



All enquiries to Development Services on 9526 1111
Our ref: PA20/187: HM:sn

30 July 2020

Metrowest C/- Urbis
L14, 1 William Street
PERTH WA 6000

Via email: edunning@urbis.com.au

Dear Sir/Madam,

**Proposed Commercial Building
Lot 18 & 22, (813 & 815), South Western Highway, Byford**

I refer to your application, received 27 March 2020, for approval to commence development on the aforementioned lot.

In accordance with the provisions of the Shire's Town Planning Scheme No. 2 and the authority delegated to Council under the provisions of the Metropolitan Region Scheme, your application to commence development has been approved. Attached is the Notice of Determination of Application for Development Approval stating the conditions with which the development is required to comply.

Should you be aggrieved by any of the decision or any conditions imposed, you have the right under the *Planning and Development Act 2005* to have the decision reviewed by the State Administrative Tribunal. Applications for review must be submitted to the Tribunal within 28 days of the date on the decision notice. Further information can be obtained by calling the Tribunal on (08) 9219 3111 or by visiting their website at www.sat.justice.wa.gov.au.

Your attention is drawn to the fact that this consent constitutes planning approval only and that a Building Permit may be required from the Shire prior to the commencement of construction works. Where relevant, the nominated builder should be provided with a copy of conditions of the Notice of Determination on Application for Development Approval. The Building Permit application cannot be accepted until all relevant planning conditions are cleared by the Shire. Accordingly, please ensure that the drawings and information supplied to the Shire for a building permit address any conditions issued on the planning approval by the Shire to avoid delays in the issue of the Permit. Please note that any amendments proposed outside of the approved plans and conditions of development approval may result in the requirement for a new Planning Application to be submitted for assessment and determination.

Yours faithfully

Heather O'Brien
Coordinator Statutory Planning

Planning and Development Act 2005
Shire of Serpentine Jarrahdale
**Notice of Determination on Application for
Development Approval**

Property File: A302800 Application No: PA20/187
Location: 813 South Western Highway, Byford
Lot: 22 Plan/Diagram: 32338
Vol. No: 1313 Folio No: 35
Application Date: 27 March 2020 Received On: 27 March 2020

Description of Proposed Development: Proposed Commercial Building

Use Class: Health Studio and Private Recreation

Date of Determination: 30 July 2020

That Council at its Ordinary Council Meeting of 20 July 2020 GRANT Development Approval pursuant to Clause 68(2) of the Deemed Provisions of *Planning and Development (Local Planning Schemes) Regulations 2015* for proposed Commercial Building subject to compliance with the following conditions:

Conditions:

1. The development is to be carried out in compliance with the plans and documentation listed below and endorsed with the Shire of Serpentine Jarrahdale stamp, except where amended by other conditions of this consent.

Plans and Specifications	Plans P1 – P7 received at the Shire Offices on 27 March 2020 Traffic Impact Statement prepared by Transcore and dated 7 February 2020 Bushfire Management Plan prepared by Fire Protection Association Australia and dated 24 March 2020
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2. Prior to the issue of a Building Permit, revised elevation and development plans being submitted to and approved by the Shire of Serpentine Jarrahdale. These revised plans are to demonstrate the addition of either recycled facebrick or natural timbers to the windows trim facing South Western Highway, reflective of the Shire's rural character.
3. Prior to occupation, the provision of public art being provided in accordance with Local Planning Policy 1.6 – Public Art for Major Developments to the satisfaction of the Shire.
4. Prior to the commencement of works, the landowner/applicant must contribute towards development contribution infrastructure provisions, pursuant to the Shire of Serpentine Jarrahdale's Town Planning Scheme No.2.

5. Arrangements being made with the Shire of Serpentine Jarrahdale for the landowner/applicant to contribute towards the costs of providing community and/or common infrastructure, as established through the amendment (when gazetted) to the Shire of Serpentine Jarrahdale Town Planning Scheme No.2.
6. Prior to occupation of the development, all vehicle parking areas (both on and offsite), accessways and crossovers shall be designed, constructed, sealed, kerbed, drained, linemarked in accordance with the approved plans and thereafter maintained to the satisfaction of the Shire of Serpentine Jarrahdale. A suitable legal agreement being prepared to be prepared at the Applicants cost, to the satisfaction of the Shire.
7. Prior to operation, an updated Landscape and Vegetation Management Plan, showing all areas of retained vegetation, additional planting including all car parking areas, access roads and road verges shall be submitted to and approved by the Shire of Serpentine Jarrahdale. Once approved, the Landscape and Vegetation Management Plan shall be implemented in its entirety and maintained thereafter.
8. Prior to issuing of a Building Permit, an Urban Water Management Plan (UWMP) shall be submitted to and approved by the Shire of Serpentine Jarrahdale. Once approved, the UWMP shall be implemented and maintained thereafter. The Plan shall be prepared in accordance with the Byford Town Centre Local Water Management Strategy and Local Planning Policy 2.4 – Water Sensitive Design.
9. Prior to issuing of a Building Permit, a Signage Strategy must be submitted to and approved by the Shire of Serpentine Jarrahdale. The Strategy shall demonstrate compliance with Local Planning Policy No 4.11 - Advertising Signs. Once approved, signage shall be displayed and maintained in accordance with the strategy.
10. Prior to occupation, a Waste Management Plan must be prepared and submitted to the Shire of Serpentine Jarrahdale. The Waste Management Plan must include the following:
 - a. The location of bin storage areas and bin collection areas;
 - b. The number, volume and type of waste to be placed in the bins;
 - c. Management of the bins and the bin storage areas, including cleaning, rotation and moving bins to and from the bin collection areas; and
 - d. Frequency of bin collections.Once approved, the Waste Management Plan shall be implemented and maintained thereafter.
11. Prior to occupation, a lighting plan shall be submitted to and approved by the Shire of Serpentine Jarrahdale The approved lighting plan shall be implemented and maintained thereafter.
12. Prior to operation, an Environmental and Transport Noise Assessment, incorporating field noise measurements, shall be submitted to and approved by the Shire. Recommendations resulting from the Environmental and Transport Noise Assessment shall be incorporated within a Noise Management Plan to the satisfaction of the Shire and implemented/adhered to in its entirety.
13. Prior to occupation, the redundant crossovers on South Western Highway shall be removed and the verge reinstated at the applicant's cost to the satisfaction of the Shire.

14. The applicant providing a cash in lieu payment to the Shire of Serpentine Jarrahdale, in accordance with Shire of Serpentine Jarrahdale Town Planning Scheme No. 2, equivalent to 26 car parking bays, prior to issue of a Building Permit.

ADVICE NOTES

NOTE 1 Prior to commencement of works, a demolition licence for the removal of the existing dwellings and all structures is to be obtained from the Shire of Serpentine Jarrahdale.

NOTE 2: If the development the subject of this approval is not substantially commenced within a period of 2 years, or another period specified in the approval after the date of the determination, the approval will lapse and be of no further effect.

Signed:



Dated: 30 July 2020

For and on behalf of the Shire of Serpentine Jarrahdale

10.1.7 - attachment 2

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2020.02.11	C RE-ISSUED FOR DEVELOPMENT APPROVAL
DATE	No. DESCRIPTION
REVISION SCHEDULE	

SHIRE OF SERPENTINE-JARRAHDALE
PLANNING APPROVAL

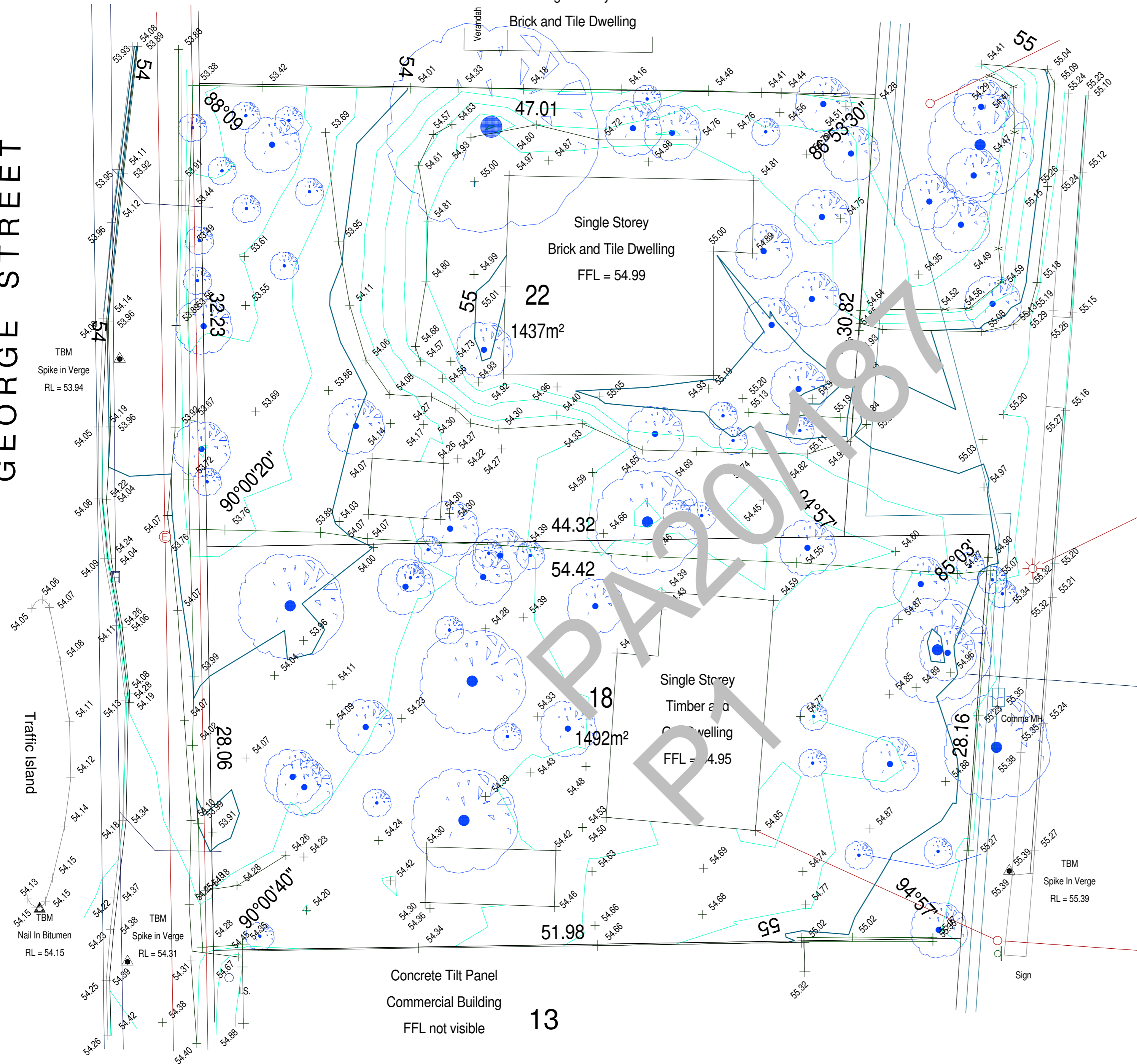
H. O'Brien

Date 30/07/2020 Signed (Authorised Officer)

GEORGE STREET

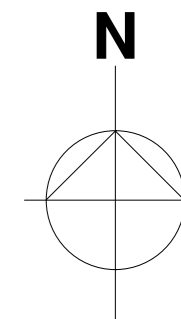
WESTERN HIGHWAY

SOUTH



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2020.06.30	E	RE-ISSUED FOR DEVELOPMENT APPROVAL
2020.05.11	D	EXIT STAIRS REVISED
DATE	No.	DESCRIPTION

REVISION SCHEDULE

IMPORTANT NOTE:

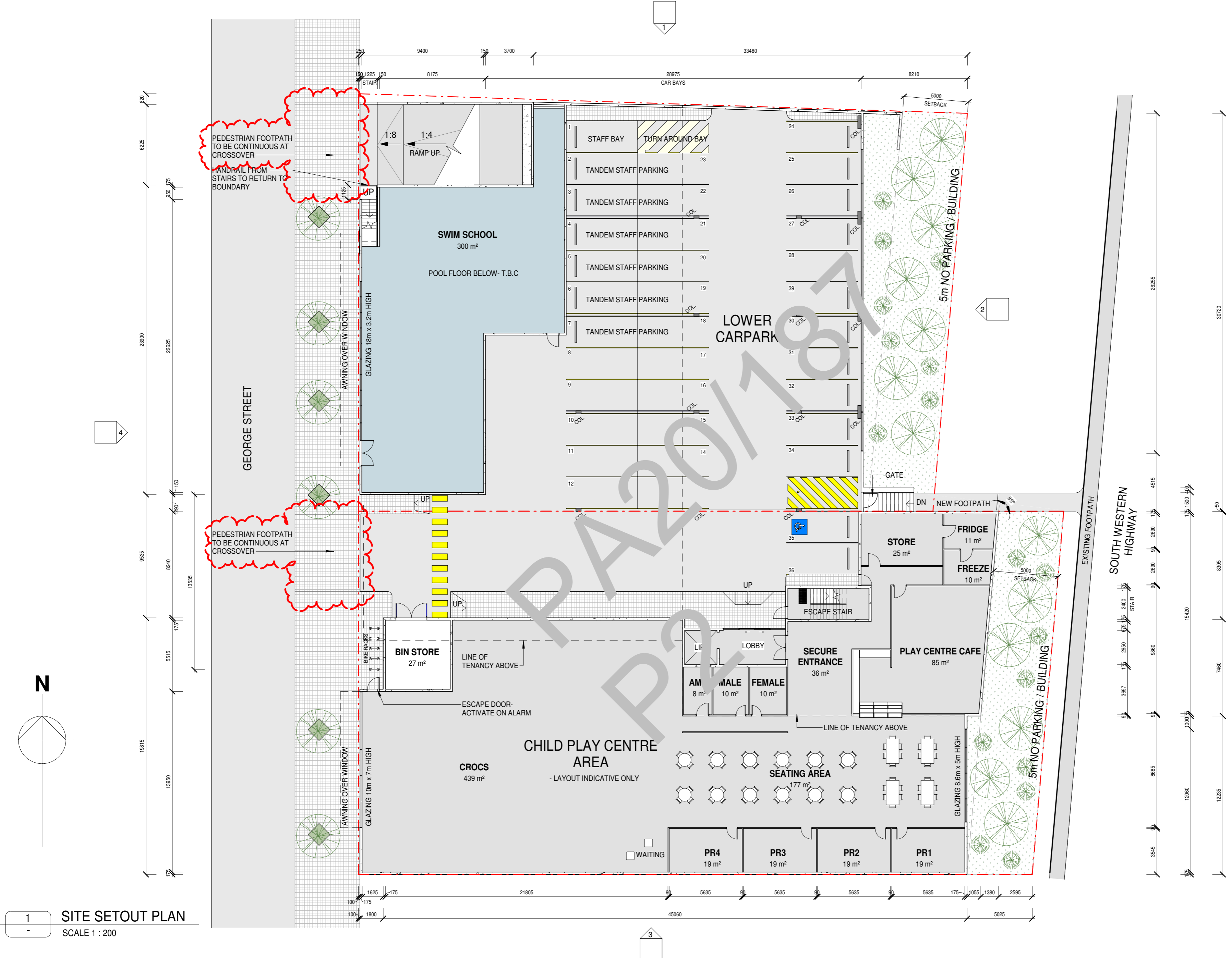
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**SHIRE OF SERPENTINE-JARRAHDALE
PLANNING APPROVAL**

H. O'Brien

Date 30/07/2020 Signed (Authorised Officer)

PLANNING APPROVAL ONLY
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REQUIRED PARKING	
FITNESS "HEALTH STUDIO"	1 BAY PER 20SQM OF PUBLIC FLOOR SPACE ASSUMED 500SQM PUBLIC FLOOR SPACE 500/20 = 25 BAYS
CHILD PLAY CENTRE "PRIVATE AMUSEMENT"	1 BAY PER 20 SQM OF GLA 927 / 20 = 46 BAYS
SWIM SCHOOL "PRIVATE AMUSEMENT"	1 BAY PER 20 SQM OF GLA 300 / 20 = 15 BAYS
TOTAL PARKING REQUIRED:	86 BAYS
PARKING PROVIDED	61 BAYS 59 REGULAR BAYS + 2 DDA

1 SITE SETOUT PLAN
SCALE 1 : 200

10.1.7 - attachment 2

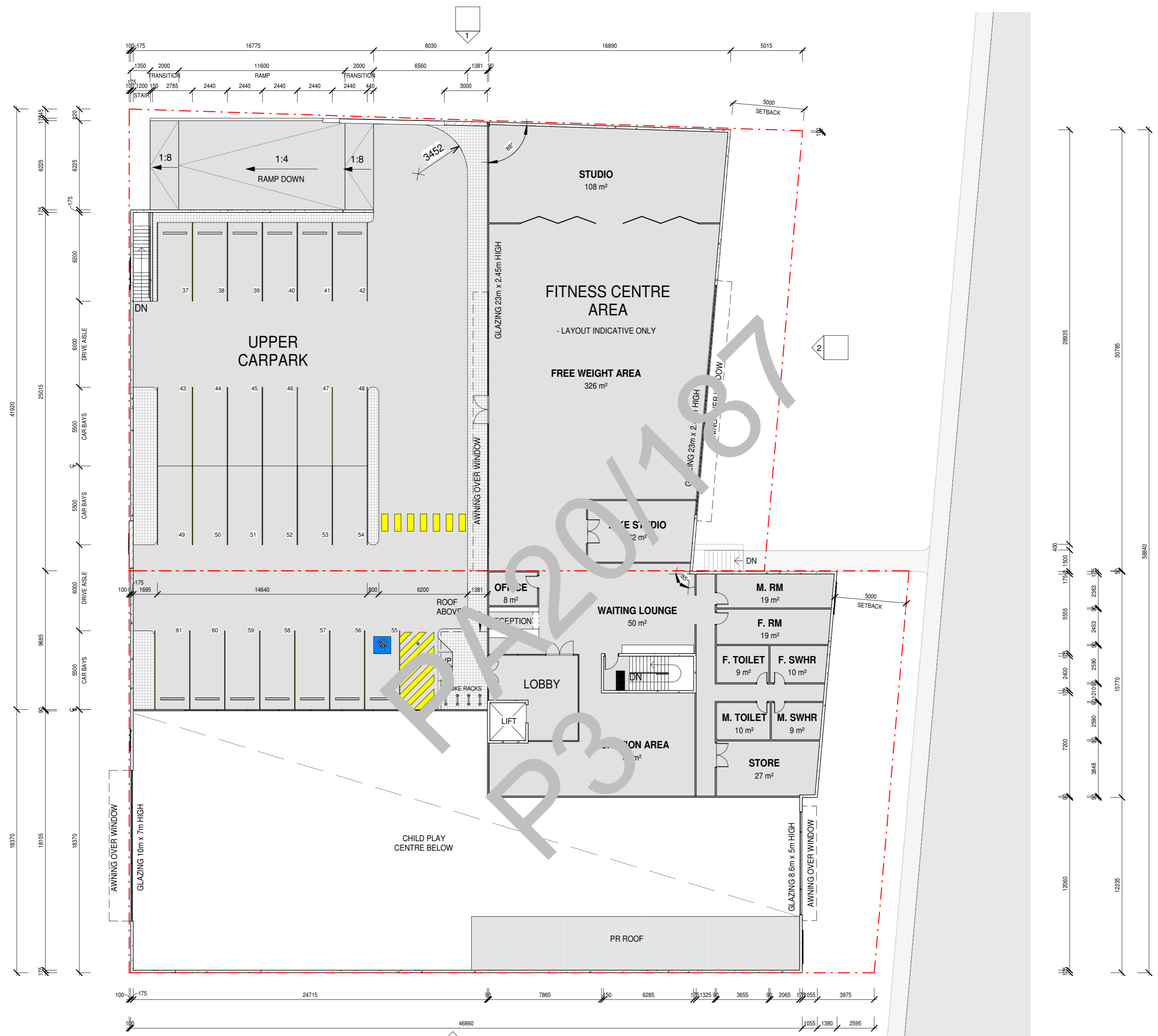
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2020.05.11	D	EXIT STAIRS REVISED
2020.02.11	C	RE-ISSUED FOR DEVELOPMENT APPROVAL
DATE	No.	DESCRIPTION
REVISION SCHEDULE		

SHIRE OF SERPENTINE-JARRAHDALE
PLANNING APPROVAL

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REQUIRED PARKING

FITNESS "HEALTH STUDIO"	1 BAY PER 20SQM OF PUBLIC FLOOR SPACE ASSUMED 500SQM PUBLIC FLOOR SPACE 500/20 = 25 BAYS
CHILD PLAY CENTRE "PRIVATE AMUSEMENT"	1 BAY PER 20 SQM OF GLA 927 /20 = 46 BAYS
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TOTAL PARKING REQUIRED:	86 BAYS
PARKING PROVIDED	61 BAYS 59 REGULAR BAYS + 2 DDA

1 FIRST FLOOR
 SCALE 1 : 200



FIRST FLOOR
 PROPOSED MIXED COMMERCIAL
 813-815 SOUTH WESTERN HIGHWAY,
 BYFORD

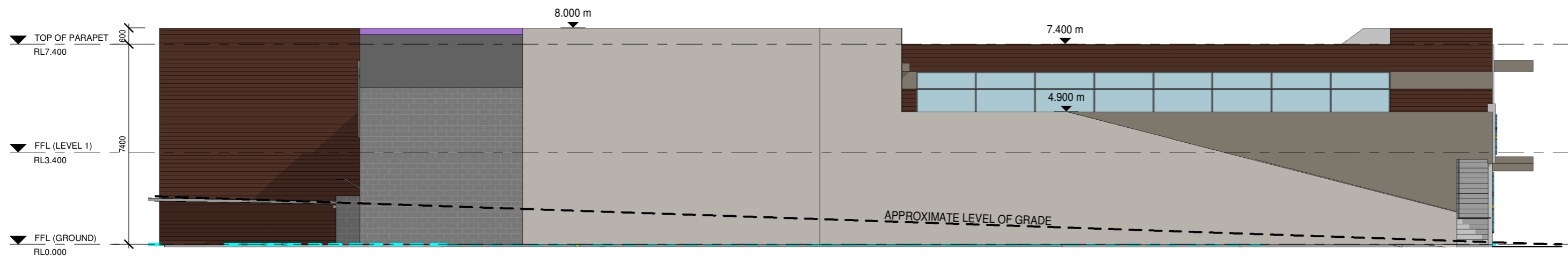
DESIGN	SW	MODUS PROJECT	D19-1267
DRAWN	MS	REVISION	D
CHECKED	SW	DATE	JAN 2019
SCALE	As indicated	A2	DWG
DATE	JAN 2019	ORDINARY COUNCIL MEETING - 14 DECEMBER 2020	-DA02

SHIRE OF SERPENTINE-JARRAHDALE
PLANNING APPROVAL
H. O'Brien
 Date 30/07/2020 Signed (Authorised Officer)

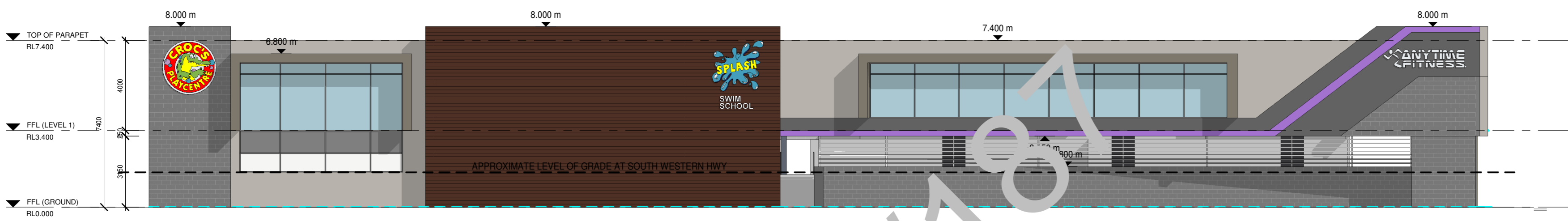
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2020.02.04	B	ISSUED FOR DEVELOPMENT APPROVAL
DATE	No.	DESCRIPTION
REVISION SCHEDULE		

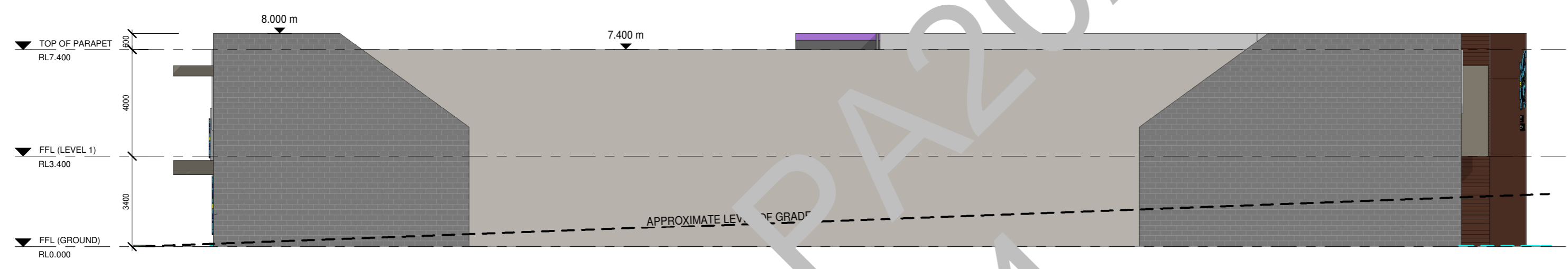
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1 NORTH ELEVATION
 SCALE 1 : 150



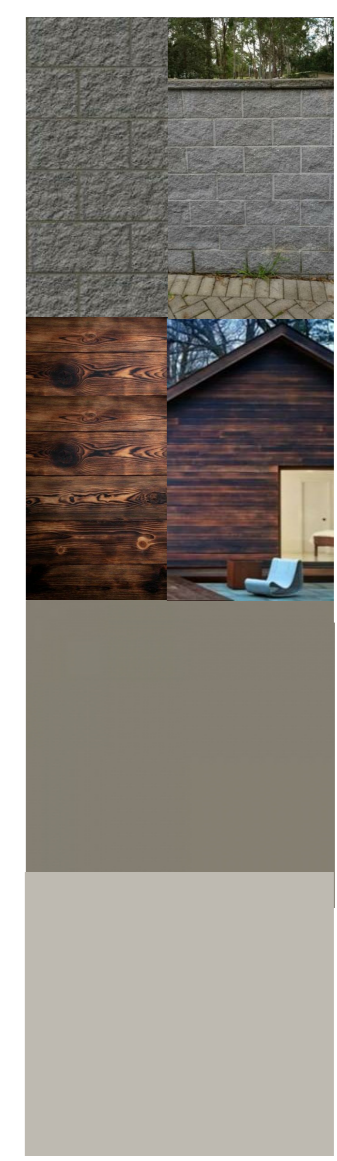
2 EAST ELEVATION - SOUTH WESTERN HWY
 SCALE 1 : 150



3 SOUTH ELEVATION
 SCALE 1 : 150



4 WEST ELEVATION - GEORGE STREET
 SCALE 1 : 150



- SPLIT FACE CONCRETE BLOCK
- BURNT TIMBER CLADDING
- FIBRE CEMENT SHEETING COLOURBOND COLOUR "GULLY"
- FIBRE CEMENT SHEETING COLOURBOND COLOUR "DUNE"

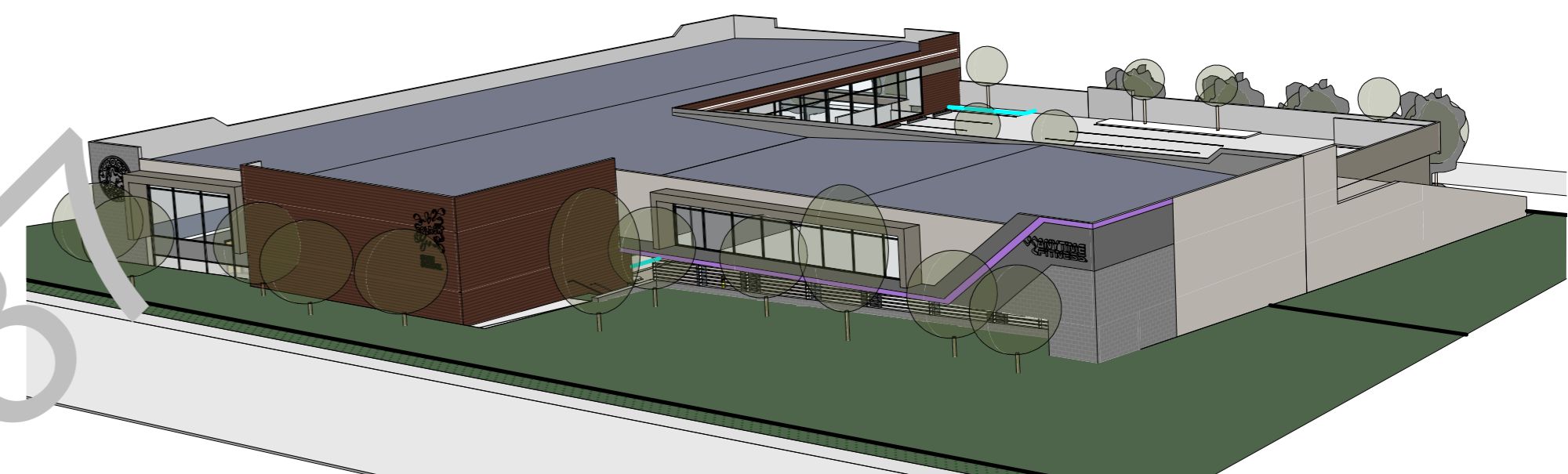
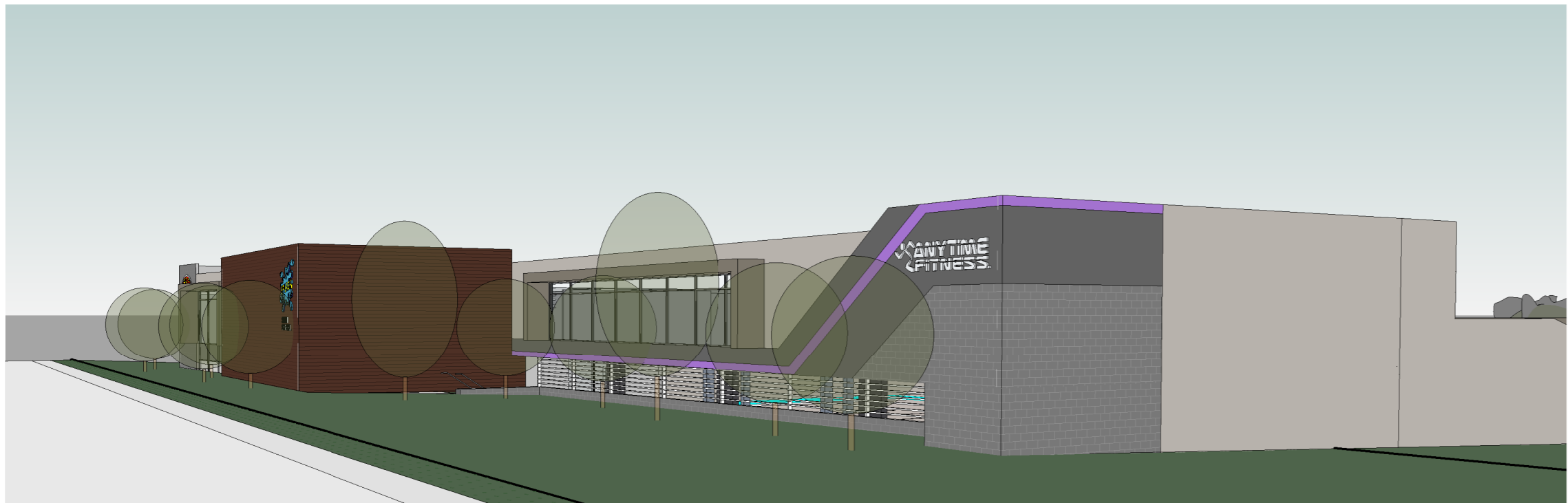
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H. Brien
 Date 30/07/2020 Signed (Authorised Officer)

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2020.02.04	B ISSUED FOR DEVELOPMENT APPROVAL
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P420181
P5

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2020.02.04	B	ISSUED FOR DEVELOPMENT APPROVAL

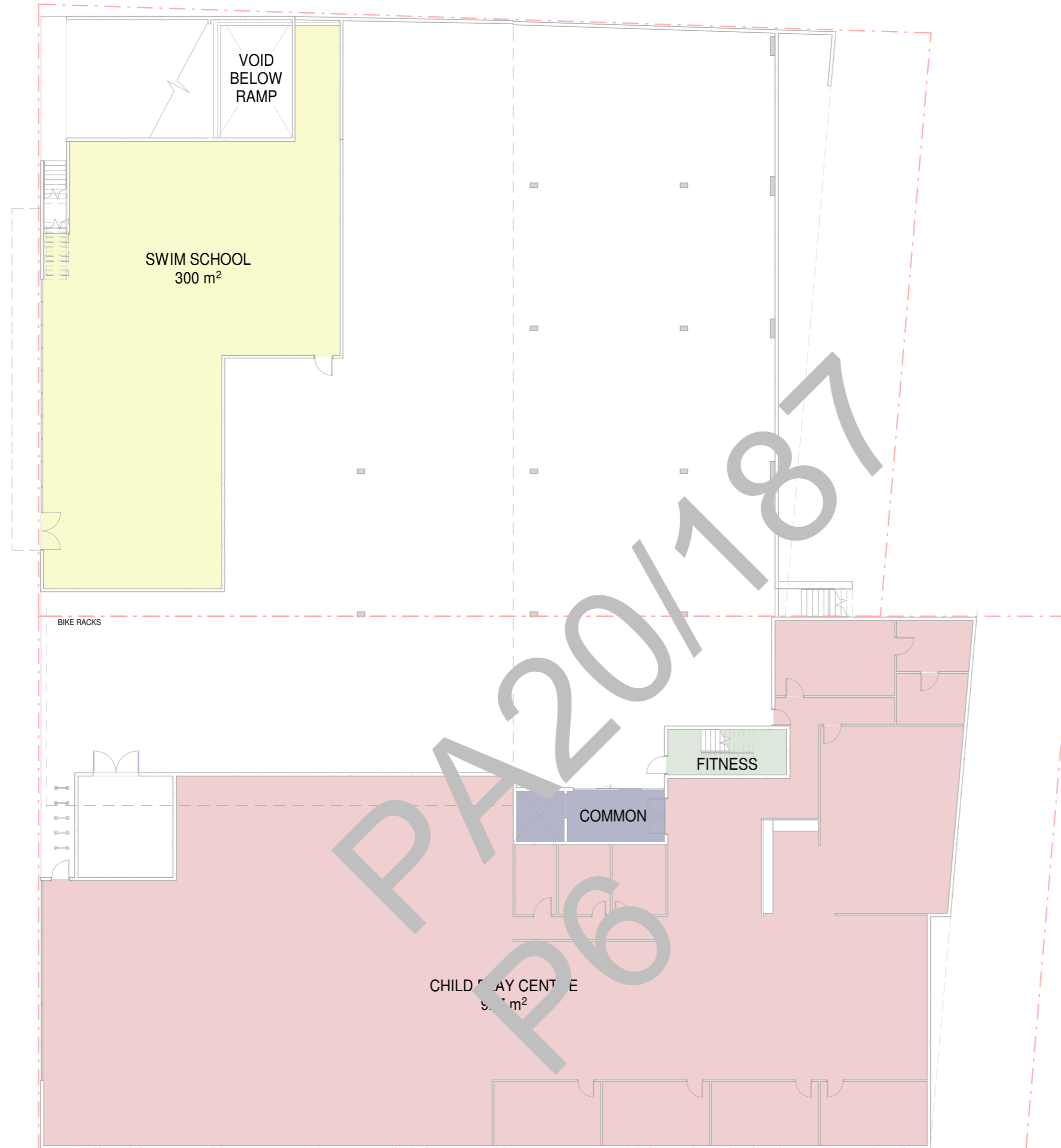
DATE	No.	DESCRIPTION
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REVISION SCHEDULE

**SHIRE OF SERPENTINE-JARRAHDALE
PLANNING APPROVAL**

H. O'Brien

Date 30/07/2020 Signed (Authorised Officer)



AREA LEGEND	
SWIM SCHOOL	300 m ²
CHILD PLAY CENTRE	927 m ²
COMMON AREA	57 m ²
FITNESS CENTRE	802 m ²

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1 GROUND FLOOR PLAN
SCALE 1 : 200

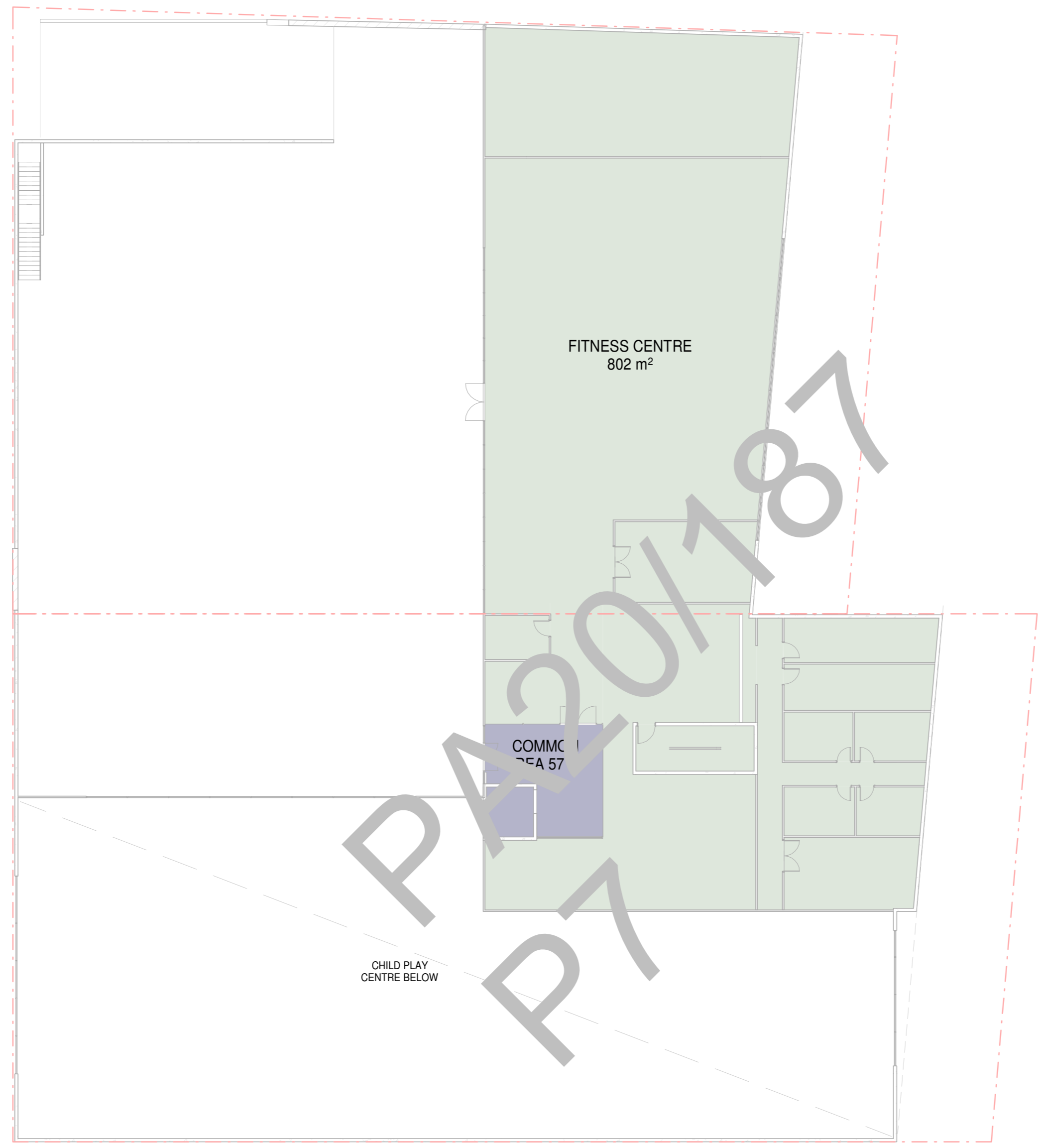
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2020.02.04	B	ISSUED FOR DEVELOPMENT APPROVAL
DATE	No.	DESCRIPTION
REVISION SCHEDULE		

SHIRE OF SERPENTINE-JARRAHDALE
PLANNING APPROVAL

H. O'Brien

Date 30/07/2020 Signed (Authorised Officer)



AREA LEGEND	
SWIM SCHOOL	300 m²
CHILD PLAY CENTRE	927 m²
COMMON AREA	57 m²
FITNESS CENTRE	802 m²

PLANNING APPROVAL ONLY
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1 FIRST FLOOR PLAN
SCALE 1 : 200

It is the responsibility of the Builder / Applicant
to incorporate all conditions of the Planning
Approval into revised documentation submitted
to support an application for a Building Permit.

Bushfire Management Plan Coversheet

This Coversheet and accompanying Bushfire Management Plan has been prepared and issued by a person accredited by Fire Protection Association Australia under the Bushfire Planning and Design (BPAD) Accreditation Scheme.

Bushfire Management Plan and Site Details

Site Address / Plan Reference: 813-815 (Lots 22 and 18) South Western Highway

Suburb: Byford

State: WA

P/code: 6122

Local government area: Shire of Serpentine-Jarrahdale

Description of the planning proposal: Development Application

BMP Plan / Reference Number: 58217

Version: Rev 0

Date of Issue: 24/02/2020

Client / Business Name: Metrowest

Reason for referral to DFES

	Yes	No
Has the BAL been calculated by a method other than method 1 as outlined in AS3959 (tick no if AS3959 method 1 has been used to calculate the BAL)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Have any of the bushfire protection criteria elements been addressed through the use of a performance principle (tick no if only acceptable solutions have been used to address all of the BPC elements)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Is the proposal any of the following special development types (see SPP 3.7 for definitions)?		
Unavoidable development (in BAL-40 or BAL-FZ)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Strategic planning proposal (including rezoning applications)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Minor development (in BAL-40 or BAL-FZ)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
High risk land-use	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Vulnerable land-use	<input type="checkbox"/>	<input checked="" type="checkbox"/>

If the development is a special development type as listed above, explain why the proposal is considered to be one of the above listed classifications (E.g. considered vulnerable land-use as the development is for accommodation of the elderly, etc.)?

Note: The decision maker (e.g. local government or the WAPC) should only refer the proposal to DFES for comment if one (or more) of the above answers are ticked "Yes".

BPAD Accredited Practitioner Details and Declaration

Name Linden Wears	Accreditation Level Level 3	Accreditation No. 19809	Accreditation Expiry June 2020
Company Strategen Environmental		Contact No. 9380 3100	

I declare that the information provided within this bushfire management plan is to the best of my knowledge true and correct

Signature of Practitioner



Date 24/02/2020

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- Appendix A Vegetation plot photos and description
- Appendix B APZ standards (Schedule 1 of the Guidelines)
- Appendix C Vehicular access technical standards of the Guidelines
- Appendix D Water technical standards of the Guidelines
- Appendix E Shire of Serpentine-Jarrahdale Firebreak Notice 2019-20

1. Proposal details

1.1 Background

Metrowest is seeking to lodge a development application in relation to proposed development of a new fitness centre and swim school at 813-815 (Lots 22 and 18) South Western Highway, Byford (the project area), located in the Shire of Serpentine-Jarrahdale. The development plan (Figure 1) identifies that the proposed development will comprise the following elements:

- Building 1 – Two storey building consisting of a child play centre on the ground floor with a fitness centre on the first floor
- Building 2 – Swim school area building
- carparking bays on both the ground and first floor levels
- landscaping along the South Western Highway elevation
- two crossovers to George Street
- pedestrian access from Building 1 to South West Highway.

1.2 Site description

The project area comprises approximately 0.293 ha within Lots 18 and 22 and is surrounded by (see Figure 2):

- an existing residential dwelling in Lot 21 (811) South Western Highway to the north
- existing commercial buildings in Lot 3 (821) South Western Highway to the south
- George Street to the east, with an existing railway line within the railway reserve and existing agricultural land within Lot 2 (20) Abernathy Road further east
- South Western Highway reserve to the west, with existing urban development further to the west.

A portion of the proposed development is designated as bushfire prone on the *Map of Bush Fire Prone Areas* (DFES 2019); see Plate 1).

1.3 Purpose

This Bushfire Management Plan (BMP) has been prepared to address requirements under Policy Measure 6.5 of *State Planning Policy 3.7 Planning in Bushfire-Prone Areas* (SPP 3.7; WAPC 2015) and *Guidelines for Planning in Bushfire-Prone Areas* (the Guidelines; WAPC 2017).

1.4 Other plans/reports

There are no known bushfire or environmental reports or assessments that have been prepared previously for the project area.



Plate 1: Map of Bush Fire Prone Areas (DFES 2020)

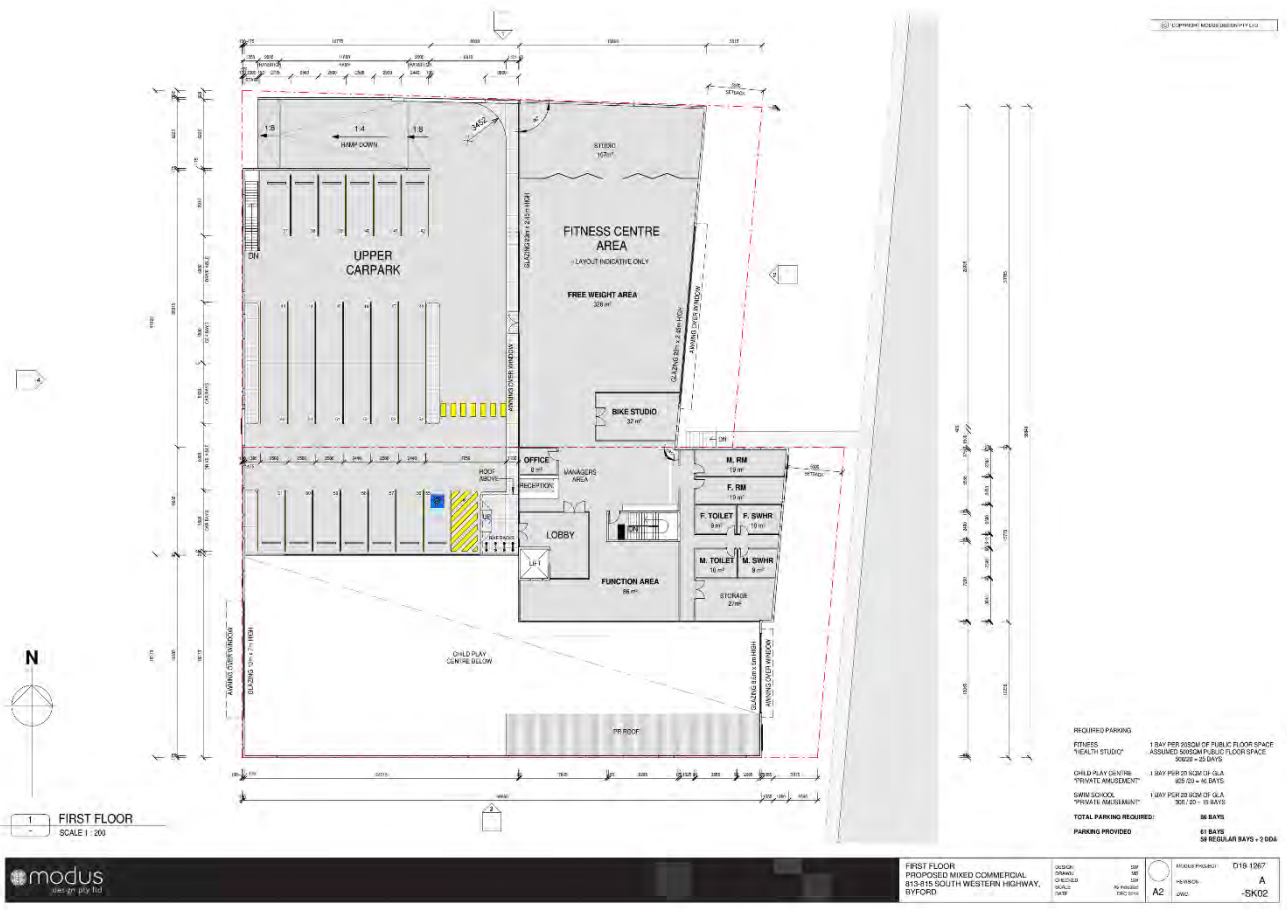


Figure 1: Development Plan



Legend: Project area 100m assessment area 150m assessment area Cadastral boundary Roads (MRWA)	Scale 1:2,000 at A4		813 and 815 South Western Hwy Byford, WA
	Coord. Sys. GDA 1994 MGA Zone 50		
	Job No: 58127		FIGURE 2
	Client: Metrowest		
	Version: A	Date: 05-Feb-2020	
Drawn By: jcrute	Checked By: CT		
Ordinary Council Meeting - 14 December 2020			

2. Environmental considerations

2.1 Native vegetation – modification and clearing

A portion of the project area contains remnant vegetation, which will be cleared as part of the proposal. Table 1 provides a summary of a search of publicly available environmental data.

Environmental impacts resulting from implementation of the proposal will need to be addressed under standard State and Federal environmental assessment and referral requirements under the Environmental Protection Act 1986 and *Environment Protection and Biodiversity Conservation Act 1999*.

Table 1: Summary of environmental values

Environmental value	Present within/adjacent to the project area	Description
Environmentally Sensitive Area	N/A	The project area is not situated within a mapped Environmentally Sensitive Area.
Swan Bioplan Regionally Significant Natural Area	N/A	The project area is not mapped as a Swan Bioplan Regionally Significant Natural Area.
Ecological linkages	N/A	The project area is not within or adjacent to a mapped Regional Ecological Linkage.
Wetlands	Adjacent	The project area is not within a mapped Geomorphic Wetland, however a Multiple Use Category Wetland is situated approximately 32m to the west of the project area.
Waterways	N/A	There are no waterways mapped within the project area.
Threatened Ecological Communities listed under the EPBC Act	Within and adjacent	EPBC Act listed Endangered 'Banksia Woodlands of the Swan Coastal Plain' Threatened Ecological Community may occur within the area.
Threatened and priority flora	N/A	No Threatened or Priority Flora species have been recorded within or adjacent to the project area.
Fauna habitat listed under the EPBC Act	Within and adjacent	The project area is not mapped as containing possible foraging habitat for EPBC Act listed Endangered Carnaby's Black Cockatoo. The project area is situated within the mapped buffer of a confirmed roosting area and a possible breeding area.
Threatened and priority fauna	Adjacent	One 'Threatened – Vulnerable' bird species has been recorded in the vicinity of the project area.
Bush Forever Site	N/A	The project area is not situated within or adjacent to a Bush Forever Site.
DBCA managed lands and waters (includes legislated lands and waters and lands of interest)	N/A	The project area is not situated within or adjacent to any mapped DBCA managed lands and waters.
Conservation covenants	N/A	There are no Conservation Covenants enacted over the project area.

Regional vegetation mapping of the Swan Coastal Plain indicates the project area and adjacent land is contained within the Forrestfield Complex. This vegetation complex is described as:

- Open forest of *Corymbia calophylla* - *Eucalyptus wandoo*- *E. marginata* to open forest of *E. marginata* - *Corymbia calophylla* – *Allocasuarina fraseriana* – *Banksia* spp. Fringing woodland of *E. rudis* in the gullies that dissect this landform.

2.2 Revegetation / Landscape Plans

No revegetation is proposed as part of the proposal.

Upon completion of the proposed development, the only on-site landscaping will be along narrow plots along eastern interface with South Western Highway. It is a requirement of this BMP that any landscaping proposed within the project area and along road reserves of South Western Highway and George Street, in addition to the nominated Asset Protection Zone (APZ), will consist of low threat and managed gardens and street scaping in accordance with *AS 3959—2018* Clause 2.2.3.2 (f) and Schedule 1 of the Guidelines (refer to Appendix B).

Low threat vegetation within the South Western Highway road reserve is expected to be a continuation of the ongoing management of existing vegetation observed during the site inspection. Implementation of the APZ to the west of the project area, will require modification of existing roadside vegetation within the western part of George Street road reserve to establish the APZ to enable exclusion as low threat vegetation.

3. Bushfire assessment results

3.1 Assessment inputs

3.1.1 Vegetation classification

Strategen-JBS&G assessed classified vegetation and exclusions within the 150 m assessment area through on-ground verification on 20 January 2020 in accordance with *AS 3959—2018 Construction of Buildings in Bushfire-Prone Areas* (AS 3959; SA 2018) and the *Visual Guide for Bushfire Risk Assessment in Western Australia* (DoP 2016). Georeferenced site photos and a description of the vegetation classifications and exclusions are contained in Appendix A and depicted in Figure 3.

3.1.2 Effective slope

Strategen-JBS&G assessed effective slope under classified vegetation within the 150 m assessment area through on-ground verification on 20 January 2020 in accordance with AS 3959. Results were cross-referenced with DPIRD 2m contour data and are depicted in Figure 4.

Site observations indicate that land within the railway reserve, to the west of the project area has an effective slope of flat land (0°) in relation to the project area.

3.1.3 Summary of inputs

Figure 3 illustrates the anticipated post-development vegetation classifications and exclusions following completion of subdivision works and implementation of low threat landscaping throughout the project area and a small portion of the George Street road reserve within the nominated APZ. The post-development vegetation classifications/exclusions and effective slope are summarised in Table 2.

Table 2: Summary of post-development vegetation classifications, exclusions and effective slope

Vegetation plot	Vegetation classification	Effective slope	Comments
1	Class A Forest	Flat/upslope (0°)	Existing vegetation within the George Street road reserve and railway reserve
2	Class C Shrubland	Flat/upslope (0°)	Existing vegetation within the railway reserve
3	Class C Shrubland	Downslope >0–5°	Existing vegetation within the railway reserve
4	Class G Grassland	Downslope >0–5°	Vegetation within 20 Abernathy Road
5	Class B Woodland	Flat/upslope (0°)	Existing vegetation within narrow drainage swale to north of project area
6	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])	N/A	Existing non-vegetated and low threat vegetation within existing roads, commercial development and urban residential dwellings
7	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])	N/A	Are within project area to be modified to non-vegetated elements and low threat vegetation
8	Excluded – Non-vegetated (Clause 2.2.3.2 [e])	N/A	Small plot of forest vegetation within George Street road reserve to be modified to low threat vegetation



Legend: Project area 100m assessment area 150m assessment area Cadastral boundary 21m wide APZ Topographic contours (mAHD) Roads (MRWA) Photo point and direction		Vegetation classification Class A Forest Class B Woodland Class C Shrubland Class G Grassland Clause 2.2.3.2 (e) & (f) Area to be modified to non-vegetated and low threat state		Scale 1:2,000 at A4 Coord. Sys. GDA 1994 MGA Zone 50 Job No: 58127 Client: Metrowest Version: A Date: 19-Feb-2020 Drawn By: jcrute Checked By: CT		813 and 815 South Western Hwy Byford, WA VEGETATION CLASSIFICATION AND EFFECTIVE SLOPE FIGURE 3 	
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3.2 Assessment outputs

3.2.1 Bushfire Attack Level (BAL) contour assessment

Strategen-JBS&G has undertaken a BAL contour assessment in accordance with Method 1 of AS 3959 for the project area (Figure 4). The Method 1 procedure incorporates the following factors:

- state-adopted FDI 80 rating
- vegetation classification
- effective slope
- distance maintained between proposed development areas and the classified vegetation.

The BAL rating gives an indication of the level of bushfire attack (i.e. the radiant heat flux) that may be received by proposed future development and subsequently informs the standard of building construction and/or setbacks required for proposed habitable development to potentially withstand such impacts.

The BAL contours are based on:

- the post-development vegetation classifications and effective slope observed at the time of inspection as well as consideration of the proposed on-site clearing extent, resultant vegetation exclusions and separation distances achieved in line with the development plan.
- implementation and maintenance of a 21 m wide Asset Protection Zone (APZ) extending to the west of the project area
- implementation of low threat landscaping within the project area
- consideration of Shire of Serpentine Jarrahdale Firebreak Notice requirements (refer to Appendix E) regarding ongoing vegetation management within surrounding residential and commercial lots. The BAL contour assessment has assumed that all vegetation within surrounding lots will be managed as low threat vegetation within the 150 m wide assessment area. This is enforceable under the firebreak notice given that all dwellings are to be provided with a 20 m wide APZ, which accounts for all parts of the surrounding residential and commercial lots.

The external APZ is discussed further in Table 4 and Section 5.2. Should there be any changes in development design or classified vegetation extent that results in a modified BAL outcome, then the BAL contours will need to be reassessed.

The results of the BAL contour assessment are detailed in Table 3 and illustrated in Figure 4. The highest BAL applicable to the proposed buildings and elements is BAL-40, however following implementation of the proposed 21 m APZ, the highest rating is reduced to BAL-29.

Table 3: BAL contour assessment results

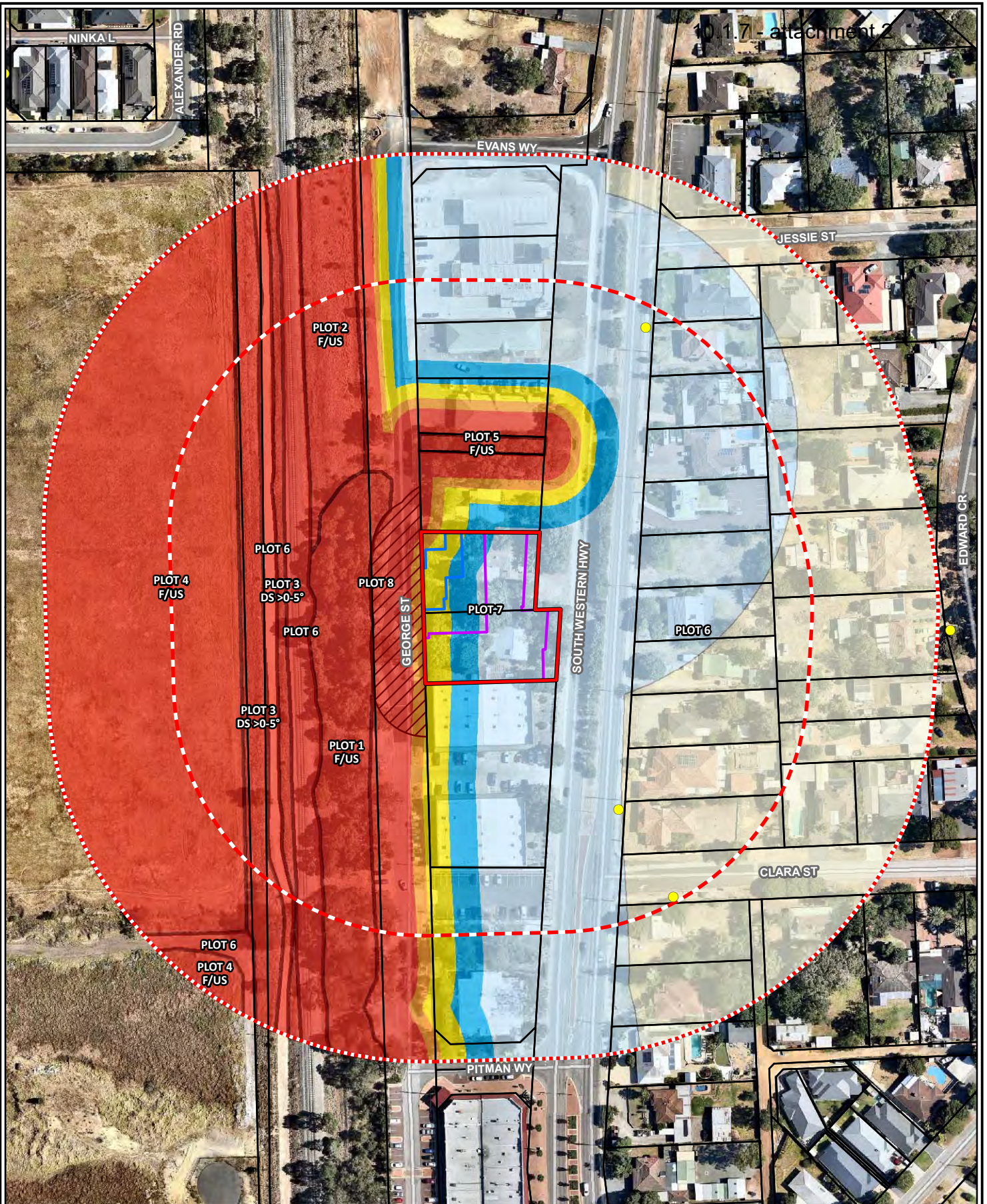
Method 1 BAL determination						
Plot	Vegetation classification	Effective slope	Separation distance	Highest BAL	Setback required to achieve lower BAL	Potential modified BAL
1	Class A Forest	Flat/upslope (0°)	18 m	BAL-40	21 m APZ	BAL-29
2	Class C Shrubland	Flat/upslope (0°)	33 m	BAL-12.5	21 m APZ	BAL-12.5
3	Class C Shrubland	Downslope >0-5°	38 m	BAL-12.5	21 m APZ	BAL-12.5
4	Class G Grassland	Downslope >0-5°	>50 m	BAL-Low	21 m APZ	BAL-Low
5	Class B Woodland	Flat/upslope (0°)	32 m	BAL-12.5	N/A	BAL-12.5
6	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])	N/A	N/A	N/A	N/A	N/A

Method 1 BAL determination						
Plot	Vegetation classification	Effective slope	Separation distance	Highest BAL	Setback required to achieve lower BAL	Potential modified BAL
7	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])	N/A	N/A	N/A	N/A	N/A
8	Excluded – Non-vegetated (Clause 2.2.3.2 [e])	N/A	N/A	N/A	N/A	N/A

Table 4 lists the BAL applicable to each building or element within the proposed development.

Table 4: BAL applicable to each building/element

Building / element	Initial BAL	APZ	Revised BAL
Building 1 (fitness centre/child play)	BAL-40	21m APZ to the west	BAL-29
Building 2 (Swim centre)	BAL-40	21m APZ to the west	BAL-29



Legend:

- Project area
- 100m assessment area
- 150m assessment area
- Cadastral boundary
- Proposed buildings
- Child play centre/fitness centre
- Swim school area
- 21m wide APZ
- Classified vegetation
- BAL contours
- BAL FZ
- BAL 40
- BAL 29
- BAL 19
- BAL 12.5
- BAL Low
- Roads (MRWA)
- Existing street hydrants

Scale 1:2,000 at A4

Coord. Sys. GDA 1994 MGA Zone 50

Job No: 58127

Client: Metrowest

Version: A

Drawn By: jcrute

0 25 50 metres

↑

Date: 19-Feb-2020

Checked By: CT

**813 and 815 South Western Hwy
Byford, WA**

BAL CONTOUR MAP

FIGURE 4



4. Identification of bushfire hazard issues

4.1 Bushfire context

The project area is predominantly surrounded to the north, south and east by existing urban development in the form of roads, commercial precincts and low threat managed landscaping that do not pose a bushfire threat.

The greatest threat to the proposed development is from existing forest, shrubland and grassland vegetation to the west within the George Street road reserve, the railway reserve and adjacent agricultural land. The fire runs through the grassland are approximately 650 m long, however the shrubland and forest vegetation only occurs as narrow plots within the road and railway reserves, and as such, the forest vegetation is unlikely to display fully developed bushfire behaviour. Permanent separation between the project area and the unmanaged vegetation to the west is currently provided by George Street and the eastern portion of the road reserve. The proposed development is currently located 17 m from unmanaged vegetation. Additional separation will be required to achieve the compliant 21 m APZ, and this is to be achieved via vegetation modification within the western portion of the road reserve.

It is acknowledged that the bushfire risk to the proposed development posed by these hazards can be managed through standard application of acceptable solutions under the Guidelines, as well as through a direct bushfire suppression response if required. Bushfire mitigation strategies applicable to the proposed development are addressed in Section 5 of this BMP.

4.2 Bushfire hazard issues

Examination of the environmental considerations (Section 2) and the bushfire risk assessment (Section 3) has identified the following bushfire hazard issues:

1. Based on the existing extent of vegetation external to the project area, the proposed buildings are subject to an initial BAL of BAL-40. In order for both buildings to achieve BAL-29, a 21 m wide APZ is proposed to extend within George Street road reserve, immediately adjacent to the western boundary of the project area. Implementation and enforcement of the APZ is further addressed in Section 5.2.
2. Vehicular access and firefighting water supply to the project area will be provided via existing public road and town main street hydrant infrastructure.

5. Assessment against the bushfire protection criteria

5.1 Compliance table

An acceptable solutions assessment against the bushfire protection criteria is provided in Table 5.

Table 5: Compliance with the bushfire protection criteria of the Guidelines

Bushfire protection criteria	Method of compliance	Proposed bushfire management strategies
	Acceptable solutions	
Element 1: Location	A1.1 Development location	The BAL contour map (Figure 4) indicates that following implementation of all required APZs, all proposed buildings can achieve BAL-29 or lower.
Element 2: Siting and design	A2.1 Asset Protection Zone	<p>In order to provide sufficient separation from the unmanaged forest vegetation to the west of George Street, an APZ is proposed to extend externally a distance of 21 m from the proposed buildings. This APZ will consist mainly of existing non-vegetated road in George St, as well as proposed non-vegetated elements within the project area. The remainder will require some modification of existing forest vegetation to achieve a low threat condition in accordance with Schedule 1 of the Guidelines (refer to Appendix B).</p> <p>On completion of development, in addition to the 21 m APZ to the west of the project area, all on-site landscaping within the project area is to be implemented and maintained as low threat vegetation as per an APZ, in accordance with Schedule 1 of the Guidelines (refer to Appendix B).</p>
Element 3: Vehicular access	A3.1 Two access routes	<p>A combination of existing public roads and proposed internal vehicle access network will provide all occupants with the option of travelling to more than two different destinations (see Figure 4):</p> <ul style="list-style-type: none"> • connection to George Street providing the option of travelling north and interlinking with South Western Highway where travel can be undertaken either north or south • connection to George Street providing the option of travelling south and interlinking with either South Western Highway or Abernathy Road. <p>In this regard, the proposed development is provided with at least two access routes which meets the requirements of Acceptable Solution A3.1.</p>
	A3.2 Public road	N/A – no public roads are proposed as part of the development.
	A3.3 Cul-de-sac (including a dead-end-road)	N/A – no cul-de-sacs are proposed as part of the development and the project area is not serviced by an existing cul-de-sac.
	A3.4 Battle-axe	N/A – no battle-axes are proposed as part of the development and the project area is not serviced by an existing battle-axe.
	A3.5 Private driveway longer than 50 m	N/A – the proposed development is located within 50 m of a public road.

Bushfire protection criteria	Method of compliance	Proposed bushfire management strategies
	Acceptable solutions	
	A3.6 Emergency access way	N/A – the proposed development does not require Emergency Access Ways (EAWs) to provide through access to a public road.
	A3.7 Fire service access routes (perimeter roads)	N/A – the proposed development does not require fire service access routes (FSARs) to achieve access within and around the perimeter of the project area.
	A3.8 Firebreak width	N/A – on completion of development the project area will be fully developed with paved surfaces and low threat landscaping. Therefore, firebreaks are not considered to be required. Ongoing management of onsite landscaping will be enforceable under the Shires firebreak notice.
Element 4: Water	A4.1 Reticulated areas	The proposed development will be connected to the existing reticulated water supply network in accordance with Water Corporations Design Standard 63 requirements (refer to Appendix D). Existing water hydrants are located at 200 m intervals along South Western Highway with the nearest street hydrant located 55 m to the south-west of the project area (see Figure 4).
	A4.2 Non-reticulated areas	N/A – the proposed development is located within an existing reticulated area.
	A4.3 Individual lots within non-reticulated areas (Only for use if creating 1 additional lot and cannot be applied cumulatively)	N/A – the proposed development is located within an existing reticulated area.

5.2 Additional management strategies

Strategen-JBS&G makes the following additional bushfire management recommendations to inform ongoing planning stages of the development and increase the level of bushfire risk mitigation across the site.

5.2.1 External APZ and road verge fuel management

Both of the proposed buildings are located directly adjacent to the western cadastral boundary and are unable to achieve BAL-29 due to the presence of unmanaged forest vegetation within adjacent road reserve. In order to ensure that the showroom is able to achieve BAL-29, a 21 m wide external APZ is proposed to extend into George Street road reserve. The APZ will be made up of:

- approximately 18 m to 21 m wide existing managed road reserve
- a 3 m wide plot of existing unmanaged forest vegetation that will be modified to a low threat state in accordance with the APZ standards (see Appendix E). This plot of vegetation is to be maintained in perpetuity in a low threat state.

Implementation and ongoing maintenance of the APZ within the George Street road reserve is expected to be undertaken by the Shire, which largely represents a continuation of existing vegetation management, other than a small portion of modification required in the northern part of the APZ.

Existing road verges that have been excluded as low threat are to be managed to ensure the understorey and surface fuels remain in a low threat, minimal fuel condition in accordance with Clause 2.2.3.2 (f) of AS 3959. Ongoing management of the existing road verges is the responsibility of the Shire.

5.2.2 On-site landscaping

The BAL contour assessment is reliant on all on-site landscaping being implemented and maintained to ensure ongoing exclusion as low threat vegetation as per AS 3959 Clause 2.2.3.2 (f).

5.2.3 Compliance with AS 3959

Bushfire construction provisions of the National Construction Code require that buildings comply with the AS 3959 construction requirements, in accordance with the assessed BAL under AS 3959, provided the building is a Class 1, 2 or 3 building, or a Class 10a building associated with a Class 1, 2 or 3 building.

The two proposed buildings will likely be Class 6 or 9 in accordance with the National Construction Code, and as such, there is no statutory requirement for proposed buildings to meet the construction requirements of AS 3959. Notwithstanding, given the vulnerable nature of the proposed use, and like all buildings, potential vulnerability to ember attack, Strategen-JBSG recommend that compliance with the AS 3959 construction requirements is achieved wherever practicable. Strategen-JBSG recommend that as a minimum, the requirements of BAL-12.5 are strongly considered for implementation as the construction requirements associated with this rating are primarily related to ember protection.

5.2.4 BAL compliance and/or BAL assessment report

A BAL compliance and/or BAL assessment report may be prepared at the discretion of the Shire following completion of construction works and prior to issue of certificate of occupancy to validate and confirm the accuracy of the BAL contour assessment.

5.2.5 Compliance with annual firebreak notice

The developer/landowner and facility managers are to comply with the current Shire of Serpentine-Jarrahdale annual firebreak notice as amended (refer to Appendix E).

6. Responsibilities for implementation and management of the bushfire measures

Implementation of the BMP applies to the developer, landowners, facility managers and the Shire to ensure bushfire management measures are adopted and implemented on an ongoing basis. A bushfire responsibilities table is provided in Table 6 to drive implementation of all bushfire management works associated with this BMP.

Table 6: Responsibilities for implementation and management of the bushfire measures

Implementation/management table	
Developer – prior to occupation of buildings	
No.	Implementation action
1	If required by the Shire, individual BAL assessment prior to issuing of building permits.
2	Establish low threat landscaping across the entire project area as depicted in the BMP and the Landscaping Plan, to achieve ongoing exclusion are low threat vegetation in accordance with AS 3959 Clause 2.2.3.2 (f).
Local Government – prior to occupation of buildings	
No.	Implementation action
1	Establish the external Asset Protection Zone (APZ) in adjacent George Street road reserve to the dimensions and standard stated in the BMP.
Landowner/occupier – ongoing	
No.	Implementation action
1	Maintain all on-site low threat landscaping to the dimensions and standards stated in the BMP and to achieve ongoing exclusion in accordance with AS 3959 Clause 2.2.3.2 (f).
2	Comply with the Shire of Serpentine-Jarrahdale annual firebreak notice as amended.
Local Government – ongoing management	
No.	Implementation action
1	Ensure compliance of the 21 m wide external APZ in accordance with the BMP
2	Ensure adjacent residential and commercial lots comply with the APZ and vegetation management requirements of the Shire's Firebreak Notice.
3	Maintain verges in a low threat minimal fuel condition as per Clause 2.2.3.2 (f) of AS 3959.

7. References

Department of Fire and Emergency Services (DFES) 2019, *Map of Bush Fire Prone Areas*, [Online], Government of Western Australia, available from:
<https://maps.slip.wa.gov.au/landgate/bushfireprone/> , [13/02/2020].

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

Standards Australia (SA) 2018, *Australian Standard AS 3959–2018 Construction of Buildings in Bushfire-prone Areas*, Standards Australia, Sydney.

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

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

8. Limitations

Scope of services

This report ("the report") has been prepared by Strategen-JBS&G in accordance with the scope of services set out in the contract, or as otherwise agreed, between the Client and Strategen-JBS&G. In some circumstances, a range of factors such as time, budget, access and/or site disturbance constraints may have limited the scope of services. This report is strictly limited to the matters stated in it and is not to be read as extending, by implication, to any other matter in connection with the matters addressed in it.

Reliance on data

In preparing the report, Strategen-JBS&G has relied upon data and other information provided by the Client and other individuals and organisations, most of which are referred to in the report ("the data"). Except as otherwise expressly stated in the report, Strategen-JBS&G has not verified the accuracy or completeness of the data. To the extent that the statements, opinions, facts, information, conclusions and/or recommendations in the report ("conclusions") are based in whole or part on the data, those conclusions are contingent upon the accuracy and completeness of the data. Strategen-JBS&G has also not attempted to determine whether any material matter has been omitted from the data. Strategen-JBS&G will not be liable in relation to incorrect conclusions should any data, information or condition be incorrect or have been concealed, withheld, misrepresented or otherwise not fully disclosed to Strategen-JBS&G. The making of any assumption does not imply that Strategen-JBS&G has made any enquiry to verify the correctness of that assumption.

The report is based on conditions encountered and information received at the time of preparation of this report or the time that site investigations were carried out. Strategen-JBS&G disclaims responsibility for any changes that may have occurred after this time. This report and any legal issues arising from it are governed by and construed in accordance with the law of Western Australia as at the date of this report.

Environmental conclusions

Within the limitations imposed by the scope of services, the preparation of this report has been undertaken and performed in a professional manner, in accordance with generally accepted environmental consulting practices. No other warranty, whether express or implied, is made.

The advice herein relates only to this project and all results conclusions and recommendations made should be reviewed by a competent person with experience in environmental investigations, before being used for any other purpose.

Strategen-JBS&G accepts no liability for use or interpretation by any person or body other than the client who commissioned the works. This report should not be reproduced without prior approval by the client, or amended in any way without prior approval by Strategen-JBS&G, and should not be relied upon by other parties, who should make their own enquiries.

Appendix A Vegetation plot photos and description

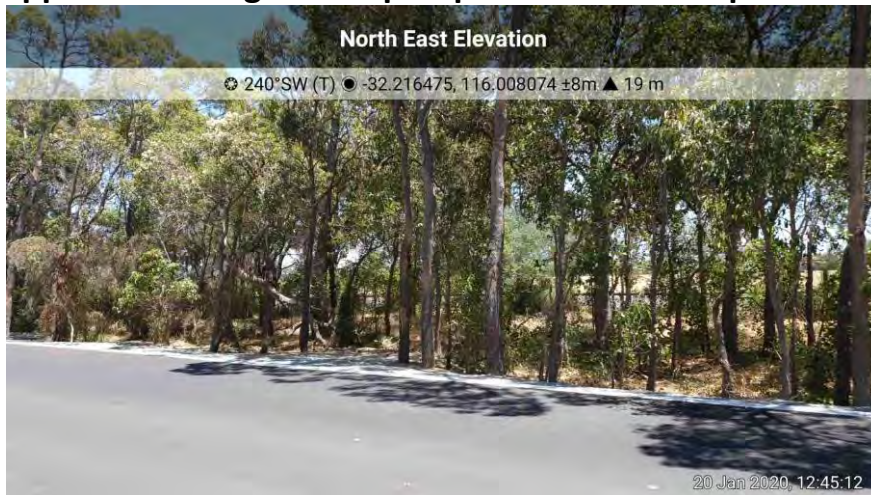


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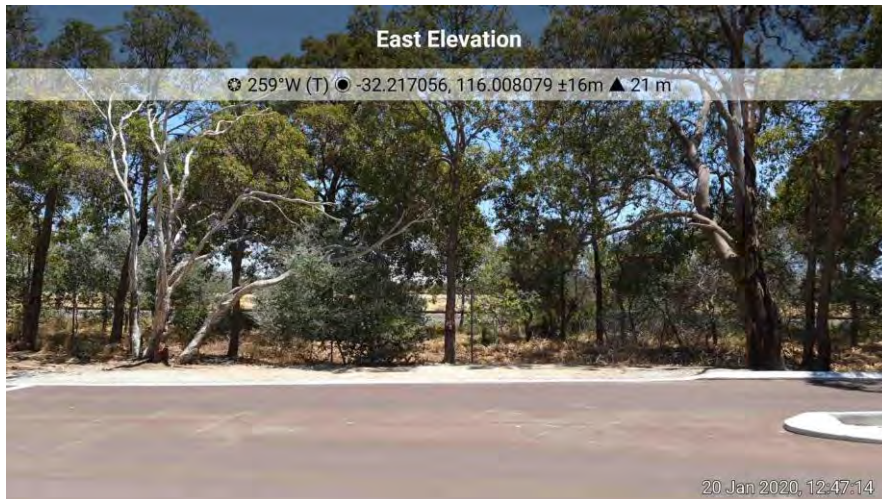


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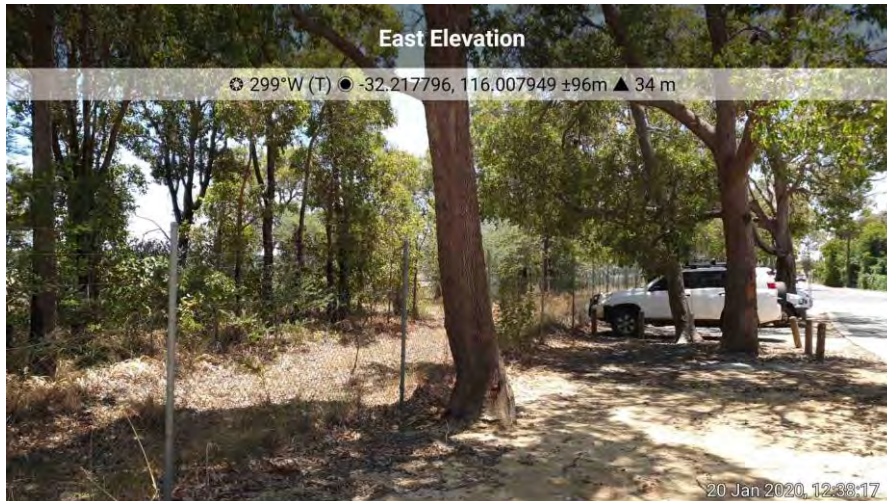


Photo ID: 1c

Plot number		Plot 1
Vegetation classification	Pre-development	Class A Forest
	Post-development	Class A Forest
Description / justification		Trees 10-30 m high at maturity, dominated by Eucalypts, multi-tiered structure comprising tall canopy layer, shrubby middle layer and grass/herb/sedge understorey

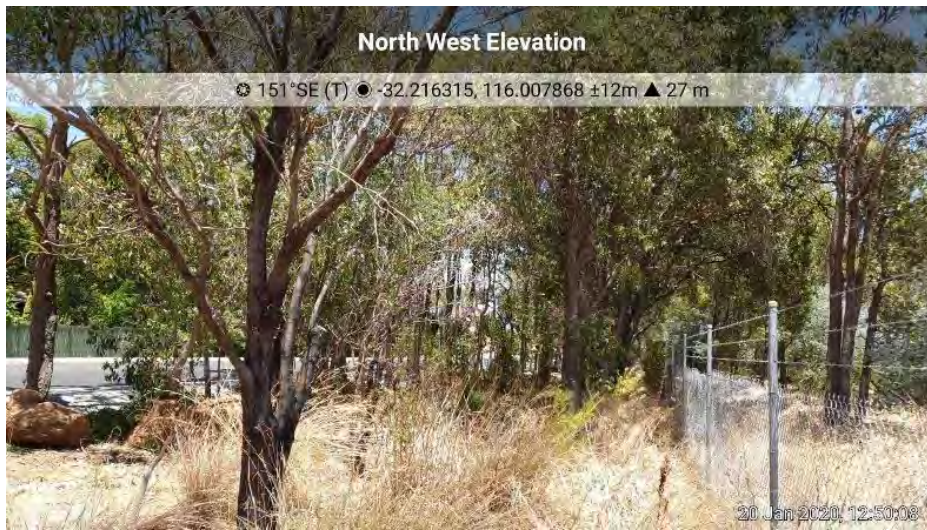


Photo ID: 1d

Plot number		Plot 1
Vegetation classification	Pre-development	Class A Forest
	Post-development	Class A Forest
Description / justification		Trees 10-30 m high at maturity, dominated by Eucalypts, multi-tiered structure comprising tall canopy layer, shrubby middle layer and grass/herb/sedge understorey

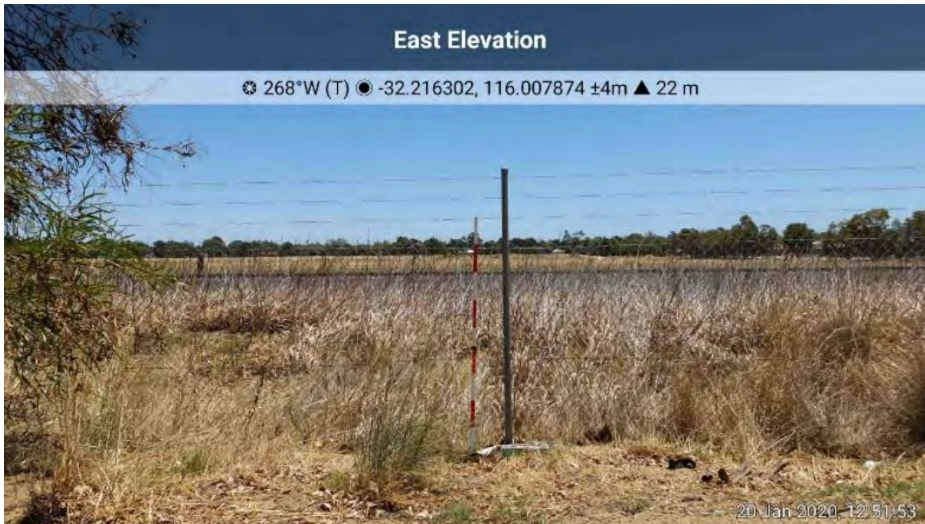


Photo ID: 2a



Photo ID: 2b

Plot number	Plot 2	
Vegetation classification	Pre-development	Class C Shrubland
	Post-development	Class C Shrubland
Description / justification	Shrub vegetation less than 2 m high at maturity	



Photo ID: 3a

Plot number	Plot 3	
Vegetation classification	Pre-development	Class C Shrubland
	Post-development	Class C Shrubland
Description / justification	Shrub vegetation less than 2 m high at maturity	



Photo ID: 4a

Plot number	Plot 4	
Vegetation classification	Pre-development	Class G Grassland
	Post-development	Class G Grassland
Description / justification	Grassland greater than 100 mm in height	



Photo ID: 5a

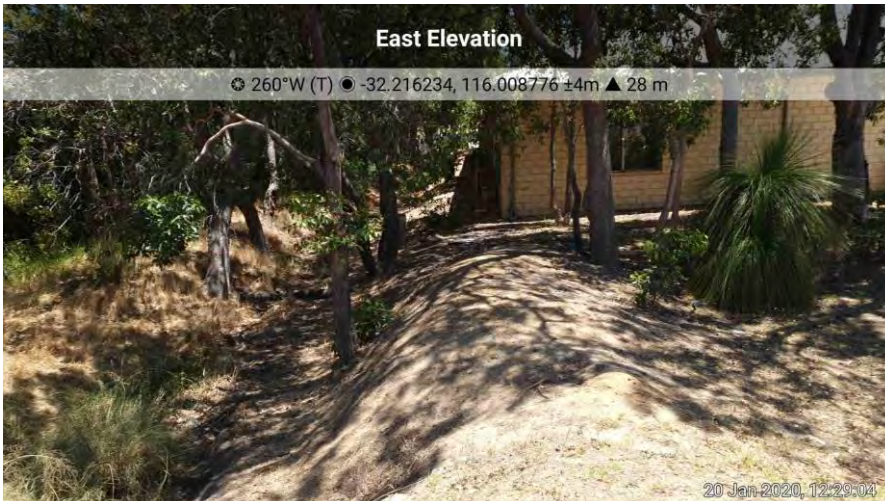


Photo ID: 5b

Plot number		Plot 5
Vegetation classification	Pre-development	Class B Woodland
	Post-development	Class B Woodland
Description / justification		Trees 2-30 m at maturity, dominated by trees with a grassy understorey (lacks shrubby middle layer and deep surface litter)



Photo ID: 6a

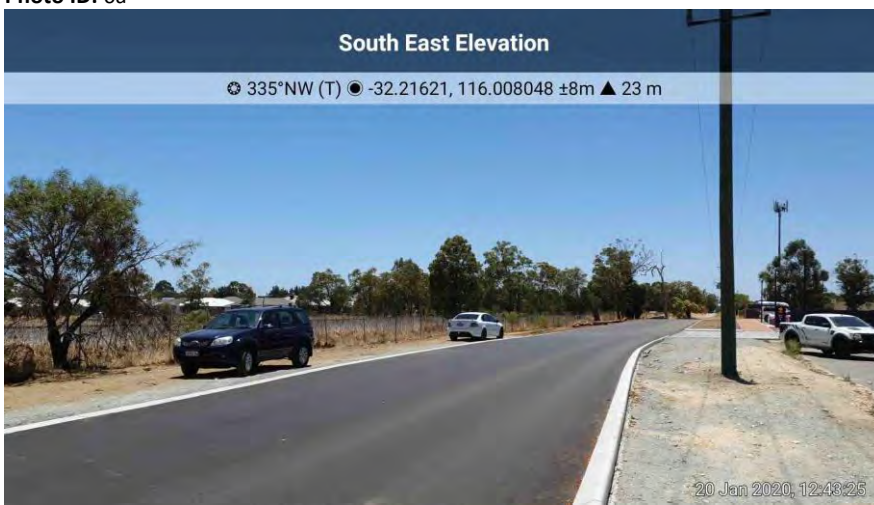


Photo ID: 6b



Photo ID: 6c

Plot number		Plot 6
Vegetation classification	Pre-development	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])
	Post-development	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])
Description / justification		Low threat cultivated gardens and maintained lawns within surrounding properties and non-vegetated areas including roads, footpaths, driveways and building footprints



Photo ID: 6d



Photo ID: 6e



Photo ID: 6f

Plot number		Plot 6
Vegetation classification	Pre-development	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])
	Post-development	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])
Description / justification		Low threat cultivated gardens and maintained lawns within surrounding properties and non-vegetated areas including roads, footpaths, driveways and building footprints



Photo ID: 6g



Photo ID: 6h

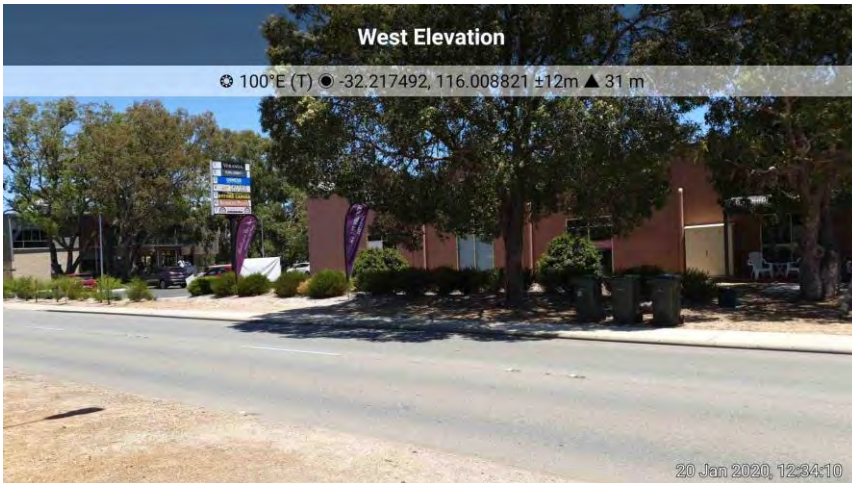


Photo ID: 6i

Plot number		Plot 6
Vegetation classification	Pre-development	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])
	Post-development	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])
Description / justification		Low threat cultivated gardens and maintained lawns within surrounding properties and non-vegetated areas including roads, footpaths, driveways and building footprints



Photo ID: 6j

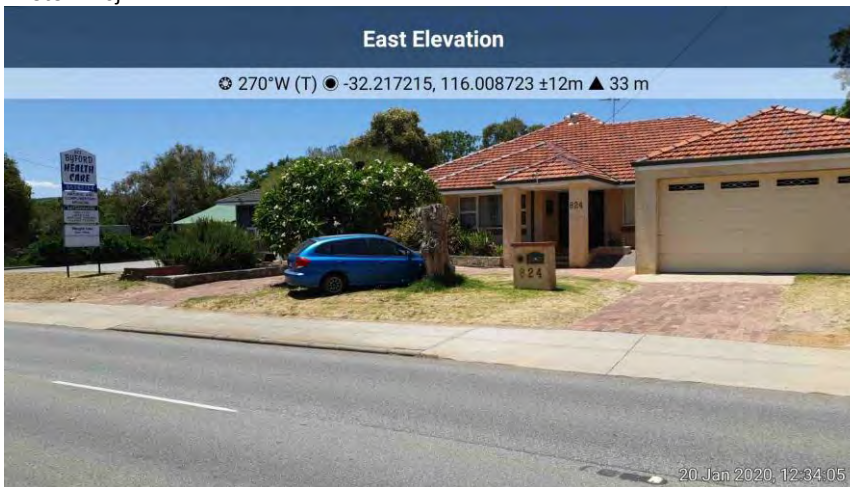


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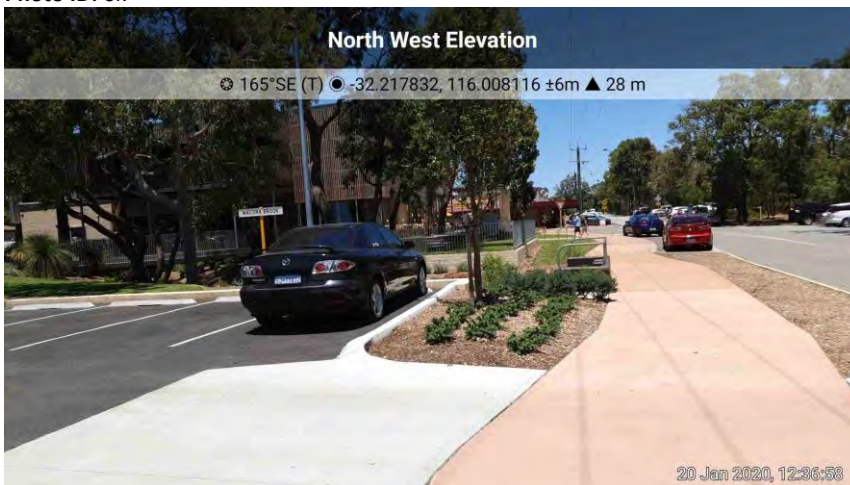


Photo ID: 6l

Plot number	Plot 6	
Vegetation classification	Pre-development	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])
	Post-development	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])
Description / justification		Low threat cultivated gardens and maintained lawns within surrounding properties and non-vegetated areas including roads, footpaths, driveways and building footprints

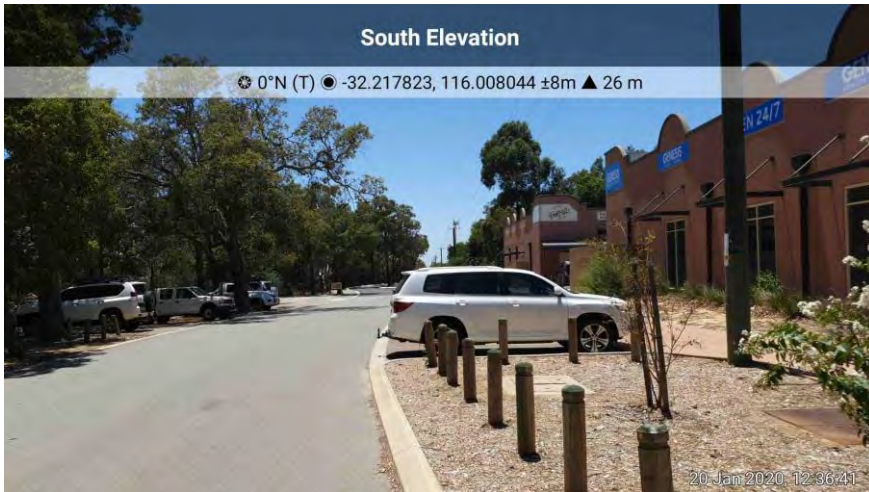


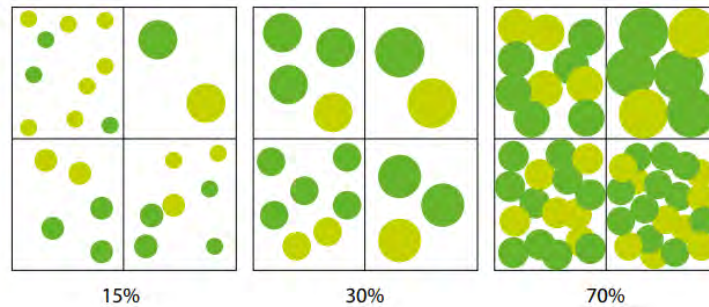
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Plot number		Plot 6
Vegetation classification	Pre-development	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])
	Post-development	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])
Description / justification		Low threat cultivated gardens and maintained lawns within surrounding properties and non-vegetated areas including roads, footpaths, driveways and building footprints

Appendix B APZ standards (Schedule 1 of the Guidelines)


Schedule 1: Standards for Asset Protection Zones

- **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.



- **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 5m² 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.

Appendix C Vehicular access technical standards of the Guidelines

Public roads	
Acceptable solution A3.2	A public road is to meet the requirements in Table 1, Column 1.
Explanatory note E3.2	<p>Trafficable surface: Widths quoted for access routes refer to the width of the trafficable surface. A six metre trafficable surface does not necessarily mean paving width. It could, for example, include four metre wide paving one metre wide constructed road shoulders. In special circumstances, where eight lots or less are being serviced, a public road with a minimum trafficable surface of four metres for a maximum distance of 90 metres may be provided subject to the approval of both the local government and Department of Fire and Emergency Services.</p> <p>Public road design: All roads should allow for two-way traffic to allow conventional two-wheel drive vehicles and fire appliances to travel safely on them.</p>  <p>The diagram illustrates a road cross-section. It shows a central paved area that is 4 meters wide. On either side of this paved area is a 1-meter wide shoulder. The total width of the road, including shoulders, is 6 meters. A dashed white line runs down the center of the paved area. A red fire truck is shown on the left side of the road, and a white car is on the right. A vertical dimension line on the left indicates a 4-meter height clearance. The road is flanked by trees and a fence on the left side.</p>

Technical requirement	1	2	3	4	5
	Public road	Cul-de-sac	Private driveway longer than 50 m	Emergency access way	Fire service access routes
Minimum trafficable surface (m)	6*	6	4	6*	6*
Horizontal distance (m)	6	6	6	6	6
Vertical clearance (m)	4.5	N/A	4.5	4.5	4.5
Maximum grade <50 m	1 in 10	1 in 10	1 in 10	1 in 10	1 in 10
Minimum weight capacity (t)	15	15	15	15	15
Maximum crossfall	1 in 33	1 in 33	1 in 33	1 in 33	1 in 33
Curves minimum inner radius	8.5	8.5	8.5	8.5	8.5
* Refer to E3.2 Public roads: Trafficable surface					

Appendix D Water technical standards of the Guidelines

Reticulated areas	
Acceptable solution A4.1	The subdivision, development or land use is provided with a reticulated water supply in accordance with the specifications of the relevant water supply authority and Department of Fire and Emergency Services.
Explanatory note E4.1	Water supply authorities in Western Australia include the Water Corporation, Aqwest and the Busselton Water Board. The Water Corporation's 'No. 63 Water Reticulation Standard' is deemed to be the baseline criterion for developments and should be applied unless local water supply authorities' conditions apply.

Appendix E Shire of Serpentine-Jarrahdale Firebreak Notice 2019-20

10.1.7 - attachment 2

Firebreak Notice
Legal Requirements

Firebreak
Installation guide

Firebreak
Variations

Hazard
Reduction

Burning
Information & Permits

Be Bushfire Ready

Firebreak and Fuel Hazard Reduction Notice 2019/20



Shire of
Serpentine
Jarrahdale

City Council Meeting - 14 December 2020



10.1.7 - attachment 2

Fuel and vegetation storage

Storage of hydrocarbons and/or fuel dumps (containing fuel or not) including drums, piles or stacks and any other flammable material.

Trafficable

The ability for 4x4 vehicles to access your land on a firm surface without obstruction. No firebreak is to terminate without provision for departure to a safe place or a cleared turnaround area of not less than a 21 metre radius (prior written approval from the Shire is required).

You

Owner or occupier of any land within the Shire of Serpentine Jarrahdale.

Vertical axis

An uninterrupted vertical line at a right angle to the horizontal line of the firebreak.

Firebreak Notice

Please read carefully as these are your legal requirements.

This notice applies to all owners and/ or occupiers of land within the Shire of Serpentine Jarrahdale.

Pursuant to Section 33 of the *Bush Fires Act 1954* you are required to take action in accordance with this notice for the duration indicated in your category.

The following categories detail what you must do to comply, with no exemptions. Failure to comply may result in you being fined and/or Council entering your land to install firebreak works at the owners expense.

This Notice and information has effect **1 October 2019**. All previous Firebreak Notices are hereby cancelled.

By order of the Chief Executive Officer.

Definitions

Acre

4047m² area of land.

Agricultural buildings

Any sheds or groups of buildings on agricultural zoned land.

Asset Protection Zone (APZ)

An area required to achieve a BAL-29 or less, measured from the outer edge of the building or as stated in your approved BAL assessment (within the boundaries of your land). Fuel loads in this zone may not exceed 2 tonnes per hectare.

Bushfire Attack Level (BAL) Assessment

A measurement of the buildings potential exposure to a bushfire, in accordance with Australian Standard 3959 – Construction of buildings in bushfire prone areas.

Firebreak

A strip of land that has been cleared of all flammable material, leaving bare mineral earth. This includes the trimming back of anything overhanging the fire break area. Mowed firebreaks are not acceptable.

Flammable material

Any vegetation (bushes, grasses, trees, mulch and green waste), object or material that is likely to catch fire.

Fire Management Plan

A document forming part of a building, development or subdivision approval that sets out short, medium and long-term bushfire risk management strategies for the life of the development.

Your legal requirements

1. If you live on 1 acre or less

On your land

- Cut all grass to less than 25mm in height.
- Trim all trees and bushes that overhang driveways, access ways and firebreaks to leave a 4 metre wide clearance and a clear vertical axis.

OR

- Install firebreaks that are:
 - ✓ Immediately inside all external boundaries.
 - ✓ Immediately surrounding all agricultural buildings, sheds or group of buildings.
 - ✓ A minimum of 3 metres wide, but not wider than 5 metres.
 - ✓ Trim all trees and bushes that overhang driveways, access ways and firebreaks to leave a 4 metre wide clearance and a clear vertical axis.

For your dwellings

- Maintain 20m asset protection zones or as per your approved BAL/FMP assessment.
- Trim back all trees overhanging buildings.

Prior approval by Shire officers may be required for the removal of any vegetation on existing properties.

Compliance is required by **30 November** and must be maintained until **31 May** each and every year.

2. If you live on more than 1 acre

On your land

- Keep grass short.
- Trim all trees and bushes that overhang driveways, access ways and firebreaks to leave a 4 metre wide clearance and a clear vertical axis.
- Install firebreaks that are:
 - ✓ Immediately inside all external boundaries.
 - ✓ Immediately surrounding all agricultural buildings, sheds or group of buildings.
 - ✓ A minimum of 3 metres wide, but not wider than 5 metres.

For your dwellings

- Maintain 20m asset protection zones or as per your approved BAL/FMP assessment.
- Trim back all trees overhanging buildings.

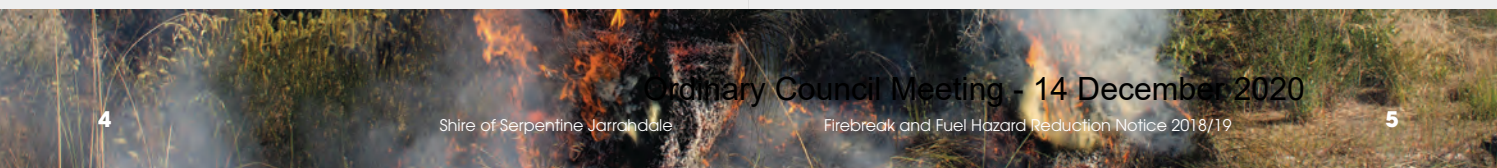
Prior approval by Shire officers may be required for the removal of any vegetation on existing properties.

- Locate new development 4 metres or more from the perimeter fence of your land. Development includes sand pads associated with structures.

Compliance is required by **30 November** and must be maintained until **31 May** each and every year.

3. To vary your firebreak

Apply in writing to the Shire from 1 June to 31 October requesting your variation and the reasons for your application. If approved all firebreak conditions will be as per your variation.



If your variation is not approved or your previous variation is cancelled, you must comply with the Firebreak Notice requirements for your land.

You don't need to apply for a variation every year. **Remember, variations are provided to the property owner, not the land.**

To apply for a variation call **9526 1111** and request a Firebreak Variation application form.

Compliance is required by **15 November** and must be maintained until **31 May** each and every year.

See the Firebreak Variation guidelines on pages 14 to 15 for more information.

4. If you have a plantation

You must comply with:

- The Shire's conditions of approval.
- Any approved Bushfire Management Plan.
- Australian Standard 3959 - Construction of buildings in bushfire prone areas.

On your land

- Install firebreaks that are:
 - ✓ Immediately inside all external boundaries.
 - ✓ Immediately surrounding all agricultural buildings, sheds or group of buildings.
 - ✓ A minimum of 20 metres wide, or as per your planning approval.
 - ✓ Have a clear vertical axis.

Compliance is required throughout the **whole year.**

5. Storing fuel and haystacks

Around fuel storage areas

- Install firebreaks that are:
 - ✓ Immediately surrounding each stack or pile.
 - ✓ A minimum of 4 metres wide, but not wider than 20 metres, with a clear vertical axis.
 - ✓ Include where possible additional low fuel zones outside of the firebreak area. Cut all grass within these zones to less than 100mm in height.

Around haystacks

Your haystack area is not permitted to be larger than 25m long x 10m wide x 5m high.

- Install firebreaks that are:
 - ✓ Immediately surrounding each stack or pile.
 - ✓ A minimum of 5 metres wide, but not wider than 20 metres. If only 5 metres wide then have an additional 5m low fuel area directly adjacent to the firebreak.
 - ✓ Include where possible additional low fuel zones outside of the firebreak area. Cut all grass within these zones to less than 100mm in height.

Compliance is required by **30 November** and must be maintained until **31 May** each and every year.

6. Other flammable materials

Stacks of other flammable materials, such as mulch, compost or combustible materials, is not permitted to be larger than 20m long x 10m wide x 3m high.

- ❑ Install firebreaks that are:
- ✓ Immediately surrounding each stack or pile.
- ✓ A minimum of 10 metres wide, but not wider than 20 metres. If only 10 metres wide then have an additional 5m low fuel area directly adjacent to the firebreak.
- ✓ Include where possible additional low fuel zones outside of the firebreak area. Cut all grass within these zones to less than 100mm in height.

If you have to clear any trees or shrubs to install your firebreaks, you may need planning approval from the Shire.

Any tree or shrub with at least one well defined trunk higher than 4 metres or wider than 150mm in diameter, measured at a height of 1.2 metres above ground level will need planning approval for removal.

For more information see the **Trees on my property** page on the Shire’s website.

Remember Australian Standard 3959 - Construction of buildings in bushfire prone areas applies to new buildings on your land.

Compliance is required by **30 November** and must be maintained until **31 May** each and every year.



10.1.7 – attachment 2
7. Bushfire and Emergency Management Plans and BAL Assessments

Some properties need to comply with approved:

- ✓ Bushfire Management Plans.
- ✓ Emergency Management Plans.
- ✓ Bushfire Attack Level (BAL) assessments.

This is because of conditions approved under a subdivision approval, development approval or building permit.

These requirements are in addition to the requirements of this Notice.

Failure to comply may result in a \$5,000 fine.

Compliance is required throughout the **whole year**.

8. Any other requirements

Further to the firebreak requirements listed above, the Shire may instruct property owners or occupiers in writing to comply with additional firebreak prevention works.

These works are to reduce hazards and may include a Bushfire Risk Treatment Plan derived from the Shire’s Bushfire Risk Management Plan.

9. Burning your garden waste

In accordance with Section 24G of the *Bush Fires Act 1954* as amended.

If you want to burn your garden waste you need to:

- ❑ Let your neighbours know 72 hours before you burn.
- ❑ Do a maximum of 2 burns per calendar month within the restricted burning period.

- ❑ Each pile can be no bigger than 1 cubic metre.
- ❑ Only one pile may be alight at any one time.
- ❑ Only burn dry garden waste from your property without accelerants.

Don't burn at all during the prohibited burning period.

During restricted burning period don't burn on Sundays or public holidays.

Failure to comply may result in a \$3,000 fine.

Compliance is required during the **restricted** and **prohibited** burning periods.

More information about burning your garden waste is on page 28.



Firebreak installation guide

Firebreaks provide safe access for firefighters and their vehicles. The landowner is responsible for the standard and quality of firebreaks on their land.

You can choose to install your firebreaks yourself or engage a contractor.

Remember you need to maintain your firebreak throughout the firebreak season. Regrowth occurs between December and May, and you will need to clear this regrowth and any fallen tree limbs and obstructions.

✓ Acceptable firebreak



× Non acceptable firebreak



Firebreaks can

- ✓ Detour around single large trees without a variation (as long as you comply with the required dimensions of your firebreak).
- ✓ Be achieved by chemical application, ploughing and grading, however loose soil may erode in steep areas and will require constant maintenance. Stepping and grading the firebreak into the incline will reduce this effect.

Firebreaks can't

- ✗ Detour around multiple large trees without a variation.
- ✗ Be outside the boundaries of your land.
- ✗ Be on roads, verges, bridle paths, footpaths, dual access ways or reserves.
- ✗ Be an existing emergency access way unless it is on your land and was required as a condition of planning approval.

Can we fit?



Frequently asked questions about firebreaks

Why are firebreaks required?

- ✓ Provide a safe area for firefighters to work from in a bushfire.
- ✓ Prevent the extension of a bushfire.
- ✓ Prevent a fire from entering or leaving your property.
- ✓ Provide a starting point to contain a bushfire.

Fires can travel quickly and over large distances: Do firebreaks really work?

We accept that firebreaks will not stop a high intensity fire in extreme fire conditions. However, firebreaks will certainly stop or slow down a low to moderate intensity fire.

Remember firebreaks are only a part of the wider bushfire safety picture. It's important you undertake other preparation such as managing fuel loads on your property, creating a bushfire survival plan and establishing an asset protection zone around dwellings.

You can read more frequently asked questions on our website

www.sjshire.wa.gov.au/firebreakfaqs

of the property, the new owner needs to reapply.

Firebreak variations

When applying to vary your firebreak, please remember constructed driveways must have our approval to be used as a firebreak.

You might apply to vary your firebreak if

- ❑ It would be impractical or dangerous to construct a firebreak on your land due to its landscape.
- ❑ A normal firebreak would encroach on a reticulated lawn. You need to keep the lawn green and maintained to a height of less than 25mm from **30 November to 31 May** each and every year.
- ❑ A normal firebreak would encroach on reticulated feed paddocks. You need to keep the paddocks green and maintained to a height of less than 100mm from **30 November to 31 May** each and every year.
- ❑ A normal firebreak would encroach on reticulated garden beds, orchards, or other sustained cultivation. You need to ensure clear trafficable access for emergency vehicles to your buildings and land.
- ❑ Trees were previously planted where the firebreak would normally be placed so alternative siting of the firebreak is required.

To apply

Only the owner of a property can apply for a firebreak variation.

Download the Firebreak Variation application form from our website www.sjshire.wa.gov.au.

You don't need to apply for a variation every year, but if there is a change to the law or you fail to comply with your variation we will advise you. If there is a change in ownership

Compliance

If approved, all firebreak conditions will be as per your approved variation. If your variation isn't approved or your previous variation is cancelled, you must comply with the requirements in the Firebreak Notice within 14 days.

Key dates

1 June

Applications open

31 October

Applications close

15 November

Approved variations must be in place

31 May

Variations must be maintained until this date



Hazard reduction

Firebreaks are only one part of fire prevention. Hazard reduction activities will also increase your preparedness for an emergency. You don't need to remove all your vegetation as this would seriously impact the environment, and some plants can provide protection during bushfires.

You can reduce hazards by:

- Hand clearing.
- Mechanical clearing.
- Chemical spraying (should be undertaken from June-September).
- Hazard reduction burning.
- Keeping grass short and green, and removing clippings.

Hand and mechanical clearing can be safer than burning and easier to organise and maintain.

Follow our hazard reduction program

May - August

- Prune trees within the APZ - remove branches up to 2 metres.
- Clear long grass, leaves, twigs, and flammable shrubs from directly around your house.
- Store petrol and other flammables away from your house.
- Check your firefighting equipment and service it when required.
- Share your emergency plan (including evacuation routes) with your neighbours.
- Apply chemical spray to your firebreaks and low fuel zones (two applications).

September - November

- Move stacked wood and timber at least 20 metres away from your house.
- Keep grass short.

10.1.7 - attachment 2

- Clean gutters and roof debris.
- Install your firebreaks.
- Apply chemical spray to your firebreaks and low fuel zones (final application).
- Review your family's emergency plan remembering your pets and livestock.

November - May

- Water lawns, trees and shrubs near your buildings.
- Check your firefighting equipment and service it where required.
- Clean gutters and roof debris.
- Maintain your firebreaks.

Be fire safe all year round

- Ensure firebreaks are prepared.
- Ensure the planting of windbreaks or trees follows this Firebreak Notice.
- Make sure that your buildings are safe – fit metal fly screens and shutters, fill gaps in roof and wall spaces, fit fire screens to evaporative air conditioners and see if they can provide a water only supply.
- Consider installing external building sprinkler systems and backup power for emergencies.
- Ensure trafficable access to your emergency water supplies and install the correct fittings.
- Join or get training from your local Bushfire Brigade. There are lots of ways you can help, from active roles to brigade support. Call us on **9526 1111** to find out how.
- Join or start a local Bushfire Ready Action Group.



Bushfire prone areas

The Fire and Emergency Services Commissioner has identified Bushfire Prone Areas as being subject, or likely to be subject, to bushfire attack.

Around **97% of our Shire is declared bushfire prone**. This means that additional planning and building requirements may apply to developments on your land. A Bushfire Attack Level (BAL) assessment and/or a Bushfire Management Plan may be required.

You can check if your land is bushfire prone on the Map of Bush Fire Prone Areas website <https://maps.slip.wa.gov.au/landgate/bushfireprone/>

For information about BAL assessments and Bushfire Management Plans visit our website www.sjshire.wa.gov.au

Contractors who can help

The Shire of Serpentine Jarrahdale maintains a list of contractors that can assist you with:

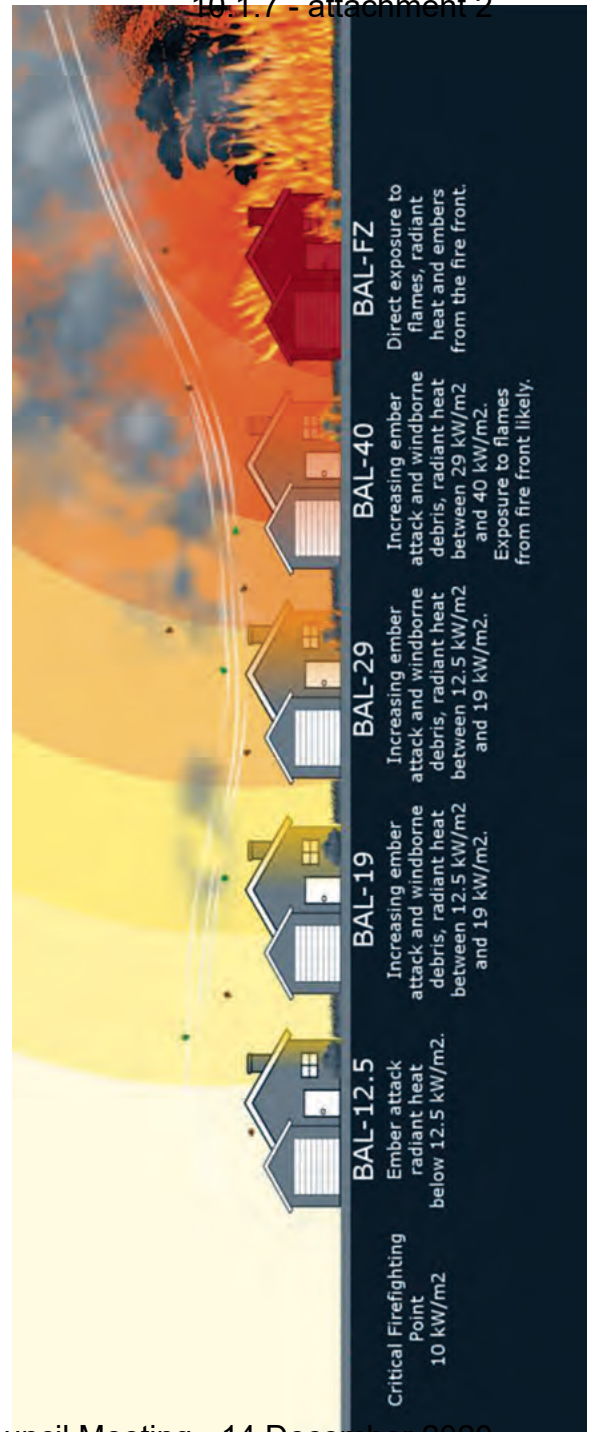
- ✓ Firebreak works.
- ✓ Fuel hazard reduction works.

Visit www.sjshire.wa.gov.au/firebreaks

For assistance with:

- ✓ Bushfire Attack Level Assessments (BAL's).
- ✓ Fire management planning.

Visit www.fpaa.com.au/bpad



Burning

Fire Danger Rating (FDR)

The FDR tells us what the level of bushfire threat could be on any given day.

The FDR is supplied daily by the Bureau of Meteorology.

You can find it at www.bom.wa.gov.au or www.emergency.wa.gov.au or by calling the Perth Weather Service on **9263 2222**.



When the FDR is:

Very high
Severe
Extreme
Catastrophic

Permits are automatically cancelled.

No burning (including garden refuse) is allowed.

You can't use any BBQ or cooker in the open air that requires solid fuel (wood or charcoal). This includes wood-fired ovens or stoves.

Campfires aren't allowed.

Burning periods ^{10.17 - attachment 2}

We have burning periods because risks vary depending on the time of the year. Burning periods define what activities are allowed during these different periods of risk. **We may vary burning periods depending on weather and other conditions, so it's essential that you stay up to date.**

You can find the latest on burning periods on our website www.sjshire.wa.gov.au/burning and Facebook page @shireofsj.

JAN	FEB	MAR	APR
MAY	JUN	JUL	AUG
SEP	OCT	NOV	DEC

Prohibited burning period

All burning and fires are prohibited during this time.

Restricted burning period

(no burning on Sundays and Public Holidays)

You can burn one 1m x 1m pile of garden waste without a permit under the conditions on page 28.

You need a permit to burn grass, paddocks and bush. Details about permits on pages 23 to 27.

Unrestricted burning period

(burning is allowed on any day)

There are no fire restrictions on burning; however, if the Fire Danger Rating is very high or above and/or a total fire ban has been put in place then no burning is permitted. It is your legal responsibility to check prior to undertaking any burn. Health legislation is also still applicable.

Considerate neighbour tip!

Let your neighbours know you intend to burn and consider the smoke impact.



When can I use my BBQ?

Electric BBQs

Anytime of the year, even during a TFB.

Gas BBQs

Anytime of the year, even during a TFB.

Solid fuel BBQs

Can't be used when the FDR is Very High or above or during a TFB.

Remember that during the prohibited burning period you need to have no flammable material within a 3m radius of your BBQ.

Total Fire Ban (TFB)

TFBs are declared by the Department of Fire and Emergency Services on days of extreme weather or when widespread fires are seriously stretching firefighting resources.

TFBs are generally declared the evening before they take effect. To find out if a TFB has been declared visit www.emergency.wa.gov.au or tune in to 720AM on your radio.

When a TFB is declared it prohibits the lighting of any fires in the open air and any other activities that may start a fire.

The ban includes all open air fires for cooking or camping. It also includes incinerators, welding, grinding, soldering or gas cutting.

For more information including exemptions visit www.dfes.wa.gov.au/totalfirebans.

Harvest and Vehicle Movement Bans (HVMB)

A HVMB, once declared by the Shire, prohibits all harvesting operations and all vehicle movements on a property (except for the essential watering of stock using a diesel powered vehicle).

HVMBs remain in place until midnight on the day called or until lifted (revoked) by the Shire.

- A ban may be called on the basis of:
- ✓ Unfavourable fire weather conditions.
 - ✓ Lack of firefighting resources due to existing commitments.
 - ✓ Public holidays.

You can find out if a HVMB has been declared on the Shire's website www.sjshire.wa.gov.au/burning and Facebook page @shireofsj or by tuning into 720AM on your radio.

Burning permits

If you want to burn grass, paddocks and bush during the Restricted Burning Period, you will need a burning permit. To apply for a permit call your local Fire Control Officer **at least 1 week before your burn**. They will assess your burn and issue a written permit (if approved).

Burning permits are only valid for the day or days written on the permit. If you have been refused a permit, you can't reapply for the same burn. Appeals to a refusal can only be lodged to the Chief Bush Fire Control Officer by emailing info@sjshire.wa.gov.au.

If you want to burn a Council road reserve or verge you need written approval from the Shire, as well as an approved permit from a Fire Control Officer. Contact us on 9526 1111 for more information.

Before you apply

- Have your address ready.
- Know the size of your burn and ensure materials are dry.
- Check your firebreaks are maintained and that the burn area is trafficable.
- Check your firefighting equipment and resources are in good working order.
- Have the contact numbers of 3 able bodied people who will be at the burn.
- Remove plastics, treated wood, tyres and other materials (you can only burn vegetation).

Who to call for a permit

Byford, Darling Downs, Karrakup and Cardup (East of Hopkinson Rd)

Frank Rankin - 9525 1146

David Gibson - 0425 250 100

Oakford, Oldbury (North of the rail line) and Cardup (West of Hopkinson Rd)

Paul Williamson - 0439 994 803

Mundijong, Whitby, Mardella (North of Lowlands Rd and Oldbury, South of the rail line)

Steve Chadwick - 0419 983 838

Jarrahdale

Belinda Briscoe - 0427 474 809

Serpentine (West of the rail line), Hopeland (North or Utley Rd, Punrak Rd and Wigg Rd)

Ray Elliott - 0409 106 610

Serpentine (East of the rail line)

Don Downey - 0400 252 352

Keysbrook (East of Westcott Rd)

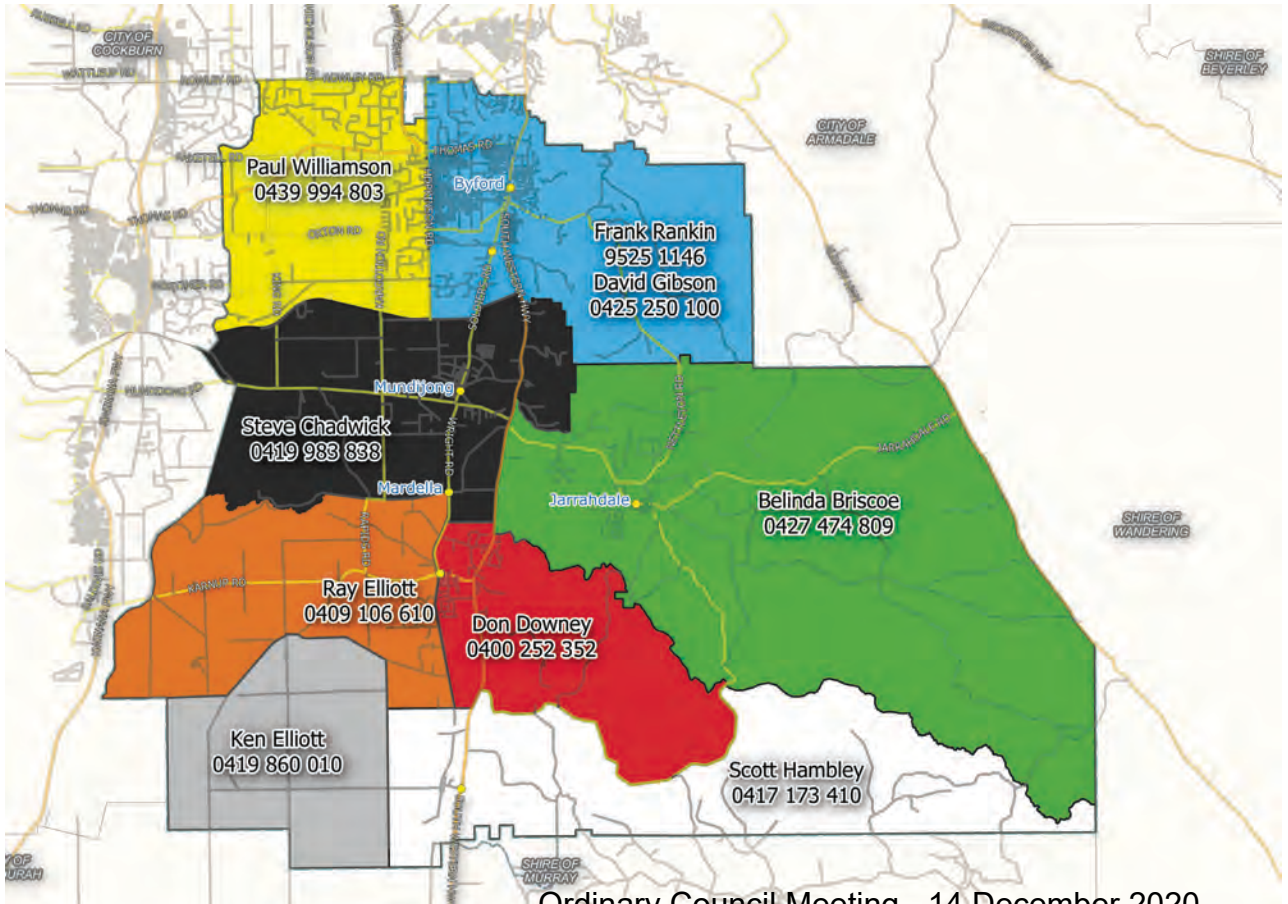
Scott Hambley - 0417 173 410

Keysbrook and Hopeland (West of Westcott Rd and South of Utley Rd)

Ken Elliott - 0419 860 010

Please only contact Fire Control Officers between the hours of 9am and 5pm Monday to Friday.

Remember you can only call the Fire Control Officer appointed to your area or call us on 9526 1111.



Before you burn

You need to give at least 4 days but not more than 28 days notice (verbal or written) to:

- Your local Fire Control Officer.
- Your neighbours.
- The Department of Biodiversity, Conservation and Attractions (if your burn is within 3km of State Forest or Regional/National Park).

Before you commence the burn, you need to notify the Department of Fire and Emergency Services Communications Centre on **9395 9209** and the Shire on **9526 1111**.

If you're being paid to burn on behalf of a landowner you need to have:

- Written permission from the landowner.
- An approved burning permit.
- A prescribed fire plan including details of the burn, a site plan and traffic and smoke management plans.
- Insurance.

While you're burning

- Your firefighting equipment and 3 able bodied people must stay at the burn until it is safe to leave.
- It is safe to leave when all burning or smouldering debris is fully extinguished within the burn area for a distance of 30 metres measured from the edge of the burn area.
- You must monitor your burn to keep smoke from impacting on your neighbours or causing a traffic hazard.
- It is the permit holder's responsibility to control the burn. If you feel that your burn is out of control call **000**.

- If a Fire Control Officer thinks that your burn is out of control, you may need to extinguish it. If a Volunteer Bush Fire Brigade is required to extinguish your burn, costs may be incurred.
- If your burn escapes, you must report the incident to us within 7 days, including how it escaped, any losses and the equipment used to suppress the fire. You may be held responsible for any damage caused to others.

Remember to get insurance to cover you, your land and your public liability responsibilities before you burn.

Remember our environment

Some properties have environmental values that need to be considered and protected. These include but are not limited to:

- Threatened ecological communities.
- Environmentally sensitive areas.
- Bush Forever sites.
- Areas protected under the Environmental Protection Act 1986 and the Biodiversity Conservation Act 2016.
- Specific development or subdivision approval conditions.

If you think that your land may be affected by environmental values, please contact us on **9526 1111**.

As burning can encourage weed growth we recommend you undertake weed control after burning to help maintain the reduced fuel loading.

Contact Landcare SJ on **9526 0012** for more information.



Burning your garden waste

During the restricted period

- ❑ You **can't** burn on Sundays and Public Holidays.
- ❑ You can only burn 2 times per calendar month.
- ❑ You can only burn one pile of garden waste at a time.
- ❑ Each pile must not be bigger than 1 cubic metre. Clear 3 metres around the edge of your pile for safety.
- ❑ The burn must be lit after 6pm. You can add waste to your burn until 11pm (can't exceed 1 cubic metre at a time). The burn needs to be completely out before midnight.
- ❑ Be a good neighbour and let the people living near you know 72 hours before you burn.
- ❑ Only burn dry garden waste from your land, no building materials, household goods, plastic, pallets or cardboard. Don't use accelerants.
- ❑ Stay and attend to your burn until it is extinguished. Ensure you have an adequate water supply.

During the unrestricted period

- ❑ You **can** burn on Sundays and Public Holidays.
- ❑ You can burn at any time of the day.
- ❑ You don't need a permit.

Remember during the unrestricted period you're still responsible for your burn.

You need to:

- ✓ Consider the impact of smoke on others.
- ✓ Keep the burn contained and controlled.
- ✓ Make sure the burn is fully extinguished once it's complete.

If your burn escapes, you are responsible for any damage caused.



Fines and penalties

Offence	Infringement	Maximum Penalty
Failure to produce permit to burn	\$100	\$500
Failure to comply with the directions of a Fire Control Officer	\$250	\$2,000
Offences relating to lighting a fire in the open air	\$250	\$3,000
Obstruction of an authorised officer	\$250	\$5,000
Disposal of burning cigarettes etc.	\$100	\$5,000
Apply to another Fire Control Officer for a permit where a permit has already been refused or granted subject to special conditions	\$250	\$10,000
Failure of occupier to extinguish bush fire	\$250	\$10,000

5 minute fire chat

In a bushfire every 5 minutes counts, especially your next 5 minutes.

- Bushfires are unpredictable and happen every year.
- The single biggest killer is indecision.
- To survive a bushfire you must be prepared to make your own decision.



www.dfes.wa.gov.au/firechat

- Get to know your neighbours, and share your plans and information with them. Download the **Be a mate eight** template from our website www.sjshire.wa.gov.au.
- Take action to prepare your property and manage fuel loads, check out our hazard reduction program on pages 16 to 17.
- Have a 5 minute fire chat to develop your family's bushfire action plan.
- Know what you will do with your pets and livestock.

Helpful links

www.emergency.wa.gov.au

www.redcross.org.au/prepare

Alerts and warnings

During emergencies, alerts and warnings may be issued by the Department of Fire and Emergency Services. You can get these warnings by visiting www.emergency.wa.gov.au or calling **13 DFES (13 33 37)**.

Bushfire Emergency Warning



Authorities have confirmed that you are in danger and need to take immediate action to protect yourself and your family. Leave now if the way is clear, or prepare to actively defend your home.

Bushfire Watch and Act



Authorities have confirmed that there is a threat or possible threat to life and/or property. Take action now to stay safe.

Bushfire Advice/Other Fires



An incident has been reported near this location. You need to be aware and keep up to date – act for your safety. Get prepared.

Prescribed Burn/Bushfire All Clear



An incident has been reported near this location. You need to be aware and keep up to date – act for your safety. Get prepared.

Do not wait to take action. If you see fire activity or smoke put your plan in place straight away.

The Parks and Wildlife Service at the Department of Biodiversity, Conservation and Attractions conduct prescribed burns throughout the year. Find out where these are occurring on www.dpaw.wa.gov.au/management/fire/prescribed-burning/burns or by calling **9219 8000**.

Alerts, warnings, and fire ban information is broadcast on ABC radio station (720 AM).

Ordinary Council Meeting - 14 December 2020

In emergencies call 000

Other important numbers

State Emergency Service	132 500
DFES Public Information	13 33 37
Main Roads WA	138 138
Western Power	13 13 51
ATCO Gas	13 13 52
Water Corporation	13 13 75
Telstra	13 22 03
RSPCA WA	9209 9300
Wildcare Helpline	9474 9055
DBCA Perth Hills District	9290 6100

a 6 Paterson Street, Mundijong WA 6123

t 9526 1111

f 9525 5441

e info@sjshire.wa.gov.au

w sjshire.wa.gov.au

f [facebook.com/shireofsj](https://www.facebook.com/shireofsj)

i [instagram.com/unearthsj](https://www.instagram.com/unearthsj)

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1.0 Introduction

This Transport Impact Statement has been prepared by Transcore on behalf of Metrowest with regard to the proposed mixed commercial development to be located at 813 – 815 South Western Highway, Byford in the Shire of Serpentine-Jarrahdale.

The Transport Impact Assessment Guidelines (WAPC, Vol 4 – Individual Developments, August 2016) states: “A *Transport Impact Statement* is required for those developments that would be likely to generate moderate volumes of traffic¹ and therefore would have a moderate overall impact on the surrounding land uses and transport networks”. **Section 5.0** of Transcore’s report provides details of the estimated trip generation for the proposed development. Accordingly, as the total peak hour vehicular trips are estimated to be less than 100 trips, a Transport Impact Statement is deemed appropriate for this development.

The subject site of approximately 2,950m² total site area is located between South Western Highway and George Street as shown in **Figure 1**.

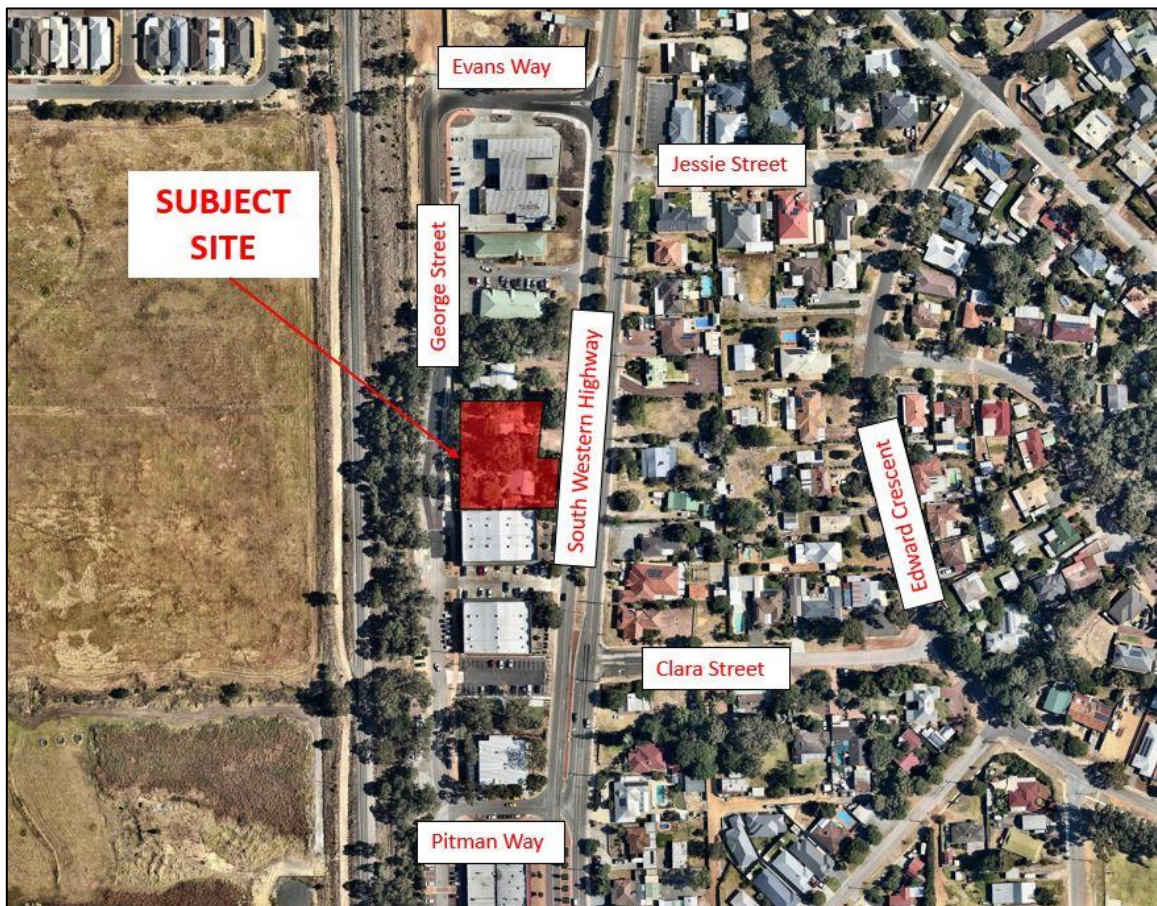


Figure 1. Location of the subject site

¹ Between 10 and 100 vehicular trips per hour

The subject site is bound by South Western Highway to the east, George Street to the west, existing residential development to the immediate north and commercial development to the immediate south. Unpaved vehicle accesses to the site are currently available from South Western Highway.

The subject site is presently occupied by two residential houses and is located within an area comprising predominantly residential and commercial developments with some retail developments mostly along South Western Highway.

Pedestrians currently access the subject site via existing pedestrian footpaths along South Western Highway. It is anticipated that the pedestrian footpath network will also be connected along George Street in future.

Key issues that will be addressed in this report include the traffic generation and distribution of the proposed development, parking and access.

2.0 Proposed Development

The Development Application (DA) for the subject site proposes replacement of the existing uses at the site with mixed commercial development including swimming school, child play centre and play centre café with associated car park on the ground floor and fitness centre with associated car park on the first floor. The breakdown of floorspace for each land use component is detailed in **Table 1**:

Table 1. Land Use Schedule

Level	Facility	Area (m ²)
Ground floor	Swimming School	300
	Child Play Centre	927
Common Area		57
First floor	Fitness Centre	802
Total		2,086

Vehicle access to the parking areas will be provided by two driveway crossovers on George Street, as detailed in **Section 3.1** of this report.

A total of nine bicycle racks (18 bicycle spaces) have been provided for the patrons of the development. The bicycle storage areas are located adjacent to the fitness centre on level 1 and adjacent to child play centre on the ground floor for convenience. Therefore, patrons can easily access the fitness centre after securely parking their bikes.

The bin storage area is located on the ground floor at the northwest corner of the child play centre. It is anticipated that the waste collection will take place on George Street.

Refer to **Appendix A** for plans of the proposed development.

3.0 Vehicle Access and Parking

3.1 Access

According to the plans prepared by Modus Design, the proposed development will be served by two full-movement driveway crossovers on George Street. **Figure 2** illustrates the locations of the proposed crossovers. The northern crossover will provide access for the first floor car park and the southern crossover will provide access to the ground floor car park.

The proposed crossovers on George Street have been assessed in accordance with *Australian Standard AS 2890.1 Parking facilities – Part 1: Off-street car parking*. The proposed crossovers satisfy the requirements of *Figure 2.8: Circulation roadway and ramp cross sections* and *Table 3.1: Selection of access facility category* and *Table 3.2: Access driveway widths* of the Standard. The proposed northern crossover provides 6.2m driveway width with approximately 175mm wide walls on both sides of the driveway. The proposed southern crossover also provides 6m driveway width with adequate 1.2m path width on both sides of the crossover and driveway.

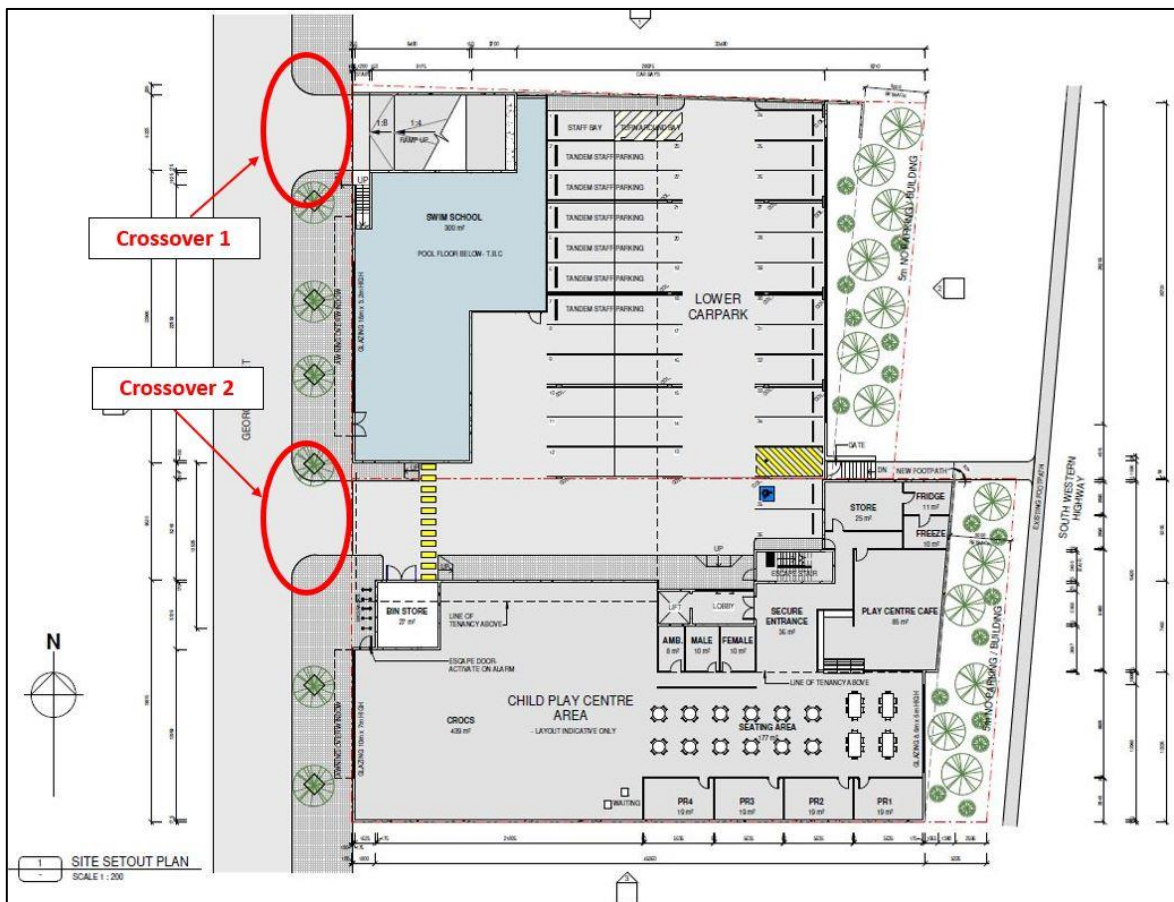


Figure 2: Proposed development crossovers

3.2 *Parking Demand and Supply*

As part of the development proposal a total of 61 parking bays (including two ACROD parking bays and 12 tandem staff parking bays) and one turn around bay are proposed to address the parking demand. This will include 36 parking bays at ground floor level and 25 parking bays at first floor level.

The car parking bays can be directly accessed from two proposed crossovers on George Street. The access for the first-floor car park is proposed at the northern crossover via a proposed ramp and the access for the ground floor car park is proposed at the southern crossover.

The Site Plan prepared by Modus Design at **Appendix A** includes parking calculations indicating a total requirement of 86 parking bays. Based on the advice to Transcore from Urbis, the appropriate parking rate for this site is provided by the Local Structure Plan in lieu of the Local Planning Strategy. The rate is applied irrespective of the use and is as follows:

“One bay for every 20.sq.m gross leasable area (GLA), less any on-street parking adjoining the site.”

Therefore, for a total GLA of approximately 1,725 sq.m, there is a requirement for 87 bays. The development proposes 61 bays. Accordingly, there is a 26 bays shortfall on the subject site.

3.2.1 *Parking Demand Study*

Since the land use of the proposed development is primarily a fitness centre, a *Plus Fitness Studios Parking Demand Study* report prepared by Gennaoui Consulting Pty Ltd was referenced to provide a realistic estimate of actual parking demand for the proposed development.

The Parking Demand Study for Plus Fitness Studios (hereafter PDS) states that *“An analysis of the results indicated that there is no statistically valid relationship between the peak parking demand and the gross floor area of studios. Similarly, there is no statically valid relationship between the peak parking demand and the total membership of a studio.*

However when including both the gross floor area and the total membership levels together with the land use of the surrounding area and the availability of public transport with the land use of the surrounding area and the availability of public transport, the strong relationships (high correlation coefficient) were determined from a regression analysis of the data included in Table 8” (of the document).

The study further states that:

“For new studios, it may be difficult to estimate the future number of members. In this situation, the following relationship (very high correlation coefficient) was determined from a regression analysis of the data excluding the membership levels:

Peak Parking demand = $9.108 + 0.0368 X2 - 2.842 X3 - 2.967 X4$
 With $R^2 = 0.93$ and where
 $X2 = \text{Gross Floor area GFA } m^2$
 $X3 = \text{Land use}$
 $X4 = \text{Availability of Public Transport''}$

Table 2: Land use and availability of public transport (PDS)

Land Use		Public Transport	
Shopping Centre/ Commercial	1	NIL	0
Industrial	2	Bus	1
Residential	3	Bus Train	2
Industrial Commercial	4		
Residential Commercial	5		

Therefore, it is calculated that the total of 67 parking bays are required for the proposed mixed commercial development. The proposed development provides a total of 61 parking spaces with a parking shortfall of **6** bays.

3.2.2 Existing Parking Utilisation

To address the issue of on site parking shortfall, Transcore has undertaken a detailed parking inventory and utilisation survey of the area within 500m walking distance from the subject site to establish the existing public parking supply and demand within the immediate locality.

The parking survey area was divided into two discrete zones labelled A and B, as detailed in **Figure 3**. The parking inventory survey area includes on-street parking on both sides of George Street between the subject site and Abernethy Road.

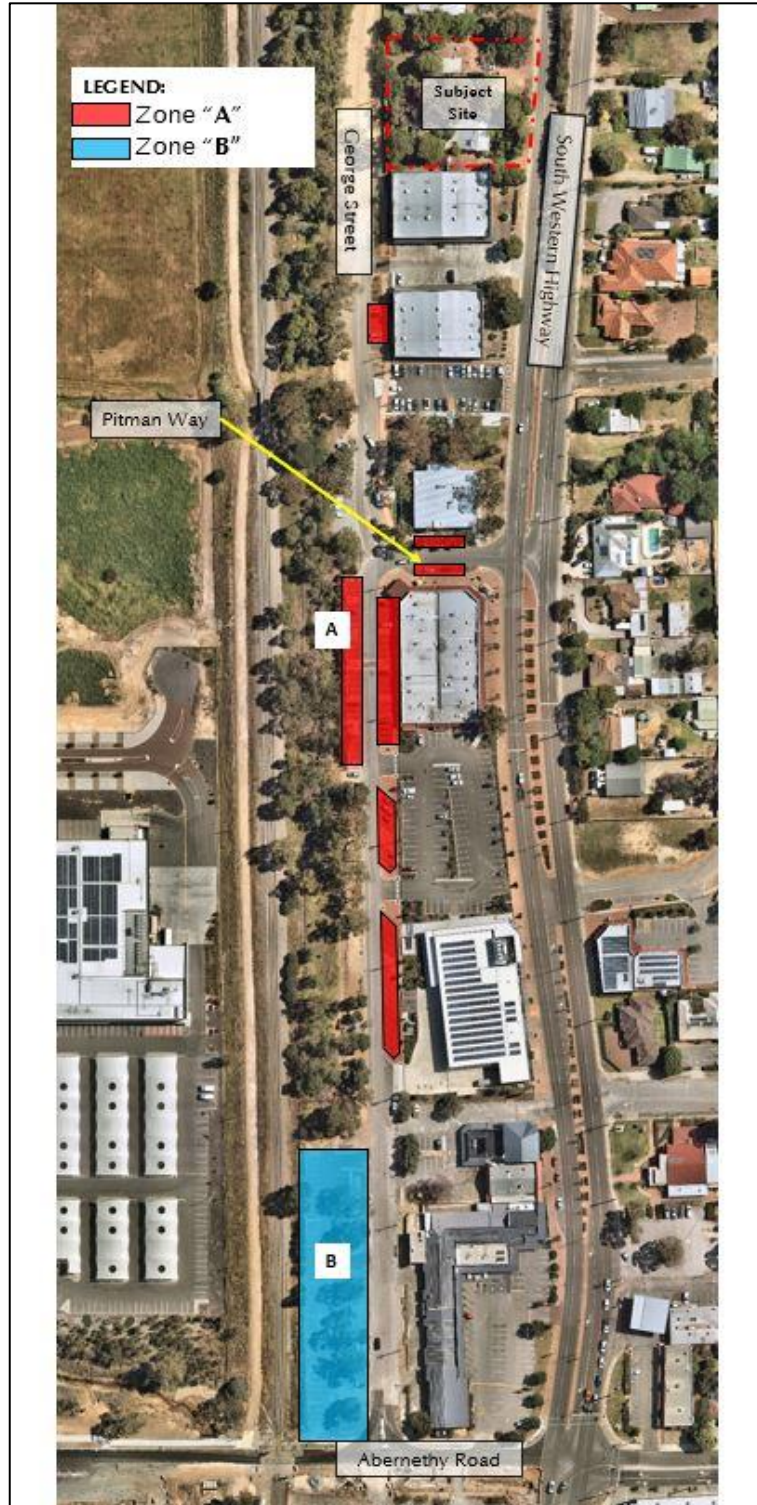


Figure 3: Parking assessment zones

Two parking utilisation surveys of the parking zones were then undertaken on a weekday and a weekend as follows:

- ✚ Survey 1: Saturday 1 February 2020: 10:00am to 1:00pm; and
- ✚ Survey 2: Monday 3 February 2020: 4:00pm to 7:00pm.

The survey days and times are selected as representative of the peak parking demand periods for the particular type of land use. Parking utilisation surveys were undertaken in 15 minutes intervals.

The parking inventory recorded a total public parking supply of 149 spaces in the survey area within 500m walking distance, between the subject site and Abernethy Road. The surveyed parking inventory is detailed in **Table 3**.

Table 3: Surveyed parking inventory

Zone	Car Parking Supply
A	72 spaces
B	77 spaces
Total	149 spaces

Survey 1: 1 February 2020 Survey Results

The total parking utilisation over the weekend (Saturday) survey period is summarised graphically in **Figure 4** and outlined below:

- ✚ Based on the survey results, between 34% and 40% utilisation was recorded between 11:00am and 12:00pm on Saturday morning;
- ✚ Peak utilisation was recorded between 11:30am to 11:45am when there were 59 cars parked at the surveyed zones with 40% occupancy; and,
- ✚ There were at least 90 car bays available at any time during the survey period.

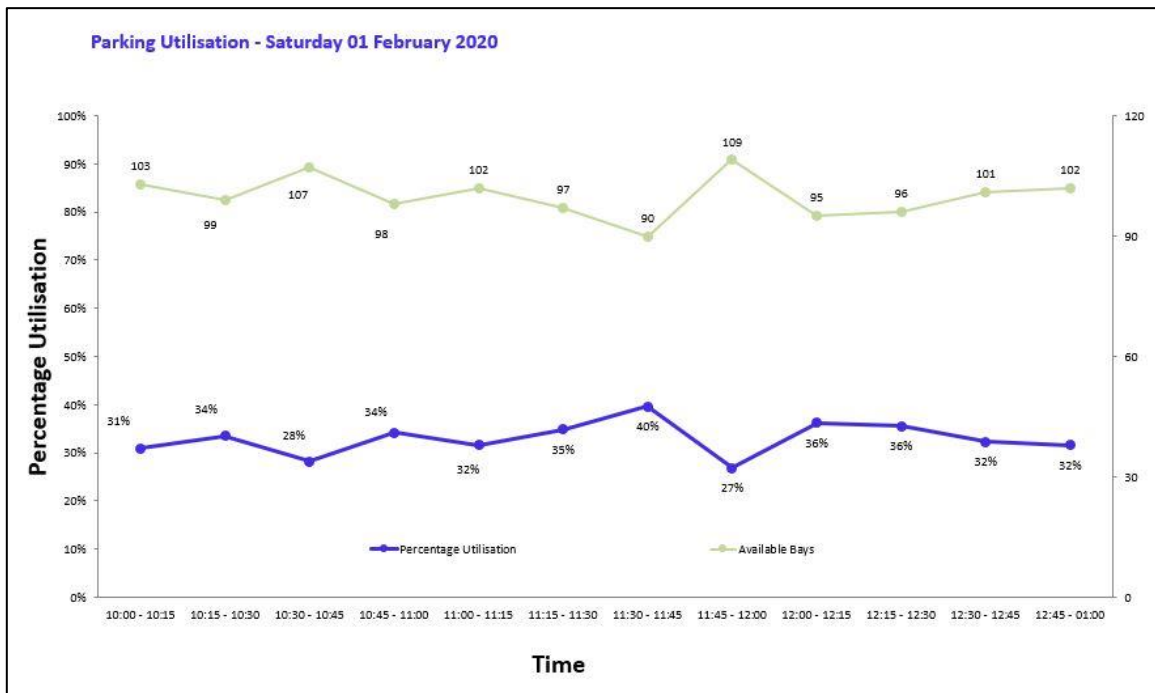


Figure 4: Saturday 1 February 2020 – parking utilisation

Survey 2: 3 February 2020 Survey Results

The total parking utilisation over the weekday (Monday) survey period is summarised graphically in **Figure 5** and outlined below:

- ✚ Based on the survey results, between 28% and 30% utilisation was recorded between 4:00pm and 5:00pm on Monday evening;
- ✚ Peak utilisation was recorded between 4:45pm to 5:00pm when there were 44 cars parked at the surveyed zones with 30% occupancy; and,
- ✚ There were at least 105 car bays available at any time during the survey period.

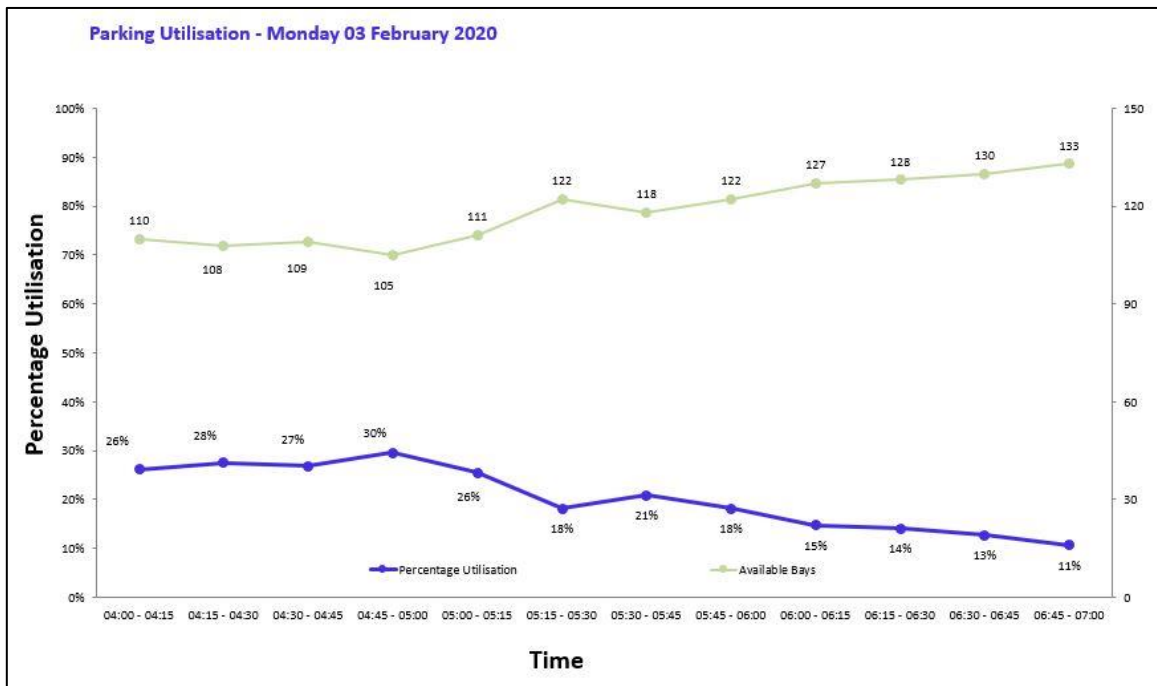


Figure 5: Monday 3 February 2020 – parking utilisation

Overall the peak parking demand was recorded between 11:00am to 12:00pm on Saturday with 59 bays occupied and 90 bays available within comfortable walking distance from the subject site. Therefore, it is concluded that the available free public parking opportunities within the surveyed parking area would more than compensate for the Local Structure Plan car parking shortfall of 26 bays for the proposed development.

The actual anticipated shortfall of only 6 bays would clearly be more than adequately served by available on-street public parking within a short walk from the subject site.

4.0 Provision for Service Vehicles

A bin storage area is proposed on the ground floor at the northwest corner of the child play centre. The waste collection for the proposed development is anticipated to take place on George Street. The rubbish bins will be wheeled out from the bin store and lined up along George Street for pick up on designated collection days.

5.0 Daily Traffic Volumes and Vehicle Types

5.1 Existing Development Trip Generation

The subject site currently consists of two existing residential lots, so it can be assumed as minimal traffic generation.

5.2 Proposed Development Trip Generation

The traffic volumes likely to be generated by the proposed mixed commercial development have been estimated based on the proposed land uses in accordance with the *ITE Trip Generation Manual (10th Edition)* which provides peak hour trip rates and directional traffic split for different types of land uses.

In this particular case, child play centre and swimming pool are assumed conservatively as part of the overall health/ fitness club. Some parents/ guardians who go to the fitness centre or swimming school will leave their children at the child play centre while attending the fitness centre or swimming school. The play centre café operation will mostly be reserved only for patrons of the proposed development, so the trip rate for play centre café is also assumed as health/ fitness club.

The adopted trip rates are conservative resulting in a robust assessment considering the site location, surrounding land uses and adjacent roads traffic.

Accordingly, the trip rates which were used to estimate the proposed development traffic generation are as follows:

Health/ Fitness Club (492) – 1000 Sq. Ft. GFA

- ✚ Weekday AM peak hour: $1.4\text{vph per }1000\text{sqft GFA} / 0.929 = 1.51\text{vph} / 100\text{m}^2$ GFA; and,
- ✚ Weekday PM peak hour: $3.92\text{vph per }1000\text{sqft GFA} / 0.929 = 4.22\text{vph} / 100\text{m}^2$ GFA.

Accordingly, it is estimated that the traffic generations for health/ fitness club are:

- ✚ Weekday AM peak hour: $[1.51 \times 2086/100 \text{ (GFA)}] = 32 \text{ vph}$; and,
- ✚ Weekday PM peak hour: $[4.22 \times 2086/100 \text{ (GFA)}] = 88 \text{ vph}$.

For commercial developments of various types, the peak hour traffic generation is typically in the order of 10% to 20% of total daily traffic generation. This would indicate daily traffic generation in the range of 5 to 10 times the afternoon peak traffic generation. Assuming conservatively that daily traffic generation is 10 times the afternoon peak hour traffic generation indicates an upper estimate of daily trip generation of $(88 \times 10 = 880)$ trips.

Accordingly, it is estimated that the proposed development would generate a total of approximate **880** vehicular trips per regular weekday with about **32** trips during the typical weekday AM peak hour and **88** trips during the typical weekday PM peak hour. These totals include both inbound and outbound vehicle movements.

The traffic generation and peak hour split detailed in **Table 4** was based on the following directional split assumptions for peak hour periods referenced from ITE Trip Generation Manual:

- ✚ Morning (AM) peak split estimated at 46%/54% for inbound/outbound trips associated with health/ fitness club; and,
- ✚ Afternoon (PM) peak split estimated at 52%/48%, for inbound/outbound trips associated with health/ fitness club.

Table 4. Estimated peak hour trips for the proposed development

Land Use	AM Peak			PM Peak		
	Traffic Split	In	Out	Traffic Split	In	Out
Health/ Fitness Club, Swimming Pool & Child Play Centre	46% in	15		52% in	46	
	54% out		17	48% out		42
Total		32			88	

With respect to the location of the development, permeability and layout of the surrounding road network and the actual traffic operation conditions at local intersections, the assumed distribution for traffic arriving to the site is assumed as follows:

- ✚ 30% from South Western Highway north;
- ✚ 20% from South Western Highway south;
- ✚ 10% from Jessie Street;
- ✚ 10% from Clara Street; and,
- ✚ 30% from George Street south.

The directional morning, afternoon and total daily trip distribution of the development-generated traffic is illustrated in **Figure 6** and **Figure 7**.

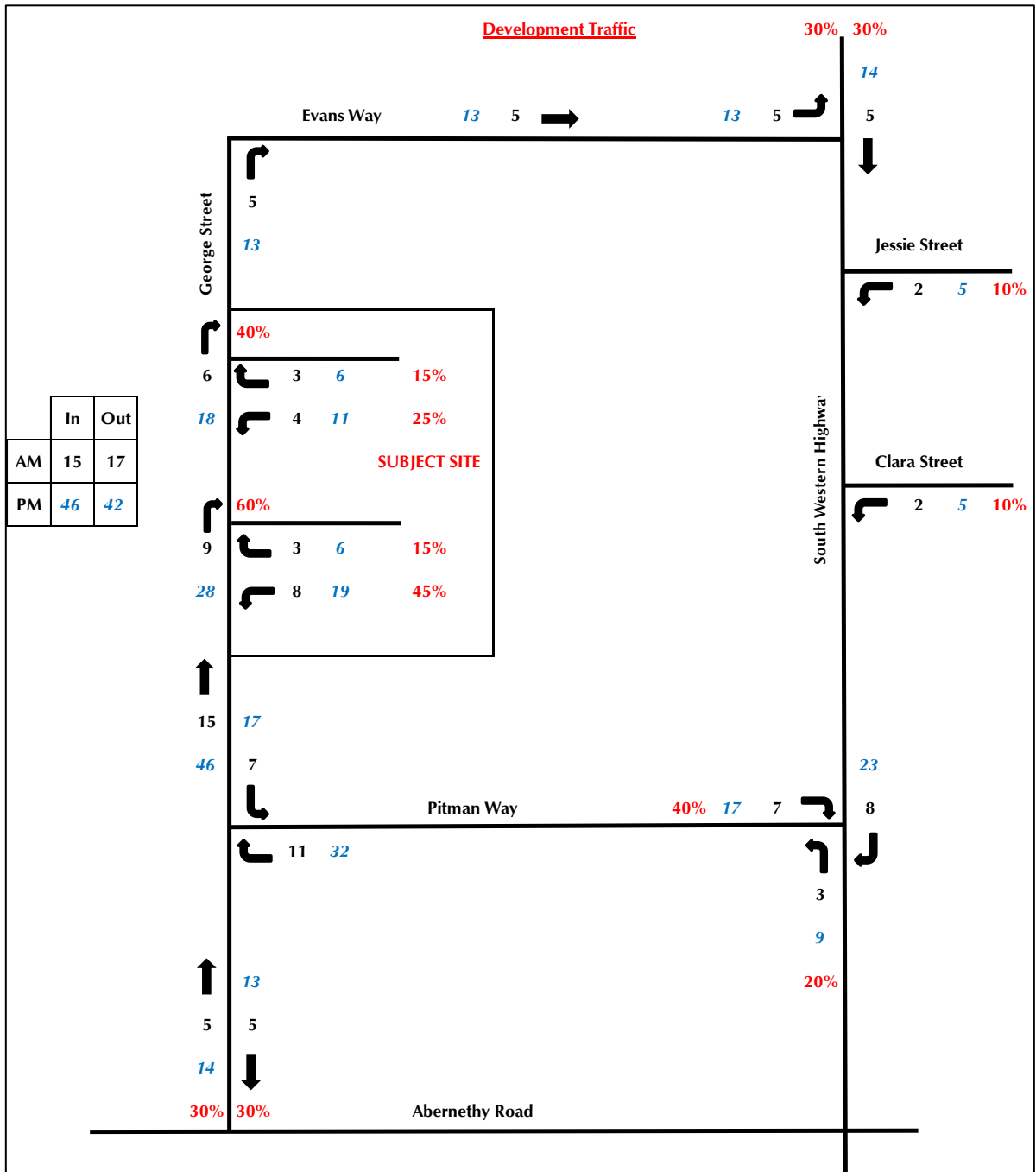


Figure 6. Estimated traffic movements for the subject development – morning and afternoon peak

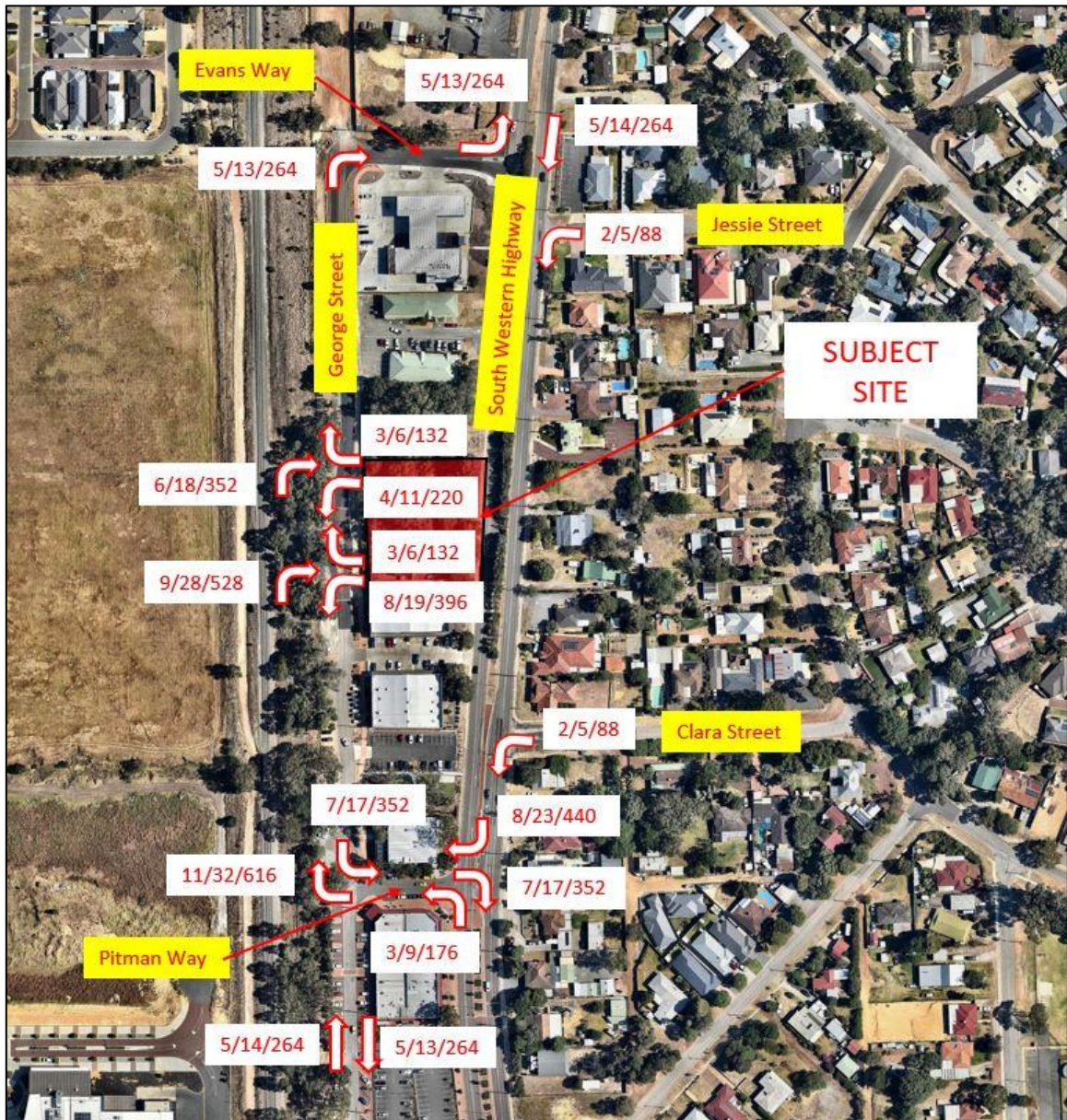


Figure 7. Estimated traffic movements for the subject development – morning, afternoon peak and total daily trips

5.3 Impact on Surrounding Road Network

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

development traffic would increase flows by more than 100 vehicles per hour for any lane should be included in the analysis."

It is clear that the traffic increase from the proposed development would be significantly less than the critical threshold (100vph per lane) with the most pronounced traffic increases being 46vph on George Street (south of the development) and 13vph on George Street (north of the development) during the afternoon peak hour, hence the impact on the surrounding road network is not considered to be significant and does not require further analysis.

6.0 Traffic Management on the Frontage Streets

George Street is a newly constructed, approximately 7.0m wide, single-carriageway, two-lane trafficable road with a pedestrian footpath on the eastern side of the road in this vicinity. Refer to **Figure 8** for more details. George Street operates under the default 50km/h built-up area speed limit. George Street is classified as an *Access Road* in the *Main Roads WA Functional Road Hierarchy*. There are no formal traffic counts available for this road, however, based on its function and the type of land uses it serves, it is estimated that George Street currently carries significantly less than a thousand vehicles per day.

Formal 90-degree on-street parking is currently provided along both sides of George Street south of Pitman Way. The 90-degree parking is paved with red asphalt treatment. Speed humps and a sign posted 20km/h advisory speed limit is provided to calm traffic through the parking area.

George Street continues around a 90-degree bend to become Evans Way which connects to South Western Highway. It is anticipated that sealed pavement of George Street will be extended and a complete link between Abernethy Road and Larsen Road will be constructed in the near future.



Figure 8. Northbound view along George Street

Evans Way is constructed as approximately 9.0m wide, single-carriageway, two-lane road with total length of approximately 85m. A pedestrian footpath is available on the southern side of the road. Refer to **Figure 9** for details.

Evans Way is classified as an *Access Road* in the *Main Roads WA Functional Road Hierarchy*. Evans Way operates under the default 50km/h built-up area speed limit. There are no formal traffic counts available for this road, however, based on its function and the type of land uses it serves, it is estimated that Evans Way currently carries significantly less than a thousand vehicles per day. Evans Way forms a left in / left out 'T' intersection at South Western Highway, controlled by give way sign on Evans Way.



Figure 9. Eastbound view along Evans Way

Pitman Way is also constructed as approximately 7.0m wide, single-carriageway, two-lane road with total length of approximately 50m. Pedestrian footpaths are in place on both sides of the road. Four on-street parking bays including one ACROD bay are in place along the kerbside on the southern side of the road and one on-street parking bay with loading bay on the northern side of the road. Refer to **Figure 10** for details.

Pitman Way is classified as an *Access Road* in the *Main Roads WA Functional Road Hierarchy*. Pitman Way operates under the default 50km/h built-up area speed limit. There are no formal traffic counts available for this road however, based on its function and the type of land uses it serves, it is estimated that Pitman Way currently

carries significantly less than a thousand vehicles per day. Pitman Way forms a full-movement 'T' intersection at South Western Highway, controlled by give way sign on Pitman Way.



Figure 10. Westbound view along Pitman

South Western Highway near the subject site is an approximately 20m wide, four-lane road with an approximately 6m wide raised and kerbed median. Concrete pedestrian footpaths are provided along on both sides of South Western Highway. Refer to **Figure 11** for details.

South Western Highway is classified as a *Primary Distributor* in the Main Roads WA *Functional Road Hierarchy* with a 60km/h posted speed limit in this area.

Based on the available traffic count information sourced from Main Roads WA it is estimated that South Western Highway, south of Jessie Street, carries about 18,234vpd vehicles on a regular weekday (2017/18). The morning and afternoon peaks are between 8:00am – 9:00am and 3:00 – 4:00pm with traffic volumes of 1,373vph and 1,558vph respectively.



Figure 11. Northbound view along South Western Highway

7.0 Public Transport Access

The WAPC Development Control Policy 1.6 – *Planning to Support Transit Use and Transit Oriented Development (January 2006)* indicates that the use of transit facilities is dependent on the walking distance to these facilities. In particular, about 10-15 minutes walking time (800m) would be the ideal walking distance threshold for rail station, transit interchanges or major bus transfer stations/terminals, and about 5 – 7 minutes walking time, or 400m, would be the threshold for bus stops located on bus routes with multiple bus services that are high frequency of 15 minutes or less during peak periods.

The subject site is well served by bus services 251, 252 and 253 operating along on South Western Highway to the east of the subject site. The nearest bus stop is located on South Western Highway approximately 30m to the south of the subject site. The nearest bus stop is accessible from the subject site via existing formal footpaths and pedestrian crossing facilities.

The public transport services available within walking distance of the subject site are listed in **Table 5** and illustrated in the relevant TransPerth service map (see **Figure 12**).

Table 5. Bus services available within the locality

Service #	Facility
251	Armadale Station – Clondyke Dr/ Burgess Dr
252	Armadale Station – Paterson Rd/ Whitby St
253	Armadale Station – Kingsbury Dr/ Jacaranda Ave

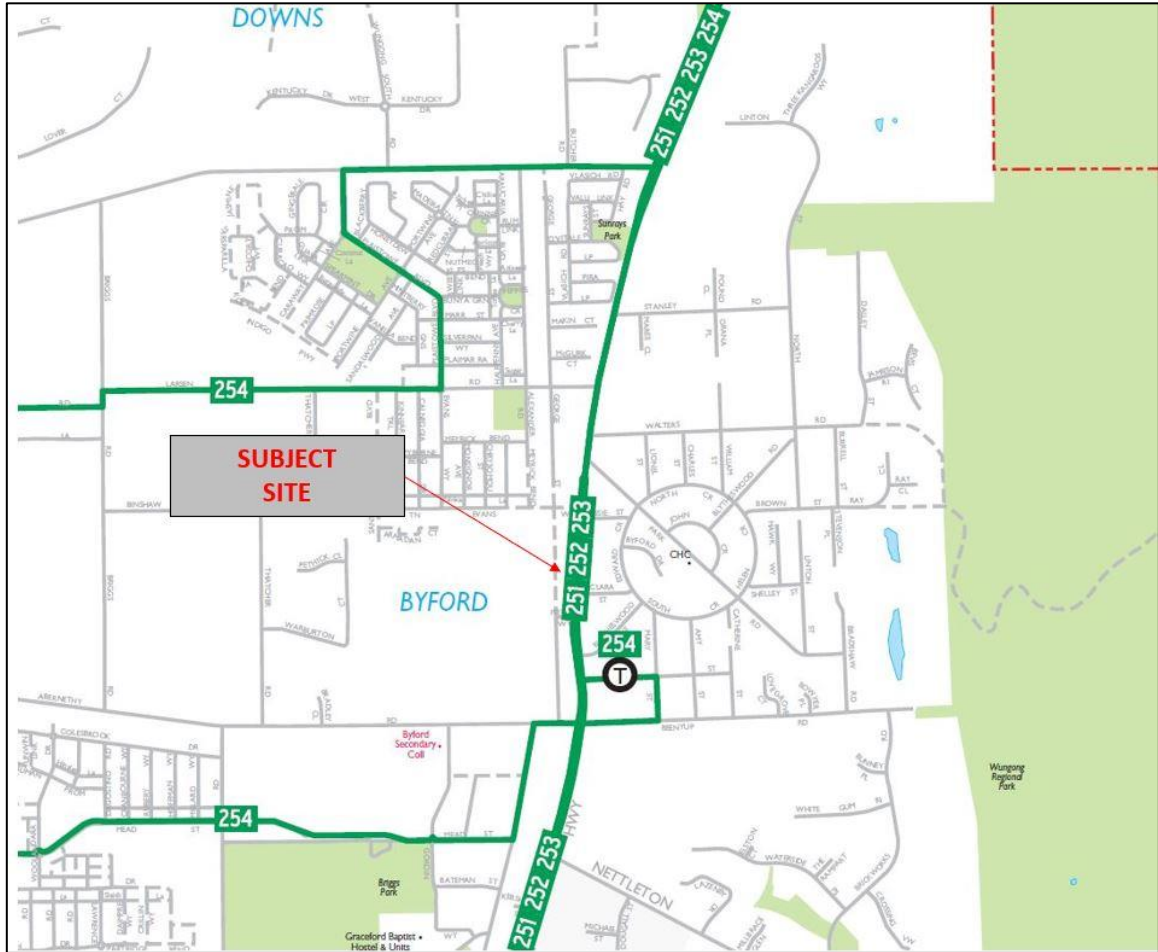


Figure 12. Local bus map (Source: Transperth)

8.0 Pedestrian Access

Pedestrian access to the proposed development is available directly from the existing footpath network on George Street, Pitman Way, South Western Highway and other adjacent streets within the locality. Pedestrian crossing facilities including drop kerb are provided on South Western Highway approximately 140m south of the subject site.

The existing path network within the locality provides direct and convenient access to and from the key local retail, office, commercial, food and beverage places, recreational and other major local attractors.

9.0 Cycle Access

According to the current Department of Transport Bike Maps, the subject site has direct access to the existing bike path network within the locality via the “other shared path” on George Street. This provides further links to a number of recreational paths within the adjacent streets including a link to Abernethy Road which is classified as “good road riding environment”. **Figure 13** shows existing cyclist connectivity to the subject site.

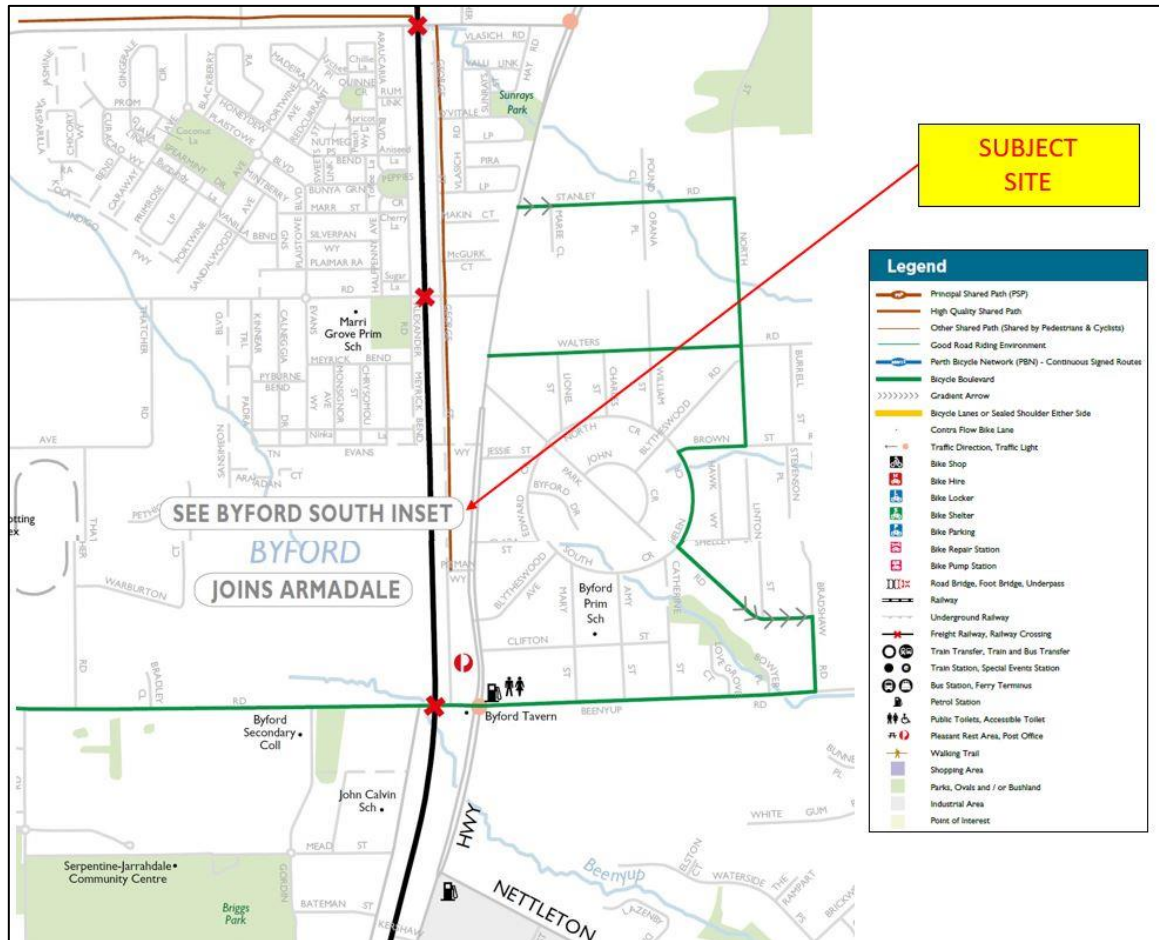


Figure 13. Perth bike map series – local area (source: Department of Transport)

10.0 Site Specific Issues

No particular site-specific issues have been identified for this proposed development.

11.0 Safety Issues

No particular traffic related safety issues have been identified for the proposed development.

12.0 Conclusions

This Transport Impact Statement provides information on the proposed mixed commercial development to be located at 813 – 815 South Western Highway, Byford in the Shire of Serpentine-Jarrahdale. The proposed development comprises fitness centre, swimming pool and child play centre.

A total of 61 parking bays (36 parking bays at ground floor and 25 parking bays at first floor) including two ACROD parking bays and 12 tandem staff parking bays and one turn around bay are provided on site for the use of patrons and employees. The car parking bays can be directly accessed from two proposed driveway crossovers at George Street. The first floor car park will be accessed via a ramp from the northern crossover and the ground floor car park will be accessed via the southern crossover.

The subject site has good accessibility by the existing road network, pedestrian paths and cyclist network and enjoys very good transport coverage through existing bus services operating in close proximity to the subject site.

The traffic analysis undertaken in this report shows that the traffic generation of the proposed development is estimated to be in the order of 880 daily and 32 and 88 morning and afternoon peak hour trips (total of both inbound and outbound movements), respectively. Accordingly, the traffic impact of the proposal on the surrounding road network will not be significant.

No particular transport or safety issues have been identified for the proposed development.

Finally, it is concluded that traffic-related issues should not form an impediment to the approval of the proposed development.