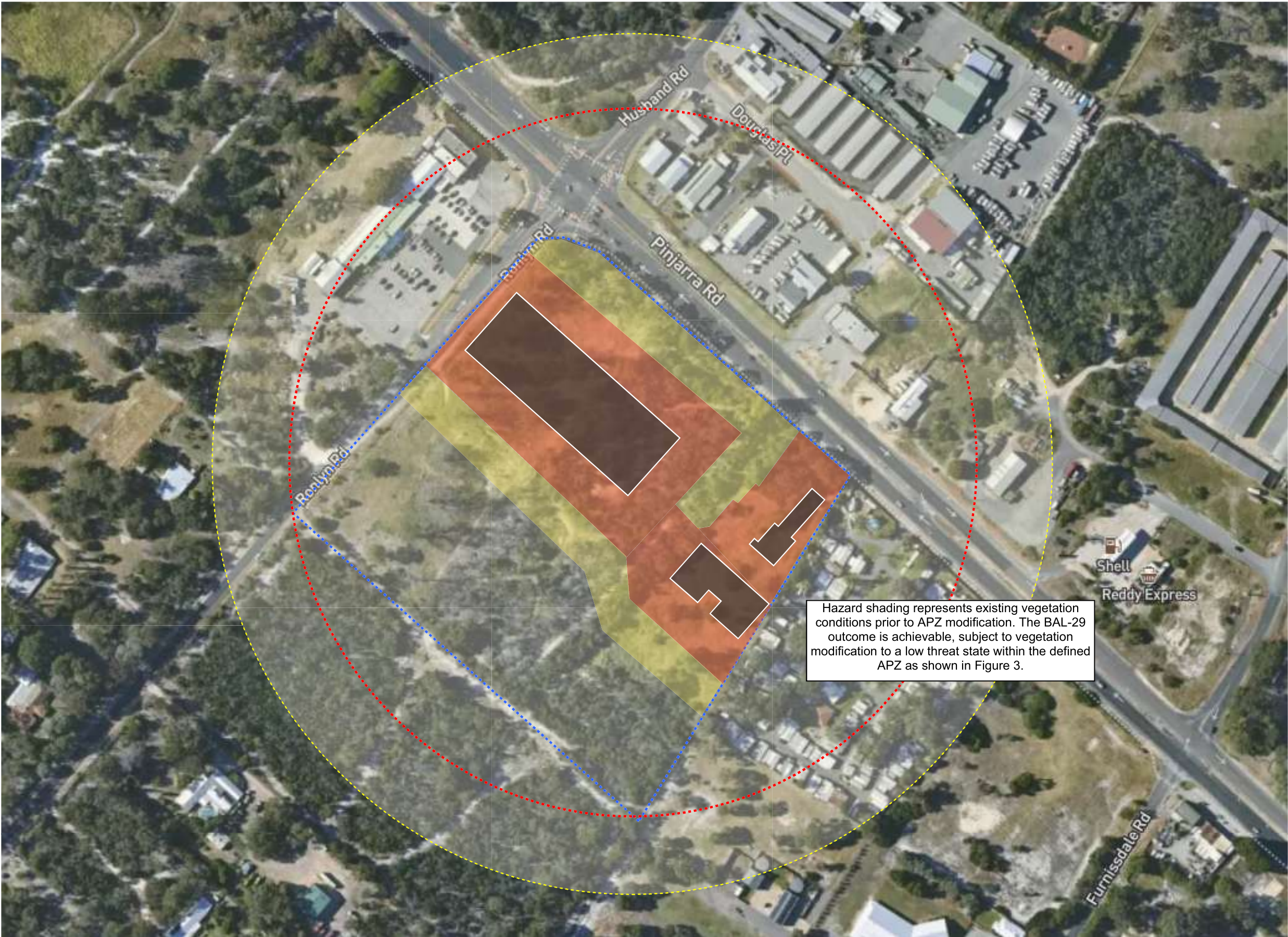
The setbacks to be managed as an Asset Protection Zone (APZ) detailed in this Bushfire Management Plan are such to allow sufficient distance between the classified vegetation and proposed mixed commercial units to achieve a BAL – 29 rating and compliance with Acceptable Solutions in accordance with the Guidelines for Planning in Bushfire Prone Areas. The implementation of the proposed APZ will require the modification and clearing of some vegetation on the subject site to achieve compliance with Schedule 1: Standards for Asset Protection Zones of the Guidelines. The size and location of the proposed APZ is shown in *Figure 3: Spatial representation of the bushfire management strategies*.

The relevant datasets in Table 1 below have been obtained through the publicly available database (map database <http://nationalmap.gov.au>) to identify any environmental, biodiversity or conservation values on the subject site.

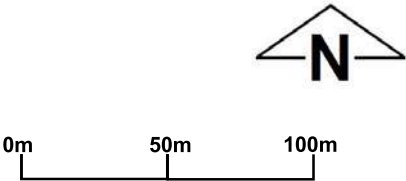
Is the land affected by:	Dataset	Objected	Yes - describe
Conservation category wetlands and buffer	DBCA-019	No	Nil
RAMSAR wetlands	DBCA-010	No	Nil
Threatened and priority flora	DBCA-036	No	Nil
Threatened Ecological Communities	DBCA-038	Yes	Threatened
Bush Forever areas 2000	DOP-071	No	Nil
Environmentally Sensitive Areas	DWER-046	No	Nil
Swan Bioplan Regionally Significant Natural Areas 2010	DWER-070	Yes	Peel Reginal

Table 1: Environmental, Biodiversity or Conservation Values Summary

3.0 Bushfire Assessment Results
A Bushfire Attack Level (BAL) assessment in accordance with AS3959-2018 for the proposed mixed commercial units was completed on 14th January 2026.



Building Approvals WA Pty Ltd



Scale 1:2000 at A3
Date of Aerial Photo: 27/10/2025

LEGEND	
.....	Assessment area
.....	Subject land
.....	Proposed cadastre
.....	Vegetation/plot boundary
	Low
	Moderate
	Extreme

ADDRESS:		
Lot 401.155.154 No. 578-590 Pinjarra Road Furnissdale 6209		
INSPECTION: 14/01/2026	REPORT: 17/01/2026	REV: 1
1	Issued to Client	

John Greenwood BPAD Level 2	I hereby declare that I am a BPAD accredited bushfire practitioner. Accreditation No. BPAD 36633 Signature _____ Date 17/01/2026





Building Approvals WA Pty Ltd



Scale 1:2000 at A3
Date of Aerial Photo: 27/10/2025

LEGEND

- Assessment area
- Subject land
- Proposed cadastre
- Vegetation/plot boundary
- BAL - Low
- BAL - 12.5
- BAL - 19
- BAL - 29
- BAL - 40
- BAL - FZ

ADDRESS:

Lot 401.155.154 No. 578-590
Pinjarra Road Furnissdale 6209

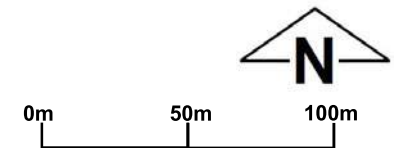
INSPECTION: 14/01/2026	REPORT: 17/01/2026	REV: 1
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1	Issued to Client
1	
1	

John Greenwood
BPAD Level 2

I hereby declare that I am a BPAD
accredited bushfire practitioner.
Accreditation No. BPAD 36633
Signature _____
Date 17/01/2026





Scale 1:2000 at A3
Date of Aerial Photo: 27/10/2025

LEGEND

- Assessment area
- 150m radius
- Subject land
- Proposed cadastre
- Vegetation/plot boundary
- Topography
- Proposed building

ADDRESS:
Lot 401.155.154 No. 578-590
Pinjarra Road Furnissdale 6209

INSPECTION: 14/01/2026	REPORT: 17/01/2026	REV: 1
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1	Issued to Client
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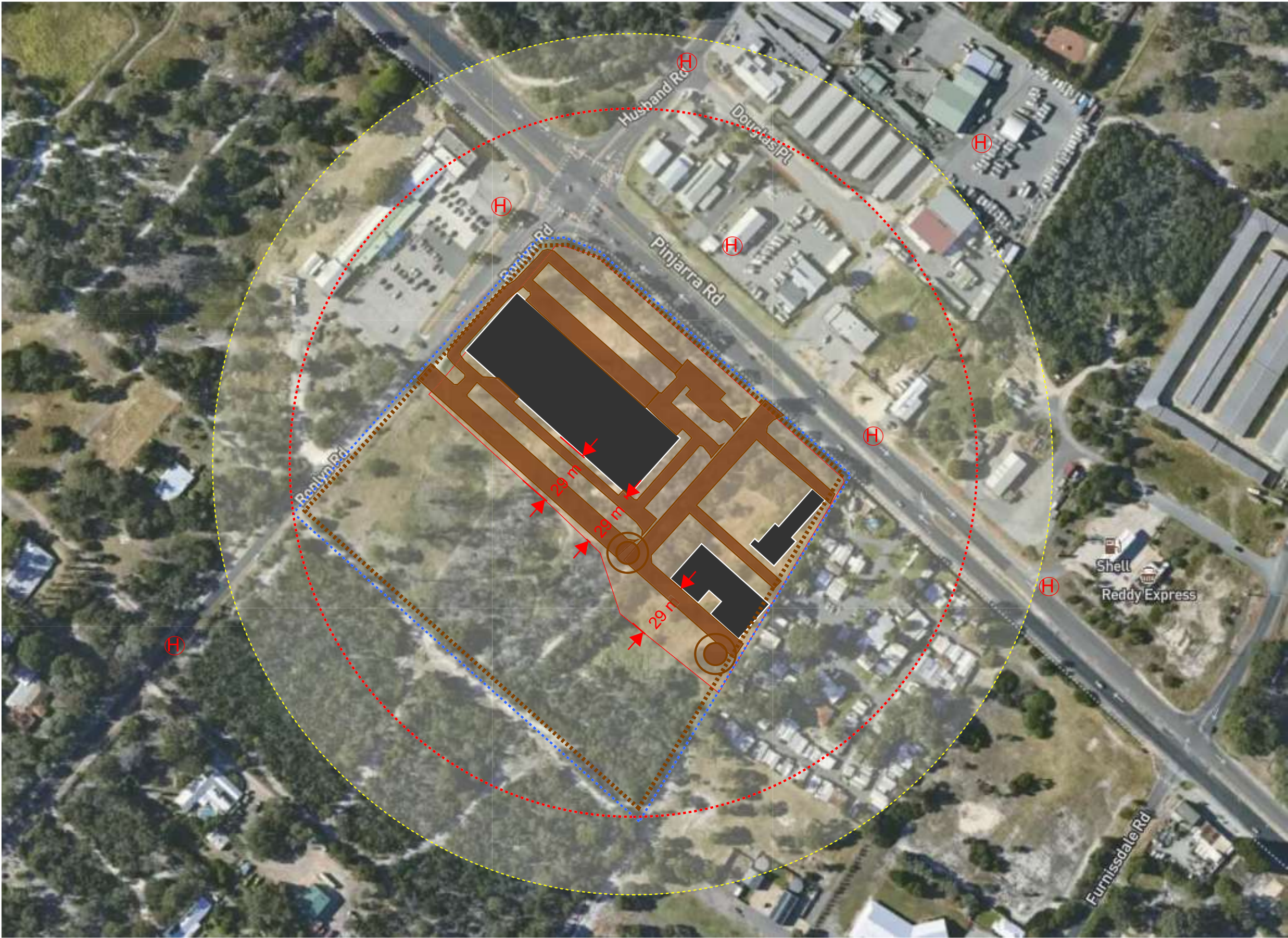
John Greenwood
BPAD Level 2

I hereby declare that I am a BPAD
accredited bushfire practitioner.
Accreditation No. BPAD 36633
Signature _____
Date 17/01/2026

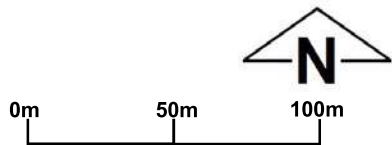


Slope was measured in accordance with AS3959-2018 Clause 2.2.3.2 from the classified vegetation toward the proposed building location. The site is generally flat to gently sloping (approximately less than 2°), resulting in a slope category of flat / upslope. This slope classification has been applied in the BAL determination.

Figure 3: Spatial representation of the proposed risk management strategies



Building Approvals WA Pty Ltd



Scale 1:2000 at A3
Date of Aerial Photo: 27/10/2025

LEGEND	
	Subject land
	Building Envelope
	Proposed building
	Asset Protection Zone
	Water Tank
	Private Driveway
	Firebreak
	Water Hydrant

ADDRESS:
Lot 401.155.154 No. 578-590
Pinjarra Road Furnissdale 6209

INSPECTION:	REPORT:	REV:
31/08/2025	31/08/2025	1
1	Issued to Client	
1		
1		

John Greenwood
BPAD Level 2

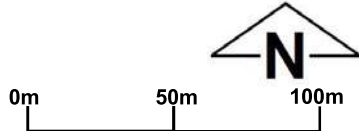
I hereby declare that I am a BPAD
accredited bushfire practitioner.
Accreditation No. BPAD 36633
Signature
Date 31/08/2025



Site Assessment & Site Plans
The assessment of this site / development was undertaken on 14/01/2026. by a BPAD Accredited Practitioner for the purpose of determining the Bushfire Attack Level in accordance with AS 3959-2018 Simplified Procedure (Method 1).



Building Approvals WA Pty Ltd



Scale 1:2000 at A3
Date of Aerial Photo: 27/10/2025

LEGEND	
.....	Assessment area
.....	150m radius
.....	Subject land
.....	Proposed cadastre
.....	Vegetation/plot boundary
	Class A
	Class B
	Class C
	Class D
	Class E
	Class F
	Class G
	Area to be modified to low threat state
	Excluded as per 2.2.3.2
← 1	Photo point
	Proposed building
	Area Cleared Since Aerial Photo
	Asset Protection Zone

JOB NUMBER	J025316		
ADDRESS: Lot 401.155.154 No. 578-590 Pinjarra Road Furnissdale 6209			
INSPECTION: 14/01/2026		REPORT: 17/01/2026	REV: 1
1	Issued to Client		

John Greenwood
BPAD Level 2

I hereby declare that I am a BPAD
accredited bushfire practitioner.
Accreditation No. BPAD 36633
Signature
Date 17/01/2026



Vegetation Classification

All vegetation within 100m of the site / proposed development was classified in accordance with Clause 2.2.3 of AS 3959-2018. Each distinguishable vegetation plot with the potential to determine the Bushfire Attack Level is identified below.

Photo ID:	1	Plot:	1
Vegetation Classification or Exclusion Clause			
Excludable – Clause 2.2.3.2(f)			
Description / Justification for Classification			
Plot 1 refers to the surrounding commercial sites, which has been cleared off from vegetation therefore has been excluded as being managed and low threat.			
Photo ID:	2	Plot:	1
Vegetation Classification or Exclusion Clause			
Excludable – Clause 2.2.3.2(f)			
Description / Justification for Classification			
An alternative view of Plot 1, showing the surrounding commercial sites, which has been cleared off from vegetation therefore has been excluded as being managed and low threat.			



Photo ID:	3	Plot:	2
Vegetation Classification or Exclusion Clause			
Class A - Open forest - A03			
Description / Justification for Classification			
Plot 2 is an area of class A vegetation located 0 metres from the proposed building, consisting of trees over 10 metres high with more than 30% foliage cover, thick canopies with low trees and shrubs in the mid layer with prominent grassy understorey in unmanaged condition.			
Photo ID:	4	Plot:	2
Vegetation Classification or Exclusion Clause			
Class A - Open forest - A03			
Description / Justification for Classification			
An alternative view of Plot 2, showing an area of class A vegetation located 0 metres from the proposed building, consisting of trees over 10 metres high with more than 30% foliage cover, thick canopies with low trees and shrubs in the mid layer with prominent grassy understorey in unmanaged condition.			

E90SE150S180SW240

163°S (T) 32°33'0"S, 115°46'34"E ±9ft ▲ 16ft



14 Jan 2026, 12:45:41

SW240W270NW300330N030

308°NW (T) 32°33'0"S, 115°46'34"E ±6ft ▲ 29ft



14 Jan 2026, 12:45:32

Photo ID:	5	Plot:	3
Vegetation Classification or Exclusion Clause			
Class A - Forest			
Description / Justification for Classification			
Plot 3 is an area of class A vegetation located 0 metres from the proposed building, consisting of trees over 10 metres high with more than 30% foliage cover, thick canopies with low trees and shrubs in the mid layer with prominent grassy understorey in unmanaged condition. This area is to be classified as Peel regionally significant natural area (DWER-70).			

Photo ID:	6	Plot:	3
Vegetation Classification or Exclusion Clause			
Class A - Forest			
Description / Justification for Classification			
An alternative view of Plot 3, showing an area of class A vegetation located 0 metres from the proposed building, consisting of trees over 10 metres high with more than 30% foliage cover, thick canopies with low trees and shrubs in the mid layer with prominent grassy understorey in unmanaged condition. This area is to be classified as Peel regionally significant natural area (DWER-70).			

4.0 Assessment against bushfire protection criteria

For each of the elements listed within the Guidelines for Planning in Bushfire Prone areas, the intent is demonstrated by addressing the relevant acceptable solutions for this proposal. Justification statements for the proposal compliance or non-compliance with the relevant acceptable solutions is detailed in Table 2 below. In accordance with SPP 3.7 Part 7 this proposal provides an assessment against the bushfire protection criteria requirements contained within the Guidelines demonstrating compliance within the boundary of the development site. Please refer to Figure 3 for a spatial representation of how compliance with the relevant acceptable solutions will be achieved.

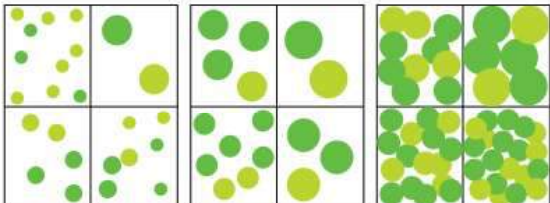
Table 2: Compliance Summary

Bushfire Protection Criteria	Method of Compliance	Proposed bushfire management strategies
	Acceptable Solutions	
Element 1: Location	Not applicable.	The proposed mixed commercial units will be located on site so as to allow a sufficient separation distance from the classified vegetation to achieve a BAL – 29 rating.
Element 2: Siting and design	A2.1a Siting and Design A2.2 Asset Protection Zone (APZ) A2.3 Clearing of native vegetation A2.4 Storage of hazardous, flammable and/or combustible materials	The Asset Protection Zone (APZ) is located solely within the boundaries of the lot and is of sufficient size to achieve a BAL-29 rating for the proposed mixed commercial units. Subject to modification of vegetation/ landscaping plan to a low threat state and ongoing compliance with Schedule:1. Please refer to Figure 3 for a spatial representation of how compliance with A2.1a will be achieved. The proposed mixed commercial units are to be constructed to BAL – 29 construction standards in accordance with AS3959-2018. Within 3 metres of any habitable buildings, the area will be managed as defensible space in accordance with Appendix B, being kept free from shrubs and trees but permitting groundcover (less than 500mm in height), grasses to be maintained ≤100mm and non-combustible mulch. Shrubs (500mm-6000mm in height) are permitted to be located a minimum 3 metres distance from the building and should not be located under trees. Trees (over 6 metres at maturity) must have trunks located a minimum 6 metres from the building. The subject site is identified as containing/ being proximate to a Threatened Ecological Community (DBCA-038) and is mapped under DWER-070 datasets. The APZ has been designed to be contained wholly within the development boundary and to utilise the area where possible. Vegetation modification required to achieve a low threat state will be limited to the minimum extent necessary to achieve a BAL-29 outcome in accordance with AS3959-2018. Any clearing of native vegetation will be subject to separate environmental

		assessment and approvals as required under the Environmental Protection Act 1986 and associated regulations. Where vegetation is identified as forming part of a Threatened Ecological Community, management within the APZ will focus on fuel reduction / habitation rather than wholesale clearing. The proposed development includes a service station component involving the storage of flammable liquids in underground fuel tanks. Storage and handling of fuel will be undertaken in accordance with the Dangerous Goods Safety Act 2004 and associated regulations. The facility will be subject to separate licensing and design requirements under relevant dangerous goods legislation. Bushfire risk has been mitigated through the provision of an APZ and to BAL-29 standards. Where a proposed land use will include mixed tenancies which may involve storage of hazardous, flammable and/or combustible materials as part of its operations, the materials are to be stored in an area that: • is subject to a radiant heat impact not exceeding 29 kW/m² (BAL-29); • is non-combustible and shields the materials to reduce their exposure to radiant heat from the bushfire to levels significantly lower than 29 kW/m² and prevents the entry of debris and embers; and • limits to the degree necessary and practical, the escape of sources of ignition from the stored materials into bushfire prone vegetation. Note: Additional fuel load management may apply for this development in accordance with the Shire of Murray requirements. Firebreak Width: Please refer to the shire of Murray Firebreak Notice 2025/2026. Note: Additional fuel load management requirements may apply in accordance with the firebreak order. As per the Fire Restrictions Section of Shire of Murray website.
Element 3: Vehicular access	A3.1 Public Road	Pinjarra Road forms part of an existing public road network which is not contained within the boundary of the development site. A3.2 is therefore not applicable for this proposal in accordance with SSP 3.7 Part 6.5(c).
Element 4: Water	A4.1 Water Supply	A retic water system will be installed on the site. And multiple water hydrants are available within the lot and adjacent site.

5.0 Appendices

5.1 Schedule 1: Standards for Asset Protection Zones, Appendix 4 of the Guidelines

OBJECT	REQUIREMENT
Fences within the APZ	Should be constructed from non-combustible materials (for example, iron, brick, limestone, metal post and wire, or bushfire-resisting timber referenced in Appendix F of AS 3959).
Fine fuel load (combustible, dead vegetation matter less than 6 mm in thickness)	- Should be managed and removed on a regular basis to be maintained as low threat vegetation - Should be maintained at less than two tonnes per hectare (on average) - Mulches should be non-combustible such as stone, gravel, shells, rock or crushed mineral earth or wood mulch more than five millimetres in thickness.
Trees* (more than 6 m in height)	- Trunks at maturity should be a minimum distance of six metres from all elevations of the building - Branches at maturity should not touch or overhang a building or powerline - Lower branches and loose bark should be removed to a height of two metres above the ground and/or surface vegetation. - Canopy cover within the APZ should be less than 15 per cent of the total APZ area - Tree canopies at maturity should be at least 5 m apart to avoid forming a continuous canopy. Stands of existing mature trees with interlocking canopies may be treated as an individual canopy provided the total canopy cover within the APZ does not exceed 15 per cent and is not connected to the tree canopy outside the APZ. Tree canopy cover – ranging from 15 to 70 per cent at maturity  15% 30% 70%

OBJECT	REQUIREMENT
Shrub* and scrub* (0.5 m to 6 m in height). Shrub and scrub more than 6 m in height are to be treated as trees.	- Should not be located under trees or within three metres of buildings - Should not be planted in clumps more than five square metres in area - Clumps should be separated from each other and any exposed window or door by at least 10 metres.
Ground cover* (less than 0.5 m in height. Ground cover more than 0.5 m in height is to be treated as shrub)	- Can be planted under trees but must be maintained to remove dead plant material, as prescribed in 'Fine fuel load' above - Can be located within two metres of a structure but three metres from windows or doors if more than 100 mm in height.
Grass	- Grass should be maintained at a height of 100 mm or less, at all times - Wherever possible, perennial grasses should be used and well-hydrated with regular application of wetting agents and efficient irrigation.
Defendable space	Within three metres of each wall or supporting post of a habitable building; the area is kept free from vegetation but can include ground cover, grass and non-combustible mulches as prescribed above.
Liquid petroleum gas cylinders	- Should be located on the side of a building farthest from the likely direction of a bushfire or on the side of a building where surrounding classified vegetation is upslope, at least one metre from vulnerable parts of a building - The pressure relief valve should point away from the house - No flammable material within six metres from the front of the valve - Must sit on a firm, level and non-combustible base and be secured to a solid structure.

Notes:

* Plant flammability, landscaping design and maintenance should be considered – refer to following explanatory notes

Fine fuel load is the combustible, dead or dry vegetation matter on the ground, near ground, or elevated. Fine fuel includes grass, leaves, bark and twigs less than six millimetres in diameter that ignite readily and are burnt rapidly when dry.

Fine fuel should be maintained at less than 2t/ha. 100gm/m² equates to 1t/ha. To estimate a fuel load (in t/ha), collect the dry fine fuel from a representative one square meter and weigh (in grams using kitchen scales) and multiply the weight by 0.01.

Source: Guidelines for Planning in Bushfire Prone Areas

Applicant Declaration:

I declare that the information provided is true and correct to the best of my knowledge.



John Greenwood

MSc (Curtin) BAppSc (Building Surveying) MAIBS, MAIB

Level 1 Building Surveyor BPAD36633 (Level 2)

WABAL & WABCA Group

Address Suite 14 755 Albany Highway East Victoria Park

Tel +61 8 9355 5484 | [Email](#) | [Website](#) | [Submit](#)

Subject: RE: Furnissdale - Pylon to Traffic Lights Separation
Date: Tuesday, 26 May 2026 at 1:24:25 pm Australian Western Standard Time
From: Behnam Bordbar
To: Jorrit Muller
CC: Mohammad Rasouli, Steve Dixon, Nick Wheeler, Alessandro Stagno, Saeed Kamran Disfani
Attachments: image002.png, image003.png, image004.png, image006.png, image007.png, image008.png, image009.png, image010.png, image011.png, image012.png, image013.png, image001.gif

Hi Jorrit,

We have now investigated the proposed pylon signs (assumed to be all static) against Main Roads sign policy and offer the following comments:

- Pylons 1 and 2 – **So long as these pylons are in private land and outside the Clear Zone (minimum 6.5m from the edge of the road) now and after the proposed widening of Pinjarra Road the requirement of the policy is satisfied and therefore there is no justification for a limited approval period of 10 years.**
- Pylon 3 – Assuming the sign is in private land:

Crash Risk Category : Level 1

The pylon sign is capable of approval.



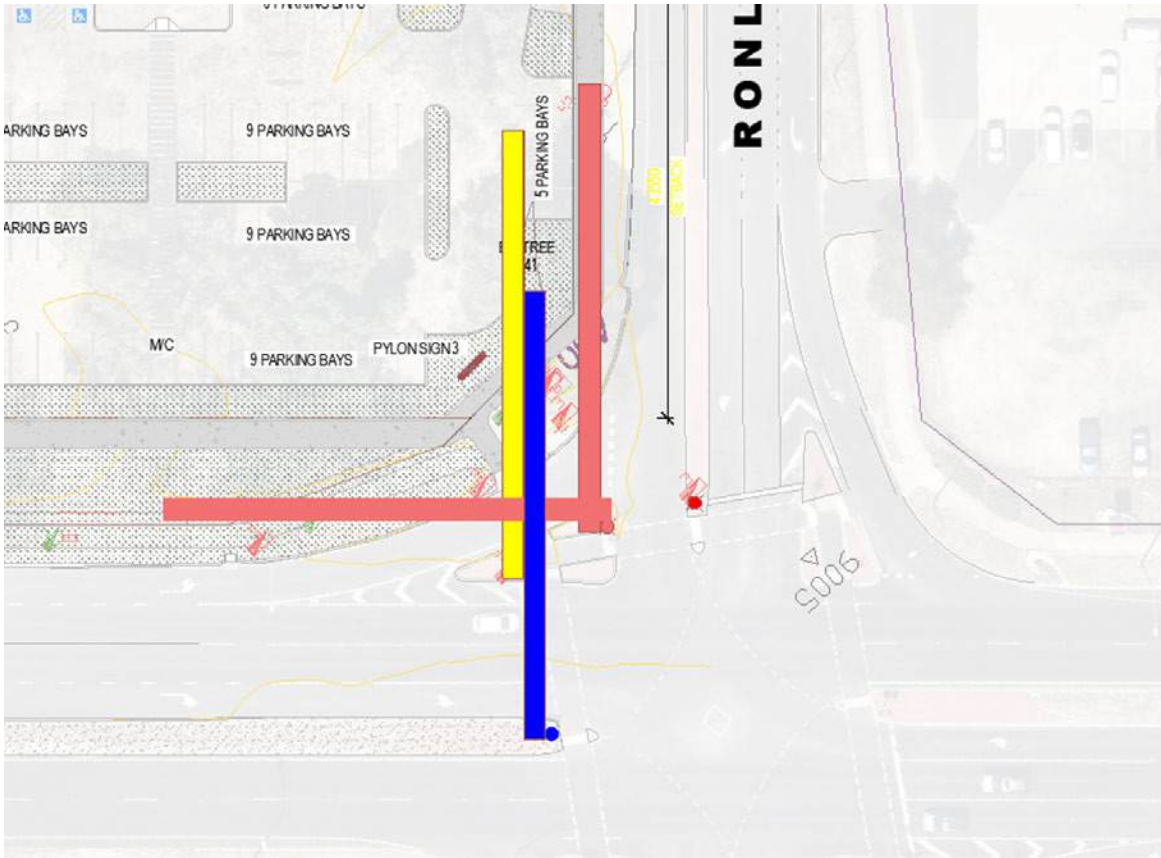
- **Prohibition Zones Assessments:**

Obstruction of a road sign:

The proposed Pylon 3 sign will not be located within the 0.6V i.e. 42m (70km/h speed limit) of an existing road traffic sign and thus will not obstruct the driver's view of any existing road signs (please refer to the snips below).



The location of the traffic lights and the critical Traffic Signal Prohibition Zones has been marked on the snippet below. Each rectangle is 42m long (0.6V i.e. 42 m) and 2m wide in accordance with Policy requirements. Proposed Pylon 3 will not be located within a Traffic Signal Prohibition Zone (TPZ) now and in the future after the proposed widening of Pinjarra Road.



The proposed Pylon 3 is not proposed in the vicinity of a LUMS and thus, will not be located in a prohibition zone for LUMS.

The CMPZ for diverge does not apply on roads with a speed limit of 70km/h or lower.

The proposed Pylon 3 is not proposed in the vicinity of a merge lane and thus, will not be located within the CMPZ for a merge section.

In conclusion as pylon sign 3 is in Crash Category 1 and does not impact any Prohibition Zones its refusal by Main Roads is not justified based on the reasons provided by Main Roads. However, it is suggested that the sign should not use green, red and orange colours.

Regards,

Behnam Bordbar
Managing Director

Please note: I am not in the office on Fridays. 



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**Proposal – P086/2026 – Commercial Development
Summary of Submissions**

No.	Submitter	Summary of Submission	Email Address	Record No.	Comment
1	[REDACTED]	Dean why do we need this petrol station at all ? I believe this is a very poor decision by you and the planing team, we have 6 all ready on Pinjarra Rd this will be 7 and probably you will approve other one on old Mandurah Rd when Cole's get build too in Ravenswood if need to put one in a better place would be mandjdogoorgdap dr off ramp somewhere their or lakes rd	[REDACTED]	D26/16252	
2	[REDACTED]	Looking at Google Maps I could not figure out why, as a storage unit at Watson Dr, I received a letter from you in regards to this proposed development. 154-155 Pinjarra Rd is to the west of the Serpentine River. When I looked at the plans on your web site, it became clear to me that you must have meant 578-590 Pinjarra Rd. This new development looks great, it may even improve the value of my storage unit hopefully without increasing your council rates	[REDACTED]	D26/16824	
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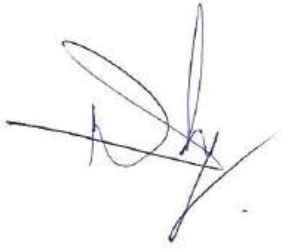


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10					
11					
12					

Design Review Report – Chair review

Commercial development – Lots 401, 154, 155 Furnissdale Road, Furnissdale

10 April 2026

Design Review Report		
Subject	Commercial development – Lots 401, 154, 155 Furnissdale Road, Furnissdale	
Date	2 April 2026	
Time	N/A	
Location	N/A	
Design Reviewers	Malcolm Mackay	
Proponent	Furnissdale Management Pty Ltd	
Project Team	Apex Planning and others	
Declarations	None	
Briefings		
Relevant Authorities	N/A	
Project Team	N/A	
Design Review Report endorsement		
Reviewer's signature	 Malcolm Mackay	

Introductory Comments	
This review has been undertaken by a sole reviewer and is based on the material provided by the Shire of Murray, being a copy of the DA report prepared by Apex Planning dated February 2026.	
Design quality evaluation	
	Supported
	Pending further attention
	Not yet supported
	Yet to be addressed
Strengths of the Proposal	- Sufficient description of the physical and planning context has been provided to understand the context. (Additionally, the reviewer has also referenced the Barragup-Furnissdale Activity Centre LPP). - The proposal presents as a more cohesive response to the site than the current approval. - A landscape professional has been engaged and prepared a landscape concept. - The landscaped areas exceed the minimum policy requirements. - The planting palette is largely native. - The built form is simpler and more cohesive than the current approval. - The built form and scale is largely appropriate to the use and the intent for the business commercial area. - The two main buildings are efficient and are articulated to break up the elevations. - Corners are given some expression with taller parapets, striped feature elements, or both. - Service areas are located away from the street and screened to some extent with landscape. - The recessed panels for signage is a positive approach to signage integration. - The continuous canopies help to tie the building frontages together and provide shade and shelter to pedestrians. - The site planning appears to be functional and has been demonstrated with swept paths for trucks. - Waste management has been considered. - The development is legible insofar as all tenancies can be seen from Pinjarra Road with entrances facing the car parks. - There is a clear differentiation between building fronts and backs. - There is, generally, a simple circular circulation pattern with only a few dead ends in the vicinity of the gym. - Bushfire has been considered. - Some outlook and potential for passive surveillance is provided to the streets and car parks. - Conflict between trucks and public (non-staff) parking areas has been avoided. - Some effort has been made to articulate the main buildings. - There appear to be some consideration of a signage strategy.
Principle 1 Context and character	Good design responds to and enhances the distinctive characteristics of a local area, contributing to a sense of place.

	a) Given that Stage 2 includes part of the Neighbourhood Centre precinct, provide a master plan for the whole site that demonstrates that the delivery of an appropriate 'Main 'Street' outcome in Stage 2 is not compromised by the proposed development. b) The character of the development is largely of 'anywhere' that can be found in suburban areas throughout Australia. c) Undertake a character analysis to identify elements of the local character than can be interpreted through architecture, materials, colour, and landscape. d) The coloured stripes at the rear of the buildings relate more to the locality than the front of the buildings and, along with the use of some CustomOrb cladding, suggest the start of a more localised character response – this should be explored further.
Recommendations	1. Provide a master plan for the whole site that demonstrates that the delivery of an appropriate 'Main 'Street' outcome in Stage is not compromised. 2. Undertake a character analysis to identify elements of the local character than can be interpreted through architecture, materials, colour, and landscape, and interpret through the design.
Principle 2 Landscape quality	<i>Good design recognises that together landscape and buildings operate as an integrated and sustainable system, within a broader ecological context.</i>
	a) Whilst bushfire constraints are acknowledged, the tree density is relatively low and falls well short of the policy minimums. b) Landscape is predominantly used for screening rather than adding amenity to the development – consider how more and larger trees can provide shade to pedestrian routes and create casual seating places at strategic locations along the pedestrian routes. c) Mulch alone is not an acceptable landscape treatment – if a non-vegetated surface is required, explore gravel or other similar materials. d) Include new trees in the verges. e) The areas of turf in the verge are excessive and challenging to maintain to reasonable standard – break up the areas of turf with other forms of planting and make more use of native groundcovers and small shrubs. f) Ensure the car park gradients fall to the landscape areas to enable stormwater to recharge the planted areas. g) Include hardscape materials in the landscape design and use hardscape materials to help explain the functionality of spaces and help define pedestrian routes. h) Express the disabled parking bays in the pedestrian materials to suggest mini plazas outside the building entries. i) Undertake a paving audit to reduce hard surfaces to a minimum. j) Relocate the angled bays in front of the fuel outlet to enable a more effective landscape interface with the street.
Recommendations	1. Increase the density of tree planting and tree sizing (whilst not compromising bushfire mitigation). 2. Use trees to provide more shade and shelter to pedestrian routes. 3. Avoid areas that are only mulched. 4. Provide additional street trees. 5. Reduce or avoid the use of turf in the verge. 6. Direct stormwater to planted areas. 7. Include hardscape materials in the landscape design and use hardscape materials to help explain spaces and routes.

	8. Express the disabled parking bays in the pedestrian materials. 9. Undertake a paving audit to reduce hard surfaces to a minimum. 10. Provide more continuity of landscape frontage to the fuel outlet within the street setback.
Principle 3 Built form and scale	<i>Good design ensures that the massing and height of development is appropriate to its setting and successfully negotiates between existing built form and the intended future character of the local area.</i>
	a) Include a covered connection between the fuel canopy and the kiosk. b) Consider introducing pitched roofs to the smaller buildings (fuel kiosk and car wash) as a character response to the place.
Recommendations	1. Include a covered connection between the fuel canopy and the kiosk. 2. Use pitched roofs to the smaller buildings as a character response to the place.
Principle 4 Functionality and build quality	<i>Good design meets the needs of users efficiently and effectively, balancing functional requirements to perform well and deliver optimum benefit over the full life-cycle.</i>
	a) The functionality of the internal areas cannot be assessed – provide internal layouts for the fuel kiosk, coffee outlet, car wash, and the gym, and indicative layouts for the general tenancies. b) Identify locations for AC and other mechanical plant. If located on roofs, show on roof plans.
Recommendations	1. Provide internal layouts for known tenancies and indicative layout for speculative tenancies. 2. Identify locations for AC and other mechanical plant.
Principle 5 Sustainability	<i>Good design optimises the sustainability of the built environment, delivering positive environmental, social and economic outcomes.</i>
	a) No consideration appears to have been given to sustainability, which is disappointing. b) Develop a sustainability strategy, with commitments and targets, utilising an ESD consultant if necessary. c) Include PV in the base build, rather than leaving it to tenants – this can become an additional income stream for the owner. d) Given the extent of hard surfaces, use road base and asphalt with a recycled content to reduce embodied carbon. e) Likewise, given the extent of concrete, use Low Carbon Concrete. f) Make provision for EV charging – a third-party operator would be well suited to this location. g) Include secure and covered staff bike parking and end-of-trip facilities. h) Provide for natural ventilation and overnight heat purging of roof and ceiling spaces. i) Increase the tree canopy cover. j) Consider the uses of shade structures for parking areas (and another PV opportunity). k) Use a light colour palette, especially for roofs and walls exposed to the sun.

Recommendations	1. Develop a sustainability strategy, with commitments and targets, utilising an ESD consultant if necessary, noting the comments provided above.
Principle 6 Amenity	<i>Good design optimises internal and external amenity for occupants, visitors and neighbours, providing environments that are comfortable, productive and healthy.</i>
	a) Other than provision of canopies to the tenancy frontages, there is little consideration of amenity evident in the design. b) Consider how more and larger trees can provide shade to pedestrian routes and create casual seating places at strategic locations along the pedestrian routes. c) Include some casual external spaces with summer shade and winter solar access that can be used by staff during breaks.
Recommendations	1. Provide more and larger trees can provide shade to pedestrian routes and create casual seating places at strategic locations along the pedestrian routes. 2. Include some external staff breakout spaces with summer shade and winter solar access.
Principle 7 Legibility	<i>Good design results in buildings and places that are legible, with clear connections and easily identifiable elements to help people find their way around.</i>
	a) The MRWA constraints are unfortunate – the development would be more legible of there were full movements or at least a right-in turn from Pinjarra Road. b) Ensure all pedestrian routes through the car park connect into the public footpath network (without having to climb over motorbikes). c) Provide pedestrian connectivity to the fuel station as it will also serve as local convenience store. d) Provide footpath connectivity to the staff car park from the northwestern side of Tenancy 6. e) Create an additional pathway connection near the W corner of Tenancy 6 so pedestrians can walk under cover rather than out on the public footpath. f) Consider using a change of material to reinforce awareness of pedestrian crossing points.
Recommendations	1. Ensure all pedestrian routes through the car park connect to the public footpath. 2. Provide pedestrian connectivity to the fuel station. 3. Provide footpath connectivity to the staff car park from both ends of the main building. 4. Provide footpath connectivity to the public footpath at the western corner of the main building 5. Use a change of material to reinforce the pedestrian crossing points.
Principle 8 Safety	<i>Good design optimises safety and security, minimising the risk of personal harm and supporting safe behaviour and use.</i>
	a) Ensure connectivity of the pedestrian network to minimise the need for people to walk through areas where vehicles are reversing. b) Consider using a change of level to reinforce awareness of pedestrian crossing points. c) Provide an overview of the lighting strategy.

Recommendations	1. Ensure connectivity of the pedestrian network. 2. Use a change of level to prioritise pedestrians at crossing points. 3. Provide an overview of the lighting strategy.
Principle 9 Community	<i>Good design responds to local community needs as well as the wider social context, providing environments that support a diverse range of people and facilitate social interaction.</i>
	- Other than additional local services and employment, there is little community benefit. - Include some casual external spaces with summer shade and winter solar access that can be used by staff during breaks. - Create casual seating places at strategic locations along the pedestrian routes. - Check whether there is a public art strategy and, if so, clarify the intended strategy.
Recommendations	1. Include some external staff breakout spaces with summer shade and winter solar access. 2. Create casual seating places at strategic locations along the pedestrian routes. 3. Check whether there is a public art strategy and, if so, clarify the intended strategy.
Principle 10 Aesthetics	<i>Good design is the product of a skilled, judicious design process that results in attractive and inviting buildings and places that engage the senses.</i>
	- The colour palette for the primary frontages of the main buildings is overpowering and lacks reference to place. - The painting of buildings in of corporate colours should be avoided with such colour limited to signage. - Develop a more place-specific material and colour palette, a suggestion of which can be found at the rear of the major buildings. - Extend the introduction of materials with texture from CustomOrb to include other materials such a face brick, tiles and timber cladding, especially at pedestrian level. - Do not allow signage to extend beyond the allocated recessed panels onto the surrounding frames.
Recommendations	1. Review the over-powering colour palette to the front of the main buildings. 2. Restrict corporate colours to signage. 3. Develop a more place-specific material and colour palette. 4. Incorporate materials such a face brick, tiles, and metal and timber cladding, especially at pedestrian level to provide visual interest. 5. Ensure signage does not extend beyond the prescribed signage panels on the parapets.

Concluding Remarks

The proposed design has some merit and no major flaws that would warrant significant redesign. However, there are various shortcomings that together means that the design is not yet deemed to be an acceptable response to the 10 design principles of SPP7.

In some cases, the shortcomings arise from a significant lack of information, particularly regarding the principle of

Sustainability, which appears to have been overlooked entirely, and, in the case of functionality and Build Quality, a lack of detail on internal planning.

Other areas where the design needs further consideration are Landscape Quality and matters relating to pedestrian movement.

The landscape design is underwhelming, especially in a context that is largely typified by landscape. Apart from screening back of house areas, landscape has an important role to play in creating an appealing address, provided shade and shelter to pedestrians, and creating useable pockets of open space with high amenity.

Whilst these types of development are seen as car-based places, the reality is that in most cases people get out of their vehicles and become ...pedestrians. Therefore, it needs to be seen to be as much as a pedestrian place as a car-based place. Key to supporting pedestrians is ensuring there is a comprehensive and fully connected pedestrian network that is safe and appealing to use. Where cars and people cross, pedestrians should be prioritised.

This review has provided guidance on how the above shortcomings can be addressed and the Applicant is strongly encouraged to take the advice on board wherever possible.

Design Review progress

	<i>Supported</i>		
	<i>Pending further attention</i>		
	<i>Not yet supported</i>		
	<i>Yet to be addressed</i>		
	<i>Design Review 1 10.4.26</i>		
Principle 1 - Context and character			
Principle 2 - Landscape quality			
Principle 3 - Built form and scale			
Principle 4 - Functionality and build quality			
Principle 5 - Sustainability	YTBA		
Principle 6 - Amenity			
Principle 7 - Legibility			
Principle 8 - Safety			
Principle 9 - Community	YTBA		
Principle 10 - Aesthetics			

Proposal – P086/2026 – Commercial Development Agency Summary of Submissions

No.	Submitter	Summary of Submission	Email Address	Record No.	Comment
1	Department of Health	Thank you for your email dated 14 April 2026, requesting comment from the Department of Health (DoH) on the above proposal. As of 18 December 2025, the State Planning Policy 2.9 Water has replaced the Government Sewerage Policy 2019 and other supporting documents. The Department of Health recognises that these changes will impact existing applications, including this proposal ☒ Do not support – reasons provided below, i.e. additional reports, studies, plans or other information that should be provided to determine public health risk / legislative compliance. 1. Industrial interface An existing sensitive land use (caravan park) is located in close proximity to the proposed service station without the recommended separation distances to reduce the risk of public health impacts. The Department of Health recommends that the location of a service station be designed and determined in compliance with the Department of Health ‘Position Statement: Service Stations and Sensitive Land Uses’ (https://www.health.wa.gov.au/~media/Corp/Documents/Health-for/Public-health-act/service-stations-and-sensitive-land-uses.pdf) and the EPA Guideline ‘Separation Distances between Industrial and Sensitive Land Uses’ (https://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/GS3-Separation-distances-270605.pdf), including the separation distances to sensitive land uses, with respect to potential off-site impacts (dust/fumes, noise, odour, light, etc). Until separation distances are maintained and offsite public health impacts quantified, particularly to the existing caravan park, the Department of Health is unable to support the application in its current configuration. 2. Water supply and wastewater disposal The treatment and disposal of wastewater generated on site is required to comply with the <i>Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974</i> (the Regulations) and must meet the requirements of State Planning Policy 2.9 Water (SPP 2.9).	EHD.ExecutiveSupport@health.wa.gov.au	D26/20035	

		The proposal is located within a sensitive water resource area and will require a minimum of two secondary treatment systems for the treatment of sewage. The supporting documentation indicates that Lots 401 (No. 578) and 154 (No. 580) have been amalgamated. This must be demonstrated. Lot 155 (No. 590) has not been amalgamated. This presents a risk regarding compliance with the Regulations and SPP 2.9, as wastewater generated on one lot must be disposed of within that same lot. The proponent needs to ensure that the type of business and the wastewater it generates meets what is required. Alternatively, all lots should be amalgamated. The supporting documentation indicates that Lots 401 (No. 578) and 154 (No. 580) have been amalgamated. This must be demonstrated. Lot 155 (No. 590) has not been amalgamated. This presents a risk regarding compliance with the Regulations and SPP 2.9, as wastewater generated on one lot must be disposed of within that same lot. The proponent needs to ensure that the type of business and the wastewater it generates meets what is required. Alternatively, all lots should be amalgamated. The site and soil evaluation were undertaken in springtime, late September, approximately 4 weeks after the Department of Health's recommended timeframe of the end of August. As such, there were 5 days above 27°C where much drainage and drying would have occurred. Although Perth had reasonable rainfalls for 2025, these events did not meet historic average rainfalls. These factors could have a significant effect on wastewater management in this low-lying, high-water table area, specifically in consideration of winter conditions and higher rainfall years. The proponent is to ensure there are no neighbouring bores that may be subject to contamination from the proposed fuel station. The Department of Health recommends consulting the Water Corporation to explore options for deep sewerage connection as there is a pressure main running along the subject site's northern boundary. The site may need to be connected to deep sewerage when Stage II is proposed. Requested further information and/or revised plans 1. The Department of Health is unable to support the application in its current configuration as it does not comply with the Department of Health 'Position Statement: Service Stations and Sensitive Land Uses' and the EPA Guideline 'Separation Distances between Industrial and Sensitive Land Uses'. The Department of Health recommends that the location and design of the service station be revised to ensure separation distances are maintained and offsite public health impacts quantified with respect to the existing caravan park. 2. An 'Application to Construct or Install an Apparatus for the Treatment of Sewage' is			
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		required to be submitted to the Shire of Murray for each onsite wastewater treatment system and/or disposal area. As this proposal is viewed as commercial / industrial, all applications are required to be forwarded by the Shire of Murray to the Department of Health for assessment and approval. 3.Updated plans to demonstrate compliance with the Regulations and SPP 2.9, in particular wastewater generated on one lot must be disposed of within that same lot.			
2	Main Roads	I refer to the Shire's request for comments regarding the above development and advise that Main Roads has concerns with the proposal in its current form and has communicated its concerns to the proponents at a meeting held in February this year. Main Roads has advised that it would only support the proposal and, in particular, agree to issuing a works approval for the LILO access onto Pinjarra Road, if the following key matters are addressed to its satisfaction. - the ceding of land reserved for Primary Regional Roads purposes under the Peel Region Scheme; and - appropriate 'rights of carriage' being established over the subject land, in favour of adjoining lots, to utilise the LILO as a 'precinct access' and to facilitate cross-precinct movements. It should be noted that the applicant agreed to both these requirements at the pre-lodgement meeting with Main Roads held on 20th February 2026. Background: Pinjarra Road has declared Control of Access under the Main Roads Act with any access proposals subject to determination by the Commissioner of Main Roads. Lots 401, 154 and 155 have existing designated access controls to Pinjarra Road which restricts vehicle access to that of a dwelling house. Accordingly, any access approved under the WAPC's planning framework (whether subdivisional or development) also requires a separate determination by Main Roads. The subject land has been the subject of previous planning proposals, which were conditionally supported by Main Roads. Main Roads has previously agreed to a shared LILO access on Pinjarra Road for Lots 401, 154 and 155, which formed part of an integrated significant commercial development encompassing all 3 lots. The access location was agreed within the Lot 155 road frontage as any access located further to the west could not be supported due to conflicts with the existing left turn auxiliary lane for Ronlyn Road.	swrplanning@mainroads.wa.gov.au	D26/21519	

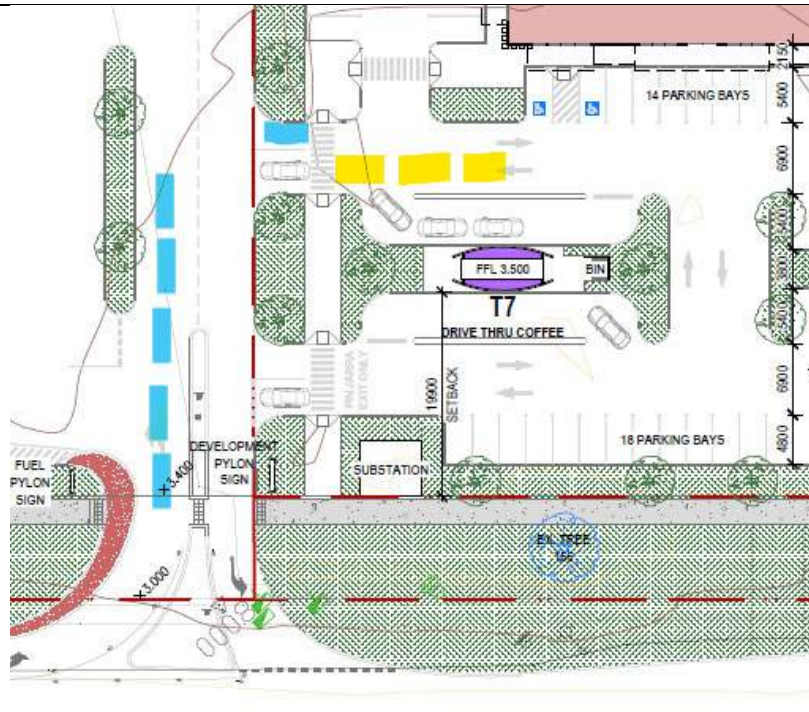
Support for the LILO access was conditional and on the basis that the access would service the whole of the Activity Centre precinct on the south side of Pinjarra Road, situated between Ronlyn Road and Furnissdale Road, with appropriate 'rights of carriage' being established over the subject land, in favour of adjoining lots, to coordinate and facilitate east - west access ways/corridor(s) across the precinct to the two local roads in question in order to reduce traffic demands onto Pinjarra Road. Pinjarra Road is planned to be upgraded to 6 carriage ways to cater for long term traffic demands, which generally restricts opportunities for any access and, particularly, full-movement access(es). Support was further conditional on the ceding of land reserved for Primary Regional Roads purposes under the Peel Region Scheme and a barrier being erected within the Pinjarra Road median to restrict and manage the risk of some vehicles exiting the LILO and illegally crossing the median, causing traffic safety and conflict issues..

Further internal layout design changes were also required to ensure a legible accessway across the development site, to give proper effect to the objective of establishing cross-precinct movements, and to ensure that the respective access arrangements of the internal tenancies would not prejudice or impact the free-flow operation of the LILO onto Pinjarra Road.

In regards to developer contributions towards road infrastructure, the local planning scheme, in relation to Lot 401 (previously Lot 153), requires a 10% contribution to the made to the previous signalisation of the Pinjarra Road / Ronlyn Road junction. In this regard, Main Roads advise of the following breakdown of costs previously associated with the signalisation project –

Description	MRWA	Shire	Totals
Land	\$ 364,882.54	\$ 259,013.39	\$ 623,895.93
Project Development	\$ 123,183.49	\$ 87,442.32	\$ 210,625.81
Service Relocations	\$ 666,510.13	\$ 473,124.99	\$1,139,635.12
Construction	\$ 834,813.44	\$ 592,595.79	\$1,427,409.23
Total Project Cost	\$1,989,389.61	\$1,412,176.48	\$3,401,566.09

		A contribution of \$340,156.61 is thus required to be levied for the development, payable at the time an application for works approval for the LILO access is submitted to Main Roads. The above matters were previously addressed as a condition of Development Approval and also formed part of a recent extension of the validity of the approval period. It is requested that these matters again be addressed as conditions of approval. The current proposal is, however, silent on the ceding of land for road widening and it is noted that the proponent has also previously contended (with the recent subdivision proposal under WAPC 202397) that the State should be acquiring the land. The WAPC has not supported this position and required the land to be ceded to the Crown free of cost. This subdivision proposal did not comprise the whole extent of the subject land, which has left some road network considerations unresolved. In this regard, Main Roads advises that works approvals associated with the LILO will not be issued unless matters relating to the ceding of land, access easements and agreement on the location of utility services have been resolved and concluded. It is recommended that the proponent address these matters early on to avoid any potential delays associated with Main Roads approvals. Traffic Analysis Given that the proposal comprises stage 1 of the development and noting Main Roads' endorsement of the previous development with a similar commercial scope, a detailed review of the TIA has not been undertaken and will occur as part of Stage 2. An civil design for the LILO has been lodged with Main Roads for review, however, Main Roads will only progress the submission once certainty is available regarding the ceding of the land and access easements. Design Main Roads has concerns that the proposed operational vehicle flow of the drive-thru coffee shop will impact the LILO accessway into the development with queuing/stacking occurring into the accessway and causing traffic spills into Pinjarra Road. Typical stacking requirements for drive thru coffee facilities are 6 to 8 vehicles up to the ordering window and this aspect is unlikely to be achieved under peak trading conditions at the centre, as suggested by the image below.			
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Signage

Our Network Operations section has advised the following in relation to the proposed signage component –

The signage component has been assessed against the existing network configuration, however, given that Pinjarra Road is proposed to be upgraded to 3 through carriage lanes in the future, the current signage location and detail/specifications may not be compliant with Main Roads' Policy and Assessment Guidelines for Static Advertising Signs and would require to be modified/relocated. The timing of road upgrades will be driven by traffic demands (growth in through traffic and turning volumes) and be subject to funding. In this regard, it is anticipated that upgrading will first occur in high traffic demand network locations and Activity Centre areas bordering the network. Given this aspect, as restricted approval term of 10 years only is supported for the pylon signage along Pinjarra Road. Alternatively, the applicant may wish to

amend the proposal to relocate the signs at the present point in time to avoid relocation in the future and retain compliance with the policy guidelines when the 3rd lane is constructed.

Pylon signage No 3: The location of this sign is not supported as it does not meet the required setback distance from traffic signals (signalised intersections) under the [Main Roads Policy and Assessment Guidelines for Static Advertising Signs](#) - traffic prohibition zone, and should be relocated.



Pylon signage No 1 and 2 - no objection, subject to the following conditions:

- Static signage displaying only the name, phone number or logo, of the on-premises businesses.
- The type of signs, size, content and location must comply with all relevant by-laws and planning schemes made by Council.
- The signs and sign structures are to be placed on private property and shall not overhang or encroach upon the road reserve.
- A display area no greater than as described in the Application.
- Static content related to on-premises business.
- The signs shall not be in digital format.
- The device shall not contain fluorescent, reflective or retro reflective colours or materials.

		• For the signs that are illuminated, it must not flash, pulsate or chase during all hours. • No other unauthorized signing is to be displayed. • Vegetation within the road reserve shall not be removed or trimmed to improve the visibility of the proposed advertising devices. • Main Roads agreement is to be obtained prior to any future modifications. • Shall be designed and constructed in such a manner that the composite construction of the sign panel, supports and fixings will not cause injury or major damage if struck by a vehicle, cyclist or pedestrian, or becomes dislodged for any reason. • Luminance level should not exceed the levels outlined below and be actively managed. <u>8.3.4 Luminance and illumination</u> Where a digital sign is brighter than the surrounding ambient light, it can draw attention away from the roadway, vulnerable road users, and TCS. This creates a significant hazard. Therefore, luminance levels should not exceed those of static signs under street lighting within the road environment. This may require digital signs to be turned off at night in areas with no street lighting. Due to the rapid rate of change in ambient light during dusk and dawn, digital sign luminance levels output during these periods must be actively managed. Any change in luminance shall be applied during the transition between display content. <i>AS-NZS 4282 - Control of the Obtrusive Effects of Outdoor Lighting</i> provides guidance on the effects of outdoor lighting with respect to lit surfaces and glare toward road users. (<i>Refer to Section 10 - References and Related Documents</i>). This standard provides guidance on the luminance that may be acceptable from a lit surface such as a digital sign, as well as the threshold increment used to assess glare impacts on drivers. <i>Table 7: Maximum allowable luminance in various road environments based on AS-NZS 4282</i>			
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		purposes and ceded to the Crown free of cost and without any compensation. The land required for 'road widening purposes' is to be shown as 'Road Widening' on a diagram or plan of survey (deposited plan). (Main Roads) 3. Prior to commencement of development, the Pinjarra Road frontage is to be upgraded along the frontage of the subject land to an urban standard, including drainage and kerbing at the cost of the landowner/applicant. 4. The Pinjarra Road median to be modified to the satisfaction of the local government on the advice of Main Roads WA to install a suitable barrier to restrict the potential for vehicles leaving the subject land via the new left-in/left-out to cross over the Pinjarra Road median, at the cost of the landowner/applicant. 5. Easement(s) in accordance with Sections 195 and 196 of the Land Administration Act 1997 for the benefit of the 'public at large' are to be placed on the certificate(s) of title of the proposed lot(s) specifying access rights in general accordance with the Furnissdale - Barragup Activity Centre Local Planning Policy. Notice of this easement(s) is to be included on the diagram or plan of survey (deposited plan). The easement(s) are to state as follows: "Public Access Easement" (Local Government). 6. The landowner/applicant contributing \$340,156.61 towards development infrastructure provisions pursuant to the Shire of Murray Planning Scheme No. 4. 7. The proposal to be modified to remove/delete any landscaping within the Primary Regional Road reserve, as identified in the Peel Region Scheme. 8. Pylon Sign 3, located with the truncation area of Pinjarra Road and Ronlyn Road is to be deleted/removed from the proposal. Pylon Signs 2 and 3 is approved for a restricted period of 10 years. 9. No longitudinal installation of utility services will be permitted within the 'road widening' area of Pinjarra Road. 10. The vehicle movement network associated with the drive-thru coffee component shall be modified to Main Roads specifications to ensure that the queuing of vehicles will not spill back into the main accessway associated with the proposed LILO access on Pinjarra Road.			
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3.	DWER	The Department has identified that the proposed Bulky Goods Showrooms, Gym, Service Station, Car Wash and Drive Through Coffee Shop has the potential for impact on environment and water resource values and/or management. In principle the Department does not object to the proposal however key issues, recommendations and advice are provided below and these matters should be addressed. <i>Issue</i> <i>State Planning Policy 2.9 Water</i> <i>Advice</i> The proponent is advised that the proposal is located within the Peel Harvey Coastal Plain Catchment and a sensitive water resource area whereby provisions of <i>State Planning Policy No 2.9 Water</i> (SPP 2.9) apply. This includes setbacks to water resources including a 1.5m separation to the maximum groundwater level. It is recommended that advice is sought from Department of Health regarding the Site and Soil Evaluation. In addition, the proposed development should incorporate best management practices outlined the following <i>Water Quality Protection Notes (WQPN)</i>: • WQPN 49 - <i>Service stations</i> (DWER, 2013) • WQPN 52 - <i>Stormwater management at industrial sites</i> (DWER, 2010) • WQPN 65 - <i>Toxic and hazardous substances</i> (DWER, 2015) • WQPN 79 - <i>Rural restaurants, cafes and taverns near sensitive water resources</i> (DWER, 2006). <i>Issue</i> <i>Environmental Protection Act 1986</i> <i>Advice</i> The Department regulates emissions and discharges from the construction and operation of prescribed premises through a works approval and licensing process, under Part V, Division 3 of the <i>Environmental Protection Act 1986</i> (EP Act).	prod-crm-eo@dwer.wa.gov.au	D26/22322	

		The categories of prescribed premises are outlined in Schedule 1 of the <i>Environmental Protection Regulations 1987</i>. The EP Act requires a works approval to be obtained before constructing a prescribed premises and makes it an offence to cause an emission or discharge from an existing prescribed premises unless they are the holder of a works approval or licence (or registration) and the emission is in accordance with any conditions to which the licence or works approval is subject. The provided development referral request was reviewed in relation to works approval and licence requirements under Part V Division 3 of the EP Act. While the proposed operations could be categorised as Prescribed Premises as per Schedule 1 of the <i>Environmental Protection Regulations 1987</i>: i.e.: <table><tr><th>Category</th><th>Category description</th></tr><tr><td>85</td><td>Sewage facility: premises — (a) on which sewage is treated (excluding septic tanks); or (b) from which treated sewage is discharged onto land or into waters.</td></tr><tr><td colspan="2">Production or design capacity More than 20 but less than 100 m3 per day</td></tr></table> based on the information provided the specified production or design capacity* of the operations is below the threshold for this category. As such the proposal does not trigger sections of the EP Act, which relates to the requirements for a licence, amendment or works approval. It is however the applicant’s responsibility to provide relevant information in relation to Part V Division 3 of the EP Act, and therefore whether a works approval, licence or registration is required. The EP Act makes it an offence to undertake any work which causes a premises to become, or become capable of being, a Prescribed Premises unless the work is undertaken in	Category	Category description	85	Sewage facility: premises — (a) on which sewage is treated (excluding septic tanks); or (b) from which treated sewage is discharged onto land or into waters.	Production or design capacity More than 20 but less than 100 m3 per day				
Category	Category description										
85	Sewage facility: premises — (a) on which sewage is treated (excluding septic tanks); or (b) from which treated sewage is discharged onto land or into waters.										
Production or design capacity More than 20 but less than 100 m3 per day											

		accordance with a works approval. It is also an offence under the EP Act to cause an emission or alter the nature or volume of waste, noise or odour from the Prescribed Premises, unless done so in accordance with a works approval or licence or a registration (for operation) is held for the premises. The applicant is therefore advised to refer to the information within <i>Industry Regulation Guide to Licensing</i> available at https://www.wa.gov.au/service/building-utilities-and-essential-services/integrated-essential-services/licence-and-works-approval-applications and / or if they have queries relating to works approvals and licences to submit an enquiry via Environment Online. Otherwise, contact the Department at info@dwer.wa.gov.au or 6364 7000. * Production capacity and design capacity definitions: • The production capacity is the rate at which a product is produced as relevant to the description of the prescribed premises category; and • design capacity is the maximum capacity for which the facility or equipment is designed to receive, handle, process, contain or emit, as relevant to the description of the prescribed premises category. Issue Native Vegetation Regulation Advice Under section 51C of the <i>Environmental Protection Act 1986</i> (EP Act), clearing of native vegetation is an offence unless: • it is undertaken under the authority of a clearing permit • it is done after the person has received notice under Section 51DA(5) that a clearing permit is not required • the clearing is subject to an exemption Exemptions for clearing that are a requirement of written law, or authorised under certain statutory processes, are contained in Schedule 6 of the EP Act. Exemptions for low impact routine land management practices outside			
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		of environmentally sensitive areas (ESAs) are contained in the <i>Environmental Protection (Clearing of Native Vegetation) Regulations 2004</i> (the Clearing Regulations). Based on the information provided, the proposed clearing is not exempt and a clearing permit is required due to being within a mapped ESA. The Department has not received a clearing permit application for this proposal. Application forms are available from https://www.wa.gov.au/service/environment/environment-information-services/clearing-permit-forms. Additional information on how to apply for a clearing permit is available from https://www.wa.gov.au/service/environment/environment-information-services/native-vegetation-clearing-permits. Information regarding clearing permit fees can be found here: https://www.wa.gov.au/service/environment/environment-information-services/native-vegetation-clearing-permit-fees-frequently-asked-questions. If further clarification is required, please contact the Department's Native Vegetation Regulation section by email (admin.nvp@dwer.wa.gov.au) or by telephone (6364 7098). Issue Separation Distances Advice The Department advises that it does not have a regulatory role, policy position or guidance statement for fuel stations. Due to uncertainties within air dispersion modelling for this land use, resulting from an absence of standard methodology and validated data, adherence to separation distances within Guidance Statement 3 Separation Distances between Industrial and Sensitive Land Uses (GS3) (EPA, 2005), is generally recommended to inform planning decisions.			
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		GS3 provides guidance on the use of generic separation distances (buffers) between industrial and sensitive land uses. The intent is to avoid conflicts between incompatible land uses and assist in the determination of suitable distances between industry and sensitive land uses. The adjacent caravan park is considered a sensitive land use within GS3. The use of technical studies, such as modelling and monitoring of air pollutants can inform possible incompatibility between land uses but should not be used as the only input for planning decision-making as there can be significant uncertainty in the accuracy of such studies and cannot determine if impacts may or may not occur. Where it has not been adequately demonstrated that the industrial impacts can be identified and avoided, mitigated or managed, and there is uncertainty regarding the potential risk to health and amenity, a conservative approach to defining the impact area should be applied. The GS3 notes three different operating hours for service station premises, each with recommended buffer distances. If the proposed fuel station was to operate 24 hours per day, the recommended buffer distance is 200m. Additional guidance can be found at Positions statement: Service stations and sensitive land uses (Department of Health, 2024) and further advice from the Department of Health. Issue Acoustic Assessment Advice It has been identified that the package contained <i>Service Station, Gym and Bulky Goods Showrooms Lots 154, 155, 401 (507-590) Pinjarra Road, Furnissdale Environmental Acoustic Assessment</i> (Herring Storer Acoustics, 2026). The Department's preferred avenue is to support local government's consideration of acoustic reports is via the local EHOs. EHOs have an understanding of environmental noise through their qualification and training and are well placed to advise on acoustic considerations for development proposals.			
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		The Department's Environmental Noise team provides advice to EHOs across the state, including assisting them in reviewing acoustic reports. Can you please confirm in writing by return email whether the Shire of Murray's EHOs will assess this report, and seek advice from the Environmental Noise team as required, or whether there is a specific need for the Department to undertake a technical review of this report and provide formal advice? If a technical review is required, and due to available resources, please be advised that this may take up to eight (8) weeks or longer for more complex reports. Issue Drainage Management Advice It is recommended that a drainage management plan is prepared to the satisfaction of the Shire of Murray. The drainage system is to be designed, constructed and managed in accordance with the <i>Stormwater Management Manual for Western Australia</i> (DWER, 2022) and incorporate design principles outlined in the above-mentioned WQPNs. Where the Department has a statutory role, planning applications should be considered prior to the Department issuing any relevant permits, licences, and/or approvals. In the event that the applicant determines that a works approval or licence application is required under Part V of the <i>Environmental Protection Act 1986</i> (EP Act), the advice provided in this communication does not prejudice and must not be considered to infer the outcome of the EP Act licence and works approval process. In the event there are modifications to the proposal that may have implications on aspects of environment and/or water management, the			
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		Department should be notified to enable the implications to be assessed.													
4.	Water Corp	Thank you for your email dated 14 April 2026. We offer the following comments regarding this proposal. <u>Water</u> Assumptions: The assessment was based 2026 Jan PRV setpoints checked from View X. Note that Yunderup and Furnissdale areas are interconnected via the reticulation network: • Yunderup 1 PRV: 49 m pressure • Yunderup 2 PRV: 50 m pressure • Furnissdale PRV: 56 m pressure The following demand assumptions were adopted: <table><tr><th>Residential Type</th><th>Nha (Net Hectare –building footprints only)</th><th>Average Day Demand</th><th>Peak Day Factor</th><th>Peak Instant Demand Factor</th></tr><tr><td>Mixed Use (Non Res Commercial)</td><td>0.7802</td><td>25</td><td>1.5 x Average Day Demand</td><td>2.06 x Peak Day Demand</td></tr></table> • Peak day factor follows Planning Demand Rates for DSB enquiries guideline. • Peak instant demand factor is based on the existing demand diagram. • Highest customer point in the proposed development was considered at 3 m AHD for this assessment. • There was another request in Furnissdale zone (203152 – Lot 197 Ronlyn Rd), received around the same time, has been included in this assessment. Connection considerations: The development is bounded by Pinjarra Rd and Ronlyn Rd. Given Pinjarra Rd is a high traffic route, and the existing water main is located on the opposite side of the road, a connection from Ronlyn Rd is preferred. This assessment assumes the Ronlyn Rd upgrade proposed under SF0010915 is delivered. Advice relating to SF0010915 is attached for reference.	Residential Type	Nha (Net Hectare –building footprints only)	Average Day Demand	Peak Day Factor	Peak Instant Demand Factor	Mixed Use (Non Res Commercial)	0.7802	25	1.5 x Average Day Demand	2.06 x Peak Day Demand	Belinda.Hill@watercorporation.com.au		
Residential Type	Nha (Net Hectare –building footprints only)	Average Day Demand	Peak Day Factor	Peak Instant Demand Factor											
Mixed Use (Non Res Commercial)	0.7802	25	1.5 x Average Day Demand	2.06 x Peak Day Demand											

		Findings and Recommendations: - Hydraulic modelling indicates the system (including Ronlyn Rd upgrade with SF0010915 and SF0010911 demands) is adequate to service the proposed development. - The minimum pressure at the development is just under 47 m, and the overall impact of this development and Lot 197 Ronlyn Rd on the system is minimal. - The existing system (without Ronlyn Rd upgrade and SF0010915 and SF0010911 demands) showed similar pressure outcome. - Isolation valves should be installed at connection points to minimise customer impacts during planned/unplanned outage events. <u>Wastewater</u> Wastewater services cannot be provided as there is no wastewater infrastructure in proximity to the subject site. <u>General Comments</u> The developer is expected to provide all reticulation services if required. A contribution for headworks may also be required. In addition, the developer may be required to fund new works or the upgrading of existing works and protection of all works associated with the Water Corporation. Water Corporation may also require land being provided for works. The information provided above is subject to review and may change. If the proposal has not proceeded within the next 6 months, please contact us to confirm that this information is still valid. Please provide the above comments to the landowner, developer and/or their representative.			
	Water Corp 2 nd submission	Further to the attached advice on this proposal, I would like to provide some additional clarification advice in relation to Water and Wastewater: Water There are existing water projects for reticulation sized assets (DN200) along Riverside Dr & Ronlyn Rd (CW03063) and Furnissdale Rd (CW03069) planned for 2036 and 2050 respectively.	Belinda.Hill@watercorporation.com.au	D26/23337	

To clarify, Ronlyn Rd main upgrade is a project proposed under SF0010915, and DAP435067 is intended to connect to this main.

As SF0010915 and SF0010911 were received prior to DAP 435067, and given the timing for all developments remain uncertain, I have two options have been explored where:

- (1) SF0010915+SF0010911 (including the Ronlyn Rd upgrade) occurring first and
- (2) DAP435067 occurring first.

The review indicates no hydraulic issues under either scenario. However, upon further consideration, if DAP435067 proceeds first, there may be a risk of supply interruption or the need for temporary arrangements when the Ronlyn Rd upgrade is undertaken.

Accordingly, please advise the proponent that short sections of Ronlyn Rd will need to be upgraded to DN200 as part of DAP435067, as shown in the illustration below. The upgrade is from Pinjarra Rd (before road crossing) and should only extend to their connection point, and isolation valve is to be installed at the downstream end of the upgraded section.



		Wastewater This rea is dependent on CS02582 Barragup PS C T90 PM DN450 GS & storage which is currently in the 5 year CIP pre-funded assets program for PPC 2029 – However, this project is dependent on the delivery of WC delivered project CS02688 Barragup PS K, PM & Storage which now has a PPC of 2032 due to approvals constraints, specifically with MRWA and private landowner negotiations which has delayed the project by approximately another 12 months. CS02528 cannot be delivered until CS02688 is built, so at this stage, this area cannot be serviced by reticulated sewer until <i>at least</i> 2032. If any developer wishes to service their DA area via other means such as a private pump station or on-site disposal, the standard requirements will apply. The Water Corporation area unable to provide a standard level of sewer service as per standard subdivision condition requirements. Additional comments It is requested that the Condition 28. Applied to the original JDAP determination P290/2017 be applied as part of determination of this proposal. 28. The landowner is to contribute proportionally to any reasonable pre-funding arrangement agreed between the adjoining landowner and Water Corporation of WA (WCWA), in accordance with WCWA's established Developer Constructed Headworks Process, for the purpose of bringing forward its capital works program to provide reticulated sewerage infrastructure to the local catchment area. The proportional contribution shall be calculated based on the total area the development site bares to the total area of the catchment which is to be serviced by the WCWA reticulated sewerage infrastructure. Prior to the development first being occupied, the landowner is to enter into a legal agreement supported by a subject to claim caveat to cover this obligation to the satisfaction of the local government on advice from the Water Corporation. Any caveat lodged to protect the above agreement shall be removed by the local government once the works for the future WCWA reticulated sewerage infrastructure to service the local catchment area has been completed.			
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Building colours, materials and architectural themes should generally be sympathetic and complementary with the surrounding rural/natural environment.

Verandahs or awnings shall be used on the entire length of all buildings located along the Ronlyn Road and public square frontages to provide weather protection to the street space and building entrances. The minimum dimensions are 2.5 metres in depth and 3 metres in height above the footpath.

Signage

A high standard of signage is required as an integral part of achieving a high quality urban form in the precinct.

Signage shall be integrated into the design of the building, relate to the architectural design of the building and not obscure architectural features.

Signage shall be considered as part of building design and is to be restrained. Repetitive advertising is not permitted.

Windows are to be free of advertising in the zone between 1 and 2 metres above the pavement to allow unhindered visual exchange between the interior and exterior of the buildings.

Planning applications for any buildings within the activity centre are to include signage strategies.

Car parking

Car parking shall be provided at the rate provided for in Town Planning Scheme No 4.

All parking (excluding on-street parking) and all service access is to be at the rear of buildings.

Car parking areas shall have large, canopy trees at close intervals for shade and visual amenity and lighting for safety. These trees shall be maintained on an ongoing basis.

Bicycles

Provision shall be made for secure bike parking for employees and the public and 'end of trip facilities' for employees.

Public bike parking facilities are to be located so they do not disrupt pedestrian movements within the precinct.

Servicing

Servicing shall be considered as part of building design. In order to ensure active street fronts and public spaces, all rubbish collection, loading areas, trolley storage areas and service zones shall be integrated into buildings, located at the side or rear of buildings. Service areas are to be screened and designed to minimise noise impacts on surrounding areas. Service zones should not be located on the street front or disrupt key pedestrian movement routes.

All services including air conditioning plant located on the roof should not be visible from the surrounds, noting that adjoining buildings may be developed with a number of levels. Services that must be located within and/or abutting the street must be integrated into the design of the building. These services shall be designed and coloured to blend into building façades and the street.

Business Precinct

Character statement

The business precinct will provide for a range of uses that require relatively large sites for retailing of bulky goods, highway focussed commercial and service activities. The precinct will successfully integrate into the surrounding 'rural' landscape setting with site planning, building and landscape design reinforcing this landscape and providing a distinctively local identity. Pedestrian and vehicular traffic has been comprehensively planned to provide safe, convenient and easy movement to and within the precinct. Well designed building frontages with restrained and coordinated signage provides an inviting streetscape to this important gateway into the Shire.

Preferred uses

Land use permissibility for the precinct is guided by Town Planning Scheme No 4.

A wide range of land uses is encouraged within this precinct with preferred uses being those which provide for the retailing of bulky goods, highway focussed commercial and service activities. Those sites with frontage to Pinjarra Road are preferred for showrooms, retail warehouses, open air display and uses focussed on servicing of vehicle traffic such as service stations and drive through take away food outlets. Preferred uses for those sites with less exposure to passing traffic are motor vehicle servicing and associated businesses, storage facilities and other service industries.

Uses with a focus on manufacturing or external storage of goods that would impact on visual or other amenity such as factories, landscape supplies, building yards or motor vehicle wrecking or are not considered suitable for this precinct. In addition, pedestrian based uses that would complement or reinforce activity within the neighbourhood centre precinct are not considered suitable for this precinct. The exception to this is the Western Power depot located on Lot 13. This use is considered acceptable on Lot 13 given its relatively obscured location.

Design guidelines

Height

Development is to present a minimum two storey façade (or equivalent) and no more than three storeys (or equivalent).

Setbacks

East of Ronlyn Road, buildings are to be setback a minimum of 15.5 metres and a maximum of 21 metres to the ultimate alignment of Pinjarra Road, being the boundary of the Primary Regional Road reservation identified under the Peel Region Scheme, and secondary streets with adjacent shared driveways as shown on the plan attached to this policy.

West of Ronlyn Road building setbacks to the ultimate alignment of Pinjarra Road is to be a minimum of three metres.

Building form and character

The elevation of buildings facing public streets is to be designed to address the street.

Building elevations on corner lots must address both street frontages with a high standard of architectural design.

Architectural form and character must avoid large unrelieved expanses of wall or roof, where they face the public realm.

Where more than one building is planned for a site, the design must result in the creation of a group of integrated buildings presenting a harmonious image.

The main entrance to each building is to be on the front elevation or close to the front of the building, clearly visible from the street.

Entrance points to buildings are to be designed as focus points and must provide protection for pedestrians by means of substantial integrated building elements such as a verandah, canopy or colonnade.

Materials and colours

Proposals which exhibit broad façades of a uniform finish will not be acceptable. The aim should be to divide up the façades into contrasting smaller areas by introducing differing colours, materials and forms.

Simple building structures need not be bland and unattractive; consideration should be given to 'breaking up' the façade to create interest using:

- Different materials such as concrete panels, profiled metal cladding, fibre cement cladding, face brickwork, stone panels separately or in combination.
- Different materials to express changes in the form of the building.

- Feature elements such as the louvre vents and screens, exposed steel columns and bracing, careful placement of roller shutters.
- Vertical, horizontal and/or angled grids to break up unrelieved wall surfaces. These could be expressed feature joints in pre-cast concrete panels, fibre cement panel joints, brick banding or rendered panels.
- Division of the façade into top, middle and bottom elements using differing materials, grading of colours, horizontal lines such as dado line or parapet cappings.
- Projecting features such as canopies, sun shading, overhanging roof etc to create shadows on the façades.

Where a single development comprises multiple units occupied by multiple independent tenancies, the use of colours, finishes and materials for each unit should be complementary, whilst allowing each tenancy to be easily distinguishable and identifiable.

Building colours should generally be sympathetic and complementary with the surrounding rural/natural environment and to site landscaping.

Large areas of one material should be treated with muted colours and tones avoiding strong hues. Large expanses of zincalume metal finished cladding will not be accepted.

Small and important building elements such as a feature wall, canopies, steel bracing and columns, sunscreens, ventilation louvres etc should be treated with strong highlight colours to provide visual interest and relief on the building façades.

Landscaping

A minimum 8% of the site is to be set aside for landscaping, including the first 2 metres of a site adjoining all public roads. Landscape areas should be designed and located to complement the building design.

Existing significant trees should be maintained and incorporated in car parking areas and landscape areas where this is reasonably practical.

Car parking areas shall be provided with native trees at the rate of 1 per 4 car bays for shade and visual amenity. These trees shall be maintained on an ongoing basis.

Landowners are to landscape all adjacent road verges and be responsible for verge maintenance.

A landscape plan is to be prepared for each development site by a qualified landscape architect or designer as a condition of approval, with landscaping implemented in accordance with the approved plan prior to the development first being occupied.

Car parking and access

Car parking shall be provided at the rate provided for in Town Planning Scheme No 4.

Car parking areas are to include the areas set aside for this purpose on the street side of service roads as shown on the plan attached to this policy.

Car parking areas are to be designed as far as practical to integrate with adjoining sites.

Clear pedestrian paths are to be provided from the street pedestrian paths through the site to the main building entry.

Parking areas and access driveways must be paved or sealed with asphalt.

Bicycles

Provision shall be made for secure bike parking for employees and the public and 'end of trip facilities' for employees.

Public bike parking facilities are to be located so they do not disrupt pedestrian movements within the precinct.

Servicing and storage

All plant and equipment areas should be screened or located away from public areas, particularly from the street. The exception to this may be where stacks or ductwork that are necessary for the building function are designed to be a feature design element of the building.

No open storage of goods, unserviceable vehicles or machinery shall be carried out on within the front boundary setback area (forward of the building line), which shall be used only for landscaping and drainage, car parking, servicing, loading and unloading, or where appropriate and subject to the approval of the Council, for trade display.

All open storage areas shall be screened from the street and adjoining properties by landscaping, fencing and/or other means approved by the Shire. Service areas to be located and designed to minimise noise impacts on surrounding areas.

Roof space shall be designed to conceal any plant, equipment, lift motor rooms etc.

Fencing

No fencing is to be constructed within the street setback area.

The minimum fencing standard in the precinct where fencing is visible from the street is an 1800mm high metal tube framed vertical pale and horizontal rail fence with powder coat finish. All vertical pale fencing must feature a minimum nominal open area of 80%.

Signage

A high standard of signage is required as an integral part of achieving a high quality urban form in the precinct.

Signage shall be integrated into the design of the building, relate to the architectural design of the building and not obscure architectural features.

Signage shall be considered as part of building design and is to be restrained. Repetitive or portable freestanding advertising such as banners, A-Frames or flags are not permitted.

Planning applications for any buildings within the precinct are to include signage strategies.

Western Power Depot (Lot 13)

Given the specialised use of Lot 13 as a Western Power Depot and its relatively obscured location, development of Lot 13 is not subject to the design guidelines set out above. Development on this lot is to be considered on its merit having regard to the potential impacts on the character and amenity of the adjoining properties and the general area.

Residential Precinct

Character statement

The residential precinct will provide part of a transition from the neighbourhood centre precinct to the predominantly single residential character beyond the centre. Higher residential densities are encouraged to maximise the population within walking distance of the centre and in order to provide for community needs, allow for lifestyle choice, promote affordability and encourage access to services.

The precinct will provide for a mixture of dwelling types which will offer variety of housing forms. Dwellings will front the west with vehicular access from the shared driveways within the centre not only provide for improved streetscape but also acoustic protection for residents from the centre activity. Tree lined walkways through the precinct provide safe and convenient pedestrian links between the neighbourhood centre and residential area beyond.

The close proximity to the services and transport links of the Centre makes this precinct well suited to accommodate home based and other low scale businesses and also ancillary dwellings, in the form of a laneway fronting studios. These uses front the adjoining centre shared driveway in order to promote improved surveillance of adjacent areas.

Preferred uses

Land use permissibility for the precinct is guided by Town Planning Scheme No 4.

A wide range of dwelling types including attached and detached terraces, townhouses and small scale multiple dwellings are preferred within this precinct.

Ancillary dwellings, home based and other small scale businesses are encouraged to front the shared driveway to the east of the precinct.

Non-residential uses except as specifically provided for in this precinct are discouraged.

Design Guidelines

Residential density and design is to be in accordance with the R60 requirements of the Residential Design Codes or any Residential Design policy adopted by the Shire, except as otherwise set out below.

All dwellings are to be oriented toward and are to address the proposed primary street frontage which is proposed to be provided with the subdivision of the adjoining Lot 150. In addition all dwellings adjoining the pedestrian walkways shown on the plan attached to the policy and Pinjarra Road are to address and orientate toward these areas.

Vehicular access is to be obtained from the adjacent shared driveway shown on the plan attached to the policy.

Design of all development is to minimise the impact of noise from activity associated with the adjoining development and traffic from Pinjarra Road.

All residential dwellings shall incorporate large windows, balconies, outdoor living spaces and/or terraces that overlook the primary street and, where applicable, Pinjarra Road and pedestrian walkways.

Signage associated with any businesses is to be of a high standard, be integrated into the design of the building, relate to the architectural design of the building and not obscure architectural features. Signage shall be considered as part of building design and is to be restrained. Repetitive or portable freestanding advertising such as banners, A-Frames or flags are not permitted.

General Provisions

All development within the centre is to be connected to reticulated sewer and water.

All development is to be designed and located to protect the character and amenity of the adjoining Special Rural, tourism based and residential lots. Applications are to address the means of achieving this objective which may include reference to development setbacks, screen landscaping, fencing, landscape and sensitive placement and treatment of service areas, mechanical plant and lighting.

Development is not to encroach within the 10 metre road widening to Pinjarra Road as reserved in the Peel Region Scheme as Primary Regional Road.

Shared driveways as shown on the plan attached to this policy are to be protected by an easement in gross in favour of the public at large. The shared driveways and walkways shown along the southern side of Lots 151 and 403, between the Neighbourhood Centre/Business precincts and the Residential Precincts as well as the walkways shown on Lot 151 are to be created as rights of way/pedestrian access ways as relevant and are to be constructed with the land being ceded free of cost to the Crown and without payment of compensation at the time of subdivision or development of Lots 151 and 403.

Stormwater drainage is to be treated using water sensitive urban design techniques. An Urban Water Management Plan consistent with the Shire's Water Sensitive Urban Design Policy and the requirements of the Department of Water is to be provided as part of the application for planning approval.

An Acid Sulphate Soils Management plan may need to be prepared and implemented as part of development works.

A Mosquito Management Plan may need to be prepared and implemented as part of the development works.