Proposed McDonalds Restaurant Development Application Report

Lot 401 and 405 (465 and 475) Albany Highway
Orana WA 6330

PLANNING SOLUTIONS
URBAN & REGIONAL PLANNING
PS

Prepared for
McDonald's Australia Ltd

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1 Introduction

Planning Solutions acts on behalf of McDonald's Australia Limited, the proponent of the proposed development at Lots 401 and 405 (465 and 475) Albany Highway, Orana (**subject site**). Planning Solutions has prepared the following report in support of an Application for Development Approval for the development of a drive through McDonald's Fast Food Outlet on the north east portion (Lot 405) of the subject site (**development area**).

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

- Background.
- Site details.
- Proposed development.
- Statutory planning framework.

This application seeks development approval for the use and development of a drive through McDonald's fast food outlet and associated parking, landscaping, signage and access. The proposed development is situated within the north east portion of the existing Orana Neighbourhood Centre and will provide an additional convenience service to the surrounding locality.

The proposed McDonald's is suitably located along Albany Highway and is located near established civic and commercial land uses, expanding services to the greater Albany community. The design of the proposed development is contemporary in nature with the layout, form and scale complementary to adjoining land uses and site conditions.

Accordingly, Planning Solutions requests the Southern Joint Development Assessment Panel (**JDAP**) grant approval for the Application for Planning Approval.

2 Background

2.1 Pre-Lodgement Engagement

Preliminary engagement and consultation has occurred with the City of Albany (**City**) since project inception, including a tele-conference with officers of the City on 17 April 2019.

The outcome of the above engagement was as follows:

- No in-principle objections to the suitability of the proposed McDonald's development, including proposed site layout, built form and access arrangements. The City also advised it has no in-principle objection to the proposed landscaping, including to the adjacent road reserve to achieve a satisfactory BAL rating.
- The City advised that the landowners of Lot 401 have lodged engineering drawings for an additional entrance to the subject site from Albany Highway. It was advised that this entrance may assist in access and vehicle circulation to the proposed development.
- The application will be advertised to adjacent landowners on lodgement. Accordingly, an Environmental Noise Assessment will be submitted to accompany the application, as well as additional commentary on amenity considerations.
- A condition relating to the requirement for a public art contribution will be placed on the approval.

3 Site Details

3.1 Land Description

Refer to **Table 1** below for a description of the subject site.

Table 1 – Lot details

Lot	Plan / Diagram	Volume	Folio	Area (m²)
401	37217	2547	387	29,098m²
405	37217	2547	391	2,508m²
			Total	3.167 ha

Refer **Appendix 3** for copies of the Certificate of Title and Plan/Diagram.

3.1.1 Notifications and Encumbrances

Table 2 – Title details

Land description	Notification on Title
Lot 401 on Diagram 37217	Easement to Minister of Water Supply Sewerage and Drainage Restrictive Covenant to Commissioner for Main Roads. Easement Burden to Local Authority for drainage purposes created under section 167 of the P&D Act Easement Burden to Water Corporation created under section 167 of the P&D Act Easement Burden created under section 136C T.L.A for drainage purposes J160851 Easement Burden J160852 Easement Burden *N891883 Easement Burden for right of carriageway purposes *N891884 Easement Benefit for right of carriageway purposes *N891885 Easement Benefit for right of carriageway purposes *N994171 Easement Burden for access purposes *O115785 Lease to Coles Supermarkets Australia Pty Ltd
Lot 405 on Diagram 37217	Restrictive Covenant to Commissioner for Main Roads. Easement Burden created under section 27A of the T.P&D Act. N891883 Easement Benefit for right of carriageway purposes N891884 Easement Benefit for right of carriageway purposes N891885 Easement Benefit for right of carriageway purposes N994171 Easement Benefit for access purposes

Right of Carriageway easements N891883, N891884 and N189885 burden Lot 401 and provide vehicles access to Lot 405 from Albany Highway and Le Grande Avenue. These easements have been detailed on the development plans.

3.2 Location

3.2.1 Regional Context

The subject site is located within the southern coastal city of Albany, within the municipality of the City of Albany (**City**). Albany is located approximately 390km south of Perth. The city of Albany is the hub of commercial and civic activity for the greater southern region and comprises an urban population of approximately 29,000 people.

3.2.2 Local Context, Land Use and Topography

The subject site is situated within the locality of Orana and is located approximately 4.5km north of the Albany city centre. The subject site fronts and has access to Le Grande Avenue and Albany Highway, linking the subject site to the Albany city centre, Perth, and the broader suburbs.

The development area is situated within the Orana Neighbourhood Centre which comprises a Coles supermarket complex, the Orana cinema complex and associated car parking. The Great Southern Institute of Technology is located on the opposite side of Albany Highway.

Broadly, the subject site is surrounded by a variety of commercial and civic land uses fronting Albany Highway, as well as low density rural residential and residential properties. The following significant uses and attractions are within proximity of the subject site:

- Department of Agriculture and Food - Albany office.
- North Albany Senior High School.
- Motel Le Grande.
- Le Grande Park.
- Ibis Styles Albany.
- Amity Tavern.
- Albany Bowling Club.

The subject site is highly accessible with bus services locating along Albany Highway, approximately 350 metres from the subject site. Off-street pedestrian paths and bicycle friendly roads are provided along all street frontages, linking the subject site to the surrounding locality.

The subject site is practically flat with a variation across the site of only 1 - 2 AHD.

Refer to **Figure 1**, aerial photograph.

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SCALE	1: 2,000 @ A4
DATE	28 February 2020
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Scale Bar (m) 0 50

AERIAL PHOTOGRAPH

LOT 401 and 405 (465 and 475)
ALBANY HIGHWAY,
ORANA, WESTERN AUSTRALIA

FIGURE 01

4 Proposed Development

The proposal involves the development and use of a McDonald's Drive Through Food Outlet (**fast food outlet**) on the subject site, including parking, access and signage.

The development configuration has been considered carefully and holistically to ensure internal operation and site functionality is maximised, whilst ensuring the facility is designed responsively to the environmental elements in and around the site. The fast food outlet improves the streetscape through passive surveillance, attractive landscaping and activity generation at a currently vacant site in the Orana commercial precinct.

The proposed development will provide a valuable service to the local community and patrons travelling along the surrounding road network. The proposed fast food outlet is suitably located within an established commercial precinct and will expand the offering of commercial services to the expanding Orana and wider Albany community.

4.1 Site Layout and Built Form

The proposed McDonald's Drive Through Food Outlet will provide for the preparation, sale and serving of food and beverages to customers, for consumption either on or off the premises.

Specifically, the proposed development comprises:

- A McDonald's family restaurant building situated within the northern portion of the subject site, comprising a 420m² gross leasable area.
- An enclosed plant and servicing area on the western side of the building, with an adjacent shared loading bay for service vehicles.
- A dual-lane drive-through facility with ordering menus and speaker boxes to the west of the building.
- A single lane drive-through and pick-up window with canopy and drive-through screen on the northern elevation of the building.
- Various signage associated with McDonald's corporate imagery.
- 24 car parking bays for customers and staff, including one disabled parking bay adjacent to the restaurant entrance.
- Two drive-through waiting bays plus car stacking capacity for 11 standard vehicles within the drive-through facility.
- Bicycle racks located on the south side of the restaurant adjacent to the entrance, allowing space for 4 bicycles.
- Landscaping along the frontages and within the subject site, including a mix of soft landscaping beds and shade trees (10 trees).
- An internal footpath network which is proposed to link the building entrance with the existing pedestrian footpath from Le Grande Avenue.

The proposed restaurant is located within the northern portion of the subject site, with a setback of 9.74m from Albany Highway, a minimum of approximately 12.8m from the southern boundary (fronting internal bituminised road), 11m from the western boundary (abutting Lot 401) and 6.2m from the northern boundary.

The active frontages of the proposed restaurant building are orientated south towards the existing Coles shopping centre and associated car park as well as Albany Highway. The restaurant is accessible by cars travelling in (south) and out (north) of Albany via Albany Highway. Pedestrian infrastructure is also focussed along the eastern and western boundaries with a 2.2m footpath provided along the western frontage of the building, and a 2.5m footpath on the eastern side of the site, along Albany Highway. Both footpath networks are contained within, or connect to, the subject site (Lot 401).

The proposed restaurant building employs a range of architectural design features, resulting in a high-quality built form outcome. These features include:

- Articulation in the built form, including the double height glazed 'Play Place' corner statement.
- Building entrance and substantial glazing to the southern façade to allow for access and a direct line of sight between the restaurant building and car parking area.
- Integrated signage which is sympathetic to the scale, layout and design of the overall building.

The drive through facility is situated at the rear of the building, along the western and northern boundaries of the subject site. The plant and servicing area is located west of the building. The plant and servicing corral is enclosed within the building and is accessed adjacent to the drive through lane, which allows for the access and temporary stopping of service vehicles.

Refer to **Appendix 2** for the development plans, and **Figure 3** below for a render of the proposed restaurant.

Figure 3 – Proposed McDonalds restaurant, Orana – south-eastern elevation.

4.2 Parking, Access and Traffic Management

The development site will be accessed by two vehicle access points to the shopping centre site:

- One 6.2m wide full movement crossover to the southern internal road on Lot 401 which exits onto Le Grande Avenue. The crossover comprises of one ingress and one egress lane;
- One 9.96m wide full movement crossover to the western internal road located within Lot 401 which exits onto Le Grande Avenue, comprising one dedicated ingress left turn pocket, one egress lane and one ingress lane.

This arrangement enables a functional and efficient two-way flow through the development site and subject site as a whole, and enables ease of movement for vehicles returning to the road network. The movement network will be clearly articulated to drivers through line markings and directional signage.

The development site will also provide reciprocal access between the development site and the rest of Lot 401.

The proposed development is supported by a Transport Impact Assessment prepared by traffic engineers, Transcore (refer **Appendix 3**). The assessment confirms the proposal is satisfactory from a traffic and access perspective, and that there will be an insignificant impact on the surrounding road network. Key findings of the TIA are as follows:

- A conservative estimate of 50% passing trade was applied to the traffic assessment for the McDonald's development. This resulted in a net additional traffic generation estimate of 72 and 124 vehicles per hour during the Friday PM and Saturday midday peak hour respectively. This level of traffic would have an insignificant impact on the surrounding road network.
- Swept path analysis confirms that the proposed entry and egress arrangements and site layout will operate in a safe and efficient manner.
- The Albany Highway/Le Grand Avenue intersection and Le Grand Avenue/Coles Access Road intersection will operate satisfactory during both the post-development scenario and 10-year post-development scenario.
- During peak periods, queuing from the drive-through facility will be contained within the development site and the drive-through lanes, with no impact on surrounding roads.
- The proposed development will not increase traffic flows anywhere near the WAPC Transport Impact Assessment Guidelines (2016) threshold and therefore does not warrant any further detailed analysis.

4.3 Operation and Amenity Management

The McDonald's Drive Through Food Outlet will operate 24 hours per day, seven days a week, and will accommodate 10 to 15 staff at any one time. 24 hour operation is proposed for all new McDonald's restaurants in proximity to major roads, and is designed to cater to the needs of the locality and travelling public at all times.

Deliveries and waste collection will be undertaken in the loading bay located west of the building. The service vehicles and waste collection trucks will enter the site from Le Grande Avenue, circulate the car parking area and access the loading bay in reverse gear. Service vehicles will leave the loading bay and return to Le Grande Avenue in forward gear via the western crossover.

Service vehicles and waste collection trucks will access the site outside the peak operating times of the business, resulting in minimal traffic conflicts between customers, employees and service vehicles. The site will be serviced by 12.5m rigid trucks. Turn path analysis confirms satisfactory vehicle movements through the site for this size truck.

4.4 Noise Management

The development site is located within proximity of existing residential properties. Accordingly, given 24 hour operation is proposed, an Environmental Noise Assessment has been undertaken by Lloyd George Acoustic Engineers (refer to **Appendix 4**).

The assessment has modelled and assessed potential noise sources associated with the proposed development, and the resultant impact on nearby residences namely on Le Grande Avenue and Andorra Road. The report concludes that the 24 hour operation of the proposed development will comply with the *Environmental Protection (Noise) Regulations 1997*, and no further noise controls are required.

Refer to **Appendix 4** for the Environmental Noise Assessment prepared by Lloyd George.

4.5 Landscaping

A total of 435m² of landscaping area is provided, making up 17.3% of the development site.

This landscaping is concentrated along the street frontages and adjacent to the vehicle movement and car area, which includes the following key landscaping areas:

- 234m² landscaping area in the north west corner portion of the site;
- 78m² of landscaping on the eastern edge of the proposed restaurant building (hedges and kangaroo paw); and
- Other landscaping scattered around the perimeter of the car park area.

The development will also provide a total of 10 shade trees (Agonis Flexuosa), concentrated along the northern boundary and southern boundary fronting the car park of Lot 401. A tree is also proposed either side of the western crossover. Substantial landscaping is provided, and is concentrated in areas which will provide the greatest amenity benefit.

Approximately 959m² road reserve area adjacent to the subject site is proposed to be modified to ensure the verge can act as an Asset Protection Zone. Clusters of small trees and shrubs will be removed and re-mulching to a level of 150mm will occur in the area. This will increase the aesthetic and amenity of the street and mitigate risk of bushfire (refer section 4.6 below).

Refer to **Appendix 5** for the site landscaping plan and road reserve landscaping plan.

4.6 Bushfire Management

The subject site is located within a designated bushfire prone area in accordance with the Department of Fire and Emergency Services Map of Bushfire Prone Areas, a Bushfire Attack Level (**BAL**) assessment was undertaken on the subject site.

A BAL rating of 'BAL-Low' was identified for the subject site, with the BAL rating calculated at BAL-12.5. This negates the need to conduct further bushfire assessment or require specific fireproofing construction requirements as per State Planning Policy 3.7 Planning in Bushfire Prone Areas (**SPP3.7**).

The road reserve adjacent to the subject site along Albany Highway will be managed as an 'Asset Protection Zone' in accordance with the WAPC's requirements of *Standards for Asset Protection Zones*. The vegetation in this area will be managed in perpetuity in a low fuel state.

Refer **Appendix 5** – Bushfire Attack Level Assessment and Bushfire Management Plan.

4.7 Stormwater and Wastewater Management Details

Sewerage connection encroaches the north west corner of the site from the internal access road. A detailed stormwater management plan can be provided at the detailed design phase and form a condition of development approval.

4.8 Signage

The proposal incorporates advertising signage on the premises as part of the overall development.

Specifically, the proposed signage comprises:

Table 3 – Proposed signage

Signage Type	Description	Size	Label on plans
Wall sign	4 x wall and blade "M" logo signs 1 x "McDonald's" entry fascia sign 2 x "PlayPlace" signs 1 x High "McCafe" wall button sign 1 x High "McCafe" wall sign 1 x High "McCafe" wall sign	1.37m x 1.2m 1.9m x 0.23m 2.4m x 0.69m 1.2m high 1.49m x 0.7m 2.14m x 1m	S3A, S3B, S3C, S3D S4A S1A, S1B S5A S5B S5C
Illuminated sign	2 x Single digital menu board at drive-through entrance and ordering point. 2 x Double digital menu board at drive-through entrance and ordering point.	1.86m x 0.69m x 0.19m 1.84m x 1.3m x 0.27m	S7C and S7D S7A and S7B
Flagpole	1 x "McDonalds" logo flag 1 x Australian flag	8.5m high 8.5m high	S12 S12
Banner sign	3 x Banner signs	2.85m 3.6m	313A, S13B, S13C
Pylon sign	1 x "McDonalds" sign 1 x "McDonalds" sign	9m x 4.34m 6m x 4.34m	S14A S14B

Additional signs include:

- Four 0.7m x 2.3m directional signs in various locations throughout the subject site (S8 on plans).
- Seven non-illuminated car park signs (S9 on plans).
- Two height clearance gantry 2.25m x 3m (S6 on plans).

The proposal incorporates a mix of illuminated and non-illuminated signage. The proposal incorporates high quality advertising sign panels that complement the architectural style and design of the building. The signage is consistent with McDonald's corporate branding implemented on all new and refurbished sites across Australia.

Refer to **Appendix 2** for a copy of the development plans which depict the proposed signage.

5 Statutory Planning Framework

5.1 State Planning Policies

5.1.1 State Planning Policy 3.7 – Planning for Bushfire Prone Areas

The Western Australian Planning Commission's (**WAPC**) *State Planning Policy 3.7 Planning in the Bushfire Prone Areas* (**SPP3.7**) sets out the foundations for land use planning to address bushfire risk management. It applies to all development located within designated 'bushfire prone areas'.

The subject site falls within a designated bushfire prone area as identified by the Department of Fire and Emergency Services Map of Bushfire Prone Areas. As such, pursuant to the requirements of SPP3.7, a Bushfire Attack Level Assessment (**BAL**) was prepared for the proposed development.

Refer **Appendix 5** for a copy of the Bushfire Attack Level Assessment, and **Section 4.6** of this report for information regarding the bushfire management of the site.

5.2 City of Albany Local Planning Scheme No. 1

5.2.1 Zoning, Land Use and Permissibility

The subject site is zoned 'Neighbourhood Centre' under the provisions of the City's Local Planning Scheme No. 1 (**LPS1**). Refer **Figure 2** – zoning map.

Pursuant to Clause 3.2.12 of LPS1, the objectives of the Neighbourhood Centre zone are to:

(a) *Provide for a range of retail and service activities that cater for the weekly shopping and service needs of the local community, which are located within the community they are seeking to serve, are adjacent to public transport routes and are compatible with the surrounding uses;*

(b) *Provide an activity centre for the co-location and integration of complementary services such as offices, medical and welfare services within or adjacent to the zone to improve usage by the community; and*

(c) *Control the amount of net lettable floorspace available within identified neighbourhood centres in accordance with the recommendations of the Activity Centres Planning Strategy.*

The proposal involves the use and development of a fast food outlet on the subject site, providing additional commercial services to the locality. The proposed development is suitably located within a neighbourhood centre and is compatible with the predominate surrounding commercial and civic land uses. The proposed development is appropriately located along Albany Highway and is in close proximity to public transport services.

It is considered that the proposed development meets the objectives of the Neighbourhood Centre zone and warrants approval accordingly.

5.2.2 Land Use and Permissibility

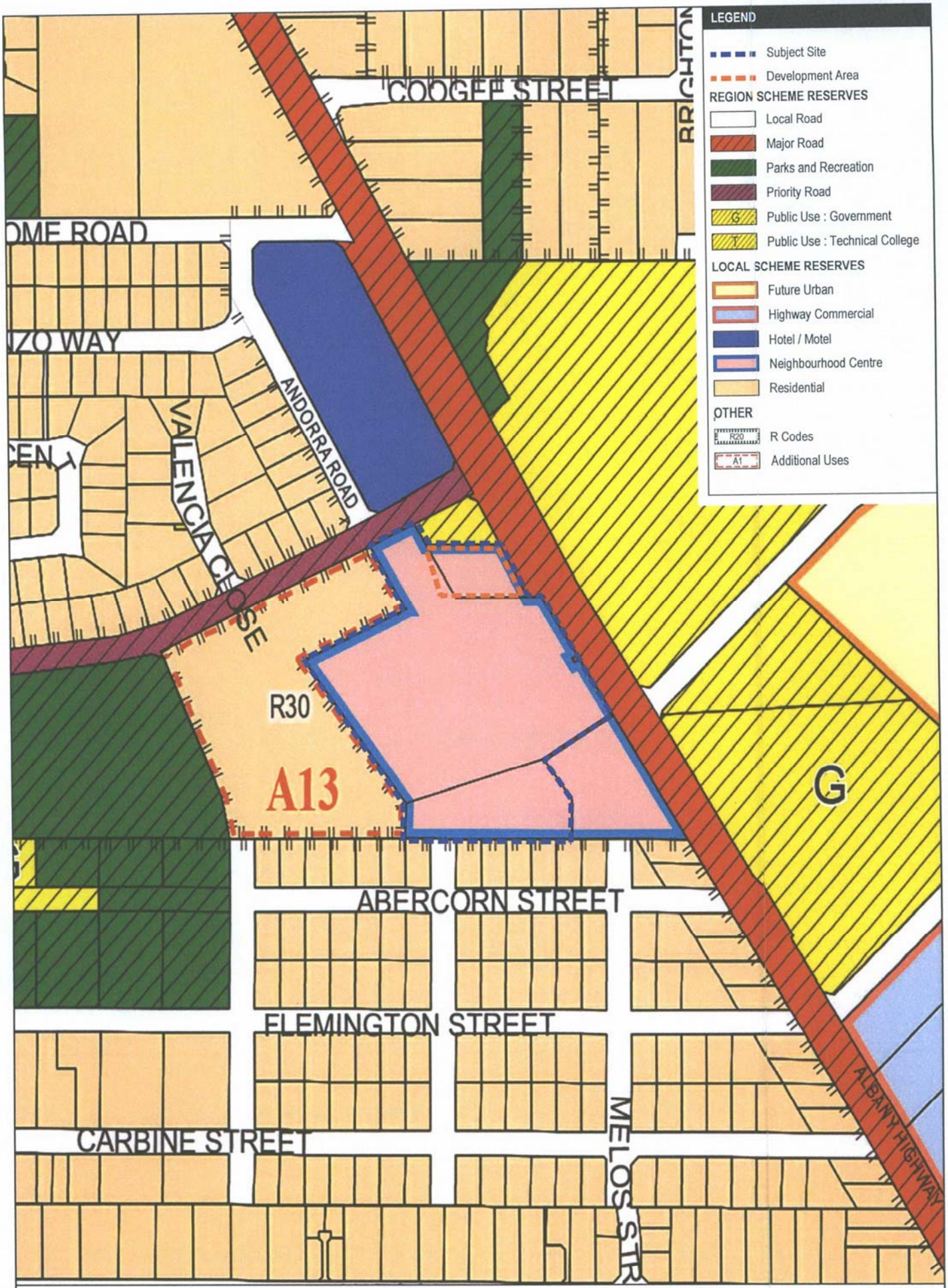
Pursuant to the Schedule 1 of LPS1, the proposed development is best classed as 'Fast Food Outlet', defined as:

> ***fast food outlet*** *means premises used for the preparation, sale and serving of food to customers in a form ready to be eaten without further preparation, primarily off the premises, but does not include a lunch bar;*

A Fast Food Outlet is a 'D' Discretionary use within the Neighbourhood Centre zone, meaning the use is not permitted unless the decision maker has exercised their discretion and approved the development. It is considered that the proposed use is entirely appropriate and suitable for development on the subject site for the following reasons:

1. The proposed development is suitably located within a neighbourhood centre and is adjacent to a variety of completely commercial and civic land uses.
2. The proposed McDonald's will provide additional commercial services to the surrounding locality as well as additional employment opportunities for the local community.
3. The design of the proposed development is contemporary in nature with the layout, form and scale complementary to adjoining land uses and site conditions.
4. The proposal is appropriately located along Albany Highway and is supported by a Traffic Impact Assessment which demonstrates it is satisfactory from a traffic and access point of view.
5. An acoustic assessment has been undertaken, demonstrating the proposal will comply with the *Environmental Protection (Noise) Regulations 1997*.

For the reasons outlined above, it is considered the proposed Fast Food Outlet is entirely compatible land use within the Orana neighbourhood centre and should be approved accordingly.



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SCALE	1: 4,000 @ A4
DATE	28 February 2020
FILE	02 200228 6073 Zoning Map.dwg
REVISION	1/NK/First Draft/22.01.2020

Scale Bar (m)

ZONING MAP
LOT 401 and 405 (465 and 475)
ALBANY HIGHWAY,
ORANA, WESTERN AUSTRALIA

FIGURE 02

5.2.3 Neighbourhood Centre Zone Development Requirements

Clause 4.5.10 provides the development requirements of the Neighbourhood Centre zone. An assessment against the relevant provisions is provided in **Table 4** below.

Table 4: Assessment against the Neighbourhood Centre zone requirements

Provision	Requirement	Proposed	Compliance
4.5.10.1 Maximum NLA	Maximum NLA for a shopping centre development As per Table 3 – 5,000m² NLA	**N/A** – fast food outlet proposed, not shopping centre.	✓
4.5.10.2 Planting of Trees	Minimum 1 tree per 6 car parking spaces	24 formal car parking spaces are provided, requiring 4 trees to be planted. The development proposes 10 new trees on site.	✓
	Trees must be capable of growing at least three metres in height	Large landscaping areas are provided along the northern boundary of the site. These areas can contain larger trees. A landscape plan can be provided as a condition of planning approval to detail what landscaping will be provided in these areas.	✓
4.5.10.5 Building Façade	Long, relatively blank building facades to any public building space are not acceptable.	There are no long, blank building facades fronting public building space.	✓
4.5.10.6 Ground Floor Façade	A minimum of 50% of the area of a building façade at ground level facing a street or public space including a car park shall be comprised of windows or glazed doors and the term 'at ground level' shall mean the lowest two metres of building façade measured above footpath level.	Approximately 50% of the area of the proposed building façade at ground level facing a street or public space (including car park) is comprised of windows and glazed doors. This includes the eastern and southern elevations (E1 and E2 on the development elevations).	✓

5.2.4 All Zones Development Requirements

Further site and development standards, applicable to all zones, is provided within Clause 4.8 of LPS1. An assessment against the relevant provisions of Clause 4.8 are provided in **Table 5** below.

Table 5: Site and development requirements

Provision	Requirement	Provided	Compliance
4.8.1.4 – Access Point Design	All vehicle access points shall be designed so that all vehicles can enter and leave the lot in a forward gear.	All proposed crossovers provide for forward gear access and egress.	✓
4.8.1.11 Service Areas	The Local Government shall require an area to be provided on-site other than a car parking bay, for the loading and unloading and servicing or dispatch or receipt of goods and materials associated with any commercial or industrial use.	A dedicated service and loading area is provided to the rear (western elevation) of the building. This area is designed to accommodate service vehicles up to 12.5m in length. Swept path analysis demonstrating the movement of 12.5m service vehicles into the loading area is provided in the TIA (**Appendix 3**).	✓

4.8.1.12 Design of Service and Loading Areas	All loading and servicing areas and associated vehicle crossings required to be provided shall comply with the following requirements: (a) Be located, constructed, drained, paved, lit and screened from public view to the satisfaction of the Local Government; (b) Designed to ensure that vehicles using them are able to enter and leave the premises in a forward gear; (c) Constructed to prevent traffic conflict with any adjoining vehicle crossovers, parking areas, public roads or rights-of-way; (d) Be marked on-site and permanently retained for that exclusive use; Be suitably designed and treated to ensure that activities carried out in the loading and service area do not cause nuisance to adjoining land uses due to the emission of noise, dust, smoke, light or other pollutants.	(a) The loading area adjacent to the western elevation is partially screened by the menu boards and height clearance gantry, with no customer pedestrian access to this side of the building. The loading and bin area are also screened from Albany Highway and Le Grande Avenue due to the western location on the site. (b) Swept path analysis within the TIA demonstrates that a 7.5m vehicles is capable of entering and exiting the subject site in forward gear. (c) A dedicated loading area is provided, which is separated from vehicle movement and parking areas. (d) The loading area is marked and includes "no entry" ground marking to prevent entry from vehicles or pedestrians other than service personnel. The loading area will be used for loading, collection and delivery of food and packaging items, with no activities capable of causing major nuisance undertaken in this area.	✓
4.8.2.1 Sewerage and On-site Effluent Disposal	Any building or development that is required to dispose of liquid effluent shall: a) Be connected to the Water Corporation reticulated sewerage system unless advised by the Water Corporation that a connection cannot practically be provided; or b) Provide an on-site effluent disposal system. c) Implement a disposal process for chemical or oil substances in accordance with the Environmental Protection Authority guidelines.	Water Corporation reticulated sewerage system encroaches the north west corner of the site from the internal access road, providing services to the subject site.	✓
4.8.4.1 Use of Setback Areas	A person shall only use land within the setback area for one or more of the following purposes: (a) A means of access/egress; (b) Display of approved public artworks; (c) The daily parking of passenger vehicles in an approved car parking area; (d) The loading and unloading of vehicles; (e) Landscaping with lawns, gardens, trees, shrubs and structures; (f) Rural pursuits in the case of land within an agricultural related zone; (g) Private open space in the case of group and multiple dwellings.	The front setback area of the development area is used only for the drive-through access. The side setback areas are used for drive-through access, landscaping and car parking area. The rear setback area is used for the access/egress crossover and entry to the drive-through.	✓

	(h) In an Industry zone, a trade display; or (i) In a Commercial zone, a verandah, awning, pergola or the like to provide weather protection over an alfresco dining area, for the display of goods or for other similar activity.		
Table 8 - Site Requirements – Neighbourhood Centre Zone			
Max Plot Ratio	0.6 (1,504.8m²)	Combined area of retail building and liquor shop – 0.17 (420m²)	✓
Min Front Setback	7.5m	Setback of the restaurant building to Albany Highway (front setback) is minimum of 9.74m	✓
Min Rear Setback	5m	Restaurant – 11.05m	✓ ✓
Min. Side Setback	5m	Restaurant building – 6.15m	✓
Table 9 - Landscaping Requirements – Neighbourhood Centre Zone			
Landscaping	Minimum 20% of site area (approx. 501.6m²)	The proposed development provides a total of approximately 435m² landscaping, being 17.3% of the total development area. The proposed landscaping incorporates addition trees and high quality landscaped species to ensure an appropriate outcome for the subject site.it is considered the minor variation in landscaping is offset by in the inclusion of these proposed trees and is acceptable for the development area.	**Variation**

5.2.5 Car Parking Requirements

Table 6 of LPS1 details the car parking rates for various uses. An assessment of the car parking requirements for the subject site is provided in **Table 6** below.

Table 6: Car Parking

Land Use	Parking Standard	Variable	Required Car Bays
Fast Food Outlet	1 per 2.5m² queuing area (4 bays min.) + 1 per 5m² eating area + 4 car queuing spaces for drive through facility.	Queuing area: 4 bays (10m²) Eating area: 15 bays (73m²) Car queuing spaces for drive-through:11 queuing spaces	19 parking bays and 4 queuing bays
		Total Bays Provided	24 bays
		TOTAL SURPLUS	**5 bays**

As demonstrated in the above table, the proposed development provides adequate on site car parking facilities.

5.2.6 Bicycle Parking Requirements

Table 6 of LPS1 also details the bicycle parking rates for various uses. An assessment of the car parking requirements for the subject site is provided in **Table 7** below.

Table 7: Bicycle Parking

Land Use	Parking Standard	Variable	Required Bicycle Bays
Fast Food Outlet	1 per 10 bays	24 car bays = 2.4 bicycle bays	3
		Total Bays Provided	4 bays
		TOTAL SURPLUS	**1 bay**

The development will provide a total of 4 bicycle bays adjacent to the southern entry to the restaurant, which exceed the minimum requirement of 3 bays.

5.3 Local Planning Policies

5.3.1 Signs Local Planning Policy

The City's Signs Local Planning Policy (**Signs LPP**) details the development standards applicable to advertising signs in the City. Table 1 of the Signs LPP details the specific requirements for particular signage types. These requirements are addressed in **Table 8 and 9** below.

Table 8: Pylon Signs LPP requirements

Requirement	Provided	Compliant
Pylon Sign		
Max height (sign face) – 4m	4.2m	**Variation**
Max width (sign face) – 3m	4.34m	**Variation**
Max area – 10m^2	Approx. 9.3m^2	✓
Min distance to Bottom of Sign – 2.75m	Min 1.78m located within landscaped area	✓
Max height – 6m	Max height 9m Max height 6m	**Variation** ✓
Max projection from building – 0.9m into public places	No projection	✓
Min setbacks to front boundary – 0.5m to post/s	1.84m	✓
Setbacks to side boundary – 1m	1.85m minimum	✓
Other requirements: • Only 1 pylon/monolith sign per lot.	2 pylon "M" signs.	**Variation**

The proposed McDonald's pylon signs are considered to be appropriate on the subject site and consistent with this type of development. The proposed signs should be considered on their merits and approved for the following reasons:

- The location of the pylon signs does not compromise vehicle sightlines from the crossovers or nearby intersections. The additional height therefore does not result in any loss in driver's safety.
- The signage is consistent with McDonald's corporate branding which is implemented on new and refurbished sites across Australia. Therefore, this signage is proven to be appropriate within the streetscape.

- The proposed pylon signs are of a high standard of design and presentation. The orientation of each of the signs presents to a separate street frontage. The 9m sign fronts Albany Highway with the 6m sign fronting Le Grande Avenue. This development area functions as a corner site and due to access constraints, it is necessary to ensure suitable exposure to both streets so customers can identify the site and access accordingly.
- The size of the head of the pylon sign larger than the max width and height requirements. This is a standard size used by McDonald's across Australia. The minor variation is considered negligible when considering the signs in the context of the Albany Highway and Le Grande Avenue streetscapes.

For these reasons it is considered the proposed pylon signs should be supported.

Table 9: Wall Signs LPP requirements

Requirement	Provided	Compliant
Wall sign		
Max Height – 3m	Max wall sign height 1.2m	✓
Max Width – 7m	Max wall sign width 2.4m	✓
Max Area – 15m^2	Max area does not exceed 15m^2	✓
Min Distance to Bottom of Sign – 1.5m	All distance to bottom of sign > 1.5m	✓

The proposed wall signage is consistent with the Signs LPP and should be approved accordingly.

5.3.2 Public Art Local Planning Policy

The City's Public Art Local Planning Policy requires a 1% contribution of the estimated total project cost for commercial developments valued over $1.5 million to development of a public artwork. This requirement will be addressed following development approval.

6 Conclusion

This application seeks approval for the use and development of a 24 hour drive through McDonald's fast food outlet and associated parking, landscaping, signage and access on the development area. The proposed development will provide additional commercial services to the surrounding locality and will contribute to the ongoing development of the emerging Orana Neighbourhood Centre.

In summary, the proposed development is compliant with the relevant aspects of the planning framework and warrants approval for the following reasons:

- The proposed facilities will provide essential services to the current and emerging population of Orana, and patrons travelling along Albany Highway.
- The proposed development aligns with the objectives of the Neighbourhood Centre zone – demonstrating the suitability/appropriateness of the use on the subject site.
- The proposed development has been responsively designed to address the prevailing environmental features of the subject site and adjacent land.
- The various technical reporting prepared in support of the development confirms the proposal is acceptable from a traffic impact, bushfire hazard and acoustic amenity perspective.
- The proposed development adds to the existing commercial offerings in the area, increasing the convenience and variety offered at the centre.
- The proposed development is designed to a high standard, and will result in a positive built form outcome for the site and the established commercial precinct in which it is located.

Having regard for the above, the proposal demonstrates the suitability of the proposed development on the subject site. Accordingly, we respectfully request the Southern JDAP grant approval to the proposed development.

Appendix 1
Certificates of Title and Plan

WESTERN AUSTRALIA

REGISTER NUMBER	
405/DP37217	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
3	11/10/2018

VOLUME 2547 FOLIO 391

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.

REGISTRAR OF TITLES

REGISTRAR OF TITLES WESTERN AUSTRALIA

LAND DESCRIPTION:

LOT 405 ON DEPOSITED PLAN 37217

REGISTERED PROPRIETOR:
(FIRST SCHEDULE)

ANDEARP PTY LTD OF 800 TOORAK ROAD HAWTHORN EAST VIC 3123

(T N891881) REGISTERED 8/5/2018

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

1. I560195 RESTRICTIVE COVENANT TO COMMISSIONER FOR MAIN ROADS REGISTERED 28/7/2003.
2. EASEMENT BURDEN CREATED UNDER SECTION 27A OF T. P. & D. ACT - SEE DEPOSITED PLAN 37217.
3. N891883 EASEMENT BENEFIT FOR RIGHT OF CARRIAGEWAY PURPOSES - SEE DEPOSITED PLAN 405159 REGISTERED 8/5/2018.
4. N891884 EASEMENT BENEFIT FOR RIGHT OF CARRIAGEWAY PURPOSES - SEE DEPOSITED PLAN 405159 REGISTERED 8/5/2018.
5. N891885 EASEMENT BENEFIT FOR RIGHT OF CARRIAGEWAY PURPOSES - SEE DEPOSITED PLAN 405159 REGISTERED 8/5/2018.
6. N994171 EASEMENT BENEFIT FOR ACCESS PURPOSES. SEE DEPOSITED PLAN 414656 REGISTERED 26/9/2018.

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

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

STATEMENTS:

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

SKETCH OF LAND:	DP37217
PREVIOUS TITLE:	2106-286
PROPERTY STREET ADDRESS:	475 ALBANY HWY, ORANA.
LOCAL GOVERNMENT AUTHORITY:	CITY OF ALBANY

WESTERN AUSTRALIA

REGISTER NUMBER	
401/DP37217	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
2	24/3/2005

VOLUME 2547 FOLIO 387

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.

REGISTRAR OF TITLES

REGISTRAR OF TITLES WESTERN AUSTRALIA

LAND DESCRIPTION:

LOT 401 ON DEPOSITED PLAN 37217

REGISTERED PROPRIETOR:
(FIRST SCHEDULE)

LOTANA PROPERTY PTY LTD OF UNIT 203 74 OLD BURLEIGH ROAD SURFERS PARADISE QLD 4217
(T O115786) REGISTERED 22/3/2019

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

1. B448884 EASEMENT TO MINISTER OF WATER SUPPLY SEWERAGE AND DRAINAGE. SEE DEPOSITED PLAN 37217. REGISTERED 13/12/1977.
2. I560195 RESTRICTIVE COVENANT TO COMMISSIONER FOR MAIN ROADS REGISTERED 28/7/2003.
3. *EASEMENT BURDEN CREATED UNDER SECTION 167 P. & D. ACT FOR DRAINAGE PURPOSES TO LOCAL AUTHORITY - SEE DEPOSITED PLAN 37217.
4. *EASEMENT BURDEN CREATED UNDER SECTION 167 P. & D. ACT FOR WATER, SEWERAGE OR DRAINAGE PURPOSES TO WATER CORPORATION SEE DEPOSITED PLAN 37217.
5. *EASEMENT BURDEN CREATED UNDER SECTION 136C T.L.A. FOR DRAINAGE PURPOSES - SEE DEPOSITED PLAN 37217.
6. J160851 EASEMENT BURDEN - SEE SKETCH IN INSTRUMENT J160851 REGISTERED 24/1/2005.
7. J160852 EASEMENT BURDEN - SEE SKETCH IN INSTRUMENT J160852 REGISTERED 24/1/2005.
8. *N891883 EASEMENT BURDEN FOR RIGHT OF CARRIAGEWAY PURPOSES - SEE DEPOSITED PLAN 405159 REGISTERED 8/5/2018.
9. *N891884 EASEMENT BENEFIT FOR RIGHT OF CARRIAGEWAY PURPOSES - SEE DEPOSITED PLAN 405159 REGISTERED 8/5/2018.
10. *N891885 EASEMENT BENEFIT FOR RIGHT OF CARRIAGEWAY PURPOSES - SEE DEPOSITED PLAN 405159 REGISTERED 8/5/2018.
11. *N994171 EASEMENT BURDEN FOR ACCESS PURPOSES. SEE DEPOSITED PLAN 414656 REGISTERED 26/9/2018.
12. *O115785 LEASE TO COLES SUPERMARKETS AUSTRALIA PTY LTD OF 800 TOORAK ROAD HAWTHORN EAST VIC 3123 EXPIRES: SEE LEASE. REGISTERED 22/3/2019.

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.
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Lot as described in the land description may be a lot or location.

END OF PAGE 1 - CONTINUED OVER

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

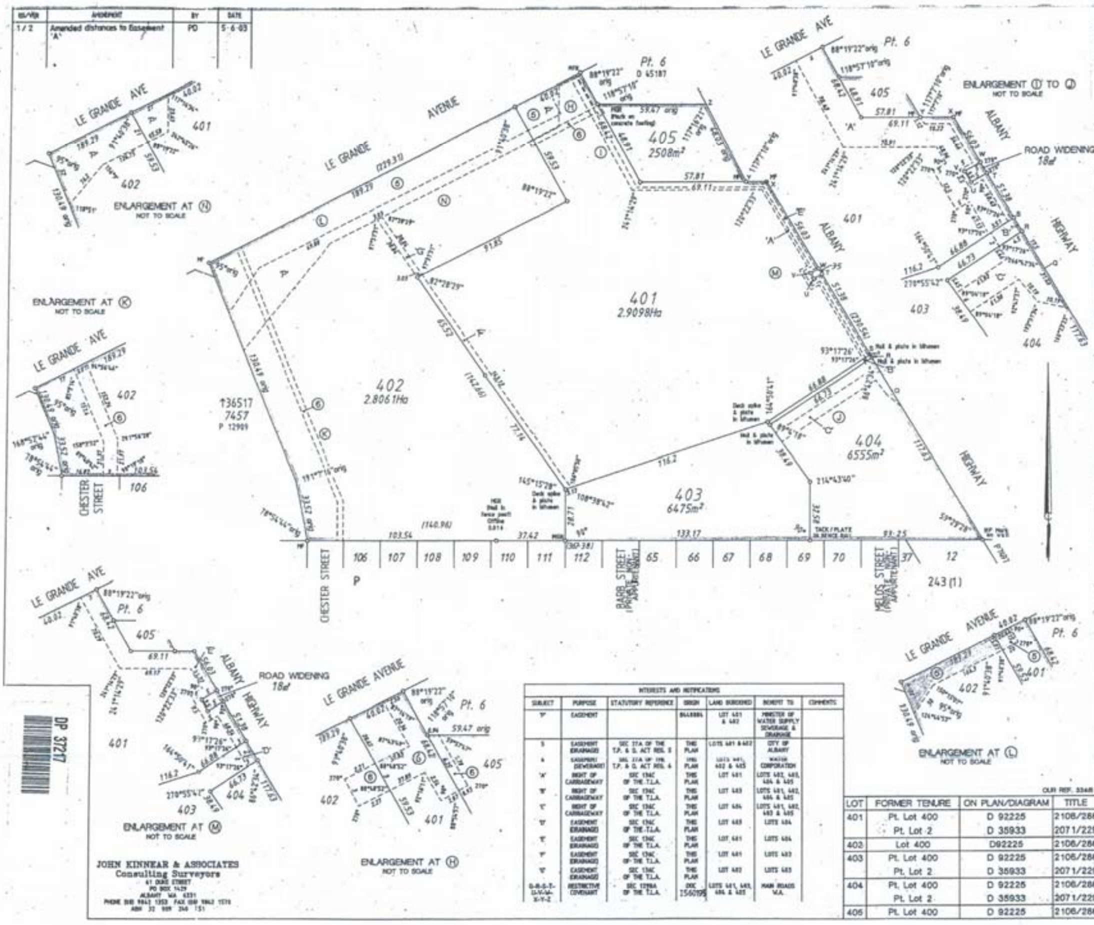
STATEMENTS:

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:	DP37217
PREVIOUS TITLE:	2071-229, 2106-286
PROPERTY STREET ADDRESS:	465 ALBANY HWY, ORANA.
LOCAL GOVERNMENT AUTHORITY:	CITY OF ALBANY

NOTE 1:		DUPLICATE CERTIFICATE OF TITLE NOT ISSUED AS REQUESTED BY DEALING J645210
NOTE 2:	N947593	INTEREST ONLY DEPOSITED PLAN 414656 LODGED

No/VER	AMENDMENT	BY	DATE
1/2	Amended distances to Easement 'A'	PD	5-6-03



INTERESTS AND NOTIFICATIONS						
SUBJECT	PURPOSE	STATUTORY REFERENCE	ORIGIN	LAND BURDENED	BENEFIT TO	COMMENTS
[illegible]	EASEMENT		[illegible]	LOT 401 & 402	MINISTER OF WATER SUPPLY SEWERAGE & DRAINAGE	
5	EASEMENT (DRAINAGE)	SEC 27A OF THE T.P. & D. ACT REG. 5	THIS PLAN	LOTS 401 & 402	CITY OF ALBANY	
6	EASEMENT (SEWERAGE)	SEC 27A OF THE T.P. & D. ACT REG. 6	THIS PLAN	LOTS 401, 402 & 405	WATER CORPORATION	
'A'	RIGHT OF CARRIAGEWAY	SEC 136C OF THE T.L.A.	THIS PLAN	LOT 401	LOTS 402, 403, 404 & 405	
'B'	RIGHT OF CARRIAGEWAY	SEC 136C OF THE T.L.A.	THIS PLAN	LOT 403	LOTS 401, 402, 404 & 405	
'C'	RIGHT OF CARRIAGEWAY	SEC 136C OF THE T.L.A.	THIS PLAN	LOT 404	LOTS 401, 402, 403 & 405	
'D'	EASEMENT (DRAINAGE)	SEC 136C OF THE T.L.A.	THIS PLAN	LOT 403	LOTS 404	
'E'	EASEMENT (DRAINAGE)	SEC 136C OF THE T.L.A.	THIS PLAN	LOT 401	LOTS 404	
'F'	EASEMENT (DRAINAGE)	SEC 136C OF THE T.L.A.	THIS PLAN	LOT 401	LOTS 403	
'G'	EASEMENT (DRAINAGE)	SEC 136C OF THE T.L.A.	THIS PLAN	LOT 402	LOTS 403	
G-H-S-T-U-V-W-X-Y-Z	RESTRICTIVE COVENANT	SEC 129BA OF THE T.L.A.	DOC 1560195	LOTS 401, 403, 404 & 405	MAIN ROADS W.A.	

OUR REF. 3348

LOT	FORMER TENURE	ON PLAN/DIAGRAM	TITLE
401	Pt. Lot 400	D 92225	2106/286
	Pt. Lot 2	D 35933	2071/229
402	Lot 400	D92225	2106/286
403	Pt. Lot 400	D 92225	2106/286
	Pt. Lot 2	D 35933	2071/229
404	Pt. Lot 400	D 92225	2106/286
	Pt. Lot 2	D 35933	2071/229
405	Pt. Lot 400	D 92225	2106/286

TYPE FREEHOLD

PURPOSE SUBDIVISION

PLAN OF

LOTS 401, 402, 403, 404, 405, EASEMENTS, RESTRICTIVE COVENANT AND ROAD WIDENING

DISTRICT PLANTAGENET
TOWNSITE
DOLA FILE
LOCAL AUTHORITY CITY OF ALBANY
LOCALITY ORANA

FORMER TENURE: SEE TABLE

INDEX BK26 (2) 09.08
PUBLIC

FIELD BOOK 81201 89668

SCALE 1:1250 — ALL DISTANCES ARE IN METRES

SURVEYOR'S CERTIFICATE – Reg 54
I, M. NORMAN hereby certify that this plan is a correct representation of the survey and/or calculations from measurements recorded in the field book lodged for purposes of this plan and that it complies with the relevant written law(s) in relation to which it is lodged.
M. Norman 20/05/03
Licensed Surveyor — Date

SURVEYOR'S CERTIFICATE – Compiled
I, hereby certify that this compiled plan (a) is a correct and accurate representation of the survey(s) of the subject land, and (b) is in accordance with the relevant law in relation to which it is lodged.
Licensed Surveyor — Date

SURVEY FIRM JOHN KINNEAR & ASSOCIATES

LODGED: DATE 30.05.03; FEE PAID $388; LODGED No. 383594

TYPE OF VALUATION: UNIMP. COMPONENT DWH; SURVEY PLAN/DIAGRAM 28979; CHECKED CORRECT 11/6/03

APPROVED BY WESTERN AUSTRALIAN PLANNING COMMISSION: FILE 120689; DELEGATED UNDER S.16 WAPC ACT 1985; DATE 13-June-03

IN ORDER FOR DEALINGS
SUBJECT TO Sec's 27A & 28(3) TP & DA. Sec's 136C & 129BA TLA.
16/6/03
FOR INSPECTOR OF PLANS & SURVEYS/AUTHORISED LAND OFFICER — DATE

APPROVED
APPROVED 28.7.03
INSPECTOR OF PLANS & SURVEYS/AUTHORISED LAND OFFICER — DATE

Department of Land Administration

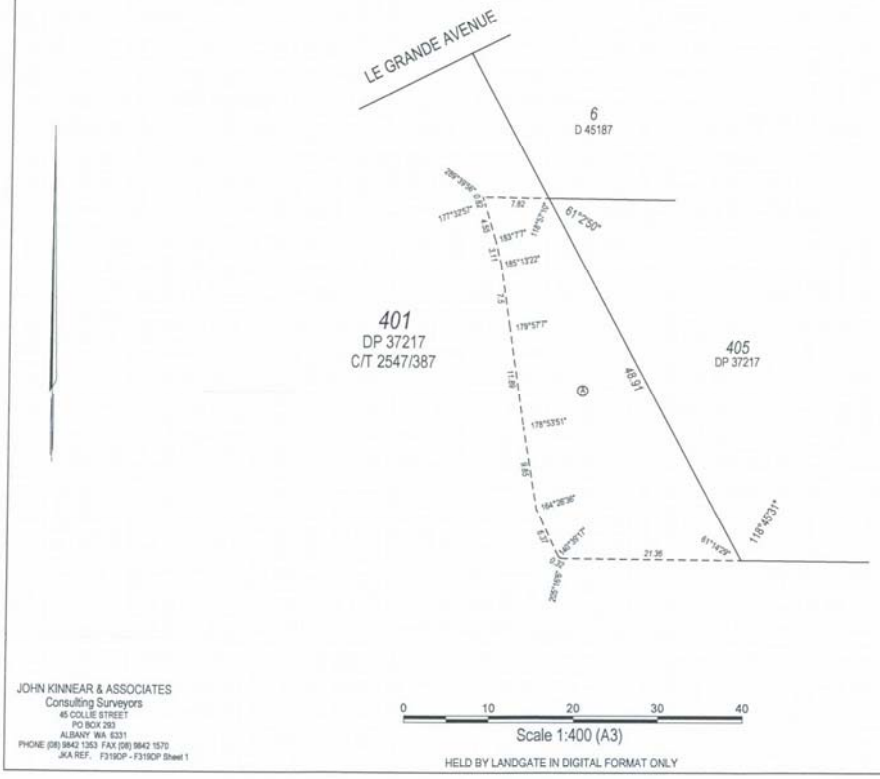
DEPOSITED PLAN
37217

SHEET 1 OF 1
EDITION 1 VERSION 1

DP 37217

VER.	AMENDMENT	AUTHORISED BY	DATE

INTERESTS AND NOTIFICATIONS						
SUBJECT	PURPOSE	STATUTORY REFERENCE	ORIGIN	LAND BURDENED	BENEFIT TO	COMMENTS
(5)	EASEMENT		DOC. N994171	LOT 401 ON DP37217	SEE DOCUMENT	ACCESS



HELD BY LANDGATE IN DIGITAL FORMAT ONLY

JOHN KINNEAR & ASSOCIATES
Consulting Surveyors
45 COLLIE STREET
PO BOX 293
ALBANY WA 6331
PHONE (08) 9842 1353 FAX (08) 9842 1570
JKA REF. F319DP - F319DP Sheet 1

TYPE FREEHOLD S.S.A. NO

PURPOSE INTEREST

PLAN OF
EASEMENT AND/OR OTHER INTERESTS OVER LOT 401 ON DP 37217

FORMER TENURE

LOCAL AUTHORITY
CITY OF ALBANY

LOCALITY
ORANA

D.O.L. FILE

FIELD RECORD

SURVEYOR'S CERTIFICATE - REG 54
I, M. NORMAN
hereby certify that this plan is accurate and is a correct representation of the -
(a) *survey; and/or
(b) *calculations from measurements recorded in the field records,
[* delete if inapplicable]
undertaken for the purposes of this plan and that it complies with the relevant written law(s) in relation to which it is lodged.
Michael Norman 2018.07.20 10:36:15 +08'00'
LICENSED SURVEYOR DATE

LODGED
20.7.2018
DATE FEE PAID ASSESS No.

I.S.C.

EXAMINED
MM 31.7.2018
DATE

WESTERN AUSTRALIAN PLANNING COMMISSION
FILE
Delegated under S.16 P&D Act 2005 DATE

IN ORDER FOR DEALINGS
SUBJECT TO

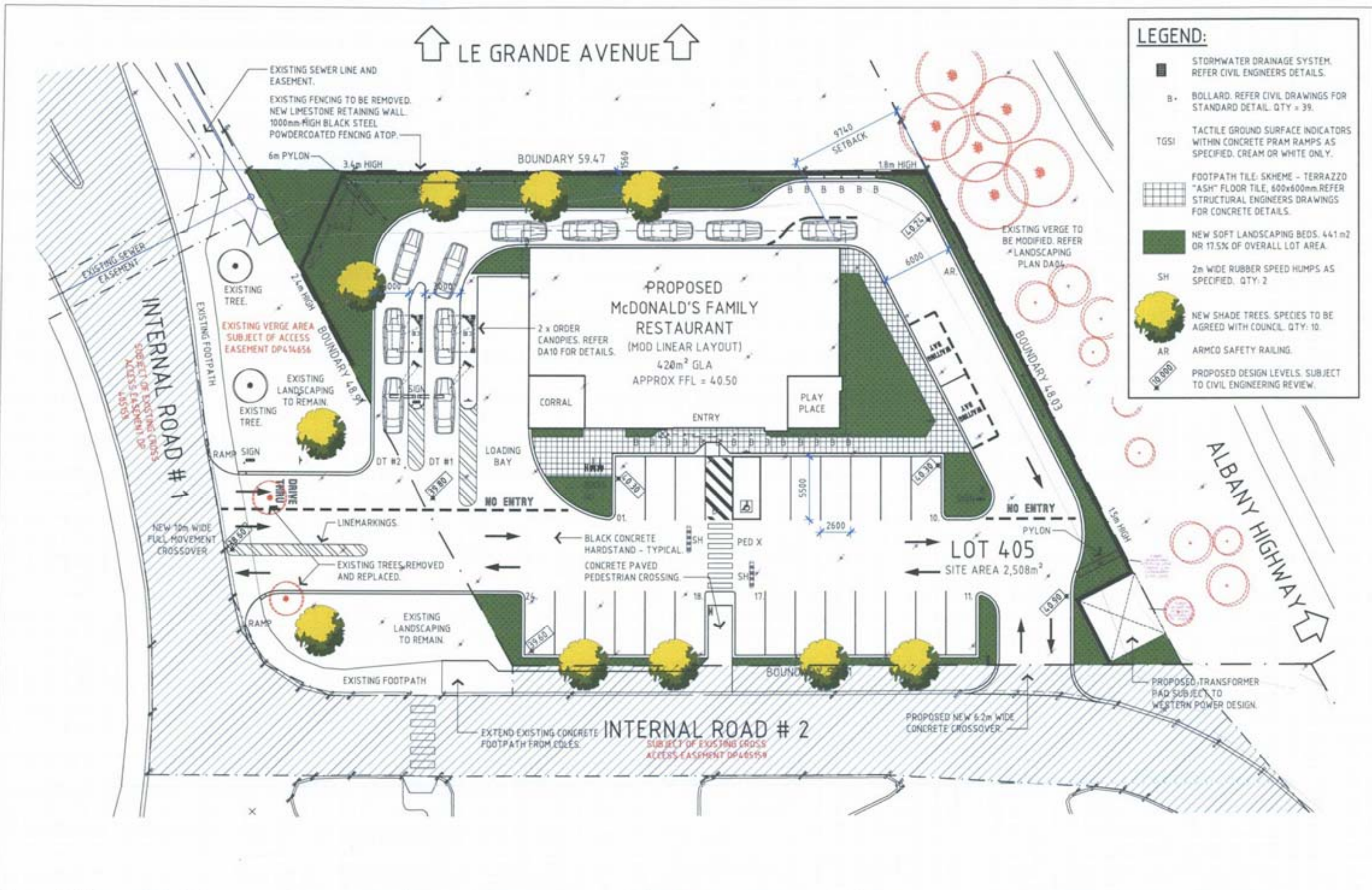
31.7.2018
FOR INSPECTOR OF PLANS AND SURVEYS DATE

APPROVED
26.9.2018
INSPECTOR OF PLANS AND SURVEYS DATE
(S. 18 Licensed Surveyors Act 1909)

GOVERNMENT OF WESTERN AUSTRALIA
Landgate

DEPOSITED PLAN
414656
SHEET 1 OF 1 SHEETS
VERSION 1

Appendix 2
Development Plans and Elevations



ISSUE	AMENDMENT	DATE	CHK	INT

NOTES.
Do not scale this drawing. The drawing shows design intent only.
All dimensions to be checked on site prior to construction or production.
Construction details to be confirmed by contractor/manufacturer.
This is a computer generated drawing. Do not amend by hand.
Figure dimensions are to be used. Contact architect for clarification if dimensions are not clear. All dimensions are in millimeters.
All discrepancies and omissions on site must be reported to the architect for their comments or approval prior to commencing work.

N

HINDLEY & ASSOCIATES BUILDING DESIGNERS

SERIES : MOD LINEAR | JOB : 0693

NATIONAL DEVELOPMENT GROUP

STATUS: DEVELOPMENT APPLICATION

PROPOSED McDONALD'S RESTAURANT
LOT 405 - H475 ALBANY HIGHWAY
ORANA, ALBANY WA

TITLE: PROPOSED SITE PLAN

SCALE	DRAWN	CHECKED	DWG. NO.	REV.
1:300 @ A3	AJJ	AJJ	DA02	-

ISSUE	AMENDMENT	DATE	CHK	INT

NOTES.
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HINDLEY & ASSOCIATES
BUILDING DESIGNERS

SERIES : MOD LINEAR
JOB : 0693

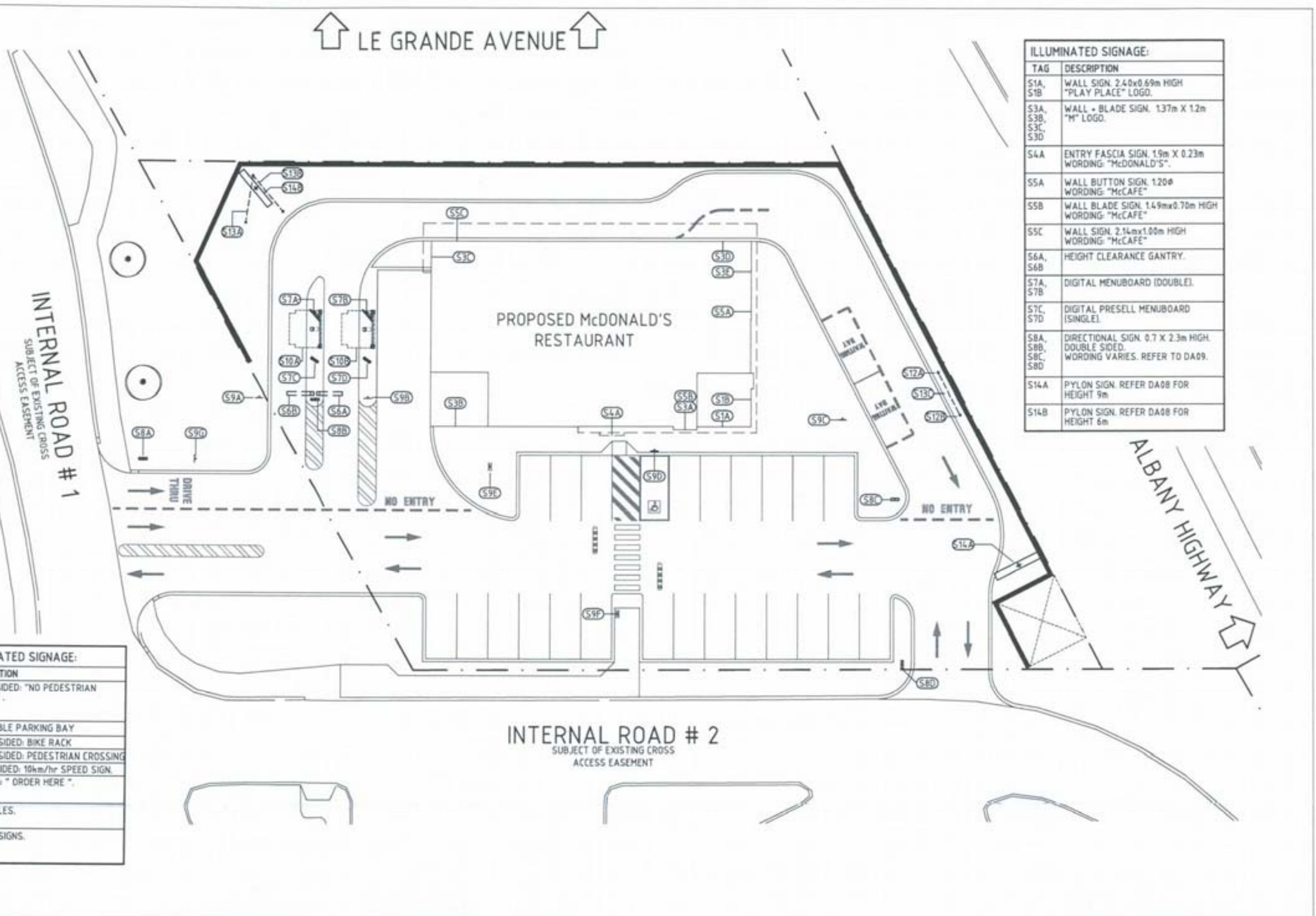
NATIONAL DEVELOPMENT GROUP

STATUS DEVELOPMENT APPLICATION

PROPOSED McDONALD'S RESTAURANT
LOT 405 - H475 ALBANY HIGHWAY
ORANA, ALBANY WA

TITLE : SITE LOCATION PLAN

SCALE	DRAWN	CHECKED	DWG. NO.	REV.
NOT TO SCALE	AJJ	AJJ	DA01	-



ILLUMINATED SIGNAGE:

TAG	DESCRIPTION
S1A, S1B	WALL SIGN. 2.40x0.69m HIGH "PLAY PLACE" LOGO.
S3A, S3B, S3C, S3D	WALL + BLADE SIGN. 1.37m X 1.2m "M" LOGO.
S4A	ENTRY FASCIA SIGN. 1.9m X 0.23m WORDING: "McDONALD'S".
S5A	WALL BUTTON SIGN. 1.20ø WORDING: "McCAFE"
S5B	WALL BLADE SIGN. 1.49mx0.70m HIGH WORDING: "McCAFE"
S5C	WALL SIGN. 2.14mx1.00m HIGH WORDING: "McCAFE"
S6A, S6B	HEIGHT CLEARANCE GANTRY.
S7A, S7B	DIGITAL MENUBOARD (DOUBLE).
S7C, S7D	DIGITAL PRESELL MENUBOARD (SINGLE).
S8A, S8B, S8C, S8D	DIRECTIONAL SIGN. 0.7 X 2.3m HIGH. DOUBLE SIDED. WORDING VARIES. REFER TO DA09.
S14A	PYLON SIGN. REFER DA08 FOR HEIGHT 9m
S14B	PYLON SIGN. REFER DA08 FOR HEIGHT 6m

NON-ILLUMINATED SIGNAGE:

TAG	DESCRIPTION
S9A, S9B, S9C	SINGLE SIDED: "NO PEDESTRIAN ACCESS".
S9D	ACCESSIBLE PARKING BAY
S9E	DOUBLE SIDED: BIKE RACK
S9F	DOUBLE SIDED: PEDESTRIAN CROSSING
S9G	SINGLE SIDED: 10km/hr SPEED SIGN.
S10A, S10B	WORDING: " ORDER HERE ".
S12A, S12B	FLAG POLES.
S13A, S13B, S13C	BANNER SIGNS.

ISSUE	AMENDMENT	DATE	CHK	INT

NOTES.
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N

HINDLEY & ASSOCIATES
BUILDING DESIGNERS

SERIES : MOD LINEAR | JOB : 0693

McDonald's Australia Limited

NATIONAL DEVELOPMENT GROUP

STATUS: DEVELOPMENT APPLICATION

PROPOSED McDONALD'S RESTAURANT
LOT 405 - H475 ALBANY HIGHWAY
ORANA, ALBANY WA

TITLE: PROPOSED SITE SIGNAGE PLAN

SCALE	DRAWN	CHECKED	DWG. NO.	REV.
1:300 @ A3	AJJ	AJJ	DA03	-

PLANT LEGEND:

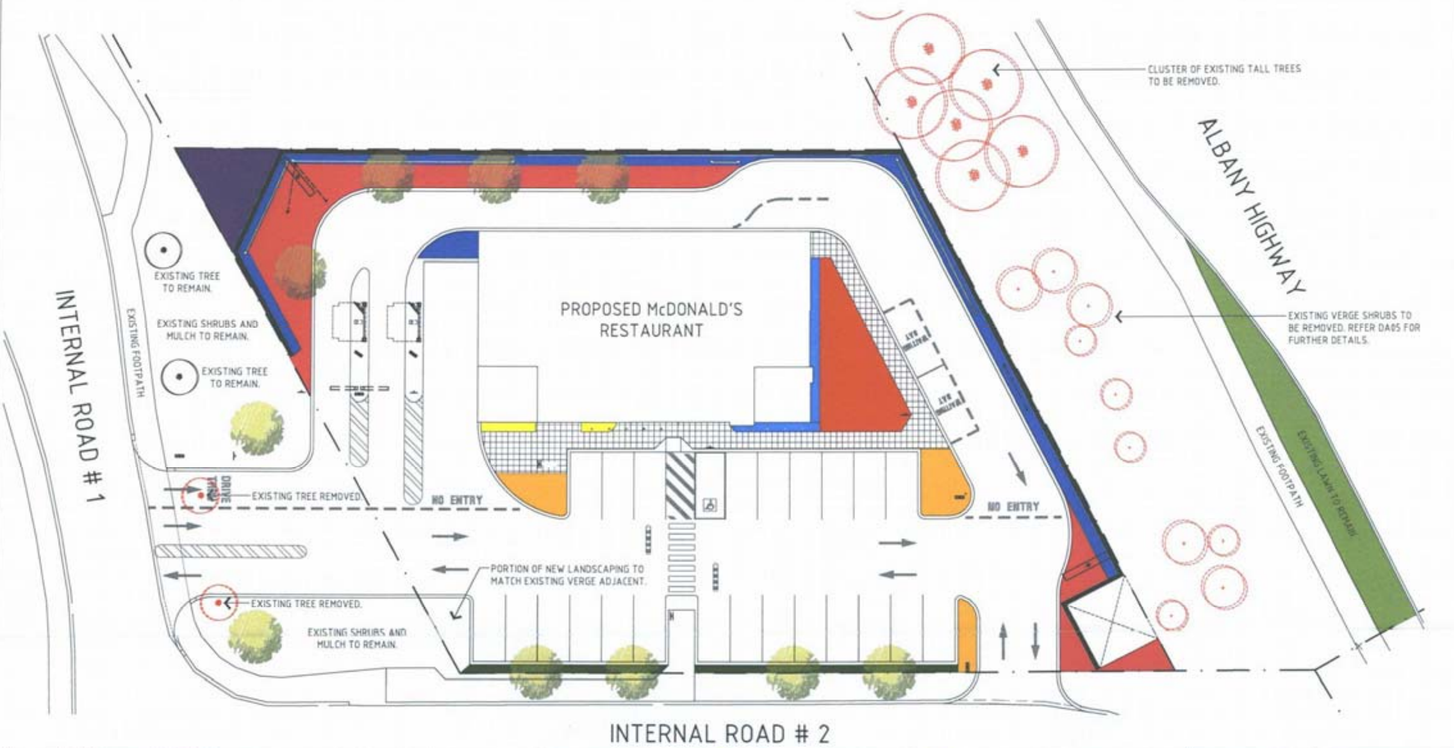
- KANGAROO PAW
- RADERMACHERA "SUMMERSCENT".
- OLEARIA LANGUINOSA "GHOST TOWN"
- SHORE JUNIPER
- HIBBERTIA SCANDENS.
- INDIAN HAWTHORN FORMED AS HEDGE.
- VIBURNUM TINUS - FORMED AS HEDGE
- NATIVE MASS PLANTING: WESTRINGIA FRUITICOSA, MYOPORUM PARVIFOLIUM, DIANELLA VERDAY.

TREE LEGEND:

- AGONIS FLEXUOSA. 10 IN TOTAL.

LANDSCAPING NOTES:

1. BUILDER TO ENSURE DRIPPER FED RETICULATION TO ALL NEW LANDSCAPING.
2. ALL LANDSCAPED BED WILL BE MULCHED TO A DEPTH OF 100mm WITH AN ORGANIC MULCH.
3. PLANTING BEDS WILL HAVE A MINIMUM DEPTH OF 400mm OF CLEAN TOP SOIL (SUITABLE FOR HORTICULTURAL QUALITY). PLEASE ENSURE NO CONTAMINANTS ARE PRESENT.
4. ALL PLANTS EXCEEDING 900mm SHALL BE STAKED AND SECURED.
5. ALL PLANTS WILL BE FERTILIZED DURING PLANTING WITH A SLOW RELEASE FERTILIZER WITH A MIN NPK RATIO OF 18:2:6:10.
6. LANDSCAPING AREA = 435 m^2. LOT AREA = 2,508 m^2. LANDSCAPING % = 17.3.



ISSUE	AMENDMENT	DATE	CHK	INT

NOTES.
Do not scale this drawing. The drawing shows design intent only.
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Construction details to be confirmed by contractor/manufacturer.
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All discrepancies and omissions on site must be reported to the architect for their comments or approval prior to commencing work.

N

HINDLEY & ASSOCIATES
BUILDING DESIGNERS
SERIES : MOD LINEAR
JOB : 0693

McDonald's Australia Limited

NATIONAL DEVELOPMENT GROUP

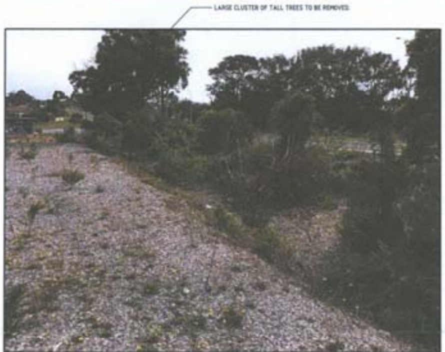
STATUS: DEVELOPMENT APPLICATION

PROPOSED McDONALD'S RESTAURANT
LOT 405 - H475 ALBANY HIGHWAY
ORANA, ALBANY WA

TITLE: PROPOSED LANDSCAPING PLAN

SCALE	DRAWN	CHECKED	DWG. NO.	REV.
1 : 300 @ A3	AJJ	AJJ	DA04	-

LARGE CLUSTER OF TALL TREES TO BE REMOVED.



EXISTING GROUND COVER PLANTS TO REMAIN.

LARGE CLUSTERS OF SMALL SHRUBS TO BE REMOVED.

LARGE CLUSTERS OF SMALL SHRUBS TO BE REMOVED.

LARGE CLUSTERS OF SMALL SHRUBS TO BE REMOVED.

EXISTING GROUND COVER PLANTS TO REMAIN.

PROPOSAL IMAGES INDICATIVE ONLY

ISSUE	AMENDMENT	DATE	CHK	INT

NOTES.
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Construction details to be confirmed by contractor/manufacturer.
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HINDLEY & ASSOCIATES
BUILDING DESIGNERS

SERIES : MOD LINEAR | JOB : 0693

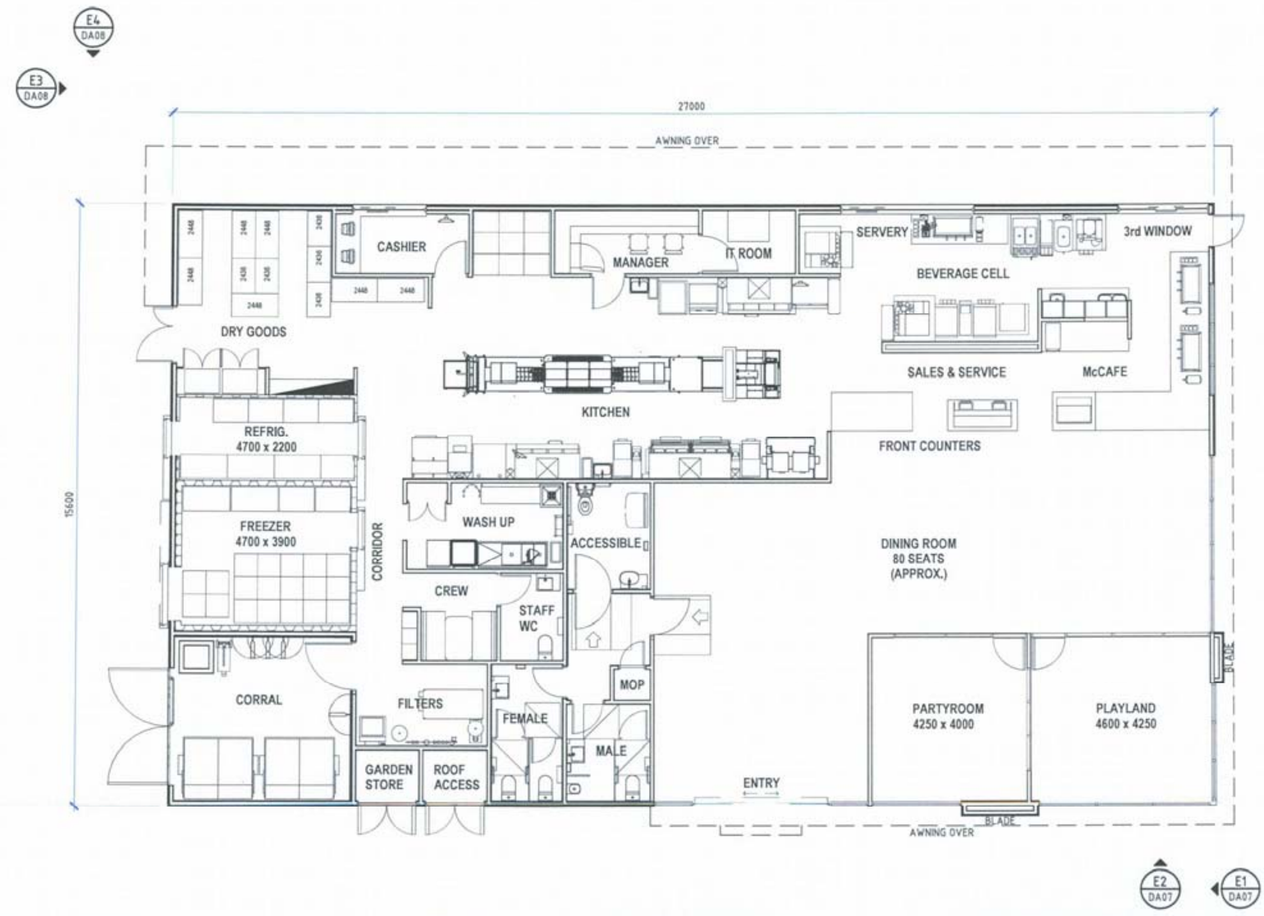
NATIONAL DEVELOPMENT GROUP

STATUS: DEVELOPMENT APPLICATION

PROPOSED McDONALD'S RESTAURANT
LOT 405 - H475 ALBANY HIGHWAY
ORANA, ALBANY WA

TITLE: ROAD RESERVE LANDSCAPING DETAIL

SCALE	DRAWN	CHECKED	DWG. NO.	REV.
1:300 @ A3	AJJ	AJJ	DA05	-



ISSUE	AMENDMENT	DATE	CHK	INT

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HINDLEY & ASSOCIATES
BUILDING DESIGNERS

SERIES : MOD LINEAR
JOB : 0693

McDonald's Australia Limited

NDG NATIONAL DEVELOPMENT GROUP

STATUS: DEVELOPMENT APPLICATION

PROPOSED McDONALD'S RESTAURANT
LOT 405 - H475 ALBANY HIGHWAY
ORANA, ALBANY WA

TITLE: PROPOSED FLOOR PLAN

SCALE	DRAWN	CHECKED	DWG. NO.	REV.
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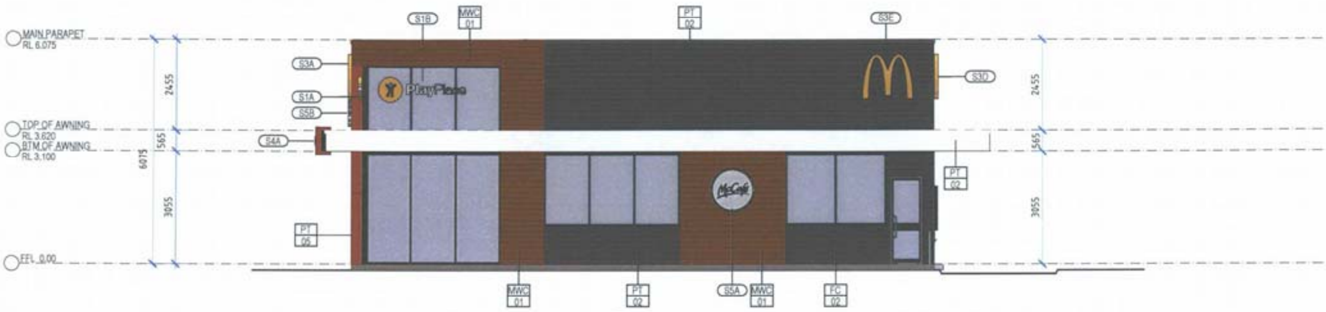

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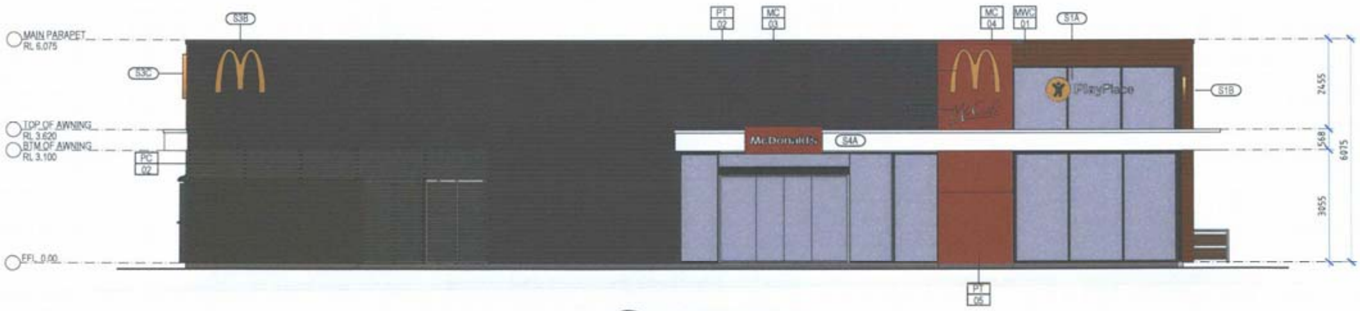

E2 DA06 ELEVATION E2
SCALE 1:100

ISSUE	AMENDMENT	DATE	CHK	INT

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HINDLEY & ASSOCIATES
BUILDING DESIGNERS

SERIES : MOD LINEAR | JOB : 0693

NATIONAL DEVELOPMENT GROUP

PROPOSED McDONALD'S RESTAURANT
LOT 405 - H475 ALBANY HIGHWAY
ORANA, ALBANY WA

TITLE: EXTERNAL ELEVATIONS E1 AND E2

STATUS: DEVELOPMENT APPLICATION

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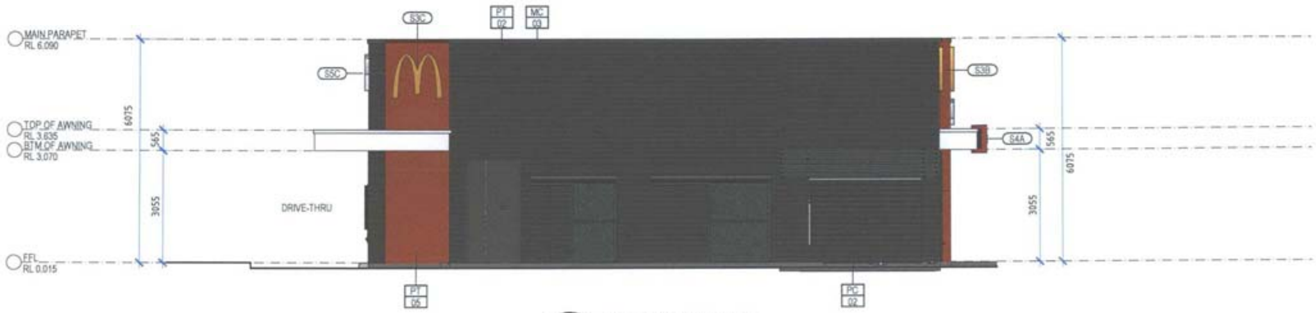
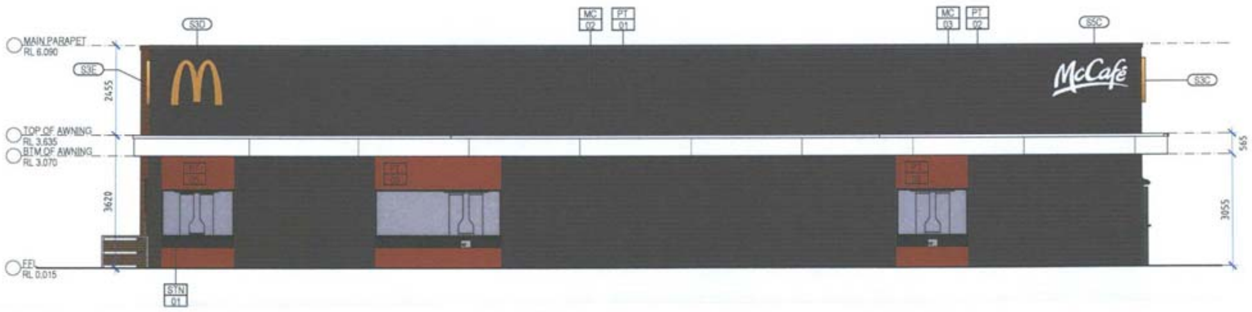


E3 / DA06 ELEVATION E3
SCALE 1:100



E4 / DA06 ELEVATION E4
SCALE 1:100

ISSUE	AMENDMENT	DATE	CHK	INT

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HINDLEY & ASSOCIATES
BUILDING DESIGNERS

SERIES: MOD LINEAR | JOB: 0693

McDonald's Australia Limited
NATIONAL DEVELOPMENT GROUP

STATUS: DEVELOPMENT APPLICATION

PROPOSED McDONALD'S RESTAURANT
LOT 405 - H475 ALBANY HIGHWAY
ORANA, ALBANY WA

TITLE: EXTERNAL ELEVATIONS E3 AND E4

SCALE	DRAWN	CHECKED	DWG. NO.	REV.
1:100 @ A3	RP	AJJ	DA08	-

EXTERNAL FINISHES SCHEDULE

CODE	No.	AREA	DESCRIPTION	MANUFACTURER	COLOUR	IMAGE
MC	01	PARAPET CAPPING	PREFINISHED METAL CAPPING / FLASHING	ZINCALUME	JASPER	
MC	02	PARAPET CAPPING	PREFINISHED METAL CAPPING / FLASHING	ZINCALUME	SURFMIST	
MC	03	PARAPET CAPPING	PREFINISHED METAL CAPPING / FLASHING	ZINCALUME	WOODLAND GREY	
MC	04	PARAPET CAPPING	PREFINISHED METAL CAPPING / FLASHING	ZINCALUME	McDONALD'S RED	
MWC	01	PLAYPLACE & McCAFE WALLS	TIMBER LOOK ALUMINIUM CLADDING SYSTEM	T.B.C.	TIMBER	
MWC	02	ROOF WELL	CUSTOM ORB CORRUGATED STEEL RIVET FIXED VERTICALLY TO FRAMES	LYSAGHT	ZINCALUME	
PC	01	ALUMINIUM WINDOWS & DOOR FRAMES	POWDER COAT FINISH	DULUX DURALLOY	BLACK SATIN	
PC	02	CORRAL BATTENS & ROOF ACCESS DOOR	POWDER COAT FINISH	DULUX DURALLOY	WOODLAND GREY SATIN (COLORBOND)	
PT	01	RIBBON & DRIVETHRU WALL	PAINT FINISH, REFER SPECIFICATION FOR DETAILS ON PAINT TYPE & APPLICATION	DULUX	VIVID WHITE PW1H9	
PT	02	MAIN BUILDING WALLS, DRIVE THRU WALLS	WEATHERBOARD - JAMES HARDIES FIBRE CEMENT SYSTEM - PAINT FINISH	DULUX	WAYWARD GREY	
PT	05	BLADE WALL & DRIVETHRU WINDOWS	PAINT FINISH, REFER SPECIFICATION FOR DETAILS ON PAINT TYPE & APPLICATION	DULUX	McDONALDS RED	
STN	01	DIVE THRU WINDOW SILL & SURROUND	RECONSTITUTED STONE, REFER TO DECOR DOCUMENTS	REFER DECOR	REFER DECOR	

ISSUE	AMENDMENT	DATE	CHK	INT

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STATUS: DEVELOPMENT APPLICATION

PROPOSED McDONALD'S RESTAURANT
LOT 405 - H475 ALBANY HIGHWAY
ORANA, ALBANY WA

TITLE : FINISHES SCHEDULE

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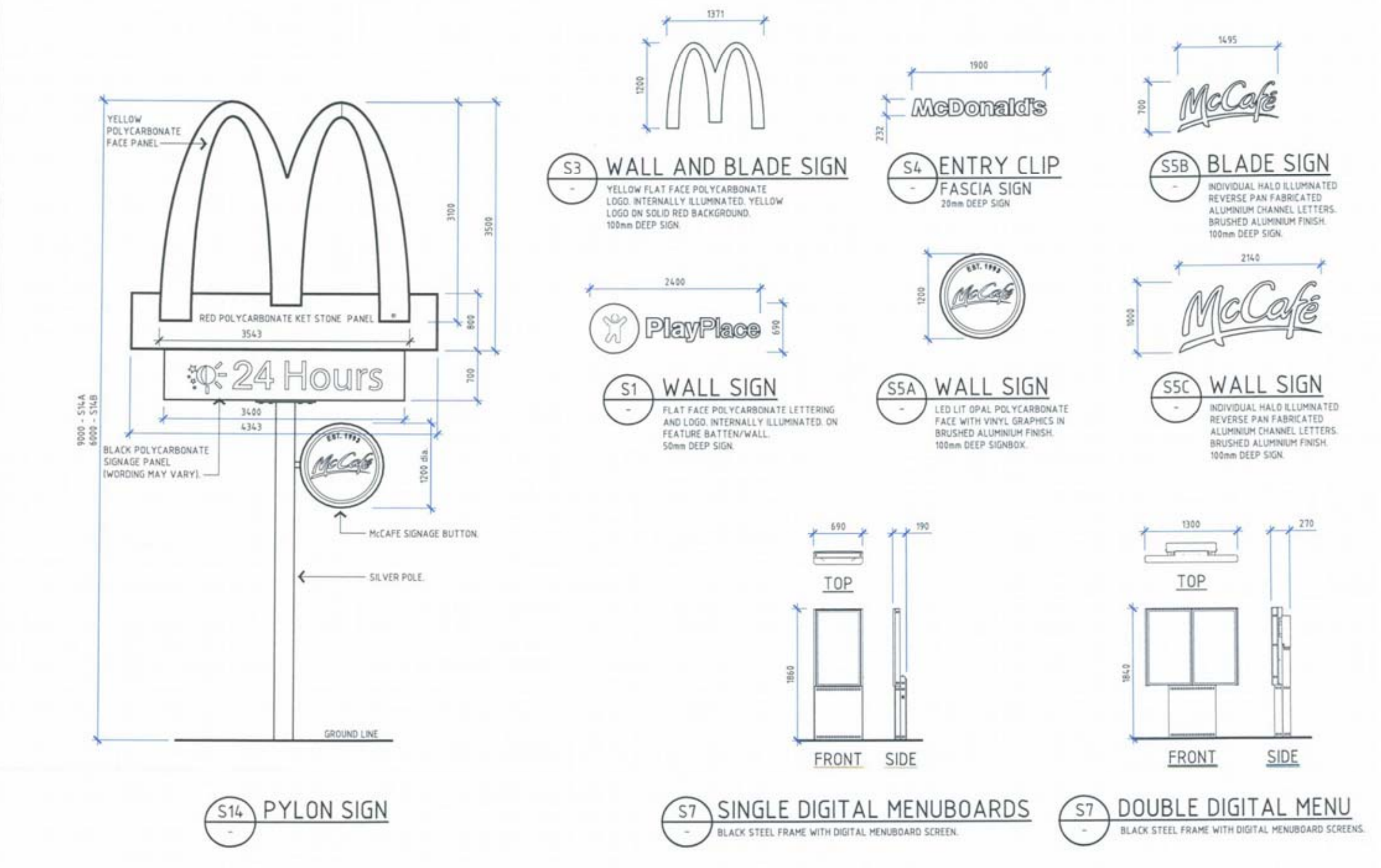

ISSUE	AMENDMENT	DATE	CHK	INT

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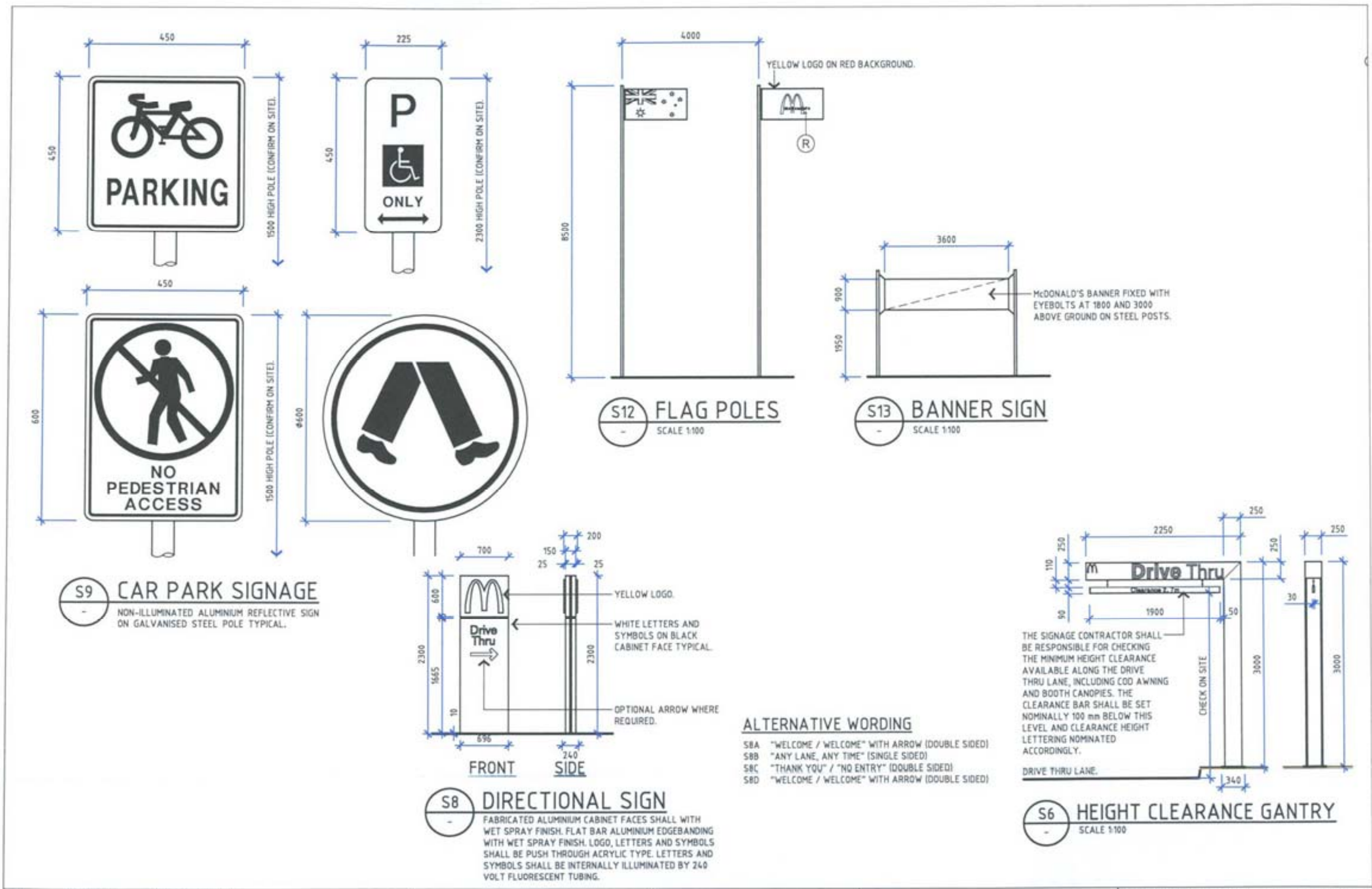
STATUS: DEVELOPMENT APPLICATION

PROPOSED McDONALD'S RESTAURANT
LOT 405 - H475 ALBANY HIGHWAY
ORANA, ALBANY WA

TITLE: SIGNAGE DETAILS

SCALE	DRAWN	CHECKED	DWG. NO.	REV.
REFER PLAN	BP	AJJ	DA10	-



ISSUE	AMENDMENT	DATE	CHK	INT

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PROPOSED McDONALD'S RESTAURANT
LOT 405 - H475 ALBANY HIGHWAY
ORANA, ALBANY WA

TITLE : SIGNAGE DETAILS

STATUS DEVELOPMENT APPLICATION

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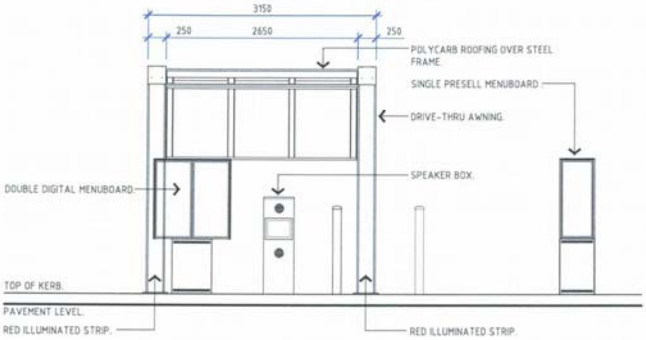
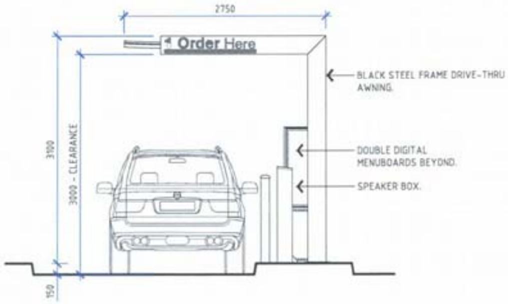


COD UNIT WITH AWNING
(FRONT ELEVATION)
SCALE 1:50



COD UNIT WITH AWNING
(APPROACH SIDE ELEVATION)
SCALE 1:50

ISSUE	AMENDMENT	DATE	CHK	INT

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NATIONAL DEVELOPMENT GROUP

STATUS DEVELOPMENT APPLICATION

PROPOSED McDONALD'S RESTAURANT
LOT 405 - H475 ALBANY HIGHWAY
ORANA, ALBANY WA

TITLE: ORDER CANOPY DETAILS

SCALE	DRAWN	CHECKED	DWG. NO.	REV.
REFER PLAN	RP	AJJ	DA12	-

ISSUE	AMENDMENT	DATE	CHK	INT

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PROPOSED McDONALD'S RESTAURANT
LOT 405 - H475 ALBANY HIGHWAY
ORANA, ALBANY WA

TITLE: 3D RENDERED PERSPECTIVE

SCALE	DRAWN	CHECKED	DWG. NO.	REV.
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ISSUE	AMENDMENT	DATE	CHK	INT
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LOT 405 - H475 ALBANY HIGHWAY
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TITLE : 3D RENDERED PERSPECTIVE

SCALE	DRAWN	CHECKED	DWG. NO.	REV.
REFER PLAN	RP	AJJ	DA14	-

ISSUE	AMENDMENT	DATE	CHK	INT
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PROPOSED McDONALD'S RESTAURANT
LOT 405 - H475 ALBANY HIGHWAY
ORANA, ALBANY WA

TITLE: 3D RENDERED PERSPECTIVE

SCALE	DRAWN	CHECKED	DWG. NO.	REV.
REFER PLAN	RP	AJJ	DA15	-

ISSUE	AMENDMENT	DATE	CHK	INT

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TITLE : 3D RENDERED PERSPECTIVE

SCALE	DRAWN	CHECKED	DWG. NO.	REV.
NOTED PLAN	RP	AJJ	DA16	-

Appendix 3
Traffic Impact Assessment

Proposed McDonald's Restaurant

Lot 405 (475) Albany Highway, Orana

Transport Impact Assessment

PREPARED FOR:
McDonald's Australia

March 2020

Document history and status

Author	Revision	Approved by	Date approved	Revision type
Mao Zhu	r01	B Bordbar	26/04/2019	Draft
Waihin Tun	r01a	B Bordbar	19/02/2020	Final
Waihin Tun	r01b	B Bordbar	16/03/2020	Revised Final

File name: t19.059.wt.r01b

Author: Waihin Tun

Project manager: Behnam Bordbar

Client: McDonald's Australia

Project: Lot 405 (475) Albany Highway, Orana

Document revision: r01b

Project number: t19.059

TABLE OF CONTENTS

REPORT FIGURES

1.0 Summary

This Transport Impact Assessment (TIA) is prepared by Transcore with respect to the proposed McDonald's restaurant at Lot 405 Albany Highway, Orana, in the City of Albany.

The subject site is vacant. The additional traffic which would be generated by the proposed McDonald's restaurant is estimated to be approximately 72 and 124 vph during the critical Friday PM and Saturday midday peak hours respectively. This level of traffic generation is relatively minimal and as such would not have significant impact on the surrounding road network.

The site has good accessibility from the surrounding road network including the adjacent T- intersections of Albany Highway/ Le Grande Avenue and Le Grande Avenue/ Coles Access Road.

The proposed development layout has been assessed with respect to traffic circulation including service vehicles. Swept path analysis confirms that the proposed entry and exit arrangements and site layout facilitate safe and efficient vehicle movements including service vehicles.

The SIDRA Network analysis undertaken as part of the TIA confirms satisfactory operation of the surrounding intersections and the subject site crossovers for the post-development and 10 years post-development scenarios.

2.0 Introduction

This Transport Impact Assessment (TIA) is prepared by Transcore with respect to the proposed McDonald's restaurant at Lot 405 Albany Highway, Orana, in the City of Albany.

As shown in **Figure 1**, the subject site is presently vacant and it is bound by Albany Highway to the east, Le Grande Avenue to the north, Coles Supermarket Access Road to the west and Coles Supermarket car park to the south.

Key issues that will be addressed in this report include the traffic generation of the proposed development, capacity of the nearby intersection, operation of the site crossovers and service vehicles entry, egress and circulation.

Figure 1: location of the development site

3.0 Existing Situation

3.1 Existing Site Use, Access and Parking

The existing site is vacant and is classified as "Neighbourhood Centre" in City of Albany Local Planning Scheme 1.

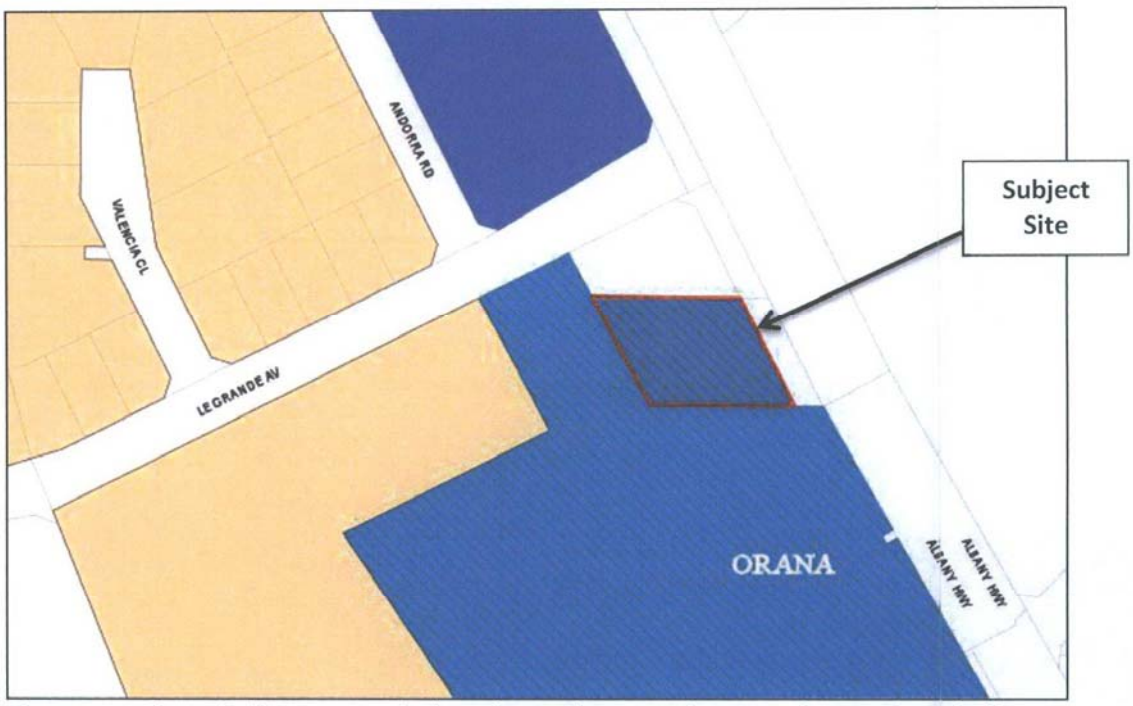


Figure 2: City of Albany Local Planning Scheme 1 (extract from City of Albany IntraMaps)

3.2 Existing Site Traffic Generation

The subject site is presently vacant and does not generate any traffic.

3.3 Surrounding Road Network and Traffic Management on Frontage Roads

Albany Highway at this location is constructed to a four-lane divided carriageway standard with landscaped median strip and pedestrian path along its western side.

Albany Highway is classified as a *Primary Distributor Road* in the Main Roads WA *Functional Road Hierarchy* and operates under the sign posted speed limit of 60km/h in this locality.

Le Grande Avenue

Le Grande Avenue at this location is constructed to a two-lane divided carriageway standard with solid/painted median and on street cycle lanes along both sides of the road. A shared path is provided along the southern side of the road in the immediate vicinity of the subject site.

Le Grande Avenue is classified as a *Local Distributor Road* in the Main Roads WA *Functional Road Hierarchy* and operates under the default, built-up area speed limit of 50km/h in the immediate vicinity of the subject site.

Albany Highway and Le Grande Avenue form a T-intersection.

Coles Access Road

Coles Supermarket access road, west of the subject site, is a two-lane undivided access road with pedestrian paths on both sides of the road in the immediate vicinity of the subject site. This access road and Le Grande Avenue form a T-intersection.

3.4 Existing Traffic Volumes on Roads and Major Intersections

Albany Highway

Available traffic counts from Main Roads WA indicate that this section of Albany Highway (north of Anson Road) carried average 14,723vpd on a weekday in 2014/2015.

The weekday AM peak hour on Albany Highway occurred between 7:45am and 8:45am and the PM peak hour occurred between 3:15pm and 4:15pm with a total of 1,305vph and 1,326vph respectively. The same traffic counts data indicates average 6.1% of heavy vehicles.

Le Grande Avenue

Available traffic counts from Main Road WA indicate that this section of Le Grande Avenue (east of Salvado Road) carried average 3,133vpd on a weekday in 2018/2019 with 4.8% of heavy vehicles.

It should be noted that Grande Avenue (east of Salvado Road) carried 3,232vpd on a weekday in 2017/2018 with 8.2% of heavy vehicles.

The weekday AM peak hour on Le Grande Avenue occurred between 8:00am and 9:00am and the PM peak hour occurred between 3:15pm and 4:15pm with a total of 342vph and 354vph respectively.

In order to establish the existing traffic counts at the relevant intersections, Transcore undertook a drone survey on Friday 22 March 2019 between 3.15pm and 4.15pm and on Saturday 23 March 2019 between 12.00pm and 1.00pm. The results of the drone survey are presented in **Section 7.3** of this report.

3.5 Operation of Surrounding Intersections

Transcore undertook SIDRA Network analysis for the T-intersections of Albany Highway/Le Grande Avenue and Le Grande Avenue/Coles Access Road to establish the traffic operations of the abutting intersections. The results of the SIDRA analysis are discussed in **Section 7.4** of this report.

3.6 Heavy Vehicles

Restricted Access Vehicle (RAV) Network routes are designated for access by large heavy vehicle combinations, which are managed by Main Roads WA. As shown in **Figure 3**, Albany Highway adjacent to the subject site forms part of RAV Network 7 which permits heavy vehicles up to 36.5m road train.

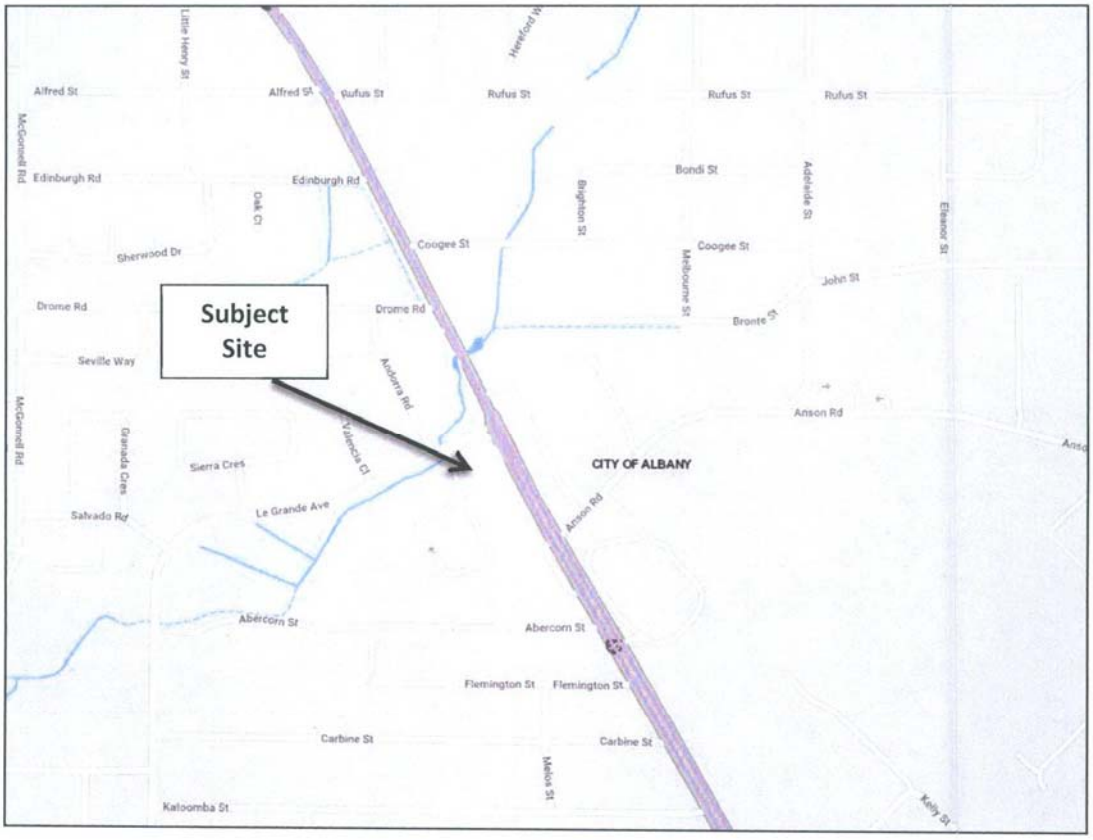


Figure 3: RAV Network 7

3.7 *Public Transport Access*

As shown in **Figure 4**, the subject site has access to bus service 801 along Albany Highway. There is an existing bus stop at approximately 150m southeast of the subject site on west side of Albany Highway.

3.8 *Pedestrian and Cyclist Facilities*

The Department of Transport's *Local TravelSmart Map* series shows good pedestrian and cyclist connectivity along Albany Highway and Le Grande Avenue to the subject site, as shown in **Figure 4**.

Shared paths are currently provided along western side of the Albany Highway and southern side of Le Grande Avenue.

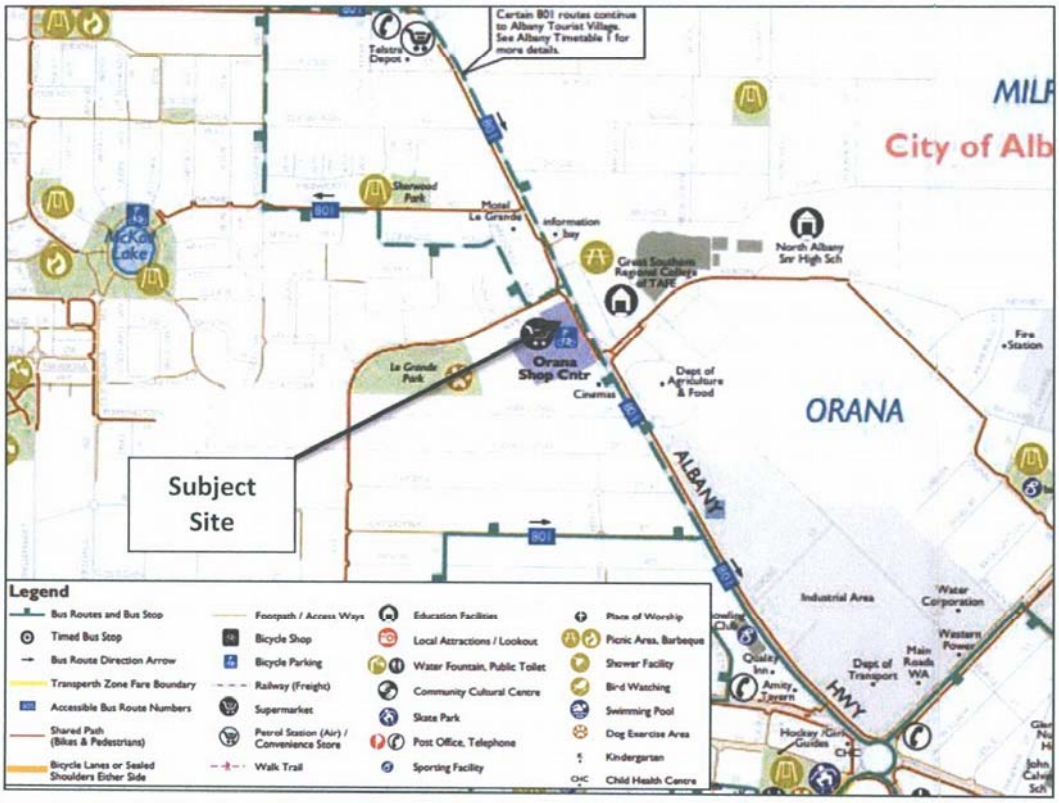


Figure 4: Existing bus routes and bike map (extract from Department of Transport's *Local TravelSmart Map*)

4.0 Development Proposal

4.1 Proposed Site Use

The development proposal is for a McDonald's restaurant with a dual-lane drive through facility. The drive-through lanes merge into a single lane incorporating a cashier and servery facility. The proposed McDonald's building floor area is approximately 420m^2 GLA.

The proposed McDonald's Restaurant will provide a total of 24 on-site car parking bays (including 1 ARCOD bay) for customers and staff. Two additional waiting bays are also provided for the proposed development.

The drive through facility entails a combined stacking length sufficient to accommodate at least 11 standard vehicles.

4.2 Proposed Access for all Modes

Vehicle access to the proposed development is proposed via a 10m wide full-movement crossover on Coles Access Road to the west of the subject site and a 6m wide full-movement crossover on an Access Road to the south of the subject site. **Figure 5** shows the location of the proposed development crossovers.

Deliveries and waste collection will be accommodated within the site. Turn path analysis was undertaken for 12.5m service vehicle to enter, circulate and exit the site. Service vehicle entry, egress and circulation are discussed in further detail in **Section 9.0** of this report.

Pedestrian access to the proposed McDonald's restaurant is provided via the existing footpaths on the Access Road to the west and south of the subject site.

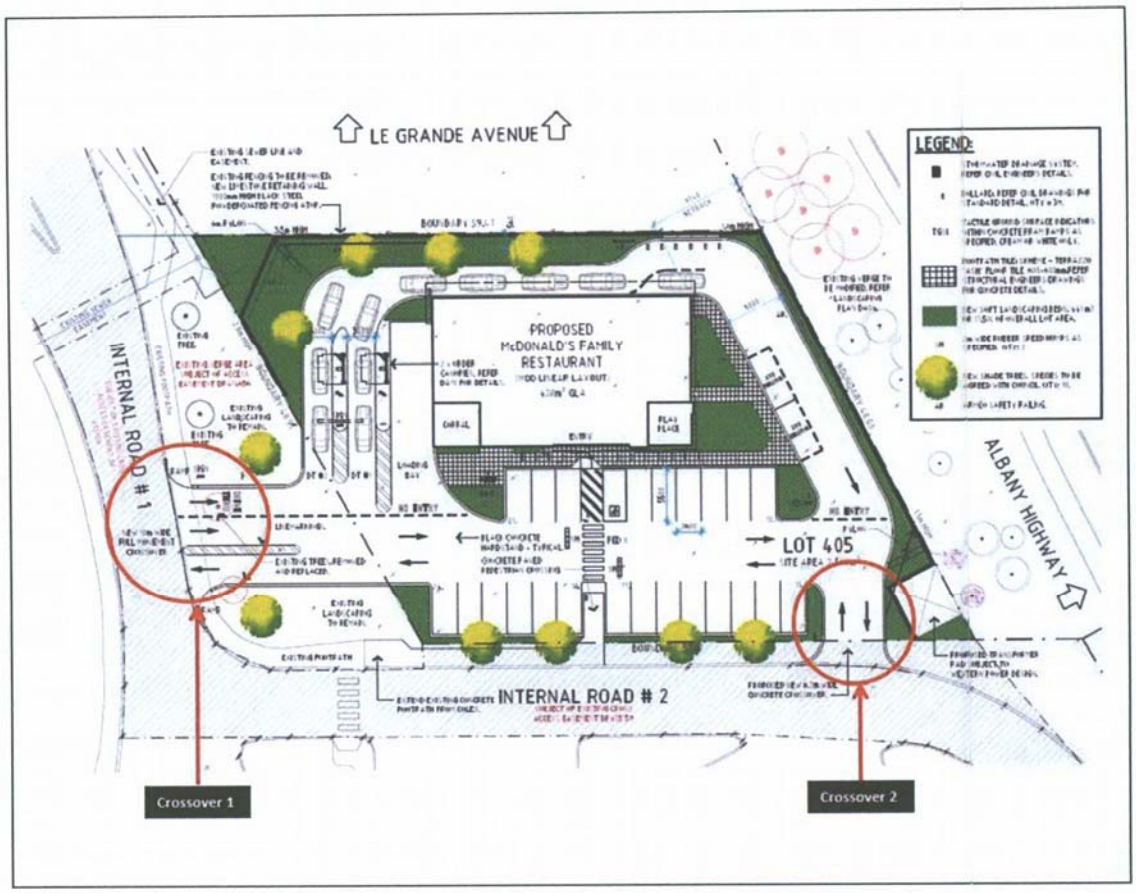


Figure 5: Site plan and proposed development crossovers

4.3 Drive-Through Queue Analysis

RTA requirements:

Section 5.8.1 of *RTA Traffic Generating Developments*[1] document deals with the parking requirements for the drive-in, take-away food outlets. This clause 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 McDonald's restaurant proposes a two-lane drive through facility with two Customer Order Booths (CoB). This facility merges into a single lane for payment and pickup.

The proposed drive through facility includes provision of at least 7 car stacking capacity within the drive through facility after the COBs with a combined stacking

[1] Guide to Traffic Generating Developments, Version 2.2, October 2002.

space for at least 4 cars at the COBs resulting in at least 11 car stacking capacity within the drive through facility.

Accordingly, the proposed drive through facility meets the RTA recommended drive through queuing area provisions.

5.0 Changes to Surrounding Transport Networks

As part of the proposed development no changes to the surrounding road network is proposed.

6.0 Integration with Surrounding Area

The layout of the proposed development and the location of the crossovers integrate well with the surrounding road network. Access and egress is proposed via the proposed crossovers on existing Access Road to the west and south of the subject site.

7.0 Traffic Assessment

7.1 Assessment Years and Time Periods

The assessment years that have been adopted for this analysis are immediately post-development for the interim (2019) and 10-year post development (2029) scenarios.

Considering the proximity of the existing Coles supermarket to the south of the subject site, the proposed development is expected to generate the highest traffic movements during the Friday PM and Saturday midday peak hours.

Review of the Main Roads WA traffic count data indicates that the peak weekday traffic hour on Albany Highway and Le Grande Avenue is between 3:15PM and 4:15PM in the afternoon and peak weekend traffic hour is between 12:00PM and 1:00PM. As such, trip generation was estimated and traffic analysis was undertaken for these periods.

7.2 Development Generation and Distribution

7.2.1 Proposed Development Traffic Generation

The traffic volume that would be generated by the proposed development has been estimated using trip generation rates derived from:

- ITE Trip Generation Manual 10th Edition

The trip rates which were used to estimate the proposed development traffic generation are as following:

Fast-Food Restaurant with Drive-Through Window (934) – 1000.Sq.Ft.GFA

- Weekday PM peak hour: 32.67 trips per 1000.Sq.Ft.GFA.
- Weekday: 470.95 trips per 1000.Sq.Ft.GFA.
- Saturday midday peak hour: 54.86 trips per 1000.Sq.Ft.GFA.
- Saturday: 616.12 trips per 1000.Sq.Ft.GFA.

Accordingly, it is estimated that the proposed development would generate approximately 2,125 and 2,785 vehicular trips per day (both inbound and outbound) on a typical Friday and Saturday respectively, with approximately 148 and 248 trips during the Friday PM and Saturday midday peak hours respectively.

The directional split of inbound and outbound trips for the proposed development is estimated to be about 50/50 for inbound/outbound trips during the peak hours.

The RTA NSW "Guide to Traffic Generating Developments" document outlines that an average of 35% to 50% of trips to fast food outlets are in the form of 'passing trade'. The WAPC Transport Impact Assessment Guidelines 2016 specify 50%

passing trade for fast food restaurants. The ITE Guidelines also specify around 50% passing trade for fast food restaurants with drive thru. These passing trade figures are average figures derived from surveys at numerous sites.

Due to the existing traffic conditions during peak traffic hours and the nature of the surrounding road network, it is expected that the proposed McDonald's would exhibit higher than 50% passing trade during the Friday PM and Saturday midday peak traffic hours.

However, for the purpose of conservative analysis, 50% passing trade has been adopted for analysis of the proposed McDonald's Orana site.

Accordingly, the net addition of traffic when accounting for the passing trade is **+72 in and out trips during the Friday PM peak hour and +124 in and out trips during the Saturday midday peak hour** on the surrounding road network.

Two traffic distributions have been modelled for the Friday PM and Saturday midday peak hours:

- Passing trade traffic as detailed in **Figure 6**; and,
- Non-passing trade traffic as detailed in **Figure 7**.

The total proposed development traffic is detailed in **Figure 8**. The development traffic distribution modelled in this report has been evaluated by considering the catchment area of the proposed development, existing traffic patterns and the identified key traffic routes.

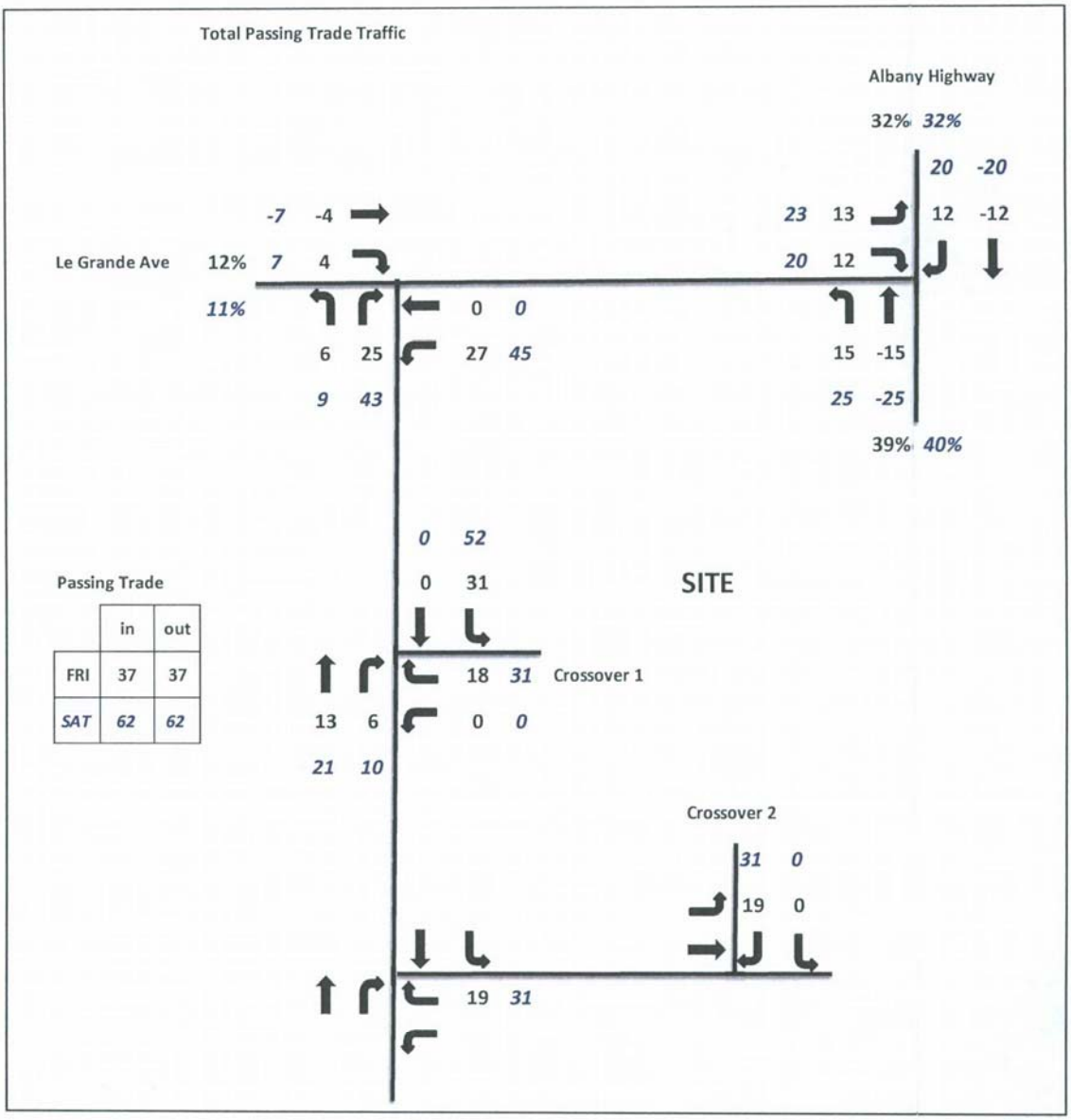


Figure 6: Passing trade component - Friday PM and Saturday midday peak hour traffic for the proposed development

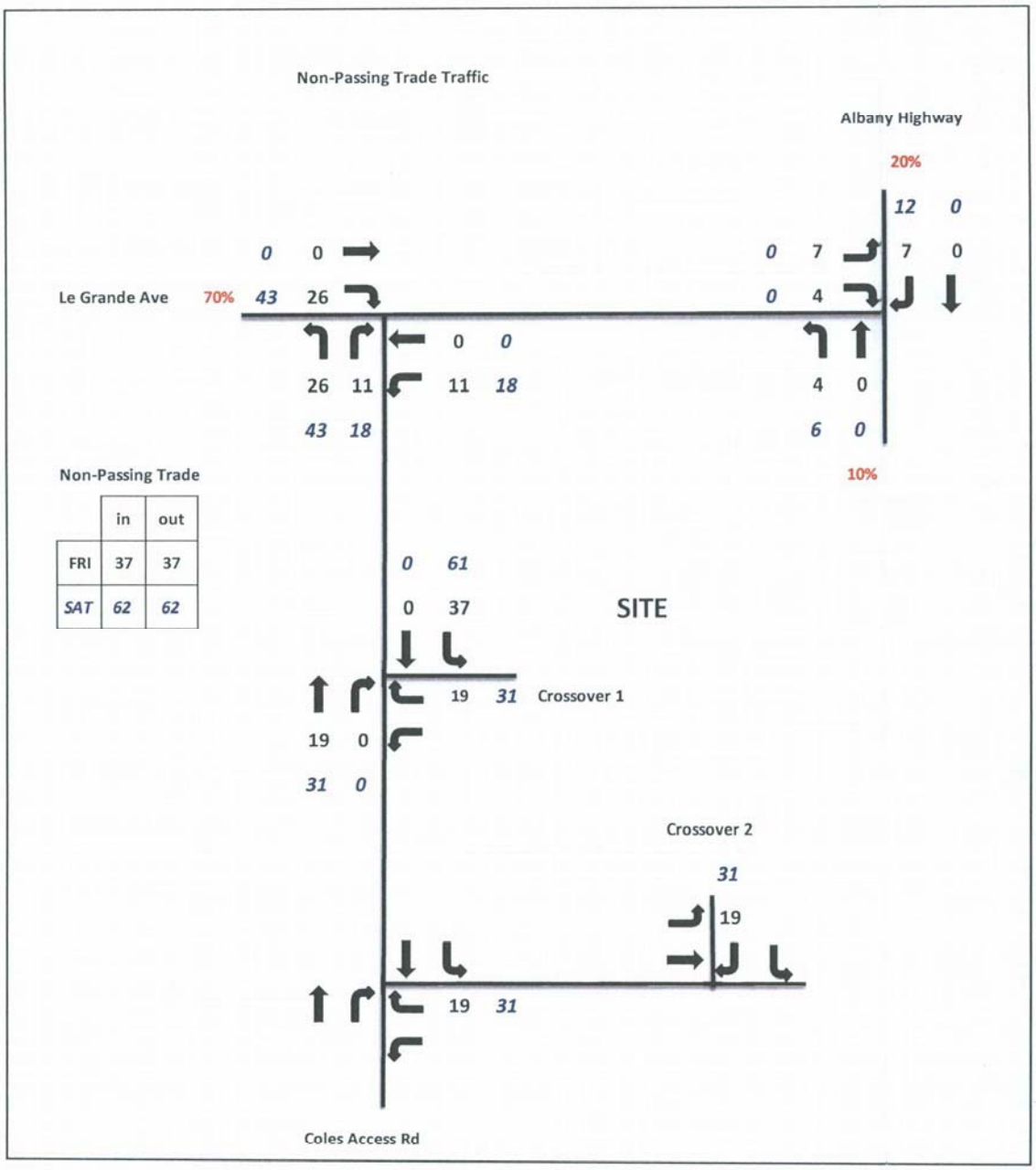


Figure 7: Additional (non-passing trade) component - Friday PM and Saturday midday peak hour traffic for the proposed development

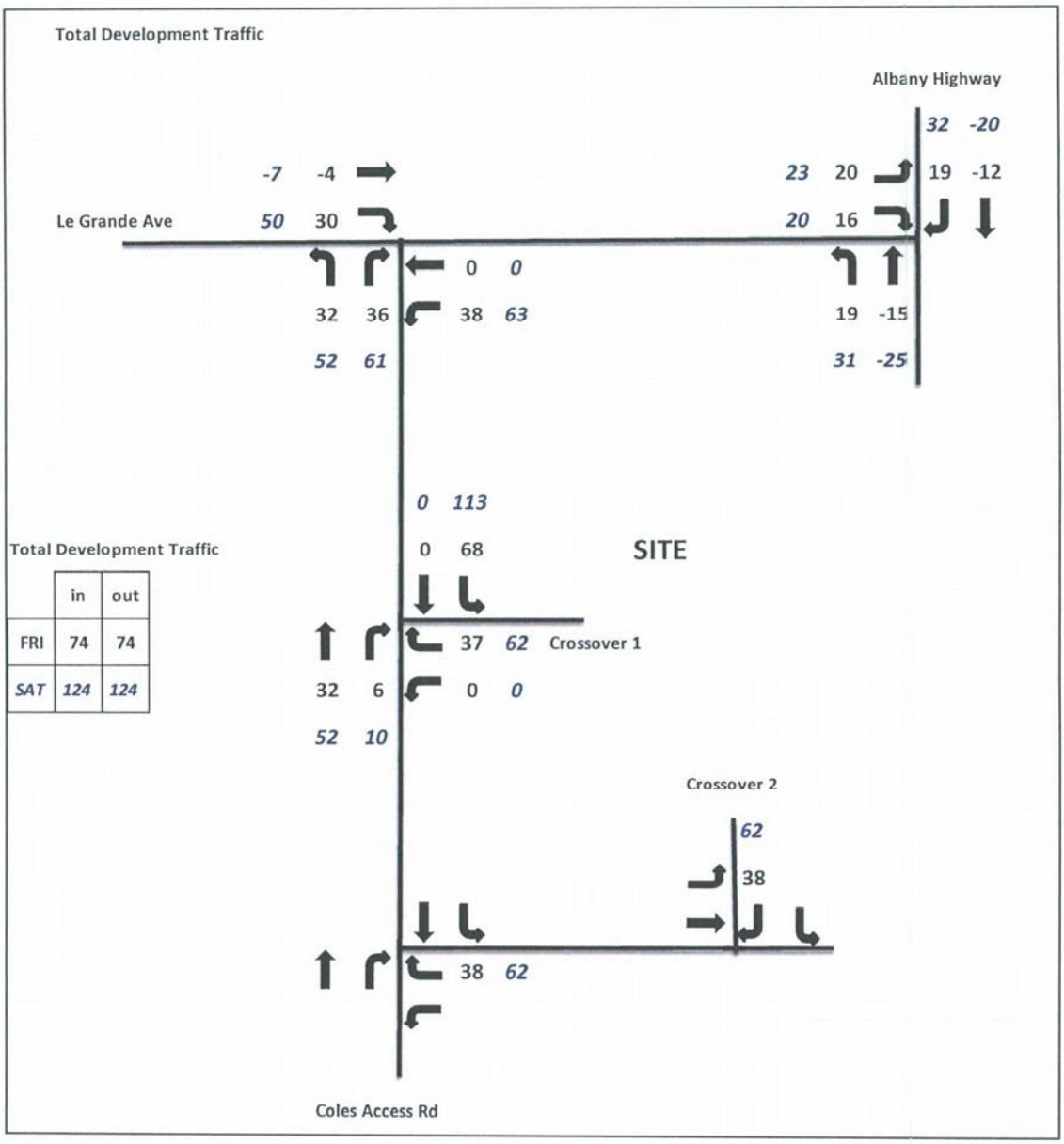


Figure 8: Total peak hour traffic generated by the proposed development – Friday PM and Saturday midday peak hours

7.3 Traffic Flows

The existing traffic flows used as a base for traffic assessment are presented in **Figure 9.** The existing traffic volumes were derived from traffic drone survey conducted by Transcore and Main Roads WA traffic counts.

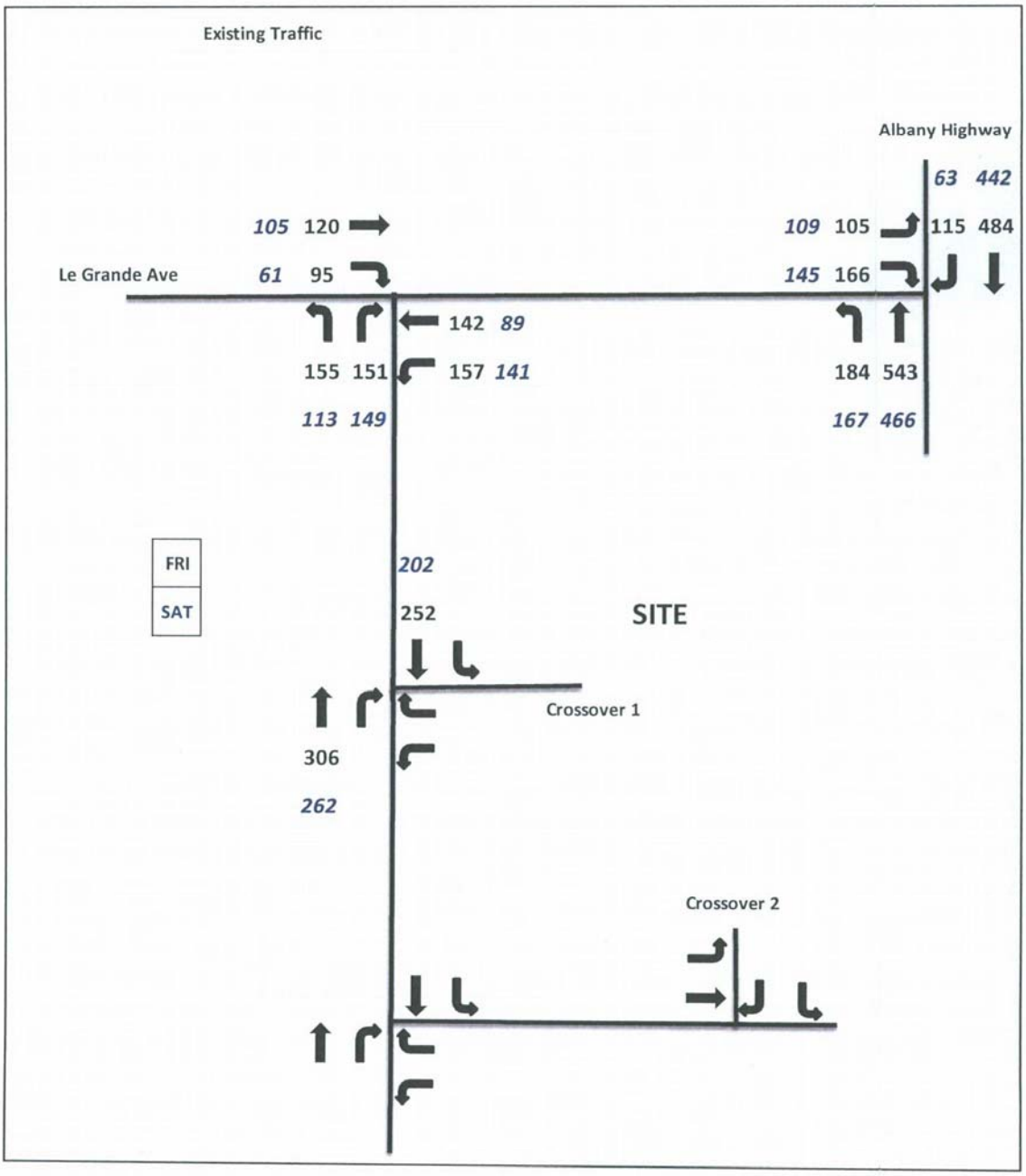


Figure 9: Existing traffic flows near the subject site – Friday PM and Saturday midday peak hours

The combined base and the proposed McDonald's restaurant development traffic volumes for the post-development scenarios are presented in **Figure 10**.

Section 3.4 of the TIA indicates traffic volumes on Le Grande Avenue have decreased from 2017/2018 to 2018/2019 based on Main Roads WA traffic counts. Therefore, to approximate the 10-year post development traffic, it is assumed traffic on Le Grande Ave remain the same as existing situations and a traffic growth of 20% has been applied on through traffic on Albany Highway.

The total ten-year post-development traffic volumes are presented in **Figure 11.**

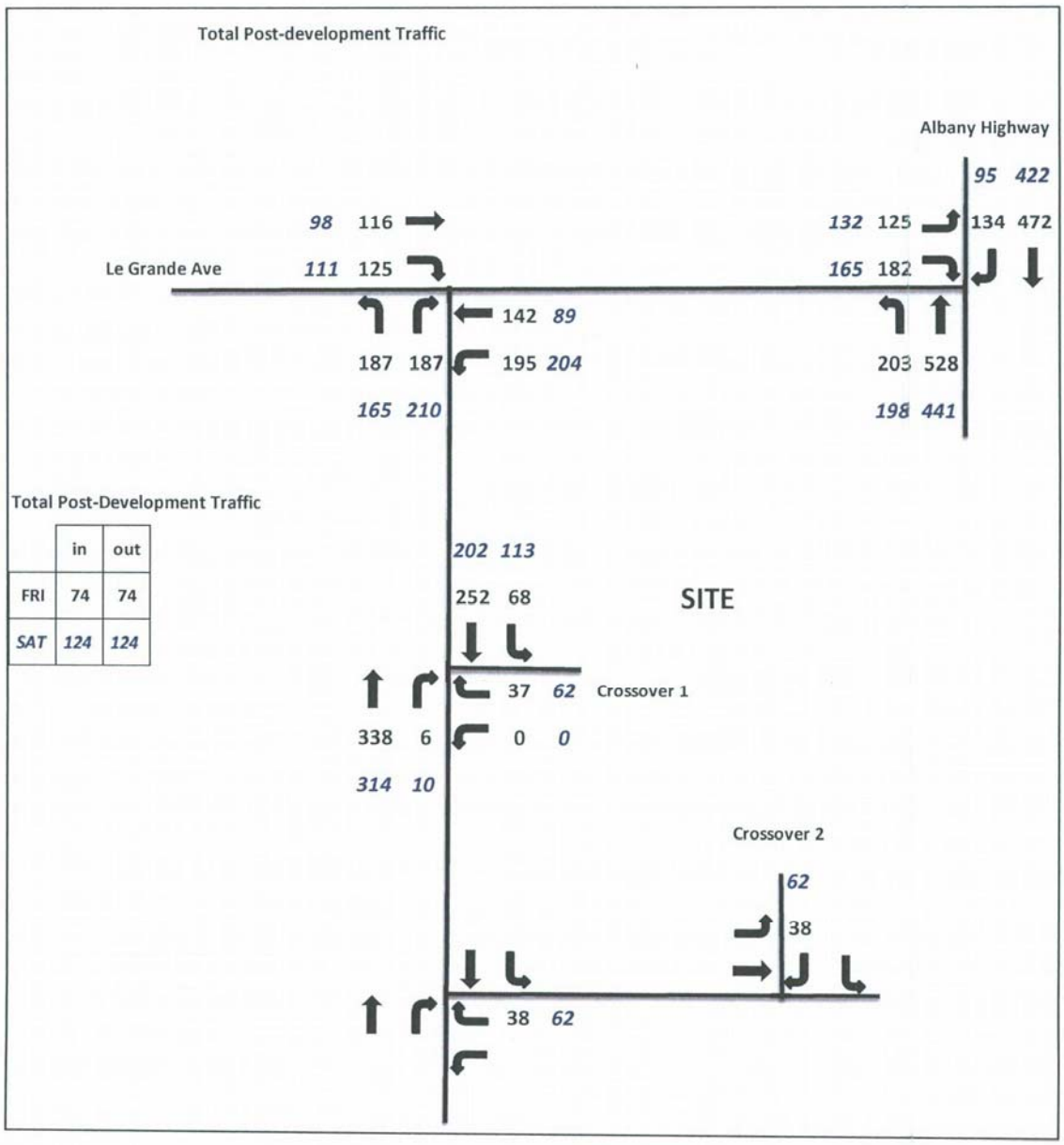


Figure 10: Total Post-development traffic flows near the subject site – Friday PM and Saturday midday peak hours

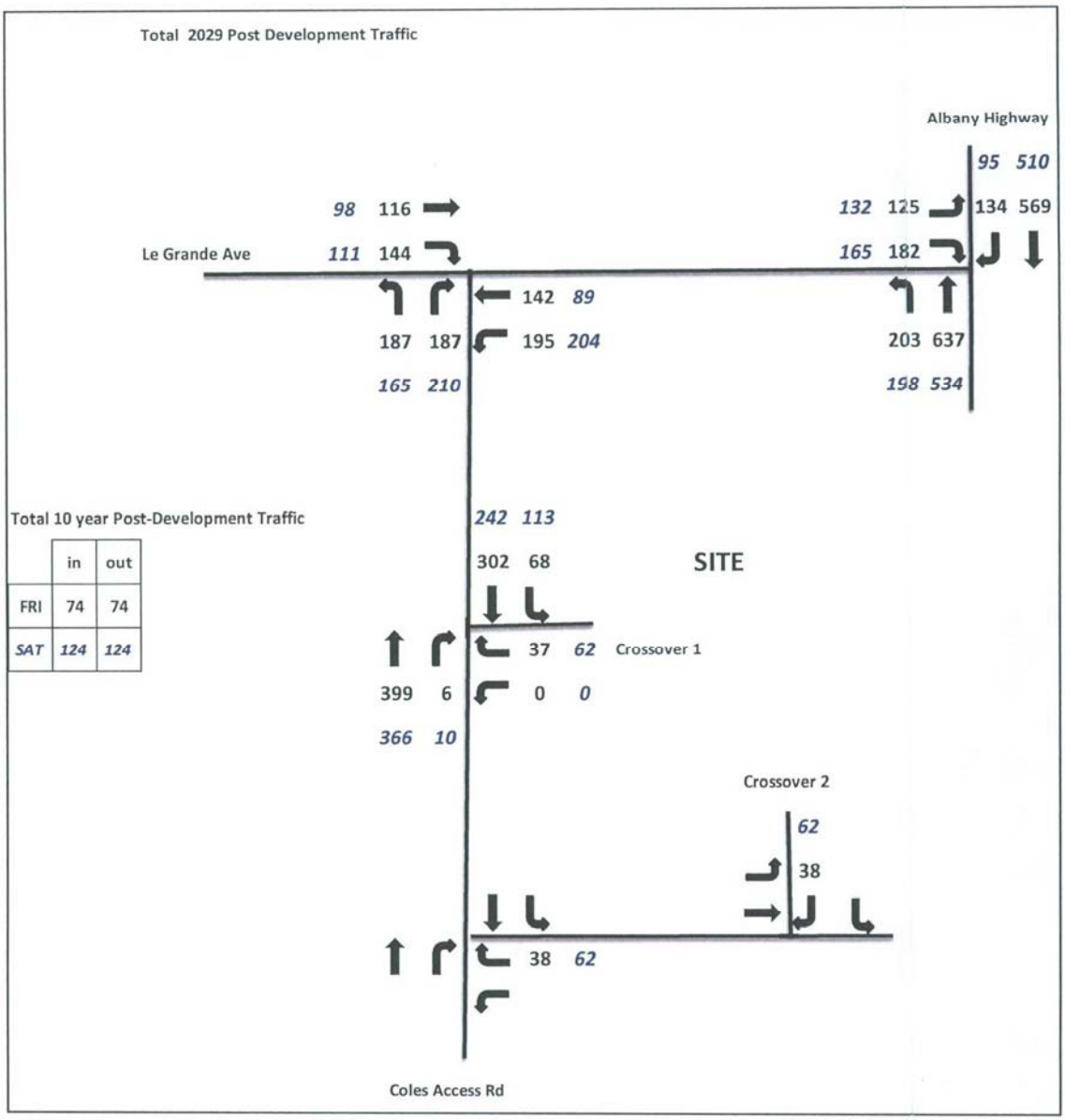


Figure 11: Estimated 10-year total post-development traffic flows near the subject site – Friday PM and Saturday midday peak hours

7.4 Analysis of Intersections and Development Accesses

The operation of the T-intersections of Albany Highway/Le Grande Avenue and Le Grande Avenue/Coles Access Road were analysed for the existing, post-development and 10-year post development scenarios.

A SIDRA Network model was developed for the intersections in order to assess their operations in the existing, post-development and 10-year post development scenarios. The modelled network geometry is shown in **Figure 12.**

Capacity analysis was undertaken using the SIDRA computer software package. 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 (DoS)**: 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 varied traffic flow up to one for saturated flow or capacity.
- **Level of Service (LoS)**: is the qualitative measure describing operational conditions within a traffic stream and the perception by motorists and/or passengers. In general, there are 6 levels of service, designated from A to F, with Level of Service A representing the best operating condition (i.e. free flow) and Level of Service F the worst (i.e. forced or breakdown flow).
- **Average Delay**: is the average of all travel time delays for vehicles through the intersection.
- **95% Queue**: is the queue length below which 95% of all observed queue lengths fall.

The results of the SIDRA analysis are attached in **Appendix B** and briefly discussed in the following paragraphs.

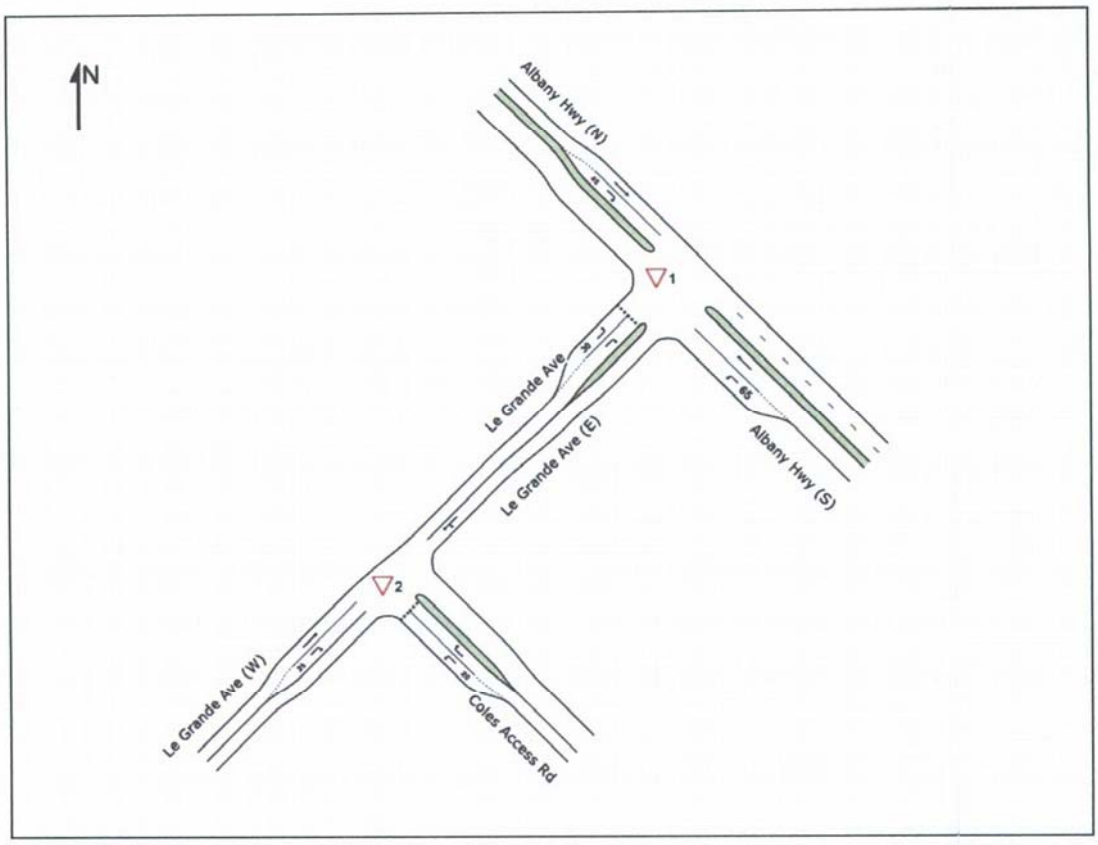


Figure 12: Network Model for T-intersections of Albany Highway/Le Grande Avenue and Le Grande Avenue/Cole Access Road – SIDRA Layout

T-intersection of Albany Highway/Le Grande Avenue

The SIDRA analysis results indicate that T-intersection of Albany/Highway/Le Grande Avenue presently operates satisfactorily and with an overall LoS A – C with moderate queues and delay during Friday PM and Saturday midday peak hours.

The majority of movements for this intersection operate at LoS A to C, for the existing, post-development and 10-year post-development scenarios, with Le Grande Avenue northbound right turn movements onto Albany Highway operate at LoS E for 2029 Friday PM peak hour. It should be noted that LoS and average delays of movements for post-development and 10-year post-development scenarios only change marginally with the addition of the development traffic.

T-intersection of Le Grande Avenue/Coles Access Road

The SIDRA analysis results indicate that this T-intersection operates satisfactorily and with an overall LoS A with moderate queues and minimal delays during Friday PM and Saturday midday peak hours for the existing, post-development and 10-year post-development scenarios.

Accordingly, it is concluded that the development traffic does not have a significant impact on the operations of the surrounding road network.

7.5 Impact on Surrounding Roads

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

"As a general guide, an increase in traffic of less than 10 per cent of capacity would not normally be likely to have a material impact on any particular section of road, but increases over 10 per cent may. All sections of road with an increase greater than 10 per cent 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 per cent of capacity. Therefore, any section of road where the structure plan 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 flows anywhere near the quoted WAPC threshold to warrant any further detailed analysis. As detailed in Section 7, the proposed development will not increase traffic on any lanes on the surrounding road network by more than 100 vph therefore the impact on the surrounding road network is insignificant.

7.6 Impact on Neighbouring Areas

The traffic generated by the proposed development is not expected to significantly affect surrounding areas and the road network has been designed to accommodate the traffic generated by this kind of development.

7.7 Traffic Noise and Vibration

It generally requires a doubling of traffic volumes on a road to produce a perceptible 3dB (A) increase in road noise. The proposed development will not increase traffic volumes on surrounding roads anywhere near this level.

8.0 Parking

The proposed development will provide a total of 24 on-site car parking bays (including 1 ARCOD bay) for customers and staff. Two additional waiting bays are also provided on east side of the restaurant building.

The drive through facility entails a combined drive through stacking length sufficient to accommodate at least 11 standard vehicles.

It is considered that the proposed parking provision is sufficient to accommodate the needs of the proposed development.

9.0 Provision for Heavy Vehicles

A loading bay is proposed on the west side of the restaurant building. The largest service vehicle which is expected to use the development site is 12.5m service vehicle. Delivery and service trucks are anticipated to enter/exit the subject site via the proposed crossover 1.

Swept path analysis was undertaken for service vehicles to confirm satisfactory access, egress and circulation. The swept path diagrams are included in **Appendix C**.

10.0 Conclusions

This Transport Impact Assessment (TIA) is prepared by Transcore with respect to the proposed McDonald's restaurant at Lot 405 Albany Highway, Orana, in the City of Albany.

The proposed crossover system for the proposed development facilitates efficient and convenient vehicular entry and egress to and from the subject site. Drive-through queue analysis undertaken indicates the proposed drive through facility meets the RTA recommended drive through queuing area provisions.

Traffic generation has been assessed and the net additional traffic of the proposed McDonald's restaurant is estimated to be approximately 72 and 124 vph during the critical Friday PM and Saturday midday peak hours respectively. Accordingly, the traffic generation of the proposed development is relatively minimal and as such would not have significant impact on the surrounding road network.

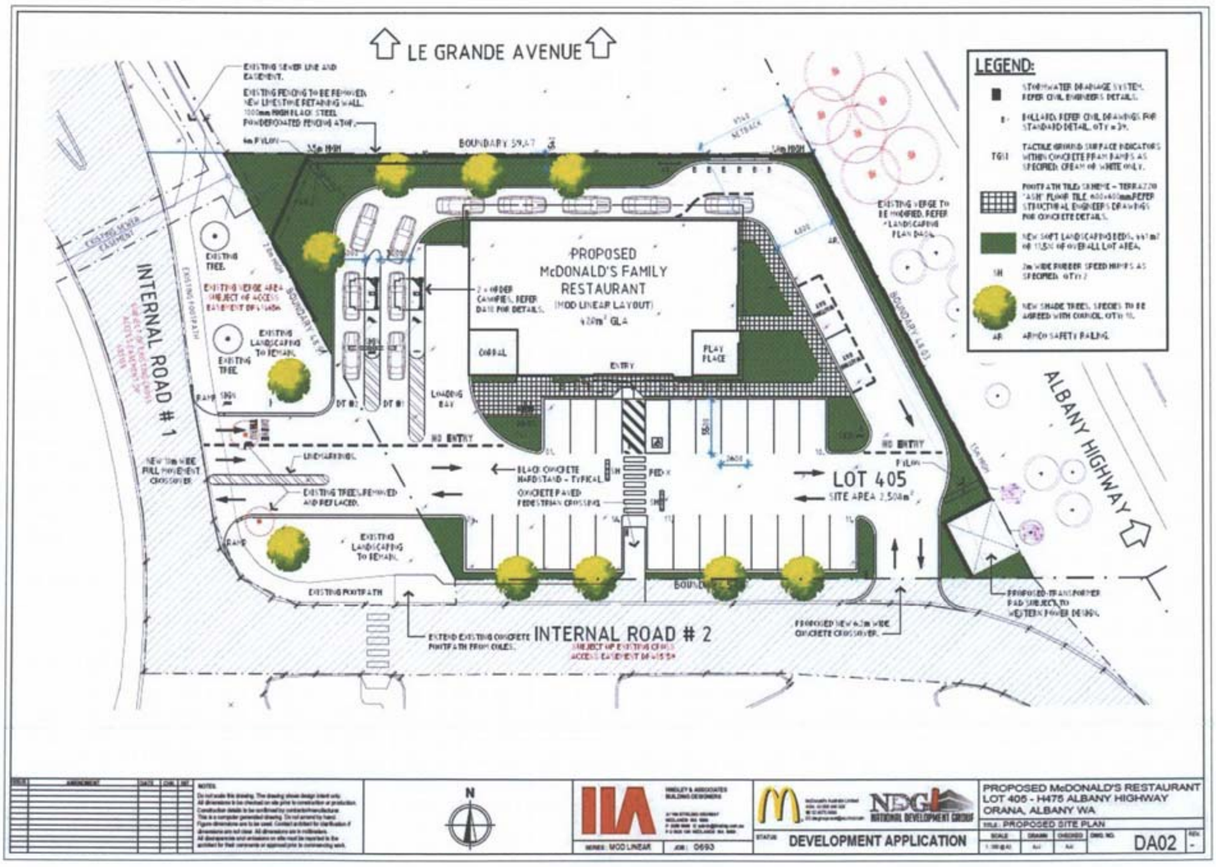
The operation of the T-intersections of Albany Highway/Le Grande Avenue and Le Grande Avenue/Coles Access Road was analysed using SIDRA Network modelling. The intersections are anticipated to operate satisfactorily for the future Friday PM and Saturday midday peak hour traffic flows in the post-development and 10-years post development scenarios.

The proposed car parking and stacking capacity is considered satisfactorily to meet the needs of the proposed development.

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

Appendix A

PROPOSED SITE PLAN



LE GRANDE AVENUE
LEGEND:
PROPOSED
McDONALD'S FAMILY
RESTAURANT
LOT 405
INTERNAL ROAD # 1
INTERNAL ROAD # 2
ALBANY HIGHWAY
BOUNDARY 59.47
ENTRY
PLAY PLACE
LOADING BAY
N
PROPOSED McDONALD'S RESTAURANT
LOT 405 - H475 ALBANY HIGHWAY
ORANA, ALBANY WA
TITLE: PROPOSED SITE PLAN
DEVELOPMENT APPLICATION
NATIONAL DEVELOPMENT GROUP
SERIES: MOD LINEAR
JOB: 0693
DA02

Appendix B

SIDRA OUTPUTS

Table 1. SIDRA results for the T-intersection of Albany Highway/Le Grande Avenue – Friday PM peak period – (existing situation)

MOVEMENT SUMMARY

▽ Site: 1 [T intersection of Albany Hwy / Le Grande Ave Existing - Friday PM Peak Hour]

⧓⧓ Network: N101 [Existing Friday PM Peak Hour]

T intersection of Albany Highway / Le Grande Ave Peak
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
SouthEast: Albany Hwy (S)														
4	L2	194	8.1	194	8.1	0.106	5.7	LOS A	0.0	0.0	0.00	0.57	0.00	50.9
5	T1	572	8.1	572	8.1	0.296	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		765	8.1	765	8.1	0.296	1.5	NA	0.0	0.0	0.00	0.15	0.00	58.4
NorthWest: Albany Hwy (N)														
11	T1	509	4.0	509	4.0	0.279	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
12	R2	121	4.0	121	4.0	0.230	11.9	LOS B	0.9	7.1	0.68	0.88	0.73	43.4
Approach		631	4.0	631	4.0	0.279	2.3	NA	0.9	7.1	0.13	0.17	0.14	57.6
SouthWest: Le Grande Ave														
1	L2	111	6.7	111	6.7	0.176	8.6	LOS A	0.6	4.9	0.56	0.79	0.56	45.2
3	R2	175	6.7	175	6.7	0.565	20.0	LOS C	2.7	21.5	0.84	1.09	1.35	10.8
Approach		285	6.7	285	6.7	0.565	15.6	LOS C	2.7	21.5	0.73	0.97	1.04	29.0
All Vehicles		1681	6.3	1681	6.3	0.565	4.2	NA	2.7	21.5	0.17	0.29	0.23	54.8

Table 2. SIDRA results for the T-intersection of Le Grande Avenue/Coles Access Road – Friday PM peak period – (existing situation)

MOVEMENT SUMMARY

▽ Site: 2 [T intersection of / Le Grande Ave / Coles access Rd Existing - Friday PM Peak Hour]

⧓⧓ Network: N101 [Existing Friday PM Peak Hour]

T intersection of / Le Grande Ave / Coles access Rd
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
SouthEast: Coles Access Rd														
1	L2	163	2.0	163	2.0	0.115	5.1	LOS A	0.5	3.6	0.26	0.53	0.26	46.0
3	R2	159	2.0	159	2.0	0.206	2.7	LOS A	0.9	6.5	0.49	0.42	0.49	19.4
Approach		322	2.0	322	2.0	0.206	3.9	LOS A	0.9	6.5	0.37	0.47	0.37	31.7
NorthEast: Le Grande Ave (E)														
4	L2	165	2.0	165	2.0	0.170	4.5	LOS A	0.0	0.0	0.00	0.28	0.00	46.5
5	T1	149	3.0	149	3.0	0.170	0.0	LOS A	0.0	0.0	0.00	0.28	0.00	47.3
Approach		315	2.5	315	2.5	0.170	2.4	NA	0.0	0.0	0.00	0.28	0.00	46.9
SouthWest: Le Grande Ave (W)														
11	T1	118	6.7	118	6.7	0.065	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
12	R2	100	2.0	100	2.0	0.076	5.7	LOS A	0.3	2.5	0.40	0.58	0.40	45.7
Approach		218	4.5	218	4.5	0.076	2.6	NA	0.3	2.5	0.19	0.26	0.19	47.2
All Vehicles		855	2.8	855	2.8	0.206	3.0	NA	0.9	6.5	0.19	0.35	0.19	39.2

Table 3. SIDRA results for the T-intersection of Albany Highway/Le Grande Avenue – Saturday midday peak period – (existing situation)

MOVEMENT SUMMARY

▽ Site: 1 [T intersection of Albany Hwy / Le Grande Ave Existing - SAT Peak Hour]

Network: N101 [Existing Saturday Midday Peak Hour]

T intersection of Albany Highway / Le Grande Ave Peak
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
SouthEast: Albany Hwy (S)														
4	L2	176	8.1	176	8.1	0.096	5.7	LOS A	0.0	0.0	0.00	0.57	0.00	50.9
5	T1	491	8.1	491	8.1	0.254	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		666	8.1	666	8.1	0.254	1.5	NA	0.0	0.0	0.00	0.15	0.00	58.3
NorthWest: Albany Hwy (N)														
11	T1	465	4.0	465	4.0	0.255	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
12	R2	66	4.0	66	4.0	0.107	10.1	LOS B	0.4	3.1	0.59	0.81	0.59	45.4
Approach		532	4.0	532	4.0	0.255	1.3	NA	0.4	3.1	0.07	0.10	0.07	58.7
SouthWest: Le Grande Ave														
1	L2	115	6.1	115	6.1	0.160	7.7	LOS A	0.6	4.5	0.52	0.75	0.52	46.1
3	R2	153	6.1	153	6.1	0.381	13.2	LOS B	1.6	12.8	0.71	0.94	0.93	14.6
Approach		267	6.1	267	6.1	0.381	10.8	LOS B	1.6	12.8	0.63	0.86	0.75	34.9
All Vehicles		1465	6.2	1465	6.2	0.381	3.1	NA	1.6	12.8	0.14	0.26	0.16	56.0

Table 4. SIDRA results for the T-intersection of Le Grande Avenue/Coles Access Road – Saturday midday peak period – (existing situation)

MOVEMENT SUMMARY

▽ Site: 2 [T intersection of / Le Grande Ave / Coles access Rd Existing - SAT Peak Hour]

Network: N101 [Existing Saturday Midday Peak Hour]

T intersection of / Le Grande Ave / Coles access Rd Existing
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
SouthEast: Coles Access Rd														
1	L2	119	2.0	119	2.0	0.079	4.9	LOS A	0.3	2.5	0.19	0.51	0.19	46.2
3	R2	157	2.0	157	2.0	0.180	1.8	LOS A	0.8	5.7	0.42	0.31	0.42	19.6
Approach		276	2.0	276	2.0	0.180	3.1	LOS A	0.8	5.7	0.32	0.40	0.32	30.0
NorthEast: Le Grande Ave (E)														
4	L2	148	2.0	148	2.0	0.130	4.5	LOS A	0.0	0.0	0.00	0.33	0.00	46.1
5	T1	94	1.0	94	1.0	0.130	0.0	LOS A	0.0	0.0	0.00	0.33	0.00	46.9
Approach		242	1.6	242	1.6	0.130	2.8	NA	0.0	0.0	0.00	0.33	0.00	46.4
SouthWest: Le Grande Ave (W)														
11	T1	111	6.1	111	6.1	0.061	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
12	R2	64	2.0	64	2.0	0.045	5.4	LOS A	0.2	1.5	0.34	0.54	0.34	45.8
Approach		175	4.6	175	4.6	0.061	2.0	NA	0.2	1.5	0.13	0.20	0.13	47.7
All Vehicles		693	2.5	693	2.5	0.180	2.7	NA	0.8	5.7	0.16	0.32	0.16	37.7

Table 5. SIDRA results for the T-intersection of Albany Highway/Le Grande Avenue – Friday PM peak period – (2019)

MOVEMENT SUMMARY

▽ Site: 1 [T intersection of Albany Hwy / Le Grande Ave 2019 Post-development - Friday PM Peak Hour]

⧓⧓ Network: N101 [2019 Post-development Friday PM Peak Hour]

T intersection of Albany Highway / Le Grande Ave Peak
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
SouthEast: Albany Hwy (S)														
4	L2	214	8.1	214	8.1	0.117	5.7	LOS A	0.0	0.0	0.00	0.57	0.00	50.9
5	T1	556	8.1	556	8.1	0.288	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		769	8.1	769	8.1	0.288	1.6	NA	0.0	0.0	0.00	0.16	0.00	58.2
NorthWest: Albany Hwy (N)														
11	T1	497	4.0	497	4.0	0.272	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
12	R2	141	4.0	141	4.0	0.268	12.3	LOS B	1.1	8.7	0.69	0.90	0.79	43.0
Approach		638	4.0	638	4.0	0.272	2.8	NA	1.1	8.7	0.15	0.20	0.17	57.1
SouthWest: Le Grande Ave														
1	L2	132	6.7	132	6.7	0.204	8.5	LOS A	0.7	5.8	0.56	0.79	0.56	45.3
3	R2	192	6.7	192	6.7	0.630	22.0	LOS C	3.3	25.8	0.86	1.15	1.52	10.0
Approach		323	6.7	323	6.7	0.630	16.5	LOS C	3.3	25.8	0.74	1.00	1.13	28.8
All Vehicles		1731	6.3	1731	6.3	0.630	4.8	NA	3.3	25.8	0.19	0.33	0.27	54.0

Table 6. SIDRA results for the T-intersection of Le Grande Avenue/Coles Access Road – Friday PM peak period – (2019)

MOVEMENT SUMMARY

▽ Site: 2 [T intersection of / Le Grande Ave / Coles access Rd 2019 Post-development - Friday PM Peak Hour]

⧓⧓ Network: N101 [2019 Post-development Friday PM Peak Hour]

T intersection of / Le Grande Ave / Coles access Rd
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
SouthEast: Coles Access Rd														
1	L2	197	2.0	197	2.0	0.138	5.1	LOS A	0.6	4.5	0.26	0.53	0.26	46.0
3	R2	197	2.0	197	2.0	0.267	3.1	LOS A	1.1	8.6	0.53	0.48	0.53	19.3
Approach		394	2.0	394	2.0	0.267	4.1	LOS A	1.1	8.6	0.40	0.50	0.40	31.5
NorthEast: Le Grande Ave (E)														
4	L2	205	2.0	205	2.0	0.192	4.5	LOS A	0.0	0.0	0.00	0.31	0.00	46.3
5	T1	149	3.0	149	3.0	0.192	0.0	LOS A	0.0	0.0	0.00	0.31	0.00	47.0
Approach		355	2.4	355	2.4	0.192	2.6	NA	0.0	0.0	0.00	0.31	0.00	46.6
SouthWest: Le Grande Ave (W)														
11	T1	122	6.7	122	6.7	0.068	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
12	R2	132	2.0	132	2.0	0.105	5.9	LOS A	0.5	3.5	0.44	0.61	0.44	45.6
Approach		254	4.3	254	4.3	0.105	3.1	NA	0.5	3.5	0.23	0.31	0.23	46.9
All Vehicles		1002	2.7	1002	2.7	0.267	3.3	NA	1.1	8.6	0.21	0.39	0.21	38.7

Table 7. SIDRA results for the T-intersection of Albany Highway/Le Grande Avenue – Saturday midday peak period – (2019)

MOVEMENT SUMMARY

▽ Site: 1 [T intersection of Albany Hwy / Le Grande Ave 2019 Post-development - SAT Peak Hour]

Network: N101 [2019 Post-development Saturday Midday Peak Hour]

T intersection of Albany Highway / Le Grande Ave Peak
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
SouthEast: Albany Hwy (S)														
4	L2	209	8.1	209	8.1	0.115	5.7	LOS A	0.0	0.0	0.00	0.57	0.00	50.9
5	T1	463	8.1	463	8.1	0.240	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		673	8.1	673	8.1	0.240	1.8	NA	0.0	0.0	0.00	0.18	0.00	58.0
NorthWest: Albany Hwy (N)														
11	T1	443	4.0	443	4.0	0.242	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
12	R2	101	4.0	101	4.0	0.164	10.3	LOS B	0.6	4.9	0.61	0.83	0.61	45.1
Approach		544	4.0	544	4.0	0.242	1.9	NA	0.6	4.9	0.11	0.15	0.11	58.0
SouthWest: Le Grande Ave														
1	L2	137	6.1	137	6.1	0.183	7.5	LOS A	0.7	5.2	0.51	0.74	0.51	46.3
3	R2	175	6.1	175	6.1	0.448	14.4	LOS B	2.1	16.2	0.74	0.98	1.05	13.7
Approach		312	6.1	312	6.1	0.448	11.4	LOS B	2.1	16.2	0.64	0.88	0.81	34.5
All Vehicles		1528	6.2	1528	6.2	0.448	3.8	NA	2.1	16.2	0.17	0.31	0.21	55.0

Table 8. SIDRA results for the T-intersection of Le Grande Avenue/Coles Access Road – Saturday midday peak period – (2019)

MOVEMENT SUMMARY

▽ Site: 2 [T intersection of / Le Grande Ave / Coles access Rd 2019 Post-development - SAT Peak Hour]

Network: N101 [2019 Post-development Saturday Midday Peak Hour]

T intersection of / Le Grande Ave / Coles access Rd
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
SouthEast: Coles Access Rd														
1	L2	174	2.0	174	2.0	0.116	4.9	LOS A	0.5	3.7	0.20	0.51	0.20	46.1
3	R2	220	2.0	220	2.0	0.266	2.3	LOS A	1.2	8.9	0.48	0.39	0.48	19.5
Approach		394	2.0	394	2.0	0.266	3.5	LOS A	1.2	8.9	0.35	0.44	0.35	30.1
NorthEast: Le Grande Ave (E)														
4	L2	215	2.0	215	2.0	0.167	4.5	LOS A	0.0	0.0	0.00	0.37	0.00	45.7
5	T1	94	1.0	94	1.0	0.167	0.0	LOS A	0.0	0.0	0.00	0.37	0.00	46.5
Approach		308	1.7	308	1.7	0.167	3.1	NA	0.0	0.0	0.00	0.37	0.00	46.0
SouthWest: Le Grande Ave (W)														
11	T1	103	6.1	103	6.1	0.057	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
12	R2	117	2.0	117	2.0	0.088	5.7	LOS A	0.4	2.9	0.40	0.58	0.40	45.7
Approach		220	3.9	220	3.9	0.088	3.0	NA	0.4	2.9	0.21	0.31	0.21	46.9
All Vehicles		922	2.4	922	2.4	0.266	3.2	NA	1.2	8.9	0.20	0.39	0.20	37.3

Table 9. SIDRA results for the T-intersection of Albany Highway/Le Grande Avenue – Friday PM peak period – (2029)

MOVEMENT SUMMARY

▽ Site: 1 [T intersection of Albany Hwy / Le Grande Ave 2029 Post-development - Friday PM Peak Hour]

Network: N101 [2029 Post-development Friday PM Peak Hour]

T intersection of Albany Highway / Le Grande Ave Peak
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
SouthEast: Albany Hwy (S)														
4	L2	214	8.1	214	8.1	0.117	5.7	LOS A	0.0	0.0	0.00	0.57	0.00	50.9
5	T1	671	8.1	671	8.1	0.347	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		884	8.1	884	8.1	0.347	1.4	NA	0.0	0.0	0.00	0.14	0.00	58.5
NorthWest: Albany Hwy (N)														
11	T1	599	4.0	599	4.0	0.328	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
12	R2	141	4.0	141	4.0	0.331	15.2	LOS C	1.4	10.9	0.77	0.95	0.95	40.4
Approach		740	4.0	740	4.0	0.331	2.9	NA	1.4	10.9	0.15	0.18	0.18	57.0
SouthWest: Le Grande Ave														
1	L2	132	6.7	132	6.7	0.249	10.4	LOS B	0.9	7.3	0.66	0.86	0.72	43.5
3	R2	192	6.7	192	6.7	0.801	36.6	LOS E	4.9	39.0	0.94	1.38	2.25	6.6
Approach		323	6.7	323	6.7	0.801	25.9	LOS D	4.9	39.0	0.82	1.17	1.63	22.7
All Vehicles		1947	6.3	1947	6.3	0.801	6.0	NA	4.9	39.0	0.19	0.33	0.34	53.0

Table 10. SIDRA results for the T-intersection of Le Grande Avenue/Coles Access Road – Friday PM peak period – (2029)

MOVEMENT SUMMARY

▽ Site: 2 [T intersection of / Le Grande Ave / Coles access Rd 2029 Post-development - Friday PM Peak Hour]

Network: N101 [2029 Post-development Friday PM Peak Hour]

T intersection of / Le Grande Ave / Coles access Rd
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
SouthEast: Coles Access Rd														
1	L2	197	2.0	197	2.0	0.138	5.1	LOS A	0.6	4.5	0.26	0.53	0.26	46.0
3	R2	197	2.0	197	2.0	0.273	3.4	LOS A	1.2	9.0	0.55	0.52	0.56	19.3
Approach		394	2.0	394	2.0	0.273	4.2	LOS A	1.2	9.0	0.40	0.52	0.41	31.4
NorthEast: Le Grande Ave (E)														
4	L2	205	2.0	205	2.0	0.192	4.5	LOS A	0.0	0.0	0.00	0.31	0.00	46.3
5	T1	149	3.0	149	3.0	0.192	0.0	LOS A	0.0	0.0	0.00	0.31	0.00	47.0
Approach		355	2.4	355	2.4	0.192	2.6	NA	0.0	0.0	0.00	0.31	0.00	46.6
SouthWest: Le Grande Ave (W)														
11	T1	122	6.7	122	6.7	0.068	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
12	R2	152	2.0	152	2.0	0.120	5.9	LOS A	0.5	4.1	0.44	0.61	0.44	45.6
Approach		274	4.1	274	4.1	0.120	3.3	NA	0.5	4.1	0.24	0.34	0.24	46.8
All Vehicles		1022	2.7	1022	2.7	0.273	3.4	NA	1.2	9.0	0.22	0.40	0.22	38.9

Table 11. SIDRA results for the T-intersection of Albany Highway/Le Grande Avenue – Saturday midday peak period – (2029)

MOVEMENT SUMMARY

Site: 1 [T intersection of Albany Hwy / Le Grande Ave 2029 Post-development - SAT Peak Hour]

Network: N101 [2029 Post-development Saturday Midday Peak Hour]

T intersection of Albany Highway / Le Grande Ave Peak
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
SouthEast: Albany Hwy (S)														
4	L2	209	8.1	209	8.1	0.115	5.7	LOS A	0.0	0.0	0.00	0.57	0.00	50.9
5	T1	561	8.1	561	8.1	0.291	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		771	8.1	771	8.1	0.291	1.6	NA	0.0	0.0	0.00	0.16	0.00	58.3
NorthWest: Albany Hwy (N)														
11	T1	536	4.0	536	4.0	0.293	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
12	R2	101	4.0	101	4.0	0.193	11.6	LOS B	0.7	5.6	0.67	0.86	0.67	43.7
Approach		637	4.0	637	4.0	0.293	1.9	NA	0.7	5.6	0.11	0.14	0.11	58.0
SouthWest: Le Grande Ave														
1	L2	137	6.1	137	6.1	0.213	8.5	LOS A	0.8	6.0	0.57	0.79	0.57	45.2
3	R2	175	6.1	175	6.1	0.539	18.6	LOS C	2.6	20.1	0.82	1.07	1.28	11.3
Approach		312	6.1	312	6.1	0.539	14.2	LOS B	2.6	20.1	0.71	0.95	0.97	31.6
All Vehicles		1719	6.2	1719	6.2	0.539	4.0	NA	2.6	20.1	0.17	0.29	0.22	55.0

Table 12. SIDRA results for the T-intersection of Le Grande Avenue/Coles Access Road – Saturday midday peak period – (2029)

MOVEMENT SUMMARY

Site: 2 [T intersection of / Le Grande Ave / Coles access Rd 2029 Post-development - SAT Peak Hour]

Network: N101 [2029 Post-development Saturday Midday Peak Hour]

T intersection of / Le Grande Ave / Coles access Rd
Site Category: (None)
Giveway / Yield (Two-Way)

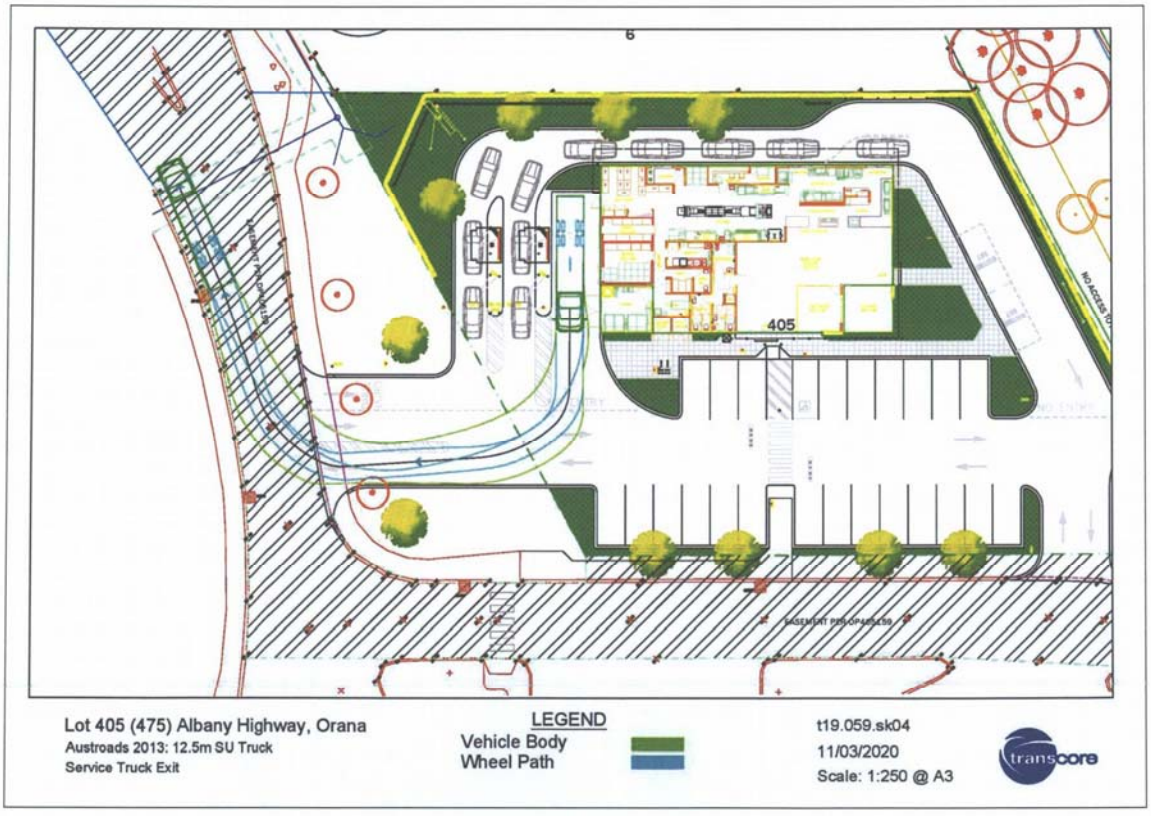
Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
SouthEast: Coles Access Rd														
1	L2	174	2.0	174	2.0	0.116	4.9	LOS A	0.5	3.7	0.20	0.51	0.20	46.1
3	R2	220	2.0	220	2.0	0.266	2.3	LOS A	1.2	8.9	0.48	0.39	0.48	19.5
Approach		394	2.0	394	2.0	0.266	3.5	LOS A	1.2	8.9	0.35	0.44	0.35	30.1
NorthEast: Le Grande Ave (E)														
4	L2	215	2.0	215	2.0	0.167	4.5	LOS A	0.0	0.0	0.00	0.37	0.00	45.7
5	T1	94	1.0	94	1.0	0.167	0.0	LOS A	0.0	0.0	0.00	0.37	0.00	46.5
Approach		308	1.7	308	1.7	0.167	3.1	NA	0.0	0.0	0.00	0.37	0.00	46.0
SouthWest: Le Grande Ave (W)														
11	T1	103	6.1	103	6.1	0.057	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
12	R2	117	2.0	117	2.0	0.088	5.7	LOS A	0.4	2.9	0.40	0.58	0.40	45.7
Approach		220	3.9	220	3.9	0.088	3.0	NA	0.4	2.9	0.21	0.31	0.21	46.9
All Vehicles		922	2.4	922	2.4	0.266	3.2	NA	1.2	8.9	0.20	0.39	0.20	37.3

Appendix C

SWEPT PATH ANALYSIS


405
LEGEND
Vehicle Body
Wheel Path
Lot 405 (475) Albany Highway, Orana
Austroads 2013: 12.5m SU Truck
Service Truck Entry
t19.059.sk03
11/03/2020
Scale: 1:250 @ A3
transcore


405
Lot 405 (475) Albany Highway, Orana
Austroads 2013: 12.5m SU Truck
Service Truck Exit
LEGEND
Vehicle Body
Wheel Path
t19.059.sk04
11/03/2020
Scale: 1:250 @ A3
transcore

Appendix 4
Environmental Noise Assessment

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Environmental Noise Assessment

McDonalds Restaurant and Drive-Through

Lot 405 (#475) Albany Highway, Orana

Reference: 19034893-01A

Prepared for:
McDonalds Australia Ltd

Association of Australasian Acoustical Consultants

Report: 19034893-01A

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Date:	Rev	Description	Prepared By	Verified
7/5/19	0	Issued to Client	Matt Moyle	Terry George
19/2/20	A	Updated with latest DA plans	Matt Moyle	Terry George

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Appendices

1 INTRODUCTION

Lloyd George Acoustics was commissioned by McDonalds Australia to undertake a noise assessment for a proposed McDonalds Restaurant development at Lot 405 (#475) Albany Highway, Orana (subject site) – refer *Figure 1-1*. The commercial development consists of the following elements:

- A 24/7 takeaway restaurant with dual-lane drive-through ordering system, including outdoor speakers.
- Mechanical plant situated on the roof top.

The most critical premises identified in this assessment are to the immediate west, with future residential premises being a potential outcome to the west also. The subject site is amongst commercial business uses to the south and immediate north, with South Regional TAFE being to the east.

Noise sources considered were those associated with mechanical plant and vehicle noise in drive-through and parking areas. Noise from this equipment was assessed against the prescribed standards of the *Environmental Protection (Noise) Regulations 1997* by way of noise modelling.

Figure 1-1 Subject Site Locality

Appendix B contains a description of some of the terminology used throughout this report.

2 CRITERIA

Environmental noise in Western Australia is governed by the *Environmental Protection Act 1986*, through the *Environmental Protection (Noise) Regulations 1997* (the Regulations).

Regulation 7 defines the prescribed standard for noise emissions as follows:

"7. (1) Noise emitted from any premises or public place when received at other premises –

(a) Must not cause or significantly contribute to, a level of noise which exceeds the assigned level in respect of noise received at premises of that kind; and

(b) Must be free of –

i. tonality;

ii. impulsiveness; and

iii. modulation,

when assessed under regulation 9"

A "...noise emission is taken to significantly contribute to a level of noise if the noise emission ... exceeds a value which is 5 dB below the assigned level..."

Tonality, impulsiveness and modulation are defined in Regulation 9. Noise is to be taken to be free of these characteristics if:

(a) The characteristics cannot be reasonably and practicably removed by techniques other than attenuating the overall level of noise emission; and

(b) The noise emission complies with the standard prescribed under regulation 7 after the adjustments of *Table 2-1* are made to the noise emission as measured at the point of reception.

Table 2-1 Adjustments Where Characteristics Cannot Be Removed

Where Noise Emission is Not Music			Where Noise Emission is Music	
Tonality	Modulation	Impulsiveness	No Impulsiveness	Impulsiveness
+ 5 dB	+ 5 dB	+ 10 dB	+ 10 dB	+ 15 dB

Note: The above are cumulative to a maximum of 15dB.

The baseline assigned levels (prescribed standards) are specified in Regulation 8 and are shown in *Table 2-2*.

Table 2-2 Baseline Assigned Noise Levels

Premises Receiving Noise	Time Of Day	Assigned Level (dB)		
		L_{A10}	L_{A1}	L_{Amax}
Noise sensitive premises: highly sensitive area[1]	0700 to 1900 hours Monday to Saturday (Day)	45 + influencing factor	55 + influencing factor	65 + influencing factor
	0900 to 1900 hours Sunday and public holidays (Sunday)	40 + influencing factor	50 + influencing factor	65 + influencing factor
	1900 to 2200 hours all days (Evening)	40 + influencing factor	50 + influencing factor	55 + influencing factor
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and public holidays (Night)	35 + influencing factor	45 + influencing factor	55 + influencing factor
Noise sensitive premises: any area other than highly sensitive area	All hours	60	75	80
Commercial	All hours	60	75	80

1. ***highly sensitive area*** means that area (if any) of noise sensitive premises comprising —
   (a) a building, or a part of a building, on the premises that is used for a noise sensitive purpose; and
   (b) any other part of the premises within 15 metres of that building or that part of the building.

The influencing factor was calculated for the nearest noise sensitive premises, shown on *Figure 3-1,* being a recent aerial image of the subject area. As per the relevant Planning Scheme map, the subject site is amongst a "Commercial" zoned area with the remainder being residential with commercial sites with approved "residential uses" according to the Local Planning Scheme (Refer *Appendix B*). The TAFE College to the east is classified as noise sensitive in accordance with the Schedule 1 of the Regulations.

An influencing factor of 8 dB has been calculated for the nearest existing and future noise sensitive premises, based on a transport factor of 6 dB from Albany Highway (23,549 vpd in 2017, site 15445), and 2 dB from commercial land uses – refer *Table 2-3*.

Table 2-3 Influencing Factor Calculation – All Noise Sensitive

	Within 100 metre Radius	Within 450 metre Radius	Total
Commercial Land	1.8 dB	0.5 dB	2.3 dB
Major Road	6 dB	-	6 dB
Total			**8 dB**

Table 2-4 shows the assigned noise levels including the influencing factor at the receiving locations. The receiving noise sensitive premises are identified in the next section – *Figure 3-1*. The restaurant is proposed to operate 24-hours, 7-days a week, which is critical to the assessment levels.

Table 2-4 Assigned Noise Levels

Premises Receiving Noise	Time of Day	Assigned Level (dB)		
		L_{A10}	L_{A1}	L_{Amax}
All Noise Sensitive	0700 to 1900 hours Monday to Saturday (Day)	53	63	73
	0900 to 1900 hours Sunday and public holidays (Sunday)	48	58	73
	1900 to 2200 hours all days (Evening)	48	58	63
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and public holidays (Night)	43	53	63
Commercial	All hours	60	75	80

1. ***highly sensitive area*** means that area (if any) of noise sensitive premises comprising —
   (a) a building, or a part of a building, on the premises that is used for a noise sensitive purpose; and
   (b) any other part of the premises within 15 metres of that building or that part of the building.

It must be noted the assigned noise levels apply outside the receiving premises and at a point at least 3 metres away from any substantial reflecting surfaces.

It is further noted the assigned noise levels are statistical levels and therefore the period over which they are determined is important. The Regulations define the Representative Assessment Period (RAP) as *a period of time of not less than 15 minutes, and not exceeding 4 hours*, which is determined by an *inspector* or *authorised person* to be appropriate for the assessment of a noise emission, having regard to the type and nature of the noise emission. An *inspector* or *authorised person* is a person appointed under Sections 87 & 88 of the *Environmental Protection Act 1986* and include Local Government Environmental Health Officers and Officers from the Department of Environment Regulation. Acoustic consultants or other environmental consultants are not appointed as an *inspector* or *authorised person*. Therefore, whilst this assessment is based on a 4 hour RAP, which is assumed to be appropriate given the nature of the operations, this is to be used for guidance only.

Regulation 3 states the following with regards to vehicles:

(1) Nothing in these regulations applies to the following noise emissions —
(a) noise emissions from the propulsion and braking systems of motor vehicles operating on a road;

Since the development is open to the public, the carpark and associated like areas are considered to be a road and therefore vehicle noise (propulsion and braking) is not strictly assessed. However, vehicle propulsion noise in the drive-through area has been considered assessable in this report due to the 24-hour nature of the restaurant and the nature of the lanes being solely for food ordering

purposes and not road access. Vehicle door closing noise is also assessable in any parts of the car park, as this does not form part of the 'propulsion or braking' systems.

Regulation 14A provides requirements for the collection of waste stating that this activity can also be exempt from having to comply with regulation 7 prescribed standards provided it is undertaken between 7am and 7pm Mondays to Saturdays and undertaken in the quietest reasonable manner.

3 METHODOLOGY

Computer modelling has been used to predict the noise emissions from the site. The software used was *SoundPLAN 8.1* with the ISO 9613 algorithms (ISO 17354 compliant) selected. These algorithms have been selected as they include the influence of wind and atmospheric stability. Input data required in the model are:

- Meteorological Information;
- Topographical data;
- Ground Absorption; and
- Source sound power levels.

3.1 Meteorological Information

Meteorological information utilised is provided in *Table 3-1* and is considered to represent worst-case conditions for noise propagation. At wind speeds greater than those shown, sound propagation may be further enhanced, however background noise from the wind itself and from local vegetation is likely to be elevated and dominate the ambient noise levels.

Table 3-1 Modelling Meteorological Conditions

Parameter	Night (1900-0700)	Day (0700-1900)
Temperature (°C)	15	20
Humidity (%)	50	50
Wind Speed (m/s)	Up to 5m/s	Up to 5m/s
Wind Direction*	All	All

* Note that the modelling package used allows for all wind directions to be modelled simultaneously.

It is generally considered that compliance with the assigned noise levels needs to be demonstrated for 98% of the time, during the day and night periods, for the month of the year in which the worst-case weather conditions prevail. In most cases, the above conditions occur for more than 2% of the time and therefore must be satisfied.

3.2 Topographical Data

Topographical data was adapted from *Google Earth*, site photographs and proposed plans. Existing and future buildings have also been included as these can provide barrier attenuation when located between a source and receiver, much the same as a hill. Parapets are assumed to be atop the restaurant building and at 1.4-metres higher than the roof.

3.3 Ground Absorption

Ground absorption varies from a value of 0 to 1, with 0 being for an acoustically reflective ground (e.g. water or bitumen) and 1 for acoustically absorbent ground (e.g. grass). In this instance, a value 0.1 has been used for all road and car park areas.

3.4 Source Sound Levels

Table 3-2 shows the sound power levels used in the modelling. The spectrum and overall levels are for individual point sources within the model. The general list of noise emissions considered in the assessment are:

- Mechanical Services (Air conditioning, ventilation systems, and refrigeration plant);
- Drive-through speaker noise;
- Vehicles idling in drive through areas; and
- Car doors closing in parking bays.

Table 3-2 Source Sound Power Levels, dB

Description	Octave Band Centre Frequency (Hz)								Overall dB(A)
	63	125	250	500	1k	2k	4k	8k	
Refrigeration Condenser WRC335BEC Axitop – L_{A10}	82	81	79	75	70	64	58	53	**76**
AC-1 Actron PKY960T– L_{A10}	-	84	78	75	73	69	60	54	**78**
AC-2 and AC-3 Actron PCG340 Package – L_{A10}	-	75	74	73	71	67	65	60	**76**
AC-4 Actron PCA203U Package Unit – L_{A10}	-	71	71	70	67	62	61	56	**69**
AC-1 Actron PKY960T High Speed – L_{A10}	-	89	83	80	78	74	64	60	**83**
AC-2 and AC-3 Actron PCG340 Package Unit High Speed – L_{A10}	-	78	78	77	75	71	69	64	**80**
AC-4 Actron PCA203U Package Unit High Speed – L_{A10}	-	76	75	74	71	66	65	60	**71**
Exhaust Fan – Kitchen – L_{A10}	80	78	74	71	62	64	63	53	**73**
Exhaust Fan – General/Toilet – L_{A10}	78	77	68	65	60	58	56	52	**68**
Drive-Through Speaker – L_{A1}	62	64	66	77	80	73	57	42	**82**
Car Idling – L_{A10}	81	78	74	72	74	74	67	64	**79**
Car Door Closing – L_{Amax}	71	74	77	81	80	78	72	61	**84**

Modelled noise sources and positioning were based on file data and manufacturer specifications provided by McDonald's Restaurants for previous projects. The locations of the noise sources are based on general locations on the site plan (refer *Appendix A*) noting the following:

- Mechanical Plant are to be roof mounted at 1.0m above building height in the noise model;
- For night time scenarios, mechanical plant is modelled with low speed noise levels;
- Car door and engine sources are modelled at 0.5m above ground;
- 5 to 10 vehicles are modelled idling in the Drive-Through queuing, ordering and waiting areas, depending on the calculation scenario (see below);
- Parapets of 1.4m height are assumed to be surrounding the rooftop areas of the new building.

Given the proposed hours of operation, the night-time scenario is most critical for noise sensitive premises and the daytime scenario is most critical for commercial premises. Noise modelling scenarios are:

1. Night L_{A10} – Consists of all mechanical plant operating on low speed mode and 5 vehicles idling in the drive-through areas;
2. Night L_{A1} – Consists of drive-through speaker noise, 10 vehicles idling, and low speed mechanical equipment;
3. Night L_{Amax} – Includes all mechanical plant described for the night scenario, and car door closures at parking bays; and
4. Sunday Day L_{A10} – Includes all mechanical plant (at high speed). Also includes 10 vehicles idling in the drive-through areas including the waiting bay.

An image of the noise model for Scenario 2 is shown in *Figure 3-1*. Receivers labelled in blue are commercial premises, while those in yellow are identified as noise sensitive.

Figure 3-1 2D Image of Noise Model

4 RESULTS & ASSESSMENT

4.1 Scenario 1: Predicted Noise Night L_{A10}

The results of the L_{A10} Night scenario noise modelling are shown as a noise level contour plot in *Figure 4-1* and summarised below in *Table 4-1*. Refer to *Figure 3-1* for predicted locations as positioned within the noise model.

Table 4-1 Predicted Night Noise Levels, dB L_{A10}

Location	5 Drive-Through Vehicles	Mechanical Plant	Combined	Critical Assigned Level, dB L_{A10}	Exceedence Amount
(A) Residential West Future[1]	39	28	39	60 [43]	*Complies*
(B) Residential West Existing	36	26	37	43	*Complies*
(C) TAFE College East	37	32	38	43	*Complies*
(D) Commercial South Boundary	41	36	43	60	*Complies*
(E) Residential South	24	21	25	43	*Complies*

1. This premises is a potential residential property according to zoning, assigned level for residential shown in brackets

Noise is highest at Receiver A which is the nearest point on the west residential boundary. This site is zoned with the potential for residential premises, although it is currently not highly noise sensitive due to being vacant land.

A worst case combined level of 39 dB L_{A10} is predicted with drive-through vehicles being the dominant contributor. The vehicles alone would not be considered tonal due to the number of vehicles and variation in engine sounds over a representative period, or when combined with mechanical plant noise, therefore no penalties have been applied herein.

Noise is predicted to comply currently and in the case of potential noise sensitive land use on nearby mixed zoned properties. Compliance at all other premises is readily achieved.

Summary Scenario 1: Compliance achieved at all receivers by at least 4 dB for all existing and potential land uses.

Figure 4-1

Predicted Noise level L_{A10} dB

- = 36
- = 38
- = 40
- = 42
- = 44
- = 46
- = 48

Signs and symbols

- Point source
- Proposed building
- Parapet

N

Length Scale

0 10 20 40 60 m

Lot 405 Albany Highway, Orana - McDonalds Restaurant

L_{A10} Noise Level Contours - Scenario 1 - Ground Floor Predicted Noise Levels

Lloyd George Acoustics
by Matt Moyle
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4.2 Scenario 2: Predicted Noise Night L_{A1}

The results of the Night L_{A1} scenario noise modelling are shown as a noise level contour plot in *Figure 4-2* and summarised below in *Table 4-2*.

Table 4-2 Predicted Night Noise Levels, dB L_{A1}

Location	Drive-Through Speaker	10 Drive-Through Vehicles	Combined[2]	Critical Assigned Level, dB L_{A1}	Exceedence Amount
(A) Residential West Future[1]	37	42	43	75 [53]	Complies
(B) Residential West Existing	33	39	40	53	Complies
(C) TAFE College East	17	40	40	53	Complies
(D) Commercial South Boundary	39	44	46	75	Complies
(E) Residential South	20	26	28	53	Complies

1. This premises is a potential residential property according to zoning, assigned level for residential shown in brackets
2. Combined level includes Night L_{A10} sources of *Table 4-1*.

The worst-case calculated noise level for assessment purposes is 43 dB L_{A1} at Receiver A. This noise level is predominantly from vehicles idling in the drive-through area. The assigned night-time noise level is 75 dB L_{A1} or 53 dB L_{A1} in the case of potential highly noise sensitive land use and therefore the noise level complies by at least 10 dB in all scenarios (existing and potential). As with the L_{A10} scenario, noise from vehicles in not considered to contain tonal characteristics when assessed over the representative period.

Compliance at all commercial premises is readily achieved.

Summary Scenario 2: Compliance achieved at all receivers by at least 10 dB for all existing and potential land uses.

Figure 4-2

Predicted Noise level
L_{A1} dB

- = 36
- = 38
- = 40
- = 42
- = 44
- = 46
- = 48

Signs and symbols

- Point source
- Proposed building
- Parapet

N

Length Scale

0 10 20 40 60 m

Lot 405 Albany Highway, Orana - McDonalds Restaurant
L_{A1} Noise Level Contours - Scenario 2 - Ground Floor Predicted Noise Levels

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4.3 Scenario 3: Predicted Noise Night L_{Amax}

The results of the Night L_{Amax} scenario noise modelling are shown below in *Table 4-3.*

Table 4-3 Predicted Night Noise Levels, dB L_{Amax}

Location	Car Doors	Maximum	Critical Assigned Level, dB L_{Amax}	Exceedence Amount
(A) Residential West Future[1]	38	38 + 10 = 48	63	Complies
(B) Residential West Existing	33	33 + 10 = 43	80 [63]	Complies
(C) TAFE College East	39	39 + 10 = 49	63	Complies
(D) Commercial South Boundary	52	52 + 10 = 62	80	Complies
(E) Residential South	26	26 + 10 = 36	63	Complies

1. This premises is a potential residential property according to zoning, assigned level for residential shown in brackets

Vehicle door noise dominates and is up to 39 dB L_{Amax} at the worst case receivers, being C (TAFE). Such an event may be impulsive and subject to +10 dB adjustment, resulting in a level for assessment purposes of 49 dB L_{Amax}. This is 14 dB below the worst-case potential noise sensitive assigned level of 63 dB L_{Amax} and therefore compliant for all other scenarios.

Compliance at the commercial premises is readily achieved.

Summary Scenario 3: Compliance achieved at all receivers by at least 14 dB for all existing and potential land uses.

4.4 Scenario 4: Predicted Noise Sunday L_{A10}

The Sunday day time period includes a full drive-through area with ten (10) cars in total (in all queuing positions). Mechanical plant are operating at high speeds, however assigned levels are higher for noise sensitive premises at this time compared to during the night. The results of the Sunday day L_{A10} scenario noise modelling are shown as a noise level contour plot in *Figure 4-3* and summarised in *Table 4-4*.

Table 4-4 Predicted Sunday Day Noise Levels, dB L_{A10}

Location	10 Drive-Through Vehicles	Mechanical Plant	Combined	Critical Assigned Level, dB L_{A10}	Exceedence Amount
(A) Residential West Future[1]	42	32	42	60 [48]	*Complies*
(B) Residential West Existing	39	30	39	48	*Complies*
(C) TAFE College East	40	37	41	48	*Complies*
(D) Commercial South Boundary	45	41	46	60	*Complies*
(E) Residential South	26	25	29	48	*Complies*

2. This premises is a potential residential property according to zoning, assigned level for residential shown in brackets

As with the Night L_{A10} assessment, noise from vehicles is dominant for most receivers. The Sunday day time scenario includes 10 drive-thru cars and mechanical plant on high speed modes, thus leading to increased combined levels. This combined noise level with mechanical plant, yields a worst case level of 42 dB at Receiver A. The Sunday time period is compliant at all receivers (existing and potential) even with its lower assigned level of 48 dB L_{A10}.

Compliance at the commercial premises is readily achieved.

Summary Scenario 4: Compliance achieved at all receivers by at least 6 dB for all existing and potential land uses.

Figure 4-3

Predicted Noise level L_{A10} dB

- = 36
- = 38
- = 40
- = 42
- = 44
- = 46
- = 48

Signs and symbols

- Point source
- Proposed building
- Parapet

N

Length Scale

0 10 20 40 60 m

Lot 405 Albany Highway, Orana - McDonalds Restaurant

L_{A10} Noise Level Contours - Scenario 4 - Ground Floor Predicted Noise Levels

Lloyd George Acoustics
by Matt Moyle
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(61) 412 611 330

5 CONCLUSION

The potential noise impacts resulting from the proposed McDonald's Restaurant development at Lot 405 (#475) Albany Highway, Orana have been assessed against the *Environmental Protection (Noise) Regulations 1997*. Compliance with the assigned levels has been demonstrated for all time periods for the existing and potential land uses, therefore no further noise mitigation measures are necessary.

Appendix A

Proposed Site Plans

ISSUE	AMENDMENT	DATE	CHK	INT

NOTES.

Do not scale this drawing. The drawing shows design intent only.
All dimensions to be checked on site prior to construction or production.
Construction details to be confirmed by contractor/manufacturer.
This is a computer generated drawing. Do not amend by hand.
Figure dimensions are to be used. Contact architect for clarification if dimensions are not clear. All dimensions are in millimeters.
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HINDLEY & ASSOCIATES
BUILDING DESIGNERS

SERIES : MOD LINEAR | JOB : 0693

NATIONAL DEVELOPMENT GROUP

STATUS: DEVELOPMENT APPLICATION

PROPOSED McDONALD'S RESTAURANT
LOT 405 - H475 ALBANY HIGHWAY
ORANA, ALBANY WA

TITLE : SITE LOCATION PLAN

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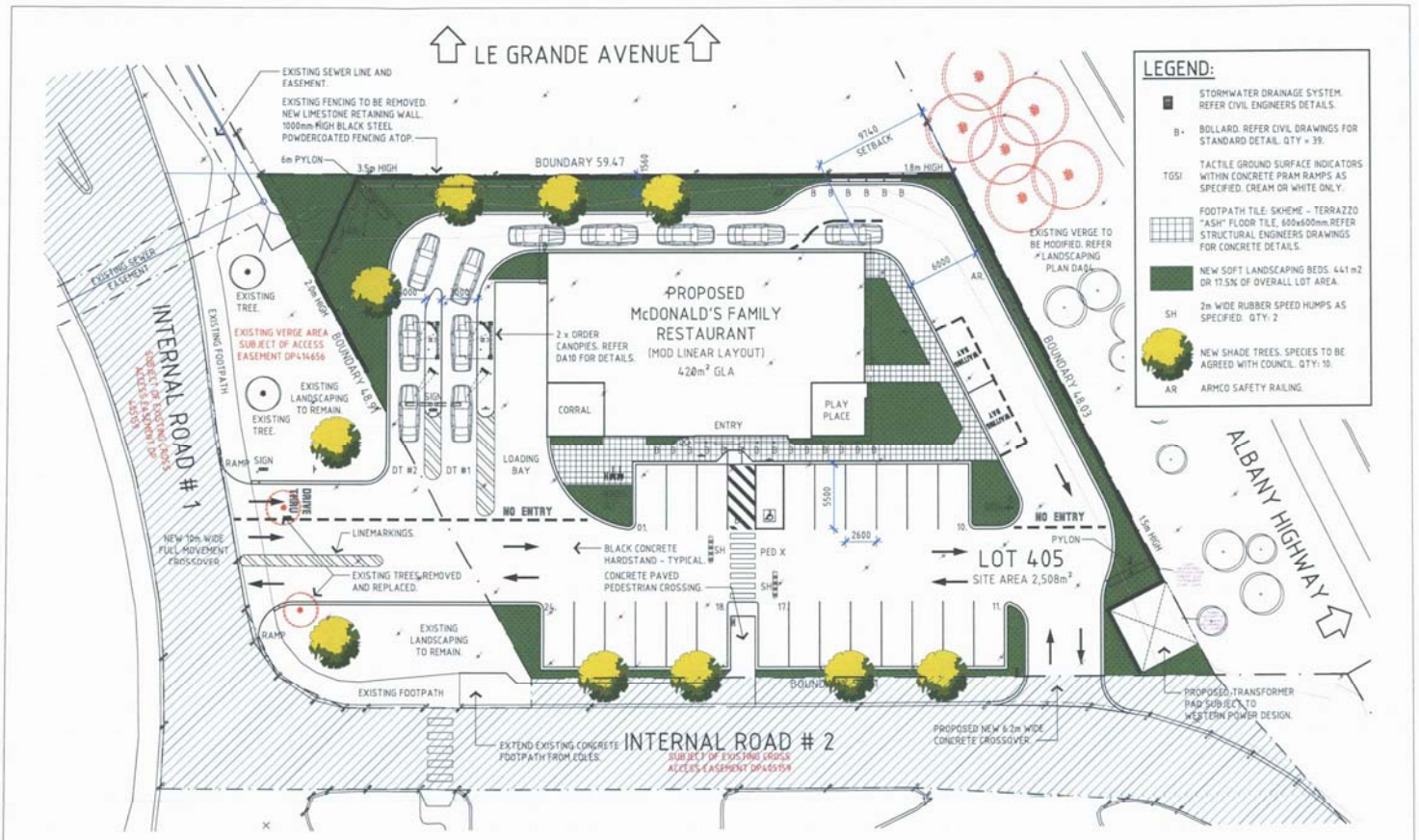

ISSUE	AMENDMENT	DATE	CHK	INT

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SERIES : MOD LINEAR | JOB : 0693

STATUS: DEVELOPMENT APPLICATION

PROPOSED McDONALD'S RESTAURANT
LOT 405 - H475 ALBANY HIGHWAY
ORANA, ALBANY WA

TITLE : PROPOSED SITE PLAN

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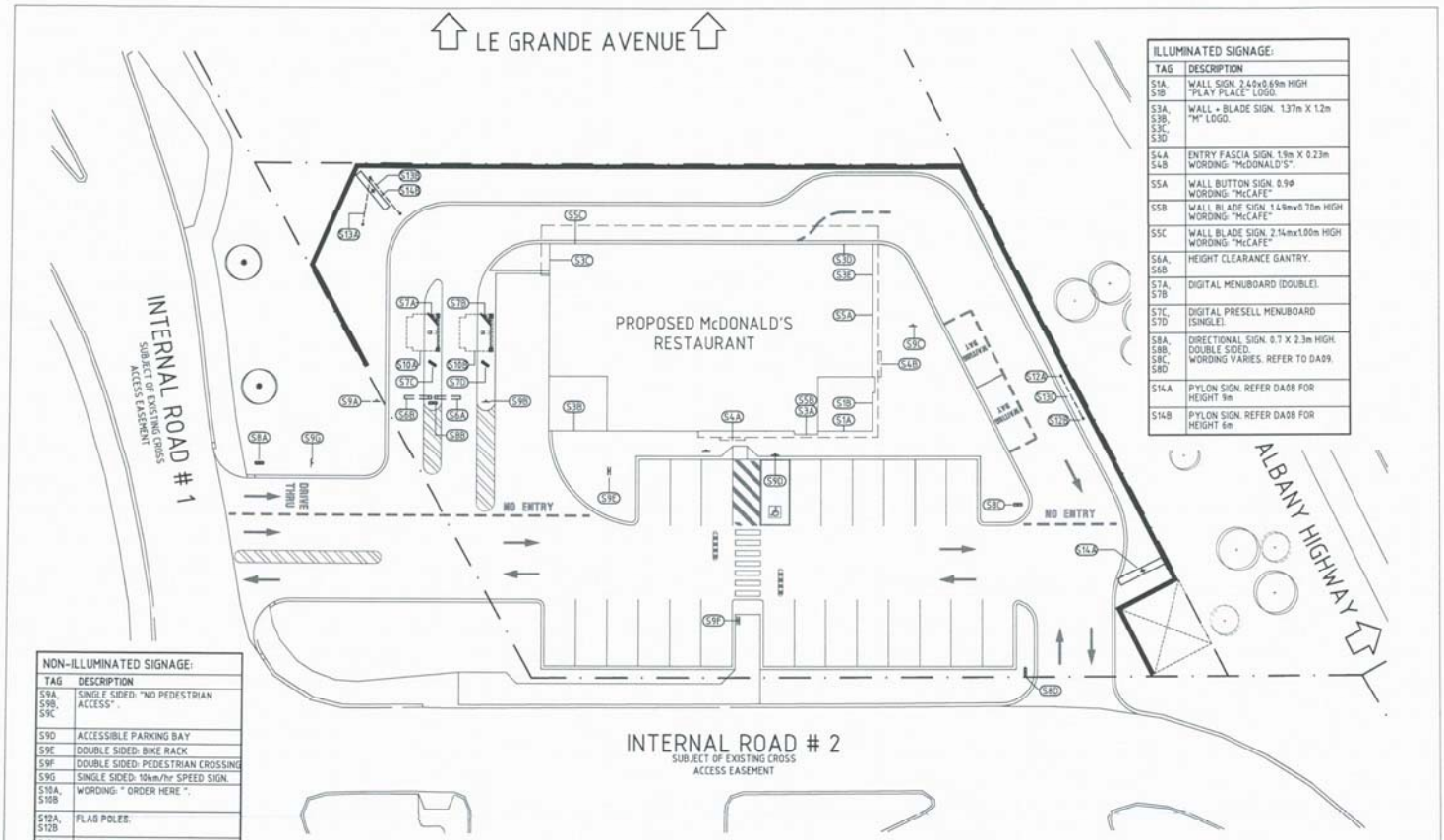

ILLUMINATED SIGNAGE:	
TAG	DESCRIPTION
S1A, S1B	WALL SIGN. 2.40x0.69m HIGH "PLAY PLACE" LOGO.
S3A, S3B, S3C, S3D	WALL + BLADE SIGN. 1.37m X 1.2m "M" LOGO.
S4A S4B	ENTRY FASCIA SIGN. 1.9m X 0.23m WORDING: "McDONALD'S".
S5A	WALL BUTTON SIGN. 0.9Φ WORDING: "McCAFE"
S5B	WALL BLADE SIGN. 1.49mx0.78m HIGH WORDING: "McCAFE"
S5C	WALL BLADE SIGN. 2.14mx1.00m HIGH WORDING: "McCAFE"
S6A, S6B	HEIGHT CLEARANCE GANTRY.
S7A, S7B	DIGITAL MENUBOARD (DOUBLE).
S7C, S7D	DIGITAL PRESELL MENUBOARD (SINGLE).
S8A, S8B, S8C, S8D	DIRECTIONAL SIGN. 0.7 X 2.3m HIGH. DOUBLE SIDED. WORDING VARIES. REFER TO DA09.
S14A	PYLON SIGN. REFER DA08 FOR HEIGHT 9m
S14B	PYLON SIGN. REFER DA08 FOR HEIGHT 6m

NON-ILLUMINATED SIGNAGE:	
TAG	DESCRIPTION
S9A, S9B, S9C	SINGLE SIDED: "NO PEDESTRIAN ACCESS".
S9D	ACCESSIBLE PARKING BAY
S9E	DOUBLE SIDED: BIKE RACK
S9F	DOUBLE SIDED: PEDESTRIAN CROSSING
S9G	SINGLE SIDED: 10km/hr SPEED SIGN.
S10A, S10B	WORDING: " ORDER HERE ".
S12A, S12B	FLAG POLES.
S13A, S13B, S13C	BANNER SIGNS.

ISSUE	AMENDMENT	DATE	CHK	INT

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NDG NATIONAL DEVELOPMENT GROUP

PROPOSED McDONALD'S RESTAURANT
LOT 405 - H475 ALBANY HIGHWAY
ORANA, ALBANY WA

TITLE : PROPOSED SITE SIGNAGE PLAN

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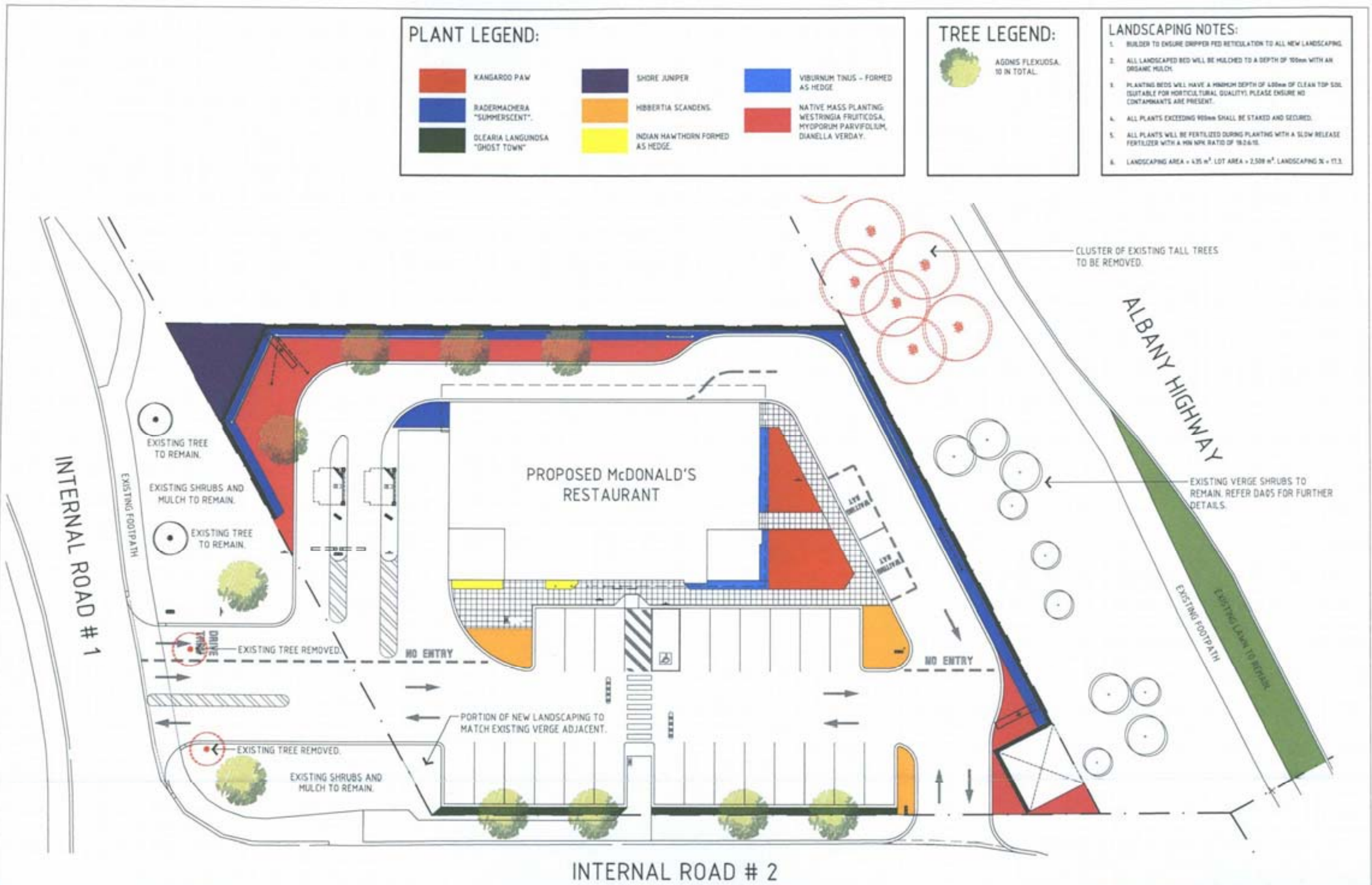

ISSUE	AMENDMENT	DATE	CHK	INT

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PROPOSED McDONALD'S RESTAURANT
LOT 405 - H475 ALBANY HIGHWAY
ORANA, ALBANY WA

TITLE: PROPOSED LANDSCAPING PLAN

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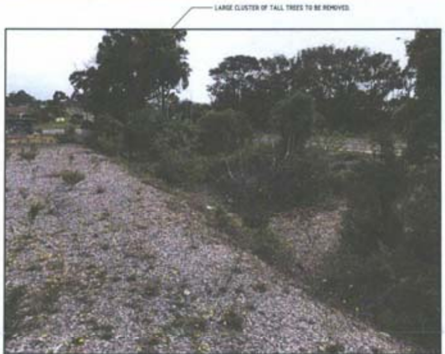
LARGE CLUSTER OF TALL TREES TO BE REMOVED.



EXISTING GROUND COVER TO BE REMOVED AND RE-MULCHED.

THIN OUT LARGE CLUSTERS OF SMALL SHRUBS.

DEAD SHRUBS TO BE REMOVED.

SMALL SHRUBS TO REMAIN.

NEW MULCH APPLIED TO EXISTING CLEAN GROUND COVER.

PROPOSAL IMAGES INDICATIVE ONLY

ISSUE	AMENDMENT	DATE	CHK	INT

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PROPOSED McDONALD'S RESTAURANT
LOT 405 - H475 ALBANY HIGHWAY
ORANA, ALBANY WA

TITLE: ROAD RESERVE LANDSCAPING DETAIL

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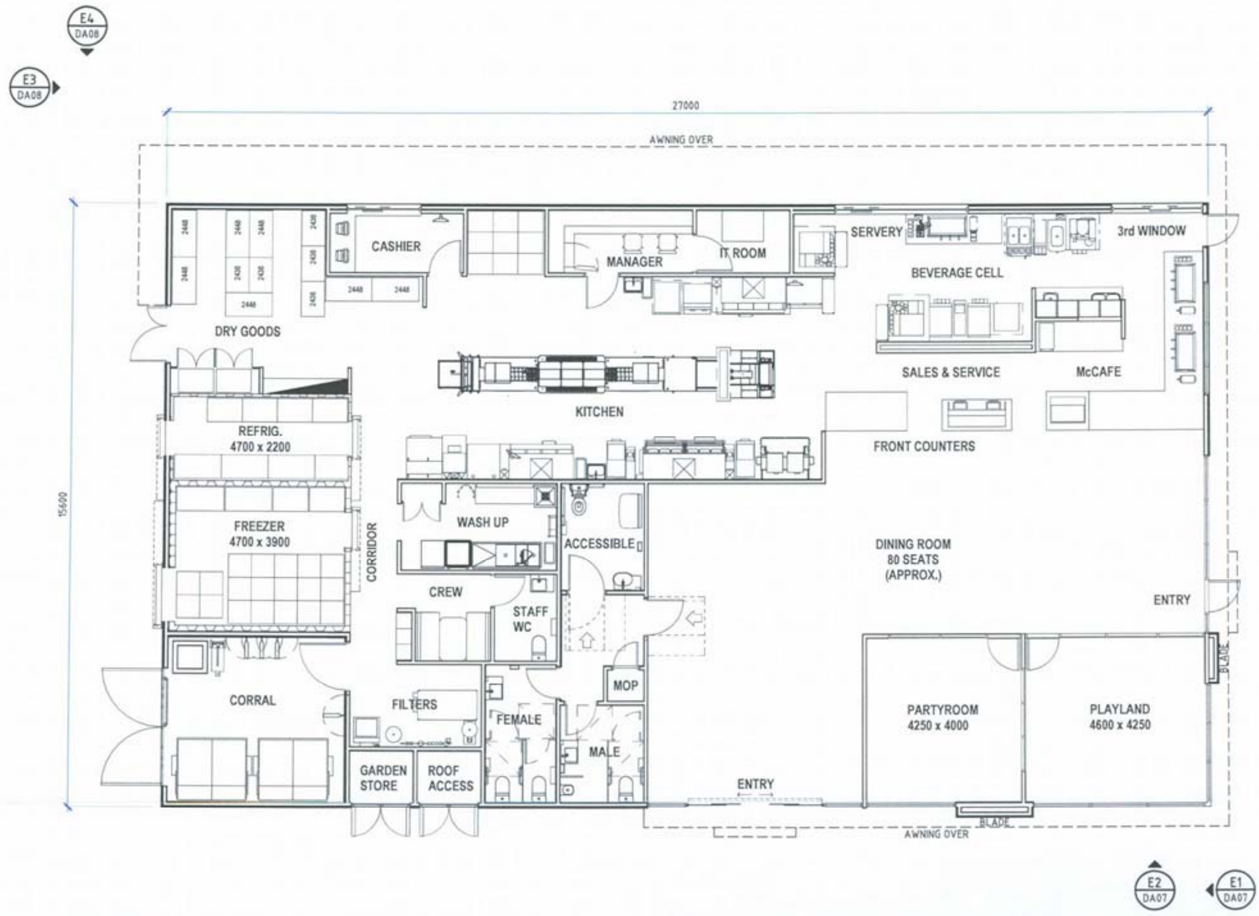

ISSUE	AMENDMENT	DATE	CHK	INT

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PROPOSED McDONALD'S RESTAURANT
LOT 405 - H475 ALBANY HIGHWAY
ORANA, ALBANY WA

TITLE: PROPOSED FLOOR PLAN

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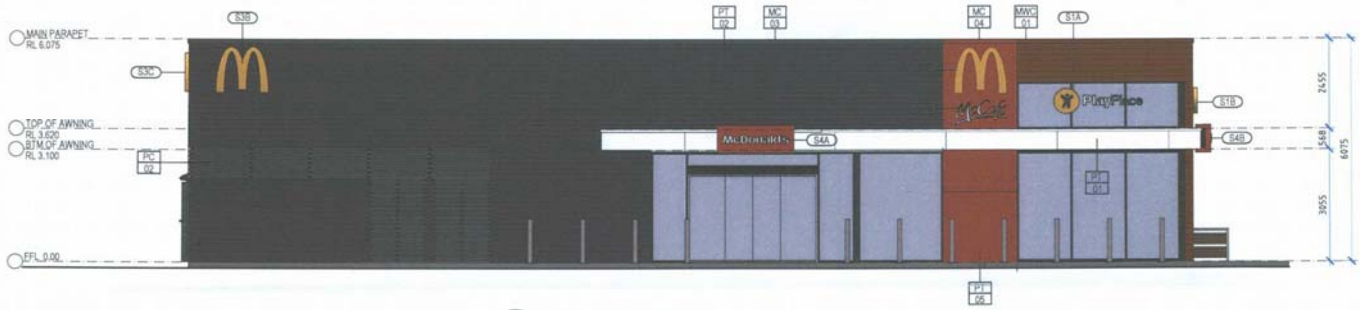
E1 DA05 ELEVATION E1
SCALE 1:100



E2 DA05 ELEVATION E2
SCALE 1:100

ISSUE	AMENDMENT	DATE	CHK	INT

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PROPOSED McDONALD'S RESTAURANT
LOT 405 - H475 ALBANY HIGHWAY
ORANA, ALBANY WA

TITLE: EXTERNAL ELEVATIONS E1 AND E2

SCALE	DRAWN	CHECKED	DWG. NO.	REV.
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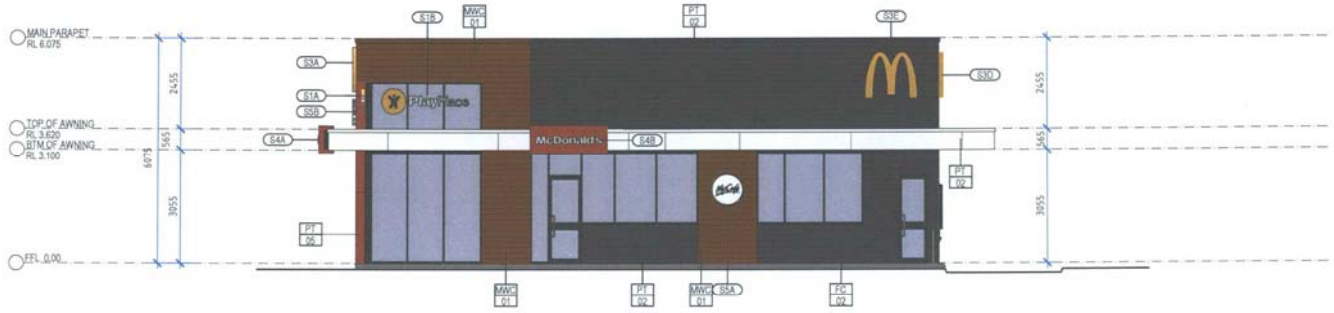

E1 DA06 ELEVATION E1
SCALE 1:100

E2 DA06 ELEVATION E2
SCALE 1:100

ISSUE	AMENDMENT	DATE	CHK	INT

NOTES.
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LOT 405 - H475 ALBANY HIGHWAY
ORANA, ALBANY WA

TITLE: EXTERNAL ELEVATIONS E1 AND E2

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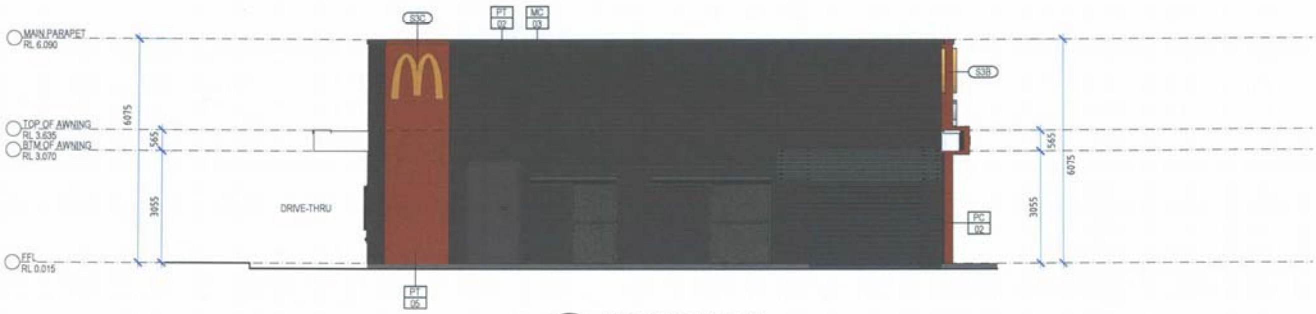
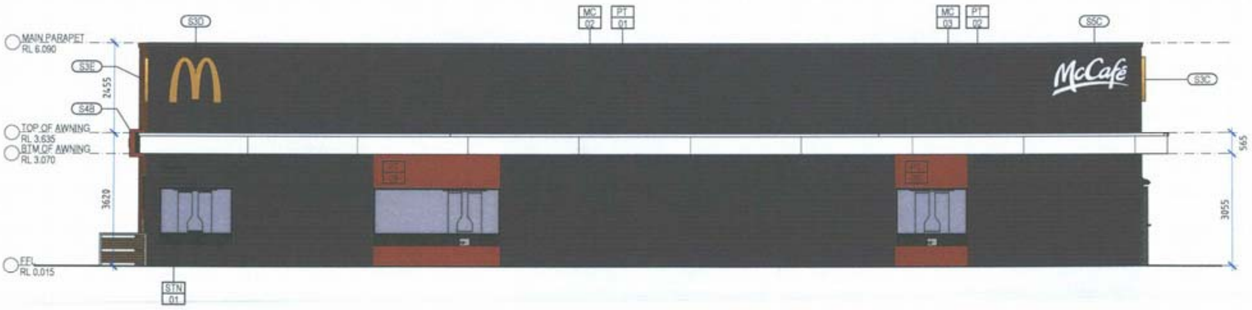


E3 DA06 ELEVATION E3
SCALE 1:100



E4 DA06 ELEVATION E4
SCALE 1:100

ISSUE	AMENDMENT	DATE	CHK	INT

NOTES.
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PROPOSED McDONALD'S RESTAURANT
LOT 405 - H475 ALBANY HIGHWAY
ORANA, ALBANY WA

TITLE: EXTERNAL ELEVATIONS E3 AND E4

SCALE	DRAWN	CHECKED	DWG. NO.	REV.
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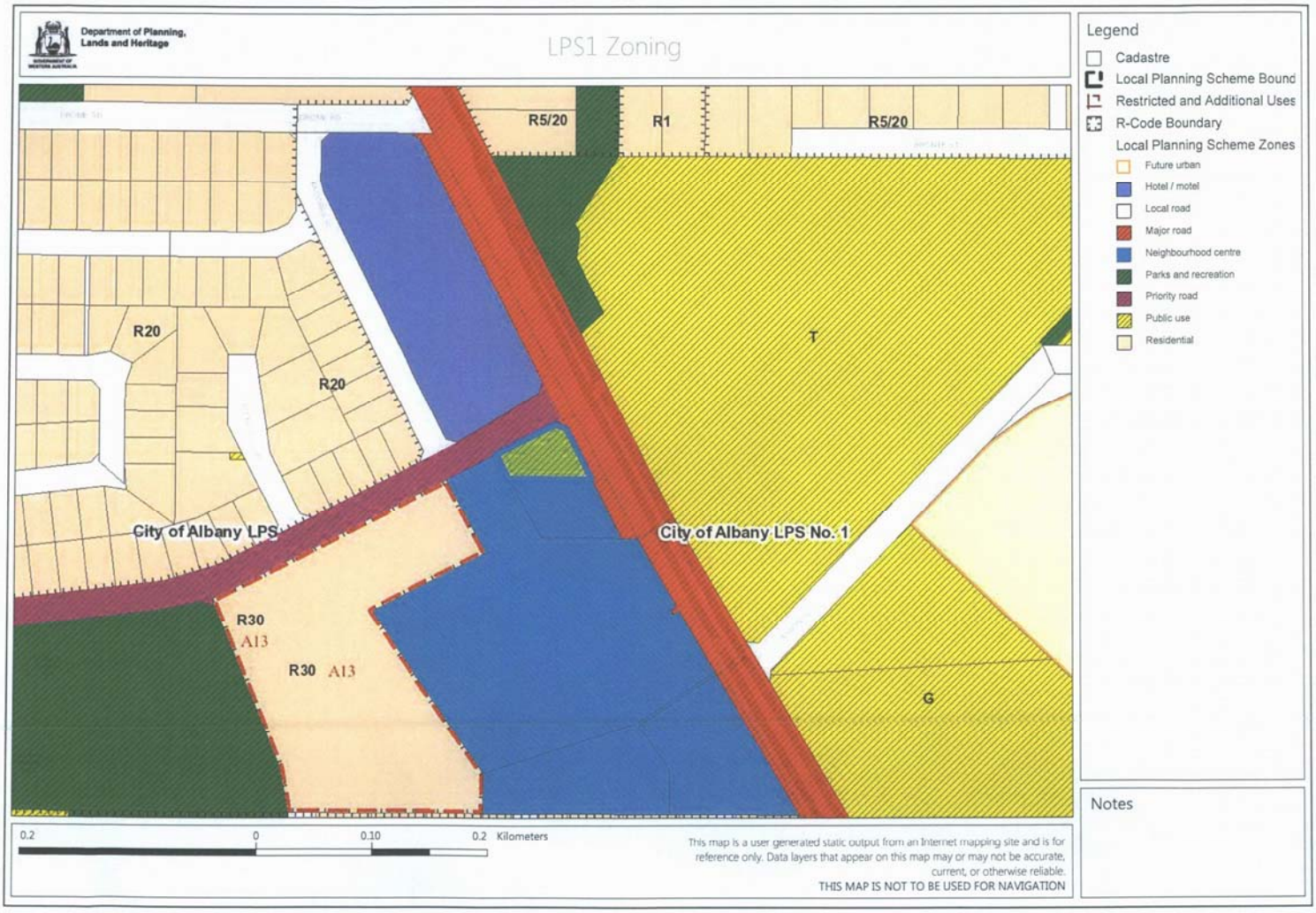
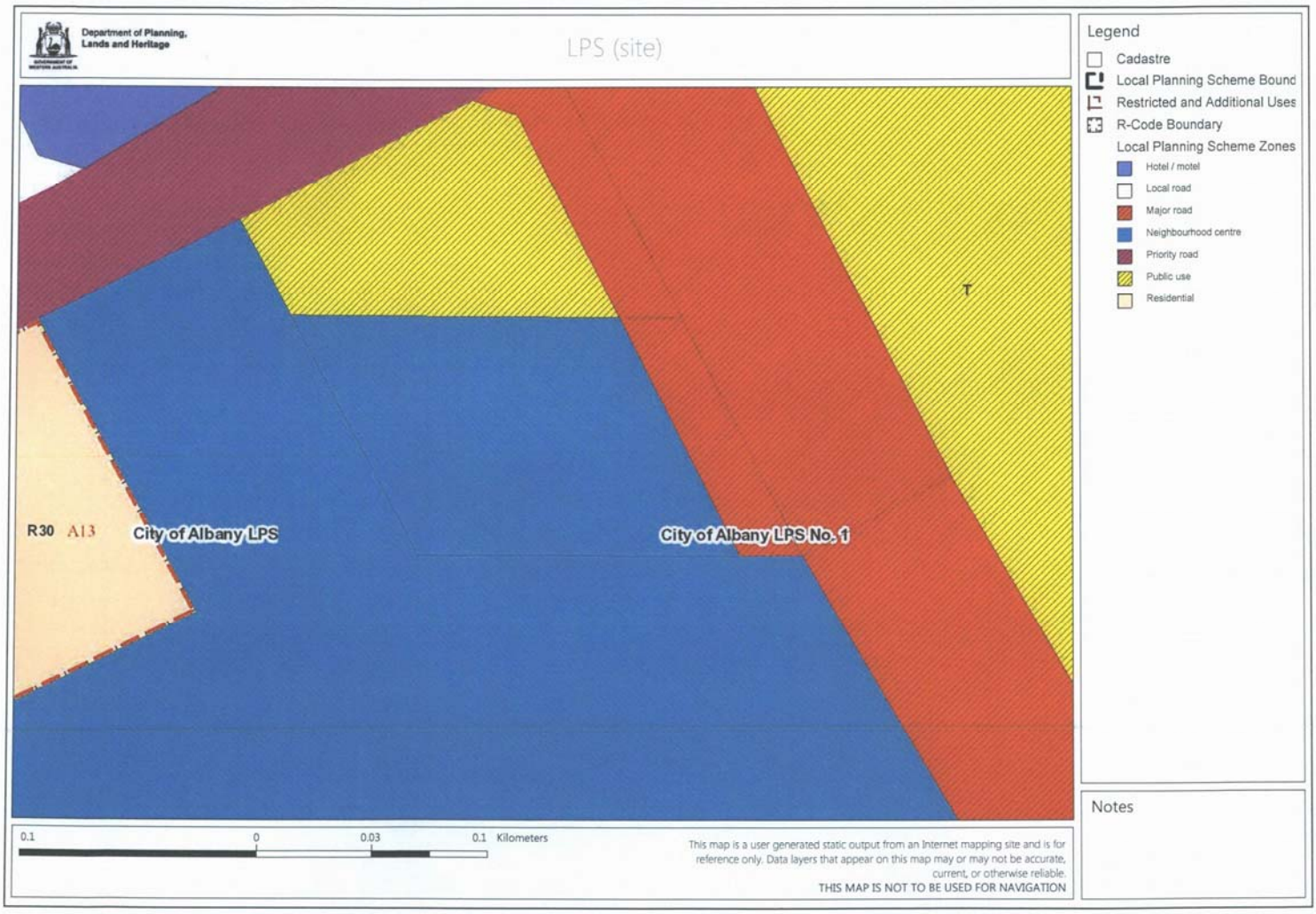
Appendix B

Zoning Maps


Department of Planning, Lands and Heritage
LPS1 Zoning
R5/20
R1
R5/20
R20
R20
T
City of Albany LPS
City of Albany LPS No. 1
R30
A13
R30
A13
G
0.2
0
0.10
0.2 Kilometers
This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.
THIS MAP IS NOT TO BE USED FOR NAVIGATION
Legend
Cadastre
Local Planning Scheme Bound
Restricted and Additional Uses
R-Code Boundary
Local Planning Scheme Zones
Future urban
Hotel / motel
Local road
Major road
Neighbourhood centre
Parks and recreation
Priority road
Public use
Residential
Notes


Department of Planning, Lands and Heritage
LPS (site)
Legend
Cadastre
Local Planning Scheme Bound
Restricted and Additional Uses
R-Code Boundary
Local Planning Scheme Zones
Hotel / motel
Local road
Major road
Neighbourhood centre
Priority road
Public use
Residential
R30
A13
City of Albany LPS
City of Albany LPS No. 1
0.1
0
0.03
0.1 Kilometers
This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.
THIS MAP IS NOT TO BE USED FOR NAVIGATION
Notes

Appendix C

Terminology

The following is an explanation of the terminology used throughout this report.

Decibel (dB)
The decibel is the unit that describes the sound pressure and sound power levels of a noise source. It is a logarithmic scale referenced to the threshold of hearing.

A-Weighting
An A-weighted noise level has been filtered in such a way as to represent the way in which the human ear perceives sound. This weighting reflects the fact that the human ear is not as sensitive to lower frequencies as it is to higher frequencies. An A-weighted sound level is described as L_A dB.

Sound Power Level (L_w)
Under normal conditions, a given sound source will radiate the same amount of energy, irrespective of its surroundings, being the sound power level. This is similar to a 1kW electric heater always radiating 1kW of heat. The sound power level of a noise source cannot be directly measured using a sound level meter but is calculated based on measured sound pressure levels at known distances. Noise modelling incorporates source sound power levels as part of the input data.

Sound Pressure Level (L_p)
The sound pressure level of a noise source is dependent upon its surroundings, being influenced by distance, ground absorption, topography, meteorological conditions etc and is what the human ear actually hears. Using the electric heater analogy above, the heat will vary depending upon where the heater is located, just as the sound pressure level will vary depending on the surroundings. Noise modelling predicts the sound pressure level from the sound power levels taking into account ground absorption, barrier effects, distance etc.

L_{ASlow}
This is the noise level in decibels, obtained using the A frequency weighting and the S time weighting as specified in AS1259.1-1990. Unless assessing modulation, all measurements use the slow time weighting characteristic.

L_{AFast}
This is the noise level in decibels, obtained using the A frequency weighting and the F time weighting as specified in AS1259.1-1990. This is used when assessing the presence of modulation only.

L_{APeak}
This is the maximum reading in decibels using the A frequency weighting and P time weighting AS1259.1-1990.

L_{Amax}
An L_{Amax} level is the maximum A-weighted noise level during a particular measurement.

L_{A1}
An L_{A1} level is the A-weighted noise level which is exceeded for one percent of the measurement period and is considered to represent the average of the maximum noise levels measured.

L_{A10}
An L_{A10} level is the A-weighted noise level which is exceeded for 10 percent of the measurement period and is considered to represent the "*intrusive*" noise level.

L_{Aeq}
The equivalent steady state A-weighted sound level ("equal energy") in decibels which, in a specified time period, contains the same acoustic energy as the time-varying level during the same period. It is considered to represent the "average" noise level.

L_{A90}
An L_{A90} level is the A-weighted noise level which is exceeded for 90 percent of the measurement period and is considered to represent the "*background*" noise level.

One-Third-Octave Band
Means a band of frequencies spanning one-third of an octave and having a centre frequency between 25 Hz and 20 000 Hz inclusive.

L_{Amax} assigned level
Means an assigned level which, measured as a $L_{A\ Slow}$ value, is not to be exceeded at any time.

L_{A1} assigned level
Means an assigned level which, measured as a $L_{A\ Slow}$ value, is not to be exceeded for more than 1% of the representative assessment period.

L_{A10} assigned level
Means an assigned level which, measured as a $L_{A\ Slow}$ value, is not to be exceeded for more than 10% of the representative assessment period.

Tonal Noise
A tonal noise source can be described as a source that has a distinctive noise emission in one or more frequencies. An example would be whining or droning. The quantitative definition of tonality is:

the presence in the noise emission of tonal characteristics where the difference between -

(a) the A-weighted sound pressure level in any one-third octave band; and

(b) the arithmetic average of the A-weighted sound pressure levels in the 2 adjacent one-third octave bands,

is greater than 3 dB when the sound pressure levels are determined as $L_{Aeq,T}$ levels where the time period T is greater than 10% of the representative assessment period, or greater than 8 dB at any time when the sound pressure levels are determined as $L_{A\ Slow}$ levels.

This is relatively common in most noise sources.

Modulating Noise
A modulating source is regular, cyclic and audible and is present for at least 10% of the measurement period. The quantitative definition of modulation is:

a variation in the emission of noise that —

(a) is more than 3 dB $L_{A\ Fast}$ or is more than 3 dB $L_{A\ Fast}$ in any one-third octave band;

(b) is present for at least 10% of the representative.

Impulsive Noise
An impulsive noise source has a short-term banging, clunking or explosive sound. The quantitative definition of impulsiveness is:

a variation in the emission of a noise where the difference between $L_{A\ peak}$ and $L_{A\ Max\ slow}$ is more than 15 dB when determined for a single representative event;

Major Road
Is a road with an estimated average daily traffic count of more than 15,000 vehicles.

Secondary / Minor Road
Is a road with an estimated average daily traffic count of between 6,000 and 15,000 vehicles.

Influencing Factor (IF)

$$= \frac{1}{10}(\%\ \text{Type A}_{100} + \%\ \text{Type A}_{450}) + \frac{1}{20}(\%\ \text{Type B}_{100} + \%\ \text{Type B}_{450})$$

where:

$\%\ \text{Type A}_{100}$ = the percentage of industrial land within a 100m radius of the premises receiving the noise

$\%\text{TypeA}_{450}$ = the percentage of industrial land within a 450m radius of the premises receiving the noise

$\%\ \text{Type B}_{100}$ = the percentage of commercial land within a 100m radius of the premises receiving the noise

$\%\text{TypeB}_{450}$ = the percentage of commercial land within a 450m radius of the premises receiving the noise

+ Traffic Factor (maximum of 6 dB)

= 2 for each secondary road within 100m

= 2 for each major road within 450m

= 6 for each major road within 100m

Representative Assessment Period
Means a period of time not less than 15 minutes, and not exceeding four hours, determined by an inspector or authorised person to be appropriate for the assessment of a noise emission, having regard to the type and nature of the noise emission.

Background Noise
Background noise or residual noise is the noise level from sources other than the source of concern. When measuring environmental noise, residual sound is often a problem. One reason is that regulations often require that the noise from different types of sources be dealt with separately. This separation, e.g. of traffic noise from industrial noise, is often difficult to accomplish in practice. Another reason is that the measurements are normally carried out outdoors. Wind-induced noise, directly on the microphone and indirectly on trees, buildings, etc., may also affect the result. The character of these noise sources can make it difficult or even impossible to carry out any corrections.

Ambient Noise
Means the level of noise from all sources, including background noise from near and far and the source of interest.

Specific Noise
Relates to the component of the ambient noise that is of interest. This can be referred to as the noise of concern or the noise of interest.

Peak Component Particle Velocity (PCPV)

The maximum instantaneous velocity in mm/s of a particle at a point during a given time interval and in one of the three orthogonal directions (x, y or z) measured as a peak response. Peak velocity is normally used for the assessment of structural damage from vibration.

Peak Particle Velocity (PPV)

The maximum instantaneous velocity in mm/s of a particle at a point during a given time interval and is the vector sum of the PCPV for the x, y and z directions measured as a peak response. Peak velocity is normally used for the assessment of structural damage from vibration.

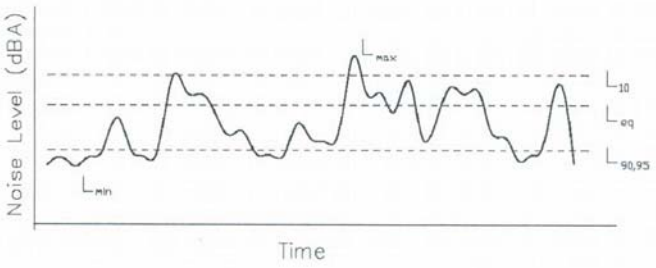
RMS Component Particle Velocity (PCPV)

The maximum instantaneous velocity in mm/s of a particle at a point during a given time interval and in one of the three orthogonal directions (x, y or z) measured as a root mean square (rms) response. RMS velocity is normally used for the assessment of human annoyance from vibration.

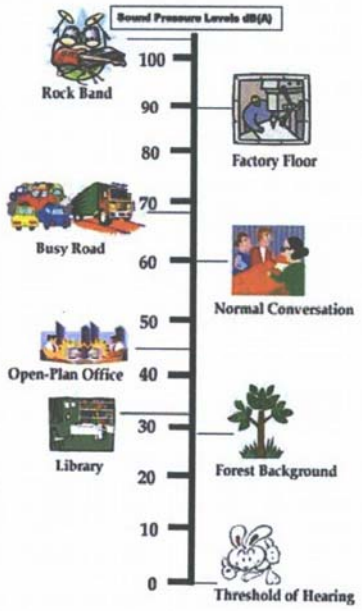
Peak Particle Velocity (PPV)

The maximum instantaneous velocity in mm/s of a particle at a point during a given time interval and is the vector sum of the PCPV for the x, y and z directions measured as a root mean square (rms) response. RMS velocity is normally used for the assessment of human annoyance from vibration.

Chart of Noise Level Descriptors



Typical Noise Levels



Appendix 5
Bushfire Attack Level Assessment and Bushfire Management Plan

Bushfire Management Plan: Development Application: Lot 405 (475) Albany Highway, Orana

McDonald's Australia Ltd.

ecological AUSTRALIA
A TETRA TECH COMPANY

BPAD Bushfire Planning & Design Accredited Practitioner Level 2

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DOCUMENT TRACKING

Project Name	Bushfire Management Plan: Development Application: Lot 405 (475) Albany Highway, Orana
Project Number	19PER-12798
Project Manager	Daniel Panickar
Prepared by	Stephen Moore
Reviewed by	Daniel Panickar (BPAD Level 2 – 37802)
Approved by	Daniel Panickar (BPAD Level 2 – 37802)
Status	**Final**
Version Number	**v1**
Last saved on	**20 February 2020**

This report should be cited as 'Eco Logical Australia 2020. *Lot 405 (475) Albany Highway, Orana*. Prepared for McDonald's Australia Ltd.

ACKNOWLEDGEMENTS

This document has been prepared by Eco Logical Australia Pty Ltd with support from McDonald's Australia Ltd.

Template 2.8.1

Contents

List of Figures

List of Tables

1. Introduction

1.1 Proposal details

Eco Logical Australia (ELA) was commissioned by McDonald's Australia Ltd. to prepare a Bushfire Management Plan (BMP) to support a development application at Lot 405 (475) Albany Highway, Orana in the City of Albany (hereafter referred to as the subject site, Figure 1; Figure 2). The proposed development involves the development of a McDonald's restaurant on the subject site.

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

This assessment has been prepared by ELA Bushfire Consultant Stephen Moore with quality assurance undertaken by Senior Bushfire Consultant, Daniel Panickar (FPAA BPAD Level 2 Certified Practitioner No. BPAD37802-L2). The assessment of vegetation to support the BMP was undertaken by Kath Kinnear of Bio Diverse Solutions (FPAA BPAD Level 2 Certified Practitioner No. BPAD30794-L2).

1.2 Purpose and application of the plan

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

1.3 Environmental considerations

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

The subject site has been previously cleared, resulting in no existing native vegetation on site.

No revegetation is proposed within the development and landscaping within the subject site and adjacent road reserve along Albany Highway will be maintained in a low-threat state. This is discussed further in section 2.1.2.

Figure 1: Site Overview

Legend

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

0 100 200 400
Metres

Datum/Projection:
GDA 1994 MGA Zone 50

N

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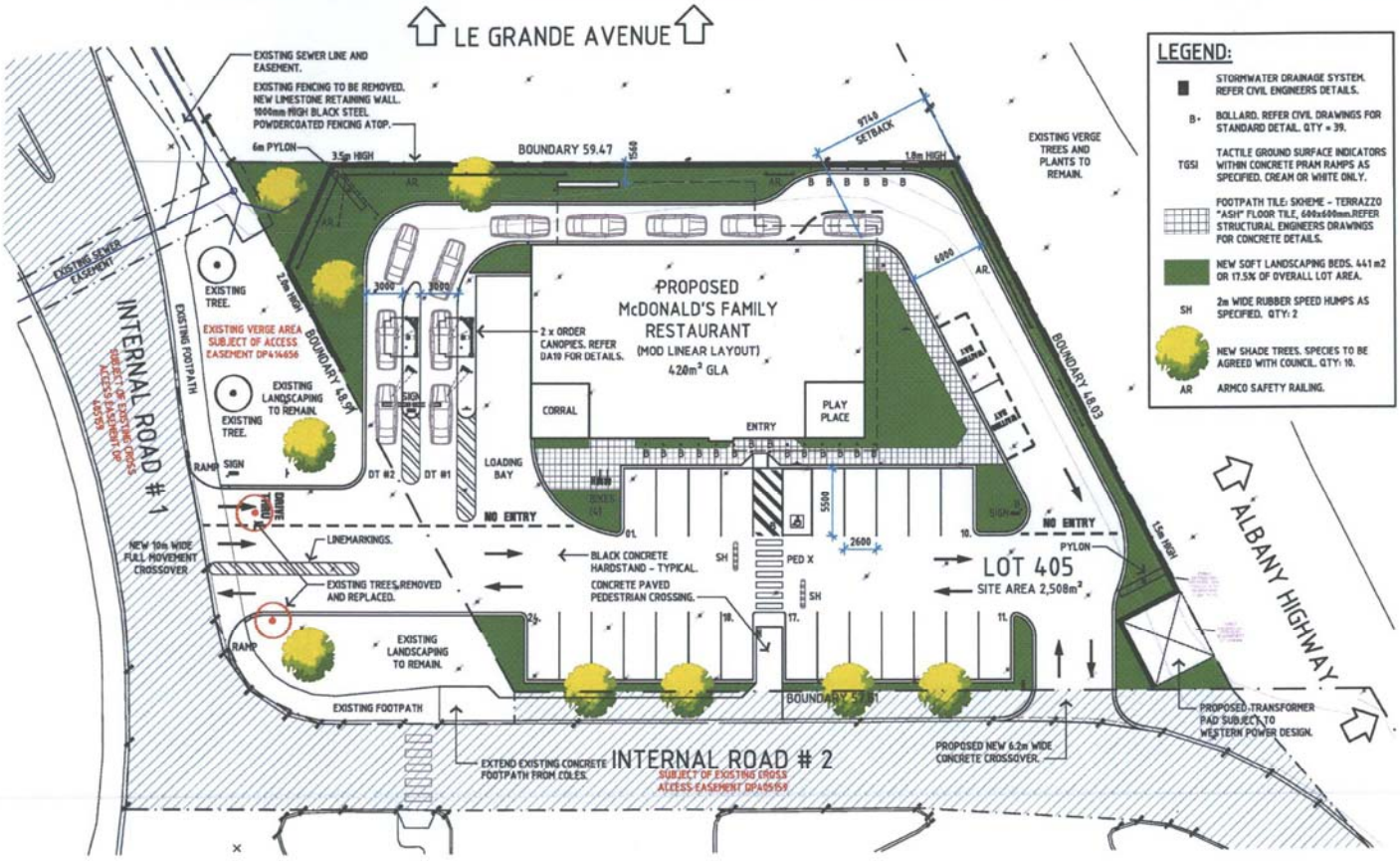
Prepared by: SM Date: 11/02/2020

Figure 2: Site Plan



ISSUE	AMENDMENT	DATE	CHK	INT

NOTES:
Do not scale this drawing. The drawing shown design intent only. All dimensions to be checked on site prior to construction or production. Construction details to be confirmed by contractor/manufacturer. This is a computer generated drawing. Do not amend by hand. Figure dimensions are to be used. Contact architect for clarification if dimensions are not clear. All dimensions are in millimeters. All discrepancies and omissions on site must be reported to the architect for their comments or approval prior to commencing work.

N

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4/169 STIRLING HIGHWAY NEDLANDS WA 6009
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SERIES : MOD LINEAR | JOB : 0693

STATUS: DEVELOPMENT APPLICATION

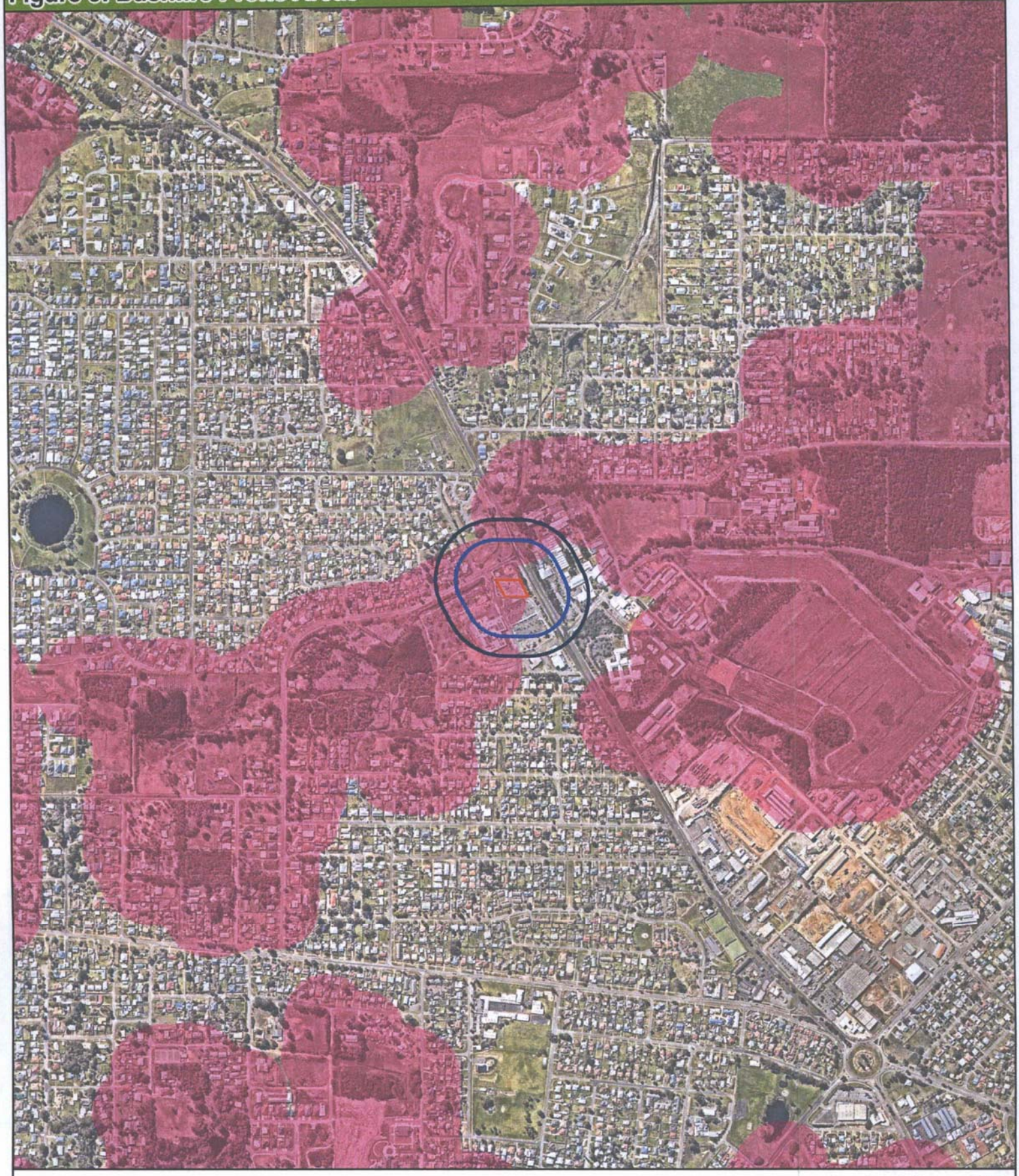
NDG NATIONAL DEVELOPMENT GROUP

PROPOSED McDONALD'S RESTAURANT
LOT 405 - H475 ALBANY HIGHWAY
ORANA, ALBANY WA

TITLE : PROPOSED SITE PLAN

SCALE	DRAWN	CHECKED	DWG. NO.	REV.
1 : 200 @ A3	AJI	AJI	DA02	-

Figure 3: Bushfire Prone Areas



Legend

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

0 100 200 400
Metres
Datum/Projection:
GDA 1994 MGA Zone 50

N

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2. Bushfire Assessment Results

2.1 Bushfire assessment inputs

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

2.1.1 Fire Danger Index

A blanket rating of FDI 80 is adopted for Western Australia, as outlined in Australian Standard (AS) 3959-2009 and endorsed by Australasian Fire and Emergency Service Authorities Council (AFAC).

2.1.2 Vegetation classification

Vegetation within the subject site and surrounding 150 m (the assessment area) was assessed in accordance with the Guidelines and *AS 3959-2009 Construction of Buildings in Bushfire Prone Areas* (SA 2018) with regard given to the *Visual guide for bushfire risk assessment in Western Australia* (DoP 2016). Site assessment was undertaken on 20 March 2019 by Bio Diverse Solutions (BDS 2019).

The classified vegetation types within the assessment area are identified below in Table 1 and Figure 4.

Table 1: Classified vegetation as per AS 3959-2009

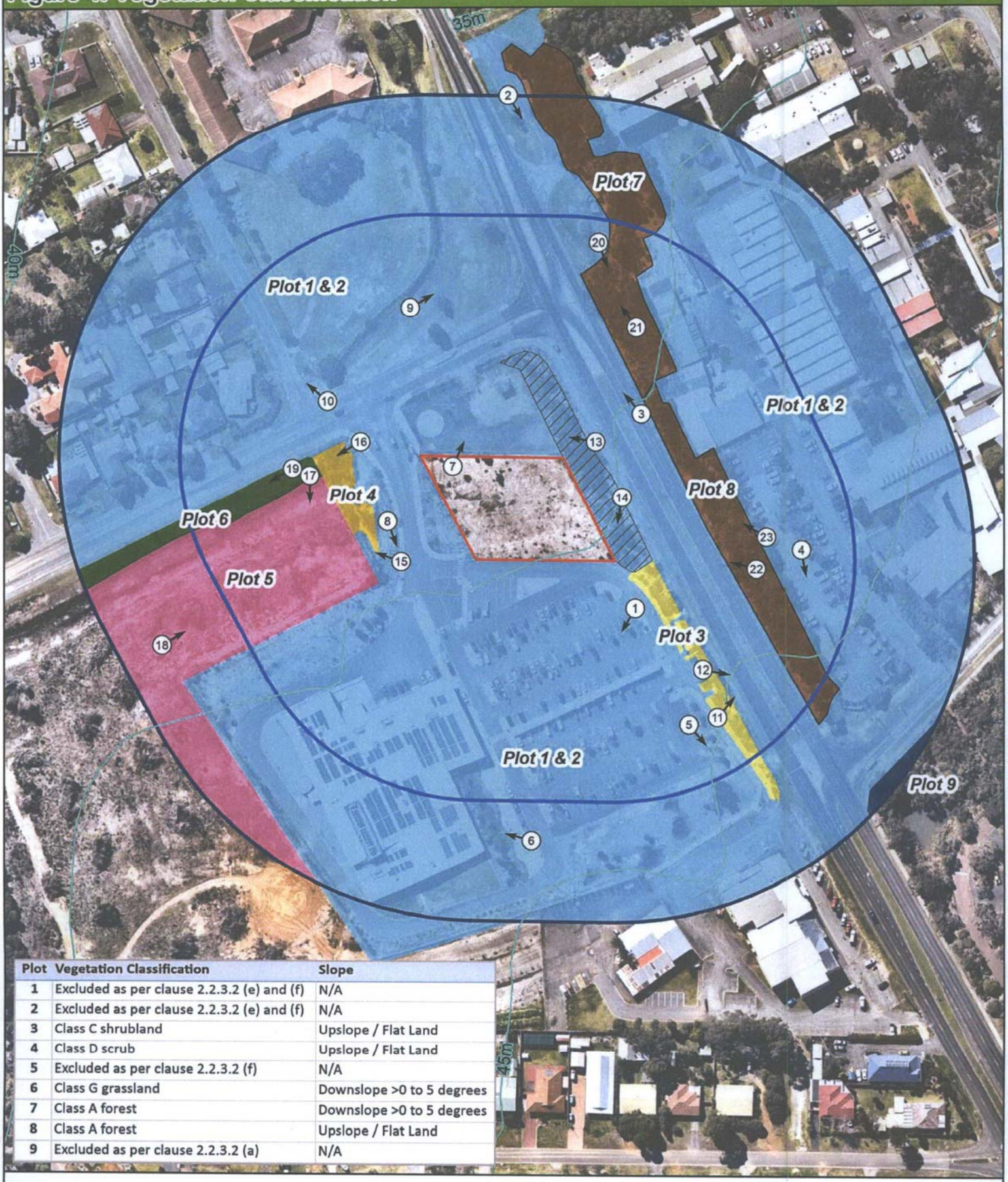
Plot	Vegetation Classification	Assessed Effective Slope (degrees)	Effective Slope
1	Excluded AS 3959-2009 2.2.3.2 (e) and (f)	-	-
2	Excluded AS 3959-2009 2.2.3.2 (e) and (f)	-	-
3	Class C Shrubland	-	All upslopes and flat land (0 degrees)
4	Class D Scrub	-	All upslopes and flat land (0 degrees)
5	Excluded AS 3959-2009 2.2.3.2 (f)	-	-
6	Class G Grassland	-	Downslope >0 to 5 degrees
7	Class A Forest	-	Downslope >0 to 5 degrees
8	Class A Forest	-	All upslopes and flat land (0 degrees)
9	Excluded AS 3959-2009 2.2.3.2 (a)	-	-

Photographs relating to each area and vegetation type are included in Appendix A. Photos 13 and 14 show vegetation currently within the Albany Highway road reserve. This vegetation will be modified to a low threat state as per the landscaping plans in Appendix B and have been assessed as such for the purposes of the bushfire assessment.

2.1.3 Topography and slope under vegetation

Effective slope under vegetation was assessed for a distance of 150 m from the subject site in accordance with the Guidelines and AS 3959-2009 and is depicted in Table 1 and Figure 4.

Figure 4: Vegetation Classification



Plot	Vegetation Classification	Slope
1	Excluded as per clause 2.2.3.2 (e) and (f)	N/A
2	Excluded as per clause 2.2.3.2 (e) and (f)	N/A
3	Class C shrubland	Upslope / Flat Land
4	Class D scrub	Upslope / Flat Land
5	Excluded as per clause 2.2.3.2 (f)	N/A
6	Class G grassland	Downslope >0 to 5 degrees
7	Class A forest	Downslope >0 to 5 degrees
8	Class A forest	Upslope / Flat Land
9	Excluded as per clause 2.2.3.2 (a)	N/A

Legend

- Subject site
- 100m site assessment
- 150m site assessment
- Contour (5m)
- Photo location

Vegetation classification

- Class A forest
- Class C shrubland
- Class D scrub
- Class G grassland

Exclusions

- Excluded as per clause 2.2.3.2 (a)
- Excluded as per clause 2.2.3.2 (e) and (f)
- Excluded as per clause 2.2.3.2 (f)
- Vegetation will be modified to a low threat state

0 15 30 60
Metres

Datum/Projection:
GDA 1994 MGA Zone 50

N

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2.2 Bushfire assessment outputs

A Bushfire Attack Level (BAL) assessment has been undertaken in accordance with SPP 3.7, the Guidelines, AS 3959-2009 and the bushfire assessment inputs in Section 2.1.

2.2.1 BAL assessment

All land located within 100 m of the classified vegetation depicted in Figure 4 considered bushfire prone and is subject to a BAL assessment in accordance with AS 3959-2009.

A Method 1 BAL assessment (as outlined in AS 3959-2009) has been completed for the proposed development and incorporates the following factors:

- Fire Danger Index (FDI) rating;
- Vegetation class;
- Slope under classified vegetation; and
- Distance between proposed development area and the classified vegetation.

Based on the identified BAL, construction requirements for proposed buildings can then be assigned. The BAL rating gives an indication of the expected level of bushfire attack (i.e. radiant heat flux, flame contact and ember penetration) that may be received by proposed buildings and subsequently informs the standard of construction required to increase building survivability.

2.2.2 Method 1 BAL assessment

Table 2 and Figure 5 display the Method 1 BAL assessment (in the form of BAL contours) that has been completed for the proposed development in accordance with AS 3959-2009 methodology.

completed for the proposed development in accordance with AS 3959-2009 methodology.

Table 2: Method 1 BAL calculation (BAL contours)

Plot and vegetation classification	Effective slope	Hazard separation distance	BAL rating	Comment
Plot 1 Excluded as per clause 2.2.3.2 (e) and (f) of AS3959-2009		N/A		
Plot 2 Excluded as per clause 2.2.3.2 (e) and (f) of AS3959-2009		N/A		
Plot 3 Class C Shrubland	All upslopes and flat land (0 degrees)	0-<7	BAL-FZ	No development proposed in this area
		7-<9	BAL-40	No development proposed in this area
		9-<13	BAL-29	No development proposed in this area
		13-<19	BAL-19	No development proposed in this area
		19-<100	BAL-12.5	Development proposed in this area
Plot 4 Class D Scrub	All upslopes and flat land (0 degrees)	0-<10	BAL-FZ	No development proposed in this area
		10-<13	BAL-40	No development proposed in this area
		13-<19	BAL-29	No development proposed in this area
		19-<27	BAL-19	No development proposed in this area
		27-<100	BAL-12.5	Development proposed in this area
Plot 5 Excluded as per clause 2.2.3.2 (f) of AS3959-2009		N/A		
Plot 6 Class G Grassland	Downslope >0 to 5 degrees	0-<7	BAL-FZ	No development proposed in this area
		7-<9	BAL-40	No development proposed in this area
		9-<14	BAL-29	No development proposed in this area
		14-<20	BAL-19	No development proposed in this area
		20-<50	BAL-12.5	Development proposed in this area
Plot 7 Class A Forest	Downslope >0 to 5 degrees	0-<20	BAL-FZ	No development proposed in this area
		20-<27	BAL-40	No development proposed in this area
		27-<37	BAL-29	No development proposed in this area
		37-<50	BAL-19	No development proposed in this area
		50-<100	BAL-12.5	Development proposed in this area
Plot 8 Class A Forest	All upslopes and flat land (0 degrees)	0-<16	BAL-FZ	No development proposed in this area
		16-<21	BAL-40	No development proposed in this area

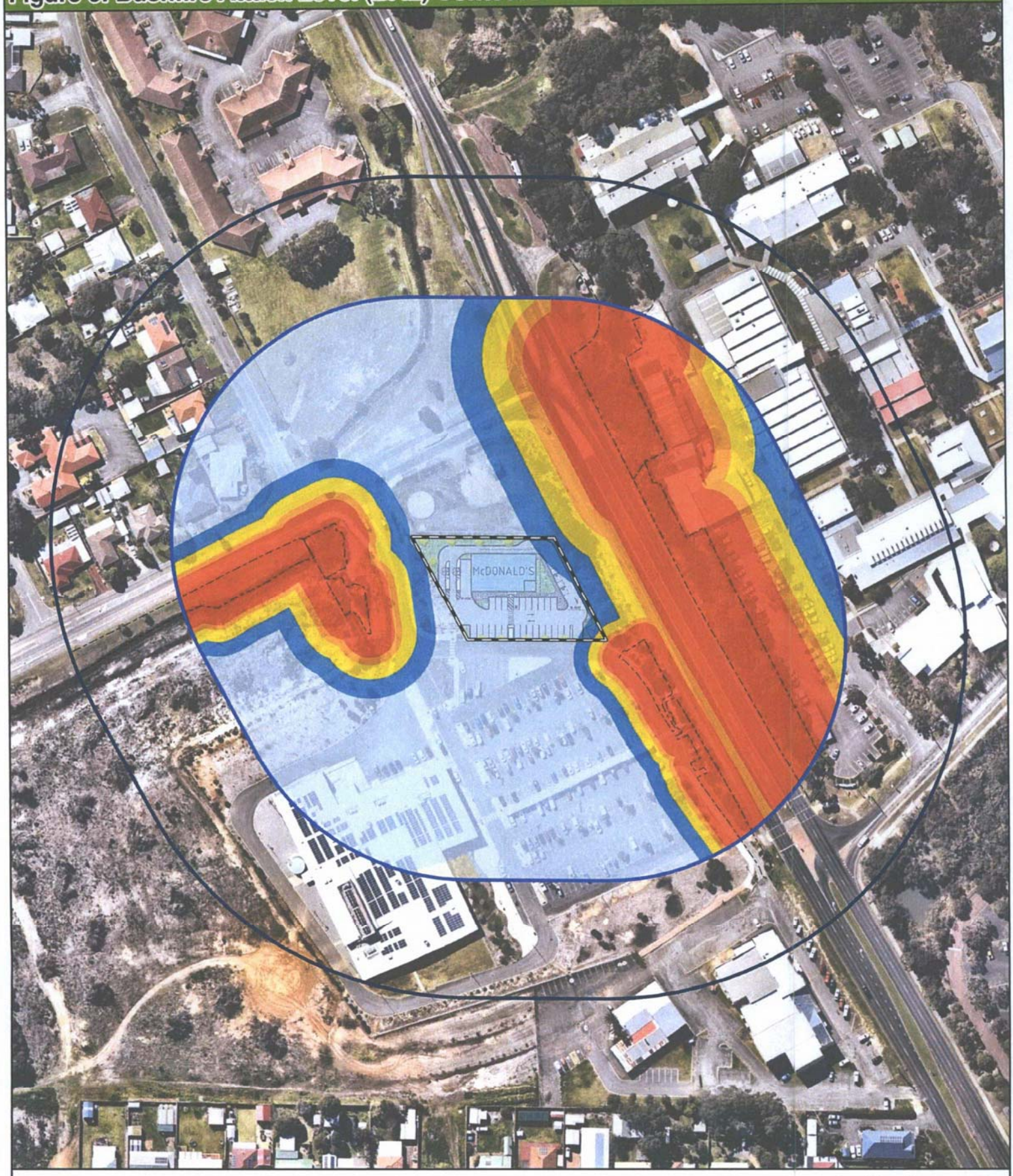
Plot and vegetation classification	Effective slope	Hazard separation distance	BAL rating	Comment
		21-<31	BAL-29	No development proposed in this area
		31-<42	BAL-19	No development proposed in this area
		42-<100	BAL-12.5	Development proposed in this area
Plot 9 Excluded as per clause 2.2.3.2 (a) of AS3959-2009		N/A		

Based on the site assessment inputs and BAL assessment, the proposed McDonald's restaurant within the subject site has a BAL rating of BAL-12.5.

2.3 Identification of issues arising from the BAL assessment

Should there be any changes in development design or vegetation/hazard extent that requires a modified bushfire management response, then the above BAL ratings will need to be reassessed for the affected areas and documented in a brief addendum to this BMP.

Figure 5: Bushfire Attack Level (BAL) Contours



Legend

- Subject site
- 100m site assessment
- 150m site assessment
- Bushfire Hazard Interface

Bushfire Attack Level (BAL)

- BAL - FZ
- BAL - 40
- BAL - 29
- BAL - 19
- BAL - 12.5
- BAL - LOW

0 15 30 60
Metres

Datum/Projection:
GDA 1994 MGA Zone 50

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3. Assessment against the Bushfire Protection Criteria

3.1 Compliance

The proposed development is required to comply with policy measures 6.2 and 6.5 of SPP 3.7 and the Guidelines. Implementation of this BMP is expected to meet objectives 5.1-5.4 of SPP 3.7.

In response to the above requirements of SPP 3.7 and the Guidelines, bushfire management measures, have been devised for the proposed development in accordance with Guideline acceptable solutions to meet compliance with bushfire protection criteria.

Table 3 outlines the Acceptable Solutions (AS) that are relevant to the proposal and summarises how the intent of each Bushfire Protection Criteria has been achieved. No Performance Solutions (PS) have been proposed for this proposal. These management measures are depicted in Figure 6 where relevant

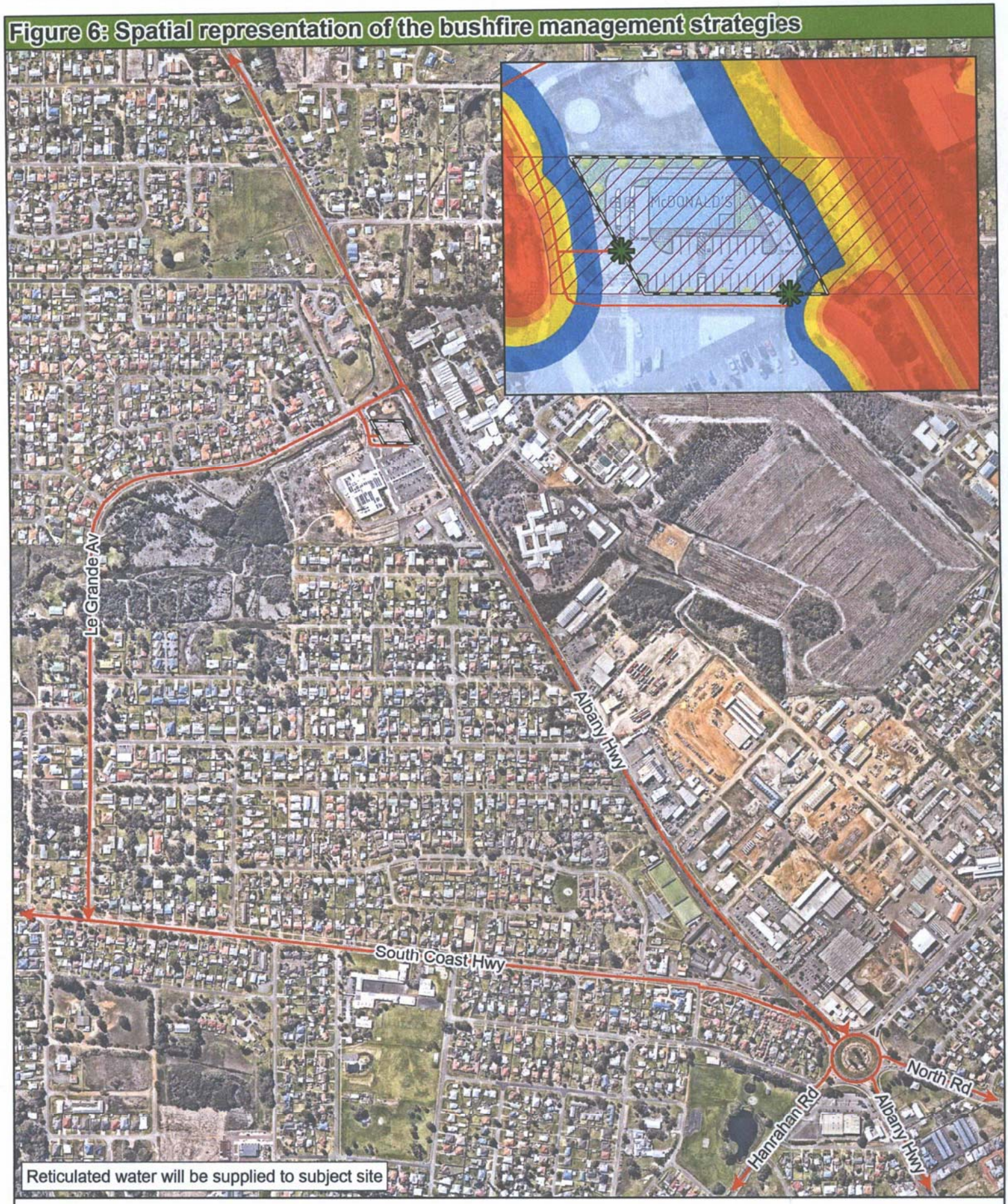
Table 3: Summary of solutions used to achieve bushfire protection criteria

Bushfire Protection Criteria	AS	PS	N/A	Comment
Element 1: Location **A1.1 Development location**	☒	☐	☐	The proposed development within the subject site will be located in an area subject to BAL ratings of ≤BAL-29 (Figure 5). The proposed development is considered to be compliant with A1.1.
Element 2: Siting and design of development **A2.1 Asset Protection Zone (APZ)**	☒	☐	☐	The proposed development has an APZ sufficient for the potential radiant heat flux to not exceed 29kW/m² and will be managed in accordance with the requirements of '*Standards for Asset Protection Zones*' (WAPC 2017;Appendix C). The APZ can be contained within the boundaries of the lot or managed in perpetuity in a low fuel state (Figure 6). The proposed development is considered to be compliant with A2.1.
Element 3: Vehicular access **A3.1 Two access routes**	☒	☐	☐	Two access routes to/from the subject site are available. All roads are public roads and comply with requirements outlined in the Guidelines (Appendix D). The proposed development is considered to be compliant with A3.1.
A3.2 Public road	☐	☐	☒	No public roads are proposed as part of this development.
A3.3 Cul-de-sac	☐	☐	☒	No cul-de-sacs are proposed as part of this development.
A3.4 Battle-axe	☐	☐	☒	No battle axe lots are proposed.
A3.5 Private Driveway longer than 50 m	☐	☐	☒	No private driveways longer than 50 m are proposed.
A3.6 Emergency Access way	☐	☐	☒	No emergency access way is required.

Bushfire Protection Criteria	AS	PS	N/A	Comment
A3.7 Fire-service access routes	☐	☐	☒	No fire service access routes are required or proposed.
A3.8 Firebreak width	☐	☐	☒	No fire breaks are required or proposed
Element 4: Water **A4.1 Reticulated areas**	☒	☐	☐	The subject site will be connected to a reticulated water supply. The proposed development is considered to be compliant with A4.1. A4.2 and A4.3 are not applicable to this proposed development. .
A4.2 Non-Reticulated areas	☐	☐	☒	Serviced by reticulated water supply.
A4.3 Individual Lots within non-reticulated areas	☐	☐	☒	Serviced by reticulated water supply.

NOTE – AS- ACCEPTABLE SOLUTION, PS- PERFORMANCE SOLUTION, N/A- NOT APPLICABLE

Figure 6: Spatial representation of the bushfire management strategies



Legend

- Subject site
- Asset Protection Zone (APZ)
- Access point
- Access / egress route

Bushfire Attack Level (BAL)

- BAL - FZ
- BAL - 40
- BAL - 29
- BAL - 19
- BAL - 12.5
- BAL - LOW

0 75 150 300
Metres

Datum/Projection:
GDA 1994 MGA Zone 50

N

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Prepared by: SM Date: 19/02/2020

4. Implementation and enforcement

Implementation of the BMP applies to the developer and future owners within the subject site to ensure bushfire management measures are adopted and implemented on an ongoing basis. A summary of the bushfire management measures described in Section 3, as well as a works program, is provided in Table 4. These measures will be implemented to ensure the ongoing protection of life and property assets is achieved. Timing and responsibilities are also defined to assist with implementation of each measure.

Table 4: Proposed work program

No	Bushfire management measure	Responsibility
Prior to occupancy		
1	Ensure proposed building is located outside of areas subject to BAL-FZ and BAL-40 as per the design in Figure 6.	Developer
2	Ensure all APZs are implemented and maintained in accordance with Appendix C.	Developer
Ongoing management		
3	Maintain APZ	Operator

5. Conclusion

In the author's professional opinion, the bushfire protection requirements listed in this assessment provide an adequate standard of bushfire protection for the proposed development. As such, the proposed development is consistent with the aim and objectives of SPP 3.7 and associated guidelines and is recommended for approval.

6. References

Bio Diverse Solutions (BDS), 2019, *Vegetation classification to AS 3959-2009: Lot 405 Le Grande Avenue, Orana,* report prepared for Eco Logical Australia.

Department of Fire and Emergency Services (DFES), 2019, *Map of Bush Fire Prone Areas, [Online]*, Government of Western Australia, available from: http://www.dfes.wa.gov.au/regulationandcompliance/bushfireproneareas/Pages/default.aspx

Department of Planning (DoP), 2016, *Visual guide for bushfire risk assessment in Western Australia*. DoP, Perth.

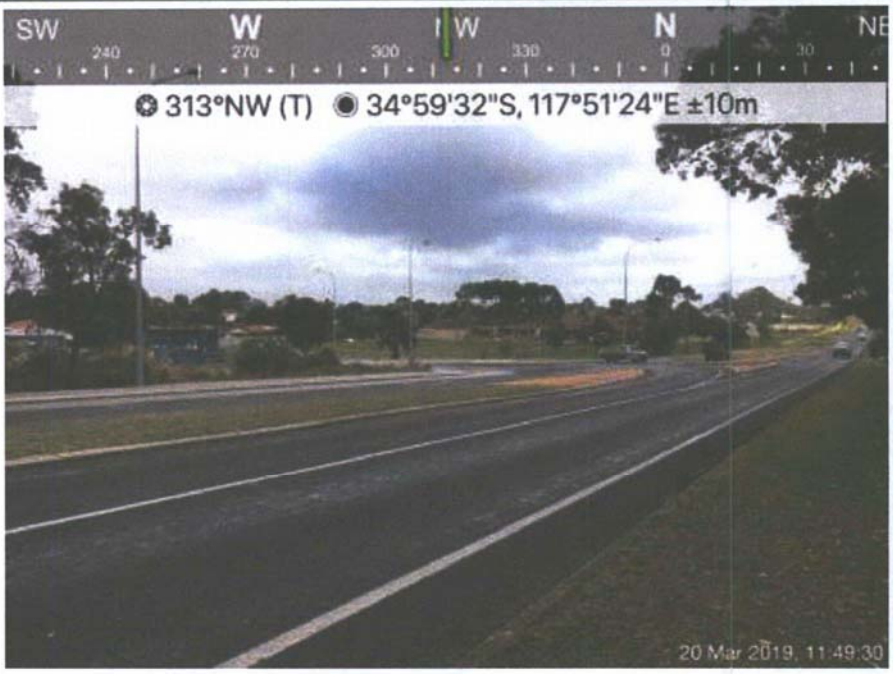
Standards Australia, 2009, *Construction of buildings in bushfire-prone areas, AS 3959-2009*. SAI Global, Sydney.

Western Australian Planning Commission, 2015, *State Planning Policy 3.7 Planning in Bushfire Prone Areas*. WAPC, Perth.

Western Australian Planning Commission,2017, *Guidelines for Planning in Bushfire Prone Areas Version 1.3 (including appendices),* WAPC, Perth.

Appendix A – Classified Vegetation Photos (BDS 2019)

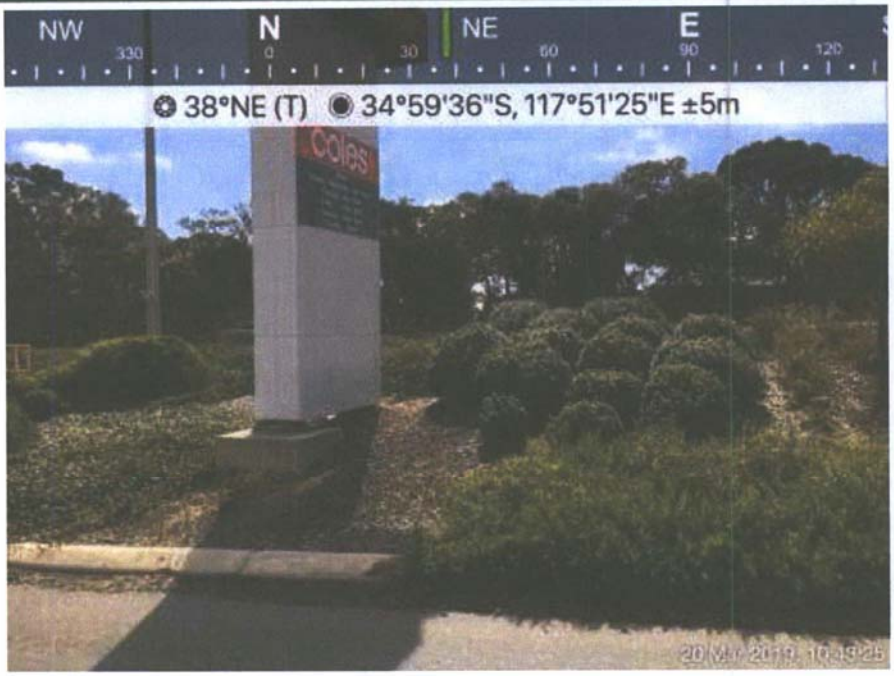
Plot	Photo ID	Photo and vegetation classification
1&2	1	 Excluded AS 3959-2009 2.2.3.2 (e)
1&2	2	 Excluded AS 3959-2009 2.2.3.2 (e)

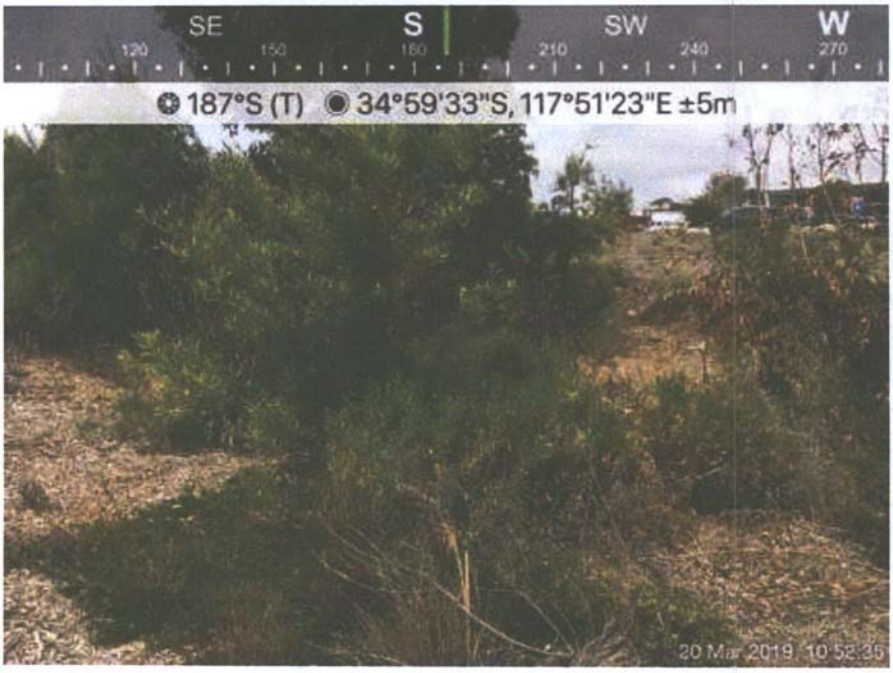
Plot	Photo ID	Photo and vegetation classification
1&2	3	 Excluded AS 3959-2009 2.2.3.2 (e)
1&2	4	 Excluded AS 3959-2009 2.2.3.2 (e)

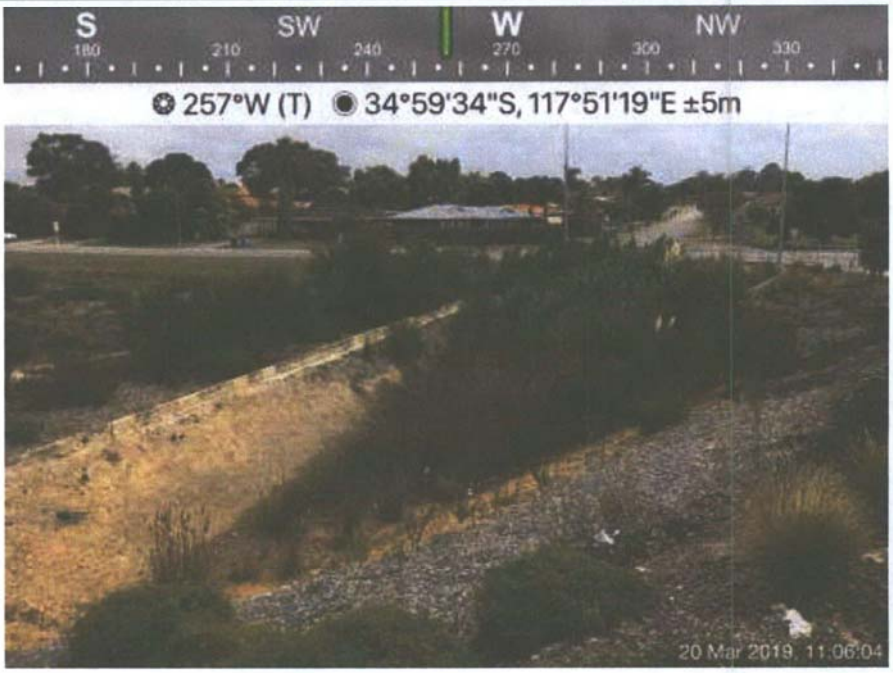
Plot	Photo ID	Photo and vegetation classification
1&2	5	 Excluded AS 3959-2009 2.2.3.2 (f)
1&2	6	 Excluded AS 3959-2009 2.2.3.2 (f)

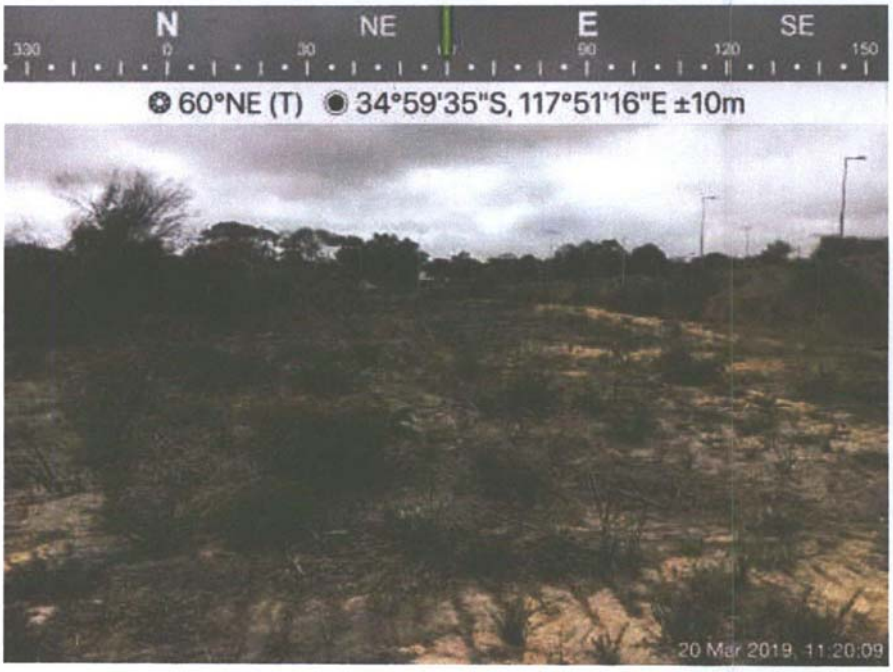
Plot	Photo ID	Photo and vegetation classification
1&2	7	 Excluded AS 3959-2009 2.2.3.2 (f)
1&2	8	 Excluded AS 3959-2009 2.2.3.2 (f)

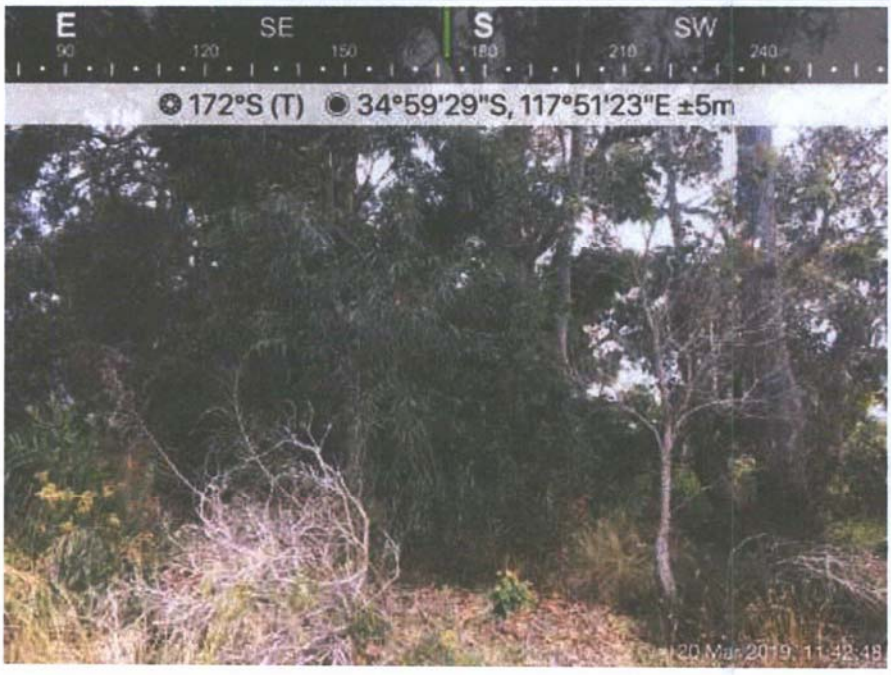
Plot	Photo ID	Photo and vegetation classification
1&2	9	 Excluded AS 3959-2009 2.2.3.2 (f)
1&2	10	 Excluded AS 3959-2009 2.2.3.2 (f)

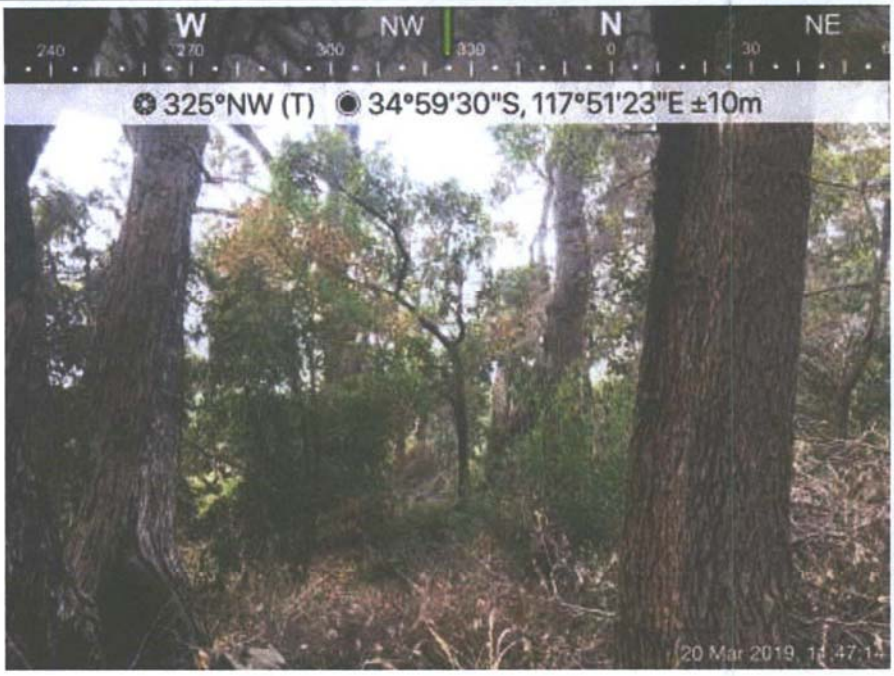
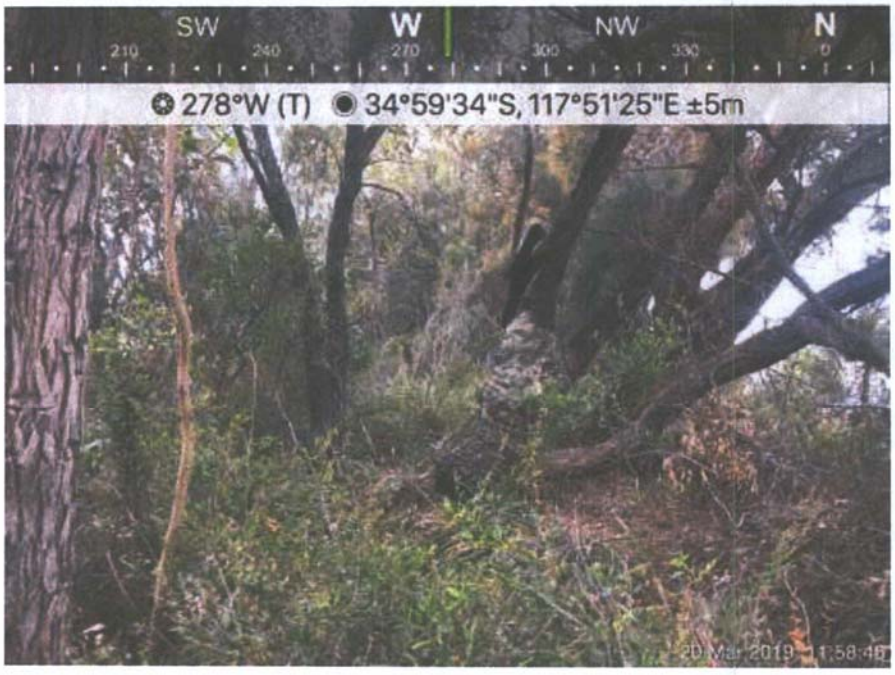
Plot	Photo ID	Photo and vegetation classification
3	11	 Class C Shrubland
3	12	 Class C Shrubland

Plot	Photo ID	Photo and vegetation classification
1&2	13	 Excluded AS 3959-2009 2.2.3.2 (e) and (f)
1&2	14	 Excluded AS 3959-2009 2.2.3.2 (e) and (f)

Plot	Photo ID	Photo and vegetation classification
4	15	 Class D Scrub
4	16	 Class D Scrub

Plot	Photo ID	Photo and vegetation classification
5	17	 Excluded AS 3959-2009 2.2.3.2 (f)
5	18	 Excluded AS 3959-2009 2.2.3.2 (f)

Plot	Photo ID	Photo and vegetation classification
6	19	 Class G Grassland
7	20	 Class A Forest

Plot	Photo ID	Photo and vegetation classification
7	21	 Class A Forest
8	22	 Class A Forest

Plot	Photo ID	Photo and vegetation classification
8	23	 Class A Forest

Appendix B – Landscaping plans

PLANT LEGEND:

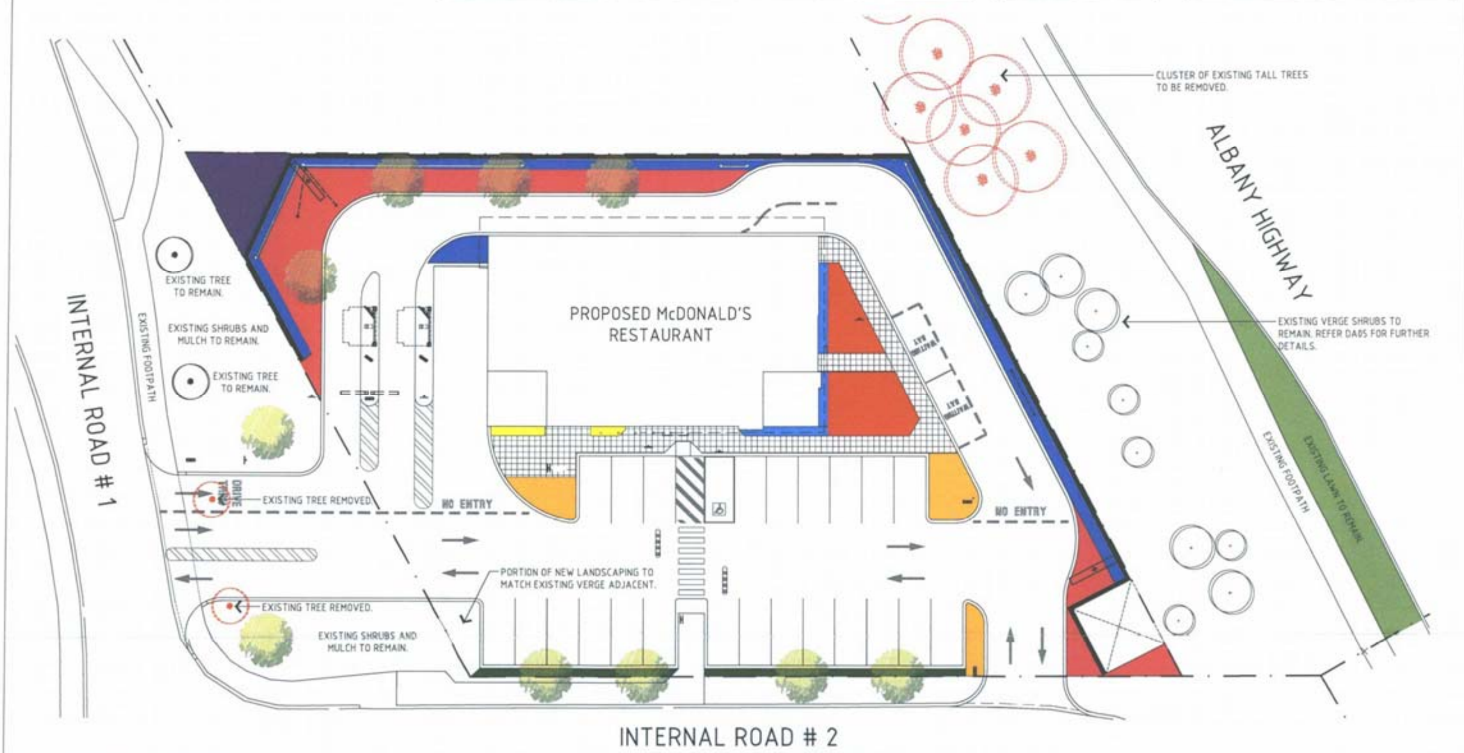
- KANGAROO PAW
- RADERMACHERA "SUMMERSCENT".
- OLEARIA LANGUINOSA "GHOST TOWN"
- SHORE JUNIPER
- HIBBERTIA SCANDENS.
- INDIAN HAWTHORN FORMED AS HEDGE.
- VIBURNUM TINUS - FORMED AS HEDGE
- NATIVE MASS PLANTING: WESTRINGIA FRUITICOSA, MYOPORUM PARVIFOLIUM, DIANELLA VERDAY.

TREE LEGEND:

- AGONIS FLEXUOSA. 10 IN TOTAL.

LANDSCAPING NOTES:

1. BUILDER TO ENSURE DRIPPER FED RETICULATION TO ALL NEW LANDSCAPING.
2. ALL LANDSCAPED BED WILL BE MULCHED TO A DEPTH OF 100mm WITH AN ORGANIC MULCH.
3. PLANTING BEDS WILL HAVE A MINIMUM DEPTH OF 400mm OF CLEAN TOP SOIL (SUITABLE FOR HORTICULTURAL QUALITY). PLEASE ENSURE NO CONTAMINANTS ARE PRESENT.
4. ALL PLANTS EXCEEDING 900mm SHALL BE STAKED AND SECURED.
5. ALL PLANTS WILL BE FERTILIZED DURING PLANTING WITH A SLOW RELEASE FERTILIZER WITH A MIN NPK RATIO OF 18:2:6:10.
6. LANDSCAPING AREA = 435 m². LOT AREA = 2,500 m². LANDSCAPING % = 17.3.



ISSUE	AMENDMENT	DATE	CHK	INT

NOTES.
Do not scale this drawing. The drawing shows design intent only. All dimensions to be checked on site prior to construction or production. Construction details to be confirmed by contractor/manufacturer. This is a computer generated drawing. Do not amend by hand. Figure dimensions are to be used. Contact architect for clarification if dimensions are not clear. All dimensions are in millimeters. All discrepancies and omissions on site must be reported to the architect for their comments or approval prior to commencing work.

N

HINDLEY & ASSOCIATES BUILDING DESIGNERS

SERIES : MOD LINEAR | JOB : 0693

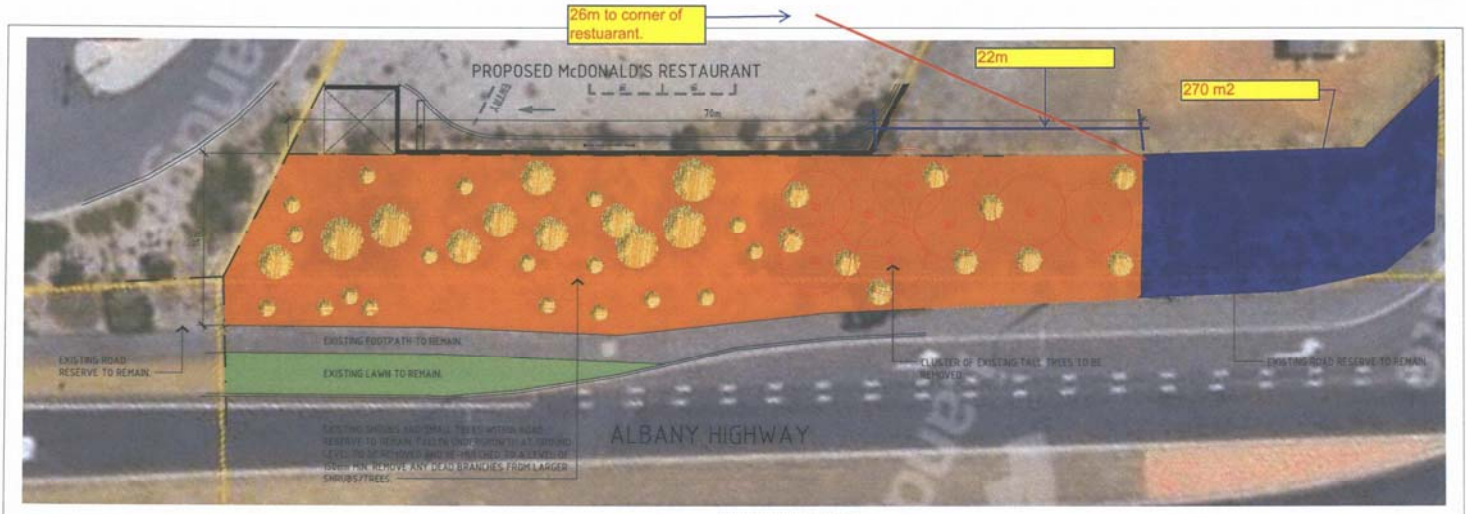
NATIONAL DEVELOPMENT GROUP

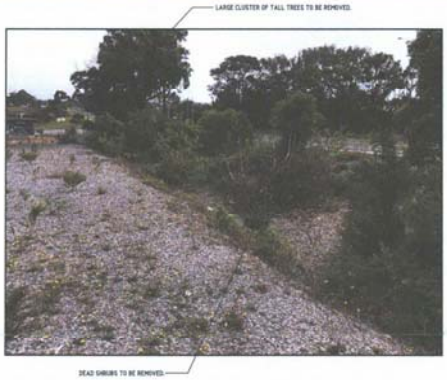
STATUS: DEVELOPMENT APPLICATION

PROPOSED McDONALD'S RESTAURANT
LOT 405 - H475 ALBANY HIGHWAY
ORANA, ALBANY WA

TITLE: PROPOSED LANDSCAPING PLAN

SCALE	DRAWN	CHECKED	DWG. NO.	REV.
1 : 300 @ A3	AJJ	AJJ	DA04	-





PROPOSAL IMAGES INDICATIVE ONLY

ISSUE	AMENDMENT	DATE	CHK	INT

NOTES.
Do not scale this drawing. The drawing shows design intent only.
All dimensions to be checked on site prior to construction or production.
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All discrepancies and omissions on site must be reported to the architect for their comments or approval prior to commencing work.

HINDLEY & ASSOCIATES
BUILDING DESIGNERS
SERIES : MOD LINEAR
JOB : 0693

McDonald's Australia Limited

NDG NATIONAL DEVELOPMENT GROUP

STATUS DEVELOPMENT APPLICATION

PROPOSED McDONALD'S RESTAURANT
LOT 405 - H475 ALBANY HIGHWAY
ORANA, ALBANY WA

TITLE : ROAD RESERVE LANDSCAPING DETAIL

SCALE	DRAWN	CHECKED	DWG. NO.	REV.
1 :100 @ A3	AJJ	AJJ	DA05	-

Appendix C – Standards for Asset Protection Zones

The following standards have been extracted from the *Guidelines for Planning in Bushfire Prone Areas v 1.3* (WAPC 2017).

Every habitable building is to be surrounded by, and every proposed lot can achieve, an APZ depicted on submitted plans, which meets the following requirements:

a. Width: Measured from any external wall or supporting post or column of the proposed building, and of sufficient size to ensure the potential radiant heat impact of a fire does not exceed 29kW/m^2 (BAL-29) in all circumstances.

b. Location: the APZ should be contained solely within the boundaries of the lot on which a building is situated, except in instances where the neighbouring lot or lots will be managed in a low-fuel state on an ongoing basis, in perpetuity (see explanatory notes).

c. Management: the APZ is managed in accordance with the requirements of '*Standards for Asset Protection Zones*' (below):

- Fences: within the APZ are constructed from non-combustible materials (e.g. iron, brick, limestone, metal post and wire). It is recommended that solid or slatted non-combustible perimeter fences are used
- Objects: within 10 metres of a building, combustible objects must not be located close to the vulnerable parts of the building i.e. windows and doors
- Fine Fuel load: combustible dead vegetation matter less than 6 millimetres in thickness reduced to and maintained at an average of two tonnes per hectare
- Trees (> 5 metres in height): trunks at maturity should be a minimum distance of 6 metres from all elevations of the building, branches at maturity should not touch or overhang the building, lower branches should be removed to a height of 2 metres above the ground and or surface vegetation, canopy cover should be less than 15% with tree canopies at maturity well spread to at least 5 metres apart as to not form a continuous canopy (**Figure 7**).

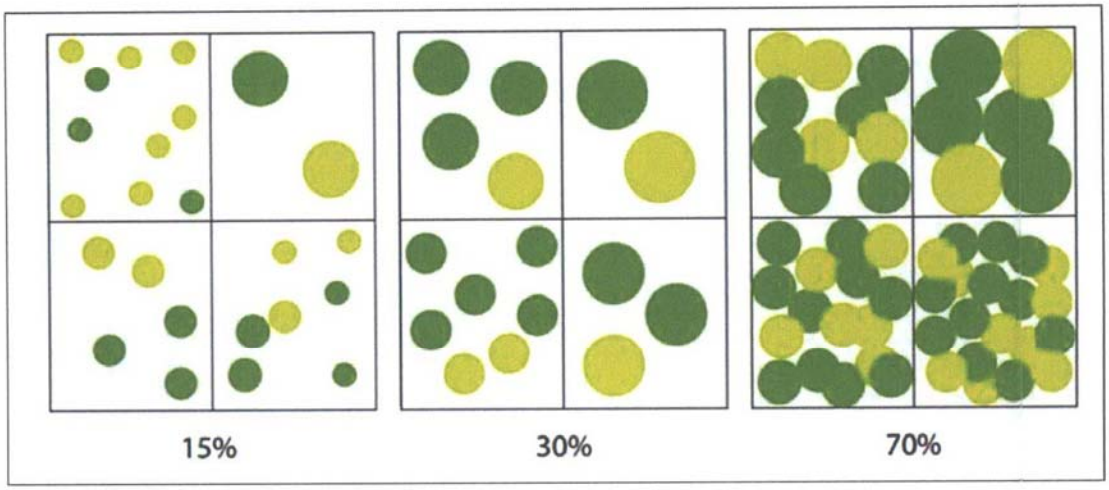

Figure 7: Illustrated tree canopy cover projection (WAPC 2017)

- **Shrubs (0.5 metres to 5 metres in height):** should not be located under trees or within 3 metres of buildings, should not be planted in clumps greater than 5m^2 in area, clumps of shrubs should be separated from each other and any exposed window or door by at least 10 metres. Shrubs greater than 5 metres in height are to be treated as trees
- **Ground covers (<0.5 metres in height):** can be planted under trees but must be properly maintained to remove dead plant material and any parts within 2 metres of a structure, but 3 metres from windows or doors if greater than 100 millimetres in height. Ground covers greater than 0.5 metres in height are to be treated as shrubs
- **Grass:** should be managed to maintain a height of 100 millimetres or less.

Additional notes

The Asset Protection Zone (APZ) is an area surrounding a building that is managed to reduce the bushfire hazard to an acceptable level. Hazard separation in the form of using subdivision design elements or excluded and low threat vegetation adjacent to the lot may be used to reduce the dimensions of the APZ within the lot.

The APZ should be contained solely within the boundaries of the lot on which the building is situated, except in instances where the neighbouring lot or lots will be managed in a low-fuel state on an ongoing basis, in perpetuity. The APZ may include public roads, waterways, footpaths, buildings, rocky outcrops, golf courses, maintained parkland as well as cultivated gardens in an urban context, but does not include grassland or vegetation on a neighbouring rural lot, farmland, wetland reserves and unmanaged public reserves.

Appendix D - Vehicular access technical requirements (WAPC 2017)

Technical requirements	Public road	Cul-de-sac	Private driveway	Emergency access way	Fire service access route
Minimum trafficable surface (m)	6*	6	4	6*	6*
Horizontal distance (m)	6	6	6	6	6
Vertical clearance (m)	4.5	N/A	4.5	4.5	4.5
Maximum grade <50 m	1 in 10	1 in 10	1 in 10	1 in 10	1 in 10
Minimum weight capacity (t)	15	15	15	15	15
Maximum crossfall	1 in 33	1 in 33	1 in 33	1 in 33	1 in 33
Curves minimum inner radius	8.5	8.5	8.5	8.5	8.5
* Refer to E3.2 Public roads: Trafficable surface					

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