

Public Briefing Forum

Minutes for Tuesday 10 April 2018

UNCONFIRMED



**city of
kalamunda**

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1. Official Opening

The Presiding Member opened the meeting at 6.32pm and welcomed Councillors, Staff and Members of the community.

2. Attendance, Apologies and Leave of Absence

Councillors

South East Ward

John Giardina (Mayor)

Michael Fernie

Geoff Stallard

South West Ward

Lesley Boyd

Allan Morton

Brooke O'Donnell (Presiding Member)

North West Ward

David Almond

Dylan O'Connor

North Ward

Cameron Blair

Margaret Thomas

Members of Staff

Chief Executive Officer

Rhonda Hardy

Executive Team

Dennis Blair - Director Asset Services

Peter Varelis - Director Development Services

Simon Di Rosso - General Counsel & Executive Advisor

Management Team

Rajesh Malde- Manager Finance & Risk Services (left at 7.01pm)

Ross Jutrus-Minett - Acting Manager Approval Services

Administration Support

Kristy Lisle - Executive Research Officer Governance & Legal

Donna McPherson - Executive Research Officer to Chief Executive Officer

Luke Harris - Planning Officer

Ashlin Gardner - Communications Advisor

Darrell Forrest - Governance Advisor

Members of the Public 22

Members of the Press Nil

Apologies Gary Ticehurst - Director Corporate & Community Services

Leave of Absence Previously Approved

North West Ward

Cr Sara Lohmeyer

North Ward

Cr Tracey Destree

3. Declarations of Interest

3.1. Disclosure of Financial and Proximity Interests

- a. Members must disclose the nature of their interest in matter to be discussed at the meeting. (Section 5.56 of the *Local Government Act 1995*.)
- b. Employees must disclose the nature of their interest in reports or advice when giving the report or advice to the meeting. (Section 5.70 of the *Local Government Act 1995*.)

3.1.1 Nil.

3.2. Disclosure of Interest Affecting Impartiality

- a. Members and staff must disclose their interest in matters to be discussed at the meeting in respect of which the member or employee had given or will give advice.
- 3.2.1 Cr Allan Morton declared an Impartiality Interest in Item 10.1.1 Proposed Lease Extension - Lot 520 (no 24) Anderson Road Forrestfield as he is a member of the Foothills Men's Shed.

4. Announcements by the Member Presiding Without Discussion

4.1 Nil.

5. Public Question Time

Public question time will be allocated a maximum of 10 minutes and will be limited to two (2) minutes per member of the public, with a limit of two (2) verbal questions per member of the public.

Statements are not to precede the asking of a question during public question time. Statements should be made during public submissions.

For the purposes of Minuting, these questions and answers will be summarised.

5.1 Dick Lovegrove - 41 Redwood Road, Wattle Grove

Q1. What is the Council's position in regard to the subdivision of the south west corner of Wattle Grove?

A1. The Chief Executive Officer advised that Council hasn't resolved at this point of time to do anything however discussions are being held with the State Government. The Director Development Services advised detailed feasibility studies are being conducted at the moment.

5.2 David Downing - 107 Milner Road, High Wycombe

Q1. There have been no published minutes for the Public Agenda Briefing Forum since December, can you please advise why?

A1. General Counsel advised that minutes of the public briefing forums are not published on the website however are provided as a tabled document at the Ordinary Council Meeting.

6. Public Statement Time

A period of maximum 10 minutes is provided to allow public statements from the gallery on matters relating to a matter contained on the agenda or the functions of Council. Public Statement Time will be limited to two (2) minutes per member of the public.

Public Statement Time is declared closed following the 10 minute allocated time period, or earlier if there are no further statements.

For the purposes of Minuting, these statements will be summarised.

6.1 Nil.

7. Public Submissions Received in Writing

7.1 Nil.

8. Petitions Received

8.1 Nil.

9. Confidential Items Announced But Not Discussed

- 9.1 10.2.2 Proposed Carport - Lot 75 (50) Waterloo Crescent, Lesmurdie.
Confidential Attachment.

Reason for Confidentiality: Local Government Act 1995 (WA) Section 5.23 (2) (b) - "the personal affairs of any person."

10. Reports to Council

10.1. Corporate Services Reports

10.1.1. Proposed Lease Extension - Lot 520 (No. 24) Anderson Road Forresterfield

Cr Allan Morton declared an Impartiality Interest in this item as he is a member of the Foothills Men's Shed. Cr Morton left the room at 6.49pm and returned at 6.53pm and was not present for any discussions.

The Manager Finance & Risk Services provided a presentation on this item.

A member of the public queried wording in the officer recommendation to which the Chief Executive Officer advised would be amended for the Ordinary Council Meeting.

Declaration of financial / conflict of interests to be recorded prior to dealing with each item.

Previous Items	N/A
Directorate	Corporate Services
Business Unit	Corporate Services
File Reference	AN-01/012
Applicant	N/A
Owner	State of Western Australia

Attachments 1. Management Order - Reserve 19500 [**10.1.1.1**]

EXECUTIVE SUMMARY

1. The purpose of this report is to consider the future use of Reserve 19500, Lot 520 (No. 24) Anderson Road, Forresterfield (the Reserve).
2. The Reserve is owned by the State of Western Australia and managed by the City of Kalamunda pursuant to a management order for the purposes of "Community Purposes" and with a power to lease, sublease or licence for any term not exceeding five years.
3. The Foothills Men's Shed Inc. (FMS) lease a portion of the Reserve for a five year term commencing 1 May 2017. The FMS are requesting an extension of another 5 years to their lease so they can obtain funding for expansion projects.
4. The City was also approached by the Department of Planning, Lands and Heritage (DPLH) requesting clarification from the City as to whether the Reserve is likely to be required for aged persons housing or if the best use of the Reserve is for community purposes.
5. It is recommended that Council:
 - a) Advise DPLH that the Reserve is unlikely to be required for aged persons housing.
 - b) Advise DPLH that the Reserve is best suited for community purposes.

- c) Request DPLH to remove the revocation clause on the management order for the Reserve.
- d) Request DPLH to amend the power to lease on the management order for the Reserve to allow the City to grant a lease for any term not exceeding 21 years.
- e) Support the City extending FMS's lease of part of the Reserve by granting FMS a further term of 5 years commencing on 1 May 2022 and expiring on 30 April 2027 (subject to DPLH amending the power to lease clause on the management order for the Reserve to allow the City to grant a 10-year lease).

BACKGROUND

- 6. FMS currently lease a portion of the Reserve for a 5-year term commencing 1 May 2017.
- 7. The DPLH has sought clarification from the City regarding future use requirements for the Reserve. More specifically, the City has been asked to clarify whether the Reserve is likely to be required for aged persons housing in the future.

DETAILS

- 8. The Reserve consists of a total area of 0.85599 hectares. The size of the reserve is too small for aged care.
- 9. The Reserve is owned by the State of Western Australia and managed by the City of Kalamunda pursuant to a management order for the purposes of "Community Purposes" and with a power to lease, sublease or licence for any term not exceeding 5 years. A copy of the management order is attached as Attachment 10.1.1.1.
- 10. The management order for the Reserve contains a revocation clause which states as follows:

"The Management Body acknowledges that the land the subject of the Reserve may be required by the Minister for Lands for another purpose and the Minister for Lands may revoke this Management Order upon not less than 3 months' notice if the land is required for that other purpose."
- 11. On 25 May 2017, the City granted the FMS a lease of a portion of Reserve 19500 for a 5-year term (being the maximum term allowable under the Management Order) commencing on 1 May 2017.
- 12. On 30 November 2017, an officer from DPLH emailed the City enquiring whether "it is likely the land will be required for aged persons housing (noting the need for aged care in the City) or if the best use of the site is for community purposes."
- 13. The City was advised by DPLH that if the City considers a community purpose more appropriate, DPLH will give consideration to removing the revocation clause from the management order.

14. On 15 December 2017, the City wrote to DPLH advising that the future use of the Reserve would be considered by Council early in 2018.
15. The FMS are keen to secure a longer term future at the site. In particular, the three-month revocation clause in the management order for the Reserve is considered to restrict the FMS's ability to secure grant funding to expand its facilities.
16. The City has not been able to identify an alternate site for the FMS.
17. The City is currently exploring a number of other sites in the locality for aged persons housing including Cambridge Reserve which is in close proximity to the FMS site.
18. The FMS site has been assessed for vegetation and clearing purposes and it is considered that large scale clearing would be required for aged care purpose and that would attract community concerns.

STATUTORY AND LEGAL CONSIDERATIONS

19. Section 3.58 of the *Local Government Act 1995* (WA) provides that if a local government does not dispose of property by way of a public auction or public tender, then it must advertise the proposed disposal.

The term "disposal" includes a lease: *Local Government Act* s. 3.58(1).

A proposed lease to the FMS would be exempt from the advertising requirement under s. 3.58 due to the group being a not-for-profit organisation whose objects are recreational: *Local Government (Functions and General) Regulations 1996* (WA) reg. 30(2)(b).

POLICY CONSIDERATIONS

20. C-PP02 – Community Groups' Leases

The City's Community Groups' Leases Policy states that "[t]he Shire is committed to providing long-term leased facilities to community groups within the Shire to support their activities for the benefit of the community."

The Policy provides that lease terms shall generally be five years in length with an option for a second period of five years. The Policy allows the City to consider at its discretion longer lease terms where the extended period is required either to support a loan arrangement or other extenuating circumstances, where approved by Council resolution.

COMMUNITY ENGAGEMENT REQUIREMENTS

Internal Referrals

21. The City's Parks and Environmental Services Team have completed an environmental assessment of the Reserve. The assessment determined that it is likely that a clearing application will be required under the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* (WA).

External Referrals

22. Nil.

FINANCIAL CONSIDERATIONS

23. Pursuant to the City's Community Groups' Leases Policy, the City will be responsible for all major maintenance of any improvements built on the Reserve by the FMS.

STRATEGIC COMMUNITY PLAN

Strategic Planning Alignment

24. *Kalamunda Advancing Strategic Community Plan to 2027*

Priority 1: Kalamunda Cares and Interacts

Objective 1.2 - To provide a safe and healthy environment for community to enjoy.

Strategy - 1.2.3 Provide high quality and accessible recreational and social spaces and facilities.

SUSTAINABILITY

Social Implications

25. By granting the FMS a longer term lease, the group will have a better opportunity to secure grant funding to expand their facilities. Improved facilities will greatly benefit the members of the community who actively participate in the group.

Economic Implications

26. Nil.

Environmental Implications

27. An environmental assessment by the City's Parks and Environmental Services Team found that the vegetation on the Reserve consists of mature naturally occurring trees of local significance for Black Cockatoo nesting and feeding. The assessment determined that it is likely that a clearing application will be required under the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* (WA).

RISK MANAGEMENT CONSIDERATIONS

28.	Risk: The DPLH refuses the City's request for removing the revocation clause from the management order for the Reserve.		
	Likelihood	Consequence	Rating
	Unlikely	Moderate	Low
	Action/Strategy		
	Complete a submission clearly explaining the reason for requesting the removal of the revocation clause.		
	Risk: The DPLH refuses the City's request to amend the power to lease on the management order for the Reserve to allow the City to grant a lease for a 10-year term.		
	Likelihood	Consequence	Rating
	Unlikely	Moderate	Low
	Action/Strategy		
	Complete a submission clearly explaining the reason for requesting the amendment to the power to lease.		
	Risk: Council does not support extending the lease period.		
	Likelihood	Consequence	Rating
	Possible	Moderate	Medium
	Action/Strategy		
	The rationale for extending the lease period is clearly explained.		

OFFICER COMMENT

29. The City is currently exploring a number of other sites in the locality for aged persons housing including Cambridge Reserve. Current constraints indicate the FMS site is unlikely to be suitable for aged persons housing in the future. It is considered that the Reserve is best suited for continuing community purposes.
30. The revocation clause on the management order for the Reserve and the relatively short-term of the FMS's lease is considered to restrict the FMS's ability to secure grant funding to expand its facilities.
31. The FMS currently hold a 5-year lease of part of the Reserve, which is the maximum term currently permissible under the management order. It is recommended that the power to lease clause be amended to allow a longer term lease.
32. It is recommended that Council:
- Advise DPLH that the Reserve is unlikely to be required for aged persons housing.
 - Advise DPLH that the Reserve is best suited for community purposes.
 - Request DPLH to remove the revocation clause on the management order for the Reserve.

- d) Request DPLH to amend the power to lease on the management order for the Reserve to allow the City to grant a lease for any term not exceeding 21 years (21 years being the standard term for a power to lease clause).
- e) Support the City extending FMS's 5-year lease of part of the Reserve by granting FMS a further term of 5 years commencing on 1 May 2022 and expiring on 30 April 2027 (subject to DPLH amending the power to lease clause on the management order to allow the City to grant a 10-year lease). It is noted that a 5-year lease with a 5-year further term is consistent with the City's Community Groups' Leases Policy.

Voting Requirements: Simple Majority

RECOMMENDATION

That Council:

1. Advise the Department of Planning, Lands & Heritage (DPLH) that Reserve 19500 (the Reserve) is unlikely to be required for aged persons housing.
2. Advise DPLH that the Reserve is best suited for community purposes.
3. Request DPLH to remove the revocation clause on the management order for the Reserve.
4. Request DPLH to amend the power to lease on the management order for the Reserve to allow the City to grant a lease for any term not exceeding 21 years.
5. Support the City extending FMS's lease of part of the Reserve by granting FMS a further term of 5 years commencing on 1 May 2022 and expiring on 30 April 2027 (subject to DPLH amending the power to lease clause on the management order for the Reserve to allow the City to grant a 10-year lease).



Government of **Western Australia**
Department of **Lands**

Your ref: CO- CCS -093
Our ref: File 04312-1926 Job No. 073585
Enquiries: Greg Martiensen
Email: greg.martiensen@lands.wa.gov.au

Chief Executive Officer
Shire of Kalamunda
PO Box 42
KALAMUNDA WA 6926

Dear Sir

Reserve 19500 – Anderson Road, Forrestfield (‘Foothills Mens Shed’).

You are advised that the purpose of the above reserve has been changed to ‘Community Purposes’, and the reserve has been placed under management of the Shire, with a power to lease.

The Duplicate Management Order is enclosed.

The expired Minister for Works lease to the Shire of Kalamanda has been removed from the Landgate Register.

In future correspondence, please quote Department of Lands file number 04312-1926 and job number 073585.

Yours faithfully,

A handwritten signature in black ink, appearing to be 'G. Martiensen'.

Greg Martiensen
Assistant State Land Officer
Delivery Team
Department of Lands

19 July, 2016.

FORM B1 WESTERN AUSTRALIA TRANSFER OF LAND ACT 1893 AS AMENDED ANNEXURE / ADDITIONAL PAGE TO MANAGEMENT ORDER (XE)

RESERVE DESCRIPTION (NOTE 1)	EXTENT	VOLUME	FOLIO
19500	Whole	0000	000

CONDITIONS (NOTE 3)

1. Reserve Purpose. The reserve is to be used only for the designated purpose of "Community Purposes".

2. Power to Lease or Sublease or Licence subject to conditions. Pursuant to section 46(3)(a) of the LAA, the Management Body is granted the power to grant a lease, sublease or licence over any part of the Reserve, for a purpose that is consistent with the designated reserve purpose, for a term (including any option term) that is not to exceed 5 years in total, subject to the prior approval in writing of the Minister.

3. Conditions

3.1 The Management Body acknowledges that the land the subject of the Reserve may be required by the Minister for Lands for another purpose and the Minister for Lands may revoke this Management Order upon not less than 3 months' notice if the land is required for that other purpose.

3.2 By its acceptance of this Management Order, the Management Body consents to the revocation of the Management Order in accordance with condition 3.1.

4. Definitions. In this Management Order the following terms have the following meaning:

LAA means the Land Administration Act 1997.

Management Body means the person described in panel 2 of this Management Order.

Management Order means this management order and any variation to it from time to time in accordance with section 46 of the LAA.

Minister means the Minister for Lands, a body corporate of that name continued under section 7 of the LAA.

Reserve means the reserve described in panel 1 of this Management Order.

DUPLICATE

FORM LAA-1023

SECTION 46

WESTERN AUSTRALIA
LAND ADMINISTRATION ACT 1997
TRANSFER OF LAND ACT 1893 as amended

MANAGEMENT ORDER (XE)

RESERVE DESCRIPTION (NOTE 1)

19500

EXTENT

Whole

VOLUME

0000
3166

FOLIO

000
989

MANAGEMENT BODY (NOTE 2)

Shire of Kalamunda of PO Box 42 Kalamunda

CONDITIONS (NOTE 3)

See Annexure

THE MINISTER FOR LANDS (IN THE NAME OF AND ON BEHALF OF THE STATE OF WESTERN AUSTRALIA) ORDERS THAT THE CARE, CONTROL AND MANAGEMENT OF THE ABOVE RESERVE BE PLACED WITH THE MANAGEMENT BODY DESCRIBED ABOVE FOR THE PURPOSE FOR WHICH THE LAND COMPRISING THE RESERVE IS RESERVED UNDER SECTION 41 OF THE LAND ADMINISTRATION ACT 1997, AND FOR PURPOSES ANCILLARY OR BENEFICIAL TO THAT PURPOSE SUBJECT TO THE CONDITIONS ABOVE

Dated this 7 day of July in the year 2016

ATTESTATION (NOTE 4)



NAME: Jan Pruyn
SENIOR STATE LAND OFFICER
TEAM: CASE DELIVERY

DUPLICATE

INSTRUCTIONS

1. If insufficient space in any section, Additional Sheet Form B1 should be used with appropriate headings. The boxed sections should only contain the words "See Annexure".
2. Additional Sheets shall be numbered consecutively and bound to this document by staples along the left margin prior to execution by parties.
3. No alteration should be made by erasure. The words rejected should be scored through and those substituted typed or written above them, the alteration being initialled by the person signing this document and their witnesses.

NOTES

1. RESERVE DESCRIPTION
Reserve number and details to be stated. The Volume and Folio numbers to be stated.
2. MANAGEMENT BODY
State the full name and address of management body.
3. CONDITIONS
Detail the conditions specified by the Minister to be observed by the management body in its care control and management of the Reserve.
4. ATTESTATION
This document is to be executed by the Minister for Lands or a person to whom the power to grant a management order under section 46 of the Land Administration Act 1997 has been duly delegated under section 9(1) of the Act (if applicable).

EXAMINED

N378769 XE

08 Jul 2016 09:05:17 Perth



DUPLICATE

MANAGEMENT ORDER (XE)

LODGED BY Department of Lands

ADDRESS DoL - Metropolitan Peel - Box 98C

PHONE No.
FAX No.

REFERENCE No. Greg Martiensen 04312-1926-01 RO.
Phone 08 6552 4578 Fax 08 6552 4417

ISSUING BOX No.

PREPARED BY Department of Lands

ADDRESS DoL - Metropolitan Peel - Box 98C

PHONE No.
FAX No.

INSTRUCT IF ANY DOCUMENTS ARE TO ISSUE TO OTHER THAN LODGING PARTY

[Empty box for instructions]

TITLES, LEASES, DECLARATIONS ETC LODGED HEREWITH

1. _____ Received Items
2. _____ Nos.
3. _____
4. _____ Receiving Clerk
5. _____
6. _____

073585-007



Registered pursuant to the provisions of the TRANSFER OF LAND ACT 1893 as amended on the day and time shown above and particulars entered in the Register.

10.2. Development Services Reports

10.2.1. Draft Planning Policy P-DEV 55 - Places of Worship

The Acting Manager Approval Services provided a presentation on this item.

A member of the public queried the incidental uses under additional uses and what those uses had to do with a Place of Worship and if the community uses can be tightened up. The Director Development Services advised these are uses that were appraised by other places of worship in the metropolitan area and may be included subject to a detailed assessment.

Declaration of financial / conflict of interests to be recorded prior to dealing with each item.

Previous Items	OCM 247/2017
Directorate	Development Services
Business Unit	Approval Services
File Reference	OR-CMA-A6
Applicant	N/A
Owner	N/A

Attachments	1. Draft Local Planning Policy P- Dev 55 – Places of Worship [10.2.1.1]
	2. Submitters Table [10.2.1.2]

EXECUTIVE SUMMARY

1. The purpose of this report is to consider final adoption of draft Local Planning Policy P-DEV 55 – Places of Worship (the Policy).
2. The Policy has been prepared for the purposes of providing guidance on the location, appropriateness and scale of applications for Places of Worship within the City of Kalamunda (the City).
3. The draft policy was advertised to the community in accordance with the requirements of P-DEV 45 – Public Notification of Planning Proposals. During the submission period one response was received, which outlined that Places of Worship now serve more functions than they did in previous years.
4. It is recommended that Council adopt the Policy.

BACKGROUND

5. The City periodically reviews, revokes, and adds new policies for the purpose of ensuring consistency and transparency in decision-making. The development of Local Planning Policies also ensures Council has a clear and defensible position on specific types of applications.
6. Council have previously supported Places of Worship as additional uses throughout the City, including within rural-residential areas. The Policy seeks to provide guidance and certainty to the community in terms of the location, scale and siting of new places of worship in context with existing zoning and the requirements of Local Planning Scheme No. 3 (the Scheme).

7. Council resolved on 19 December 2017 (OCM 247/2017) to adopt the Policy for the purposes of public advertising. The advertising period has now closed and the final version of the Policy is now ready for consideration by Council.

DETAILS

8. The primary objectives of the Policy are:
1. To provide development controls and advice to applicants who are applying for approval to develop a Place of Worship within the boundaries of the City;
 2. To outline suitable locations and distances between existing and proposed Places of Worship; and
 3. To specify appropriate incidental uses that can be permitted to be attached to Places of Worship.
9. The Policy itself introduces a number of criteria that the applicants will need to address in support of the proposal, as follows:
- a) Site Location;
 - b) Existing Prevailing Amenity;
 - c) Incidental or Other Additional Uses;
 - d) Scale and Intensity of Operation;
 - e) Built Form;
 - f) Acoustic Characteristics;
 - g) Traffic and Road Hierarchy;
 - h) On Site Parking and Facilities; and
 - i) Bushfire Management.

STATUTORY AND LEGAL CONSIDERATIONS

10. Local Planning Policies are created under Clause 3 (1) of the *Planning and Development (Local Planning Scheme) Regulations 2015* (the Regulations).
11. Under clause 3 (5) of the Regulations, in making a determination under the Scheme, the local government must have regard to each relevant local planning policy to the extent the policy is consistent with the Scheme.

POLICY CONSIDERATIONS

12. The Policy follows Council templates with some small modifications for improved structure, legibility and clarity.

COMMUNITY ENGAGEMENT REQUIREMENTS

Internal Referrals

13. No internal comments were received as part of the internal referral process.

External Referrals

14. Under Clause 4 (1) and (2) of the Regulations, the City is required to publish the Policy in a local newspaper and in any other way deemed necessary for a minimum period of 21 days.

15. In accordance with the provisions of Local Planning Policy P-DEV 45 – Public Notification of Planning Proposals, the proposed Policy was advertised for a period of 28 days, which included an advertisement notice being placed in the local newspaper for two consecutive weeks and a notification being placed on the City's social media platform.
16. During the advertising period one submission was received, which outlined how Places of Worship have changed and developed over the years to offer a number of different services in addition to what could be deemed as 'regular religious services' and that the worship use may be considered as the incidental use. The summary of this submission is contained within the submission table and addressed under the 'Officer Comment' section of this report.

FINANCIAL CONSIDERATIONS

17. Nil.

STRATEGIC COMMUNITY PLAN

Strategic Planning Alignment

18. *Kalamunda Advancing Strategic Community Plan to 2027*

Priority 3: Kalamunda Develops

Objective 3.1 - To plan for sustainable population growth.

Strategy 3.1.1 - Plan for diverse and sustainable housing, community facilities and industrial development to meet changing social and economic needs.

Priority 3: Kalamunda Develops

Objective 3.3 - To develop and enhance the City's economy.

Strategy 3.3.1 - Facilitate and support the success and growth of industry and businesses.

SUSTAINABILITY

Social Implications

19. If the Policy is adopted, the City will have greater certainty when assessing applications for Places of Worship, in particular the siting and location requirements of the Policy.
20. Additionally, the community will have access to more clarity and transparency in how the City makes decisions, leading to improved outcomes and reduced timeframes.

Economic Implications

21. Nil.

Environmental Implications

22. Nil.

RISK MANAGEMENT CONSIDERATIONS

23.	Risk: Applications are received contrary to the provisions and principles of the Policy.		
	Likelihood	Consequence	Rating
	Possible	Moderate	Medium
	Action/Strategy		
	Adopt the Policy to provide clear guidance to applicants and assist with addressing potential amenity impacts.		

OFFICER COMMENT

24. There has been an increase in the number of development applications and Scheme amendment requests for Places of Worship within the City in the last few years. The Policy will provide guidance and require applicants to address specific criteria as outlined in Points 9 and 10 of this report. The Policy places an emphasis on ensuring that potential amenity impacts arising from traffic, parking, number of persons attending the site and the bulk and scale of the building are managed appropriately.
25. A key element of the Policy is the introduction of siting criteria which establishes a minimum separation distance between land uses with the intent to ensure the intensification of the use does not compromise the amenity of the affected area. For example, a Place of Worship in a special rural area cannot be located within 500m of an existing facility. These separation distances have been determined having regard to the prevailing lot size in each zone.
26. The submission received during advertising made reference to the fact that contemporary Places of Worship comprised of not just the Place of Worship, but also other incidental activities including cafes, crèche services and counselling services.
27. Acknowledging the comment raised in the submission, the Policy already includes a list of incidental uses that may be considered to be appropriate to accompany the Place of Worship use, subject to detailed assessment. However, it is considered that in all instances the undertaking of prayer will always be the predominant land use and will not be considered as incidental to any other land use.

Voting Requirements: Simple Majority

RECOMMENDATION

That Council:

1. Pursuant to Clause 3 (1) of the *Planning and Development (Local Planning Scheme) Regulations 2015*, adopt the Policy:
 - a. P-DEV 55 – Places of Worship.

Local Planning Policy P-DEV 55 - Places of Worship			
Management Procedure		Relevant Delegation	
Adopted		Next Review Date	

Purpose

1. Background and Introduction

In response to an increasing trend and demand for lands for the purpose of places of worship, including multi-use facilities, the City of Kalamunda seeks to establish policy guidance with respect to the location and application for additional or special land uses for the purposes of development of places of worship. It is also noted that the role and nature of places of worship have changed over time, including the size of land required, the multitude of incidental land uses and the accumulative effect/impact of new places of worship within existing rural and residential zones throughout the City of Kalamunda.

2. Application of Policy

Local Planning Policy P-DEV 55 – Places of Worship (the Policy) is operative throughout the City of Kalamunda.

3. Statutory Authority / Legal Status

This Policy has been prepared in accordance with Part 2, Clause 3 of the Schedule 2 of the Planning and Development (Local Planning Scheme) Regulations 2015 (The Regulations).

(a) Relationship to Local Planning Scheme No. 3

This policy is a planning policy prepared, advertised and adopted pursuant to Part 2 of the Regulations. The policy augments and is to be read in conjunction with the provisions of Local Planning Scheme No. 3 (the Scheme) relating to development.

If there is a conflict between this Policy and the Scheme, then the Scheme shall prevail.

(b) Relationship to other State planning / development control policies.

This policy has due regard to, and should be read in conjunction with state planning policies. Of particular relevance to this policy are:

- i. State Planning Policy 1 – State Planning Framework.
- ii. State Planning Policy 3.7 Planning in Bushfire Prone Areas

(c) Relationship to other local planning policies

This policy has due regard to, and should be read in conjunction with the City of Kalamunda's other local planning policies. Of particular relevance to this policy are:

- i. Local Planning Policy P-Dev 57 – Street Fencing, Walls and Gates
- ii. Local Planning Policy P-Dev 45, Public notification of planning proposals.

4. Policy Objectives

- a) To specify local provisions which supplement the requirements of Local Planning Scheme No.3.
- b) To ensure that the operation of Place of Worship activities do not affect or impinge on the prevailing amenity of the local area.
- c) To facilitate and to provide guidance in terms of appropriate locations within the City of Kalamunda for places of worship and associated land uses.
- d) Providing policy guidelines in terms of development standards suitable for the City of Kalamunda for all Place of Worship development within the area of Local Planning Scheme No.3
- e) To provide guidance and an assessment framework in relation to the appropriate location of Places of Worship as well as guidance towards appropriate built form outcomes.
- f) To provide guidance in respect to the advertising of applications for a place of worship.

5. Policy Measures

- a) The operative Scheme provides for the assessment of applications for development or use within the City.
- b) The use classification "Place of Worship" is described as a land use that is an "A" land use or a "D" land use in many of the City's zones. Land uses within the above categories are not permitted unless the Local Government has exercised its discretion by granting planning approval. ("A" land uses are required by the Scheme to be the subject of public consultation).
- c) The Scheme provides the ability for landowners to apply for additional uses. In many cases, in particular in Rural Zones, "Place of Worship" is an "X" land use which means that it is prohibited within that zone. The Scheme also provides an ability for an applicant to apply for a Local Planning Scheme Amendment for an Additional or Special Use which provides the City with the ability to assess the merits of that particular use. Under each of the aforementioned clauses, the Scheme notes the following:

An additional use is a land use that is permitted on a specific portion of land in addition to the uses already permissible in that zone that applies to the land.

A Special Use Zone applies to specific categories of land use which do not comfortably sit within any other zone within the Scheme.

Policy Statement

6. Zoning and Location

a) Objectives of the Zone

Proposals should be in keeping with the objectives of the Zone as set in the Scheme and complement predominant activities in the Zone.

Where an applicant seeks to apply for an Additional Use through a scheme amendment the additional uses that are applied for where they appear as an "X" use in that particular Zone shall be assessed on their own merits. The amendment shall not be initiated for advertising unless the applicant has demonstrated that the objectives of that Zone will not be compromised.

An applicant may where a number of uses are proposed to apply for a Scheme Amendment to "Special Use" which encapsulates all of the required uses but also extinguishes the previous land use. This allows the applicant to coordinate all desired uses and to provide the City with an opportunity to request a Master Plan and vision for the site, allowing for development to take place in stages over time in accordance with the master plan.

b) Site Location

Proposals including additional or special uses will be assessed in the context of the location of the site, ease of access to transport links, access to and from the site, and the services and utility connections. When considering a site appropriate for the special or additional use local planning scheme amendment or development application, it is considered necessary for such uses to be located in a non-agglomerated manner in order to avoid significant impacts on the local amenity of the surrounding area. The following location requirements for separation between existing and proposed Places of Worship apply:

Table 1

Zoning	Separation Distance (As measured from lot boundary to lot boundary)
Residential (Including Residential Bushland) zones	300 metres
Mixed Use	300 metres
Special Rural, Rural Composite zones	500 metres
Rural Landscape Interest, Rural Conservation, Rural Agriculture	800 metres
Industrial, including Industrial Development, Light and General Industry zones.	No separation distances applied.
Private Clubs and Institutions	No separation distances applied.

- i. An additional use or Special Use amendment to the scheme for "Place of Worship" will not be considered acceptable where there is another place of worship land use within the separation distance from the subject site as specified in Table 1. It is considered that the accumulative impact of multiple places of worship conglomerated in one area may have impacts on the preservation of local amenity.
- ii. Where a Place of Worship is located in a zone where the use is a "P" Permitted use, there will be no restrictions on proximity to other place of worship uses.
- iii. Where a Place of Worship is located in a zone where the use is a "D" Discretionary or "A" Advertising classification, applications will be determined on their merits within the scope of this Policy and Scheme requirements.
- iv. Development applications for places of worship may be subject to referral to the City's Development Advisory Committee for comment.
- v. Where proposals involve subject sites on a District Distributor Other Regional Road (ORR) the applicant will be required to submit a Transport Impact Assessment (TIA) to the City for consideration, prior to the City considering any proposal to amend the Scheme or a part of a Development Application process. The City will give consideration for a TIA on lesser roads where it is considered appropriate. This will provide the City the ability to evaluate the appropriateness of such a location and whether any City owned assets or infrastructure may or may not be affected by the proposed use.

7. Existing Prevailing Amenity

All applications will be assessed having due regard and consideration for the ability of the proposed Place of Worship and any associated land uses being able to co-exist in harmony with the surrounding land uses. When submitting an application for development approval or scheme amendment, the applicant is required to address the potential impact relating to the following elements:

- a) Traffic Impact
- b) Noise Attenuation
- c) Visual Privacy
- d) Overshadowing
- e) Streetscape and Urban Design
- f) Removal of any significant vegetation
- g) Bushfire Management

Proposals should not reduce the existing or intended amenity of the area by way of impacts that could arise from approval of the application, including noise, inappropriate traffic congestion, parking issues, or an incompatible scale and bulk of development in the zone.

a) Incidental or Other Additional Uses

In many instances a Place of Worship use is accompanied by incidental land uses.

An incidental land use is defined in the Scheme provisions as *"a use of premises which is consequent on, or naturally appertaining or relating to, the predominant use"*.

Similarly, Incidental Land Use is defined in the Scheme as *"to mean a use of premises which is ancillary and subordinate to the predominant or primary use"*.

The scale of an incidental use to a Place of Worship shall not substantially increase the number of people visiting the site at any given time.

Incidental land uses will need to be included in any application for development approval or for Additional / Special Use scheme amendment requests. The nature and operation of the incidental use must be clearly defined including the number of employees, visitors and an evaluation of car parking requirements.

Where applying for a scheme amendment for an Additional or Special Use or a Development Application, a maximum of two additional incidental uses will be permitted when subordinate to a place of worship land use.

Where more than two incidental land uses are required, the applicant will be required to apply for a Special Use zone to accommodate those uses.

Acceptable subordinate incidental uses may include (subject to detailed assessment):

- Aged and Dependent person's dwellings.
- Aged Residential Care.
- Caretakers dwelling.
- Single and Ancillary Dwellings.
- Community Purposes.
- Educational Establishment.
- Family Day Care (within a Single Dwelling).
- Office.
- Recreation Private.
- Small Café / Canteen (restaurant) for that community.

8. Scale and Intensity of Operation

a) Development Staging and Master Plan

Applicants are required to supply details regarding the intended timeframe for establishing the operation of the place of worship, the proposed timetable of events and audience/congregation numbers of the place of worship.

Applicants are required to include details in their application regarding the likely future staging of development or growth of activities in the form of a Master Plan.

When applying for an Additional Use OR Special Use, a development master plan shall be submitted with the request to amend the Scheme outlining the likely or desired overall development of the site and including each relevant stage as applicable.

The details of the Master Plan should include:

- i. Location of all proposed buildings, car parking and access.
- ii. Proposed likely incidental or additional uses.
- iii. Conceptual drawings for any proposed buildings, or modifications to any existing buildings.
- iv. Preliminary Transport Impact Assessment.
- v. Effluent management statement, where not connected to reticulated sewer.
- vi. Stormwater disposal strategy.
- vii. Car parking strategy including overflow parking provisions contained on-site.
- viii. Landscaping.

b) Capacity

Where a discrepancy exists between the stated capacity of a building and the assessed capacity (as a ratio of floor space per person measured from plans of the proposal) the occupancy will be assessed on the higher figure, unless occupancy numbers are restricted by the effluent disposal capacity of the site.

c) Intended Catchment

Applications will be considered on the basis of the scale and likely catchment of the facility (being regional, district, or local). It is recommended that the scale of amenities proposed on site would match those as required for that associated catchment.

Where an organisation caters for a wide geographic area, it is assumed that larger scale amenities may be required. Council will not generally support major facilities unless they are sited in such a way as to be serviced without adversely impacting the amenity of other land uses.

9. Built Form

a) Bulk and Scale

Applicants will provide an appropriate balance between the size of buildings on the site, their capacity for occupancy, and the provision of adequate space for parking and other required facilities.

The scale of development and distance to surrounding existing or planned development will be considered with the aim of ensuring that land uses and activities are compatible in the future.

The scale and setbacks between existing and planned development on the subject land and adjoining land will also be taken into consideration as well as requirements stipulated by the Residential Design Codes (For Residential Zoned property, or adjacent to residential zoned property) and Table 2 Site Requirements of the Scheme.

b) Building Height

Further to the requirements of Table 2 – Site Requirements the following will be considered:

- i. Where proposals are to be integrated into an existing urban area, the style of the proposed development is required to harmonise with the building form and scale of the area. *(For example if the prevailing building height is 10 metres, a 20 metre building height may not be deemed acceptable)*
- ii. Where places of worship are proposed within a non-residential zoned area, the height of the proposed buildings are to sufficiently integrate within the streetscape context of the subject site so as to not dominate the street. Where buildings are larger than the predominant built form, measures shall be undertaken to provide adequate visual screening and appropriate setbacks from the street and adjoining property boundaries.
- iii. Where buildings are larger than the predominant built form, measures are to be undertaken and demonstrated to provide adequate visual screening and appropriate setbacks from the street and adjoining property boundaries. *(An applicant should provide the City with a streetscape context analysis plan illustrating a plan showing site and surrounding site context relating to existing built form and natural features and elements)*

c) Setbacks

Further to the requirements of Table 2 – Site Requirements of the Scheme the following will be considered by the City;

- i. The City may require greater building setbacks to proposed buildings from lot boundaries than specified in the Scheme where it is assessed that the proposal may have a detrimental impact on streetscape or amenity impact to an adjacent property(s).

d) Surveillance, Streetscape, & Fencing

The City may allow and or require development to be screened from view from the street or from neighbouring properties through the provision of landscaping or fencing.

The applicant shall provide the following detail to demonstrate adequate surveillance and visual amenity as part of their application to commence development:

- i. CPTED (Crime Prevention through Environmental Design Guidelines). Visual sight lines and areas of passive surveillance will be considered for proposals in order to facilitate the creation of safe and welcoming facilities. Blank walls to the street or to Public Open Space adjacent to a subject site will not be considered acceptable.
- ii. External lighting strategy and location. Flood lights shall not create light spill amenity impacts to adjoining properties.
- iii. Detail of front and side fencing.
- iv. A landscaping plan will be required as part of all development applications for Place of Worship.
- v. Fencing, Street walls and gates to comply with the City's Street Wall, Fence and Gate Policy.

e) Servicing Requirements

Applicants should address as part of their application matters pertaining to building capacity, fire safety, public health, infrastructure servicing needs, and other relevant matters where appropriate.

10. Acoustic Characteristics

a) Noise Generation

Proposals shall include details about the potential noise generating characteristics of the development at development application stage. Qualified acoustic modelling may be required in order to quantify the likely acoustic aspects of the proposal and the applicant is encouraged to liaise with the City's Environmental Health Department for further details.

b) Outdoor Activities

Proposals shall include details of any proposed outdoor activities. Proposals that include events and activities beyond typical hours of daytime activity may be refused on the grounds of the likely impact of a proposal upon the amenity of the surrounding area.

c) Amplified Sound

The external amplification of sound is not supported on the grounds of likely impacts on surrounding amenity and likely contravention of relevant noise regulations.

d) Acoustic Building Design

The Council may impose conditions on a proposal to ensure that the built development is capable of containing noise to a level which accords with relevant noise abatement regulations.

11. Traffic and Road Hierarchy

a) Road Classification (role and characteristics of frontage road)

The function and role of adjacent roads will be considered as a component of assessing the suitability of a site for its use.

b) Traffic Generation

Applications may be required to model expected traffic volumes and characteristics. Through the preparation of a Transport Impact Assessment or Transport Impact Statement.

c) Peak Flow Timing

Applications need to include details regarding proposed times of use of a facility. The City will take into account traffic generation as a result of the proposal or its cumulative impact when added to that of other existing land uses in the vicinity.

d) Prevailing Road Environment

Applications may be required to adopt a design which harmonises with the scale of existing streetscapes, or future plans for road reserves that are abutted by the proposed site.

e) Alternative Transport Option

Proposals may be favoured in cases where multiple modes of transport to facilities are available to the proposal.

12. On Site Parking & Facilities

Proposals need to have provision for adequate parking as determined by Table 3 of the Scheme - Parking Requirements.

Where numerous activities or uses are proposed to be undertaken, a schedule of proposed events including timing and attendance numbers is to be provided. The City may consider reducing the gross parking requirement where it is satisfied that a proposal facilitates a reciprocal use arrangement, where parking demand is spread by virtue of the planned timing of events or activities.

Applicants may be required to include provision for special parking facilities for buses, or other vehicles where a proposal includes these components as a part of the proposed operation of the premises.

Proposals should give consideration to the provision for bicycle parking and end of trip facilities including dedicated change room and shower.

13. Bushfire Management

Where it is designated that a property is within a Bushfire Prone Area, Applications for Development approval will be required to comply with State Planning Policy (SPP 3.7) Planning in Bushfire Prone Areas, and any building requirements as required by the Building Code of Australia.

Prior to consideration of an Additional or Special use, applicants are required to provide a Bushfire Management Plan submitted by a certified Level 2 or 3 Bushfire Management Consultant to the satisfaction of the City. The elements required of any such Bushfire Management Plan shall be implemented and any ongoing maintenance required or updates to that plan shall be adhered to. This may also include a Bushfire Evacuation plan.

Please note that this report may require referral to the Department of Fire and Emergency Services (DFES) for their review and prior to any approval being granted by the City.

Where associated or incidental land uses are deemed vulnerable land uses, the City will not support the development of vulnerable land uses in Bushfire Prone Areas where it cannot be demonstrated by the applicant that the use will not compromise the safety of the occupants of that particular use or cause impact to adjoining residents.

14. Public Consultation

Advertising of a proposal for a Place of Worship in a zone where the use is considered a 'D' or 'A' use under Table 1 of the Scheme shall be assessed as a significant application in accordance with P-DEV 45 – Public Notification of Planning Proposals.

15. Matters to be Considered

The following matters will be given consideration in the assessment of applications for the development of Place of Worship.

Any relevant matters set out in Clause 67 of the Regulations and the objectives of the zone;

- a) The impact of the proposed development on the amenity and character of residential or non-residential areas, as viewed from a street, public space or neighbouring property;
- b) Whether any significant trees or other vegetation should be preserved;
- c) Whether the development application will still achieve a desired streetscape where a variation is applied;
- d) The preservation of areas of useable on-site open space;
- e) Any special limitation on the development of the land by virtue of its size, shape or environmental/geographical feature.
- f) Whether support for the development application will set an undesirable precedent for similar sized surrounding lots; and
- g) Comments received from affected adjacent property owners/occupiers.

11. Variations to the Policy

Where a variation is applied consideration to Clause 10 "Matters to be considered" shall be referenced.

Any variation to development requirements of Appendix 10 or items contained in Clause 4 will require the applicant to provide additional justification demonstrating how the proposal will not adversely affect adjoining property owners, the streetscape or the amenity of the locality, with particular reference to Clause 10 – 'Matters to be Considered' of this Policy.

Related Local Law	
Related Policies	
Related Budget Schedule	
Legislation	
Conditions	
Authority	
Adopted	Next Review Date

Nature of Submission	Submitter Number	Applicant's Justification	Officer Comment
<p>Comment Only</p> <p>Places of worship have changed and developed over the years to offer a number of different services in addition to what could be deemed as 'regular services' and that the worship use may these days be considered as the incidental use compared to what occurs at the site on a regular basis.</p>	1	N/A	<p>Acknowledging the comment raised in the submission, the Policy already includes a list of incidental uses that may be considered appropriate to accompany a place of worship use, subject to detailed assessment. However, it is considered that in all instances the undertaking of prayer will always be the predominant land use and will not be considered as incidental to any other land use.</p>

10.2.2. Proposed Carport - Lot 75 (50) Waterloo Crescent, Lesmurdie

The Acting Manager Approval Services provided a presentation on this item.

The applicant spoke to Council regarding the officer recommendation and provided further clarification from questions asked by Councillors.

Councillor questions were answered by Director Development Services.

Declaration of financial / conflict of interests to be recorded prior to dealing with each item.

Previous Items	Nil
Directorate	Development Services
Business Unit	Approval Services
File Reference	WT-02/050
Applicant	Kingsley Moore
Owner	Kingsley Moore
Attachments	<ol style="list-style-type: none"> 1. Site Plan [10.2.2.1] 2. Elevation Plan [10.2.2.2] 3. Applicants Advertising [10.2.2.3] 4. Submitters Table [10.2.2.4] 5. Site Photos [10.2.2.5]

EXECUTIVE SUMMARY

1. The purpose of this report is to consider a development application for a proposed carport at Lot 75 (50) Waterloo Crescent, Lesmurdie.
2. The proposal satisfies the deemed to comply provisions of the Residential Design Codes (R Codes), with the exception of the proposed front boundary setback of the carport, which proposes 2m in lieu of the required 12m.
3. It is recommended that Council refuse the application as it is not compliant with the requirements of the R Codes with respect to amenity and street scapes and is not consistent with the principles of orderly and proper planning.

BACKGROUND

4. Land Details:

Land Area:	1062m2
Local Planning Scheme Zone:	Residential R5
Metropolitan Regional Scheme Zone:	Urban

Locality Plan:

5.



DETAILS

6. The applicant is seeking a design principle assessment in respect to the front boundary setback of 2m, in lieu of the deemed to comply requirement of 12m under the R Codes. It should be noted that the applicant has expressed a willingness to increase the front boundary setback to 3m if required to do so.
7. The applicant submits that the proposed location of the carport is the only feasible area as the caravan is too large to fit at the rear of the house. The option of locating the caravan to the rear of the site would require a small portion of the roof and eaves be removed to allow access for the caravan. The cost associated with this option is considered prohibitive by the applicant.
8. Following preliminary assessment of the proposal, it was noted that the proposed 2m setback represented a significant primary street setback variation of approx. 83%. It was also noted that the intended materials of the carport were to be steel beams and pylons with Colorbond roofing.

STATUTORY AND LEGAL CONSIDERATIONS

Local Planning Scheme No. 3

9. Clause 4.2.1 (Objectives of the Zones – Residential) of Local Planning Scheme No.3 (the Scheme) states the objectives of the residential zone as follows:
1. *To provide primarily for single residential development whilst allowing for a range of densities in order to encourage a wide choice of housing types within the Shire.*
 2. *To give consideration to grouped dwelling developments if the site is near amenities and can be integrated into the single residential environment.*
 3. *To facilitate a range of accommodation styles and densities to cater for all community groups inclusive of the elderly, young people in transition and the handicapped. Such accommodation is supported where it is appropriately situated in proximity to other services and facilities.*
 4. *To encourage the retention of remnant vegetation.*

Planning and Development (Local Planning Schemes) Regulations 2015

10. In considering an application for development approval, Clause 67 of the *Planning and Development (Local Planning Schemes) Regulations 2015* (the Regulations) requires that Council give due regard to a number of matters, including:
- a) The compatibility of the development within its settings;
 - b) Amenity of the locality;
 - c) The amount of traffic to be generated by the proposed development, particularly in relation to the capacity of the road system and effect upon traffic flow and safety; and
 - d) Any relevant submissions received on the application.
11. In the event that Council resolves to refuse the application a right of review exists for the applicant with the State Administrative Tribunal.

POLICY CONSIDERATIONS

State Planning Policy 3.1 – Residential Design Codes

12. The application was assessed in accordance with the requirements of the *Residential Design Codes* (R Codes), and the following information regarding the application was noted:

Assessment Under Residential Design Codes	Deemed to Comply Provision	Proposed by Applicant	Design Principle Assessment
Primary Street Setback	12m	2m*	10m
Side Setback	1m	1.9m	Nil
Wall Height	6m	2.75m	Nil
Pitch Height	9m	3.6m	Nil

*Applicant prepared to increase to 3m if required.

13. Should an aspect of a proposal be determined to be non-compliant with the provisions of the R Codes an assessment of the proposal is made against the 'Design Principles' of the R Codes. The following table details the principles of the R Codes the proposal was assessed against:

Design Principle	Consideration Against Proposal
<p><i>5.1.2 P2.1 – "Buildings set back from street boundaries an appropriate distance to ensure they:</i></p> <ul style="list-style-type: none"> <i>f) Contribute to, and are consistent with, an established streetscape;</i> <i>g) Provide adequate privacy and open space for dwellings;</i> <i>h) Accommodate site planning requirements such as parking, landscape and utilities; and</i> <i>i) Allow safety clearances for easements for essential service corridors"</i> 	<p>Following a site visit to the property it is considered that the majority of the existing streetscape is open, with majority of the structures in the area complying with setback requirements or being setback further than the minimum requirement.</p> <p>There is evidence of one structure in the street not meeting the setback requirements, however, the structure in question has been built of identical materials and colours to the existing dwelling.</p> <p>With the abovementioned structure aside, it is considered that there is not enough evidence to suggest an existing reduced setback streetscape exists to justify the proposal.</p> <p>Photographs of the existing streetscape can be seen as part of Attachment 4.</p>
<p><i>5.2.1 P1 "The setting back of carports and garages to maintain clear sight lines along the street and not to detract from the streetscape or appearance of dwellings; or obstruct views of dwellings from the street and vice versa."</i></p>	<p>It is considered that the proposal does not comply with this design principle as the carport would detract from the amenity of the existing streetscape, and is not considered to 'blend' with the existing dwelling on site.</p> <p>In addition to this it is considered that the carport will obstruct views of the existing dwelling from the street.</p>

14. Following preliminary assessment of the proposal against the R Codes, the applicant was contacted and advised that the proposed construction materials were not considered to be in keeping with the current design of the existing dwelling.

15. Further to this, the applicant was also advised that the primary street setback was considered to be non-compliant and that revised site plans were requested that considered alternative locations and materials for the carport (materials to match the existing house in colour and style).
16. Other potential siting options suggested were as follows:
 1. Along the side of the property;
 2. At the rear of the property; and
 3. Alteration of an existing garage at the rear of the property to increase the wall and roof height to accommodate the caravan.
17. Following this advice, the applicant advised that no other location for the structure could be considered on site as the location of the house on the property and the size of the caravan that is intended to fit under the carport would not allow for the caravan to be kept to the rear of the property.
18. The applicant further stated that they were unwilling to locate the carport along the side of the existing crossover and further back into the property as it interfered with their own personal aesthetics and views from their property.
19. Following this information being provided, the applicant was advised that the City still had issues with the location of the carport and the applicant should give consideration to the following:
 1. Increasing the setback to the primary street; and
 2. Using material similar to that of the existing dwelling, i.e. brick pillars and roof tiles, to reduce the visual impact of the carport.
20. The applicant subsequently advised that the setback to the primary street could be increased to 3m and offered to alter the colouring of the Colorbond to be in line with the existing house, with the front two pillars to be built of the same brick as the house. Although some concessions were proposed by the applicant, the City is still of the view that the increased setback does not comply with the intent of the design principles of the R Codes. The setbacks proposed represent too significant of a departure from the R Code requirements. This is particularly relevant in the context of the relatively low density development in the area and existing open streetscape.

COMMUNITY ENGAGEMENT REQUIREMENTS

Internal Referrals

21. Preliminary assessment indicated that the application should be assessed from an Environmental Health and Asset Planning perspective.
22. Initially, the application could not be supported from an Environmental Health perspective due to the location of the existing septic tanks and leach drains and the setback distances to the structure not being compliant with the *'Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974'* (Health Regulations).

23. Following an on-site meeting and the provision of revised plans, it was determined that the proposal could be supported on the proviso that all setbacks are maintained and no traffic movements occur over the septic and leach drains.
24. The City has also reviewed the application from an Asset Planning perspective and indicated that the proposal could not be supported because the proposed location of the carport did not meet the requirements of the Specifications for Crossover Construction with regard to secondary crossovers. It was also made evident that in order for the proposal to comply, access must be made via the existing crossover and a plan provided that demonstrates that all turning movements can be achieved.
25. It is noted that in order to comply with the requirements of Asset Planning, two options exist:
1. Redesign the carport to be parallel with the street, with access via the existing crossover; or
 2. Have the carport located on the existing driveway thereby utilising the existing crossover.

If Option 1 is chosen, then the proposal would be in conflict with the Environmental Health requirements given the parallel design would require the carport and connecting driveway to be constructed over the existing septic and leach drains which would not be supported.

External Referrals

26. The applicant conducted their own advertising as part of the development application process and returned a number of signatures of non-objection (Please see Attachment 3). This was in turn followed up by the City's own advertising. The proposal was advertised for a total of 14 days in accordance with the City's P-DEV 45 – Public Notification of Planning Proposals. During the advertising a total of three responses were received, comprising of all non-objections.

FINANCIAL CONSIDERATIONS

27. Nil.

STRATEGIC COMMUNITY PLAN

Strategic Planning Alignment

28. *Kalamunda Advancing Strategic Community Plan to 2027*

Priority 3: Kalamunda Develops

Objective 3.1 - To plan for sustainable population growth.

Strategy 3.1.1 - Plan for diverse and sustainable housing, community facilities and industrial development to meet changing social and economic needs.

SUSTAINABILITY

Social Implications

29. The construction of the carport in its proposed location may lead to occupants, other than those that provided submissions, feeling that the amenity of the area has been impacted.

Economic Implications

30. Nil.

Environmental Implications

31. No vegetation is proposed to be cleared.

RISK MANAGEMENT CONSIDERATIONS

32.	Risk: The carport may have a negative impact upon the visual amenity of the street		
	Likelihood	Consequence	Rating
	Likely	Moderate	High
	Action/ Strategy		
	Ensure that Council is aware that the location of the carport is not compliant with the requirements of the relevant R Code requirements and that approval may set an undesirable precedent.		

OFFICER COMMENT

33. The proposed carport is seeking a significant variation to the requirements of the R Codes (approx. 83%). It is noted that the applicant has offered to increase the front boundary setback to 3m if required. It is acknowledged that the other options available for the applicant are limited and may involve some cost in cutting back a portion of the existing house or clearing vegetation at the side of the property. However, on balance the proposed location of the carport with a reduced building setback of either 2m or 3m is considered to have too significant of an impact upon the existing streetscape for current and future residents of the area.
34. Should Council resolve to approve the carport the carport will become part of the 'established streetscape' as identified under Clause 5.1.2 of the R Codes. Because of this, future applications in this particular street can make reference to the carport as justification. That notwithstanding, it is open for Council to approve the reduced front boundary setback having regard to matters outlined in Clause 67 of the Regulations which are summarised in Part 10 of this report.
35. It is considered that the setback requirements for a lower density R5 coded area is to establish an open and aesthetically pleasing streetscape, which is achieved by ensuring compliance with primary street setback requirements and objectives of the R Codes. In this instance, the location of the proposed carport does not satisfy these requirements. Issues relating to vehicle movements have also been

expressed from an Asset Planning perspective and potential conflicts exist with the existing wastewater treatment on the site.

Voting Requirements: Simple Majority

RECOMMENDATION

That Council:

1. Refuses the application for a proposed carport at Lot 75 (50) Waterloo Crescent, Lesmurdie, for the following reasons:
 - a) The proposed primary street setback of 2m is not compliant with the deemed-to-comply requirements or design principles of Clause 5.2.1 C1.2 (Setbacks of Garages and Carports) of State Planning Policy 3.1 – Residential Design Codes.
 - b) The carport would have a detrimental impact upon the visual amenity of the existing streetscape.
 - c) The carport design and location as submitted, is not consistent with the principles of orderly and proper planning.

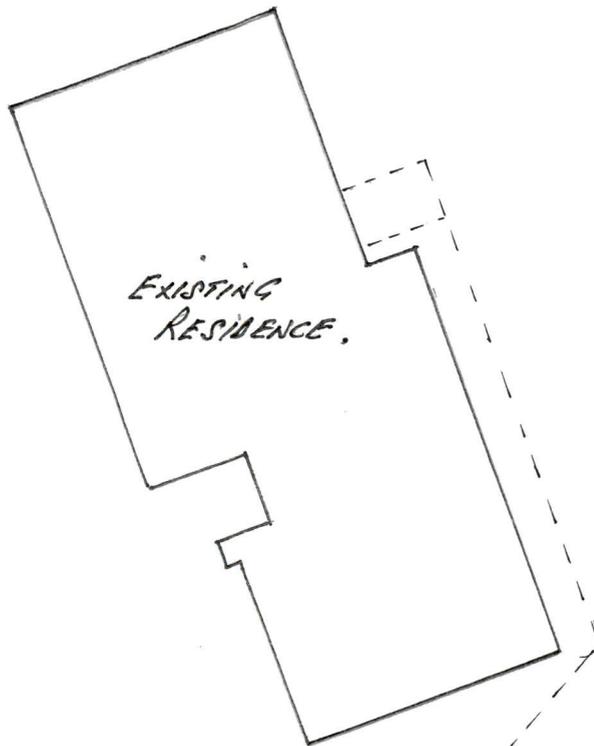
204

LOT 76

LOT 75

LOT 73

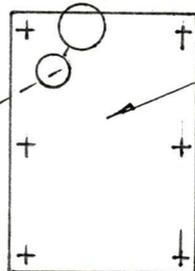
SCALE 1:200



52.57M

LOT 74

SEPTIC TANKS &
LEACH DRAIN



PROPOSED CARPORT.
K & A MOORE
50 WATERLOO CRESCENT
LESMURDIE.

Adjoining and Opposite Road Neighbours to 50 Waterloo Crescent

We as owners of 50 Waterloo Crescent Lesmurdie have spoken to the following property owners about our proposal to build a carport for our caravan. They have viewed the proposed plans and have no objections to us building this carport.

Address: 2 Amaroo St Lesmurdie

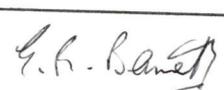
Name	Signature	Date
RICHARD CAWSTAN		16/11/17

Address: 52 Waterloo Crescent Lesmurdie

	Matt Latham	16/11/17
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Name	Signature	Date
Ken Bredemeyer		16/11/17

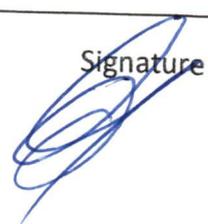
Address: ~~49~~ Waterloo Crescent Lesmurdie
47 KRB

Name	Signature	Date
SMITH, E.A.		16/11/17

Address: 51 Waterloo Crescent Lesmurdie

Name	Signature	Date
------	-----------	------

Address: 53 Waterloo Crescent Lesmurdie

Name	Signature	Date
Address 49 WATERLOO CRES LESUMURDIE		16/11/17

Nature of Submission	Submitter Number	Applicant's Justification	Officer Comment
No Objection	1, 2	Nil.	Noted.



Caravan On Site



Caravan on Site



Caravan on Site, View from Street



Existing Streetscape



Existing Streetscape



Existing Streetscape



Existing Streetscape



Existing Streetscape

10.2.3. Proposed Early Learning Centre and Clearing of Vegetation - Lot 202 (200) Lesmurdie Road, Lesmurdie

The Director Development Services advised Councillors and the community this item has been withdrawn from the Ordinary Council Meeting and a community consultation forum will be provided at a later date.

Declaration of financial / conflict of interests to be recorded prior to dealing with each item.

Previous Items	Nil
Directorate	Development Services
Business Unit	Approval Services
File Reference	LS-03/200
Applicant	Saleeba Adams Architects
Owner	St Brigids Convent of Mercy Perth Inc.
Attachments	<ol style="list-style-type: none"> 1. Disability Access Report [10.2.3.1] 2. Environmental Noise Report [10.2.3.2] 3. Flora and Vegetation Report [10.2.3.3] 4. Heritage Report [10.2.3.4] 5. Revised TIA [10.2.3.5] 6. Revised BMP [10.2.3.6] 7. Site Plans [10.2.3.7] 8. Elevation Plan [10.2.3.8] 9. Submitters Table [10.2.3.9] 10. Clearing Extents Map [10.2.3.10]
Confidential Attachments	<ol style="list-style-type: none"> 11. Submitter Map [Confidential 10.2.1.1] 12. Full Response from Submitter [Confidential 10.2.1.2]

EXECUTIVE SUMMARY

1. The purpose of this report is to consider a development application for the conversion and extension of Lesmurdie House into an Early Learning Centre at Lot 202 (200) Lesmurdie Road, Lesmurdie. The Early Learning Centre is an existing use, which is planned to be relocated to the proposed new facility.
2. Incorporated into the proposal is a portion of selective vegetation clearing in an area of roughly 2500sqm. The applicant submits that the clearing is due to bushfire safety requirements and the installation of car parking and an associated access way.
3. The proposal was advertised in accordance with the City's Local Planning Policy P-DEV 45 (Public Notification of Planning Proposals). A total of 41 responses were received, comprising 38 objections with comments, two non-objections with comments, and a response that was considered to be a submission on the proposal without support nor objection.
4. The proposal was referred to the Department of Fire and Emergency Services (DFES), Heritage Council of Western Australia and the Department of Water and Environmental Regulation (DWER). No objections to the proposal were returned by these departments.

- 5. It is recommended that Council approve the application, subject to appropriate conditions as outlined in the recommendation.

BACKGROUND

6. **Land Details:**

Land Area:	12.99 Hectares
Local Planning Scheme Zone:	Residential R5, Private Clubs and Institutions
Metropolitan Regional Scheme Zone:	Urban

7. **Locality Plan:**



8. The subject site is surrounded on all sides by existing residential development. Historical aerial footage suggests that the school has been present on site in one form or another since approx. 1965.
9. The site itself contains the existing school, playing fields, a creek and areas of both native and non-native vegetation.
10. Over the years the site has had a number of planning and building approvals granted. These approvals cover a range of educational services associated with the St Brigid's College, including extensions of a gymnasium, patio, courtyards, and drop-off and pick-up areas.
11. The Early Learning Centre is an existing use, which is planned to be relocated to the proposed new facility within the subject site. The proposal is not seeking to increase the number of students at the College but is providing a new facility for them to operate within.

DETAILS

12. The applicant is seeking approval to undertake the following works:
 1. Repurposing of the existing Lesmurdie House as an Early Learning Centre for 3 and 4-year-old children;
 2. Provision of a new access road and car parking area for the Early Learning Centre; and
 3. Managed selective clearing of vegetation in an area comprising 2,500sqm for bushfire safety and access requirements.
13. In support of the proposal the applicant has prepared the following documents, which are available as attachments to this report:
 - a) Disability Access Report
 - b) Environmental Noise Report
 - c) Flora and Vegetation Report
 - d) Heritage Report
 - e) Traffic Impact Assessment (Later Revised)
 - f) Bushfire Management and Evacuation Plan (Later Revised)
14. The applicant submits that as part of the proposal the centre will operate between the hours of 8:30am and 3:00pm, with staff arriving on site at 8:00am. The days of operation are to be Monday to Friday, excluding weekends and holidays.
15. The existing Lesmurdie House is a registered Heritage location and is place number P16819 on the State Heritage Register. The applicant proposes a minor extension to the structure and refurbishment in line with the heritage nature of the building.
16. The setbacks for the existing structure are as follows:
 - a) Front Boundary Setback: 130m (Lesmurdie Road)
 - b) Rear Boundary Setback: 40m
 - c) Side Boundary Setback (South): 296m
 - d) Side Boundary Setback (North): 331m

Development plans for the proposal can be seen in Attachments 10.2.3.7 and 10.2.3.8.

STATUTORY AND LEGAL CONSIDERATIONS

Local Planning Scheme No. 3

17. The subject property is partially zoned "Residential R5" and "Private Clubs and Institutions" in accordance with Local Planning Scheme No. 3 (the Scheme). The portion of the site comprising the development proposal is zoned Residential R5.

Under Clause 4.2.1 the objectives of the residential zone are as follows:

1. *To provide primarily for single residential development whilst allowing for a range of densities in order to encourage a wide choice of housing types within the City.*
2. *To give consideration to grouped dwelling developments if the site is near amenities and can be integrated into the single residential environment.*
3. *To facilitate a range of accommodation styles and densities to cater for all community groups inclusive of the elderly, young people in transition and the handicapped. Such accommodation is supported where it is appropriately situated in proximity to other services and facilities.*
4. *To encourage the retention of remnant vegetation.*

Under Clause 4.2.5 the objectives of the private clubs and institutions zone are as follows:

1. *To make provision for privately owned or operated schools, clubs, recreation facilities and similar uses.*
2. *To make provision for privately owned or operated nursing homes, retirement villages, and a range of other residential uses which would be compatible with the type of non-residential uses referred to above.*
3. *To ensure that such uses have due regard and do not adversely impact upon the adjoining land uses.*

18. Under the Scheme, an Educational Establishment is defined as follows:

"Educational Establishment" means premises used for the purposes of education and includes a school, tertiary institution, business college, academy or other educational centre."

19. Under the Scheme an Educational Establishment is a 'P' (Permitted) use in the Private Clubs and Institutions zoning, and an 'A' use in the Residential zoning, which means that Council may choose to approve the application after first advertising it for public comment.

Planning and Development (Local Planning Schemes) Regulations 2015

20. In considering an application for planning approval, Clause 67 of *The Planning and Development (Local Planning Schemes) Regulations 2015* (the Regulations) requires Council to have due regard to a number of matters, including:

1. The compatibility of the development within its settings;

2. Amenity in the locality;
3. The amount of traffic to be generated by the development, particularly in relation to the capacity of the road system and effect of traffic flow and safety; and
4. Any relevant submissions received on the application.

Heritage of Western Australia Act 1990

21. As noted above the site is currently on the State Heritage List under place number P16819. For this reason, any development that is proposed to be undertaken is required to be referred to the Heritage Council for their consideration and comment.

POLICY CONSIDERATIONS

State Planning Policy 3.7 – Planning in Bushfire Prone Area (Western Australian Planning Commission)

22. The subject site falls within a bushfire prone area and is required to comply with State Planning Policy 3.7 – Planning in Bushfire Prone Areas (SPP 3.7). The intent of SPP 3.7 and the associated Guidelines for Planning in Bushfire Prone Areas, is to implement effective, risk based land use planning and development to preserve life and reduce the impact of bushfire on property and infrastructure.
23. The application was referred to the DFES because the proposed use is deemed “vulnerable”. As per the requirements of SPP 3.7, the applicant has lodged a Bushfire Management Plan (including evacuation plan).

COMMUNITY ENGAGEMENT REQUIREMENTS

Internal Referrals

24. The City undertook an initial assessment and determined the proposal required review from an Environmental Health, Engineering and Environmental perspective.
25. Subsequently, the City requested a revised Traffic Impact Assessment report. This was provided and following review was supported. No further information was requested.
26. Various conditions have been included as part of the Officer Recommendation section of this report.

External Referrals

27. The proposal was advertised in accordance with the City’s Local Planning Policy P-DEV 45 (Public Notification of Planning Proposals) for a total period of 56 days (this included additional and extended advertising over the Christmas period). As part of this advertising the following occurred:
 1. Letters were sent out to surrounding neighbours inviting comment.
 2. A notification was placed on the City’s social media and online comment section of the website.

3. A notice was placed in the local newspapers for a total of 14 days
 4. A sign was erected on site and a community information session held.
28. During the advertising period a total of 38 objections, 2 non-objections, and a comment on the proposal were received.
29. In addition to the above, the proposal was referred to the Heritage Council of WA, the DFES and the DWER. All external agencies returned no objection to the proposal.
30. The Heritage Council upon assessment of the proposal stated the following as part of their assessment:
1. The Lesmurdie Group is a collection of buildings encompassing St Brigids, St Swithuns and Lesmurdie House. They have cultural heritage significance as a landmark complex of buildings.
 2. The application is for a change of use to Lesmurdie House, with associated works and conservation works.
 3. The proposed change of use is to an early education complex, which is compatible with the use of the larger school complex, and which requires minimal change to significant fabric to facilitate the change.
 4. The proposal is a positive outcome for the area.

A number of conditions relating to general upkeep of the building were requested to be placed on any approval, should it be granted by the City. These conditions have been included in the Officer Recommendation section of the report.

31. The DWER indicated that they intended to undertake additional investigations into the potential for asbestos contamination nearby to the site. It is considered that this is a separate issue to the application at hand, and that if asbestos is noted then appropriately certified personnel can be engaged by the applicant to undertake the removal/remediation of the substance from the site prior to commencement of works/operations.
32. The following key concerns were raised as part of the objections from surrounding landowners:
- a) The proposal is not in keeping with the heritage purpose of the site;
 - b) Alternate locations for car parking should be considered;
 - c) The clearing will impact upon local fauna;
 - d) The clearing will result in the loss of vegetation;
 - e) The proposal will impact unduly upon the amenity of surrounding residents;
 - f) Traffic will use the emergency access roads; and
 - g) The additional traffic will cause congestion.

A full summary of all comments and concerns can be noted as Attachment 10.2.3.3.

33. In response to the above key concerns, the Applicant submits as follows:
- a. *The proposal is not in keeping with the heritage purpose of the site:*

The Heritage Council of WA has been liaised with throughout the course of this application and was referred to as part of the application. They have returned no objection to the proposal, instead stating that it would be a positive outcome for the area.

b. Alternate areas for the car parking should be considered:

Other possible locations for parking are a significant distance away from the entry to the Early Learning Centre and unsuitable for drop-off and pickup which requires convenient, short term/high turnover of parking bays. In addition to this the gradient of the land to the north of Lesmurdie House is too steep for parking and unable to meet universal access requirements. The land to the south-east of Lesmurdie House is also sloping and is not as level as the proposed area. Both of these areas slope toward, and are closer to the Lesmurdie Falls Creek than the proposed parking areas.

c. The clearing will impact upon local fauna and flora:

The College engaged local environmental consultants Mattiske Consulting to undertake a flora and vegetation study of the area to be cleared/parkland managed. The key findings of the study were that no declared or listed threatened or priority flora species were found and no suitable hollows for the protected Black Cockatoos were recorded. In summary, the proposed works could not be considered significant in the local or regional context for the foraging activities of the Black Cockatoos. It should be noted that a number of mature trees are being retained as part of the parkland management strategy.

In addition to the above, the applicant has provided a clearing extents map that outlines which trees are to be retained and which trees are to be removed. This map is included as Attachment 10.2.3.4.

d. The clearing should not occur

The land clearing area is a DFES request known as an "Asset Protection Zone" that is required around the building to reduce vulnerability to bushfire attack. The proposal is not for total clearing but rather "parkland management" which clears the understorey and allows retention of a percentage of existing trees. Car parking is being collocated in these areas as it also assists in reducing fuel load and achieving compliance and stops the need for clearing in other areas for parking. This strategy is fully supported by DFES.

e. Traffic will use the Emergency Access Roads

The Emergency Access Ways will require gates to be fitted in accordance with SPP. 3.7. These gates would only be opened in an emergency.

f. The additional traffic will cause congestion

The Early Learning Centre is not increasing the number of students at the College, it is simply redistributing the existing traffic around the existing road network. As noted in the Traffic impact statement "During both AM and PM peak hour periods, the roundabout (on Lesmurdie Road) will continue to operate at level of service A, which indicated good operations."

g. There will be large impacts upon the amenity of surrounding residents

A number of specialist studies have been undertaken to assess the potential impact of the Proposed Early Learning Centre on the surrounding Community. Including, but not limited to:

- i. Heritage
- ii. Noise
- iii. Bushfire
- iv. Environmental
- v. Traffic
- vi. Civil

Each report has found that the proposed Early Learning Centre complies with all relevant legislation. Furthermore, the proposed use of Lesmurdie House as an Early Learning Centre will provide a unique opportunity for significant heritage conservation work to be undertaken on the building by the College, improving the overall amenity of the area and ensuring that a building with great local historical significance can be enjoyed by many future generations to come.

All specialist reports have been included as attachments to this report.

FINANCIAL CONSIDERATIONS

34. In the event that Council resolves to refuse the application, it is anticipated that the proponent will appeal the decision to the State Administrative Tribunal. Notwithstanding that Council has its own General Counsel, there may be costs incurred in the City engaging expert planning witnesses, which could be in the vicinity of \$20,000 to \$40,000.

STRATEGIC COMMUNITY PLAN

Strategic Planning Alignment

35. *Kalamunda Advancing Strategic Community Plan to 2027*

Priority 3: Kalamunda Develops

Objective 3.1 - To plan for sustainable population growth.

Strategy 3.1.1 - Plan for diverse and sustainable housing, community facilities and industrial development to meet changing social and economic needs.

SUSTAINABILITY

Social Implications

36. Redistribution of persons visiting the site may have an impact upon the amenity of the surrounding properties.
37. Any clearing on the property may lead to public concern.

Economic Implications

38. Approval of the proposal will initiate construction activity and in-turn employment and other commercial activities.

Environmental Implications

39. Approving the parkland clearing of land will lead to a loss of some trees and understorey within the area and potential impacts upon the local fauna.

RISK MANAGEMENT CONSIDERATIONS

40.	Risk: The amenity of the area is unduly affected.		
	Likelihood	Consequence	Rating
	Unlikely	Moderate	Low
	Action/Strategy		
	Ensure that all operational reports provided by the applicant are adhered to at all times to assist in reducing the level of impact upon the surrounding area.		
	Risk: Additional clearing may occur outside of the proposed levels.		
	Likelihood	Consequence	Rating
Rare	Significant	Medium	
Action/Strategy			
Ensure that all clearing is in line with approved plans and DFES requirements.			

OFFICER COMMENT

41. Following assessment, it is noted that all site requirements (setbacks, site coverage) of the proposal have been complied with. In addition to this, all parking requirements of the Scheme have been adhered to. It is therefore considered that the proposal complies with the provisions of the Scheme as they relate to these requirements.
42. The proposal has been referred to the DFES, DWER and the Heritage Council of WA. All external bodies have returned support of the proposal.

43. In response to the key concerns raised during the public submission period, the following is considered:

a. The proposal is not in keeping with the heritage purpose of the site:

The Heritage Council of WA has advised the City that they have no objection to the proposal.

b. Alternate areas for the car parking should be considered:

The applicant has outlined various justifications as to why alternate parking locations cannot be considered on site. It is considered that to move the drop-off parking further away from the Early Learning Centre would negate the purpose of the parking. In addition to this, they have submitted that the Heritage Council did not support parking on the east side of the structure as it would conflict with existing structures.

c. The clearing will impact upon local fauna and flora:

The flora and fauna assessment supplied notes that despite extensive searching on the site no trees were found to be suitable for habitation by protected Black Cockatoos. In addition to this, the report notes that it is unlikely that the trees on site would be considered a significant habitat for the Black Cockatoos.

d. The clearing should not occur:

While it is a concern that any clearing of vegetation is taking place on site, the applicant has made it evident that the proposed clearing is for the purposes of bushfire management and safety. In addition to this, the clearing is to be managed in line with the approved Bushfire Management Plan, which would mean a reduction in ground cover and smaller stand trees and the conservation of large and existing significant trees.

In addition to this, Attachment 10.2.3.10 outlines the extent of the selective removal of vegetation to be undertaken. In this regard eight significant trees are proposed to be removed to accommodate the proposal. A significant tree is considered to be one that has a trunk diameter or 300mm or greater. Within the clearing zone a total of nine significant trees are being retained.

It is considered that for the site to be compliant with SPP3.7 and safe for children, a level of clearing will be required to occur.

e. Traffic will use the Emergency Access Roads:

The plans supplied within the Bushfire Management Plan note the provision of emergency Fire Access and Evacuation roads (Fire Service Route). The intent would be for these roads to only be used during an emergency and access appropriately managed outside of these times.

f. The additional traffic will cause congestion:

The applicant has stated that the purpose of the new centre is to relocate a portion of an existing centre on site. For this reason, it is considered that the number of cars attending the site will not increase, as the total number of students has not altered.

g. There will be large impacts upon the amenity of surrounding residents:

St Brigid's has been operating as an educational establishment in this area for some time, and as such Lesmurdie House has been used over the years for various educational purposes. It is considered that given the proposed setbacks, retention of existing vegetation where possible, number of children and hours of operation on site the Early Learning Centre will be a low impact use. The impacts of the proposal on surrounding properties will be managed through the requirements of the various supporting documents and recommended planning conditions.

44. Having consideration for the information supplied and submissions received, it is considered that the proposed Early Learning Centre can be approved. The proposal is in keeping with the predominant land use already undertaken within the existing school premises. The applicant has also addressed, to the satisfaction of the City and other key government agencies, concerns pertaining to the environment, bushfire, traffic, and heritage.
45. The proposal complies with applicable aspects of the City's Scheme. It is noted that there is community concern regarding the potential effect on the amenity of the area and the environmental impacts associated with proposed clearing. Having regard for the information submitted, the City is satisfied that these matters have been appropriately mitigated and addressed where possible.

Voting Requirements: Simple Majority

RECOMMENDATION

That Council:

1. Approves the applications for a proposed Early Learning Centre and clearing of vegetation at Lot 202 (200) Lesmurdie Road, Lesmurdie, subject to the following conditions:
 - a) The development shall be carried out only in accordance with the terms of the application as approved herein, and any approved plans or supporting documentation.
 - b) All septic sewer systems including all tanks, pipes and associated drainage systems (soakwells or leach drains) are to be decommissioned, removed, filled with clean sand and compacted. The applicant must provide a statutory declaration to the City of Kalamunda stating that the site has been inspected and all effluent disposal systems have been removed. A pro-forma for this declaration is available from the City of Kalamunda.

- c) A new effluent disposal system that complies with the *Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulation 1974* must be installed.
- d) A Construction Management Plan shall be submitted to the City prior to commencing the earthworks on the site. The Construction Management Plan shall address dust, noise, vibration, potential contamination, drainage, and asset protection.
- e) All stormwater produced on the land subject to this approval shall be contained on site and/or appropriately treated and disposed to the satisfaction of the City of Kalamunda. No stormwater drainage shall be channelled or discharged onto road drainage or upon any lot that is not subject to the extent of works as shown on the approved plans.
- f) If the development causes any obstruction, alteration or interference with a natural water course to the detriment of surrounding land, then the applicant shall rectify the cause of such obstruction, alteration or interference to the satisfaction of the City of Kalamunda.
- g) A Traffic Control Plan, incorporating a truck schedule and access to the site plan is to be submitted for approval by the City before commencing any construction work.
- h) Prior to obtaining approval from the City of Kalamunda, no works relating to clearing of vegetation, trees and earthworks shall be carried out on site and adjacent areas.
- i) Vehicle access-ways shall be suitably constructed, sealed and drained to the specifications and satisfaction of the City of Kalamunda.
- j) Crossovers shall be designed and constructed to the specification of the City of Kalamunda.
- k) Hours of operation to be between Monday and Friday, 8:00am to 3:00pm, excluding public and school holidays.
- l) A maximum number of 60 children are to be in attendance at any one time.
- m) Prior to the issue of a building permit, the applicant is to submit a landscape plan to the specification and satisfaction of the City of Kalamunda.
- n) Landscaping as part of the approved landscaping plan is to be planted prior to commencement of the Early Learning Centre to the satisfaction of the City of Kalamunda.



Occupational Therapists
Disability Access Consultants

26 October 2017

Grant Adams
Saleeba Adams Architects
16 Churchill Avenue
Subiaco WA 6008

Dear Grant

SITE AND PLAN REVIEW *for* ST BRIGID'S COLLEGE – PROPOSED EARLY LEARNING CENTRE (LESMURDIE HOUSE)

Thank you for the opportunity to meet onsite and review with yourself and Yen Nee Goh, Architect, Hocking Heritage Studio, this building which is entered on the Register of Heritage Places. I understand the building previously served as a boarding house and the proposal is for it to be converted to a Class 9b Early Learning Centre (ELC) to service young children attending St Brigid's College. My understanding is, the building will be upgraded and refurbished, and the interior will be fitted out and arranged by the ELC Principal, to ensure room allocation and the like will service the needs of staff and students and teaching practices relevant to an early learning facility. Following our initial site visit I have met with yourself and Hannah Bartlett-Wynne on two occasions as the design has progressed and design changes to the Schematic Floor and Site Plan have occurred. This report represents a second revision of our review of the existing condition of the building and then the Schematic Design.

Current condition

The building, which I understand was constructed in the early 1900's is currently furnished as a boarding house, but I believe is currently closed with no apparent use at this time. The building is two storeys with numerous entrances, some minor and significant level changes within the lower level building and an internal heritage staircase to an upper level. The lower level steps out to a gravel car park. There is a doorway from the upper level (part of which I understand is an addition to the original building) onto the rear of the lot. There is a significant change in level between the front and rear of the site, and the rear upper level and lower level of the building. There is an arbour /grape vine at the rear lower level that is intended to be retained as it too forms part of the heritage value of this building and site.

In attending site with Yee Nee Goh, the Architect from Hocking Heritage Studio, we could ascertain where there may be capacity for removing for example the door leaf /door stops within various doorways in this building, to create wider openings and thus some of the recommendations below are reflective of this. OHA has developed four tables, with comments pertaining to the capacity to retain door leaves / door circulation space and the like. This information is detailed in:

- Appendix 1: Door Schedule – Entrance / External Doors to the Lower Level
- Appendix 2: Door Schedule –Lower Level – Internal Doors
- Appendix 3: Door Schedule – Entrance / External Doors to the Upper Level
- Appendix 4: Door Schedule –Upper Level – Internal Doors

Room names for these four appendices are based on the following plans (attached at the conclusion of this report):

- AC01 - St Brigid's College - ELC As Constructed Ground Floor Plan
- AC02 - St Brigid's College - ELC As Constructed Upper Floor Plan

Schematic Floor Plan assessment

Where new building works will be proposed, compliance with the current requirements of the Building Code of Australia /Premises Standards and referenced Australian Standards on access and mobility will be required. Where the existing building structure may be retained, for example heritage doorways, a performance based approach may be necessary.

In the development of this revised report I have referred to the following plans:

- SK00(e) Schematic Floor Plan
- SK01(e) Site Plan

References

- Disability (Access to Premises – Buildings) Standard 2010 (*the Access Code of the Premises Standard*)
- Disability (Access to Premises – Buildings) Standards Guidelines Version 2, February 2013 (*the Guidelines*)
- National Construction Code Series Volume One. Building Code of Australia 2016 Class 2 to Class 9 Buildings (*BCA 2016*)
- AS1428.1 2001 – Design for Access and Mobility – General Requirements for Access – New Building Works (*AS1428.1 2001*) (*superseded*)
- AS1428.1 2009 Design for Access and Mobility – General Requirements for Access – New Building Works (*AS1428.1 2009*)
- AS1428.4.1 2009 Design for Access and Mobility – Means to assist the orientation of people with a vision impairment - Tactile ground surface indicators (*AS1428.4.1 2009*)
- AS2890.6 2009 Parking Facilities – Off-street parking for people with disabilities (*AS2890.6 2009*)
- AS2890.1 2004 – Parking Facilities – Off-street Car Parking (*AS2890.1 2004*)

- AS1735.12, 1999 Lifts, escalators and moving walks – Facilities for persons with disabilities (**AS1735.12 1999**)
- Disability Discrimination Act 1992 (*the DDA*)
- AS1428.2 1992 Design for Access and Mobility – Enhanced and Additional Requirements – Buildings and Facilities (**AS1428.2 1992**)
- Advisory Note on streetscape, public outdoor areas, fixtures, fittings and furniture. Human Rights Commission, 8 February 2013 (**Advisory Note - Landscaping**)

Exempt areas

Areas considered exempt from provision of access for people with disabilities are those potential/proposed spaces access would be inappropriate because of the purpose for which the area is used or an area that would pose a health or safety risk for people with a disability, or the area is solely used by staff undertaking such duties. These spaces may include:

- Cleaner's Store
- Storage
- Commercial kitchen (Kitchen)
- Laundry
- Staff Bathroom

I understand the college has confirmed that due to the duties required to be undertaken by teaching staff employed at the ELC, that no staff member could be employed in this building, with a physical disability such that they required the layout, circulation space and fittings and fixtures of a unisex accessible toilet. Thus, the revised Schematic Design provides standard sanitary facilities for staff in the existing domestic style bathrooms on the upper level of the building.

Accessible parking

1. Accessible parking

1.1 An accessible parking bay is proposed to the lower level of the site, convenient to the Public Entry, meeting bay number requirements of the Premises Standards /BCA D3.5, and the requirement of AS2890.1 2004 where it states that the accessible parking bays are to be located near the accessible entrance(s) to a building.

1.2 The lower level bay nearest the Main Entry, on assessment using the PDF reviewing tool Bluebeam Revu, meets the dimensional requirements length, width and for the dedicated bay and shared area.

Recommendations

Ensure the new accessible parking bays meet the rigors of AS2890.6 2009 Clauses 2.2.1 (dimensions), 2.3 (pavement slope and surface), 3.1 (space identification) and 3.2 (space delineation) requirements.

External access

2. Access to buildings

2.1 Part D3.2 of the BCA /Premises Standards states that:

“An accessway¹ must be provided to a building required to be accessible:

- (a) From the main points of a pedestrian entry at the allotment boundary; and
- (b) From another accessible building connected by a pedestrian link; and
- (c) From any required accessible car parking space on the allotment.”

Recommendation

On review of Google Streetview, it is evident there is a short length of footpath into the school grounds, but no extension of the path to Lesmurdie House. It is recommended that investigation is undertaken to extend the existing footpath to Lesmurdie House.

My recollection from our site visit is the slope up to Lesmurdie House may be in excess of the acceptable gradients for a walkway (as per AS1428.1 2009 requirements) and this may therefore necessitate that a Performance Solution is developed for retention of these lengthy grades given the existing and challenging topography of the site. It is also acknowledged that resolution of this may not fall into the scope of work of this project.

3. Accessible paths of travel

3.1 On review of the Schematic Floor Plan it is evident that interconnecting paths between parking, the accessible parking and the entrances (including the Staff Entry at the upper level) are proposed, with a gradient not in excess of 1:20 and regularly placed flat landings, meeting requirements for walkways (AS1428.1 2009 Clause 10.1, 10.2 and 10.8.1) and accessways [Premises Standards / BCA D3.2(b) and (c)].

3.2 It is noted that steps are retained throughout as a means of efficient movement through the site. Where stairways are proposed, there are also 1:20 walkways proposed nearby, providing an accessible and equitable means of access for people unable to use stairs, including wheelchair and pram users, to move through the key points on site.

Recommendation

Design all external accessible paths of travel to AS1428.1 2009 requirements as per AS1428.1 2009 Clause 6 (continuous accessible path of travel), Clause 7 (surfaces including grates and surface abutments), Clause 9 (tactile ground surface indicators), Clause 10 (walkways and landings), and Clauses 11 and 12 (stairways and handrails).

¹ An accessway means a continuous *accessible* path of travel (as defined in AS 1428.1) to, into or within a building. (Premises Standard Definition A1.1)

A continuous accessible path of travel as defined in AS1428.1 means “an uninterrupted path of travel to, into or within a building providing access to all accessible facilities.”

Entrances

4. Main Entry

4.1 The Premises Standards state, in regards access to buildings D3.2(2), that:

“In a building required to be accessible, an accessway must be provided through the principal pedestrian entrance and through not less than 50% of all pedestrian entrances including the principal pedestrian entrance.”. On review of the Schematic Floor Plan there is one principal pedestrian entrance, the Main Entry, and this will need to have all necessary accessible design features.

Recommendations

Ensure the Main Entry achieves all requirements of AS1428.1 2009 Clause 6 and 13, with particular attention paid to attainment of:

- *No lip or step at the door;*
- *The minimum clear open door width requirements of 850mm (including to the active leaf of double doors);*
- *Internal and external door circulation space requirements;*
- *Compliant door hardware;*
- *Door luminance contrast requirements;*
- *Glazing treatment;*
- *Operational weight of doors fitted with a door closer.*

5. Secure Entry

5.1 There is a double swing door proposed as the Secure Entry. The methodology for securing this doorway is not yet understood.

Recommendation

In accordance with AS1428.1 2009 Clause 13.5.3(c), install any swipe card 900–1250mm high and at least 500mm from an internal corner.

Any call bell (for visitors) associated with the Secure Entry is to be installed 900–1100mm high and at least 500mm from an internal corner.

6. Door hardware – Early childhood centres

6.1 Note that AS1428.1 2009 Clause 13.5.3 prescribes an exemption for attaining the gate/door hardware height requirements for early childhood centres.

Recommendation

In the instance where a gate or door features a high latch (to preserve the safety of the children), OHA are agreeable that the height requirements at these locations can be waived. However, all other access features must still be achieved (e.g. door width, door circulation space, luminance contrast, operational weight etc).

Vertical access – Internal

7. Heritage stairway

7.1 Currently the only formal method of vertical access associated with this site /building is an internal heritage stairway.

7.2 The access barriers associated with this stairway include:

- No handrails, with a balustrade only to the open side;
- A midway pinch point between the wall and balustrade of 990mm (red arrow);
- As the wall tapers towards the stairway, a narrowing to 935mm at the base (blue arrow);
- A small landing at the base with a singular step at the base that intrudes into the transverse pedestrian traffic (green arrow);
- The treads protrude over the riser, with a bull nose profile;
- Warning strips on the stair nosings that would not meet the minimum 30% luminance contrast requirements;
- No warning style tactile ground surface indicators (TGSIs) installed at the top or base.

Recommendation

It is understood that, given the heritage value of this stairway, it is desirable that the stairway be retained in the current form, with minimal alteration. OHA would advocate that at a minimum the following is achieved:

- *Install a compliant handrail to AS1428.1 2009 Clause 11.2 and 12 requirements to at least one side (whilst also retaining the timber balustrade in the current condition), confirming with the building certifier that the timber balustrade meets safety/fall limitations.*

In installing the handrail, aim to:

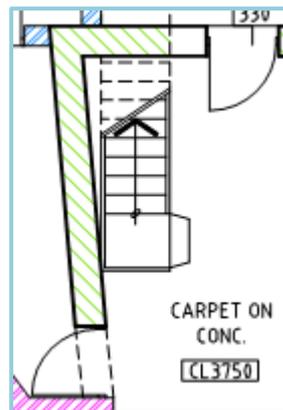
- *Minimise as far as possible the intrusion of the new handrail into the stairway width (whilst maintaining through the length a continuous handhold, handrail diameter and clearance to any obstruction).*
- *Maximise compliant handrail length as far as is feasible, including the required handrail extensions at the top and bottom landings.*

Further explorations of the various options that may be feasible will be necessary.

- *A 50-75mm deep, slip resistant nosing to the nosing of the tread of each step. An adhesive style of warning strip, similar to the product that is currently installed, is an acceptable treatment. However, an alternative colour will be necessary to ensure the 30% luminance contrast requirement to the stair tread can be achieved.*
- *Installation of warning style TGSIs at the top (minimum) and base (ideally). OHA see that the installation of warning TGSIs is an important safety measure to ensure any person with vision impairment is alerted of the hazard associated with the stairway.*

Retention of the stairway as one means of vertical access between the two levels is supported by OHA, assessed under the Performance Requirements of the BCA /Premises Standard, given the assumed heritage value of the stairway, and that with the above additions, will provide a

reasonable means of vertical access. In addition, OHA have been informed that the rooms to be accessed via this stairway are for staff only, all of whom complete tasks which fall under the D3.4 exemption, and that this stairway will not be accessible to members of the public.



Internal access

8. Internal level changes

8.1 The building currently has level changes (at doorways) throughout, ranging from between 150mm to 370mm. It is understood that the works associated with the change of use to an early learning centre will also include raising floor levels to eliminate significant internal level changes.

Recommendation

Be advised that any threshold at a door must be limited to no more than 35mm, to enable a threshold ramp to be installed as per the limitations described in AS1428.1 2009 Clause 10.5.

9. Door widths

Summary tables of all door widths of the building (as measured during our site inspection of 10 July 2017), circulation space attainment, lips, steps and the like is provided at the conclusion of this report:

Appendix 1: Door Schedule – Entrance / External Doors to the Lower Level

Appendix 2: Door Schedule –Lower Level – Internal Doors

Appendix 3: Door Schedule – Entrance / External Doors to the Upper Level

Appendix 4: Door Schedule –Upper Level – Internal Doors

- 9.1 During our site inspection, it was evident that the predominance of internal doors assessed achieved a clear open width with the door leaf retained, of between 715mm and 830mm. Retention of these doorways cannot not be justified in the existing condition as the clear open width does not meet contemporary requirements of AS1428.1 2009 (850mm) nor the superseded AS1428.1 2001 (800mm).
- 9.2 Should the adopted strategy be to remove the door leaves to the predominance of rooms and create *openings*, then a Performance Solution may need to be developed (at the request of and in consultation with the building certifier) to address the *openings* falling short (at widths of between 810mm and 990mm) of the minimum 1000mm width required for an *accessible path of travel* as per AS1428.1 2009 Clause 6.3. OHA would advocate that all *heritage openings* be no less than 800mm wide.
- 9.3 OHA cannot support retention of *openings*, where these fall short of the superseded AS1428.1 2001 requirements of 800mm, The only option would be for these rooms to be repurposed as exempt rooms* or a new entryway created with an *opening* of 1000mm or a doorway with a clear open width of 850mm.

*Rooms where door width and door circulation space is currently not achieved could be repurposed as 'exempted' rooms (for example, a commercial kitchen, archive or storage room, plant, laundry) and the non-compliant door width /door circulation space, step at the door, could be retained.

10. Doorways - Access features

- 10.1 In addition to the issues relating to clear open door width and door circulation spaces, there are also non-compliances with contemporary expectations in regards attainment of necessary door luminance contrast and door hardware requirements.

Recommendation

As refurbishment works are undertaken, ensure all elements of AS1428.1 2009 Clause 13 are achieved as far as is feasible to all doorways, with particular attention paid to attainment of door luminance contrast (Clause 13.1), glazing treatment (Clause 6.6) and door hardware requirements (Clause 13.5), noting OHA have provided a schedule of recommendations in regards door widths /circulation spaces in Appendices 1 through 4.

Where it is considered that attainment of some elements will be challenging due to heritage restrictions, OHA would be pleased to assist.

All new doors must meet all rigors of AS1428.1 2009 Clause 6, 7 and 13.

Sanitary facilities – Unisex accessible and ambulant toilets

11. UAT - Provision and design

11.1 A unisex accessible toilet and shower is proposed to the Lower Level. The nominated space for this accessible facility meets requirements when assessed using the PDF reviewing tool Bluebeam Revu. It is understood this toilet will serve two purposes, a facility for visitors but also a potential facility for a student who is a wheelchair user. It is understood this facility has been deliberately located to ensure it is accessible to visitors without them needing to enter the ELC (secure area). This facility could also service the Stage 2 development (future works) and the remainder of the ELC Lower Level.

Recommendation

Design the unisex accessible toilet and shower to AS1428.1 2009 Clause 13 (doorway requirements), Clause 14 (switches and controls) and 15 (unisex accessible toilet and shower) requirements.

12. Ambulant toilets

12.1 Due to the age of the building and lack of recent refurbishment, there are no ambulant toilets located on the Upper or Lower Level of this building. It is understood the staff toilets are to be retained in the same layout and arrangement as the existing condition, with cosmetic upgrade only.

12.2 It is assumed the Student Bathrooms will be furnished with junior pans. It is the approach of OHA that children's toilets that are furnished with junior pans need not be fitted out to include an ambulant facility.

12.3 It is noted a spacious shower recess is proposed to the Student Bathroom1.

Recommendation

Investigate providing an ambulant toilet in the Staff Bathroom 1, to AS1428.1 2009 Clause 16 requirements.

Switches and controls

13. Lights

13.1 Existing lights are set at various heights including up to 1400mm.

Recommendation

All new switches and controls, particularly to the unisex accessible toilet, are to meet Clause 13 and 14 requirements.

Where there are existing lights, and these are considered to have heritage value, retain the lights in the current location, however recognising that should a person be employed and they are

unable to undertake duties due to the light switch position, adjustments will be required at the time, to lower (or relocate) the switches.

14. New controls

14.1 OHA did not observe any security panels or swipe card points on our site assessment.

Recommendation - General

Switches and controls along an accessible path of travel [may include light switches, after hours press button door release (not powered), air conditioning, but not include GPOs] are to be installed 900–1100mm high and not less than 500mm from an internal corner, except where on the architrave on the latch side of a door as per AS1428.1 2009 Clause 14.1 & Figure 37.

Where the control is a manual control to a power operated door, the control is to be located on the accessible path of travel, no closer than 500mm from an internal corner and between 1000 to 2000mm from the hinged door leaf in any position or clear of a surface mounted sliding door in the open position. The control requires a minimum dimension of 25mm in diameter, be proud of the surface and shall activate the door before the button becomes level with the surrounding surface as per AS1428.1 2009 Clause 13.5.3 (e) & 13.5.4.

Recommendations - Accessible sanitary facilities

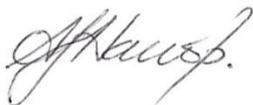
Any switch within an accessible sanitary facility (e.g. light switch) is to be installed 900–1100mm high and not less than 500mm from an internal corner, except where on the architrave on the latch side of the door.

Any GPO to be installed 600–1100mm high and not less than 500mm from an internal corner.

Switches that require either a rocker action or be a toggle style and have a minimum dimension of 30x30mm. A push pad switch requires a minimum dimension of 25mm in diameter as per AS1428.1 2009 Clause 14.1 & Figure 37.

Should you require any further information I would be pleased to assist,

Yours sincerely



Anita Harrop for O'Brien Harrop Access
Occupational Therapist BAppSc (OT) (Hons)
Accredited member ACAA No. 147

Appendix 1: Door Schedule – Entrance / External Doors to the Lower Level

Entrance name	Existing condition - Clear open door width with door leaf retained	Gap or opening when leaf and door stop are removed	Int / ext door circulation space is achieved with current door swing	Lip / Step	Comment <u>Legend:</u> * AS1428.1 2009 Clause 13.2 (850mm) ** AS1428.1 2001 (800mm) # AS1428.1 2009 Figure 31
Bedroom 3	Door was locked and width not assessed	860mm	Yes	Yes (approx. single brick height external step)	<p>The opening between the existing walls measured 860mm only.</p> <p>Reuse of this doorway as a principal point of entry would require a new doorway to be created and attainment of a minimum 850mm clear open width (*), a flush threshold and required door circulation space (#).</p> <p>Alternatively, retention of the door which could be opened by staff for example to allow children to move through to a play area (rather than a public or common entrance point for staff, students, parents and students), may be a reasonable approach.</p> <p>In either instance, create a level threshold at the doorway.</p>
Dining Room	715mm x 2	Approx. 1400mm	Yes	Yes (approx. single brick height external step)	<p>Reuse of this doorway as a principal point of entry would require a singular wide doorway (*) to replace the existing double doors and retention of door circulation space (#).</p> <p>Alternatively, retention of the double doors which could be opened by staff for example to allow all children to move through to a play area (rather than a public or common entrance point for staff, students, parents and students), may be a reasonable approach.</p> <p>In either instance, create a level threshold at the doorway.</p>
Kitchen					Not assessed.
Entry (western)					Not assessed. Understood this lower area of the Lower Level may form an undercroft play area for the children and the New Store / Laundry

Entrance name	Existing condition - Clear open door width with door leaf retained	Gap or opening when leaf and door stop are removed	Int / ext door circulation space is achieved with current door swing	Lip / Step	Comment <u>Legend:</u> * AS1428.1 2009 Clause 13.2 (850mm) ** AS1428.1 2001 (800mm) # AS1428.1 2009 Figure 31
					partitioning will likely will be demolished and the accessway to the Kitchen blocked up. OHA would be pleased to consider retention of the 330mm change in level between the proposed new undercroft play area and internal passage as a staff-only accessway, for infrequent use only. The entrance door to this play space should meet the contemporary requirements of AS1428.1 2009 Clause 13 (*)(#), with a level threshold.
Bedroom 2		990mm	No	Steps with singular handrail externally Small external landing	Access via this door to an outdoor play area would be a very reasonable re-use of this entranceway, with staff available to open the door, to mitigate issues relating to nil internal door circulation space (#). To enable equitable access, either elevate the external play area and / or install a step or pedestrian ramp as appropriate, to AS1428.1 2009 Clause 10 requirements.
Main Entry					Locked and not assessed. Steps located between the internal and external doors. This entrance could be retained, so long as a comparable / accessible method of access is also provided.
Terrace (to passage)	Approx. 730mm x 2	Approx. 1400mm	Yes	Potential lip	A management plan could be set in place whereby these double doors are opened by staff for children, parents, visitors. Remove the threshold to create a flush transition.



Bedroom 3 with metal framed door and matching adjacent windows



Western Entry- It is presumed this is not a heritage doorway, which could be replaced to create an accessible entrance to a proposed children's play area / undercroft



Terrace double doors could be retained with staff opening the doors to enable children to play externally



Bedroom 2 with no internal latch side and steps externally



Main entrance, with steps internally (within the entrance lobby)

Appendix 2: Door Schedule –Lower Level – Internal Doors

Room name	Existing condition - Clear open door width with door leaf retained	Gap or opening when leaf and door stop are removed	Int / ext door circulation space is achieved with current door swing	Lip / Step	Comment Legend: * AS1428.1 2009 Clause 13.2 (850mm) ** AS1428.1 2001 (800mm) # AS1428.1 2009 Figure 31
Bathroom 2 (to Bedroom 5)	785mm	810mm	Yes	150mm	With removal of the door leaf, an opening of 810mm could be justified (**). Address 150mm step if opening is retained.
Bathroom 2 (to Bedroom 4)	750mm	785mm	No	180mm	Door requires decommissioning or reconstructed to achieve door width (*) and door circulation space (#), noting there is also a 180mm step at this door.
Bedroom 5 (to passage)	770mm	<u>790mm</u>	Yes	130mm	With removal of the door leaf, an opening of <u>800mm</u> could be justified (**). Address 130mm step if opening retained.
Bedroom 4 (to passage)	770mm	<u>790mm</u>	No	20mm (threshold)	With removal of the door leaf, an opening of <u>800mm</u> could be justified (**). Remove 20mm door threshold to create a flush transition, noting an additional opening between Bedrooms 3 and 4 and the passage will be considered.
Bedroom 3 (to passage)	770mm	<u>790mm</u>	Yes		With removal of the door leaf, an opening of <u>800mm</u> could be justified (**), noting an additional opening between Bedrooms 3 and 4 and the passage will be considered.
Living Room (sliding door)	850mm+	850mm+	No		This is a wide, manual, timber sliding door with a recessed door handle. If the door is retained it would be ideally left in the open position to enable free movement through the door. However, if the door is to be operational, a D style of handle will be required to be installed (ensuring clearance around the handle could be achieved in both the open and closed positions as per AS1428.1 2009

Room name	Existing condition - Clear open door width with door leaf retained	Gap or opening when leaf and door stop are removed	Int / ext door circulation space is achieved with current door swing	Lip / Step	Comment <u>Legend:</u> * AS1428.1 2009 Clause 13.2 (850mm) ** AS1428.1 2001 (800mm) # AS1428.1 2009 Figure 31
					<p>Clause 13.3.3) and a management plan set in place that assistance is provided to open the door should the non-provision of circulation space to the latch side pose a physical obstruction to any staff member, student, parent or visitor. Alternatively, to mitigate the barrier associated with the recessed handle and lack of door circulation space, the door could be automated.</p>
Living Room (swing door)	770mm	810mm	Yes		<p>With removal of the door leaf, an opening of 810mm could be justified (**).</p> <p>It is acknowledged the sliding door provides a reasonable accessway and it could be argued the swing door is secondary (to the wide sliding door). However, as this door will likely provide an accessible path of travel to a new UAT from the Living Room and Bedroom 2, then this swing door must not be retained with the leaf and 770mm clear open width.</p>
Bedroom 2 (to Living Room)	740mm	860mm	No (internally)		<p>With removal of the door leaf, an opening of 860mm can be justified (*).</p>
Bedroom 2 (to Bedroom 1)	805mm	870mm	No (externally and internally)		<p>Whilst the clear open width of this door exceeds the superseded 800mm clear open width requirement and could potentially be justified to be retained as is, there is no usable circulation space to the latch side to facilitate independent movement through the door by a person who is a wheelchair user.</p> <p>Consider retaining the door, but re-swinging to achieve door circulation space requirements (#).</p> <p>Alternatively, remove the door leaf.</p>

Room name	Existing condition - Clear open door width with door leaf retained	Gap or opening when leaf and door stop are removed	Int / ext door circulation space is achieved with current door swing	Lip / Step	Comment <u>Legend:</u> * AS1428.1 2009 Clause 13.2 (850mm) ** AS1428.1 2001 (800mm) # AS1428.1 2009 Figure 31
Bedroom 1 (to passage)	800mm	860mm	No (internally)		As above.
Bathroom 1			Yes		Not assessed for door width. Currently a domestic style bathroom. If refurbished to a standard WC for students, door width and circulation space requirements would not apply. If refurbished to a unisex accessible toilet, the door width and door circulation space requirements would be required to meet contemporary requirements of AS1428.1 2009 Clause 13 (*) (#).
Kitchen (to Dining Room)	770mm	810mm	Yes		If this kitchen was deemed an exempt area under the Premises Standards/ BCA D3.4 (i.e. used for meal prep for the children, rather than a communal staff room and tea prep) then the door could be retained as is. If refurbished to a communal staff room / tea prep the door would need to be removed to create an 810mm wide opening (**) or a new doorway created, with an 850mm clear open width (*), should it be necessary that a leaf is provided so that the room can be closed off from the children's area.
Dining Room (to passage)					Not assessed. Reviewing the arrangement of the door (on the plan) it is evident the door leaf would be required to be removed and a leaf-free opening created.
New Store / Laundry					Not assessed. Understood this lower area of the Lower Level may form an undercroft play area for the children and the New Store / Laundry partitioning will likely will be demolished.



Bedroom 5 with heritage doorway and step at door. Bathroom 2 door in the background



Bathroom 2 door with Bedroom 4 door in the background (with steps)



Bedroom 4 with limited circulation space to the latch side of the door



Wide timber feature sliding door into the Living Room

Appendix 3: Door Schedule – Entrance / External Doors to the Upper Level

Entrance name	Existing condition - Clear open door width with door leaf retained	Gap or opening when leaf and door stop are removed	Int / ext door circulation space is achieved with current door swing	Lip / Step	Comment <u>Legend:</u> * AS1428.1 2009 Clause 13.2 (850mm) ** AS1428.1 2001 (800mm) # AS1428.1 2009 Figure 31
Double entrance door					Not assessed however on review of the photographs, this is a double door with an external step. It is presumed this doorway / internal hall may form a new, principal entrance to the Upper Level and all compliance requirements that pertain to doorways must be achieved as per AS1428.1 2009 Clause 13.



Side door that may form a new, principal entrance to the Upper Level

Appendix 4: Door Schedule –Upper Level – Internal Doors

Room name	Existing condition - Clear open door width with door leaf retained	Gap or opening when leaf and door stop are removed	Int / ext door circulation space is achieved with current door swing	Lip / Step	Comment Legend: * AS1428.1 2009 Clause 13.2 (850mm) ** AS1428.1 2001 (800mm) # AS1428.1 2009 Figure 31
Bedroom 6	780mm	850mm	Yes		With removal of the door leaf, an opening of 850mm could be justified (*).
Bedroom 4	780mm	835mm	No (internally)		Currently a standard, domestic style WC.
Bathroom 3	790mm	810mm	Yes	Lip	The kitchen bench external to this door may obstruct ease of access to the door. If the kitchen is retained, assess to ensure external circulation space is met, if not, cut back the bench sufficiently to ensure ease of access. Currently a domestic style bathroom. If refurbished to a standard WC for staff and visitors, upgrade to meet all requirements of AS1428.1 2009 Clause 16 and Figure 34, for ambulant sanitary facilities, would be required. If refurbished to a unisex accessible toilet, the door width (*) and door circulation space (#) requirements would be required to be met.
Bedroom 7	800mm	850mm	300mm only (internally)		Retention of this door in the existing condition could be justified (**), either with a re-swing of the door to create required internal door circulation space (#), or retention as is, with a management plan set in place that will ensure adjustment is made to meet the needs of a staff member if required (assuming this room will likely serve as an office)
Bedroom 8	830mm	860mm	Yes		Retention of this door in the existing condition (retaining the leaf) could be justified (**).
Sun Room					Not assessed – For demolition.



View via Bedroom 6 to small WC (BR 4)



A knob style handle is non-compliant. Further consultation may be necessary if these are deemed an essential heritage element to be retained.



Bathroom 3 – Kitchen bench may obstruct ease of access if this bathroom is repurposed as a unisex accessible toilet

GABRIELS HEARNE FARRELL



ENVIRONMENTAL NOISE REPORT

**ST BRIGID'S COLLEGE
EARLY LEARNING CENTRE**

20th October 2017



For

SALEEBA ADAMS ARCHITECTS

**16 Churchill Ave
SUBIACO WA 6008**

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ATTACHMENTS

- APPENDIX A NOISE CONTOUR PLANS

Report Version	Author	Notes	Date
B	Benjamin Farrell	Updated due to design changes	20 th October 2017



Gabriels Hearne Farrell Pty Ltd is a Member Firm of the Association of Australian Acoustical Consultants. The report author is a full member of the Australian Acoustical Society.

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1. INTRODUCTION

Gabriels Hearne Farrell Pty Ltd was commissioned to undertake modelling of the potential environmental noise emissions from the proposed Early Learning Centre at St Brigid's College. This report considers the following noise sources:

- Children within the external play areas;
- Noise emissions from the new mechanical plant (condensing units),
- Noise emissions from vehicles; and,
- Noise break-out from internal play spaces.

The purpose of the assessment was to ensure that the proposed development has the capability of complying with the Environmental Protection (Noise) Regulations 1997.

This report is based on the Revision E architectural drawings issued October 12, 2017.

2. BACKGROUND

The development of the proposed Early Learning Centre will involve refurbishment and additions to existing 'Lesmurdie House'. The outdoor play area will be located on the eastern and northern side of the buildings, and the new air-conditioning condensers will be positioned at the southern end of the development (refer to Figure 1 below).



Figure 1 – Site context

The nearest residences are located to the west on Warlingham Drive. These residences are positioned up the hill, approximately 6 to 7 metres higher than the finished floor level of the Early Learning Centre. It is worth noting that there is generally no solid fences along the boundary of these residences, except at 23 Warlingham Dr. There are also residences on the eastern side of Lesmurdie Road.

The college has advised that the Early Learning Centre will operate between 8:30 am and 3 pm, Monday to Friday. The staff will arrive at 8 am at the earliest.

There is no new mechanical services proposed for this project, the existing condensing units and exhaust fans will remain as is.

3. NOISE LEVEL CRITERIA

In Western Australia, noise transmission from one property to another is governed by the Environmental Protection (Noise) Regulations 1997. These regulations establish 'Assigned Levels' which are the noise levels that cannot be exceeded at surrounding noise sensitive premises.

3.1 'Assigned Levels' for the residences on Warlingham Dr

The 'Assigned Levels' for the existing residences on Warlingham Rd are provided in Table 1 below. There is no *influencing factor* given that there are no major roads or commercial premises within a 100 m and 450 m radius around the residences.

Part of premises receiving noise	Time of day	Assigned Level (dB)		
		L _{A10}	L _{A1}	L _{Amax}
Noise sensitive premises: highly sensitive area	7 am to 7 pm Monday to Saturday	45	55	65
	9 am to 7 pm Sunday and public holidays	40	50	65
	7 pm to 10 pm all days	40	50	55
	10 pm to 7 am Monday to Saturday and 10 pm to 9 am on Sundays and public holidays	35	45	55

Table 1 - Assigned Levels for residences on Warlingham Dr

The table above refer to three types of 'Assigned Levels':

L_{Amax} - the noise level which is not to be exceeded at any time.

L_{A1} - the noise level which is not to be exceeded for more than 1% of the time (eg for more than 144 seconds over a 4 hour period).

L_{A10} - the noise level which is not to be exceeded for more than 10% of the time (eg for more than 24 minutes over a 4 hour period).

Note - The 'Assigned Levels' in Table 1 will also be applicable to the residences on the eastern side of Lesmurdie Rd

3.2 Noise Character

Regulation 7 requires that the noise emission must be 'free' of annoying characteristics, namely tonality (eg whining, droning), modulation (like a siren), and impulsiveness (eg thumping). Where noise emissions do exhibit the above noise characteristics, an adjustment is made to the measured/calculated noise level:

<i>Tonality</i>	5 dB is added to the measured level
<i>Modulation</i>	5 dB is added to the measured level
<i>Impulsiveness</i>	10 dB is added to the measured level

In our experience of child care facilities, the following penalties for 'noise character' apply:

<i>Children playing</i>	No penalty. It is generally accepted within the industry that 'tonality' is not measurable in relation to outdoor play areas due to the other ambient noise that is present during the day time (eg distant traffic).
<i>Car door slamming</i>	10 dB penalty, due to 'impulsiveness'
<i>Car driving</i>	5 dB penalty, due to 'tonality'

The above adjustments only apply where the 'noise character' is audible and measurable at both the noise source and noise receiver.

4. NOISE MODELLING PROCEDURE

The noise emissions from the proposed Early Learning Centre have been modelled using the *SoundPLAN* 7.4 software with the *Concawe* algorithm. This software allows the input of topographical data, building heights and forms, meteorological conditions, and noise source data. The software produces noise contour plans, indicating the predicted noise level over a given area.

Note – the output noise levels from *SoundPLAN* are base noise levels not including adjustment for noise character.

4.1 Meteorological Conditions

The meteorological conditions used in the calculations were as follows (based on the requirements of the Department of Environment Regulation):

Daytime assessment

- Temperature – 20°C
- Relative Humidity – 50%
- Wind – 4 m/s in all directions simultaneously.
- Pasquil Stability Class - E

4.2 Topography and Building Form

The building form, height, and configuration were input into the noise model, based on the architectural drawings. Topography information was obtained from the Shire of Kalamunda online mapping tool.

All roads and carpark areas were input into the noise model as hard reflecting ground surface.

4.3 Noise Level Data

The following noise level data was input into the noise model.

4.3.1 *Children within the external play areas*

We have been advised that the total capacity of the Early Learning Centre is 60 children. For the purpose of the assessment we have assumed that 40 children will be outside at any given time (2/3 of the maximum capacity).

The Sound Power Levels of children playing within the external areas has been based on the document titled '*Guideline for Child Care Centre Acoustic Assessment*' published by the Association of Australian Acoustic Consultants:

Frequency (Hz)	63	125	250	500	1k	2k	4k	dB(A)
40 children in outdoor play area								
Total Sound Power	56	66	81	84	81	71	61	90

Table 2 – Sound Power Levels of children in external play areas

The above Sound Power Levels were input into the model as area sources.

Note – The above Sound Power Levels are for the modelling of L_{10} noise emissions. The assessment of L_1 and L_{max} noise levels in relation to the external play areas is not necessary given that the L_{10} criteria is the dominant factor. Measurements undertaken in existing child care external play areas demonstrate that the L_{Amax} levels are typically less than 15 dB above the L_{A10} level. Whereas the L_{Amax} criteria is 20 dB above the L_{A10} criteria. Also, the L_{A1} levels we have measured in play areas are typically no more than 10 dB above the L_{A10} level. As such, if the modelling indicates that the L_{A10} criteria is met, then the L_{A1} and L_{Amax} criteria will also be met. However, complying with the L_{Amax} criteria does not necessarily imply that the L_{A10} criteria will be met.

The above statements are demonstrated in Table 3 below – Noise level measurements undertaken at an existing Child Care Centre.

Measurement location	L_{A10}	L_{A1}	L_{Amax}
Children playing – at 3 metres	70.6	76.4	78.5
Children playing – at 2 metres	74.0	82.8	87.3

Table 3 – Noise level measurements undertaken at an existing child care centre

4.3.2 Mechanical plant (condensing units)

At this early stage of the project the mechanical plant has not been selected. For the purpose of the assessment we have assumed that the total Sound Power Level for the new condenser(s) will be 75 dB(A):

Frequency (Hz)	63	125	250	500	1k	2k	4k	dB(A)
A/C condenser								
Total Sound Power	80	78	76	75	68	65	58	75

Table 4 – Sound Power Level of air-conditioning condenser(s)

4.3.3 Cars within carpark / primary access road

The following noise source data has been used for the assessment of cars within the carpark. These Sound Power Levels have been determined based on our own controlled noise level measurements:

Frequency (Hz)	63	125	250	500	1k	2k	4k	dB(A)
Car driving slowly through carpark								
SWL	86.3	83.5	77.8	73.0	73.1	70.0	65.8	78
Car door slamming								
SWL	93.6	92.3	84.8	81.4	79.6	70.2	64.0	85

Table 5 – Sound Power Levels of cars within the carpark / primary access road

5. NOISE MODELLING OF CHILDREN WITHIN OUTDOOR PLAY AREAS AND MECHANICAL PLANT

The combined noise emissions from children within the outdoor play areas and the new mechanical plant has been modelled using the *SoundPLAN 7.4* software, based on the noise source data established in Section 4.3.1 and 4.3.2 of this report.

These noise emissions are assessed against the L_{10} criteria given that the noise will be present for more than 10% of the time (ie more than 24 minutes over a 4 hour period). The relevant 'Assigned Level' is L_{10} 45 dB(A).

The results of the noise modelling are presented as a noise contour plan (Simulation 1) in Appendix A. The noise contour plans present the base noise levels, not adjusted for 'tonality'. The noise contours are generated at 1.5 metres above ground level. The specific points shown on the noise contour plan identify the noise level reaching the façade of the surrounding houses (excluding the reflection off the façade itself).

The results of the assessment are provided below:

<i>Receiver location</i>	<i>Predicted Noise Level</i>	<i>Adjusted Noise Level*</i>
13 Warlingham Rd	L ₁₀ 32 dB(A)	L ₁₀ 37 dB(A)
21 Warlingham Rd	L ₁₀ 29 dB(A)	L ₁₀ 34 dB(A)
23 Warlingham Rd	L ₁₀ 33 dB(A)	L ₁₀ 38 dB(A)
25 Warlingham Rd	L ₁₀ 35 dB(A)	L ₁₀ 40 dB(A)
225 Lesmurdie Rd	L ₁₀ 35 dB(A)	L ₁₀ 40 dB(A)
20 Woodview	L ₁₀ 36 dB(A)	L ₁₀ 41 dB(A)
<u>13 Woodview</u>	<u>L₁₀ 35 dB(A)</u>	<u>L₁₀ 40 dB(A)</u>

Table 6 - Simulation 1 results

* - including +5dB penalty for 'tonality'

The adjusted noise levels are compliant with the 'Assigned Level' of L₁₀ 45 dB(A). If all sixty children were playing outside, the noise level would increase by up to 1.7 dB. Even with this increase the noise emissions would still comfortably comply with the 'Assigned Level'.

Detailed analysis of the modelling results indicates that the total/combined Sound Power Level of the new condensers can be up to 83 dB(A) without contravening the Environmental Protection (Noise) Regulations 1997.

6. NOISE EMISSIONS FROM VEHICLES

The noise emissions from vehicles within the car parking areas and access road have been assessed. Two scenarios have been considered:

- Simulation 2 - Noise emissions from cars driving slowly in the driveways, and;
- Simulation 3 - Noise emissions from car doors slamming.

6.1 Simulation 2 - Cars driving along the access road

Simulation 2 demonstrates the potential noise emissions if four cars drive slowly along the access way at the same time.

The results are presented as a noise contour plan in Appendix A, with a summary provided below:

<i>Receiver location</i>	<i>Predicted Noise Level</i>	<i>Adjusted Noise Level*</i>
13 Warlingham Rd	L ₁₀ 32 dB(A)	L ₁₀ 37 dB(A)
21 Warlingham Rd	L ₁₀ 36 dB(A)	L ₁₀ 41 dB(A)
23 Warlingham Rd	L ₁₀ 36 dB(A)	L ₁₀ 41 dB(A)
25 Warlingham Rd	L ₁₀ 37 dB(A)	L ₁₀ 42 dB(A)
225 Lesmurdie Rd	L ₁₀ 27 dB(A)	L ₁₀ 32 dB(A)
20 Woodview	L ₁₀ 28 dB(A)	L ₁₀ 33 dB(A)
<u>13 Woodview</u>	<u>L₁₀ 27 dB(A)</u>	<u>L₁₀ 32 dB(A)</u>

Table 7 - Simulation 2 results

* - including +5dB penalty for 'tonality'

The adjusted noise levels are compliant with the 'Assigned Level' of L₁₀ 45 dB(A).

6.2 Simulation 3 – Cars doors slamming

Simulation 3 demonstrates the potential noise emissions if four car doors are slammed simultaneously (1 door slamming on four separate cars). This noise event is assessed against the L_{max} criteria given that the noise is present for less than 1% of the time (it is a very short term noise event).

The relevant 'Assigned Level' is L_{max} 65 dB(A).

The results are presented as a noise contour plan in Appendix A, with a summary provided below:

<i>Receiver location</i>	<i>Noise Level</i>	<i>Adjusted Noise Level*</i>
13 Warlingham Rd	L_{max} 38 dB(A)	L_{max} 48 dB(A)
21 Warlingham Rd	L_{max} 44 dB(A)	L_{max} 54 dB(A)
23 Warlingham Rd	L_{max} 43 dB(A)	L_{max} 53 dB(A)
25 Warlingham Rd	L_{max} 44 dB(A)	L_{max} 54 dB(A)
225 Lesmurdie Rd	L_{max} 32 dB(A)	L_{max} 42 dB(A)
20 Woodview	L_{max} 32 dB(A)	L_{max} 42 dB(A)
13 Woodview	L_{max} 33 dB(A)	L_{max} 42 dB(A)

Table 8 – Simulation 3 results

* - including +10dB penalty for 'impulsiveness'

The adjusted noise levels comfortable comply with the 'Assigned Level' of L_{max} 65 dB(A).

7. NOISE BREAK-OUT FROM INTERNAL SPACES

At times amplified music may be played within the indoor play areas. It is important that the external windows and doors of these areas are kept shut whilst loud music is being played. Our calculations suggest that the maximum allowable music volume within the indoor spaces is L_{eq} 80 dB(A) in order to ensure compliance with the 'Assigned Levels' are maintained.

8. CONCLUSION

The potential noise emissions from the proposed Early Learning Centre at St Brigid's College have been assessed using the *SoundPlan 7.4* software. The noise modelling indicates that the noise emissions from the proposed facility will comply with the Environmental Protection (Noise) Regulations 1997.

Regards,

Benjamin Farrell
Director M.A.A.S.

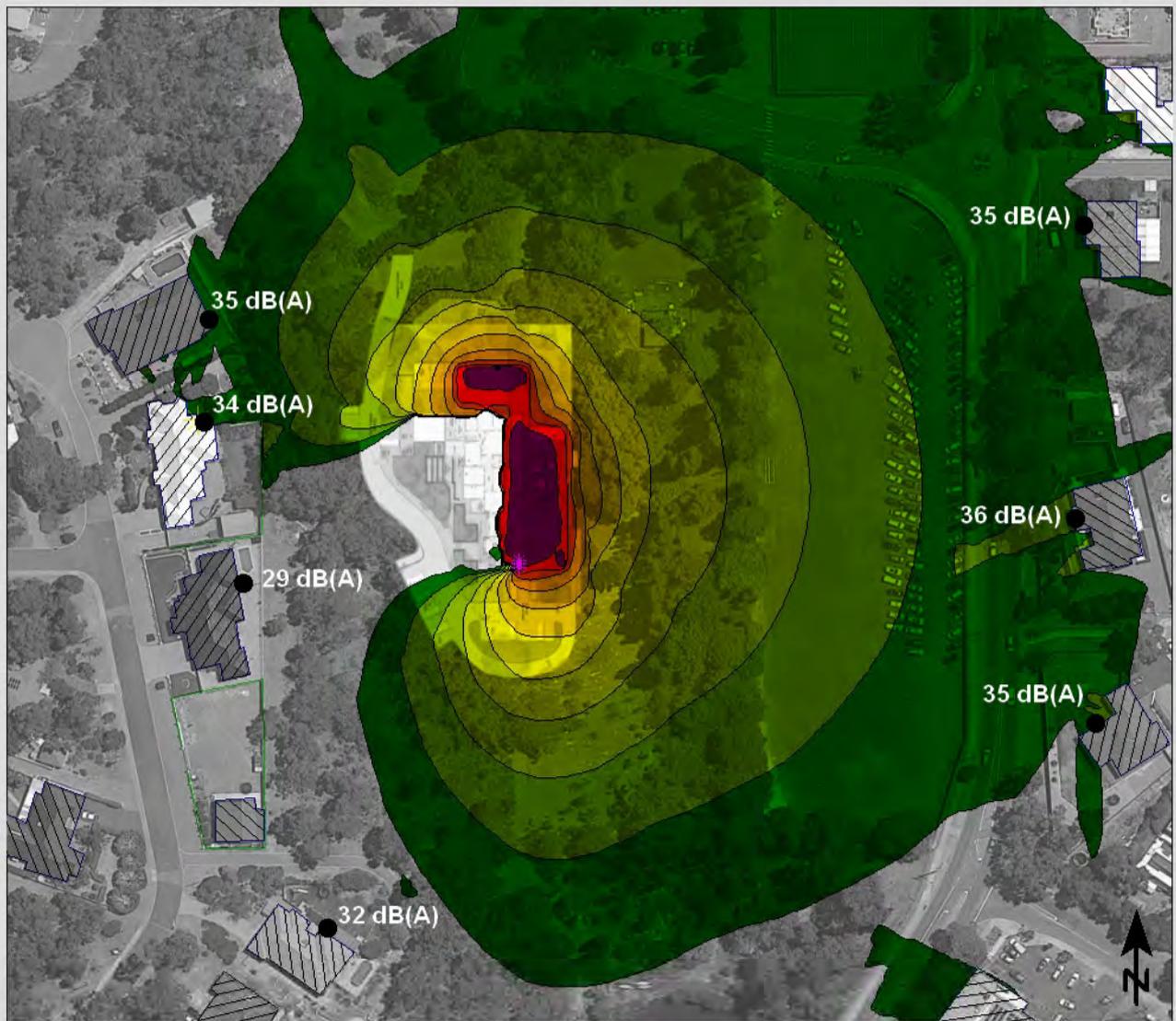
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Ph: (08) 9474 5966 Mob: 0439 470 862 www.gabriels.net.au
E: ben@gabriels.net.au

ATTACHMENTS

- APPENDIX A NOISE CONTOUR PLANS

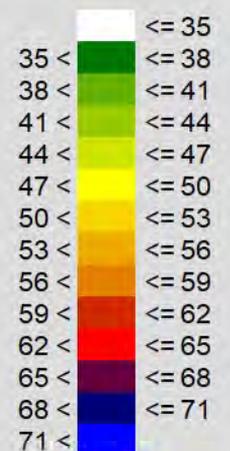
ENVIRONMENTAL NOISE ASSESSMENT ST BRIGID'S COLLEGE - EARLY LEARNING CENTRE



SIMULATION 1 (Revision B)

- 40 CHILDREN PLAYING IN OUTDOOR PLAY AREAS (TOTAL SOUND POWER LEVEL OF 90 dB(A))
- THREE NEW AIR-CONDITIONING CONDENSERS, EACH WITH A SOUND POWER LEVEL OF 70 dB(A)

Noise level
dB(A)



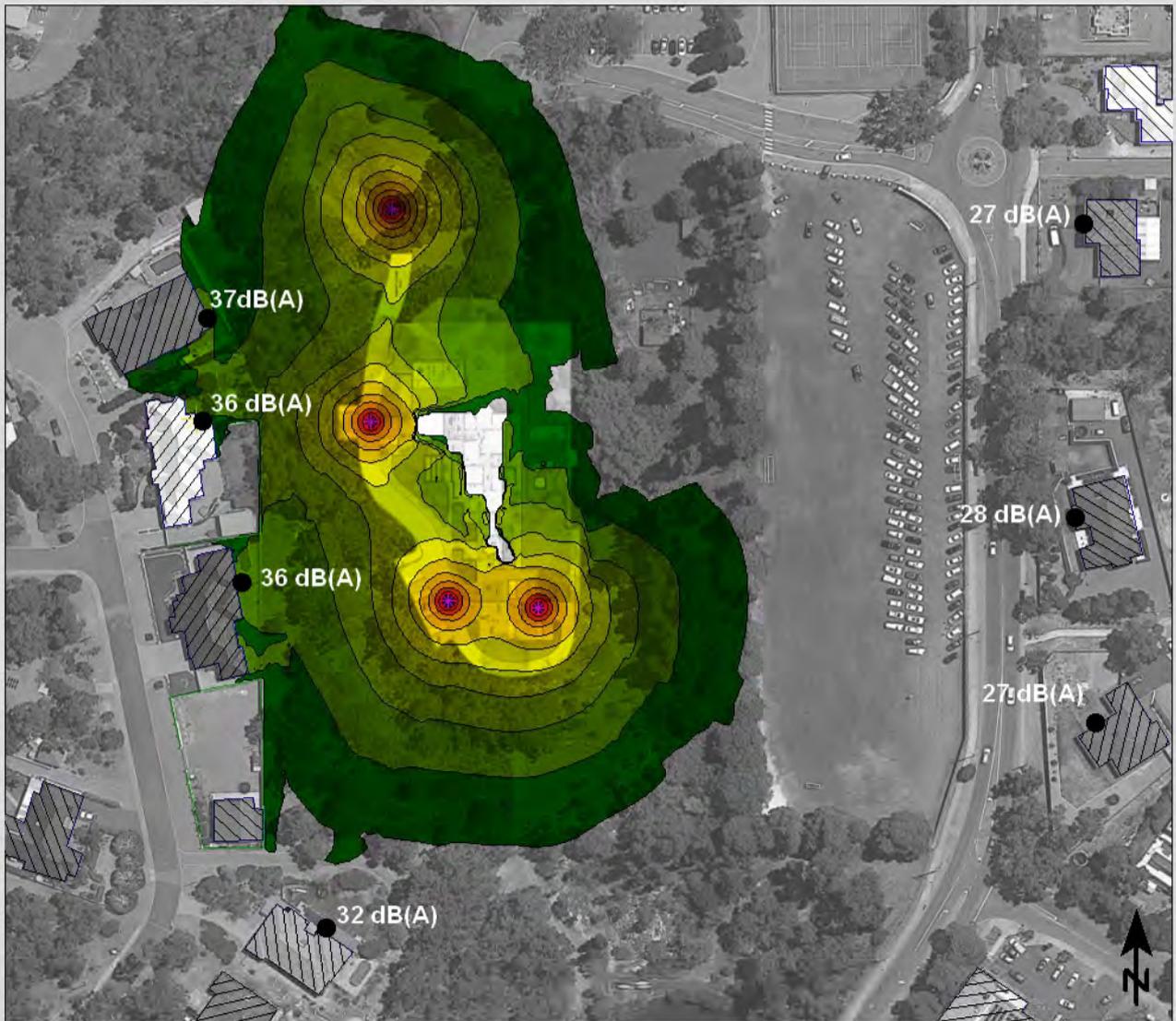
METEOROLOGICAL CONDITIONS

TEMPERATURE: 20 DEGREES C
 HUMIDITY: 50%
 WIND SPEED: 4 m/s
 WIND DIRECTION: ALL DIRECTIONS AT ONCE
 PASQUIL STABILITY CLASS: E

Scale 1:2000



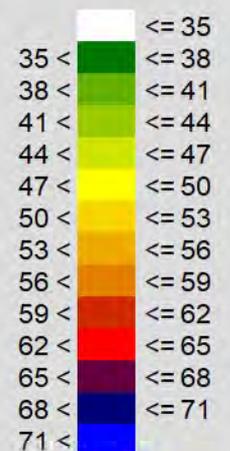
ENVIRONMENTAL NOISE ASSESSMENT ST BRIGID'S COLLEGE - EARLY LEARNING CENTRE



SIMULATION 2 (Revision B)

- FOUR VEHICLES DRIVING ALONG ACCESS ROAD

Noise level
dB(A)



Scale 1:2000



METEOROLOGICAL CONDITIONS

TEMPERATURE: 20 DEGREES C

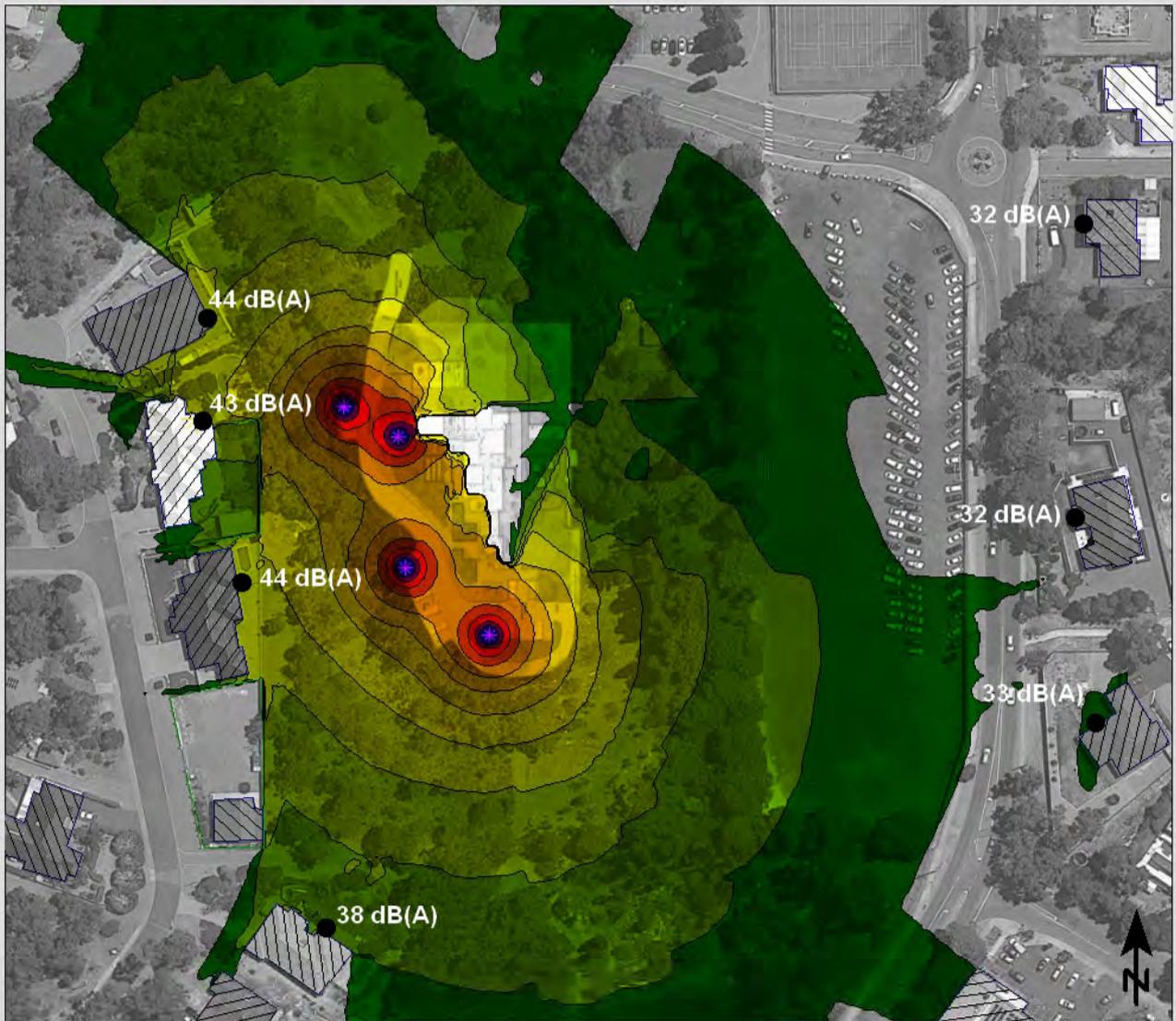
HUMIDITY: 50%

WIND SPEED: 4 m/s

WIND DIRECTION: ALL DIRECTIONS AT ONCE

PASQUIL STABILITY CLASS: E

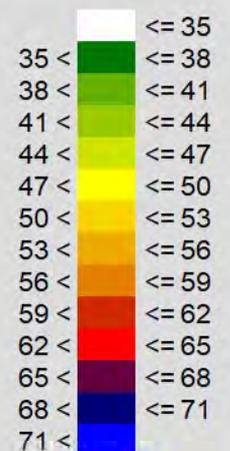
ENVIRONMENTAL NOISE ASSESSMENT ST BRIGID'S COLLEGE - EARLY LEARNING CENTRE



SIMULATION 3 (Revision B)

- FOUR CAR DOORS SLAMMING SIMULTANEOUSLY

Noise level
dB(A)



Scale 1:2000



METEOROLOGICAL CONDITIONS

TEMPERATURE: 20 DEGREES C

HUMIDITY: 50%

WIND SPEED: 4 m/s

WIND DIRECTION: ALL DIRECTIONS AT ONCE

PASQUIL STABILITY CLASS: E

FLORA AND VEGETATION
OF
BUSHLAND AREA AT ST BRIGID'S

Prepared for:
St Brigid's College

Prepared by:
Mattiske Consulting Pty Ltd

October 2017



Mattiske Consulting Pty Ltd

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FIGURES

- 1: St Brigid's College – proposed clearing area
- 2: Summary of Temperature and Rainfall 2014 to 2017 at Bickley (Bureau of Meteorology 2017)
- 3: St Brigid's College Proposed Clearing – location of larger Trees (>50cm in stem diameter at breast height).

APPENDICES

- A1: Definition of Threatened and Priority Flora Species (Department of Biodiversity, Conservation and Attractions, 2017a)
- A2: Definition of Threatened Ecological Communities (Department of Biodiversity, Conservation and Attractions 2017d)
Definition of Threatened Ecological Communities (Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*)
Definition of Priority Ecological Communities (Department of Biodiversity, Conservation and Attractions 2017d)
- A3: Categories and Control of Declared (Plant) Pests in Western Australia (Department of Agriculture and Food 2016) (Biosecurity and Agriculture Management Regulations 2013)
- B: Threatened and Priority Species potentially occurring at St Brigid's College Survey Area
- C: Vascular Plant Species recorded on St Brigid's College Survey Area

1. SUMMARY

Mattiske Consulting Pty Ltd was commissioned to undertake ecological studies on a small bushland area (0.26ha) south of the main school at the St Brigid's College in Lesmurdie, Figure 1.

A total of 71 vascular plant taxa from 29 plant families and 54 genera were recorded on the survey area at St Brigid's College. Of these, sixteen taxa were introduced plant taxa and four were planted tree or shrub species. Dominant families included Fabaceae (14 taxa), Proteaceae (8 taxa) and Myrtaceae (6 taxa).

Based on database searches, a series of threatened and priority flora species had the potential to occur in the survey area. Despite extensive searching, no declared or listed threatened or priority flora species as defined by the Environment Protection Biodiversity Conservation Act 1999 or the Wildlife Conservation Act 1950 were recorded on survey area in September 2017.

One site-vegetation type (type S) was defined and mapped for the St Brigid's College survey area. The definition of the site-vegetation type was based on the Havel's site-vegetation types for the Northern Jarrah Forest Region (Havel 1975a, 1975b). This community is not listed as a threatened ecological community or a priority ecological community (Department of Biodiversity, Conservation and Attractions 2017e, 2017f; Department of the Environment and Energy 2017b). This community is also relatively widespread in the northern Jarrah forest within State Forest and different reserves. The northern section of the proposed clearing area was degraded and supported mostly introduced species in the understorey and a few planted shrubs and trees.

The actual area proposed to be disturbed that is in relatively good condition is less than 0.2ha. The other sections of the survey area are either degraded or completely degraded.

During the field studies in September field observations were undertaken on the potentially significant fauna species. No suitable hollows for the listed Black Cockatoos were recorded on the tree species (*Eucalyptus marginata*, *Corymbia calophylla*); although there was a range of larger Marri (*Corymbia calophylla*) trees on the proposed clearing area which may provide foraging resources for the Black Cockatoos.

There were some diggings in the survey area that reflected the presence of native Bandicoots. The native Bandicoots are relatively common in the Kalamunda district.

The key value that appears to be present in the survey area on the St Brigid's College is the potential for foraging activities by the listed Black Cockatoos.

The latter values need to be assessed in the context that the area is abuted by housing on the western side and the area has been highly modified in the northern half of the survey area by previous planting and disturbance activities. **In view of the size of the remaining less disturbed area of "good" vegetation** (of less than 0.2 hectare), it is recommended that the proposed clearing activities could not be considered significant in the local or regional context for the management or protection of these values for the foraging activities of the Black Cockatoos.



<p>Legend</p> <p> Clearing Area</p> <p>Aerial Photography: Landgate 2017</p>	<p style="text-align: center;">N</p> <p style="text-align: center;">0 6 12m</p> <p style="text-align: center;">Scale: 1:600 MGA94 (Zone 50)</p> <p>CAD Ref: a2563_Tr_F001 Date: Oct 2017 Rev: A A3</p>	<p style="text-align: center;"> Mattiske Consulting Pty Ltd</p> <p>28 Central Road, Kalamunda WA 6076 ~ Tel: 9257 1625 ~ Fax: 9257 1640</p> <p>Author: E M Mattiske MCPL Ref:</p> <p>Drawn: CAD Resources ~ www.cadresources.com.au Tel: (08) 9246 3242 ~ Fax (08) 9246 3202</p>	<p style="text-align: center;">St Brigids College Proposed Clearing</p>	<p>Figure:</p> <p style="font-size: 2em; text-align: center;">1</p>
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2. INTRODUCTION

2.1 Location

St Brigid’s College is located on land in the northern Jarrah forest within the suburb of Lesmurdie within the Kalamunda Shire (Figure 1). The property has been modified and disturbed by previous residency and activities. The St Brigid’s College are proposing to clear the survey area to the west of the existing building for car parks and access roadways associated with the proposed building additions.

2.2 Climate

The survey area occurs within the northern Jarrah Forest Region as described by Beard (1990). The climate is dry Mediterranean, with winter rainfall of 1000 - 1400 mm and 5-6 dry months per year (Beard 1990). The rainfall for Bickley (located east of Kalamunda and Lesmurdie) is summarized in Figure 2 below. The seasonal fluctuations in temperature and rainfall are illustrated (Bureau of Meteorology 2017). As indicated on the results the winter rains prior to the assessment in September 2017 were similar to the previous year.

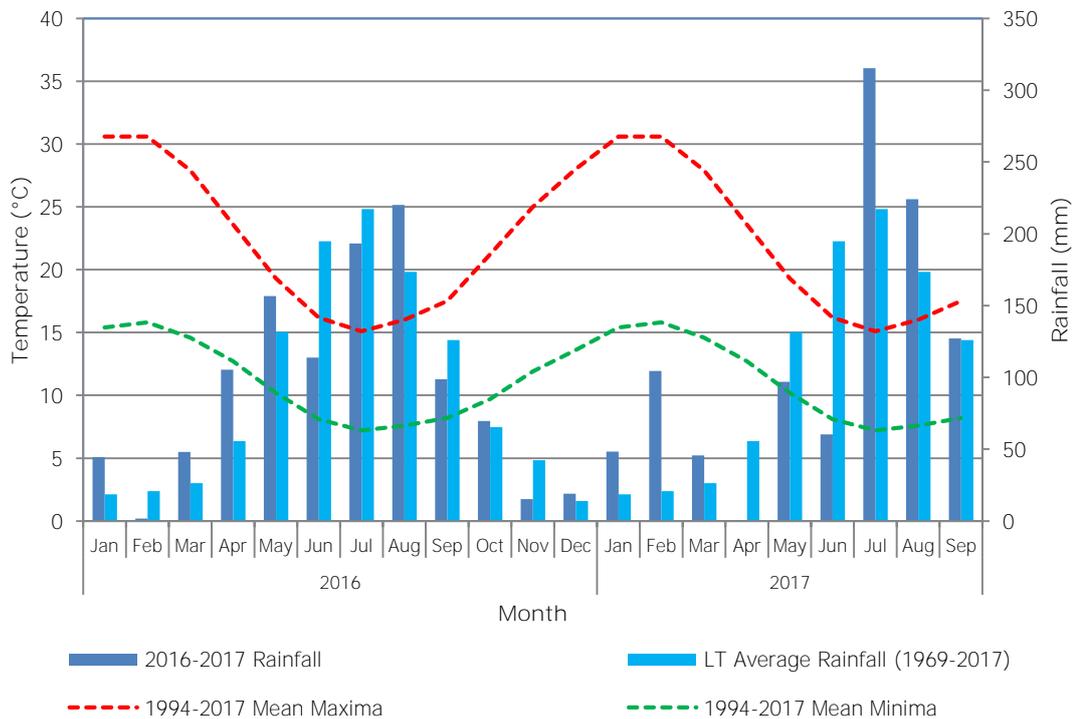


Figure 2: Summary of Temperature and Rainfall 2016 to 2017 at Bickley (Bureau of Meteorology 2017)

2.3 Landform and Soils

The survey area occurs on the lateritic capped Archaean granite and metamorphic rocks of the Darling Plateau.

Churchward and McArthur (1980) undertook a study of the landforms and geology of the Darling System. The following landform and soil unit is represented in the survey area:

Dwellingup - "Gently undulating landscape with duricrust on ridges; sands and gravels in shallow depressions."

2.4 Flora and Vegetation

St Brigid's College within the Darling Botanical District of the South-western Botanical Province as recognized by Diels (1906) and later developed by Gardner (1942) and Beard (1979, 1980).

Previous workers have stressed the significance of the climate, landforms and soils in determining the distribution of plant communities in this area (Diels 1906; Williams 1932, 1942; Speck 1952, 1958; Lange 1960; Churchill 1961, 1968; Smith 1974; Seddon 1972; Havel 1968, 1975a, 1975b; Heddle *et al.* 1980a; Beard 1981, Mattiske and Havel 1998).

In vegetation mapping it is necessary to define and map the plant communities into groups with common characteristics in structure and floristics. This grouping and classification has been achieved by:

- . Havel on the Swan Coastal Plain (1968) and in the Northern Jarrah Forest (1975a, 1975b),
- . Beard (1979) in the Pinjarra area (1:250,000),
- . Heddle *et al.* (1980a) in the System 6 area; Perth, Pinjarra and Collie areas (1:250,000), and
- . Mattiske and Havel (1998) in the vegetation mapping for the Regional Forest Agreement.

The classification system of Heddle *et al.* (1980a), which utilized the concept of vegetation complexes, emphasized the relationships between the underlying landforms, soils and the plant communities. This latter system incorporated linkages with the previous work by Havel (1975a and b).

One vegetation complex as defined and mapped by Heddle *et al.* (1980) and Mattiske and Havel (1998) occurs in the survey area, as follows:

Dwellingup 2 (D2) - Open forest of *Eucalyptus marginata* subsp. *marginata* - *Corymbia calophylla* on lateritic uplands in subhumid and semiarid zones.

The Dwellingup 2 (D2) vegetation complex is represented in the reserve system with 23.0% included in the formal and informal reserves (see Forest Management Plan, data supplied by Department of Conservation and Land Management – July 2003).

It is not possible to assess the representation of these site-vegetation types at a regional scale as only sections of the Jarrah forest have been mapped at this finer scale of definition. Therefore it is necessary to rely on previous mapping over four decades by Dr Libby Mattiske and earlier publications by Heddle *et al.* (1980b) reviewed some of the representation in broad terms for these site-vegetation types.

3. OBJECTIVES

The objectives of the survey were:

- . to record the flora and fauna species present on the survey area and to search for threatened and priority flora and fauna species on the survey area.
- . to review the local and regional significance of the flora and fauna recorded on the survey area.
- . to define and map the site-vegetation types on the survey area.
- . to review the local and regional significance of the site-vegetation types recorded on the survey area.
- . to review the vegetation condition on the survey area.
- . to prepare a report summarising the findings.

4. METHODS

The survey approach included:

1. An initial database search of potential values associated with the flora and fauna species on the survey area.
2. Detailed assessments of the tree and understorey species at various sites within the survey area.
3. Detailed foot traverses on two occasions searching for any threatened or priority flora species.
4. An assessment of each tree looking for potential suitable hollows for bird nesting sites.
5. Observations on native fauna utilisation of the area (through observations of sited fauna, ground disturbance or other signs of fauna usage).
6. Targeted searching for threatened and priority flora species through foot traverses within the survey area in September 2017.

4.1 Flora

The detailed recording of the vascular plant species was carried out in conjunction with the vegetation mapping program for the survey area. Detailed recordings were undertaken at 9 sites and in addition the area was traversed on several occasions by foot traverses in order to search for threatened and priority flora species.

All plant specimens which were collected during the field programme were dried and fumigated in accordance with the requirements of the West Australian Herbarium, and then sorted in readiness for identification.

Plant specimens were identified by the use of local and regional flora keys and by comparison with the named specimens held at the West Australian Herbarium. Plant taxonomists who are considered to be an authority on a particular plant group were consulted, when necessary.

The conservation status of all recorded flora was also checked against the current lists managed by the Department of Biodiversity, Conservation and Attractions (2017g), see Appendix A.

The status of all introduced species were checked against the current listings of Declared Plant Pests managed by the Department of Agriculture and Food (2017) under the *Biosecurity and Agriculture Management Act 2007*.

4.2 Vegetation

The survey area recordings were undertaken at 9 sites. At each recording site the following information was collected:

Soil types	(gravels, sandy-gravels, sandy-loam gravels, sandy-loams, loams, clay-loams, clays and peat)
Topography	(ridge, upper slope, mid-slope, lower slope, valley floor and swamp)
Outcropping	(type - granite, laterite, dolerite; quantity - numerous, moderate, few)
Logging History(intensity	- heavy, moderate, light; quantity - number of stumps within a 20 metre radius)

Species were ranked according to the scale developed by Havel (1975a):

Tree species

Assessments were undertaken within a 20 metre radius from the observation point.

- 0 - absent
- 1 - one or two trees
- 2 - three to five trees
- 3 - more than five trees, but contributing less than one third of total stand
- 4 - between one third and one half of total stand
- 5 - more than one half of total stand

Understorey species

Assessments were undertaken within a 5 metre radius from the observation point.

- 0 - absent
- 1 - very rarely seen; only after a careful search
- 2 - present, observable, but in small numbers only
- 3 - common locally, but not uniformly over the whole area
- 4 - common over the whole area
- 5 - completely dominating the undergrowth

The physiological stress was determined for each species within an area of 20 metres radius from the observation point and ranked according to the following scale. The above system was developed by E.M. Mattiske and Associates and has been used previously in the northern Jarrah forest:

- 0 - healthy, no evidence of stress
- 1 - odd plant showing signs of stress, not dead
- 2 - one or two stressed plants, near death
- 3 - scattered stressed, (2-4) dead plants around plot
- 4 - susceptible plants dying or dead (>4 plants)
- 5 - "graveyard" death

A further subdivision of the time period since death was undertaken for stress levels greater than 3:

- R - Recent death (leaves recently desiccated or discoloured)
- M - Medium death (Bark but no leaves left on trees)
- O - Old death (no leaves or bark left on trees)

4.3 Fauna

An assessment of each tree looking for potential suitable hollows for bird nesting sites.

Observations on native fauna utilisation of the area (through observations of sited fauna, ground disturbance or other signs of fauna usage). Particular effort was directed at checking each tree for potential hollows suitable for the listed Black Cockatoo species and for checking any evidence of foraging activities by the Black Cockatoo species and other fauna species.

5. RESULTS

5.1 Flora

A total of 71 vascular plant taxa from 29 plant families and 54 genera were recorded on the survey area at St Brigid's College. Of these, sixteen taxa were introduced plant taxa and four were planted tree or shrub species. Dominant families included Fabaceae (14 taxa), Proteaceae (8 taxa) and Myrtaceae (6 taxa).

5.2 Threatened and Priority Flora Species

Based on database searches, a series of threatened and priority flora species had the potential to occur in the survey area. Despite extensive searching, no declared or listed threatened or priority flora species as defined by the *Environment Protection Biodiversity Conservation Act 1999* or the *Wildlife Conservation Act 1950* were recorded on the survey area in September 2017.

5.3 Vegetation

The St Brigid's survey area was dominated by one site-vegetation type (type S) based on Havel's site-vegetation types for the Northern Jarrah Forest Region (Havel 1975a, 1975b). At times the vegetation also indicated some localized surface water near the shallow lateritic cap-rock.

S - Open Forest of *Eucalyptus marginata* - *Corymbia calophylla* with scattered understorey, including *Leucopogon capitellatus*, *Xanthorrhoea preissii* and *Xanthorrhoea gracilis* and a range of low herbs and shrubs on sandy-loam gravels.

This site type is equivalent to the site-vegetation type S as defined by Havel (1975a). This type occurs within the Dwellingup and Dwellingup-Hester complexes as defined by sandy-loam gravelly soils on the undulating hills on the Darling Ranges. The S site-vegetation type is relatively widespread in distribution within the Northern Jarrah Forest and is well represented in the conservation estate (Hedde *et al.* 1980b; Department of Conservation and Environment 1980; Department of Conservation and Land Management 1987, Conservation Commission 2003).

This community (or site-vegetation type) is not listed as a threatened ecological community or priority ecological community (Department of Biodiversity, Conservation and Attractions 2017e, 2017f; Department of the Environment and Energy 2017b).

5.4 Review of the Condition of Vegetation

The condition of the vegetation within the St Brigid's survey area varies in condition depending on the extent of previous informal tracks, planted trees and shrubs and dominance of introduced species in the understorey. As the survey area abuts a long term residence that has been used for a variety of purposes (residency, hospital and education facilities) many of the values of the native vegetation have been modified due to the proximity of the building facility.

5.5 Fauna Activity

A range of other common native species were observed during the survey including Bandicoots and a range of native bird species.

During the botanical studies searches were made from potential habitat trees and although some trees were >50cm in diameter (see Figure 3), no hollows suitable for nesting by the listed cockatoo species were recorded. The forest areas do support tree species (such as the tree species - Marri (*Corymbia calophylla*), Jarrah (*Eucalyptus marginata*) that are used for foraging by the listed Cockatoo species, namely **Carnaby's Black Cockatoo** (E) (*Calyptorhynchus latirostris*); Forest Red-tailed Black Cockatoo (V) (*Calyptorhynchus banksia naso*) and **Baudin's Black Cockatoo** (V) (*Calyptorhynchus baudinii*), Department of Environment and Conservation 2008 and Department of Sustainability, Environment, Water, Populations and Communities (2012). These cockatoo species are listed as Endangered (E) or Vulnerable (V) pursuant to the *Environment Protection and Biodiversity Conservation Act* (1999).

5.6 Review of Clearing Principles

The following is a review of the relevant clearing principles as it relates to native vegetation.

Principle (a): Native vegetation should not be cleared if it comprises a high level of biodiversity.

The property has sections that have been disturbed and as the bushland area that is relatively less disturbed is less than a hectare the range of flora and fauna species is relatively low in a local and regional context and therefore the survey area on St Brigid's College could not be considered representative of an area of high biodiversity in the local area, therefore, clearing of native vegetation on the survey area is unlikely to be at variance with this Principle.

Principle (b): Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a significant habitat for fauna indigenous to Western Australia.

No suitable hollows were recorded on the trees within the survey area that might be suitable for the listed Black Cockatoos. Foraging activities by the listed Black Cockatoos were observed; however as the proposed clearing of the less disturbed area covers less than a 0.26 hectare it is unlikely that the vegetation on the survey area at St Brigid's College provides a significant habitat for the listed Black Cockatoo species.

Principle (c): Native Vegetation should not be cleared if it includes, or is necessary, for the continued existence of rare flora.

Despite searching over spring months, no Threatened flora species gazetted under the *Wildlife Conservation Act* (1950-1980) were located on the survey area on St Brigid's College. No Priority flora species were located on the survey area on St Brigid's College.

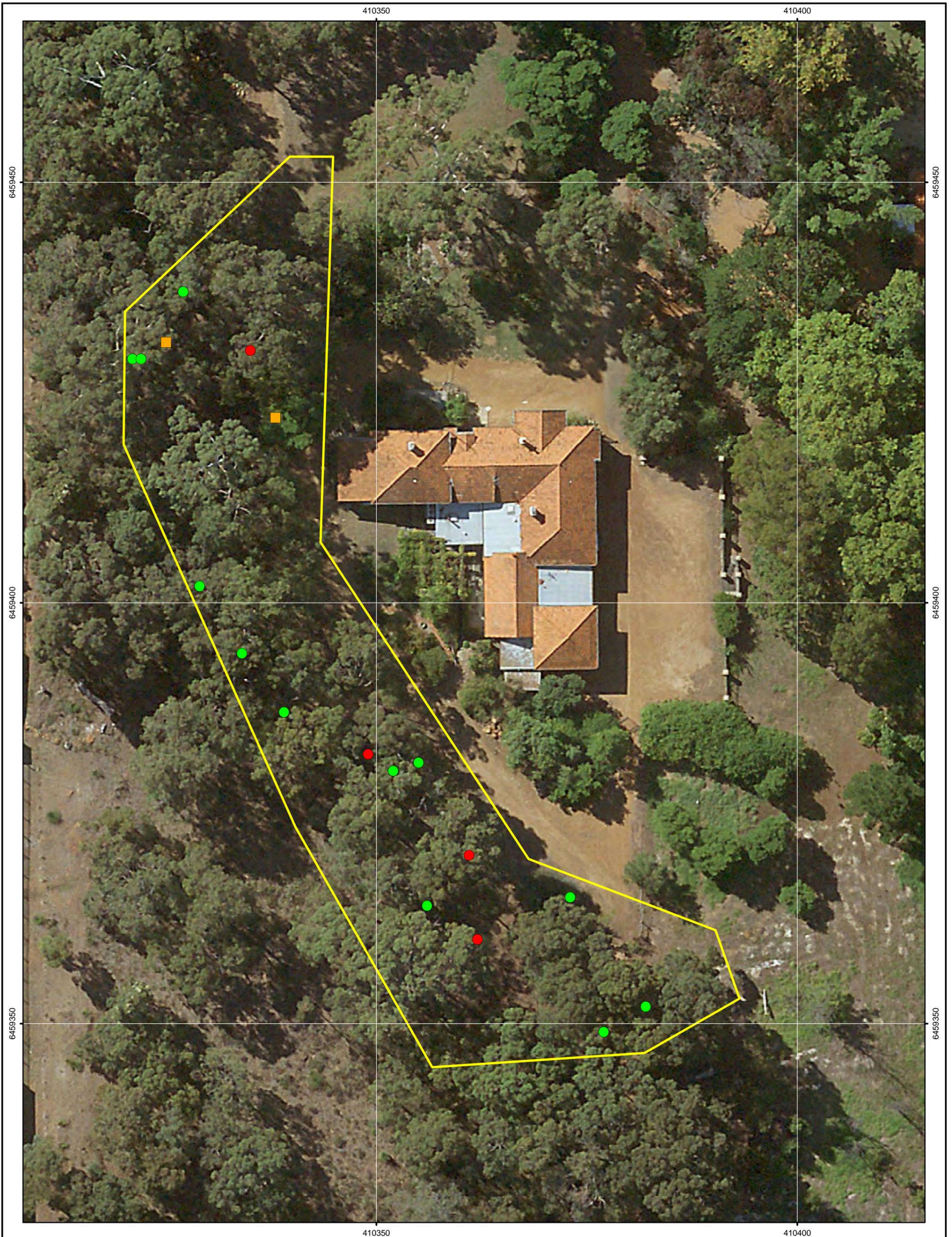
Despite searching over spring months, no Threatened flora species, pursuant to s179 of the *Environment Protection and Biodiversity Conservation Act* (1999) were located during the survey.

Principle (d): Native vegetation should not be cleared if it compromises the whole or part of, or is necessary for the maintenance of a threatened ecological community.

One site-vegetation type (type S) was defined mapped for the survey area on St Brigid's College. This site-vegetation type (community) is not listed as a threatened ecological community or a priority ecological community (Department of Biodiversity, Conservation and Attractions 2017e; Department of the Environment and Energy 2017b). Therefore this is not at variance with this Principle.

Principle (e): Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.

As then less disturbed area of vegetation on the survey area at St Brigid's College is less than a hectare any proposed clearing could not be considered to be significant in this context. Therefore, clearing of native vegetation on the survey area is not at variance with this Principle.



<p>Legend</p> <p> Clearing Area</p>	<p>Trees</p> <ul style="list-style-type: none"> ● Corymbia calophylla, >50 ● Corymbia calophylla, >90 ■ Eucalyptus maculata, >50 	<p style="text-align: center;">N</p> <p style="text-align: center;">0 4 8m</p> <p style="text-align: center;">Scale: 1:400 MGA94 (Zone 50)</p> <p>CAD Ref: a2563_Tr_F002 Date: Oct 2017 Rev: A A3</p>	<p style="text-align: center;"> Mattiske Consulting Pty Ltd</p> <p style="font-size: small;">28 Central Road, Kalamunda WA 6076 ~ Tel: 9257 1625 ~ Fax: 9257 1640</p> <p>Author: E M Mattiske MCPL Ref: Drawn: CAD Resources ~ www.cadresources.com.au Tel: (08) 9246 3242 ~ Fax (08) 9246 3202</p>	<p>St Brigid's College</p> <p>Location of Large Trees</p>	<p>Figure:</p> <p style="font-size: 2em; font-weight: bold;">3</p>
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Principle (f): Native vegetation should not be cleared if it is growing in, or in association with, and environment associated with a watercourse or wetland.

As the survey area occurs on upper lateritic slopes, the proposed clearing is not at variance with this Principle.

Principle (g): Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.

The survey area occurs adjacent to residential housing and school facilities and ovals. Therefore, clearing of the vegetation is unlikely to be at variance with this Principle.

Principle (h): Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

As the survey area occurs on upper slopes and abuts in the main an active school sports facility (to east) and associated infrastructure and residential housing, the proposed clearing is not at variance with this Principle.

Principle (i): Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water

As the survey area occurs on lateritic upper slopes, the proposed clearing is not at variance with this Principle.

Principle (j): Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence of flooding.

As the survey area occurs on lateritic upper slopes, the proposed clearing is not at variance with this Principle.

6. DISCUSSION

The survey effort builds extensive biological studies by the prime author in the region and therefore the information as provided reflects a substantial local knowledge of the northern Jarrah forest. Consequently the effort exceeds any needs that are required for government processing of the proposed clearing activities.

A total of 71 vascular plant taxa from 29 plant families and 54 genera were recorded on the survey area at St Brigid's College. Of these, sixteen taxa were introduced plant taxa and four were planted tree or shrub species. Dominant families included Fabaceae (14 taxa), Proteaceae (8 taxa) and Myrtaceae (6 taxa).

Based on database searches, a series of threatened and priority flora species had the potential to occur in the survey area. Despite extensive searching, no declared or listed threatened or priority flora species as defined by the *Environment Protection Biodiversity Conservation Act 1999* or the *Wildlife Conservation Act 1950* were recorded on the survey area in September 2017.

The St Brigid's survey area was dominated by one site-vegetation type (type S) based on Havel's site-vegetation types for the Northern Jarrah Forest Region (Havel 1975a, 1975b). This community (or site-vegetation type) is not listed as a threatened ecological community or priority ecological community (Department of Biodiversity, Conservation and Attractions 2017e, 2017f; Department of the Environment and Energy 2017b).

The condition of the vegetation within the St Brigid's survey area varies in condition from south to north, with the northern section influenced by tree and shrub planting and introduced species in the understorey. The actual area proposed to be disturbed that is in relatively good condition is less than 0.2ha. The other sections of the survey area are either degraded or completely degraded.

The key environmental value of the survey area on the St Brigid's College area relates to the potential foraging activities of the Black Cockatoos. As the vegetation on the survey area that is in good condition (less than 0.26hectare), the significance of such foraging activities is diminished significantly and therefore it is recommended that the value of the survey area is insignificant in the local and regional context to warrant consideration through the native vegetation state or federal processes.

7. LIST OF PARTICIPANTS

The following personnel were involved in various stages of the project:

Principal Plant Ecologist and Study Coordinator:
Dr E.M. Mattiske

Biologists:
Mrs F Martin
Mr B. Ellery

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APPENDIX A1: THREATENED AND PRIORITY FLORA DEFINITIONS

Under section 179 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), threatened flora are categorised as extinct, extinct in the wild, critically endangered, endangered, vulnerable and conservation dependent (Table A1.1).

Table A1.1 Federal definition of threatened flora species

Note: Adapted from section 179 of the EPBC Act.

CODE	CATEGORY	DEFINITION
Ex	Extinct	Species which at a particular time if, at that time, there is no reasonable doubt that the last member of the species has died.
ExW	Extinct in the Wild	Species which is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or it has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.
CE	Critically Endangered	Species which at a particular time if, at that time, it is facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria.
E	Endangered	Species which is not critically endangered and it is facing a very high risk of extinction in the wild in the immediate or near future, as determined in accordance with the prescribed criteria.
V	Vulnerable	Species which is not critically endangered or endangered and is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.
CD	Conservation Dependent	Species which at a particular time if, at that time, the species is the focus of a specific conservation program, the cessation of which would result in the species becoming vulnerable, endangered or critically endangered within a period of 5 years.

The *Wildlife Conservation Act 1950* (WC Act) provides for (amongst other things) the protection of flora likely to become extinct or rare or otherwise in need of special protection in Western Australia under section 23F. Threatened (or rare) flora are listed in the *Wildlife Conservation (Rare Flora) Notice 2017* (under section 23F(2) of the WC Act; Department of Biodiversity, Conservation and Attractions 2017a) and are categorised under Schedules 1-4 as critically endangered, endangered, vulnerable or extinct, respectively. Threatened flora are defined as **“likely to become extinct or is rare, or otherwise in need of special protection”**, pursuant to section 23F(2) of the WC Act. Threatened species are categorised as critically endangered, endangered, vulnerable and presumed extinct (Table A1.2).

Table A1.2 State definition of threatened flora species

Note: Adapted from Department of Biodiversity, Conservation and Attractions (2017c).

CODE	CATEGORY	DEFINITION
CR	Critically endangered	Species considered to be facing an extremely high risk of becoming extinct in the wild (listed under Schedule 1 of the <i>Wildlife Conservation (Rare Flora) Notice 2016</i>).
EN	Endangered	Species considered to be facing a very high risk of becoming extinct in the wild (listed under Schedule 2 of the <i>Wildlife Conservation (Rare Flora) Notice 2016</i>).
VU	Vulnerable	Species considered to be facing a high risk of becoming extinct in the wild (listed under Schedule 3 of the <i>Wildlife Conservation (Rare Flora) Notice 2016</i>).
EX	Presumed extinct species	Species that have been adequately searched for and there is no reasonable doubt that the last individual has died (listed under Schedule 4 of the <i>Wildlife Conservation (Rare Flora) Notice 2016</i>).

Priority flora species are defined as “possibly threatened species that do not meet the survey criteria, or are otherwise data deficient; or are adequately known, are rare but not threatened, meet criteria for near threatened or have recently been removed from the threatened species list for **other than taxonomic reasons**” (Department of Biodiversity, Conservation and Attractions 2017c). Priority species are not afforded any protection under state or federal legislation, however are considered significant under the Environmental Protection Authority’s *Environmental Factor Guideline: Flora and Vegetation*. The Department of Biodiversity, Conservation and Attractions categorises priority flora into four categories: Priority 1; Priority 2, Priority 3 and Priority 4 (Table A1.3).

Table A1.3: State definition of priority flora species

Note: Adapted from Department of Biodiversity, Conservation and Attractions (2017c).

CODE	CATEGORY	DEFINITION
P1	Priority 1: Poorly-known species	Known from one or a few locations (< 5) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation; or are otherwise under threat of habitat destruction or degradation. In urgent need of further survey.
P2	Priority 2: Poorly-known species	Known from one or a few locations (< 5). Some occurrences are on lands managed primarily for nature conservation. In urgent need of further survey.
P3	Priority 3: Poorly-known species	Known from several locations and the species does not appear to be under imminent threat; or from few but widespread locations with either a large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. In need of further survey.
P4	Priority 4: Rare, Near Threatened, and other species in need of monitoring	a) Rare - Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection, but could be if present circumstances change. These species are usually represented on conservation lands. b) Near Threatened - Species that are considered to have been adequately surveyed and that do not qualify for Conservation Dependent, but that are close to qualifying for Vulnerable. c) Other - Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.

APPENDIX A2: THREATENED AND PRIORITY ECOLOGICAL COMMUNITY DEFINITIONS

Under section 181 of the EPBC Act, threatened ecological communities are categorised as critically endangered, endangered and vulnerable (Table A2.1).

Table A2.1 Federal definition of threatened ecological communities

Note: Adapted from section 181 and section 182 of the EPBC Act.

CATEGORY	DEFINITION
Critically Endangered	If, at that time, it is facing an extremely high risk of extinction in the wild in the immediate future.
Endangered	If, at that time, it is not critically endangered and is facing a very high risk of extinction in the wild in the near future.
Vulnerable	If, at that time, it is not critically endangered or endangered, and is facing a high risk of extinction in the wild in the medium-term future.

Currently there is no Western Australian legislation covering the conservation of state listed threatened ecological communities (TECs), however, a non-statutory process is in place, whereby the Department of Biodiversity, Conservation and Attractions have been identifying and informally listing TECs since 1994. Some of these TECs are endorsed by the Federal Minister as threatened, and some of these are also listed under the EPBC Act and therefore afforded legislative protection at the Commonwealth level.

Table A2.2 State definition of threatened ecological communities

Note: Adapted from Department of Environment and Conservation (2013).

CODE	CATEGORY	DEFINITION
PD	Presumed Totally Destroyed	An ecological community will be listed as PD if there are no recent records of the community being extant and either of the following applies: <ol style="list-style-type: none"> 1. Records within the last 50 years have not been confirmed despite thorough searches or known likely habitats; or 2. All occurrences recorded within the last 50 years have since been destroyed.
CR	Critically Endangered	An ecological community will be listed as CR when it has been adequately surveyed and is found to be facing an extremely high risk of total destruction in the immediate future, meeting any one or more of the following criteria: <ol style="list-style-type: none"> 1. The estimated geographic range and distribution has been reduced by at least 90% and is either continuing to decline with total destruction imminent, or is unlikely to be substantially rehabilitated in the immediate future due to modification; 2. The current distribution is limited i.e. highly restricted, having very few small or isolated occurrences, or covering a small area; or 3. The ecological community is highly modified with potential of being rehabilitated in the immediate future.
EN	Endangered	An ecological community will be listed as EN when it has been adequately surveyed and is not CR, but is facing a very high risk of total destruction in the near future. The ecological community must meet any one or more of the following criteria: <ol style="list-style-type: none"> 1. The estimated geographic range and distribution has been reduced by at least 70% and is either continuing to decline with total destruction imminent in the short term future, or is unlikely to be substantially rehabilitated in the short term future due to modification; 2. The current distribution is limited i.e. highly restricted, having very few small or isolated occurrences, or covering a small area; or 3. The ecological community is highly modified with potential of being rehabilitated in the short term future.
VU	Vulnerable	An ecological community will be listed as VU when it has been adequately surveyed and is not Critically Endangered or Endangered but is facing high risk of total destruction in the medium to long term future. The ecological community must meet any one or more of the following criteria: <ol style="list-style-type: none"> 1. The ecological community exists largely as modified occurrences that are likely to be able to be substantially restored or rehabilitated; 2. The ecological community may already be modified and would be vulnerable to threatening process, and restricted in range or distribution; or 3. The ecological community may be widespread but has potential to move to a higher threat category due to existing or impending threatening processes.

Priority ecological communities (PECs) are defined as possible threatened ecological communities that do not meet the stringent survey criteria for the assessment of threatened ecological communities, and are listed by the Department of Parks and Wildlife. Similarly to priority flora, PECs are not afforded legislative protection, however are considered significant under the Environmental Protection Authority's (2016a) *Environmental Factor Guideline: Flora and Vegetation*. The Department of Parks and Wildlife categorises priority ecological communities into five categories: Priority 1; Priority 2, Priority 3, Priority 4 and Priority 5 (Table A2.3).

Table A2.3 State definition of priority ecological communities

Note: Adapted from Department of Environment and Conservation (2013).

CODE	CATEGORY	DEFINITION
P1	Priority 1 (Poorly known ecological communities)	Ecological communities that are known from very few, restricted occurrences (generally ≤ 5 occurrences or a total area of ≤ 100 ha). Most of these occurrences are not actively managed for conservation (e.g. located within agricultural or pastoral lands, urban areas, or active mineral leases) and for which immediate threats exist.
P2	Priority 2 (Poorly known ecological communities)	Communities that are known from few small occurrences (generally ≤ 10 occurrences or a total area of ≤ 200 ha). At least some occurrences are not believed to be under immediate threat of destruction or degradation.
P3	Priority 3 (Poorly known ecological communities)	<ol style="list-style-type: none"> Communities that are known from several to many occurrences, a significant number or area of which are not under threat of habitat destruction or degradation; Communities known from a few widespread occurrences, which are either large or within significant remaining areas of habitat in which other occurrences may occur, much of it not under imminent threat; or Communities made up of large, and/or widespread occurrences, that may or not be represented in the reserve system, but are under threat of modification across much of their range from processes such as grazing and inappropriate fire regimes.
P4	Priority 4 (Ecological communities that are adequately known, rare but not threatened or meet criteria for Near Threatened, or that have been recently removed from the threatened list. These communities require regular monitoring)	<ol style="list-style-type: none"> Rare – Communities known from few occurrences that are considered to have been adequately surveyed, sufficient knowledge is available, and are considered not to be currently threatened. Near Threatened – Communities considered to have been adequately surveyed and do not qualify for Conservation Dependent, but are close to qualifying for Vulnerable. Communities that have been removed from the list of threatened communities during the past five years.
P5	Priority 5 (Conservation Dependent ecological communities)	Ecological communities that are not threatened but are subject to a specific conservation program, the cessation of which would result in the community becoming threatened within five years.

APPENDIX A3: CATEGORIES AND CONTROL MEASURES OF DECLARED PEST (PLANT) ORGANISMS IN WESTERN AUSTRALIA

Section 22 of **Western Australia's Biosecurity and Agriculture Management Act 2007** (BAM Act) makes provision for a plant taxon to be listed as a declared pest organism in respect to parts of, or the entire State. According to the BAM Act, a declared pest is defined as a prohibited organism (section 12), or an organism for which a declaration under section 22 (2) of the Act is in force.

Under the *Biosecurity and Agriculture Management Regulations 2013* (WA), declared pest plants are placed in one of three control categories, C1 (exclusion), C2 (eradication) or C3 (management), which determines the measures of control which apply to the declared pest (Table A4.1). The current listing of declared pest organisms and their control category is through the Western Australian Organism List (Department of Agriculture and Food Western Australia 2017).

Table A3.1 Categories and control measures of declared pest (plant) organisms

Note: Adapted from *Biosecurity and Agriculture Management Regulations 2013*.

CONTROL CATEGORY	CONTROL MEASURES
<p>C1 (Exclusion)</p> <p>'(a) Category 1 (C1) — Exclusion: if in the opinion of the Minister introduction of the declared pest into an area or part of an area for which it is declared should be prevented.'</p> <p>Pests will be assigned to this category if they are not established in Western Australia and control measures are to be taken, including border checks, in order to prevent them entering and establishing in the State.</p>	<p>In relation to a category 1 declared pest, the owner or occupier of land in an area for which an organism is a declared pest or a person who is conducting an activity on the land must take such of the control measures specified in subregulation (1) as are reasonable and necessary to destroy, prevent or eradicate the declared pest.</p>
<p>C2 (Eradication)</p> <p>'(b) Category 2 (C2) — Eradication: if in the opinion of the Minister eradication of the declared pest from an area or part of an area for which it is declared is feasible.'</p> <p>Pests will be assigned to this category if they are present in Western Australia in low enough numbers or in sufficiently limited areas that their eradication is still a possibility.</p>	<p>In relation to a category 2 declared pest, the owner or occupier of land in an area for which an organism is a declared pest or a person who is conducting an activity on the land must take such of the control measures specified in subregulation (1) as are reasonable and necessary to destroy, prevent or eradicate the declared pest.</p>
<p>C3 (Management)</p> <p>'(c) Category 3 (C3) — Management: if in the opinion of the Minister eradication of the declared pest from an area or part of an area for which it is declared is not feasible but that it is necessary to:</p> <p>(i) alleviate the harmful impact of the declared pest in the area; or</p> <p>(ii) reduce the number or distribution of the declared pest in the area; or</p> <p>(iii) prevent or contain the spread of the declared pest in the area.'</p> <p>Pests will be assigned to this category if they are established in Western Australia but it is feasible, or desirable, to manage them in order to limit their damage. Control measures can prevent a C3 pest from increasing in population size or density or moving from an area in which it is established into an area which currently is free of that pest.</p>	<p>In relation to a category 3 declared pest, the owner or occupier of land in an area for which an organism is a declared pest or a person who is conducting an activity on the land must take such of the control measures specified in subregulation (1) as are reasonable and necessary to:</p> <p>(a) alleviate the harmful impact of the declared pest in the area for which it is declared; or</p> <p>(b) reduce the number or distribution of the declared pest in the area for which it is declared; or</p> <p>(c) prevent or contain the spread of the declared pest in the area for which it is declared.</p>

APPENDIX B: THREATENED AND PRIORITY SPECIES POTENTIALLY OCCURRING AT ST BRIGIDS COLLEGE SURVEY AREA

SCC = State Conservation Code, FCC = Federal Conservation Code

X denotes Presumed Extinct Flora, T denotes Threatened Species (Extant), P1-P4 denotes priority flora (DBCA 2017, DotEE 2017)

Species	SCC	FCC	Annual/Perennial	Flowering Period	Species Description	Comments
<i>Acacia anomala</i>	T	Vulnerable	Perennial	Aug-Sep	Slender, rush-like shrub, 0.2-0.5 m high. Fl. yellow, Aug to Sep. Lateritic soils. Slopes.	Possible
<i>Acacia aphylla</i>	T	Vulnerable	Perennial	Aug-Oct	Divaricately branched, spinescent, glaucous shrub, 0.9-2.5 m high. Fl. yellow, Aug to Oct. Sand, loam, clay loam. Granite outcrops, hills.	Possible
<i>Anthocercis gracilis</i>	T	Vulnerable	Perennial	Sep-Oct	Erect, spindly shrub, to 0.6(-1) m high. Fl. yellow-green, Sep to Oct. Sandy or loamy soils. Granite outcrops.	Unlikely as dry lateritic soils
<i>Austrostipa bronwenae</i>	T	-	Perennial	Sep	Caespitose perennial grass-like or herb, 0.3 – 0.6 m high, 0.3 – 1 m wide. Fl. green, Sep. loam over clay, sandy loam, sandy clay, sand. Wetlands, seasonally waterlogged flats.	Unlikely as dry lateritic soils
<i>Banksia mimica</i>	T	Endangered	Perennial	Dec or Jan-Feb	Prostrate, lignotuberous shrub, 0.15-0.4 m high. Fl. yellow-brown, Dec or Jan to Feb. White or grey sand over laterite, sandy loam.	Unlikely as dry lateritic soils
<i>Caladenia huegelii</i>	T	Endangered	Tuberous, perennial herb	Sep-Oct	Tuberous, perennial, herb, 0.25-0.6 m high. Fl. green & cream & red, Sep to Oct. Grey or brown sand, clay loam.	Unlikely as dry lateritic soils
<i>Calytrix breviseta</i> subsp. <i>breviseta</i>	T	Endangered	Perennial	Oct-Nov	Shrub, 0.4-1 m high. Fl. purple-blue, Oct to Nov. Sandy clay. Swampy flats.	Unlikely as dry lateritic soils
<i>Conospermum undulatum</i>	T	Vulnerable	Perennial	May-Oct	Erect, compact shrub, 0.6-2 m high. Fl. white-other, May to Oct. Grey or yellow-orange clayey sand.	Unlikely as dry lateritic soils
<i>Darwinia apiculata</i>	T	Endangered	Perennial	Oct	Densely branched shrub, 0.4-0.5 m high. Fl. green & yellow/red, Oct. Lateritic soils.	Possible
<i>Diuris drummondii</i>	T	Vulnerable	Tuberous, perennial herb	Nov to Dec or Jan	Tuberous, perennial, herb, 0.5-1.05 m high. Fl. yellow, Nov to Dec or Jan. Low-lying depressions, swamps.	Unlikely as dry lateritic soils
<i>Diuris micrantha</i>	T	Vulnerable	Tuberous, perennial herb	Sep-Oct	Tuberous, perennial, herb, 0.3-0.6 m high. Fl. yellow & brown, Sep to Oct. Brown loamy clay. Winter-wet swamps, in shallow water.	Unlikely as dry lateritic soils

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Species	SCC	FCC	Annual/Perennial	Flowering Period	Species Description	Comments
<i>Diuris purdiei</i>	T	Endangered	Tuberous, perennial herb	Sep-Oct	Tuberous, perennial, herb, 0.15-0.35 m high. Fl. yellow, Sep to Oct. Grey-black sand, moist. Winter-wet swamps.	Unlikely as dry lateritic soils
<i>Eucalyptus x balanites</i>	T	Endangered	Perennial	Oct-Dec or Jan-Feb	Mallee, to 5 m high, bark rough, flaky. Fl. white, Oct to Dec or Jan to Feb. Sandy soils with lateritic gravel.	Unlikely as dry lateritic soils
<i>Grevillea thelemanniana</i> subsp. <i>thelemanniana</i>	T	-	Perennial	May-Nov	Spreading shrub 0.4-1.5 m high x 0.5-1.5 m wide. Fl. Red, May-Nov. Sand, sandy clay, sandy loam, clay. Clay or sand flats, winter-wet areas.	Unlikely as dry lateritic soils
<i>Lasiopetalum pterocarpum</i>	T	Endangered	Perennial	Aug-Dec	Open, multi-stemmed shrub (with distinctly winged fruit), to 1.2 m high. Fl. pink, Aug to Dec. Dark red-brown loam or clayey sand over granite. On sloping banks near creeklines.	Unlikely as dry lateritic soils
<i>Lepidosperma rostratum</i>	T	Endangered	Perennial	Jun, Jul, Sep	Rhizomatous, tufted perennial, grass-like or herb (sedge), 0.5 m high. Fl. brown. Peaty sand, clay.	Unlikely as dry lateritic soils
<i>Synaphea</i> sp. Fairbridge Farm (D. Papenfus 696)	T	Critically Endangered	Perennial	Oct	Dense, clumped shrub, to 0.3 m high, to 0.4 m wide. Fl. yellow, Oct. Sandy with lateritic pebbles. Near winter-wet flats, in low woodland with weedy grasses.	Unlikely as dry lateritic soils
<i>Thelymitra dedmaniarum</i>	T	Endangered	Tuberous, perennial herb	Nov-Dec or Jan	Tuberous, perennial, herb, to 0.8 m high. Fl. yellow, Nov to Dec or Jan. Granite.	Unlikely as dry lateritic soils
<i>Thelymitra stellata</i>	T	Endangered	Tuberous, perennial herb	Oct-Nov	Tuberous, perennial, herb, 0.15-0.25 m high. Fl. yellow & brown, Oct to Nov. Sand, gravel, lateritic loam.	Possible
<i>Boronia humifusa</i>	P1	-	Perennial	Jun or Sep	Low-growing, wiry perennial, herb, 0.1-0.2 m high. Fl. pink/red, Jun or Sep. Gravelly clay loam over laterite. Jarrah-marri open forest.	Possible
<i>Grevillea bipinnatifida</i> subsp. <i>pagna</i>	P1	-	Perennial	Aug or Oct-Nov	Prostrate, lignotuberous shrub, 0.2-0.7 m high. Fl. red & orange & yellow, Aug or Oct to Nov. Grey sandy clay and loam, ironstone. Seasonal wetlands, swamps, roadsides.	Unlikely as dry lateritic soils
<i>Thelymitra magnifica</i>	P1	-	Perennial herb	Oct, Nov	Perennial, herb. Stony ridges.	Possible
<i>Banksia pteridifolia</i> subsp. <i>vernalis</i>	P3	-	Perennial	Sep-Oct	Prostrate, lignotuberous shrub, to 0.4 m high. Fl. cream-white/yellow, Sep to Oct. White/grey sand over laterite.	Unlikely as dry lateritic soils

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Species	SCC	FCC	Annual/Perennial	Flowering Period	Species Description	Comments
<i>Byblis gigantea</i>	P3	-	Perennial herb	Sep-Dec or Jan	Small, branched perennial, herb (or sub-shrub), to 0.45 m high. Fl. pink-purple/white, Sep to Dec or Jan. Sandy-peat swamps. Seasonally wet areas.	Unlikely as dry lateritic soils
<i>Haemodorum loratum</i>	P3	-	Bulbaceous, Perennial herb	Nov	Bulbaceous, perennial, herb, 0.45-1.2(-2) m high. Fl. black/brown-black/green, Nov. Grey or yellow sand, gravel.	Unlikely as dry lateritic soils
<i>Halgania corymbosa</i>	P3	-	Perennial	Aug-Nov	Erect shrub, 0.35-1 m high. Fl. blue-purple, Aug to Nov. Gravelly soils, soils over granite.	Unlikely as dry lateritic soils
<i>Isopogon drummondii</i>	P3	-	Perennial	Feb, Apr, Jun	Erect multistemmed shrub to 1 m high, to 1 m wide. Fl. pale yellow/creamy-yellow/cream, Feb, Apr, Jun. Sand, laterite gravel and boulders. Hilltops and slopes, gently sloping dunes and flats.	Possible
<i>Lasiopetalum glutinosum</i> subsp. <i>glutinosum</i>	P3	-	Perennial	Sep-Nov, or Mar	Erect shrub, 0.4-1 m high and 0.2-1 m wide. Fl. pink-purple/magenta/mauve, Sep-Nov or Mar. Granitic loam, gravel, silty clay, clayey sand. Sandplain, swampy area, hill slopes and summit.	Unlikely as dry lateritic soils
<i>Pithocarpa corymbulosa</i>	P3	-	Perennial herb	Jan-Apr	Erect to scrambling perennial, herb, 0.5-1 m high. Fl. white, Jan to Apr. Gravelly or sandy loam. Amongst granite outcrops.	Unlikely as dry lateritic soils
<i>Tetratheca</i> sp. Granite (S. Patrick SP1224)	P3	-	Perennial	Jul-Dec	Erect shrub, to 0.4 m high. Fl. Pink-dark pink/purple/magenta, Jul-Dec. Clay, moist loam, clayey sand. Granite boulders.	Unlikely as dry lateritic soils
<i>Thysanotus anceps</i>	P3	-	Perennial herb	Oct-Dec	Rhizomatous, leafless perennial, herb, to 0.4 m high. Fl. purple, Oct to Dec. White or grey sand, lateritic gravel, laterite.	Unlikely as dry lateritic soils
<i>Acacia oncinophylla</i> subsp. <i>patulifolia</i>	P4	-	Perennial	Aug-Nov or Nov-Dec	Shrub, 0.5-2.5(-3) m high, 'minni-ritchi' bark, phyllodes 4-9 cm long, 3-6 mm wide. Fl. yellow, Aug to Nov or Nov to Dec. Granitic soils, occasionally on laterite.	Unlikely as dry lateritic soils
<i>Boronia tenuis</i>	P4	-	Perennial	Aug-Nov	Procumbent or erect & slender shrub, 0.1-0.5 m high. Fl. blue/pink-white, Aug to Nov. Laterite, stony soils, granite.	Unlikely as dry lateritic soils
<i>Centrolepis caespitosa</i>	P4	-	Annual	Oct-Dec	Tufted annual, herb (forming a rounded cushion up to 25 mm across). Fl. Oct to Dec. White sand, clay. Salt flats, wet areas.	Unlikely as dry lateritic soils
<i>Cyanicula ixiooides</i> subsp. <i>ixiooides</i>	P4	-	Tuberous, perennial herb	Aug-Oct	Tuberous, perennial, herb, 0.05-0.15 m high. Fl. yellow, Aug to Oct. Laterite, gravel.	Possible

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Species	SCC	FCC	Annual/Perennial	Flowering Period	Species Description	Comments
<i>Drosera occidentalis</i> subsp. <i>occidentalis</i>	P4	-	Perennial herb	Nov-Dec	Fibrous-rooted, rosetted perennial, herb, to 0.01 m high. Fl. pink/white, Nov to Dec. Sandy & clayey soils. Swamps & wet depressions.	Unlikely as dry lateritic soils
<i>Hibbertia montana</i>	P4	-	Perennial	Jul-Oct	Erect, straggling or sprawling shrub, 0.1-0.7 m high. Fl. yellow, Jul to Oct. Loam over granite, lateritic soils, gravel. Granite rocks, lateritic ridges & boulders, hills.	Possible
<i>Jacksonia sericea</i>	P4	-	Perennial	Dec or Jan to Feb.	Low spreading shrub, to 0.6 m high. Fl. orange, usually Dec or Jan to Feb. Calcareous & sandy soils.	Unlikely as dry lateritic soils
<i>Lasiopetalum bracteatum</i>	P4	-	Perennial	Aug-Nov	Erect, open shrub, 0.4-1.5 m high. Fl. pink-purple, Aug to Nov. Sandy clay, clay, lateritic gravel. Along drainage lines, creeks, gullies, granite outcrops.	Unlikely as dry lateritic soils
<i>Pimelea rara</i>	P4	-	Perennial	Dec or Jan	Shrub, 0.2-0.35 m high. Fl. white, Dec or Jan. Lateritic soils.	Possible
<i>Senecio leucoglossus</i>	P4	-	Annual	Aug-Dec	Erect annual, herb, to 1.3 m high. Fl. white, Aug to Dec. Gravelly lateritic or granitic soils. Granite outcrops, slopes.	Unlikely as dry lateritic soils
<i>Stylidium striatum</i>	P4	-	Perennial herb	Oct-Nov	Rosetted perennial, herb, 0.15-0.55 m high, Leaves erect, oblanceolate to spatulate, 1.5-4 cm long, 1.5-6 mm wide, apex acute to acuminate, margin entire, glabrous, striate. Scape sparingly glandular on inflorescence axis, glabrous below. Inflorescence racemose. Fl. yellow, Oct to Nov. Brown clay loam over laterite. Hillslopes. Jarrah/Marri forest, Wandoo woodland.	Possible
<i>Verticordia lindleyi</i> subsp. <i>lindleyi</i>	P4	-	Perennial	May, or Nov-Dec or Jan	Erect shrub, 0.2-0.75 m high. Fl. pink, May or Nov to Dec or Jan. Sand, sandy clay. Winter-wet depressions.	Unlikely as dry lateritic soils

C1.

APPENDIX C: VASCULAR PLANT SPECIES RECORDED ON THE ST BRIGIDS SURVEY AREA, 2017

Note: * denotes introduced species; ^ denotes planted species

Family	Species
Zamiaceae	<i>Macrozamia riedlei</i>
Pinaceae	* <i>Pinus pinaster</i>
Poaceae	* <i>Briza maxima</i> * <i>Ehrharta calycina</i> <i>Neurachne alopecuroidea</i>
Cyperaceae	<i>Cyathochaeta avenacea</i> <i>Lepidosperma pubisquameum</i> <i>Tetralaria</i> sp. Jarrah Forest (R. Davis 7391)
Restionaceae	<i>Desmodcladus fasciculatus</i>
Asparagaceae	<i>Lomandra sonderi</i>
Xanthorrhoeaceae	<i>Xanthorrhoea gracilis</i> <i>Xanthorrhoea preissii</i>
Colchicaceae	<i>Burchardia congesta</i>
Hemerocallidaceae	<i>Dianella revoluta</i>
Haemodoraceae	<i>Conostylis setosa</i> <i>Consotylis setigera</i> <i>Haemodorum</i> sp.
Iridaceae	* <i>Freesia alba</i> × <i>leichtlinii</i> * <i>Gladiolus cayophyllaceus</i> <i>Orthrosanthus laxus</i> <i>Patersonia occidentalis</i>
Casuarinaceae	<i>Allocasuarina fraseriana</i>
Proteaceae	<i>Banksia bipinnatifida</i> <i>Banksia dallanneyi</i> <i>Grevillea synapheae</i> <i>Hakea lissocarpa</i> <i>Hakea prostrata</i> <i>Hakea stenocarpa</i> <i>Hakea undulata</i> <i>Synaphea petiolaris</i> subsp. <i>petiolaris</i>
Droseraceae	<i>Drosera erythrorhiza</i> <i>Drosera glanduligera</i> <i>Drosera pallida</i> <i>Drosera ?porrecta</i> <i>Drosera</i> sp. Climbing
Fabaceae	* <i>Acacia longifolia</i> <i>Acacia nervosa</i> <i>Acacia pulchella</i> * <i>Acacia pycnantha</i> <i>Bossiaea ornata</i> * <i>Chamaecytisus palmensis</i> <i>Chorizema cordatum</i> * <i>Erythrina</i> × <i>sykesii</i> <i>Gompholobium polymorphum</i> <i>Hardenbergia comptoniana</i> <i>Hovea trisperma</i>

C2.

APPENDIX C: VASCULAR PLANT SPECIES RECORDED ON THE ST BRIGIDS SURVEY AREA, 2017

Note: * denotes introduced species; ^ denotes planted species

Family	Species
Fabaceae (continued)	<i>Kennedia coccinea</i> <i>Labichea punctata</i> * <i>Medicago</i> sp.
Geraniaceae	* <i>Pelargonium</i> sp.
Oxalidaceae	* <i>Oxalis pes-caprae</i>
Rutaceae	<i>Philotheca spicata</i>
Polygalaceae	* <i>Polygala myrtifolia</i>
Rhamnaceae	<i>Trymalium ledifolium</i>
Malvaceae	<i>Lasiopetalum floribundum</i>
Dilleniaceae	<i>Hibbertia hypericoides</i> <i>Hibbertia ovata</i>
Myrtaceae	^ <i>Callistemon</i> sp. <i>Corymbia calophylla</i> ^ <i>Eucalyptus citriodora</i> ^ <i>Eucalyptus maculata</i> <i>Eucalyptus marginata</i> <i>Hypocalymma robustum</i>
Apiaceae	<i>Xanthosia atkinsoniana</i>
Ericaceae	<i>Leucopogon capitellatus</i>
Convolvulaceae	* <i>Ipomoea indica</i>
Bignoniaceae	* <i>Jacaranda mimosifolia</i>
Goodeniaceae	<i>Lechenaultia biloba</i> <i>Scaevola calliptera</i>
Asteraceae	* <i>Hypochoeris glabra</i> * <i>Hypochoeris radicata</i>



LESMURDIE HOUSE Heritage Impact Statement

Prepared by



For
Saleeba Adams Architects
November 2017

Cover image:
Lesmurdie House, photo by Saleeba Adams Architects

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HHS Job No. 2017-43

Rev No	Author	Reviewer	Date
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1.0 Introduction

Hocking Heritage Studio has been appointed by Saleeba Adams Architects on behalf of St Brigid's College to prepare a heritage impact statement in connection with the adaptive reuse and associated development of Lesmurdie House, located at 12 Catherine Place, Lesmurdie.

Saleeba Adams Architects have developed a concept for the adaptive reuse of the former residence for reuse as an early learning centre for St Brigid's College. The works include fit-out and conservation works to Lesmurdie House, together with the construction of a new annex attached to the south of the house through the original shelter.

Lesmurdie house is entered in the State Register of Heritage places under the Lesmurdie Group of buildings. As such, all development must be in accordance with the principles of the Heritage of Western Australia Act 1990 and the ICOMOS Australia Burra Charter. New uses to heritage places is acceptable so long as it does not compromise or irretrievably harm the documented significance of a place or places.

This heritage impact statement will follow the guidelines established by the State Heritage Office for the preparation of heritage impact statements.

2.0 Location

Lesmurdie House is located at 12 Catherine Place, Lesmurdie within the grounds of St Brigid's College, in the Shire of Kalamunda.

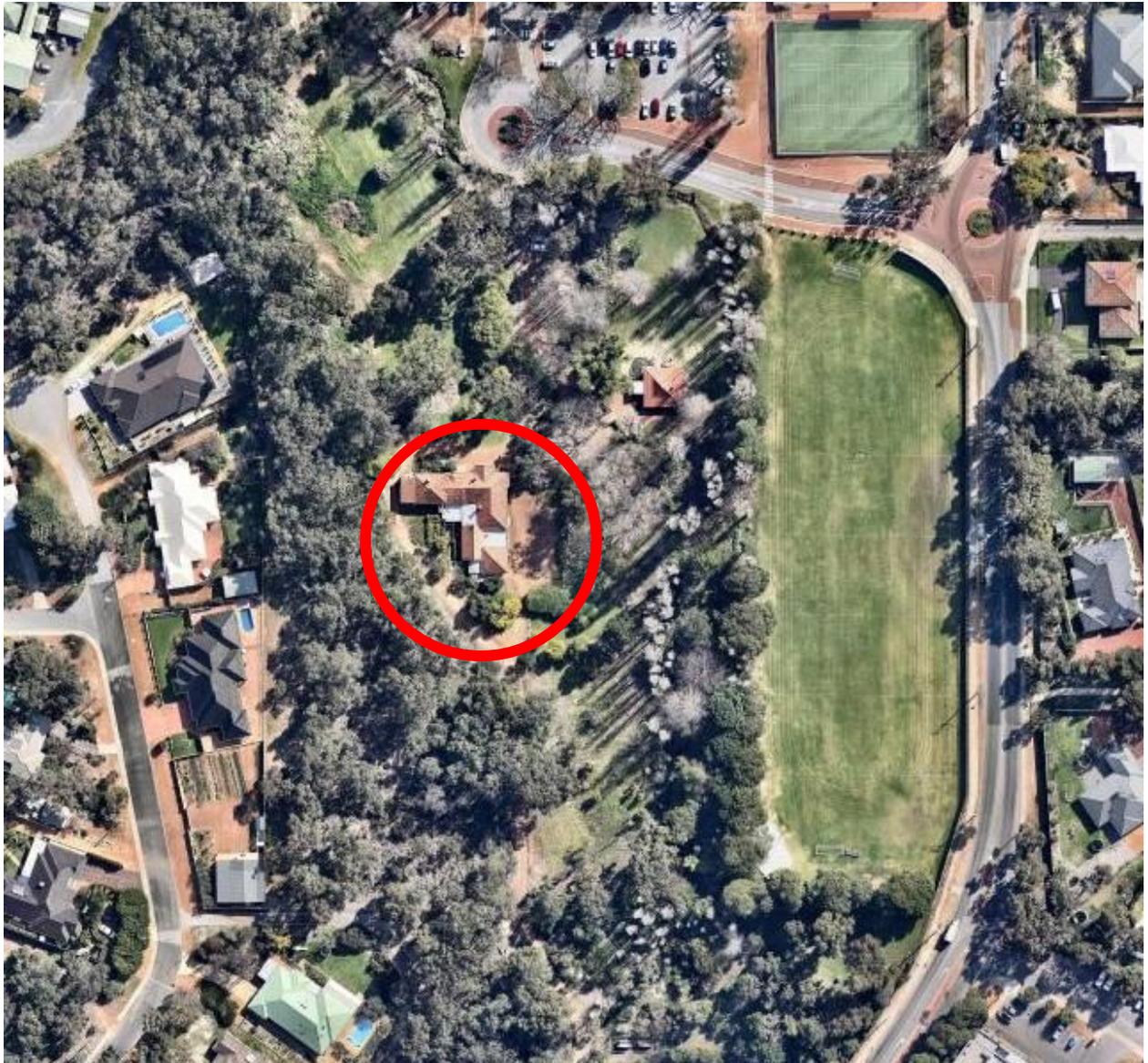


Figure 1: Location of Lesmurdie House.
Courtesy: Nearmaps, 2017

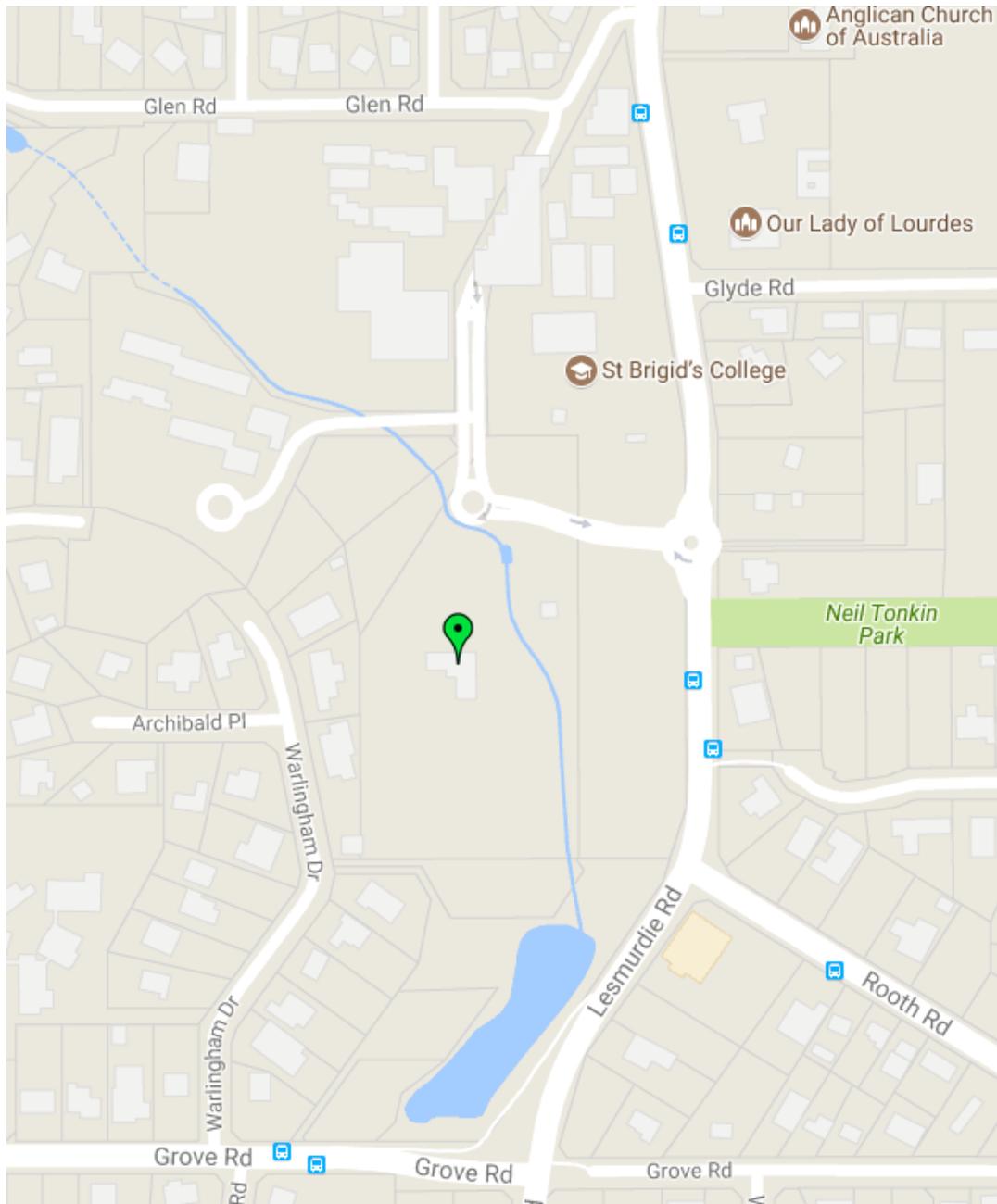


Figure 2 Location of Lesmurdie House
Courtesy: Google Maps, 2017

3.0 Heritage Listings

Lesmurdie House is entered on the inHerit database maintained by the State Heritage Council as place no.10384. It is part of the State Registered Lesmurdie Group, place no. 16819, which comprises of Lesmurdie House & Estate, St. Brigid's College and St. Swithun's Church.

Listing	Status	Date
Register of Heritage Places	Permanent Entry	28/06/2005
Municipal Inventory	Adopted	01/08/2013

4.0 Statement of Significance

The following Statement of Significance has been taken from the Register Documentation prepared by the Heritage Council of Western Australia for entry of the Lesmurdie Group.

Lesmurdie House has cultural heritage significance for the following reasons:

It is a good representative example of a Federation Queen Anne Style residence, exhibiting picturesque and asymmetrical forms, ornate timber detailing, face-brickwork and laterite stonewalling. Its interior is generously proportioned and finely crafted, with elements of the Arts and Crafts style such as solid jarrah wall panelling, jarrah ceiling beams, ornate timber joinery and floors. It was developed as a private retreat in the hills district of Perth;

It includes a good example of Federation garden style landscaping, it comprises a range of mature exotic and native trees, informal garden beds, a concrete garden bathing-pool with a miniature waterfall, and a large gravel terrace that overlooks the lawn areas. The gardens combine with the nearby native forest to produce pleasing environs for Lesmurdie House;

Lesmurdie Group, through its associations with the influential early Sanderson family, and provision of educational, health and religious services, is closely linked to the development of the Kalamunda district in the 20th century, and particularly the locality of Lesmurdie, which derives its name Lesmurdie House & Estate;

Lesmurdie House was chosen by Government officials to accommodate the Duke and Duchess of York for a weekend retreat during their Australia tour in 1927, which generated publicity to boost the growing hills tourism industry in the interwar years.

The lean-to added to the south of Lesmurdie House is considered intrusive.

The 2009 conservation plan identifies the following elements of Lesmurdie House as containing considerable significance;

- the external form and original material of the 1909/1913 building;
- the internal original planning layout;
- the panelling in the Drawing Room;
- surviving original details;

- elements throughout the Campus identified as significant and comprising surviving elements of an original indigenous species together with the extensive and now mature introduced exotic species;
- the overall landscape expression of the Campus;
- the land form, gradients, ponds/creek and facility to attract and accommodate indigenous fauna.

5.0 Conservation Policy

The base conservation policy established in the St. Brigid's College, Lesmurdie, Western Australia Conservation Plan, by Ronald Bodycoat and Robyn Taylor, 2009 made the following recommendations (section 7.5, p. 191-202)

- that the Statement of Significance and the Policies should be adopted by the College;
- that necessary conservation work should be carried out, as identified, in accordance with *The Burra Charter* and undertaken by appropriately skilled tradespersons;
- that elements identified to be of considerable significance should be conserved;
- that archaeological investigation and archival recording as relevant should apply to the place; and
- that the place should be interpreted to explain its origins, its history of use, and its importance as a place of cultural heritage significance.

6.0 Condition of Lesmurdie House

Lesmurdie House is in good condition and has generally been well maintained. Parts of the interior fabric are displaying signs of damp, particularly to the west walls of the original dining room and adjacent bedroom and northern wall of the upper level bedroom adjacent to the sunroom. There is evidence of water damage to ceilings in several rooms on the ground and upper floors. The sunroom to the upper level has evidence of extensive termite damage and the ceiling is currently propped. Several ceilings are showing signs of sagging around the air-conditioning vents, indicating that the ceiling has possibly not been correctly trimmed out for the new openings.

The grounds of Lesmurdie House are generally well maintained with some minor maintenance works being required to remove overgrown vegetation from the base of walls. The original timber paling to the gravel terrace fence has previously been replaced with metal panels.

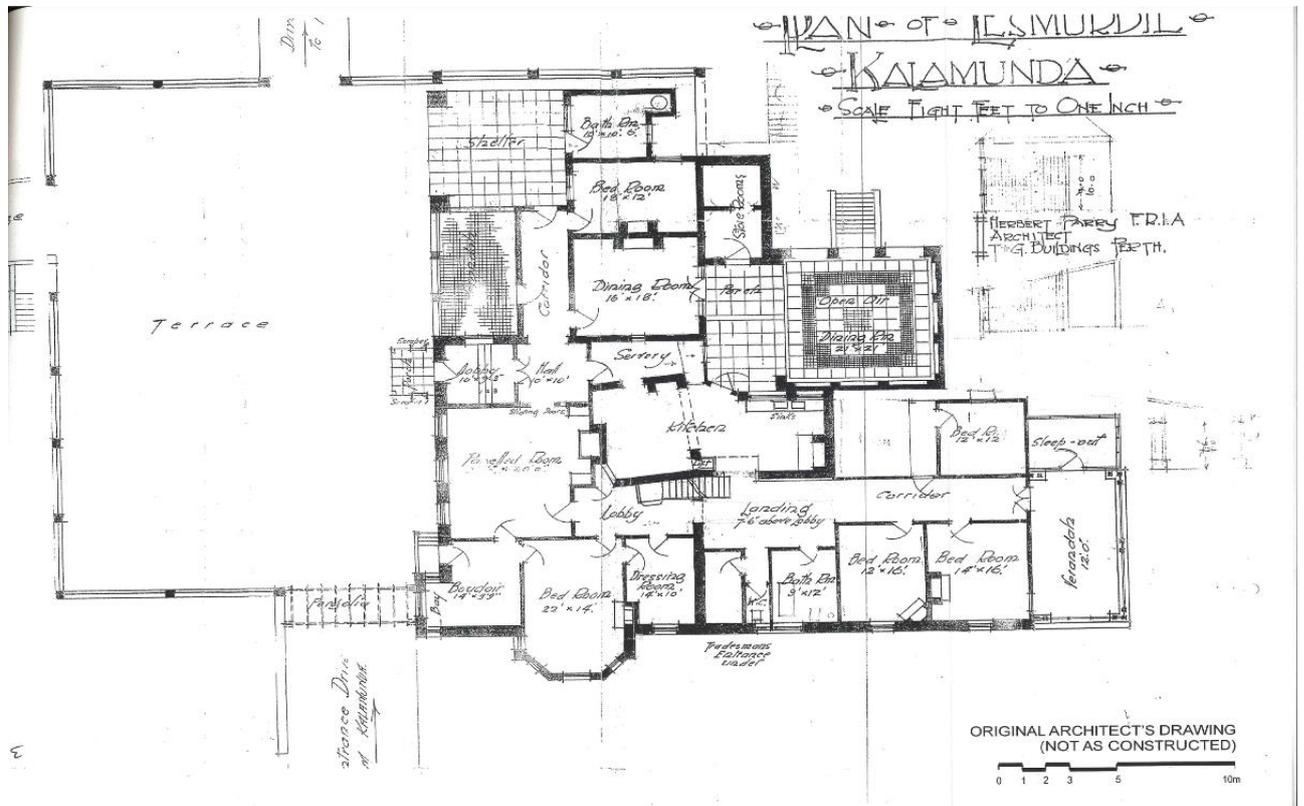


Figure 3 Original Architect's Drawing

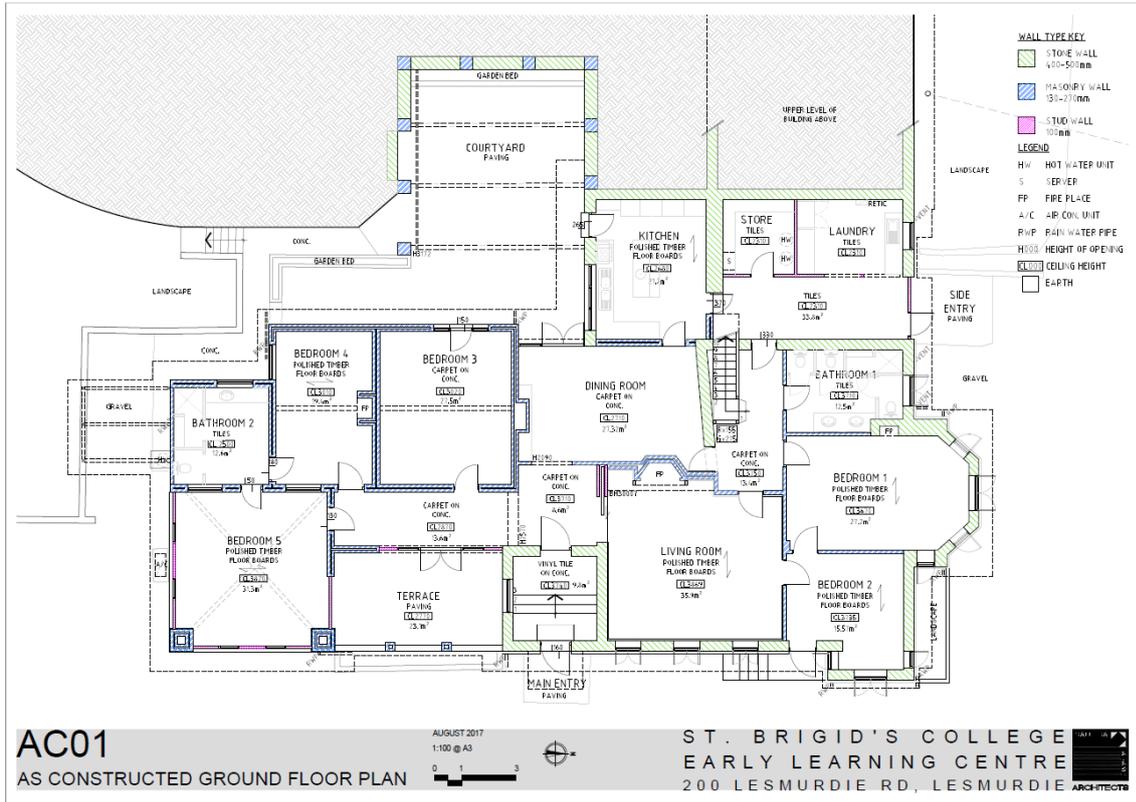


Figure 4 Existing ground floor plan,
Courtesy: Saleeba Adams Architects

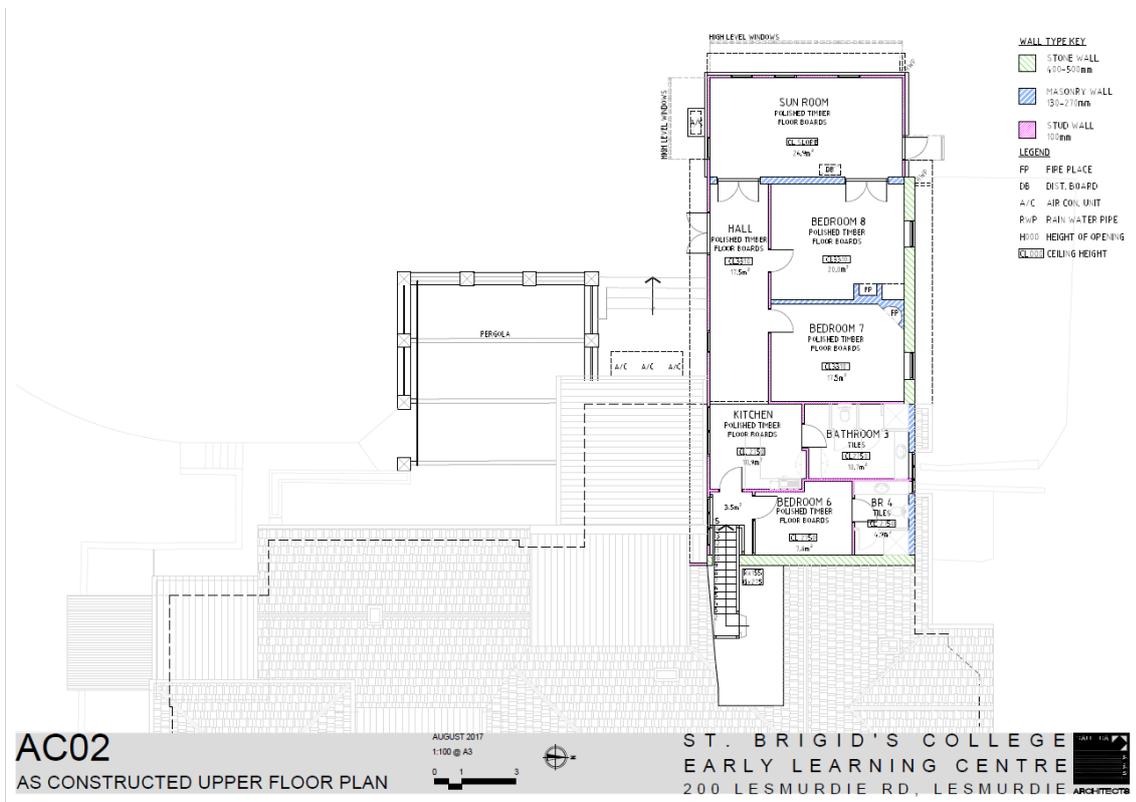
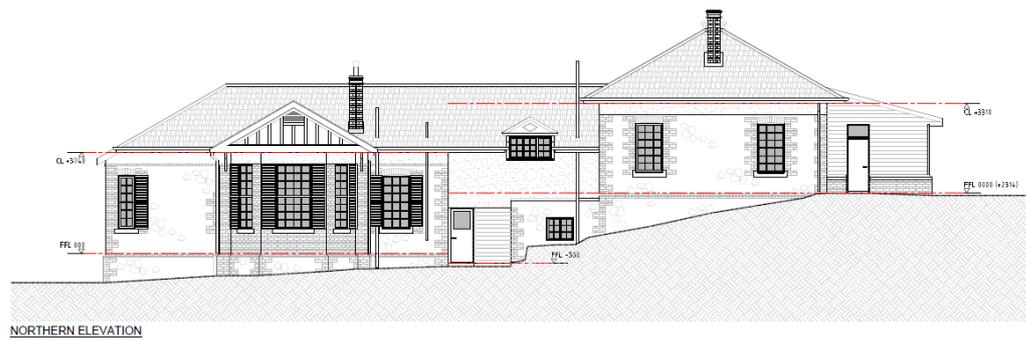


Figure 5 Existing upper floor plan,
Courtesy Saleeba Adams Architects



NORTHERN ELEVATION



SOUTHERN ELEVATION

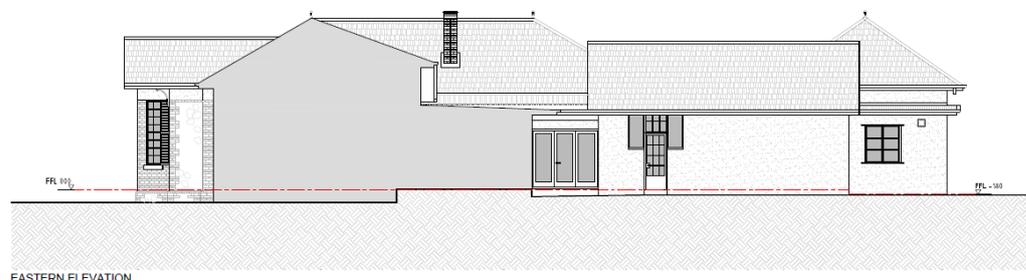
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ST. BRIGID'S COLLEGE
EARLY LEARNING CENTRE
200 LESMURDIE RD, LESMURDIE

ARCHITECTS

Figure 6 Existing elevations,
Courtesy: Saleeba Adams Architects



EASTERN ELEVATION



WESTERN ELEVATION

AC06
ELEVATIONS

AUGUST 2017
1:100 @ A3
0 1 10

ST. BRIGID'S COLLEGE
EARLY LEARNING CENTRE
200 LESMURDIE RD, LESMURDIE

ARCHITECTS

Figure 7 Existing elevations,
Courtesy: Saleeba Adams Architects



Figure 8 East Façade



Figure 9 East facade



Figure 10 East façade



Figure 11 Terrace looking north



Figure 12 Terrace looking south



Figure 13 Terrace looking west



Figure 14 Exposed downpipe in gutter



Figure 15 Main entrance, east facade



Figure 16 Soffit of main entrance canopy



Figure 17 East facade, external stairs



Figure 18 East facade, external stairs



Figure 19 North facade



Figure 20 North facade



Figure 21 North facade



Figure 22 North facade, sunroom



Figure 23 Damaged brickwork



Figure 24 Fretted & damaged brickwork



Figure 25 Damaged timberwork



Figure 26 Damaged timberwork to gable end



Figure 27 Sunroom (former veranda), west facade



Figure 28 West facade



Figure 29 South facade of Upper Level



Figure 30 Condenser units to west



Figure 31 View over condenser units



Figure 32 Stairs to condenser unit area



Figure 33 view over the open air dining room



Figure 34 wall behind condenser units



Figure 35 brick patch to wall behind condenser units



Figure 36 West facade, roof over bathroom 2



Figure 37 view looking north towards kitchen



Figure 38 Courtyard with grape vine



Figure 39 Courtyard wall looking north



Figure 40 View of Kitchen and Dining room doors



Figure 41 west facade



Figure 42 View of windows to bathroom 2 & bedroom 4



Figure 43 pressed metal capping to sill



Figure 44 South elevation, showing lean-to to be demolished



Figure 45 South elevation



Figure 46 view along driveway



Figure 47 View along driveway looking south



Figure 48 Citrus trees to North



Figure 49 Rose garden to North



Figure 50 Rose garden to west

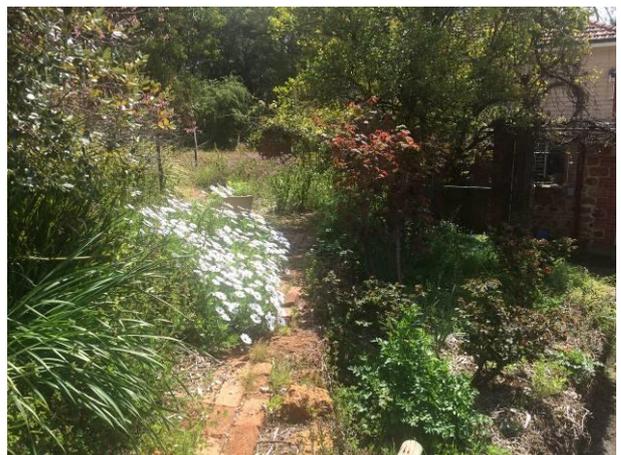


Figure 51 Rose garden



Figure 52 View along gravel track to west looking south



Figure 53 Jacaranda trees to south



Figure 54 Fence and gates to south



Figure 55 Gravel terrace to east



Figure 56 Steps to lower garden

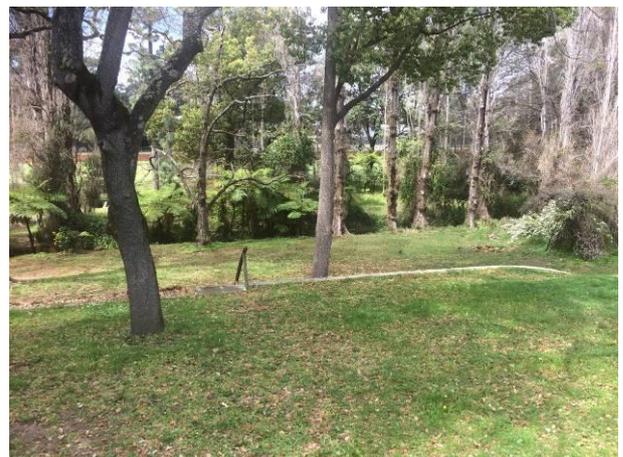


Figure 57 View towards creek



Figure 58 View towards cottage



Figure 59 Orchard store



Figure 60 Stairs to west



Figure 61 view down driveway to North



Figure 62 Main entry, south wall

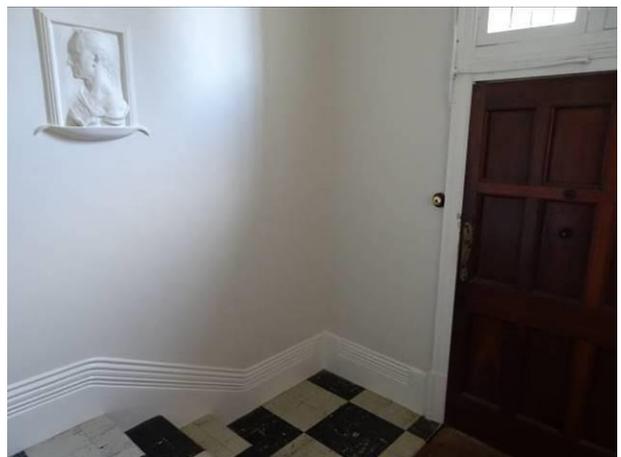


Figure 63 Main entry, north wall



Figure 64 Main entry, evidence of damp



Figure 65 Main entry door



Figure 66 hall door



Figure 67 Timber panelled room, west wall



Figure 68 Panelled room, south wall



Figure 69 Panelled room fire place



Figure 70 Panelled room ceiling



Figure 71 windows bed 1

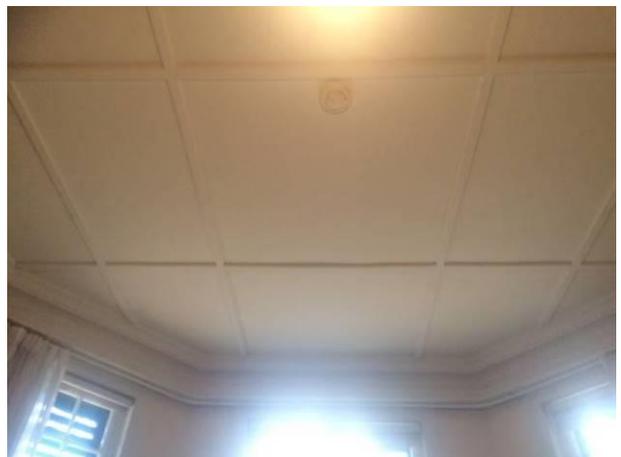


Figure 72 bed 1 ceiling



Figure 73 fireplace, bed 1



Figure 74 External door, bed 2 (original boudoir)



Figure 75 windows bed 2



Figure 76 Bath 1 (former dressing room)



Figure 77 Bath 1, north wall



Figure 78 Bath 1, south wall



Figure 79 dining room (former servery), south wall



Figure 80 dining room, west wall



Figure 81 east wall, bed 3 (original dining room)

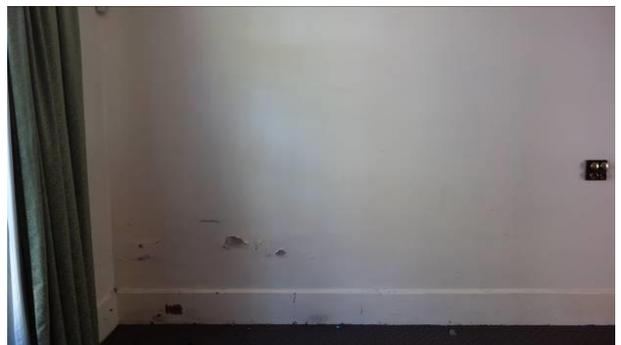


Figure 82 north wall, bed 3



Figure 83 Evidence of damp to bedroom 3



Figure 84 window, bed 3



Figure 85 west wall, bed 4



Figure 86 Evidence of damp bedroom 4



Figure 87 window, bed 4



Figure 88 door to bath 2



Figure 89 Bath 2, south



Figure 90 Bath 2, west

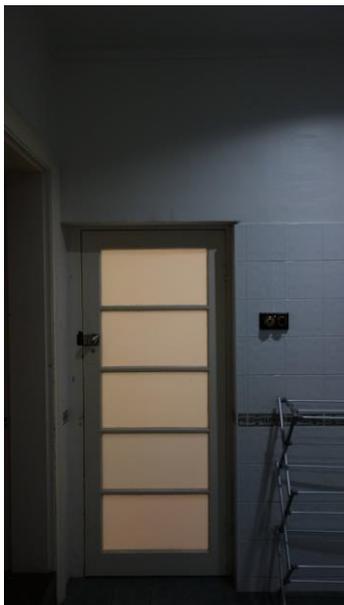


Figure 91 door to bed 5 (shelter)



Figure 92 Bed 5, brick pier



Figure 93 Bed 5 (former shelter), north wall



Figure 94 Bed 5, east wall



Figure 95 Bed 5, south wall



Figure 96 Bed 5, west wall



Figure 97 Ceiling, bed 5



Figure 98 Corridor



Figure 99 Kitchen



Figure 100 Kitchen



Figure 101 Water staining to ceiling of kitchen



Figure 102 Water staining to ceiling of kitchen



Figure 103 Mudroom, north wall



Figure 104 Mudroom, west wall



Figure 105 Mudroom, south wall



Figure 106 stair



Figure 107 Stair landing, upper floor



Figure 108 Stair



Figure 109 Landing, upper floor



Figure 110 timber panelling, upper hall



Figure 111 view towards sunroom



Figure 112 external doors, upper hall



Figure 113 Bed 6, north wall



Figure 114 Bath 4



Figure 115 Bath 3



Figure 116 Bath 3



Figure 117 Bed 7, north wall



Figure 118 Bed 7, south wall



Figure 119 Bed 8, north wall



Figure 120 Bed 8, south wall



Figure 121 Bed 8, east wall



Figure 122 Bed 8, west wall



Figure 123 Bed 8, damaged floor



Figure 124 Evidence of damp to bedroom 8

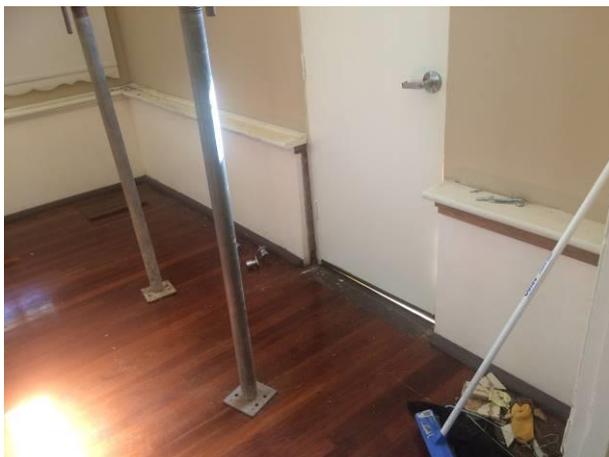


Figure 125 Sunroom, north wall



Figure 126 Sunroom, west wall



Figure 127 Sunroom, ceiling



Figure 128 Sunroom, termite damage

7.0 Proposed Addition

St. Brigid's College are proposing to undertake an adaptive reuse project that would see the conversion of the former residence into an early learning centre. The project would require the addition of a new annexe connected to the south of the existing house. As part of the proposal all necessary conservation works would be undertaken.

The proposed works include;

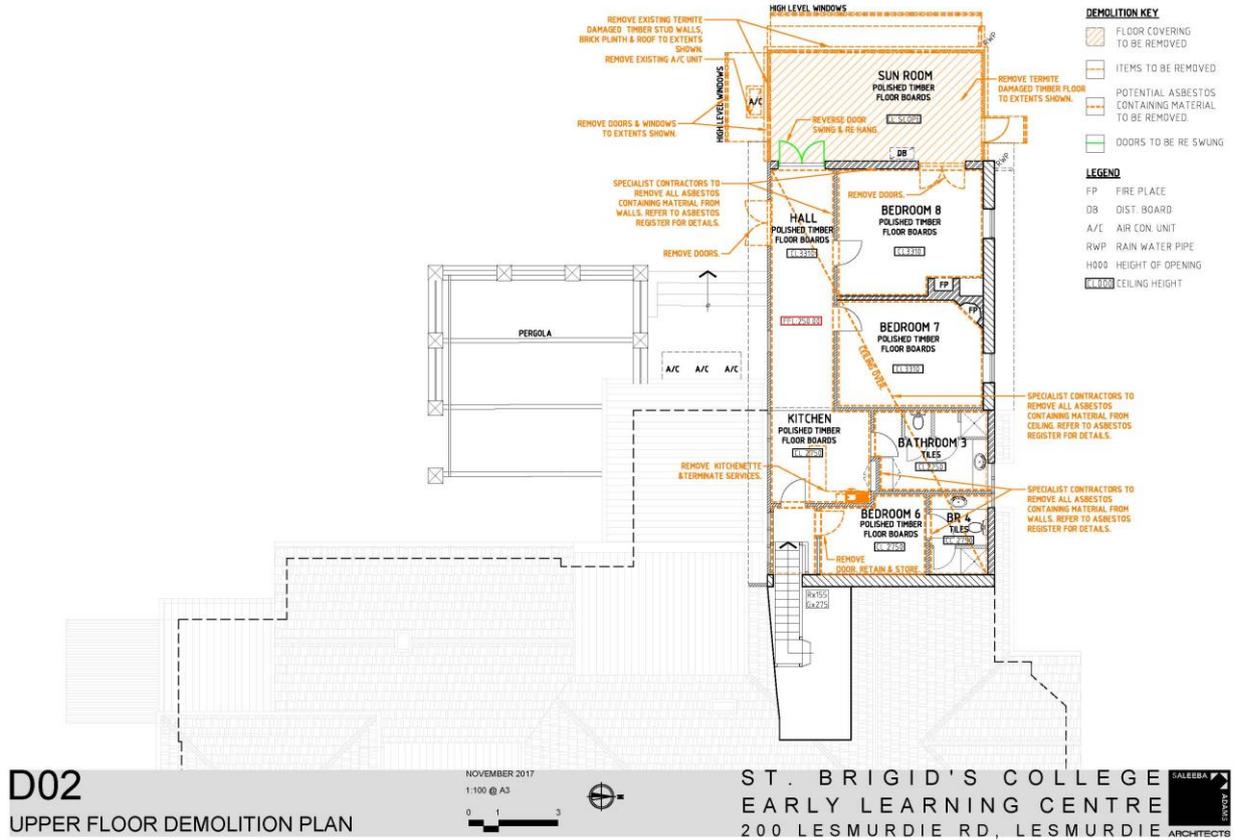
- Change of use for the building
- New annexe to accommodate the main entry, storage and universally accessible facilities.
- New raised floor level to the original shelter and adjacent bathroom
- Removal of some original door leafs and door stops to allow universal access throughout
- Removal of non-original internal walls and partitions
- New glazed walls to East elevation of original shelter and veranda
- Glazing film to windows to achieve safety requirements
- Refurbishment of existing bathrooms
- Demolition of the current sunroom to the west
- Existing concrete and stone stair to the east façade to be replaced with framed timber ramp to provide universal access
- Repainting of all exterior timber, rainwater goods including downpipes and gutters.
- New roads and car parking facilities
- Removal of some existing trees and shrubs
- Landscaping to provide universal access throughout the site

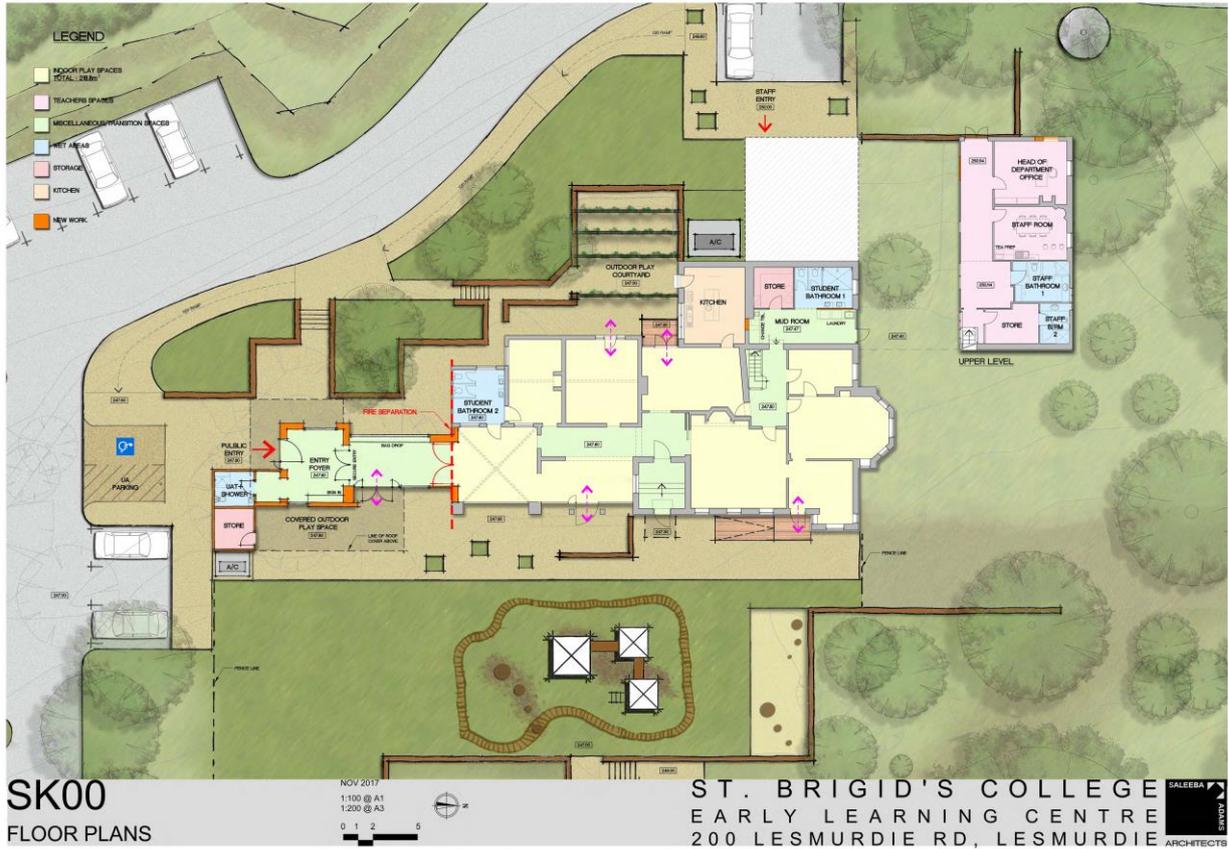
The proposed material palette for the new development has been informed by the existing building and consists of red brickwork and timber weatherboards.

The proposed colour scheme references the original philosophy of the building. Using white for the timber doors and window fenestrations; natural white for the weatherboards and timber eaves linings; Hog Bristle (a mid beige colour) for the rendered elements; and Domino (dark grey) for the gutters, fascias, door frames and window shutters.

Refer to Saleeba Adams Architects drawings for further details of the proposed works.

Lesmurdie House
Heritage Impact Statement





PROPOSED COLOUR SCHEME

- 1. NON TINTED WHITE
 - ALL EXISTING TIMBER DOOR FRAMES AND WINDOW PENETRATION.
- 2. NATURAL WHITE
 - ALL WEATHERBOARDS - NEW AND EXISTING
 - EXISTING TIMBER SOFFITS
- 3. HOG BRISTLE
 - ALL RENDERED ELEMENTS - NEW AND EXISTING
- 4. DOMINO
 - ALL GUTTERS AND FASCIA
 - NEW DOOR FRAMES AND WINDOW PENETRATION.

8.0 Conservation Works

As a result of the proposed works to Lesmurdie House, a number of conservation works will be carried out. These works are outlined in the table below and the attached HHS drawings SK01 – SK04.

EXTERNAL

GENERAL	
ASBESTOS	<ul style="list-style-type: none"> Remove and replace asbestos in gable ends
WALLS	<ul style="list-style-type: none"> Remove cement mortar. Rake out joints and repoint using lime mortar to match original Repoint areas of fretted brickwork / stonework using lime mortar to match original Clean rust from wall vents. Apply protective rust treatment Remove paint from brickwork / stonework Reinstate missing brickwork and stonework Replace damaged bricks Carefully clean all brickwork and stonework to remove dirt, organic growth, white efflorescence salts and stains. Use steam cleaning methods, do not use high pressure water cleaning or acid.
WINDOWS	<ul style="list-style-type: none"> Clean rust from fixings. Apply protective treatment and repaint Remove non-original security screens. Make good to timber frames
GUTTERS & DOWNPIPES	<ul style="list-style-type: none"> Clean out gutters and downpipes. Inspect condition. Replace damaged sections Clean out rain heads. Inspect for leaks and remediate where necessary Additional downpipe to be added to 1912 addition to address capacity of existing system.
ROOF	<ul style="list-style-type: none"> Clean tiles to remove lichen, dirt etc. Inspect condition of tiles. Replace broken / missing tiles with clay tiles in Marseilles profiled tiles Replace rusted and damaged corrugated roof sheeting The roof and gutter geometry above the kitchen is to be reviewed to address the current weatherproofing issues
CHIMNEYS	<ul style="list-style-type: none"> Repoint fretted brickwork Structural engineer to assess for structural / earthwork stability Loose tiles to be removed from top of chimney stack. New pressed metal chimney cap to be installed. Check condition of brickwork inside roof space, re-pointing may be required to ensure integrity of the chimneys
COURTYARD	<ul style="list-style-type: none"> Clean moss from stonework Remove dead / broken pieces of vine from brick and stone Retain and protect existing grape vine and mosaic tiled floor
LANDSCAPING	<ul style="list-style-type: none"> Lower ground levels to below existing damp proof course Cut back vegetation from base of walls Repoint loose brickwork / stonework in retaining walls and fences Rationalise all existing reticulation to ensure all retic points and sprays are directed away from the building to prevent damage to the external walls
REDUNDANT SERVICES	<ul style="list-style-type: none"> Carefully remove redundant services pipes, flues, service fans, grilles and fittings. Remove extraneous elements from walls such as previous fixings, plugs and hooks. Remove surface mounted downlights from eaves. Make good to finishes. Make good fixing holes, previously chased in brick and stonework, damage to surfaces and other elements damaged in the process of carrying out the works.
INTRUSIVE FABRIC	<ul style="list-style-type: none"> Remove intrusive lean-to from south façade

INTERNAL

GENERAL	
ASBESTOS	<ul style="list-style-type: none"> Remove and replace asbestos in ceilings, walls and floors
DOOR HARDWARE	<ul style="list-style-type: none"> Refurbish original door hardware Remove non-original door hardware and reinstate hardware to original detail
WALLS	<ul style="list-style-type: none"> Patch and paint
CEILINGS	<ul style="list-style-type: none"> Inspect to determine whether they are the original lath and plaster or new plasterboard. Inspect condition for extent of remediation works.
FLOORS	<ul style="list-style-type: none"> Assess condition of existing sub floor structure to timber floors. Remediate where necessary
WINDOWS	<ul style="list-style-type: none"> Refurbish original window hardware Replace broken glazing Reinstate missing glazing putty Remove existing flaking paint and repaint. Remove existing security screens. Make good to windows. Remove existing flyscreens, including frames. Make good to windows. Remove non-original window treatments. Remediate damage to walls and timber joinery
A/C VENTS	<ul style="list-style-type: none"> Structural Engineer to inspect ceilings to ensure openings are trimmed out and supported satisfactorily
VERMIN	<ul style="list-style-type: none"> Remove wasp nests from behind window shutters. Install pest treatment Carry out termite inspection to determine extent of damage. Repair / replace damaged timber with timber to match existing. Install new termite treatment
MAIN ENTRY	
NORTH	<ul style="list-style-type: none"> Remove drummy plaster above skirting NE side. Reinstate with lime plaster.
EAST	<ul style="list-style-type: none"> Refurbish door hardware Remove paint from window hardware. Make good finishes
SOUTH	<ul style="list-style-type: none"> Signs of rising damp. Remove areas of peeling paint and drummy plaster at low level. Reinstate lime plaster Replace sections of broken glazing to window
WEST	<ul style="list-style-type: none"> Clean door hardware
FLOOR	<ul style="list-style-type: none"> Remove existing vinyl floor (traces of asbestos). Investigate condition of floor below. Make allowance for remediation or new flooring. Original floor was stone in checkerboard pattern Make good stair nosings
CEILING	<ul style="list-style-type: none"> Patch minor cracking (runs North-South) Lighting?
HALL	
NORTH	<ul style="list-style-type: none"> Remove drummy plaster to left of door architrave Repair crack in plaster above door Patch holes in door architrave Remove and replace loose plaster above skirting Clean door hardware
EAST	<ul style="list-style-type: none"> Reinstate missing plaster above skirting Clean door hardware
SOUTH	<ul style="list-style-type: none"> Patch minor cracking above existing opening
WEST	<ul style="list-style-type: none"> Refix and fill skirting to corner of opening. Patch holes in wall
FLOOR	
CEILING	<ul style="list-style-type: none"> Minor cracking (all directions) Flaking paint to cornice
HALL (SOUTH)	
NORTH	

EAST	<ul style="list-style-type: none"> • Refix loose skirting to left of door • Make good to existing finishes following removal of non-original doors and windows. • Review threshold detail between hall and veranda
SOUTH	<ul style="list-style-type: none"> • Patch minor cracking above door fanlight • Door to be removed-glazed panel door (Non original door hardware) • Remove loose plaster to side of door. Patch • Fill holes in door frame from removed hardware
WEST	<ul style="list-style-type: none"> • Patch minor cracking • 2 of original doors to be removed – original panelled door and door hardware, handle to bedroom 4 is upside down. • Make good to damaged architrave at head of door to bedroom 4 • Remove covering to fanlights above doors
FLOOR	<ul style="list-style-type: none"> • Existing timber threshold to bedroom 4 above FFL
CEILING	<ul style="list-style-type: none"> • Patch minor cracking
BEDROOM 5	
NORTH	<ul style="list-style-type: none"> • Retain and protect existing door threshold • Minor patching to plaster • Make good to brickwork and render following removal of non-original stud wall. • Review extent of wall to be removed (just studwork or also non-original bwk?) • Review junction of new wall to existing brick pillars
EAST	<ul style="list-style-type: none"> • Make good to brickwork and render following removal of non-original stud wall. • Brick piers have been repointed in cement. Brickwork appears new • Remove non-original timber framing and translucent panels to rear of timber valence. Make good to finishes
SOUTH	<ul style="list-style-type: none"> • Make good to brickwork and render following removal of non-original stud wall. • Remove non-original timber framing and translucent panels to rear of timber valence. Make good to finishes • Review junction with new annex • Review removal of timber valence
WEST	<ul style="list-style-type: none"> • Replace damaged timber to window architrave and sill of left window • Replace broken glass to right window • Reinststate original door hardware • Make good to finishes following raising of door head for new floor level. • Fill holes in walls following removal of shelving
FLOOR	<ul style="list-style-type: none"> • Review works to raise floor • Retain rendered detail to base of brick pillars
CEILING	<ul style="list-style-type: none"> • Remove non original timber mouldings to sides of original roof timbers?
BATHROOM 2	
NORTH	<ul style="list-style-type: none"> • Repair minor damage to door architrave • Make good to wall following removal of tiles • Existing panelled door with original door hardware • Remove non original latch. Patch and make good finishes • Cut back existing door architrave for new floor level
EAST	<ul style="list-style-type: none"> • Make good to wall following removal of tiling and partitioning • Remove paint from window hardware. • Remove brickwork above door in order to raise door for new floor level. Re-use existing door and frame. Make good finishes
SOUTH	<ul style="list-style-type: none"> • Make good to wall following removal of tiling and partitioning
WEST	<ul style="list-style-type: none"> • Make good to wall following removal of tiling and partitioning
FLOOR	<ul style="list-style-type: none"> • Floor is to be raised – framed construction
CEILING	

BEDROOM 4	
NORTH	<ul style="list-style-type: none"> • Evidence of rising damp NW corner. Remove damaged and drummy plaster • Patch crack NW corner • Patch wall following removal of redundant hooks • Surface mounted conduit to corner of fireplace. Remove if no longer required.
EAST	<ul style="list-style-type: none"> • Panelled door to be removed. Make good to frame • Remove screw fixings to windows • Remove paint from window hardware
SOUTH	<ul style="list-style-type: none"> • Door proposed to be re-swung. • Evidence of rising damp. Remove damaged and drummy plaster. • Remove security screen to window? • Remove hooks from wall adjacent to window. Patch. • Patch crack in plaster below window
WEST	<ul style="list-style-type: none"> • Evidence of rising damp. Remove bubbled paint. Investigate plaster below. Remove areas of drummy / damaged plaster.
FLOOR	<ul style="list-style-type: none"> • Investigate movement in floorboards. Provide sufficient support to manhole in floor. • Structural Engineer to inspect floor structure • Lightly sand timber boards, apply tung oil
CEILING	<ul style="list-style-type: none"> • Evidence of water damage/mould. Flaking paint and staining
BEDROOM 3	
NORTH	<ul style="list-style-type: none"> • Evidence of rising damp. Remove drummy plaster to NW corner • Patch minor cracking
EAST	<ul style="list-style-type: none"> • Panelled door to be removed • Patch damaged door architrave
SOUTH	<ul style="list-style-type: none"> • Evidence of rising damp. Remove damaged and drummy plaster • Replace section of rotten timber skirting
WEST	<ul style="list-style-type: none"> • Replace section of rotten timber skirting • Evidence of rising damp. Remove damaged and drummy plaster • Patch crack in plaster • Strip back paint from door and window frames. Remove areas of rust. Rust treat frame prior to re-painting • Replace broken glass in fanlight • Remove broken down section of putty. Reinststate original mullion detail. • Fix broken window mechanism
FLOOR	
CEILING	<ul style="list-style-type: none"> • Patch cracking • Investigate extent of trimming out around air-conditioning vent. • Structural engineer to advise if pine batten to side ceiling beam can be removed. Make good finishes. • Staining above door • Remove flaking paint prior to repainting
DINING ROOM	
NORTH	<ul style="list-style-type: none"> • Remove non original wall light • Remove peeling paint above wall light • Remove areas of drummy plaster • Existing panelled door has been modified (glazed panel added). Non original door hardware
EAST	<ul style="list-style-type: none"> • Remove non original wall light • Remove areas of drummy plaster • Re-inststate missing plaster above skirting
SOUTH	<ul style="list-style-type: none"> • Replace section of rotten skirting • Existing brick cabinetry and fireplace?
WEST	<ul style="list-style-type: none"> • Patch damaged skirting

FLOOR	
CEILING	<ul style="list-style-type: none"> • Staining around manhole • Patch cracking • Staining in front of fireplace at location of previous wood fire flue
KITCHEN	
NORTH	<ul style="list-style-type: none"> • Evidence of rising damp NE corner above skirting
EAST	
SOUTH	<ul style="list-style-type: none"> • Evidence of previous damp above window
WEST	<ul style="list-style-type: none"> • Cabinetry to high level – condition unknown
FLOOR	<ul style="list-style-type: none"> • Review design for raised floor • Lightly sand timber floorboards, apply tung oil
CEILING	<ul style="list-style-type: none"> • Evidence of damp. NW and SE particularly bad • Staining above rangehood exhaust. • Check roof for potential water ingress points
LIVING ROOM	
NORTH	<ul style="list-style-type: none"> • Minor cracking • Patch holes • Retain panelled door – original door hardware
EAST	<ul style="list-style-type: none"> • Middle window – chipped mullion • Patch holes in timber panelling between windows • Replace cracked glass in left window • Retain original curtain tracks. Clean. • Replace non original finger grips to right window • Patch holes in window frames
SOUTH	<ul style="list-style-type: none"> • Clean original door hardware
WEST	<ul style="list-style-type: none"> • Patch cracking above fire place • Panelled door – original door hardware • Clean fireplace and hearth • Remove clock – patch timber panelling
FLOOR	<ul style="list-style-type: none"> • Lightly sand timber floor boards, apply tung oil.
CEILING	<ul style="list-style-type: none"> • Make good around previously installed air conditioning vents • Patch cut-out in ceiling
BEDROOM 2	
NORTH	<ul style="list-style-type: none"> • Reinstate missing window putty • Remove flaking paint to windows and repaint • Remove paint from window hardware.
EAST	<ul style="list-style-type: none"> • Replace broken glass • Remove non original timber panel from side of door. Remediate door frame and door below • Patch high level cracking • Remove paint from original door hardware
SOUTH	
WEST	<ul style="list-style-type: none"> • Panelled door to be removed • Non original door handle
FLOOR	<ul style="list-style-type: none"> • Door threshold to external door is raised
CEILING	<ul style="list-style-type: none"> • Patch cracking to cornice • Patch cracking
BEDROOM 1	
NORTH	<ul style="list-style-type: none"> • Remediate damage to timber window transom • Reinstate missing window handle • Remove paint from window hardware
EAST	<ul style="list-style-type: none"> • Fabric lining to wall? • Non original door handle
SOUTH	<ul style="list-style-type: none"> • Non original door handle
WEST	<ul style="list-style-type: none"> • Existing fireplace

FLOOR	<ul style="list-style-type: none"> • Damp in sub floor space • Non original hearth
CEILING	<ul style="list-style-type: none"> • Minor cracking
STAIR HALL	
NORTH	<ul style="list-style-type: none"> • Non original door handles to both doors • Minor cracking above door head to bed 1
EAST	<ul style="list-style-type: none"> • Remove damaged plaster and patch cracking to right of door architrave
SOUTH	<ul style="list-style-type: none"> • Minor patching to door architrave • Reinstate skirting below stair (evidence of original black tuck pointing to stone work)
WEST	<ul style="list-style-type: none"> • Half glazed panel door to be removed – original hardware
FLOOR	<ul style="list-style-type: none"> • Lightly sand timber stairs and balustrading. Reinstate finish (oil?) • New handrail, Nosing type, TGS type?
CEILING	<ul style="list-style-type: none"> • Pressed metal?
BATHROOM 1	
NORTH	<ul style="list-style-type: none"> • Reinstate plaster following the removal of existing tiles • Make good to finishes following removal of partitioning • Make good to window sill and architrave following removal of tiling. Reinstate original sill detail. • Remove paint from window pulls
EAST	<ul style="list-style-type: none"> • Reinstate plaster following the removal of existing tiles • Make good to finishes following removal of partitioning. • Make good wall finishes following new opening. • Install new architraves to new opening to match existing. • Install new panelled door to new opening
SOUTH	<ul style="list-style-type: none"> • Reinstate plaster following the removal of existing tiles • Make good to finishes following removal of partitioning • Remove non original door closer and fixings to door.
WEST	<ul style="list-style-type: none"> • Reinstate plaster following the removal of existing tiles • Make good to finishes following removal of partitioning
FLOOR	
CEILING	<ul style="list-style-type: none"> • Patch ceiling following removal of ceiling vent
LAUNDRY	<ul style="list-style-type: none"> • General damp smell
NORTH	<ul style="list-style-type: none"> • Fill hole above window • Proposed wall finishes?
EAST	<ul style="list-style-type: none"> • Proposed wall finishes? • Door to be removed
SOUTH	<ul style="list-style-type: none"> • Proposed wall finishes?
WEST	<ul style="list-style-type: none"> • Proposed wall finishes?
FLOOR	
CEILING	<ul style="list-style-type: none"> • Existing floor joists and underside of floor above
STAIR LANDING	<ul style="list-style-type: none"> • Wall and ceiling linings contain asbestos. Remove and replace. • Reinstate dados and battens.
NORTH	
EAST	
SOUTH	<ul style="list-style-type: none"> • Wall shows signs of mould. • Reinstate missing section of window sill
WEST	<ul style="list-style-type: none"> • Make good frame following removal of non-original door
FLOOR	
CEILING	<ul style="list-style-type: none"> • Evidence of damp / mould. Investigate cause and rectify. • Contains asbestos. Replace with new plasterboard
BEDROOM 6	<ul style="list-style-type: none"> • Wall and ceiling linings contain asbestos. Remove and replace. • Reinstate dados and battens.
NORTH	
EAST	<ul style="list-style-type: none"> • Fill and patch holes in wall

SOUTH	
WEST	<ul style="list-style-type: none"> • Make good wall and floor finishes following removal of redundant pipework
FLOOR	
CEILING	
BATHROOM 4	
NORTH	<ul style="list-style-type: none"> • New wall finishes? • Remove paint from window hardware
EAST	<ul style="list-style-type: none"> • New wall finishes?
SOUTH	<ul style="list-style-type: none"> • New wall finishes?
WEST	<ul style="list-style-type: none"> • New wall finishes?
FLOOR	
CEILING	
LANDING	<ul style="list-style-type: none"> • Wall and ceiling linings contain asbestos. Remove and replace. • Reinstate dados and battens.
NORTH	<ul style="list-style-type: none"> • Make good wall and floor finishes following removal of built in cabinetry • Reinstate dado • Non original door and hardware
EAST	<ul style="list-style-type: none"> • Reinstate dado following the removal of cabinetry
SOUTH	<ul style="list-style-type: none"> • Replace missing quarter round to skirting
WEST	
FLOOR	<ul style="list-style-type: none"> • Make good to floor finishes following removal of kitchenette
CEILING	
BATHROOM 3	
NORTH	<ul style="list-style-type: none"> • Restore damaged timber joinery to windows • Remove paint from window hardware • Remove tiles? Reinstate original sill detail
EAST	<ul style="list-style-type: none"> • Remove tiles?
SOUTH	<ul style="list-style-type: none"> • Remove tiles?
WEST	<ul style="list-style-type: none"> • Remove tiles?
FLOOR	
CEILING	<ul style="list-style-type: none"> • Staining on ceiling at join in plasterboard
BEDROOM 7	<ul style="list-style-type: none"> • Wall and ceiling linings contain asbestos. Remove and replace. • Reinstate dados and battens.
NORTH	<ul style="list-style-type: none"> • Clean fireplace • Repoint fretted brickwork to rear of fireplace • Patch damage to window sill
EAST	<ul style="list-style-type: none"> • Refix loose battens
SOUTH	<ul style="list-style-type: none"> • Refix loose battens • Re-hang existing panelled door (in lieu of new door) • Remove covers from wall vents
WEST	<ul style="list-style-type: none"> • Refix loose battens
FLOOR	<ul style="list-style-type: none"> • Remove paint from hearth
CEILING	
BEDROOM 8	<ul style="list-style-type: none"> • Wall and ceiling linings contain asbestos. Remove and replace. • Reinstate dados and battens.
NORTH	<ul style="list-style-type: none"> • Evidence of damp, possibly penetrating. Remove damaged plaster, allow wall to dry out prior to reinstating lime plaster. • Evidence of termite damage to skirting and quarter round. Remove damaged sections and replace
EAST	<ul style="list-style-type: none"> • Clean fireplace • Repoint loose brickwork to rear of fireplace. Replace broken brick • Reinstate missing quarter round to skirting • Patch minor cracking to left corner of arched alcove
SOUTH	<ul style="list-style-type: none"> • Make good door frame following removal of existing panelled door

	<ul style="list-style-type: none"> Remove covers from wall vents
WEST	<ul style="list-style-type: none"> Evidence of termite damage to door frame. Reinstate window to original detail. Make good wall and floor finishes following removal of French doors.
FLOOR	<ul style="list-style-type: none"> Burn mark in NE corner of floor. Repair / replace floorboards Remove flaking paint from hearth Lightly sand timber floorboards, apply tung oil
CEILING	<ul style="list-style-type: none"> Remove asbestos. Replace with new plasterboard sheets
SUNROOM	<ul style="list-style-type: none"> Evidence of termite damage Does not appear to be the original structure or original detail To be demolished
NORTH	
EAST	
SOUTH	
WEST	
FLOOR	<ul style="list-style-type: none"> Not original
CEILING	<ul style="list-style-type: none"> Currently propped. SE to advise
HALL UPPER	<ul style="list-style-type: none"> Wall and ceiling linings contain asbestos. Remove and replace. Reinstate dados and battens.
NORTH	<ul style="list-style-type: none"> Reinstate missing quarter round to skirting
EAST	<ul style="list-style-type: none">
SOUTH	<ul style="list-style-type: none"> Replace broken glazing to window Remove skirting duct?
WEST	
FLOOR	
CEILING	

9.0 Assessment of Impact

Lesmurdie House has been assessed as a good representative example of a Federation Queen Anne style residence and is part of the state registered Lesmurdie Group of buildings.

Change of Use

The works involve a change of use for the building from residential to an early learning centre. In general, the adaptation of the rooms to become play spaces does not require altering the existing plan form, which adheres to the policies of the conservation plan. The majority of the original heritage fabric is retained, including the ornate timber panelled room to the East. The use of the residence as an early learning centre, is in keeping with the rest of the Lesmurdie Group buildings as an education institution.

New Annexe



Figure 129 East Elevation. Courtesy of Saleeba Adams Architects

The new annexe is required to provide universally accessible toilet (UAT) and shower facilities, together with a main entry and storage. The incorporation of a UAT within Lesmurdie House would require significant modifications to internal fabric. The new annexe is proposed to be joined to Lesmurdie House at the location of the original shelter. The non-original framed in-fill wall to the south will be removed, together with the original ornamental timber valence to the top of the opening. The removal of the original timber valence is unavoidable in order for the new annexe to be connected to the existing building and achieve a weather tight seal. The proposed location of the connection, minimises the impact on the main façades of the house, the North and the East, as well as requiring minimal removal of original heritage fabric. During the life of the house, the shelter has been adapted and enclosed in various arrangements. During the 1960s, when the house was used as a hospital, the shelter was partially enclosed to house an operating theatre. It has since been fully enclosed in different configurations, most recently when the works were carried out in 2009 when the asbestos wall cladding was removed and replaced with the current weatherboards.

The form of the new annexe is sympathetic in scale and materiality to Lesmurdie House. The building is low lying, with a concealed roof behind the parapet. The use of red brickwork and weatherboards references the existing house. The annexe features a dado line at the same height as the existing brick dado of Lesmurdie House to further tie the new with the old. The multi pane windows of the new annexe draw reference from the geometry of the existing house windows which are also multi paned.

Fire separation is required as the overall floor area is over the allowance for a single fire compartment. It is proposed to locate the fire separation at the junction between the existing building and the new annexe to minimise the impact on the existing heritage fabric. This will involve new double fire doors between the new and existing building as shown on the Saleeba Adams Architects drawings. To achieve the fire rated separation the existing non-original timber stud wall and weatherboards on the south side of the residence will be removed and upgraded

to a construction type meeting the appropriate FRL. The works required to achieve the fire separation will have minimal impact on the heritage fabric.

Universal Access

To address universal access requirements into the building, the non-original concrete and laterite stone stair to the east façade is proposed to be removed and replaced with a new timber ramp. The use of framed timber construction references historic evidence that shows the original stair as timber framed, it also prevents the breaching of the existing damp proof course. As part of the universal access design, the non-original planter to the front of the veranda will be removed and the ground levels graded to achieve universal access at this point of the building. A new laterite stone retaining wall is proposed to accommodate the changes in ground levels. The retaining wall will be low lying and will not impact on the reading of the east façade.

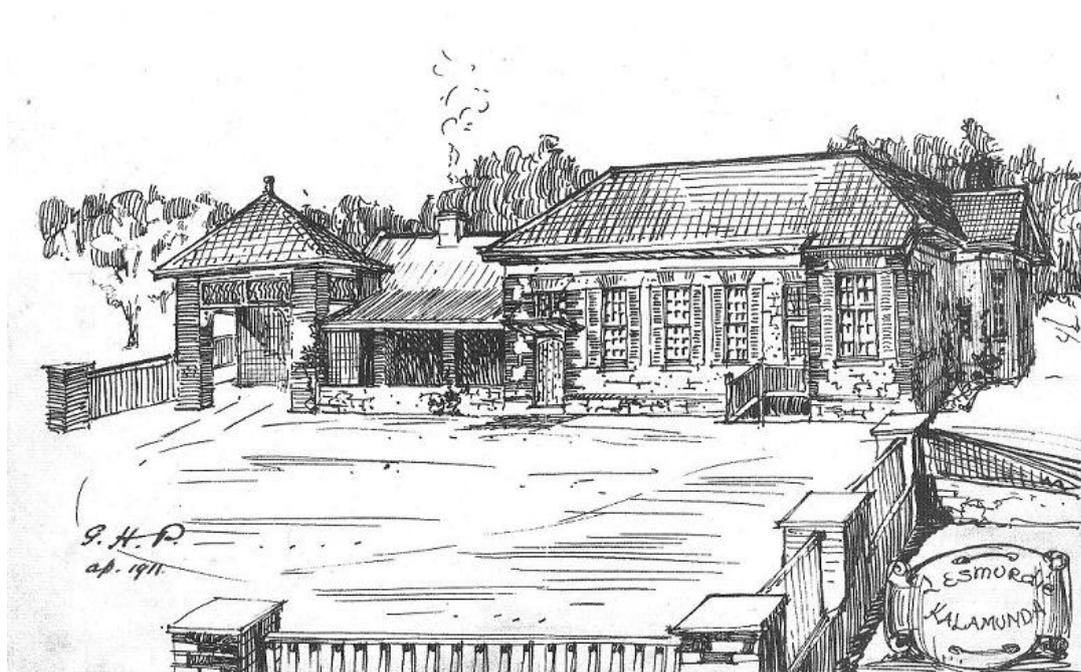


Figure 130 Architect Herbert Parry's drawing of Lesmurdie House following construction, c. 1911
Courtesy: Sanderson, H., (ed.), *Lesmurdie. A Home in the Hills*, op. cit., p. 10.

A new framed timber landing is proposed outside the current Dining Room to provide universal access to this side of the building, whilst ensuring the ground levels are not raised above the existing damp proof course. This area of the house has had several modifications from the original Herbert Parry plans. The proposal will have no impact on the heritage fabric.

The floor of the original shelter and the adjacent bathroom is proposed to be raised to allow universal access between the main house and the new entry. The floor to both rooms is of no heritage value and is not the original form or material. It is proposed to replace both floors with a timber framed construction to ensure sub floor ventilation is retained and there is no additional impact on the existing rising damp issues to the adjacent rooms. The works will require the removal of the existing door leaf between the two rooms, modifications to the openings to accommodate the new raised floor level, together with widening of the opening to meet universal access requirements. The opening is minor and has little heritage value. The existing weatherboard infill to the east of the shelter will be replaced by a glazed wall, set in from the brick piers. Internally the rendered plinth to the piers will not be visible due to the raised floor level, however the detail will be retained externally.



Figure 131 Existing opening proposed to be modified for new floor level and universal access.

To achieve universal access within the house, some internal door leafs and door stops will need to be removed. In most cases the original timber frames and architraves will be retained. Refer Saleeba Adams Architects drawing D01 for proposed locations of door leafs to be removed. In some instances, the doors are proposed to be re-swung to provide the required clearance to the door handle.

Existing Amenities

Upgrading of the existing amenities - bathrooms and laundry facilities is a necessary part of the proposal. All are of no heritage value and none are original in fit-out or presentation, having been updated most recently in the 2008/2009 works to the building. Bathroom 1 (the original dressing room) will become play space and the original opening to bedroom 1, which was removed during the 2008/2009 works, is proposed to be reinstated. The current laundry will be refurbished to house student toilets, together with a laundry area. The works will involve the removal of a non-original stud wall and the construction of a new wall to suit the new arrangement. These works will have no impact on the heritage significance of the place.

Works to Lesmurdie House

The proposed works to demolish the sunroom structure has minor impact on the heritage significance of Lesmurdie House. The sunroom was part of the 1912 'nursery' addition and the current form does not appear to be original as it does not reflect the original form seen on early photographs and the Herbert Parry plans. The timber structure is displaying signs of extensive termite damage, with the ceiling currently propped in place. Addressing the remediation work would likely require largescale reconstruction. Much of the existing fabric and structure would have to be removed/replaced or substantially repaired. These works would require the introduction of a substantial amount of new material and whilst the room could be rebuilt to resemble the original design intent, it would no longer be original and would be a reconstruction of the original sunroom/veranda. Given the adjacent sleep-out and bedroom as shown on Herbert Parry's plan has previously been demolished, the west façade has already undergone several changes from its original form. As part of the works to remove the sunroom the French

doors are proposed to be removed and the original window reinstated as per Herbert Parry's plans. The removal of the sunroom is reversible, and the original veranda can be reconstructed in the future if the circumstances change.

It is proposed that wherever there are existing timber floors that the boards will be left exposed. In those areas of the residence with concrete slabs, new carpet will be installed. Internally, the walls and ceilings will be painted white. The vinyl floor to the front entrance room will be removed as part of the works as it contains asbestos. The original floor finish is proposed to be reinstated.

The proposed external colour scheme for Lesmurdie House has been informed by previous colour palettes. Historic photos show various colour schemes over the life of the residence. The earliest comprising of the use of a dark colour for all painted elements except for the rendered band at the top of the walls and to the gable ends. The proposed colour scheme references the most recent colour philosophy for the house, which incorporates a third, lighter colour for use on the eaves linings, windows and timber trim to the gable ends. The rendered elements are proposed to be painted in Dulux Hog Bristle, with the timber trim to gable ends and eaves linings to be painted in Dulux Natural White. This provides the contrast between the elements as per the original design intent. The gutters, gable barge boards and shutters are proposed to be painted Dulux Domino. These elements are currently painted dark green (similar in colour to Dulux Brunswick Green). The use of a charcoal colour for the contrasting elements is in keeping with the original colour palette of a dark colour. The building has been painted several times over the course of its life and it is not known what the original colour for these elements was. The proposed colour palette is in keeping with the original intent of the design and is also reversible.

Non original elements including the studwork and glazed timber doors and sidelights to the veranda are to be removed as part of the works. The existing asbestos sheeting will be removed as part of the works and replaced with new linings. The external door from the upstairs hall is proposed to be removed and the wall infilled to match the adjacent wall finishes. The door is not original and has minimal heritage significance.

Under the Conservation Plan, the external form and original material of the 1909/1913 building; the internal original planning layout; the panelling in the Drawing Room; and the surviving original details of Lesmurdie House are of considerable significance. The proposed design does not impact on these areas of significance.

Landscaping



Figure 132 View towards creek. Courtesy of Saleeba Adams Architects

Lesmurdie house is a good example of Federation garden style landscaping, which combines with the nearby native forest to produce pleasing environs. The Conservation Plan identifies the following landscape elements as having considerable significance; elements identified as

significant and comprising surviving elements of an original indigenous species together with the extensive and now mature introduced exotic species; the overall landscape expression; the land form, gradients, ponds/creek and facility to attract and accommodate indigenous fauna. Under policy 5 of the Conservation Plan, these areas should be conserved and promoted for the high cultural value within the process of ongoing use and interpretation of the whole place.

The new driveways and car parking facilities have been designed to retain as much of the informal garden beds and existing mature trees as possible, including the *Brachychiton acerifolius* (Flame Tree) and several Jacaranda trees, which are considered a significant part of the landscaping of the house. The drive way and parking is located to the rear of the house and adjacent to the new annex to minimise their visual impact. An existing gravel track runs along the west of the house in a similar location as the proposed new road.

Due to the building's Asset Protection Zone (APZ) for protection against bushfires, some of the existing trees and vegetation is required to be removed. In some areas this involves the thinning out of the existing in order to gain compliance with SPP 3.6 and thus support from DFES. This is due to the requirement stipulating that any trees within the APZ need to have less than 15% aggregate canopy cover over the entire APZ area – ideally without continuous canopy cover. The trees and shrubs that are proposed to be removed are considered to have the least impact on the overall aesthetics of the landscaping. Sufficient vegetation has been preserved to retain the overall sense of the landscaping and setting for Lesmurdie House. The compliance with these requirements has the added benefit of providing additional bushfire protection to Lesmurdie House.

The existing garden beds are retained as part of the works. Minor conservation works to remove vegetation from the base of the walls are proposed to be carried out. Some areas of existing paving to the west of the house are proposed to be removed and replaced with new paving. The existing paving is of little heritage significance and the new paving will be laid with falls to direct water away from the base of the building, assisting with the existing damp problems along the length of this wall.

The existing metal fence panels are proposed to be removed and replaced with new white metal panels. The current panels were installed as part of the 2009 works and have no heritage significance. The fencing is required to be non-combustible to meet bushfire protection requirements. The proposed fencing is in keeping with the original white picket fence panels, whilst also meeting the bushfire protection requirements. It is considered to be a sympathetic representation of the original detail.



Figure 133 Photo of original fence to gravel terrace. Courtesy: SLWA

The St. Brigid's College Lesmurdie, Conservation Plan, identifies several significant vistas relating to Lesmurdie House. These include the view looking west to Lesmurdie House, the view within the landscape east of Lesmurdie House from the creek and the view looking south along the access driveway to Lesmurdie House. In keeping with the recommendations of the conservation plan these significant vistas are retained and protected. The proposed works do not compromise the identified significant vistas.

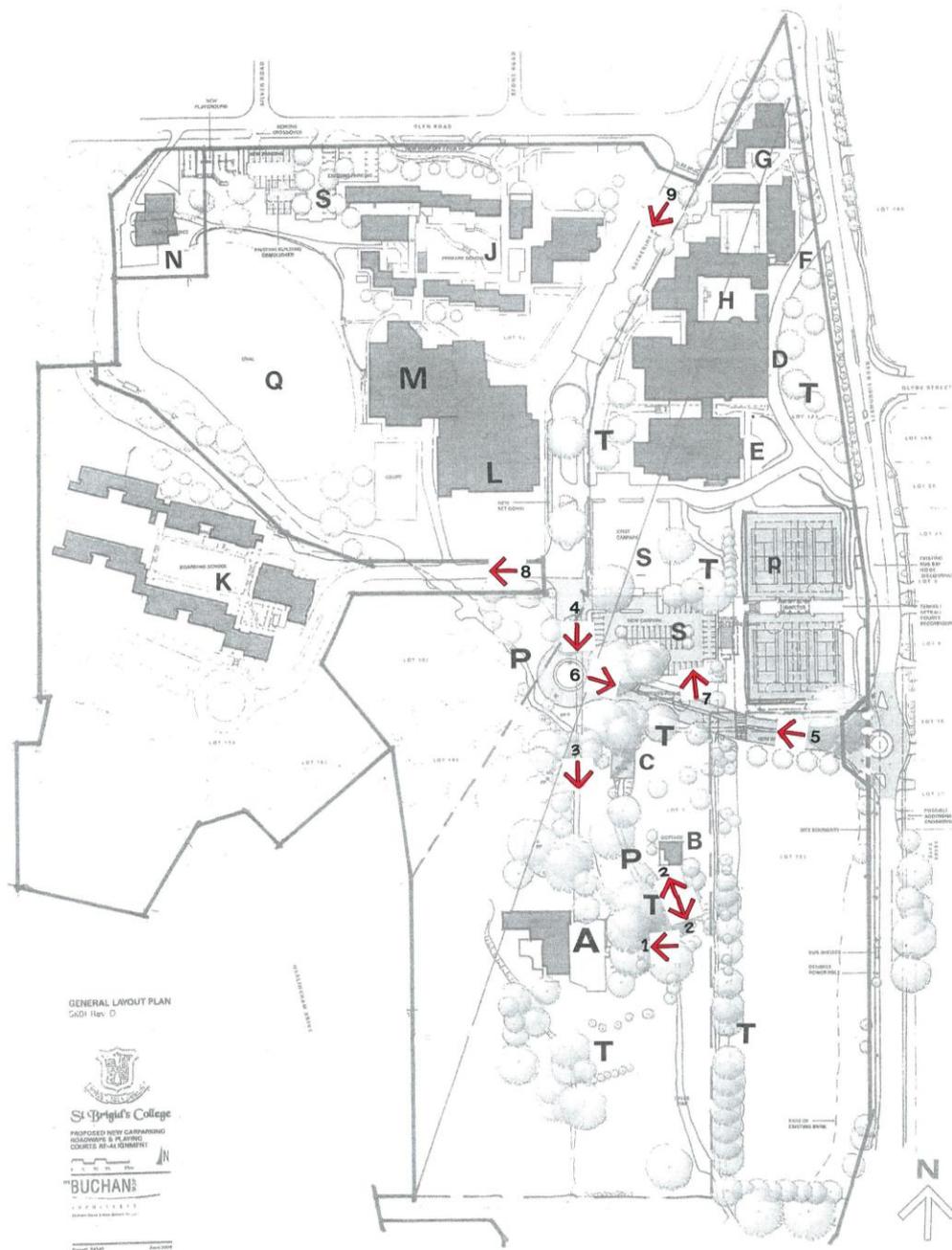


Figure 134 Significant Vistas, courtesy of the St. Brigid's College Conservation Plan



Figure 135 Vista 1. Courtesy Saleeba Adams Architects



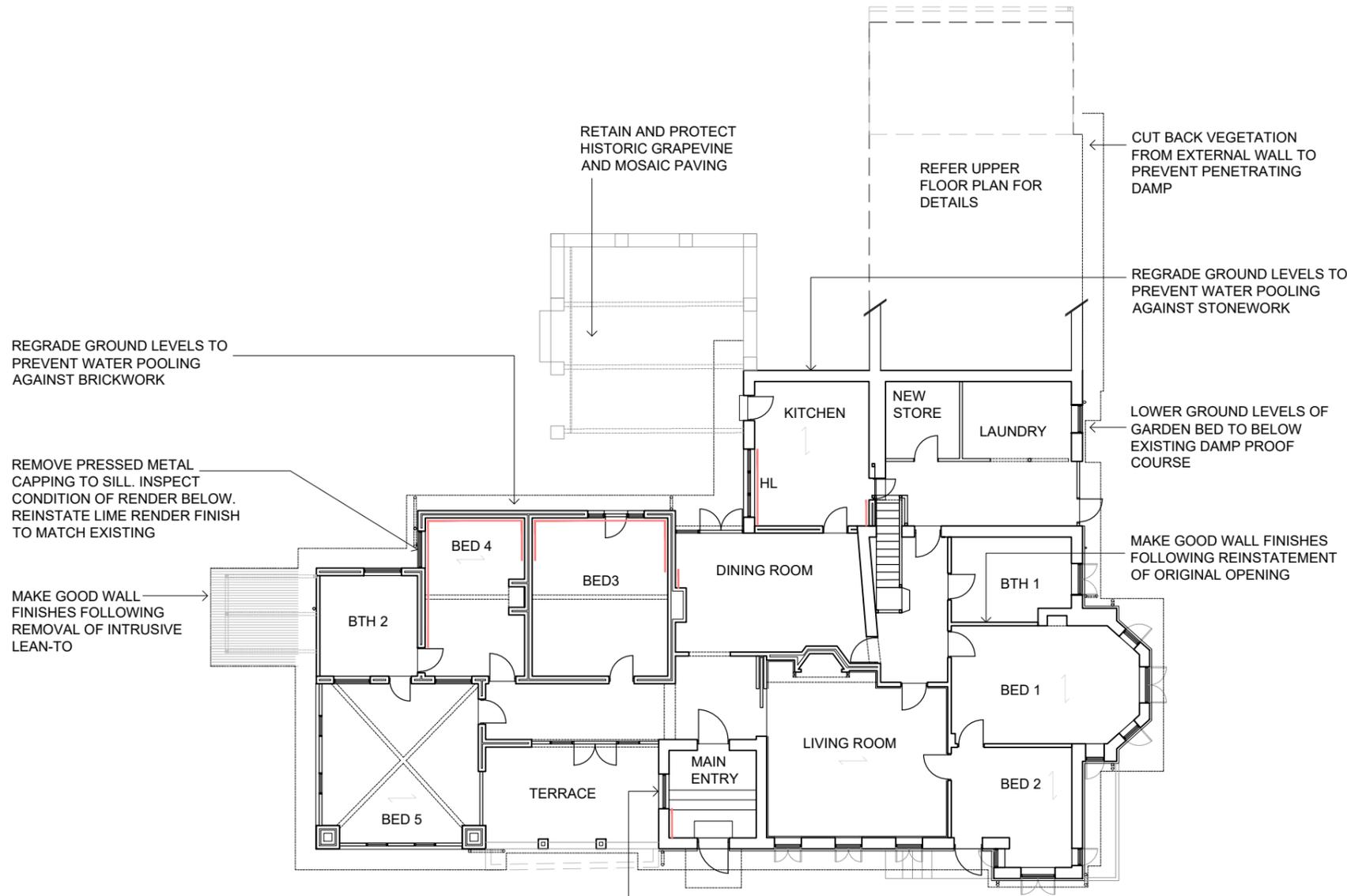
Figure 136 Vista 3

The landscape design includes the installation of play equipment to the existing gravel terrace to the east of the building. Although the location is of considerable significance, the play equipment can be removed and the original open space reinstated.

Conclusion

Lesmurdie House is an important landmark building within the Lesmurdie community. The introduction of a new use into the building will not harm the documented significance of the place. A sympathetic approach has been adopted in the design of the new annex to ensure

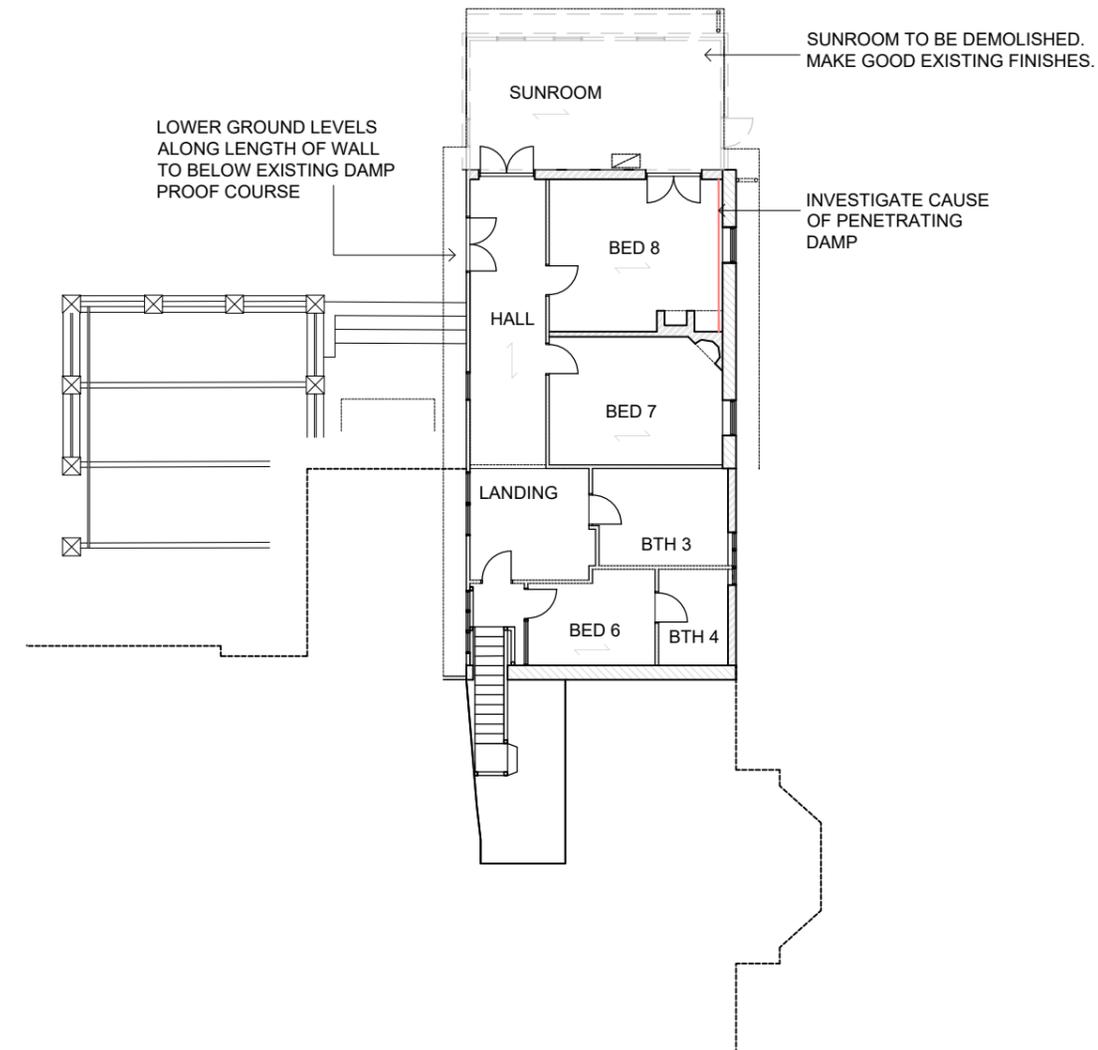
that the building complements the existing building stock and aesthetic of the site. The colour palette of the heritage building has been continued in the new building which ties the new and the old together. Overall the works will not have a detrimental impact on the significance or the aesthetics of the place.



GROUND FLOOR PLAN

SCALE 1:200 @ A3

REMOVE TIMBER BOARD FROM HEAD OF WINDOW. PATCH HOLES AND MAKE GOOD FINISHES
 RAKE OUT CEMENT MORTAR FROM WALL BELOW WINDOW SILL. REPOINT IN LIME MORTAR TO MATCH EXISTING



UPPER FLOOR PLAN

SCALE 1:200 @ A3

CONSERVATION WORKS

ASBESTOS

1. REMOVE AND REPLACE ASBESTOS IN CEILINGS, WALLS AND FLOORS

CEILINGS

1. STRUCTURAL ENGINEER TO INSPECT CEILINGS TO ENSURE OPENINGS ARE TRIMMED OUT AND SUPPORTED SATISFACTORILY
2. INSPECT CEILINGS TO DETERMINE TYPE.
3. INSPECT CONDITION OF EXISTING LATH AND PLASTER CEILINGS FOR EXTENT OF REMEDIATION WORKS

DOORS AND WINDOWS

4. REFURBISH ORIGINAL HARDWARE
5. REMOVE NON-ORIGINAL HARDWARE AND REINSTATE HARDWARE TO ORIGINAL DETAIL
6. REPLACE BROKEN GLAZING
7. REINSTATE MISSING GLAZING PUTTY
8. REMOVE EXISTING FLAKING PAINT AND REPAINT.
9. REMOVE EXISTING SECURITY SCREENS. MAKE GOOD TO WINDOWS.
10. REMOVE EXISTING FLYSCREENS, INCLUDING FRAMES. MAKE GOOD TO WINDOWS
11. REMOVE NON-ORIGINAL WINDOW TREATMENTS. REMEDIATE DAMAGE TO WALLS AND TIMBER JOINERY.

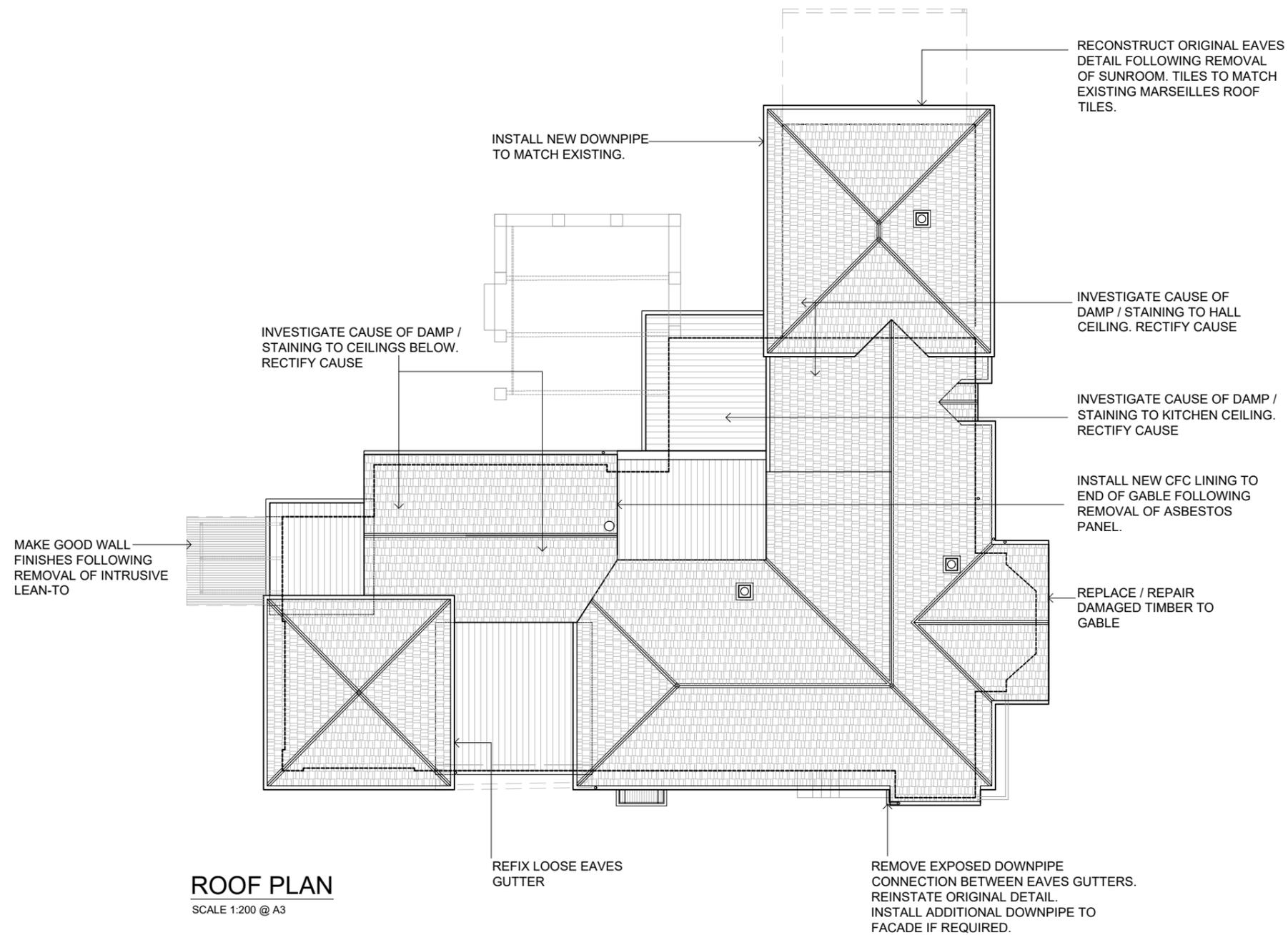
STORMWATER

12. CLEAN OUT SPOON DRAINS. DIRECT WATER AWAY FROM BASE OF WALLS

VERMIN AND PESTS

13. REMOVE WASP NESTS FROM BEHIND WINDOW SHUTTERS. INSTALL PEST TREATMENT
14. CARRY OUT TERMITE INSPECTION TO DETERMINE EXTENT OF DAMAGE. REPAIR / REPLACE DAMAGED TIMBER WITH TIMBER TO MATCH EXISTING. INSTALL NEW TERMITE TREATMENT





ROOF PLAN
SCALE 1:200 @ A3

CONSERVATION WORKS

ROOF

1. INSPECT CONDITION OF EXISTING TILES. REPLACE BROKEN TILES WITH TILES TO MATCH EXISTING.
2. INSPECT CONDITION OF EXISTING FLASHINGS. ENSURE FLASHINGS ARE SECURE AND DRESSED DOWN
3. INSPECT GUTTERS. CLEAN OUT AND REPLACE BROKEN AND DAMAGED SECTIONS WITH PROFILE TO MATCH EXISTING.
4. INSPECT DOWNPIPES AND RAINHEADS, CLEAN OUT. REPAIR / REPLACE TO MAKE WATERTIGHT.

TIMBER

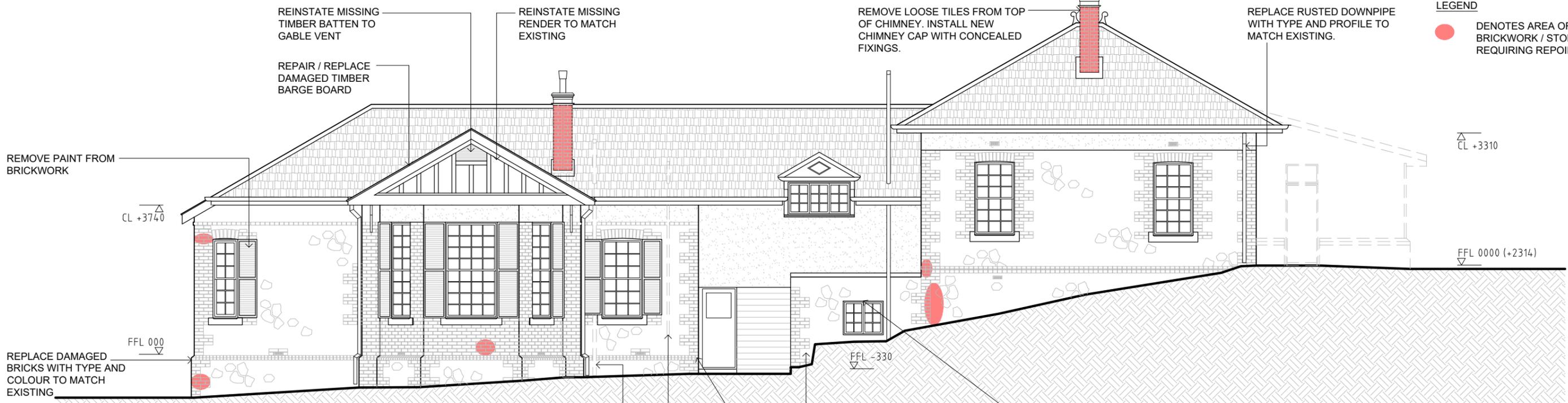
5. INSPECT TIMBER FASCIAS, BARGE BOARDS, EAVES LININGS AND GABLE ENDS. REPAIR / REPLACE DAMAGED TIMBERS.

CHIMNEYS

6. RE-POINT FRETTED MORTAR JOINTS TO CHIMNEYS USING LIME MORTAR
7. INSTALL CHIMNEY CAP TO PROVIDE WEATHER PROTECTION

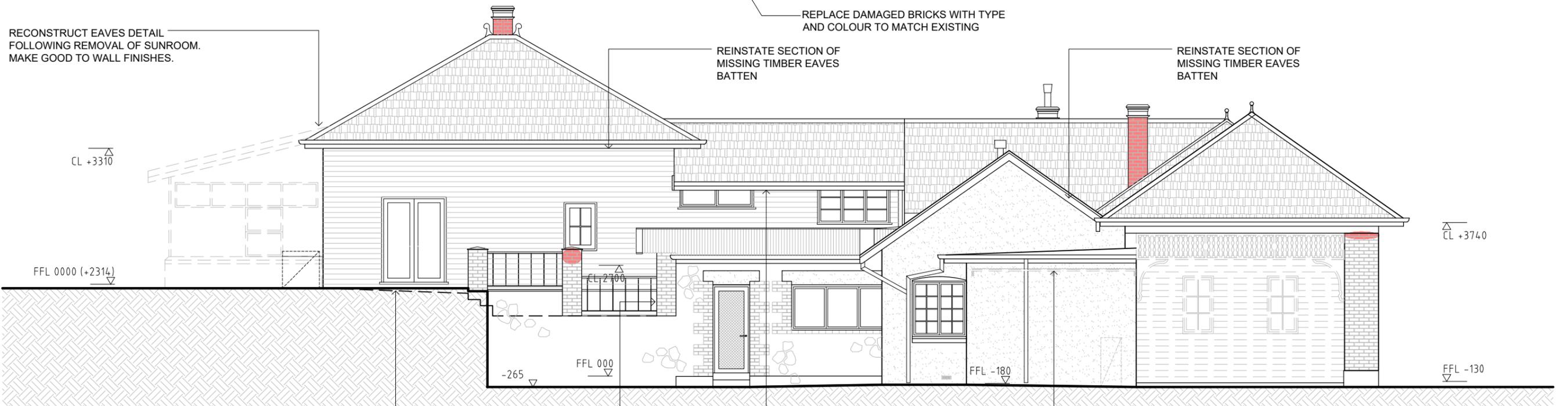
LEGEND

● DENOTES AREA OF FRETTED BRICKWORK / STONEMWORK REQUIRING REPOINTING



NORTH ELEVATION

SCALE 1:100 @ A3



SOUTH ELEVATION

SCALE 1:100 @ A3

CONSERVATIONS NOTES

WHOLE BUILDING

- CAREFULLY REMOVE ALL REDUNDANT SERVICES PIPES, FLUES, SERVICE FANS, GRILLES AND FITTINGS, REMOVE EXTRANEIOUS ELEMENTS FROM WALLS SUCH AS PREVIOUS FIXINGS, PLUGS AND HOOKS.
- MAKE GOOD FIXING HOLES, PREVIOUSLY CHASED IN BRICK AND STONEMWORK, DAMAGE TO SURFACES AND OTHER ELEMENTS DAMAGED IN THE PROCESS OF CARRYING OUT THE WORKS. THIS INCLUDES RE-POINTING, BRICK AND / OR STONE REPLACEMENT, BRICK AND / OR STONE CONSERVATION REPAIRS ETC.

RE-POINTING

- RE-POINT WITH LIME MORTAR TO MATCH THE EXISTING.

CLEANING BRICK AND STONEMWORK

- CAREFULLY CLEAN ALL BRICKWORK TO REMOVE DIRT, ORGANIC GROWTH, WHITE EFFLORESCENCE SALTS AND STAINS.
- USE STEAM CLEANING METHODS, DO NOT USE HIGH PRESSURE WATER CLEANING OR ACID.
- REMOVE EXTRANEIOUS ELEMENTS FROM WALLS SUCH AS PREVIOUS FIXINGS, PLUGS, HOOKS.

WALL VENTS

- CLEAN EXISTING CAST IRON WALL VENTS TO REMOVE RUST
- APPLY PROTECTIVE RUST TREATMENT

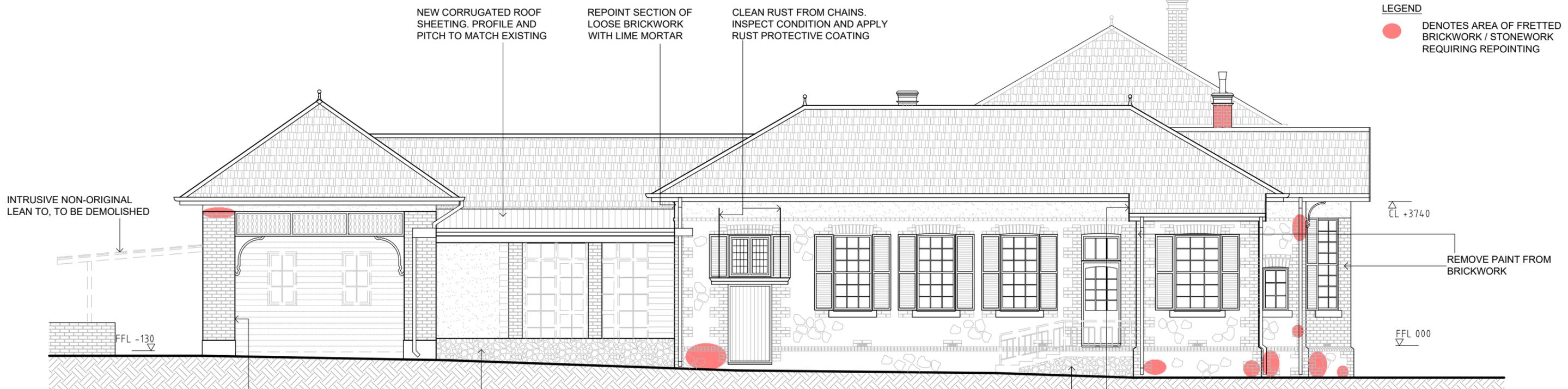
DOWNPIPES AND GUTTERS

- REMOVE DEBRIS AND CLEAN OUT EXISTING DOWNPIPES AND GUTTERS.
- INSPECT CONDITION OF RAINWATER GOODS AND REPAIR / REPLACE DAMAGED ELEMENTS.

PAINING

- REMOVE FLAKING PAINT TO TIMBER FASCIAS, BARGE BOARDS, SCOTIAS, WINDOWS, DOORS, SHUTTERS
- REPAINT IN APPROVED COLOUR SCHEME

LEGEND
 ● DENOTES AREA OF FRETTED BRICKWORK / STONEMWORK REQUIRING REPOINTING



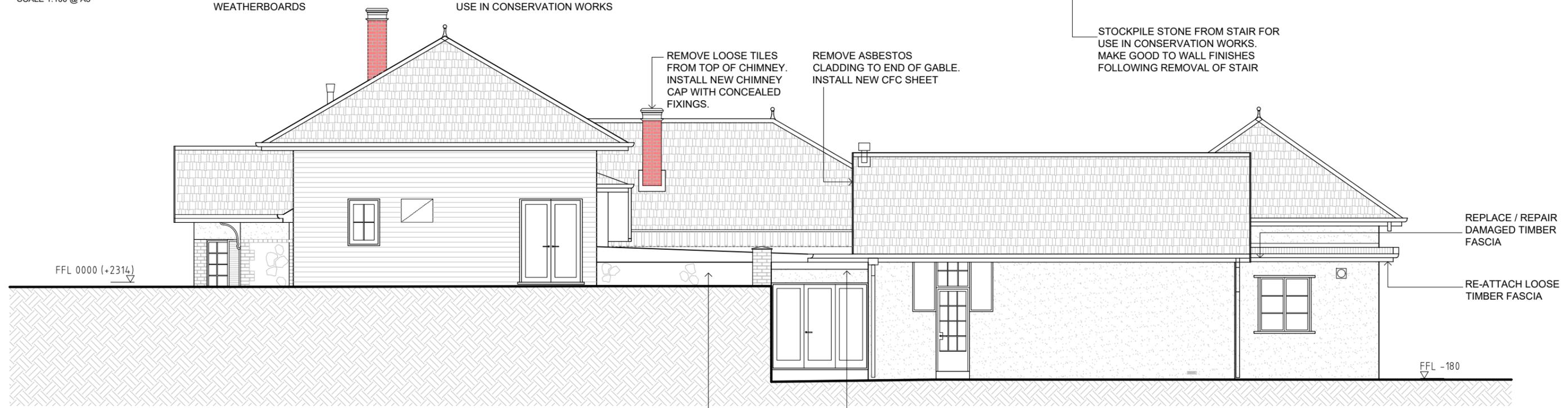
EAST ELEVATION
 SCALE 1:100 @ A3

MAKE GOOD BRICKWORK FOLLOWING REMOVAL OF WEATHERBOARDS

STOCKPILE STONE FROM DEMOLISHED GARDEN BED FOR USE IN CONSERVATION WORKS

REPLACE DAMAGED TIMBER BARGE BOARD.

STOCKPILE STONE FROM STAIR FOR USE IN CONSERVATION WORKS. MAKE GOOD TO WALL FINISHES FOLLOWING REMOVAL OF STAIR



WEST ELEVATION
 SCALE 1:100 @ A3

CONSERVATIONS NOTES

- WHOLE BUILDING**
- CAREFULLY REMOVE ALL REDUNDANT SERVICES PIPES, FLUES, SERVICE FANS, GRILLES AND FITTINGS. REMOVE EXTRANEOUS ELEMENTS FROM WALLS SUCH AS PREVIOUS FIXINGS, PLUGS AND HOOKS.
 - MAKE GOOD FIXING HOLES, PREVIOUSLY CHASED IN BRICK AND STONEMWORK, DAMAGE TO SURFACES AND OTHER ELEMENTS DAMAGED IN THE PROCESS OF CARRYING OUT THE WORKS. THIS INCLUDES RE-POINTING, BRICK AND / OR STONE REPLACEMENT, BRICK AND / OR STONE CONSERVATION REPAIRS ETC.

- RE-POINTING**
- RE-POINT WITH LIME MORTAR TO MATCH THE EXISTING.
- CLEANING BRICK AND STONEMWORK**
- CAREFULLY CLEAN ALL BRICKWORK TO REMOVE DIRT, ORGANIC GROWTH, WHITE EFFLORESCENCE SALTS AND STAINS. USE STEAM CLEANING METHODS, DO NOT USE HIGH PRESSURE WATER CLEANING OR ACID.
 - REMOVE EXTRANEOUS ELEMENTS FROM WALLS SUCH AS PREVIOUS FIXINGS, PLUGS, HOOKS.

- WALL VENTS**
- CLEAN EXISTING CAST IRON WALL VENTS TO REMOVE RUST
 - APPLY PROTECTIVE RUST TREATMENT
- DOWNPIPES AND GUTTERS**
- REMOVE DEBRIS AND CLEAN OUT EXISTING DOWNPIPES AND GUTTERS.
 - INSPECT CONDITION OF RAINWATER GOODS AND REPAIR / REPLACE DAMAGED ELEMENTS.

- PAINTING**
- REMOVE FLAKING PAINT TO TIMBER FASCIAS, BARGE BOARDS, SCOTIAS, WINDOWS, DOORS, SHUTTERS
 - REPAINT IN APPROVED COLOUR SCHEME



Traffic Impact Assessment

**St Brigid's College Early Learning Centre
200 Lesmurdie Road, Lesmurdie WA 6076**

January 2018



APEX ENGINEERS

City of Kalamunda



Type of Assessment: Traffic Impact Assessment

Site Location: 200 Lesmurdie Road, Lesmurdie WA 6076

Prepared for: Saleeba Adams Architects

Prepared by:

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1. Introduction

APEX Engineers were engaged by Saleeba Adams Architects to provide a traffic impact assessment as a part of the proposed St Brigid's College Early Learning Centre development at 200 Lesmurdie Road in Lesmurdie. This report will address the potential traffic impacts, within the immediate surroundings of the subject site, resulting from the above-mentioned proposal. In addition, this report will also provide a provision and design compliance assessment for the proposed on-site car parking spaces. In particular, this report has been structured into the following sections:

- **Section 2** Provides the details of the subject proposal and a review of existing transport conditions within the site vicinity (including the results of a traffic survey undertaken at the key intersection and SIDRA assessment results for the existing operations);
- **Section 3** Establishes the net additional traffic levels anticipated to be experienced by the key intersection due to the current proposal and provides the SIDRA intersection assessment results for the anticipated post development operations;
- **Section 4** Provides the statutory parking provision requirements applicable to the proposed development along with a compliance assessment of the proposed car parking spaces against the Australian Standard requirements; and
- **Section 5** Provides conclusions of the study.

During preparation of this traffic impact statement, the following documents and plans have been referenced;

- Local Planning Scheme No. 3 (Shire of Kalamunda, 2007);
- Australian Standards (AS 2890.1 and AS 2890.6);
- Guide to Traffic Generating Developments (RMS, 2002); and



- Overall Site Plan of St Brigid's College (DWG No: SK.01 (b), Saleeba Adams Architects).

2. Background and Existing Conditions

The subject proposal relates to relocation of the existing Early Learning Centre at St Brigid's College to further south within 200 Lesmurdie Road in Lesmurdie ('subject site'), by alterations and additions to the existing building (known as the Lesmurdie House). The following figure illustrates the existing and proposed locations of the Early Learning Centre (ELC).

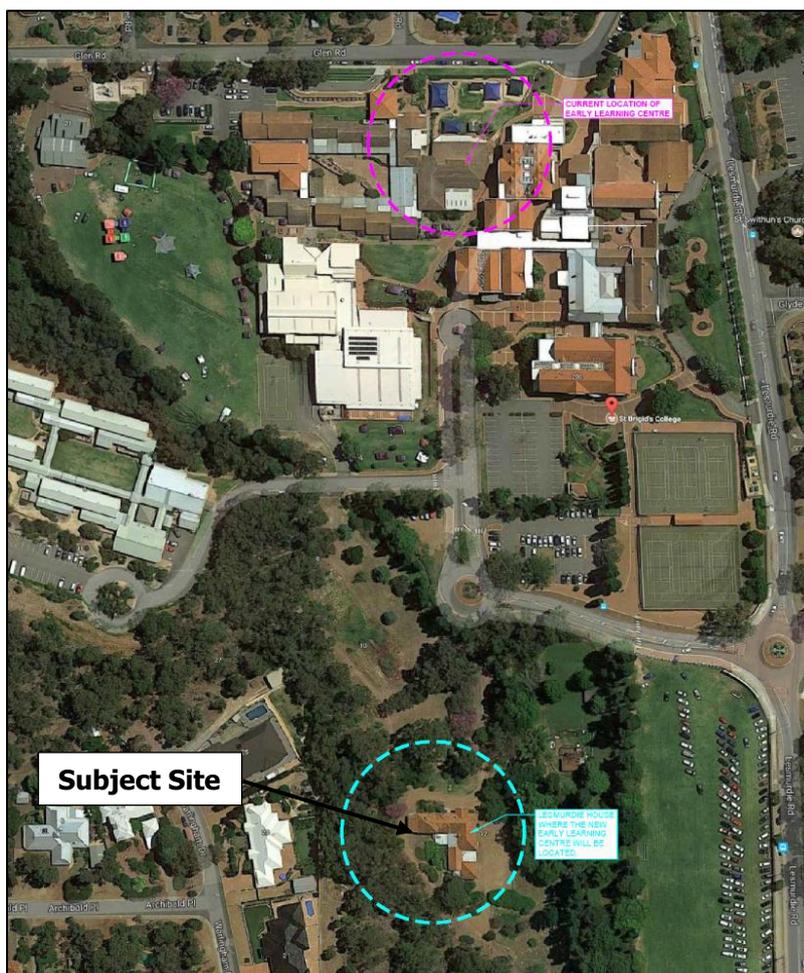


Figure 1: Existing and Proposed Location of the Early Learning Centre



2.1 Proposal Details

It is understood that at the current location, the existing ELC caters for 24 and 38 pre-kindergarten and kindergarten children on two and three days a week, respectively. The subject proposal seeks to relocate the ELC which is currently located within the St Brigid's College, further to the south at the subject site (indicated in **Figure 1** above). The relocated ELC will accommodate a maximum of 60 pre-kindergarten and kindergarten children at any time. In addition, there will be 6 staff members at the new ELC site at any one time (1 for every 10 children). The start and finish times for various components within the St Brigid's College are as follows;

- 3 and 4year olds (Pre-Kindergarten / Kindergarten) - proposed ELC:
8.55am Start - 3.00pm Finish
- Pre-Primary: 8.55am Start - 3.05pm Finish
- Years 1 – 6: 8.55am Start - 3.15pm Finish
- Years 7-12: 8.40am Start - 3.23pm Finish

2.2 Surrounding Road Network Characteristics

The two key roads which surround the subject site are St Brigid's Drive and Lesmurdie Road, which include the following features;

- St Brigid's Drive – is an access road, which runs in the east-west direction, and provides main access to the St Brigid's school and the boarding house car parks. It includes dead ends at the school and boarding house frontages. The carriageway of St Brigid's Drive includes a single traffic lane in each direction. A bus bay is located on the northern side of this road, between the first roundabout and the Lesmurdie Road intersection (a roundabout).
- Lesmurdie Road is a primary collector road which connects Welshpool Road East (arterial road at the south) with Canning Road (arterial road at the north). The carriageway of Lesmurdie Road includes one traffic lane in each direction with a posted speed limit of 60 km/hr (outside the school zone) and 40 km/hr (within



the school zone). Bus routes 279, 283 and 297 operate along this road, with bus stops located on either side.

2.3 Proposed Vehicle Access Configuration

The following figure illustrates the proposed vehicle access configuration for the subject site. As can be seen, access will be obtained off the section of St Brigid's Drive, which lies between Roundabout 1 and Roundabout 2. Vehicle access to and from the external road network will occur at the St Brigid's Drive and Lesmurdie Road intersection (roundabout).



Figure 2: Proposed Access to the Subject Site



It is noted that the proposed connection point of the new internal entry road with the existing internal roads is deemed to be most suitable for the proposed development. The initial investigations considered connecting the new internal entry road with Roundabout 1. However, after consultation with the College and the engagement of a specialist civil consultant, it was discarded for the following reasons:

- It would require the installation of a 40m culvert at the roundabout or the realignment of the creek to the south – both of which would have significant effect on the vegetation in this area.
- It also meant that the access road would have a steeper gradient than the preferred access road option (shown on the drawings) – which is not desirable.
- The College also made it clear that they did not under any circumstances want to use the existing crossover off the roundabout as the primary means of Vehicular traffic.

As per the above, the adopted option, which involves connecting the new internal entry road from the west is deemed most suitable since it provides a shallower gradient, does not interfere with the creek or require the addition of a new culvert and it is also the preferred direction of access by the College.

2.4 Public Transport, Pedestrian Access and Safety

Lesmurdie Road at the frontage of St Brigid's College include bus stops which cater for the following bus services;

- Route 279: Maddington - Kalamunda Bus Station via Kelvin Rd
- Route 283: Elizabeth Quay Bus Station to Kalamunda Bus Station
- Route 297: Midland Station - Kalamunda Bus Station via Gooseberry Hill
- Route 307: Midland Station - Helena Valley

It is noted that due to the nature of the proposed development (with pre-kindergarten and kindergarten children), cycling is not expected to be a means of



travel to and from the proposed ELC (the staff members have also been provided with allocated on-site car parking spaces). Therefore, walking is most likely to be the dominating means of active travel.

The following figure illustrates the existing pedestrian facilities within the site vicinity. In particular, access to (and from) Lesmurdie Road from (and to) the proposed ELC is illustrated in Yellow. As can be seen, the proposed pedestrian access path is the shortest route to access the ELC from Lesmurdie Road, and therefore is more practical particularly for parents walking with small children.

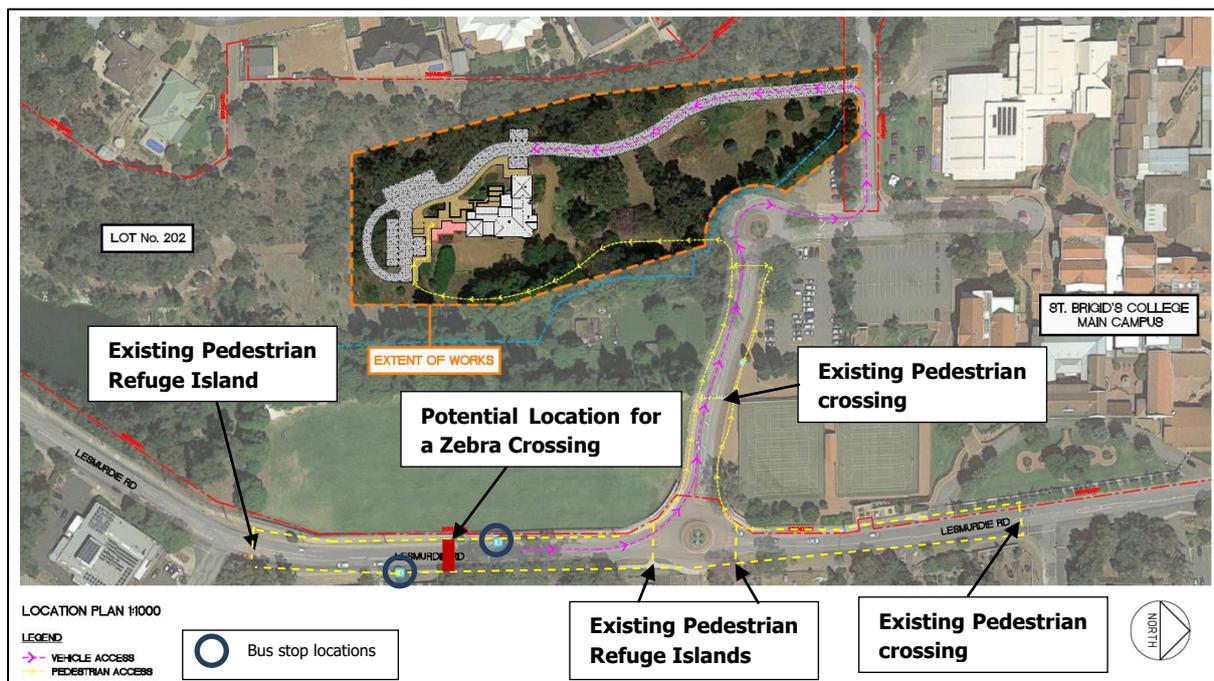


Figure 3: Existing Pedestrian Facilities

Lesmurdie Road includes following pedestrian crossing opportunities, within the site vicinity;

- Pedestrian refuge islands on northern and southern legs of Lesmurdie Road at St Brigid's Drive/Lesmurdie Road intersection.
- A pedestrian crossing approximately 120m north of St Brigid's Drive/Lesmurdie Road intersection.
- A mid-block pedestrian refuge island approx. 200m south of St Brigid's Drive



and Lesmurdie Road intersection.

The above mentioned pedestrian crossing facilities enable safe access to both sides of Lesmurdie Road by pedestrians.

Based on the traffic impact assessment (presented in **Section 3**), it is evident that in future (once the proposed development is in place), Lesmurdie Road will see the following levels of vehicles per hour (two way);

- North of St Brigid's Drive/Lesmurdie Road intersection: 1,108 vehicles in AM peak and 1,112 vehicles in PM peak.
- South of St Brigid's Drive/Lesmurdie Road intersection: 1,268 vehicles in AM peak and 1,217 vehicles in PM peak.

Based on Table 3 of the Transport Impact Assessment Guidelines document (Volume 4, August 2016), the threshold traffic volumes above which pedestrian priority crossing facilities (facilities other than refuge islands) should be provided is 1,100 vehicles per hour (two way) for two lane undivided roads (applicable to Lesmurdie Road). Since the mid-block traffic volumes on both north and south sections of Lesmurdie Road (from St Brigid Drive intersection) exceed 1,100 vehicles per hour (two way) limit during both AM and PM peak periods, safe pedestrian crossing facilities should be provided at intervals no greater than those identified in Table 4 of the Transport Impact Assessment Guidelines document (Volume 4, August 2016). Based on this table, the maximum spacing of safe pedestrian crossing facilities is 100m for local distributor roads (such as Lesmurdie Road).

Accordingly, the most suitable location for provision of a zebra crossing is outlined in **Figure 3** above. This would provide a safe pedestrian crossing facility, in the form of a zebra crossing, in between the two existing bus stops.



The 5 year crash history for the road network surrounding the proposed site was obtained from the Road Safety Information Centre and is presented in **Appendix D** of this report. In summary, the 5 year crash history reveals the following;

- There were a total of 9 crashes in the area within the last 5 years – all of them incurred either major or minor property damages and none of them involved any personal injuries.
- Out of the 9 crashes, only 2 had occurred during the school operating times (the others either occurred during weekend days or late evenings). Both the above identified crashes were rear end collisions. Of these two, one occurred under wet conditions near Lesmurdie Road/Glyde Road intersection while the other occurred at mid-block of Lesmurdie Road.

Based on the above, it is evident that crashes in the site vicinity, which occurred during the operational times of St Brigid's College, are not isolated at a particular location (i.e. the reason was driver negligence rather than the road design issues).



2.5 Key Intersection and Existing Peak Hour Traffic Volumes

As outlined in the above section, vehicle access to and from the external road network is proposed to be off St Brigid's Drive and Lesmurdie Road intersection (roundabout). Accordingly, this intersection has been considered to be the key intersection, which is see the highest impact due to increase turning movements generated by the proposed development (prior to these vehicle movements spreading out further within the external road network).

In order to determine the existing performance, a traffic movement survey was undertaken at this intersection between 8-9am (AM peak based on the school opening time) and 3-4pm (PM peak based on the school closing time) on a weekday (when school is in operation). The following figures illustrate the vehicle movements obtained in the survey for AM and PM peak hour periods. **Appendix A** of this report presents the details survey results.

**It is noted that the St Brigid's Drive/Lesmurdie Road intersection also includes a private accessway, on the east of the roundabout, which serves two private lots. However, this accessway has not been included in the intersection model since the peak period intersection vehicle movement surveys indicate that there were no movements to and from this accessway into and out of the intersection.*

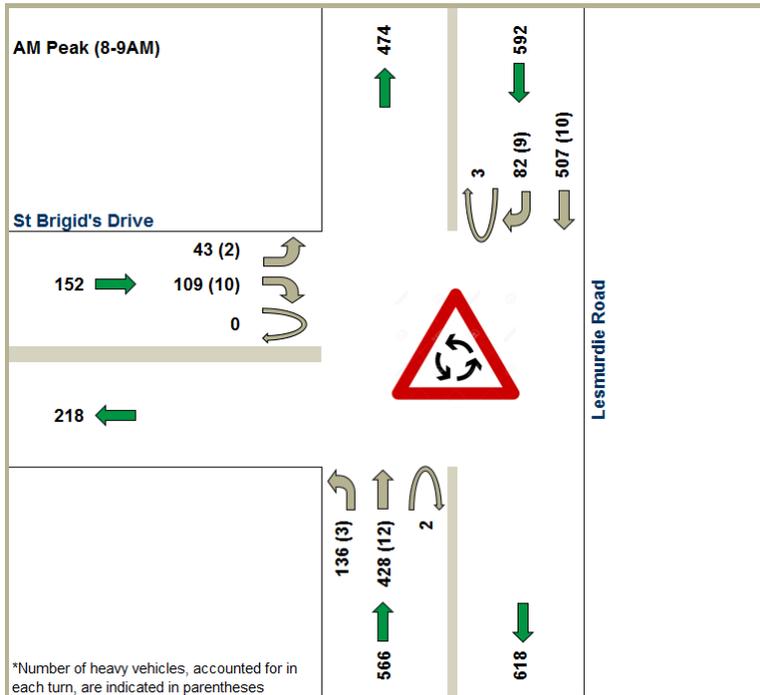


Figure 4: Existing AM Peak Hour Traffic Volumes at the Key Intersection

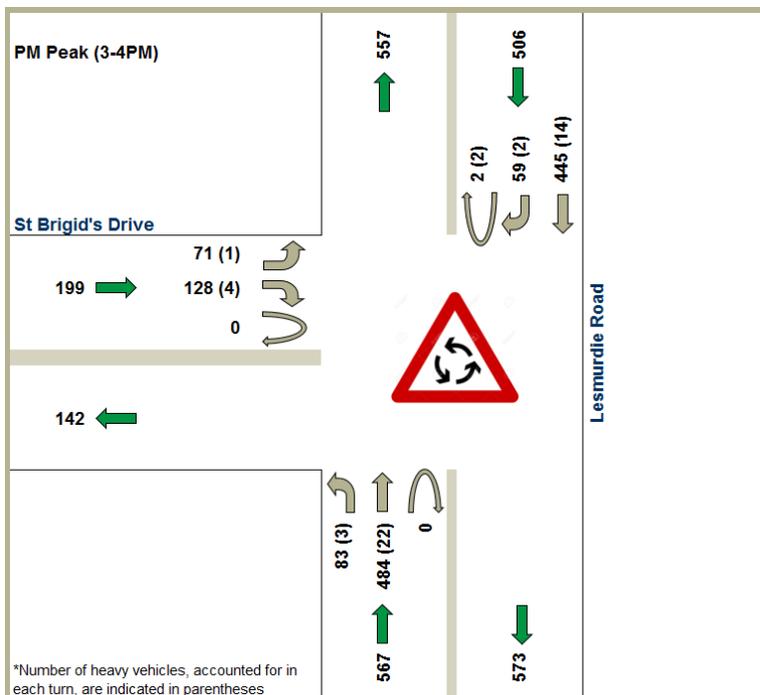


Figure 5: Existing PM Peak Hour Traffic Volumes at the Key Intersection



2.6 Current Performance of the Key Intersection

The key intersection for this study is St Brigid's Drive/Lesmurdie Road intersection – which is currently operating as a three-leg roundabout. The existing intersection operation has been assessed, using the SIDRA solution package (developed by the Akcelik & Associates).

The main criteria of average delay and respective levels of service (LoS) used for SIDRA intersection assessment are based on the Guide to Traffic Generating Developments (RMS, 2002). The following table illustrates the relationship between the average delay and the level of service for roundabouts.

Table 1: Performance Criteria for Roundabouts

Level of Service (LoS)	Average Delay (sec)	Roundabout
A	<14	Good Operation
B	15 to 28	Good with acceptable delays and spare capacity
C	29 to 42	Satisfactory operations
D	43 to 56	Operating near capacity
E	57 to 70	Operating at capacity – roundabouts require other control mode
F	>70	Operating over capacity, extra capacity required

Figure 6 below shows the modelled layout of St Brigid's Drive/Lesmurdie Road intersection in SIDRA.

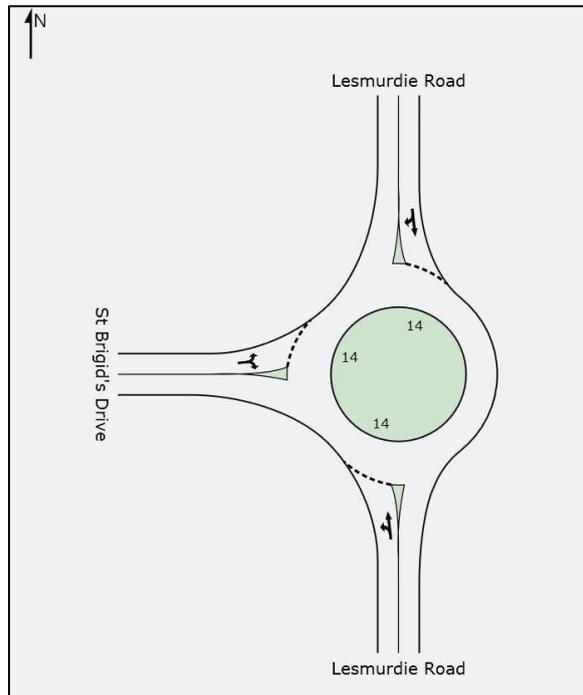


Figure 6: St Brigid's Drive/Lesmurdie Road Intersection Layout

Using the existing traffic flows (including heavy vehicle traffic), based on the survey results presented in **Figure 4** and **Figure 5**, as inputs, the current intersection performance results in both AM and PM peak hours were obtained from SIDRA (it is noted that in the SIDRA model, the vehicle speeds were set to the school zone speed limit of 40 km/hr, as applicable during each peak hour period). These results are summarised in the table below. **Appendix B** of this report includes the detailed SIDRA modelling outputs.

Table 2: Current Performance of the Key Intersection

Peak Period	Average Delay	LoS	95% Queue Length
AM Peak (8-9am)	3.9 seconds (critical delay of 9.3 seconds occurs for right turns off St Brigid's Drive)	A	26.4m (critical queue experienced on the northern leg of Lesmurdie Road)
PM Peak (3-4pm)	3.9 seconds (critical delay of 9.6 seconds occurs for right turns off St Brigid's Drive)	A	21.6m (critical queue experienced on the northern leg of Lesmurdie Road)



The results in the above tables demonstrate that the St Brigid's Drive/Lesmurdie Road roundabout is currently operating well within capacity, with a level of service of A during both peak hour periods, which indicates good operations.



3. Traffic Impact Assessment

It is noted that the Guide to Traffic Generating Developments (RMS, 2002), does not prescribe any specific trip rates for schools or ELCs. Accordingly, the anticipated trip generation potential of the subject proposal has been determined through a first principles approach.

Based on a recent travel survey undertaken by St Brigid's College, it is evident that none of the pre-kindergarten or kindergarten children or the associated staff members utilize school bus or public transport services. Therefore, it can be reasonably assumed that all the children (total of 60) and the staff members (total of 6) use private transport modes. In particular, each child will generate 2 trips during each peak hour (entry and exit trips pertaining to drop-offs and pick-ups by private vehicles) while each staff member will generate 1 trip during each peak hour (entry during AM peak and exit during PM peak, assuming staff park their vehicles on-site thus leading to no drop-offs and pick-ups). The following table summarizes the anticipated trip generation levels during each peak hour period by children and staff at the proposed ELC.

Table 3: Anticipated Trip Generation Levels from the Subject Proposal

Peak Period	Trips (Children)		Trips (Staff)	
	In	Out	In	Out
AM Peak (8-9am)	60	60	6	0
PM Peak (3-4pm)	60	60	0	6

It is important to note that the traffic which are currently being generated by the existing ELC (since the existing ELC caters for 24 and 38 pre-kindergarten and kindergarten children on two and three days a week, respectively) will be redirected to the subject site in future. However, for conservative assessment purposes, these trips have not been removed from the model.



The peak hour trips established in **Table 2**, have been added onto the existing traffic at the key intersection on a proportional ratio basis. In particular, during each peak period, the following have been assumed;

- The trips entering the subject site will be distributed at the St Brigid's Drive/Lesmurdie Road intersection based on the existing right and left turns from the north and south legs of Lesmurdie Road, respectively, on a proportional ratio basis.
- The trips exiting the subject site will be distributed at the St Brigid's Drive/Lesmurdie Road intersection based on the existing right and left turns from the St Brigid's Drive, on a proportional ratio basis.

Figure 7 and **Figure 8** below illustrate the distribution of the additional traffic generated by the subject proposal at the key intersection during AM and PM peak hours, respectively. Note that in and out trips have been colored in Red and Blue, respectively.

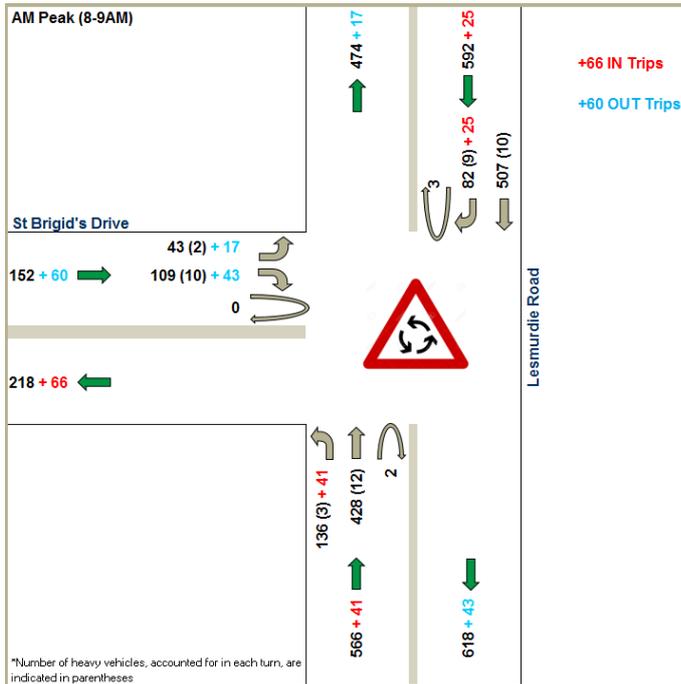


Figure 7: Post Development Traffic at the Key Intersection (AM)

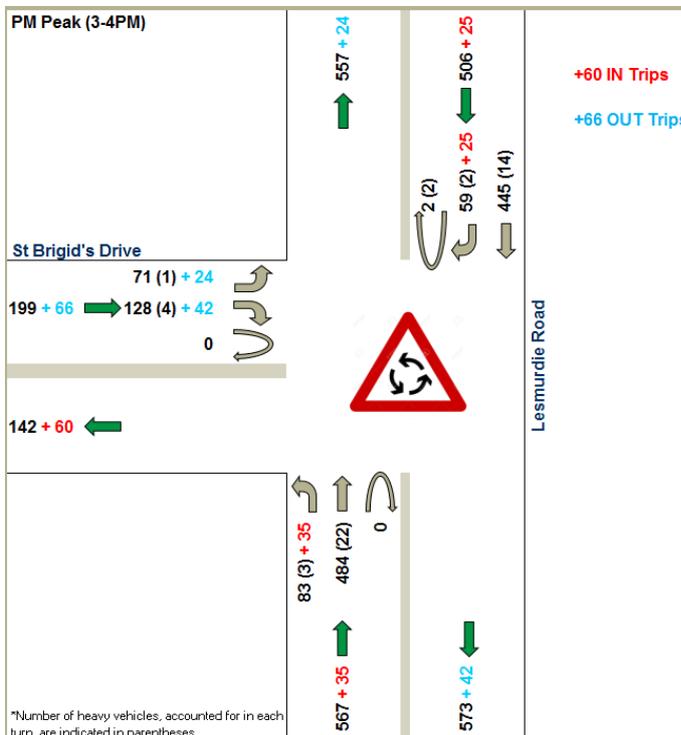


Figure 8: Post Development Traffic at the Key Intersection (PM)



Using the anticipated future traffic flows, based on the trip figures presented in **Figure 7** and **Figure 8**, as inputs, the post development scenario intersection performance results in both AM and PM peak hours were obtained from SIDRA (it is noted that in the SIDRA model, the vehicle speeds were set to the school zone speed limit of 40 km/hr, as applicable during each peak hour period). These results are summarised in the table below. **Appendix C** of this report includes the detailed SIDRA modelling outputs.

Table 4: Anticipated Future Performance of the Key Intersection

Peak Period	Average Delay	LoS	95% Queue Length
AM Peak (8-9am)	4.4 seconds (critical delay of 9.3 seconds occurs for right turns off St Brigid's Drive)	A	30m (critical queue experienced on the northern leg of Lesmurdie Road)
PM Peak (3-4pm)	4.4 seconds (critical delay of 9.7 seconds occurs for right turns off St Brigid's Drive)	A	25.2m (critical queue experienced on the southern leg of Lesmurdie Road)

As can be seen from the above table, the St Brigid's Drive/Lesmurdie Road roundabout will operate well within capacity during the post development scenario (with additional traffic generated by the proposal). Only slight increases in average delay and 95th percentile queue length are observed in each peak hour period in the post-development scenario, compared to the existing operations. During both AM and PM peak hour periods, the roundabout will continue to operate at level of service A, which indicates good operations.



4. Parking Assessment

4.1 Parking Provision Assessment

Table 3 of Shire of Kalamunda Local Planning Scheme No. 3 stipulates the statutory parking provision requirements for educational establishments – this is illustrated in **Figure 9** below.

Educational Establishment	
<ul style="list-style-type: none"> • Pre Primary 	1 bay for every staff member, plus 1 bay for every 3 students.
<ul style="list-style-type: none"> • Primary School 	1 bay for every staff member, plus 14 drop off bays for every 100 students.
<ul style="list-style-type: none"> • Secondary School 	1 bay for every staff member, plus 7 drop off bays for every 100 students.

Figure 9: Statutory Parking Rates Applicable to the Proposal

Applying the Pre-Primary parking provision rate for the proposed development which includes a maximum of 60 students and 6 staff members at any one time, a total parking provision requirement of 26 car spaces (20 for student drop-offs and pick-ups + 6 for staff members) is obtained. The proposed site plans indicate provision of 27 on-site car parking spaces (including one disability accessible parking space, as shown in **Figure 10**), which satisfies the relevant statutory parking provision requirement.

4.2 Parking Design Review

Figure 10 illustrates the key components of the proposed on-site car parking area.

Staff Parking Spaces

The proposed car parking area includes 6 staff parking spaces. The staff car spaces are categorised as user class 1A (employee parking) under AS 2890.1:2004. These car spaces are required to be designed at 2.4m width by 5.4m length, with an aisle



APEX ENGINEERS

width of 5.8m behind the car spaces. All the proposed staff car spaces comply with the above dimensional requirements.

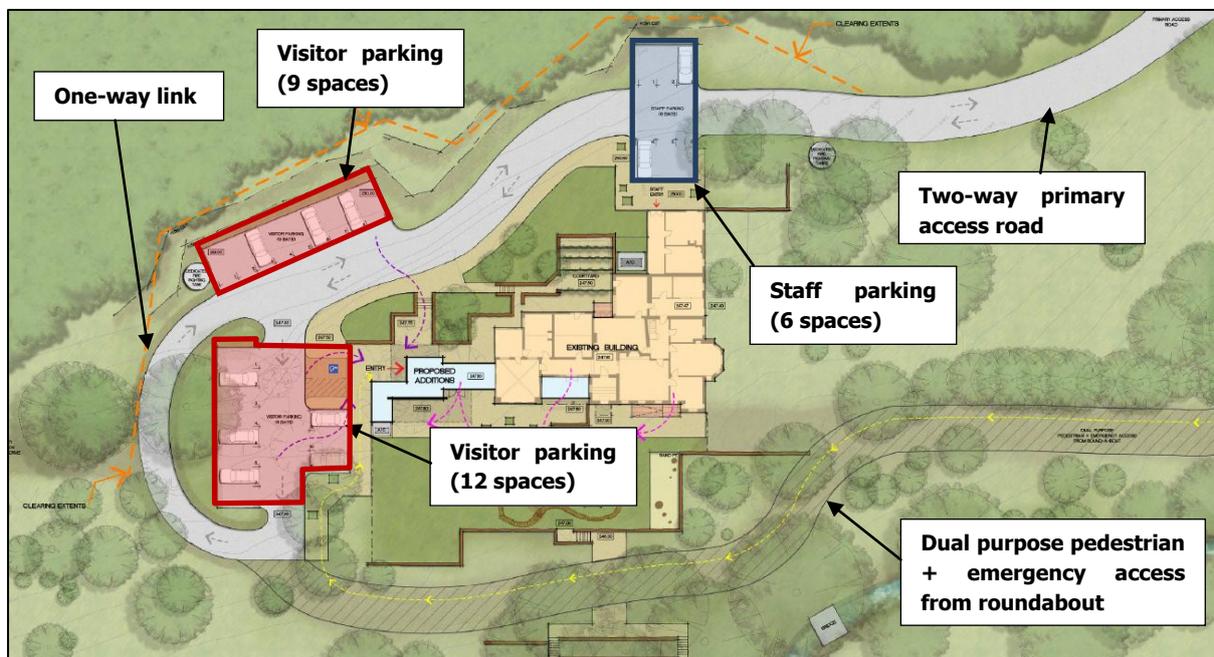


Figure 10: Proposed On-Site Parking Design

Visitor Parking Spaces

The proposed car parking area includes 20 visitor parking spaces (excluding the disability accessible car space). The visitor car spaces are categorised as user class 3 (short term parking) under AS 2890.1:2004. These car spaces are required to be designed at 2.6m width by 5.4m length, with an aisle width of 5.8m behind the car spaces. All the proposed visitor car spaces comply with the above dimensional requirements.

Disability Accessible Parking Space

One disability accessible space is provided within the proposed car parking area. According to AS 2890.6:2009, disability accessible parking spaces shall be designed with minimum dimensions of 2.4m width and 5.4m length and an aisle width of 5.8m. The accessible car space shall be accompanied by a shared space (with a bollard installed), located adjacent to it, possessing equal dimensions. The proposed disability accessible car space has been designed to satisfy the above requirements.



Gradients within Parking Modules

AS 2890.1 stipulates that parking modules, at maximum, should have a maximum grade of 1 in 16 (measured in any direction other than parallel to the angle of parking) and 1 in 20 (measured parallel to the angle of parking). The proposed parking modules are at grade and are therefore compliant with the above requirement.

In addition, AS 2890.6 stipulates that the disability accessible car parking spaces and the shared areas shall not exceed the grade of 1:40 in any direction. The proposed disability accessible car parking space is at grade with no gradients.

One-Way Link

In relation to one-way driveways, AS 2890.1 stipulates a minimum width requirement of 3m (with 300mm clearance from obstructions which are higher than 150mm). The proposed one-way link is designed to satisfy the minimum width requirement of 3m.

Two-Way Primary Access Road

In relation to two-way driveways, AS 2890.1 stipulates a minimum width requirement of 5.5m (with 300mm clearance from obstructions which are higher than 150mm). The proposed two-way driveway is designed to satisfy the minimum width requirement of 5.5m.



5. Conclusions

APEX Engineers were engaged by Saleeba Adams Architects to provide a traffic impact assessment as a part of the proposed St Brigid's College Early Learning Centre development at 200 Lesmurdie Road in Lesmurdie. It is understood the subject proposal involves relocation of the existing Early Learning Centre (ELC) at St Brigid's College (which currently caters for 24 and 38 pre-kindergarten and kindergarten children on two and three days a week, respectively) to further south within 200 Lesmurdie Road in Lesmurdie ('subject site'), by alterations and additions to the existing building (known as the Lesmurdie House). The relocated ELC will accommodate a maximum of 60 pre-kindergarten and kindergarten children at any time. In addition, there will be 6 staff members at the new ELC site at any one time (1 for every 10 children).

Vehicle access to the proposed site, off the public road network, is proposed to be obtained off St Brigid's Drive/Lesmurdie Road roundabout. Traffic movement surveys have been undertaken at this roundabout during existing AM (8-9am) and PM (3-4pm) peak hour periods, based on school start and finish times. SIDRA intersection modelling has confirmed that the St Brigid's Drive/Lesmurdie Road roundabout is currently operating well within capacity, with a level of service of A during both peak hour periods, which indicates good operations.

Anticipated traffic generation level from the subject proposal was derived through a first principles approach. In particular, it was determined that the proposed development will generate some 66 in and 60 out trips during the AM peak hour, and 60 in and 66 out trips during the PM peak hour. These additional trips were added onto the existing traffic levels at the St Brigid's Drive/Lesmurdie Road roundabout, on a proportional ratio basis. It is noted that the traffic which are currently being generated by the existing ELC (since the existing ELC caters for 24 and 38 pre-kindergarten and kindergarten children on two and three days a week, respectively) will be redirected to the subject site in future. However, for conservative



assessment purposes, these trips have not been removed from the model. The SIDRA intersection modelling results for the post-development scenario indicate that the St Brigid's Drive/Lesmurdie Road roundabout will operate well within capacity (with additional traffic generated by the proposal). Only slight increases in average delay and 95th percentile queue length are observed in each peak hour period in the post-development scenario, compared to the existing operations. During both AM and PM peak hour periods, the roundabout will operate at a level of service A, which indicates good operations.

Based on the above results, it is concluded that the additional trips generated by the subject proposal will have negligible/minimal impacts on the existing traffic operations within the site vicinity.

A parking provision assessment for the proposed development was undertaken based on the parking rates prescribed in Table 3 of Shire of Kalamunda Local Planning Scheme No. 3, for educational establishments. Applying the Pre-Primary parking provision rate for the proposed development which includes a maximum of 60 students and 6 staff members at any one time, a total parking provision requirement of 26 car spaces (20 for student drop-offs and pick-ups + 6 for staff members) is obtained. The proposed site plans include provision of 27 on-site car parking spaces, which satisfies the relevant statutory parking provision requirement.

The proposed on-site car park design was also assessed with reference to the AS 2890.1:2004 and AS 2890.6:2009. It was found that the overall design were in compliance with the relevant design standards.

In light of the above, the proposed development is expected to accommodate its own parking demand with no impacts on the existing on-street public parking in the area and will impose negligible traffic impacts to the local road network.



Appendix A: Results of the Intersection Traffic Survey

<p>Job No. : W197 Client : APEX Engineers Suburb : St Bridget's College Lesmurdie Location : 1. Lesmurdie Rd / St Brigid's Dr</p> <p>Day/Date : Thur, 24th August 2017 Weather : Fine Description : Classified Intersection Count : Peak Hour Summary</p>																																																																																																									
<table border="1"> <thead> <tr> <th rowspan="2">Approach</th> <th colspan="5">Lesmurdie Rd</th> <th rowspan="2">Grand Total</th> </tr> <tr> <th>Cars</th> <th>Trucks</th> <th>Buses</th> <th>Cyclists</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>AM 8:00 to 9:00</td> <td>551</td> <td>6</td> <td>9</td> <td>0</td> <td>566</td> <td rowspan="2">1,310</td> </tr> <tr> <td>PM 15:00 to 16:00</td> <td>542</td> <td>10</td> <td>15</td> <td>0</td> <td>567</td> </tr> </tbody> </table>	Approach	Lesmurdie Rd					Grand Total	Cars	Trucks	Buses	Cyclists	Total	AM 8:00 to 9:00	551	6	9	0	566	1,310	PM 15:00 to 16:00	542	10	15	0	567	<table border="1"> <thead> <tr> <th colspan="6">Lesmurdie Rd</th> <th colspan="5">St Brigid's Dr</th> <th rowspan="2">Grand Total</th> </tr> <tr> <th>Cars</th> <th>Trucks</th> <th>Buses</th> <th>Cyclists</th> <th>Total</th> <th>Cars</th> <th>Trucks</th> <th>Buses</th> <th>Cyclists</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>572</td> <td>10</td> <td>9</td> <td>1</td> <td>592</td> <td>140</td> <td>0</td> <td>12</td> <td>0</td> <td>152</td> <td>1,310</td> </tr> <tr> <td>488</td> <td>6</td> <td>12</td> <td>0</td> <td>506</td> <td>194</td> <td>0</td> <td>5</td> <td>0</td> <td>199</td> <td>1,272</td> </tr> </tbody> </table>	Lesmurdie Rd						St Brigid's Dr					Grand Total	Cars	Trucks	Buses	Cyclists	Total	Cars	Trucks	Buses	Cyclists	Total	572	10	9	1	592	140	0	12	0	152	1,310	488	6	12	0	506	194	0	5	0	199	1,272																																			
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488	6	12	0	506	194	0	5	0	199	1,272																																																																																															



Appendix B: SIDRA Results for Existing Operations

AM Peak

MOVEMENT SUMMARY

Site: Lesmurdie Road/St
Brigid's Drive (Existing AM)

Lesmurdie Road/St Brigid's Drive
Roundabout

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed	
		veh/h	%	v/c	sec				per veh	km/h	
						Vehicles	Distance				
						veh	m				
South: Lesmurdie Road											
1	L	136	2.2	0.418	3.8	LOS A	3.1	22.3	0.34	0.46	36.6
2	T	430	2.8	0.418	2.8	LOS A	3.1	22.3	0.34	0.35	37.0
Approach		566	2.7	0.418	3.0	LOS A	3.1	22.3	0.34	0.37	36.9
North: Lesmurdie Road											
8	T	507	2.0	0.459	3.0	LOS A	3.7	26.4	0.42	0.38	36.6
9	R	85	10.6	0.459	7.5	LOS A	3.7	26.4	0.42	0.74	35.2
Approach		592	3.2	0.459	3.6	LOS A	3.7	26.4	0.42	0.44	36.4
West: St Brigid's Drive											
10	L	43	4.7	0.172	5.8	LOS A	1.0	7.1	0.58	0.60	35.5
12	R	109	9.2	0.172	9.3	LOS A	1.0	7.1	0.58	0.73	34.1
Approach		152	7.9	0.172	8.3	LOS A	1.0	7.1	0.58	0.69	34.4
All Vehicles		1310	3.5	0.459	3.9	LOS A	3.7	26.4	0.40	0.44	36.4

PM Peak

MOVEMENT SUMMARY

Site: Lesmurdie Road/St
Brigid's Drive (Existing PM)

Lesmurdie Road/St Brigid's Drive
Roundabout

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed	
		veh/h	%	v/c	sec				per veh	km/h	
						Vehicles	Distance				
						veh	m				
South: Lesmurdie Road											
1	L	83	3.6	0.400	3.6	LOS A	3.0	21.5	0.27	0.44	36.8
2	T	484	4.5	0.400	2.6	LOS A	3.0	21.5	0.27	0.32	37.2
Approach		567	4.4	0.400	2.7	LOS A	3.0	21.5	0.27	0.33	37.2
North: Lesmurdie Road											
8	T	445	3.1	0.402	3.0	LOS A	3.0	21.6	0.42	0.39	36.7
9	R	61	6.6	0.402	7.5	LOS A	3.0	21.6	0.42	0.75	35.3
Approach		506	3.6	0.402	3.6	LOS A	3.0	21.6	0.42	0.43	36.5
West: St Brigid's Drive											
10	L	71	1.4	0.225	6.1	LOS A	1.3	9.3	0.62	0.64	35.4
12	R	128	3.1	0.225	9.6	LOS A	1.3	9.3	0.62	0.76	33.9
Approach		199	2.5	0.225	8.3	LOS A	1.3	9.3	0.62	0.72	34.4
All Vehicles		1272	3.8	0.402	3.9	LOS A	3.0	21.6	0.38	0.43	36.4



Appendix C: SIDRA Results for Post Development Operations

AM Peak

MOVEMENT SUMMARY

Site: Lesmurdie Road/St
Brigid's Drive (Future AM)

Lesmurdie Road/St Brigid's Drive
Roundabout

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed	
		veh/h	%	v/c	sec				per veh	km/h	
						Vehicles	Distance				
						veh	m				
South: Lesmurdie Road											
1	L	177	1.7	0.465	4.0	LOS A	3.7	26.4	0.41	0.48	36.4
2	T	430	2.8	0.465	3.0	LOS A	3.7	26.4	0.41	0.38	36.7
Approach		607	2.5	0.465	3.3	LOS A	3.7	26.4	0.41	0.41	36.6
North: Lesmurdie Road											
8	T	507	2.0	0.504	3.3	LOS A	4.2	30.0	0.51	0.44	36.3
9	R	110	8.2	0.504	7.9	LOS A	4.2	30.0	0.51	0.74	35.1
Approach		617	3.1	0.504	4.1	LOS A	4.2	30.0	0.51	0.49	36.0
West: St Brigid's Drive											
10	L	60	3.3	0.236	5.8	LOS A	1.4	10.2	0.61	0.63	35.4
12	R	152	6.6	0.236	9.3	LOS A	1.4	10.2	0.61	0.74	34.0
Approach		212	5.7	0.236	8.3	LOS A	1.4	10.2	0.61	0.71	34.4
All Vehicles		1436	3.2	0.504	4.4	LOS A	4.2	30.0	0.48	0.49	36.0

PM Peak

MOVEMENT SUMMARY

Site: Lesmurdie Road/St
Brigid's Drive (Future PM)

Lesmurdie Road/St Brigid's Drive
Roundabout

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed	
		veh/h	%	v/c	sec				per veh	km/h	
						Vehicles	Distance				
						veh	m				
South: Lesmurdie Road											
1	L	118	2.5	0.442	3.8	LOS A	3.5	25.2	0.35	0.46	36.6
2	T	484	4.5	0.442	2.8	LOS A	3.5	25.2	0.35	0.35	36.9
Approach		602	4.2	0.442	3.0	LOS A	3.5	25.2	0.35	0.37	36.9
North: Lesmurdie Road											
8	T	445	3.1	0.445	3.4	LOS A	3.4	24.7	0.50	0.44	36.3
9	R	86	4.7	0.445	7.8	LOS A	3.4	24.7	0.50	0.75	35.2
Approach		531	3.4	0.445	4.1	LOS A	3.4	24.7	0.50	0.49	36.1
West: St Brigid's Drive											
10	L	95	1.1	0.302	6.3	LOS A	1.9	13.2	0.66	0.68	35.2
12	R	170	2.4	0.302	9.7	LOS A	1.9	13.2	0.66	0.78	33.8
Approach		265	1.9	0.302	8.5	LOS A	1.9	13.2	0.66	0.74	34.3
All Vehicles		1398	3.4	0.445	4.4	LOS A	3.5	25.2	0.46	0.49	36.1



Appendix D: 5 Year Crash History

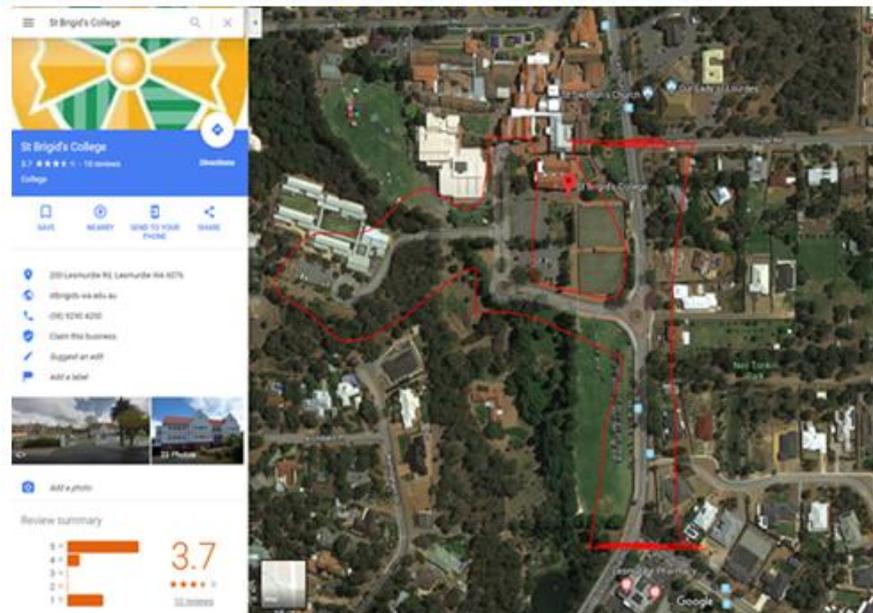


Request Number	RSIC-2331
Description of Request	Traffic assessment for St Brigid's college in Lesmurdie for the site vicinity as attached below
Requestor Contact Details	
Name & position	Supun (Sam) Perera, Traffic and Transport Engineer, APEX Engineers
Email	info@apexengineers.com.au
Data Question/s	Detailed 5 year crash history
Intended Use	For Council

Request Receipt Date	
Analyst Allocation Date	8/01/18

Data Analyst Details	
Name & position	Syeda Sultana, Road Safety Data Analyst
Data Source(s)	MRWA Crash Data 2012 to 2016 dtd. 16 Oct 2017
Known Data Issues	2015-16 serious injury data is suspected to be incomplete
Data Period	2012-2016
Confidentiality of Data	This data is provided with the understanding that the RSC will be informed of any products created using this data prior to release.

Request Deadline	12/01/18
Request Dissemination Date	10/01/18
Request Preparation Time	4 hours
Request Feedback	https://www.surveymonkey.com/r/BSDTVY5





CRASH DATA - 2012 TO 2016
 LESMURDIE ROAD FROM GLYDE ROAD TO Rooth Road
 GLYDE ROAD FROM START TO 80M
 REST ARE UNKNOWN ROAD AND NOT AVAILABLE IN THE CRASH DATA

ACC_DATE	ACCTIME	DAY	ROAD_NAME	SLK/CROSSNAME	SEVERITY*	LGA	RD_COND.	RD_SURFACE	RD_GRADE	ATMOS_COND.	RD_ALIGN	LIGHT	LGA	REG_NAME	ACC_LOCATION	UNIT	NATURE	COLL_VEH_MOVE_TYPE	TARGET_VEH_MOVE_TYPE	OBJECT1
12-Aug-12	1808	SUN	LESMURDIE RD	1.69	PDO MAJOR	KALAMUNDA	WET	SEALED	LEVEL	RAIN	STRAIGHT	LTHS ON	KALAMUNDA	Metropolitan	MIDBLOCK	CAR	Off Carr: Ht Obj	D OF C.-REAS NOT CODE		SEC POLE VEH1
15-Dec-12	2110	SAT	LESMURDIE RD	1.15 GLYDE RD	PDO MAJOR	KALAMUNDA	DRY	SEALED	SLOPE	CLEAR	CURVE	LTHS ON	KALAMUNDA	Metropolitan	INTERSEC	CAR	Right Angle	STRIGHT AHEAD- NOT O OF C.	TURN-MAKE RIGHT TURN	
23-Mar-13	2242	SAT	LESMURDIE RD	1.69	PDO MAJOR	KALAMUNDA	DRY	SEALED	SLOPE	CLEAR	CURVE	LTHS ON	KALAMUNDA	Metropolitan	MIDBLOCK	UTILITY	Off Carr: Ht Obj	D OF C.-REAS NOT CODE		SEC POLE VEH1
24-Mar-14	1850	MON	LESMURDIE RD	1.69	PDO MAJOR	KALAMUNDA	DRY	SEALED	SLOPE	CLEAR	STRAIGHT	LTHS ON	KALAMUNDA	Metropolitan	MIDBLOCK	MIC	Rear End	STRIGHT AHEAD- NOT O OF C.	STOP TO AVOID VEH	
28-Mar-15	2220	THU	LESMURDIE RD	1.69	PDO MINOR	KALAMUNDA	WET	SEALED	LEVEL	RAIN	CURVE	LTHS ON	KALAMUNDA	Metropolitan	MIDBLOCK	CAR	Non-collision	D OF C.-REAS NOT CODE		KERB WHEN ST AS CAUSE
1-Jul-15	1915	WED	LESMURDIE RD	1.67	PDO MAJOR	KALAMUNDA	WET	SEALED	LEVEL	RAIN	STRAIGHT	LTHS ON	KALAMUNDA	Metropolitan	MIDBLOCK	CAR	Right Angle	STRIGHT AHEAD- NOT O OF C.	TURN-MAKE RIGHT TURN	
28-Jul-15	1445	TUE	LESMURDIE RD	1.15 GLYDE RD	PDO MINOR	KALAMUNDA	WET	SEALED	SLOPE	OVERCAST	STRAIGHT	DAY	KALAMUNDA	Metropolitan	INTERSEC	UNKNOWN	Rear End	STRIGHT AHEAD- NOT O OF C.	STOP BY TRAFF. CONT.	
9-Oct-15	1952	FRI	LESMURDIE RD	1.87 Rooth Rd	PDO MAJOR	KALAMUNDA	UNKNOWN	SEALED	UNKNOWN	UNKNOWN	UNKNOWN	DAWN	KALAMUNDA	Metropolitan	INTERSEC	UTILITY	Ht Object	D OF C.-REAS NOT CODE		SEC POLE VEH1
15-Jun-16	1215	WED	LESMURDIE RD	1.65	PDO MAJOR	KALAMUNDA	DRY	SEALED	SLOPE	CLEAR	STRAIGHT	DAY	KALAMUNDA	Metropolitan	MIDBLOCK	4-WHEEL_DR	Rear End	STRIGHT AHEAD- NOT O OF C.	STOP TO AVOID VEH	

*Property Damage Only Major and Minor

INJURY DATA - 2012 TO 2016
 LESMURDIE ROAD FROM GLYDE ROAD TO Rooth Road
 GLYDE ROAD FROM START TO 80M
 REST ARE UNKNOWN ROAD AND NOT AVAILABLE IN THE CRASH DATA

NO INJURY IN THE REQUIRED SECTIONS.

VEHICLE INVOLVED IN CRASH - 2012 TO 2016
 LESMURDIE ROAD FROM GLYDE ROAD TO Rooth Road
 GLYDE ROAD FROM START TO 80M
 REST ARE UNKNOWN ROAD AND NOT AVAILABLE IN THE CRASH DATA

ACC_DATE	ACCTIME	DAY	ROAD_NAME	SLK/CROSSNAME	SEVERITY*	INJURY	LGA	RD_COND.	RD_SURFACE	RD_GRADE	ATMOS_COND.	RD_ALIGN	LIGHT	LGA	REGNAME	ACC_LOCATION	UNIT	AGE	GENDR	NATURE	COLL_VEH_MOVE_TYPE	TARGET_VEH_MOVE_TYPE	OBJECT1
12-Aug-12	1808	SUN	LESMURDIE RD	1.69	PDO MAJOR	NO INJ.	KALAMUNDA	WET	SEALED	LEVEL	RAIN	STRAIGHT	LTHS ON	KALAMUNDA	Metropolitan	MIDBLOCK	CAR	18 M	Off Carr: Ht Obj	D OF C.-REAS NOT CODE			SEC POLE VEH1
15-Dec-12	2110	SAT	LESMURDIE RD	1.15 GLYDE RD	PDO MAJOR	NO INJ.	KALAMUNDA	DRY	SEALED	SLOPE	CLEAR	CURVE	LTHS ON	KALAMUNDA	Metropolitan	INTERSEC	CAR	17 M	Right Angle	STRIGHT AHEAD- NOT O OF C.	TURN-MAKE RIGHT TURN		
15-Dec-12	2110	SAT	LESMURDIE RD	1.15 GLYDE RD	PDO MAJOR	NO INJ.	KALAMUNDA	DRY	SEALED	SLOPE	CLEAR	CURVE	LTHS ON	KALAMUNDA	Metropolitan	INTERSEC	CAR	30 M	Right Angle	STRIGHT AHEAD- NOT O OF C.	TURN-MAKE RIGHT TURN		
23-Mar-13	2242	SAT	LESMURDIE RD	1.69	PDO MAJOR	NO INJ.	KALAMUNDA	DRY	SEALED	SLOPE	CLEAR	CURVE	LTHS ON	KALAMUNDA	Metropolitan	MIDBLOCK	UTILITY	17 M	Off Carr: Ht Obj	D OF C.-REAS NOT CODE			SEC POLE VEH1
24-Mar-14	1850	MON	LESMURDIE RD	1.69	PDO MAJOR	NO INJ.	KALAMUNDA	DRY	SEALED	SLOPE	CLEAR	STRAIGHT	LTHS ON	KALAMUNDA	Metropolitan	MIDBLOCK	MIC	18 M	Rear End	STRIGHT AHEAD- NOT O OF C.	STOP TO AVOID VEH		
24-Mar-14	1850	MON	LESMURDIE RD	1.69	PDO MAJOR	NO INJ.	KALAMUNDA	DRY	SEALED	SLOPE	CLEAR	STRAIGHT	LTHS ON	KALAMUNDA	Metropolitan	MIDBLOCK	CAR	18 F	Rear End	STRIGHT AHEAD- NOT O OF C.	STOP TO AVOID VEH		
28-Mar-15	2220	THU	LESMURDIE RD	1.69	PDO MINOR	NO INJ.	KALAMUNDA	WET	SEALED	LEVEL	RAIN	CURVE	LTHS ON	KALAMUNDA	Metropolitan	MIDBLOCK	CAR	61 M	Non-collision	D OF C.-REAS NOT CODE			KERB WHEN ST AS CAUSE
1-Jul-15	1915	WED	LESMURDIE RD	1.67	PDO MAJOR	NO INJ.	KALAMUNDA	WET	SEALED	LEVEL	RAIN	STRAIGHT	LTHS ON	KALAMUNDA	Metropolitan	MIDBLOCK	CAR	41 M	Right Angle	STRIGHT AHEAD- NOT O OF C.	TURN-MAKE RIGHT TURN		
1-Jul-15	1915	WED	LESMURDIE RD	1.67	PDO MAJOR	NO INJ.	KALAMUNDA	WET	SEALED	LEVEL	RAIN	STRAIGHT	LTHS ON	KALAMUNDA	Metropolitan	MIDBLOCK	CAR	F	Right Angle	STRIGHT AHEAD- NOT O OF C.	TURN-MAKE RIGHT TURN		
28-Jul-15	1445	TUE	LESMURDIE RD	1.15 GLYDE RD	PDO MINOR	NO INJ.	KALAMUNDA	WET	SEALED	SLOPE	OVERCAST	STRAIGHT	DAY	KALAMUNDA	Metropolitan	INTERSEC	UNKNOWN	M	Rear End	STRIGHT AHEAD- NOT O OF C.	STOP BY TRAFF. CONT.		
28-Jul-15	1445	TUE	LESMURDIE RD	1.15 GLYDE RD	PDO MINOR	NO INJ.	KALAMUNDA	WET	SEALED	SLOPE	OVERCAST	STRAIGHT	DAY	KALAMUNDA	Metropolitan	INTERSEC	UTILITY	47 F	Rear End	STRIGHT AHEAD- NOT O OF C.	STOP BY TRAFF. CONT.		
9-Oct-15	1952	FRI	LESMURDIE RD	1.87 Rooth Rd	PDO MAJOR	NO INJ.	KALAMUNDA	UNKNOWN	SEALED	UNKNOWN	UNKNOWN	UNKNOWN	DAWN	KALAMUNDA	Metropolitan	INTERSEC	UTILITY	18 F	Ht Object	D OF C.-REAS NOT CODE			SEC POLE VEH1
15-Jun-16	1215	WED	LESMURDIE RD	1.65	PDO MAJOR	NO INJ.	KALAMUNDA	DRY	SEALED	SLOPE	CLEAR	STRAIGHT	DAY	KALAMUNDA	Metropolitan	MIDBLOCK	4-WHEEL_DR	25 M	Rear End	STRIGHT AHEAD- NOT O OF C.	STOP TO AVOID VEH		
15-Jun-16	1215	WED	LESMURDIE RD	1.65	PDO MAJOR	NO INJ.	KALAMUNDA	DRY	SEALED	SLOPE	CLEAR	STRAIGHT	DAY	KALAMUNDA	Metropolitan	MIDBLOCK	CAR	47 F	Rear End	STRIGHT AHEAD- NOT O OF C.	STOP TO AVOID VEH		

*Property Damage Only Major and Minor



Appendix E: WAPC TIA Checklist

TRANSPORT IMPACT ASSESSMENT GUIDELINES

Checklist for a transport impact assessment for individual development

- Tick the provided column for items for which information is provided.
- Enter N/A in the provided column if the item is not appropriate and enter reason in comment column.
- Provide brief comments on any relevant issues.
- Provide brief description of any proposed transport improvements, for example, new bus routes or signalisation of an existing intersection.

ITEM	PROVIDED	COMMENTS/PROPOSALS
Summary		
Introduction/Background	✓	
name of applicant and consultant	✓	
development location and context	✓	
brief description of development proposal	✓	
key issues	✓	
background information	✓	
Existing situation	✓	
existing site uses (if any)	✓	
existing parking and demand (if appropriate)	✓	
existing access arrangements	✓	
existing site traffic	✓	
surrounding land uses	✓	
surrounding road network	✓	
traffic management on frontage roads	✓	
traffic flows on surrounding roads (usually AM and PM peak hours)	✓	
traffic flows at major intersections (usually AM and PM peak hours)	✓	
operation of surrounding intersections	✓	
existing pedestrian/cycle networks	✓	
existing public transport services surrounding the development	✓	
crash data	✓	



ITEM	PROVIDED	COMMENTS/PROPOSALS
Development proposal	✓	
regional context	✓	
proposed land uses	✓	
table of land uses and quantities	✓	
access arrangements	✓	
parking provision	✓	
end of trip facilities	N/A	
any specific issues	✓	
road network	✓	
intersection layouts and controls	✓	
pedestrian/cycle networks and crossing facilities	✓	
public transport services	✓	
Integration with surrounding area	✓	
surrounding major attractors/ generators	N/A	
committed developments and transport proposals	N/A	
proposed changes to land uses within 1200 metres	N/A	
travel desire lines from development to these attractors/ generators	✓	
adequacy of existing transport networks	✓	
deficiencies in existing transport networks	✓	
remedial measures to address deficiencies	✓	
Analysis of transport networks	✓	
assessment years	✓	
time periods	✓	
development generated traffic	✓	
distribution of generated traffic	✓	
parking supply and demand	✓	
base and 'with development' traffic flows	✓	
analysis of development accesses	✓	
impact on surrounding roads	✓	
impact on intersections	✓	



ITEM	PROVIDED	COMMENTS/PROPOSALS
Analysis of transport networks (cont.)	✓	
impact on neighbouring areas	✓	
road safety	✓	
public transport access	✓	
pedestrian access/amenity	✓	
cycle access/amenity	N/A	
analysis of pedestrian/cycle networks	✓	
safe walk/cycle to school (for residential and school site developments only)	✓	
traffic management plan (where appropriate)	N/A	
Conclusions	✓	

Proponent's name Neil Grime

Company St Brigid's College Date 25/01/2018

Transport assessor's name Supun (Sam) Perera

Company APEX Engineers Date 25/01/2018



a. TIA does not mention road safety at all. There should be a comment on safety generally for traffic (even if in a 40 kph zone). Also need comments on safety associated with the Lesmurdie – St Brigid entry for pedestrians and cyclists. Currently Lesmurdie is difficult to cross due to traffic volumes.

Response: New Section 2.4 and Appendix D added to include the above information.

b. Pedestrians and cyclists do not appear to be accommodated at all. This needs to be considered as the preferred method of accessing the new location, with vehicles secondary. This younger age group is the best age to promote healthy activities. The TIA has not considered or recommended whether there is need of pedestrian priority crossing facilities although the warrant of traffic volume of 1100 vph for the two lane undivided Lesmurdie road has been exceeded.

Response: New Section 2.4 and Appendix D added to include the above information.

c. Need to show pedestrian and cycling paths and facilities. Also could show improved pedestrian access through all the emergency exits, to promote walking and cycling to school.

Response: New Section 2.4 and Appendix D added to include the above information. Note that cycling is not expected to be a mode of travel for the site.

d. The internal new entry road appears to have a better option coming off the internal roundabout, instead of winding around to the west.

Response: Justification has been provided in Section 2.3.

e. Figure 5, 6 and 7 have not included the access way to the east, please reflect this in SIDRA analysis and text.

Response: This accessway serves two private lots and the traffic surveys indicate no vehicular movements to and from this accessway during the peak hours surveyed. Therefore, this accessway has not been considered in the SIDRA model.

f. Table 4: Include a table similar to table 4 the present performance of Lesmurdie road/St Brigid's Drive.

Response: Table 2 includes the current intersection performance results.

g. Figure 9: Line marking showing right lane drive, should be left lane drive, amend the drawing with proper line marking/give way sign.

Response: This has now been corrected (see Figure 10).

h. TIA should include a checklist as per WAPC's TIA guidelines.

Response: See Appendix E.

Bushfire management plan/Statement addressing the Bushfire Protection Criteria coversheet

Site address:

Site visit: Yes No

Date of site visit (if applicable): Day Month Year

Report author:

WA BPAD accreditation level (please circle):

Not accredited Level 1 BAL assessor Level 2 practitioner Level 3 practitioner

If accredited please provide the following.

BPAD accreditation number: Accreditation expiry: Month Year

Bushfire management plan version number:

Bushfire management plan date: Day Month Year

Client/business name:

	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)?		
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 bushfire protection criteria elements)?		

Is the proposal any of the following (see [SPP 3.7 for definitions](#))?

	Yes	No
Unavoidable development (in BAL-40 or BAL-FZ)		
Strategic planning proposal (including rezoning applications)		
Minor development (in BAL-40 or BAL-FZ)		
High risk land-use		
Vulnerable land-use		

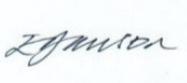
None of the above

Note: Only if one (or more) of the above answers in the tables is yes should the decision maker (e.g. local government or the WAPC) refer the proposal to DFES for comment.

Why has it been given one of the above listed classifications (E.g. Considered vulnerable land-use as the development is for accommodation of the elderly, etc.)?

The information provided within this bushfire management plan to the best of my knowledge is true and correct:

Signature of report author
City of Kalamunda



Date



BUSHFIRE MANAGEMENT PLAN

Development Application

St Brigid's College

200 Lesmurdie Rd, Lesmurdie

Version: 1.1 Reference: 7214 Date: February 2018





BUSHFIRE MANAGEMENT PLAN
St Brigid's College, Lesmurdie

Project Number: 7214
Project Name: St Brigid's College, Lesmurdie
Author: Darrel Krammer, Grad Dip Bushfire Protection, BPAD33412 Level 2
Reviewed by: Erika Dawson, Grad Dip Bushfire Protection, BPAD36371 Level 3
Version: 1.1
Date of issue: 28th February 2018

A handwritten signature in black ink, appearing to read 'D. Krammer'.

Author: Darrel Krammer
Date: 28/02/2018

A handwritten signature in black ink, appearing to read 'E. Dawson'.

Reviewed by: Erika Dawson
Date: 12/11/2017

In the signing the above, the author declares that this Bushfire Management Plan meets the requirements of State Planning Policy 3.7. This report supersedes all previous Bushfire Management Plans for the site.



DISCLAIMER AND LIMITATION

This report is prepared solely for **St Brigid's College** (the 'proponent') and any future landowners of the subject lot(s) and is not for the benefit of any other person and may not be relied upon by any other person.

The mitigation strategies contained in this Bushfire Management Plan are considered to be prudent minimum standards only, based on the writer's experience as well as standards prescribed by relevant authorities. It is expressly stated that RUIC Fire and the writer do not guarantee that if such standards are complied with or if a property owner exercises prudence, that a building or property will not be damaged or that lives will not be lost in a bush fire.

Fire is an extremely unpredictable force of nature. Changing climatic factors (whether predictable or otherwise) either before or at the time of a fire can also significantly affect the nature of a fire and in a bushfire prone area it is not possible to completely guard against bushfire.

Further, the growth, planting or removal of vegetation; poor maintenance of any fire prevention measures; addition of structures not included in this report; or other activity can and will change the bushfire threat to all properties detailed in the report. Further, the achievement of the level of implementation of fire precautions will depend on the actions of the landowner or occupiers of the land, over which RUIC Fire has no control. If the proponent becomes concerned about changing factors then a new Fire Risk Management Plan should be requested.

To the maximum extent permitted by the law, RUIC Fire, its employees, officers, agents and the writer ("RUIC Fire") excludes all liability whatsoever for:

1. claim, damage, loss or injury to any property and any person caused by fire or as a result of fire or indeed howsoever caused; and
2. errors or omissions in this report except where grossly negligent.

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This report is valid for a period of three years only from the date of its issue. All BAL ratings identified in this report are indicative and are required to be verified at the time of construction of individual buildings to ensure appropriate setbacks identified in the proposed development have been achieved.

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ABN: 48 151 451 713

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1.0 Introduction

1.1 Subject Site

The site the subject of this Bushfire Management Plan (BMP) is located within the school campus of St Brigid's College, 200 Lesmurdie Road, Lesmurdie. The development site is located within Number 12 (Lot 1) Catherine Place which is located within the greater college campus grounds, consisting on numerous lots.

The site is located within the municipality of the City of Kalamunda. Figure 1A illustrates the subject site and its immediate surrounds.

The site is identified as being Bushfire Prone on the *Map of Bush Fire Prone Areas 2017* (OBRM, 2017).

An independent ecological study (Mattiske, 2017) has been undertaken for the development area which has determined:

- "no declared or listed threatened or priority flora species as defined by the Environment Protection Biodiversity Conservation Act 1999 or the Wildlife Conservation Act 1950 were recorded on survey area in September 2017"; and
- "no suitable hollows were recorded on the trees within the survey area that might be suitable for the listed Black Cockatoos. Foraging activities by the listed Black Cockatoos were observed; however as the proposed clearing of the less disturbed area covers less than a 0.26 hectare it is unlikely that the vegetation on the survey area at St Brigid's College provides a significant habitat for the listed Black Cockatoo species."

A Resource Enhancement Wetland (REW) runs through the college grounds and to the east of the development site. Native vegetation extents are located to the west of the development site as illustrated in green on Figure 1C (WALGA, 2017). The proponent has not identified any other relevant environmental considerations, including foreshore reserves, Bush Forever sites, Environmentally Sensitive Areas, threatened species or communities, or other reserves located within the site or being affected by the development.

1.2 Development Description

The development involves the change of use of the building, known as Lesmurdie House, from a boarding house to an Early Learning Centre (BCA Class 9b) with additional extensions and the refurbishment of the upper storey to create an office (BCA Class 5) (the development).

Lesmurdie House is a heritage listed building located within the St Brigid's College Campus, and is entered in the state register of Heritage Places under the Lesmurdie Group of Buildings.

The existing building is split over two levels and is built primarily out of brick and laterite stonewalling, with a small portion of the upper level of the building built from weatherboards.

The development consists of some remedial/ conservation works to the existing heritage listed building and the addition of a small annex to the southern side of the building. The proposed development is shown in Figure 1B, and consists of the existing building and proposed extensions.

The operation of the Early Learning Centre will house up to a total of 60 students each day, being a mixture of 3 and 4 year olds. (Pre kindy/ Kindergarten). There will be six (6) staff in attendance at any one time.

The proposed hours of operation will be 0855 to 1500 each day.



BUSHFIRE MANAGEMENT PLAN
St Brigid's College, Lesmurdie

Transport arrangements to/from and during an emergency include (to be confirmed through Bushfire Emergency Evacuation Plan) are:

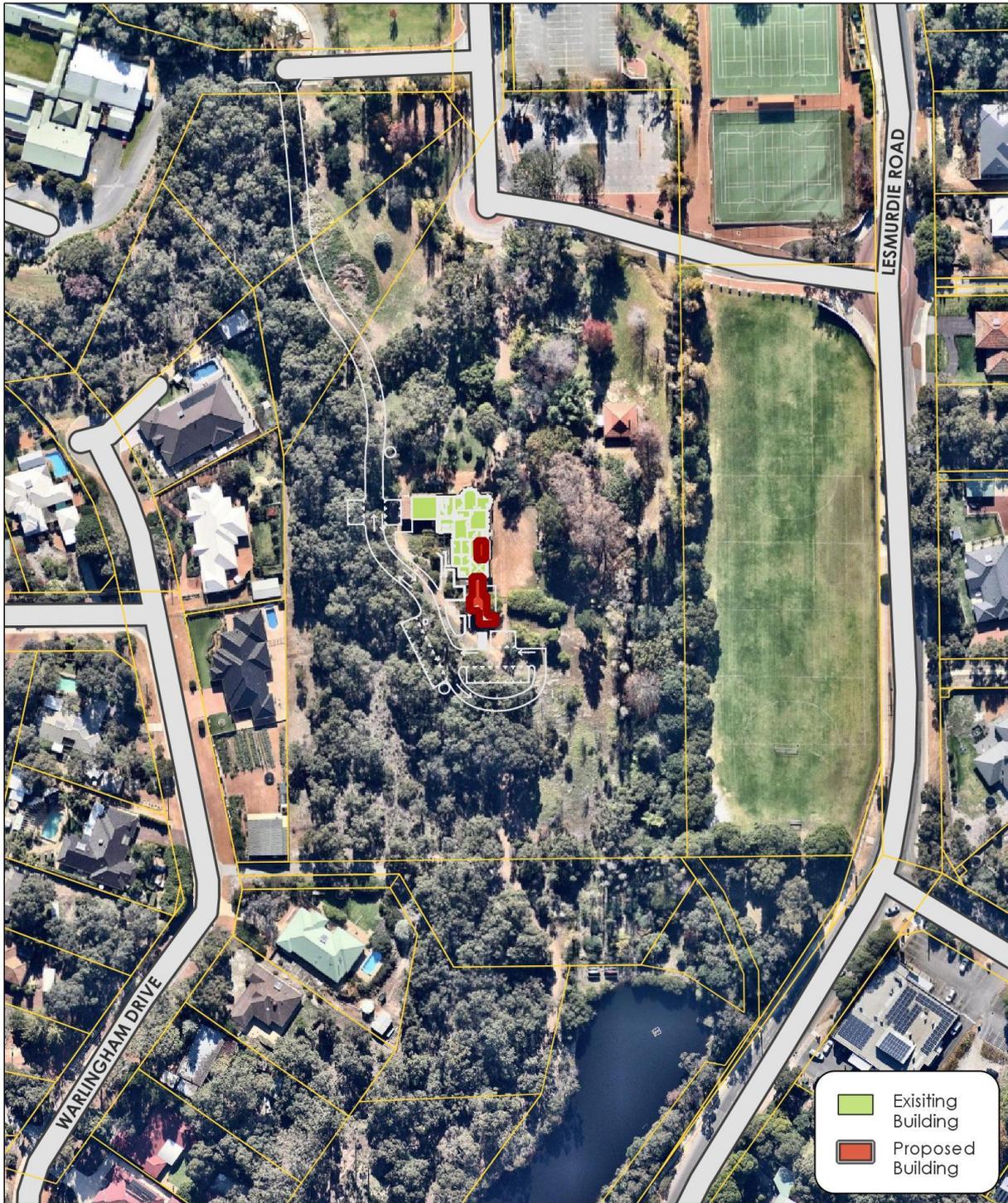
Two options available

- i. Option 1: mobilization of the school mini bus fleet to evacuate children and staff
- ii. Option 2: Staff Walking Children a short distance across the creek bridge and on to the open playing field adjacent to Lesmurdie Road.

1.3 Previous Bushfire Assessments

There are no known previous bushfire assessments that have been undertaken for the development site.

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St Brigid's College, Lesmurdie



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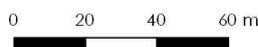
BUSHFIRE MANAGEMENT PLAN MAP
Saint Bridget's High School, Lesmurdie

Site Overview

- Proposed Extensions
- Cadastre
- Main Road
- Proposed Site Plans



Size: A4
Scale: 1:1,700



Ref: 7214_001_01_BaseMap_20171106
Projection: GDA94 MGA50
Author: MMW - RUIC | Date: 2017-11-08
Data Source: Cadastre - Landgate; Imagery -
Nearmap; Roads, Site Boundary, Veg, BAL, Buffers,
BMS - RUIC.

Disclaimer: Although the data within this map is considered accurate at the time of creation, RUIC Fire does not guarantee, and accepts no legal liability whatsoever arising from or connected to, the accuracy, reliability, currency or completeness of any data used within this map.

Figure 1A: Site Overview

BUSHFIRE MANAGEMENT PLAN
St Brigid's College, Lesmurdie

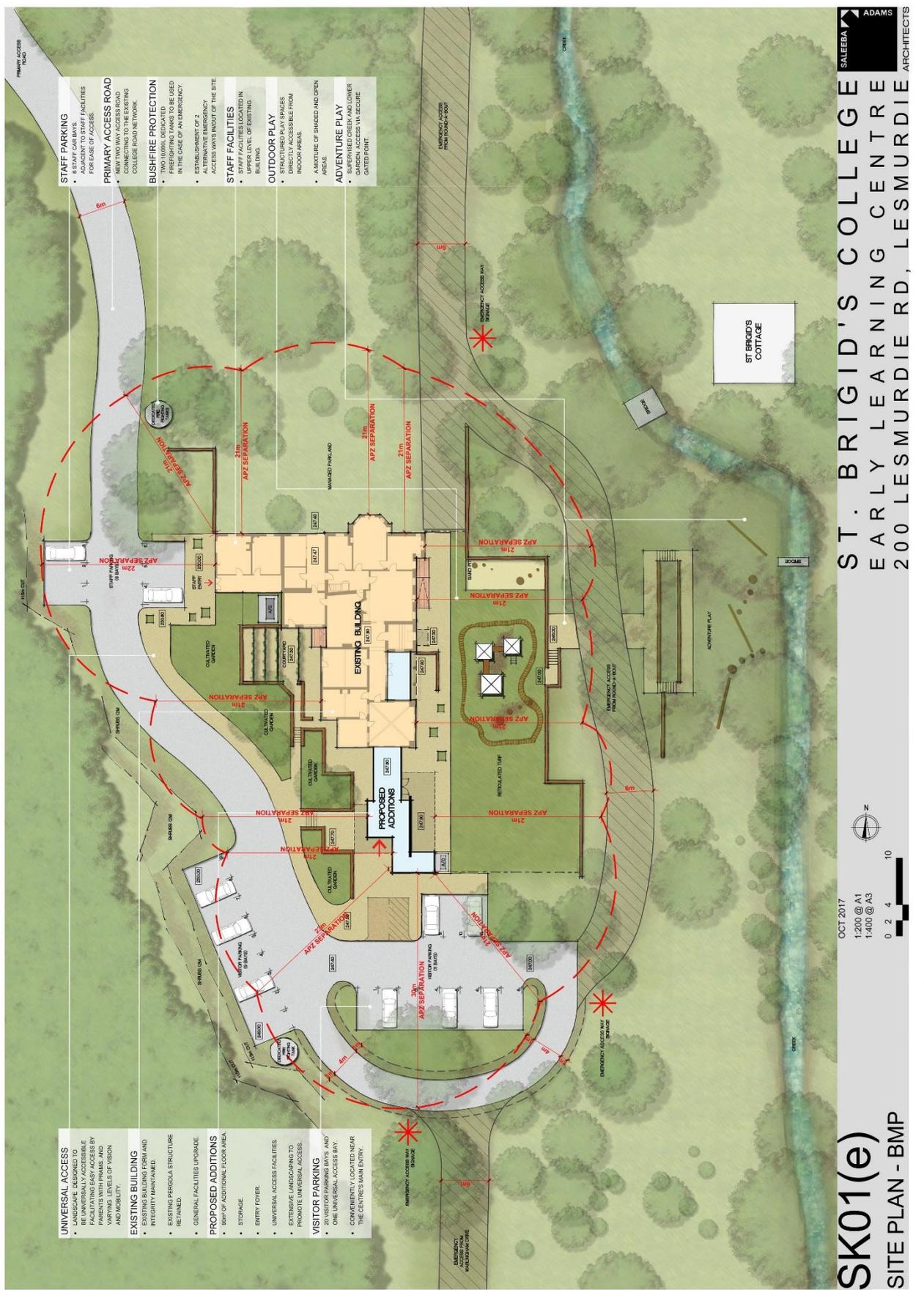


Figure 1B: Development Plan

BUSHFIRE MANAGEMENT PLAN
St Brigid's College, Lesmurdie

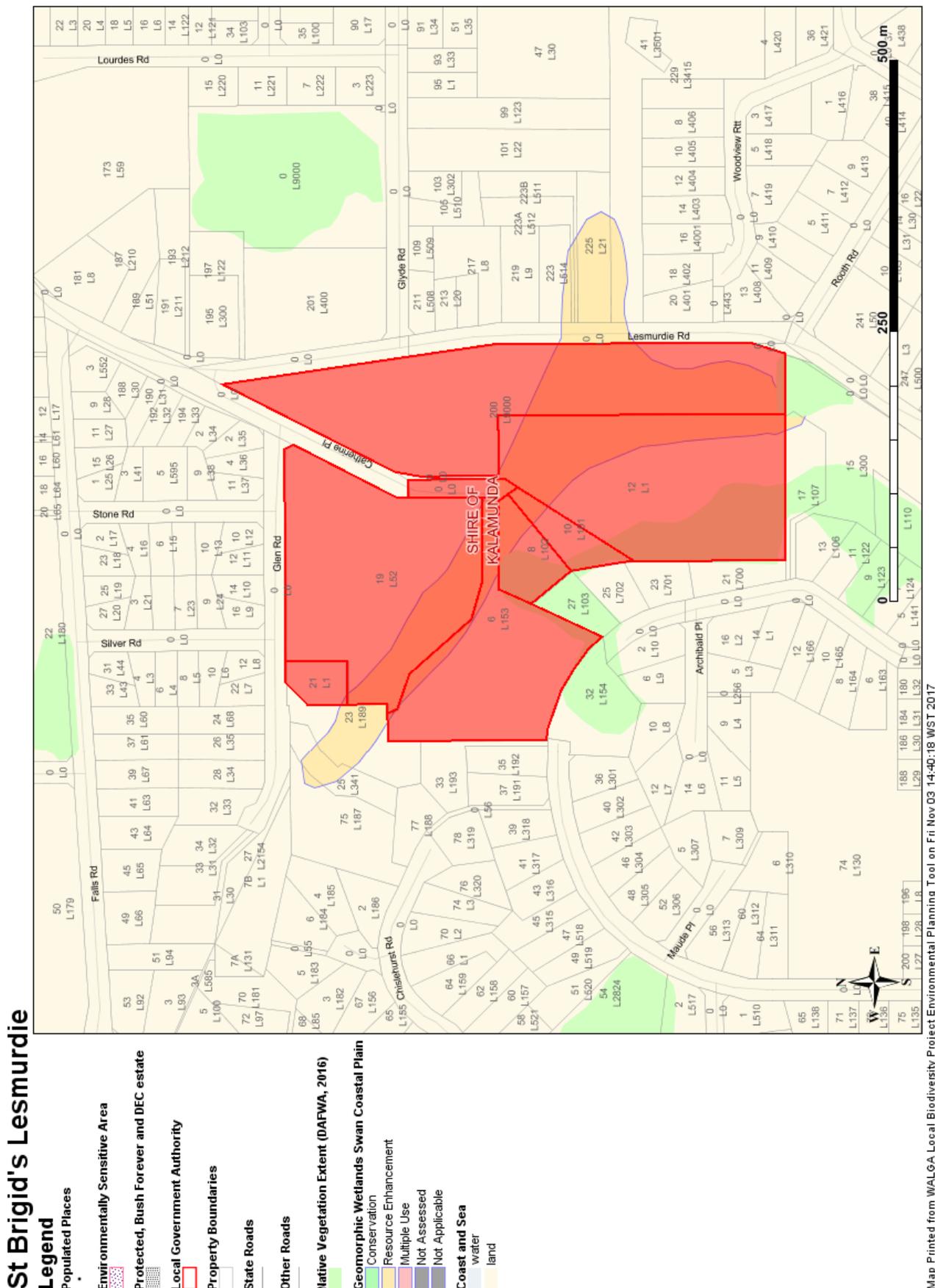


Figure 1C: Environmental Considerations across the school campus

2.0 Spatial Consideration of Bushfire Threat

2.1 Effective Slope

Effective slope under each vegetation plot was assessed in accordance with the methodology detailed in *AS 3959-2009 Construction of buildings in bushfire prone areas (AS 3959)* (Standards Australia, 2009). Slope data was measured on site and cross referenced with Landgate elevation data.

The area immediately surrounding the development site is relatively flat, with the terrain inclining slightly from an east to west direction, west of the building. The effective slope of each vegetation plot is listed in the tables provided in Section 2.2 below.

2.2 Bushfire Fuels

The location and extent of AS 3959 vegetation structures, including Clause 2.2.3.2 exclusions, within 150 metres of the site are mapped in Figure 2A and illustrated in the photos below.

Bushfire fuel loads are identified as consistent with AS 3959 Table B2 for radiant heat flux modelling purposes. All bushfire structures and fuel loads are assessed in their mature states (including revegetation and rehabilitation areas) unless otherwise identified.

Limited vegetation clearing will be undertaken (0.26ha) for the purposes of the establishment of the Asset Protection Zone (APZ), private driveways, fire water tanks and retaining wall on the west side of the building.

Plot 1	
Existing	Exclusion 2.2.3.2 (e) - non-vegetated areas, and Exclusion 2.2.3.2 (f) - low threat vegetation
Post Development	Exclusion 2.2.3.2 (e) - non-vegetated areas, and Exclusion 2.2.3.2 (f) - low threat vegetation
Effective Slope	N/A
<p><i>Plot 1 comprises the the area to the east and north east of the development site, which consists of the managed playing oval, internal roads, carparking, tennis courts and buildings located within the College grounds, in addition to Lesmurdie Road, external to the College boundaries.</i></p>	
 <p>DIRECTION 159 deg(T) 31.99739°S ACCURACY 5 m 116.05199°E DATUM WGS84</p> <p>BMP cc St Bridgets Lesmurdie 29/8/17, 11:26:27 am</p> <p>Photo ID: 1a</p>	 <p>DIRECTION 26 deg(T) 31.99691°S ACCURACY 5 m 116.05201°E DATUM WGS84</p> <p>BMP dd St Bridgets Lesmurdie 29/8/17, 11:29:00 am</p> <p>Photo ID: 1b</p>

BUSHFIRE MANAGEMENT PLAN
St Brigid's College, Lesmurdie

Plot 1



Photo ID: 1c



Photo ID: 1d

Plot 2

Existing	Class A Forest
Post Development	Class A Forest
Effective Slope	Flat/Upslope

Plot 2 comprises the vegetation located on the west, south and east of the development site. It consists of trees 10-30m high with a canopy cover of >30% with an understorey of low shrubs and grassland. There are some introduced species along the waterway to the east, which as a precautionary measure have been included as forest vegetation.



Photo ID: 2a



Photo ID: 2b

BUSHFIRE MANAGEMENT PLAN
St Brigid's College, Lesmurdie

Plot 2



Photo ID: 2c



Photo ID: 2d



Photo ID: 2e



Photo ID: 2f



Photo ID: 2g



Photo ID: 2h



BUSHFIRE MANAGEMENT PLAN
St Brigid's College, Lesmurdie

Plot 2



Photo ID: 2i



Photo ID: 2j



Photo ID: 2k



Photo ID: 2l



BUSHFIRE MANAGEMENT PLAN
St Brigid's College, Lesmurdie

Plot 3	
Existing	Exclusion 2.2.3.2 (e) - non-vegetated areas, and Exclusion 2.2.3.2 (f) - low threat vegetation
Post Development	Exclusion 2.2.3.2 (e) - non-vegetated areas, and Exclusion 2.2.3.2 (f) - low threat vegetation
Effective Slope	N/A

Plot 3 comprises residential development areas to the west of the College, along Warlingham Drive and Archibald Place. The Plot consists of roads, residential buildings with maintained cultivated gardens. This lots within this Plot are considered to be managed in accordance with the City of Kalamunda 2017/2018 Firebreak and Fuel Load Notice, Section 2, for land <5000m² with a building on it and may be considered to meet the AS 3959 low threat exclusions.



Photo ID: 3a



Photo ID: 3b



Photo ID: 3c



Photo ID: 3d

BUSHFIRE MANAGEMENT PLAN
St Brigid's College, Lesmurdie

Plot 3

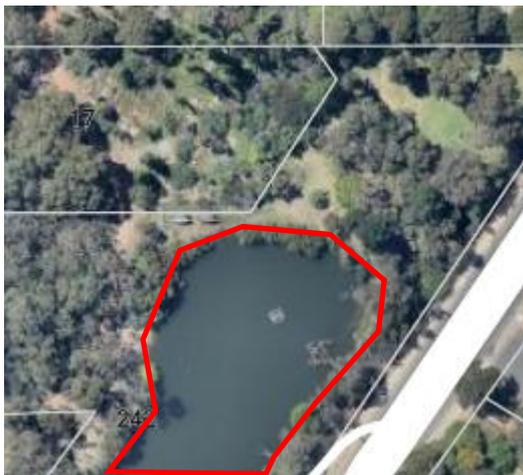


Photo ID: 3e

Plot 4

Existing	Exclusion 2.2.3.2 (e) - non-vegetated areas
Post Development	Exclusion 2.2.3.2 (e) - non-vegetated areas
Effective Slope	N/A

Plot 4 comprises a waterway to the south of the site.



Nearmap Imagery: 20/10/2017

BUSHFIRE MANAGEMENT PLAN
St Brigid's College, Lesmurdie

Plot 5	
Existing	Exclusion 2.2.3.2 (f) - low threat vegetation
Post Development	Exclusion 2.2.3.2 (f) - low threat vegetation
Effective Slope	N/A

Plot 5 comprises the maintained road reserve vegetation located along the east side of Lesmurdie Road and greater than 100m from the site.



Photo ID: 5a



BUSHFIRE MANAGEMENT PLAN
St Brigid's College, Lesmurdie

Plot 6	
Existing	Class B Woodland
Post Development	Class B Woodland
Effective Slope	Flat/ Upslope

Plot 6 comprises the managed area to the north of the development site. At the time of the site inspection, the understorey was managed grassland to <100mm. It is likely that this management will continue into the future, however as a precautionary measure the Plot is classified as Woodland due to trees to 20m in height, <30% canopy cover and potential unmanaged grass understorey.



Photo ID: 6a



Photo ID: 6b



Photo ID: 6c



Photo ID: 6d



BUSHFIRE MANAGEMENT PLAN
St Brigid's College, Lesmurdie

Plot 6



Photo ID: 6e



Photo ID: 6f



Photo ID: 6g



Photo ID: 6h

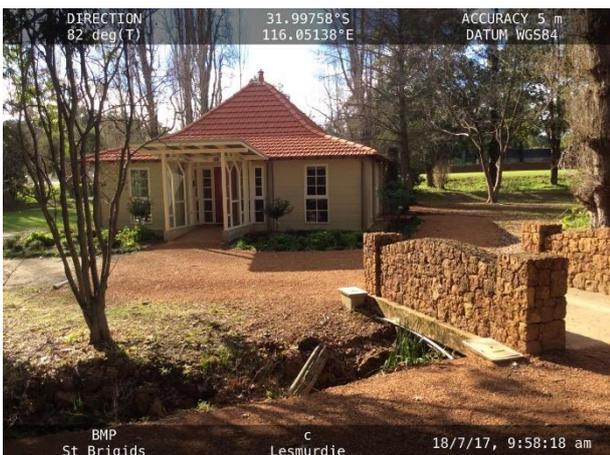


Photo ID: 6i



Photo ID: 6j

BUSHFIRE MANAGEMENT PLAN
St Brigid's College, Lesmurdie

Plot 6



Photo ID: 6k



Photo ID: 6l



Photo ID: 6m



Photo ID: 6n

BUSHFIRE MANAGEMENT PLAN
St Brigid's College, Lesmurdie

Plot 7

Existing	Class B Woodland
Post Development	Exclusion 2.2.3.2 (e) - non-vegetated areas, and Exclusion 2.2.3.2 (f) - low threat vegetation
Effective Slope	N/A

Plot 7 comprises the development buildings and APZ to be established and maintained around the building. Current vegetation consists of a combination of forest and woodland vegetation, managed lawns, non-vegetated areas of roads, trails and buildings.

The APZ is to be established and maintained in accordance with Section 4, A2.1 of this report, or as amended within the Guidelines Appendices. A Landscape Management Plan and management regime details are located at Appendix B.



Photo ID: 7a



Photo ID: 7b



Photo ID: 7c



Photo ID: 7d

BUSHFIRE MANAGEMENT PLAN
St Brigid's College, Lesmurdie

Plot 7



Photo ID: 7e



Photo ID: 7f

Plot 8

Existing	Class A Forest
Post Development	Class A Forest
Effective Slope	Flat/Upslope

Plot 8 consists of the forest vegetation located within Neil Tonkin Park on the east side of Lesmurdie Road. This vegetation is located >100m from the site.

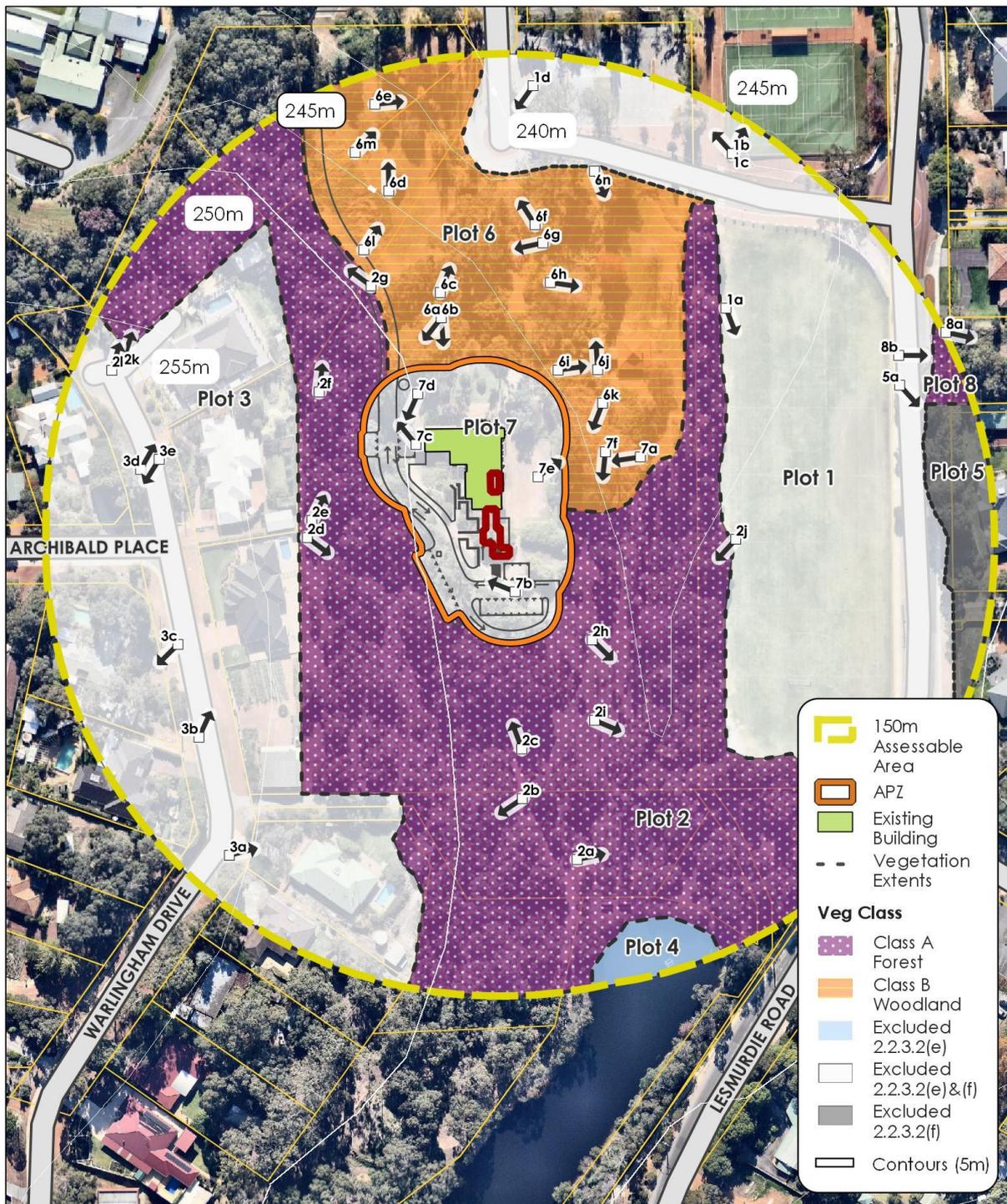


Photo ID: 8a



Photo ID: 8b

BUSHFIRE MANAGEMENT PLAN
St Brigid's College, Lesmurdie



BUSHFIRE MANAGEMENT PLAN MAP
Saint Bridget's High School, Lesmurdie

- Proposed Extensions
- Cadastre
- Main Road
- Proposed Site Plans

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Vegetation Classification



Ref: 7214_001_01_BaseMap_20171106
Projection: GDA94 MGA50
Author: MM - RUIC | Date: 2017-11-08
Data Source: Cadastre - Landgate; Imagery -
Nearmap; Roads, Site Boundary, Veg, BAL, Buffers,
BMS - RUIC.

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Figure 2A: Post Development Vegetation Classifications

BUSHFIRE MANAGEMENT PLAN
 St Brigid's College, Lesmurdie

2.3 Potential Bushfire Impact

Potential bushfire impact analysis was undertaken in accordance with AS 3959 Methodology 1 to determine the potential worst case scenario radiant heat impact on the building including proposed additions.

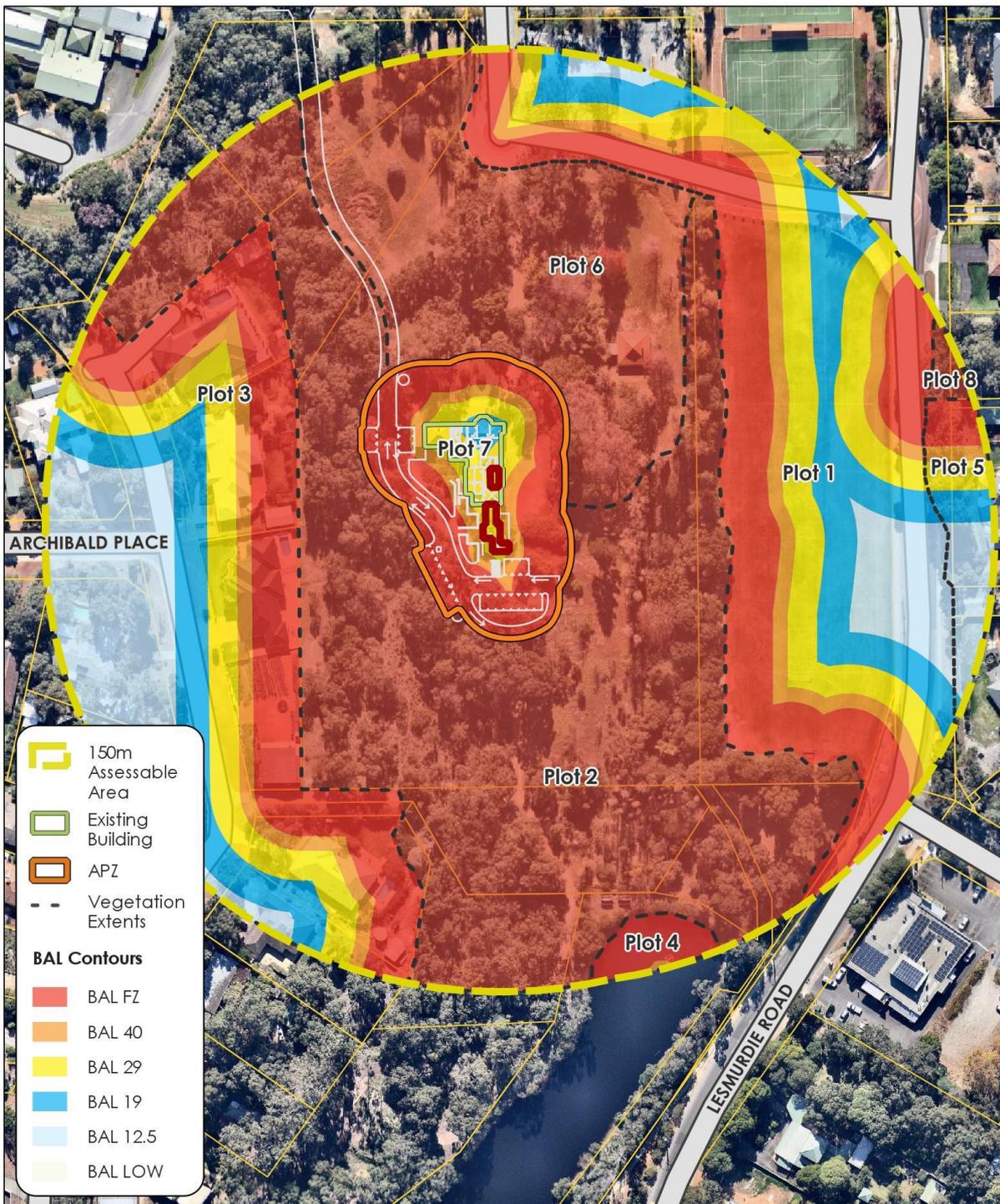
In accordance with SPP 3.7, a BAL Contour Map has been prepared to illustrate the potential radiant heat impacts and associated BAL ratings for the assessment area after the development is completed (see Figures 2B and 2C).

The following table (Table 2A) outlines the worst-case BAL for each of the Vegetation Plots based on separation distance to the building.

Table 2A: Worst case BAL that applies to the building

Vegetation Plot	Vegetation Classification	Effective Slope	Separation	BAL
Plot 1	Exclusion 2.2.3.2 (e) & (f)	N/A	N/A	BAL-LOW
Plot 2	Class A Forest	Flat/Upslope	21m ^Λ	BAL-29
Plot 3	Exclusion 2.2.3.2 (e) & (f)	N/A	N/A	BAL-LOW
Plot 4	Exclusion 2.2.3.2 (e)	N/A	N/A	BAL-LOW
Plot 5	Exclusion 2.2.3.2 (f)	N/A	N/A	BAL-LOW
Plot 6	Class B Woodland	Flat/Upslope	21m	BAL-19
Plot 7	Exclusion 2.2.3.2 (e) & (f)	N/A	N/A	BAL-LOW
Plot 8	Class A Forest	Flat/Upslope	149m	BAL-LOW
Worst case BAL				BAL-29
Notes:				
ΛA minimum of a 21m APZ is proposed for all elevations of the building				

BUSHFIRE MANAGEMENT PLAN
St Brigid's College, Lesmurdie



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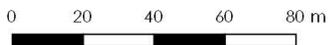
BUSHFIRE MANAGEMENT PLAN MAP
Saint Bridget's High School, Lesmurdie

BAL Contours

- Proposed Extensions (Red outline)
- Main Road (Grey outline)
- Cadastre (Yellow outline)
- Proposed Site Plans (Light Blue outline)



Size: A4
Scale: 1:1,700

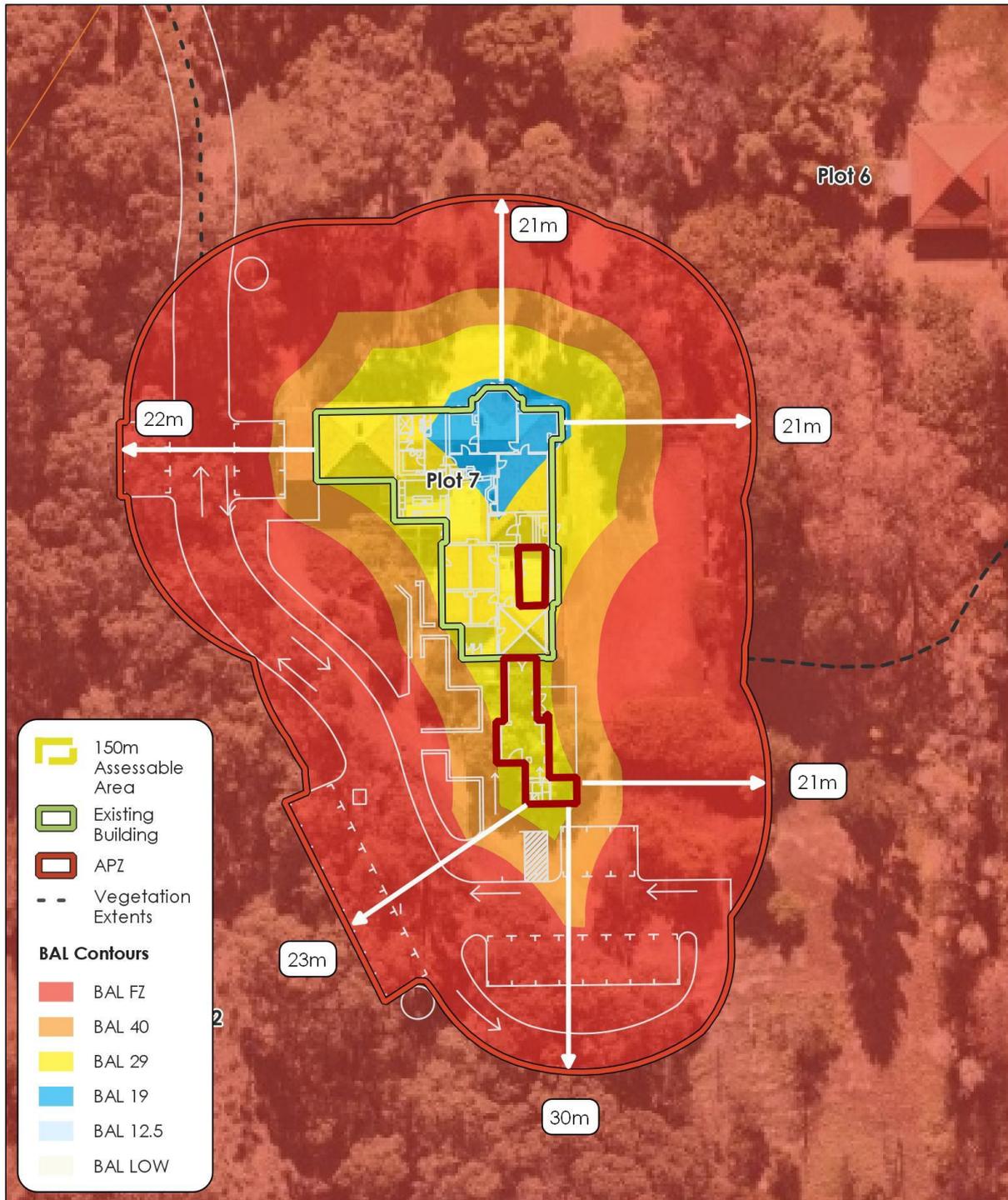


Ref: 7214_003_01_BAL20171106
Projection: GDA94 MGA50
Author: MM - RUIC | Date: 2017-11-08
Data Source: Cadastre - Landgate; Imagery - Nearmap; Roads, Site Boundary, Veg, BAL Buffers, BM6 - RUIC.

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Figure 2B: BAL Contour Map

BUSHFIRE MANAGEMENT PLAN
St Brigid's College, Lesmurdie



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BUSHFIRE MANAGEMENT PLAN MAP
Saint Bridget's High School, Lesmurdie

BAL Contours: Close Up

- Proposed Extensions
- Cadastre
- Main Road
- Proposed Site Plans



Size: A4
Scale: 1:550



Ref: 7214_003_01_BAL20171106
Projection: GDA94 MGA50
Author: MM - RUIC | Date: 2017-11-08
Data Source: Cadastre - Landgate; Imagery -
Nearmap; Roads, Site Boundary, Veg, BAL Buffers,
BM6 - RUIC.

Disclaimer: Although the data within this map is considered accurate at the time of creation, RUIC Fire does not guarantee, and accepts no legal liability whatsoever arising from or connected to, the accuracy, reliability, currency or completeness of any data used within this map.

Figure 2C: BAL Contour Map (Detailed)

2.4 Bushfire Context

The greatest bushfire threat is from the south of the development site through the retained forest vegetation with a potential fire run exceeding 100m and a flame width of approximately 80m. There is also the potential of a fire from the north west through the same stand of forest vegetation, however, the flame width is constrained to approximately 40m.

A fire through Plot 6, immediately north of the building, has a reduced potential due to the area being managed on an ongoing basis with ground fuels loads maintained at <2 t/ha.

2.5 Bushfire Hazard Issues

From the BAL Contour Map (Figures 2B and 2C), the following bushfire hazard issues have been identified:

- The BAL ratings provided in the BAL Contour map and Table 2A are indicative only and are for the purposes of demonstrating compliance with the bushfire protection criteria of SPP 3.7. The BAL Contour map is to be updated following the implementation of the bushfire strategies contained within this report. Alternatively, an individual BAL assessment is to be completed prior to the issue of the building permit.
- With the implementation and ongoing maintenance of the minimum 21m APZ, the maximum radiant heat flux the building is exposed to is assumed to be 29 kW/m² (BAL-29).
- The APZ is to be established and managed as per the approved Landscape Management Plan at Appendix B, and A2.1 of the guidelines.
- The building is a BCA Class 9b and 5 building with heritage value and the retrospective upgrade to AS3959 to the existing heritage building is not practicable due to the heritage issues, nor is it required as it is not a BCA Class 1, 2 or 3 building.
- Whilst compliance with AS3959 is not a regulatory requirement for the proposed extensions, voluntary construction is recommended.
- The proposed development is subject to a BAL above BAL-LOW. The bushfire selection criteria relevant to the development are addressed in Section 4 of this report.
- The development use is classified as Vulnerable Land Use, and as such a Bushfire Emergency Evacuation Plan (BEEP) is required. The draft BEEP is located in Appendix C.
- As a condition of Development Approval, the draft BEEP located at Appendix C is to be updated and endorsed by the City of Kalamunda, prior to occupation and operation of the Early Learning Centre. This will allow the applicable information and procedures to be determined based on staffing, telephone, transport details etc. prior to operation.

3.0 Proposal Compliance and Justification

3.1 State Planning Policy 3.7 – Planning in Bushfire Prone Areas (SPP 3.7)

SPP3.7 applies to all development applications in designated bushfire prone areas.

3.1.1 Objectives

Policy Measure 5 contains the objectives of SPP 3.7. The following demonstrates how the proposed development meets each of the objectives.

Objective 1: *Avoid any increase in the threat of bushfire to people, property, and infrastructure. The preservation of life and management of bushfire impact is paramount.*

Development Response

Objective 1 is satisfied through the compliance of the proposed development with all required Policy Principles as detailed below and all Performance Principles of the Guidelines as detailed in Section 4 of this report.

Objective 2: *Reduce vulnerability to bushfire through the identification and consideration of bushfire risks in decision-making at all stages of the planning and development process.*

Development Response

Objective 2 is satisfied through the appropriate identification and assessment of all relevant bushfire hazards as detailed in Section 2 of this report, specifically the BAL Contour Mapping.

Objective 3: *Ensure that higher order strategic planning documents, strategic planning proposals, subdivision and development applications take into account bushfire protection requirements and include specified bushfire protection measures.*

Development Response

Objective 3 is satisfied through the compliance of the proposed development with all required Policy Principles as detailed below and all Performance Principles of the Guidelines as detailed in Section 4 of this report.

Objective 4: *Achieve an appropriate balance between bushfire risk management measures and, biodiversity conservation values, environmental protection and biodiversity management and landscape amenity, with consideration of the potential impacts of climate change.*

Development Response

Objective 4 is satisfied through the appropriate consideration of all biodiversity and environmental assets as detailed in Section 1 of this report in the development of bushfire related risk mitigation strategies detailed in Section 4 of this report.

3.1.2 Policy Measures

3.1.2.1 Development Applications

Policy Measure 6.2 requires that development applications within designated bushfire prone areas and that have a BAL above BAL-LOW are to comply with Policy Measure 6.5.

3.1.2.2 Information to Accompany Development Applications

Policy Measure 6.5 applies to development applications. It requires certain information to be provided with such applications. The following table (Table 3A) outlines where the required information has been provided.

Table 3A: Compliance of the proposed development with the Policy Measures of SPP 3.7.

Policy Measure	Description	Development Response
a	(i) a BAL assessment. BAL assessments should be prepared by an accredited Level 1 BAL Assessor or a Bushfire Planning Practitioner unless otherwise exempted in the Guidelines; or (ii) a BAL Contour Map that has been prepared for an approved subdivision clearly showing the indicative acceptable BAL rating across the subject site, in accordance with the Guidelines. BAL Contour Maps should be prepared by an accredited Bushfire Planning Practitioner	Figures 2B and 2C provides the BAL Contour Map.
b	The identification of any bushfire hazard issues arising from the BAL Contour Map or the BAL assessment; and	Section 2.5 addresses the bushfire hazard issues.
c	An assessment against the bushfire protection criteria requirements contained within the Guidelines demonstrating compliance within the boundary of the development site.	Section 4 provides an assessment of the development against the bushfire protection criteria.

3.1.2.3 Vulnerable or High Risk Land Uses

The proposed development does not contain high risk land uses.

The site contains a **vulnerable land use**. In accordance with policy measure 6.6.1 of SPP 3.7, a draft Bushfire Emergency Evacuation Plan (BEEP) has been prepared for the site and is included at Appendix C.

3.1.2.4 Applications in BAL-40/BAL-FZ Areas

On completion of development, the building would not be subject to BAL-40 or BAL-FZ as outlined in Section 2.3.

3.1.2.5 Advice of State/Relevant Authority/s for Emergency Services to be Sought

The proposed development:

- Complies with the SPP3.7 policy measures;
- Is not a strategic planning proposal;
- Does not propose any additional/alternative measures; and
- Does contain **vulnerable land uses**.

Therefore, the advice of State/Relevant Authorities for Emergency Services **is required** to be sought for this application.

3.1.2.6 Advice of State/Relevant Agencies/Authorities for Environmental Protection to be Sought

The proposed development:

- Is not known to propose clearing of vegetation within environmentally sensitive areas protected under State or Federal legislation;



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- Is known to propose minimal clearing of locally significant native vegetation; and
- Does not abut vegetated land managed by that authority.

Therefore, the advice of State/Relevant Agencies/Authorities for Environmental Protection **is not** required to be sought for this application.

A small section of native vegetation is proposed to be cleared and the necessary flora and fauna assessments have been done to satisfy the local government authorities requirements.

3.2 Guidelines for Planning in Bushfire Prone Areas Version 1.2 (the Guidelines)

The Guidelines apply to development applications located within designated bushfire prone areas. The Guidelines provide supporting information for implementation of SPP 3.7. Specifically, they provide the Bushfire Protection Criteria to be address for all applications.

This report has also been developed in order to comply with the requirements of all referenced and applicable documents.

No non-compliances have been identified.

4.0 Bushfire Risk Management Measures

The bush fire risk mitigation strategies detailed in this report are designed to comply with the Bushfire Protection Criteria detailed in *Guidelines for Planning in Bushfire Prone Areas Version 1.2* (the Guidelines) Appendix 4 (WAPC, 2017b).

- i. The notation (P3) refers to Performance Principle 3 of the Guidelines Appendix 4.
- ii. The notation (A3.1) refers to Acceptable Solution 3.1 of the Guidelines Appendix 4.
- iii. The notation (E3.1) refers to Explanatory Note 3.1 of the Guidelines Appendix 4.
- iv. Where discrepancy occurs between State and Local bushfire planning provisions the higher standard of mitigation has been selected.

4.1 Element 1 - Location

Intent: To ensure that strategic planning proposals, subdivision and development applications are located in areas with the least possible risk of bushfire to facilitate the protection of people, property and infrastructure.

Performance Principle (P1): The strategic planning proposal, subdivision and development application is located in an area where the bushfire hazard assessment is or will, on completion, be moderate or low, or a BAL-29 or below, and the risk can be managed. For unavoidable development in areas where BAL-40 or BAL-FZ applies, demonstrating that the risk can be managed to the satisfaction of the Department of Fire and Emergency Services and the decision-maker.

The following table outlines the Acceptable Solutions (AS) that are relevant to the proposal; identifies where a Performance Solution (PS) has been used instead of an AS; and states, where applicable, the reason why the AS is not relevant to the proposal.

Solution	AS	PS	N/A	Comment
A1.1 Development location	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Acceptable Solution A1.1 Development location

The strategic planning proposal, subdivision and development application is located in an area that is or will, on completion, be subject to either a low moderate or low bushfire hazard level, or BAL-29 or below.

Development Response/Recommendations

As outlined in Figures 2B and 2C and Table 2A, with the implementation and ongoing maintenance of a minimum 21m APZ, in accordance with A2.1, the development would ensure that upon completion of development, the building is located in an area subject to BAL-29 or lower.

4.2 Element 2 - Siting and design of Development

Intent: To ensure that the siting of development minimises the level of bushfire impact.

Performance Principle (P2): The siting and design of the strategic planning proposal, subdivision or development application, including roads, paths and landscaping, is appropriate to the level of bushfire threat that applies to the site. That it incorporates a defensible space and significantly reduces the heat intensities at the building surface thereby minimising the bushfire risk to people, property and infrastructure, including compliance with AS 3959 if appropriate.

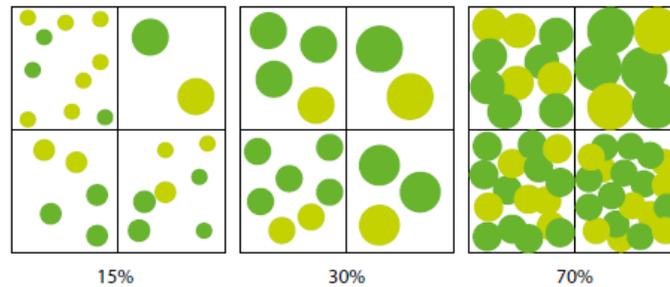
The following table outlines the Acceptable Solutions (AS) that are relevant to the proposal; identifies where a Performance Solution (PS) has been used instead of an AS; and states, where applicable, the reason why the AS is not relevant to the proposal.

Solution	AS	PS	N/A	Comment
A2.1 Asset Protection Zone	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Acceptable Solution A2.1 Asset Protection Zone (APZ)

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

- a. **Width:** Measured from any external wall or supporting post or column of the proposed building, and of sufficient size to ensure the potential radiant heat impact of a fire does not exceed 29kW/m² (BAL-29) in all circumstances.
- b. **Location:** the APZ should be contained solely within the boundaries of the lot on which a building is situated, except in instances where the neighbouring lot or lots will be managed in a low-fuel state on an ongoing basis, in perpetuity (see explanatory notes).
- c. **Management:** the APZ is managed in accordance with the requirements of 'Standards for Asset Protection Zones' (below):
 - o **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.
 - o **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.
 - o **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.
 - o **Trees (> 5 metres in height):** trunks at maturity should be a minimum distance of 6 metres from all elevations of the building, branches at maturity should not touch or overhang the building, lower branches should be removed to a height of 2 metres above the ground and or surface vegetation, canopy cover should be less than 15% with tree canopies at maturity well spread to at least 5 metres apart as to not form a continuous canopy.

Figure 16: Tree canopy cover – ranging from 15 to 70 per cent at maturity


Source: *The Guidelines* (WAPC, 2017)

- **Shrubs (0.5 metres to 5 metres in height):** should not be located under trees or within 3 metres of buildings, should not be planted in clumps greater than 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.

Explanatory Notes:

An APZ is an area surrounding a building that is managed to reduce the bushfire hazard to an acceptable level. The width of the required APZ varies with slope and vegetation. The APZ should at a minimum be of sufficient size to ensure the potential radiant heat impact of a fire does not exceed 29kW/m² (BAL-29). It should be lot specific. Hazard separation in the form of using subdivision design elements (refer to E2) or excluded and low threat vegetation adjacent to the lot may be used to reduce the dimensions of the APZ within the lot.

The APZ includes a defensible space which is an area adjoining the asset within which firefighting operations can be undertaken to defend the structure. Vegetation within the defensible space should be kept at an absolute minimum and the area should be free from combustible items and obstructions. The width of the defensible space is dependent on the space which is available on the property, but as a minimum should be 3 metres.

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

Development Response/Recommendations

The APZ proposed as part of this development are illustrated in Figures 4A to 4C. A minimum of a 21m wide APZ is required for all elevations of the existing building extents, including the extents of the proposed additions, and extended where adjacent private driveway and/or carparks provide additional permanent non-vegetated areas.

Landscaping within the APZ, Figure 4C, demonstrates that the vegetated areas will consist of cultivated gardens and reticulated turf areas. Appendix C contains the Landscape Management Plan and management regime details.

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Implementation

- i. APZs to be implemented prior to occupation of building in accordance with Figure 4A and provisions a-c above.
- ii. It is the responsibility of the developer to ensure the APZ standard is established.
- iii. It is the responsibility of the college management to ensure the APZ standard continues to be achieved post completion of the construction.

4.3 Element 3 - Vehicular Access

Intent: To ensure that the vehicular access serving a subdivision/ development is safe in the event of a bush fire occurring.

Performance Principle (P3): The internal layout, design and construction of public and private vehicular access in the subdivision/development allows emergency and other vehicles to move through it easily and safely at all times.

The following table outlines the Acceptable Solutions (AS) that are relevant to the proposal; identifies where a Performance Solution (PS) has been used instead of an AS; and states, where applicable, the reason why the AS is not relevant to the proposal.

Solution	AS	PS	N/A	Comment
A3.1 Two access routes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A3.2 Public road	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
A3.3 Cul-de-sac (including a dead-end road)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
A3.4 Battle-axe	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
A3.5 Private driveway longer than 50 metres	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A3.6 Emergency access way	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A3.7 Fire service access routes (perimeter roads)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A3.8 Firebreak width	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Table 4A: Vehicular access technical requirements

Technical Requirement	Public road	Cul-de-sac	Private driveway	Emergency access way	Fire service access routes
Minimum trafficable surface (m)	6	6	4	6	6
Horizontal clearance (m)	6	6	6	6	6
Vertical clearance (m)	4	N/A	4.5	4.5	4.5
Maximum grade over <50m	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	8.5	8.5	8.5	8.5	8.5

Technical Requirement	Public road	Cul-de-sac	Private driveway	Emergency access way	Fire service access routes
inner radius (m)					

Acceptable Solution A3.1 Two access routes

Two different vehicular access routes are provided, both of which connect to the public road network, provide safe access and egress to two different destinations and are available to all residents/the public at all times and under all weather conditions.

Development Response/Recommendations

In recognition of the vulnerable land use of the building, multiple access routes are proposed to be provided.

Figures 4A and 4B illustrate access available to the site. The development achieves at least two different vehicular access routes, both connecting to the public road network to provide egress to two different destinations at all times.

Access to/from the site is available via:

1. The primary access driveway to the school internal road network immediately north, then:
 - a. West via the College private driveway and Emergency Access Way (EAW) to Warlingham Drive to the north west, and
 - b. East via the College private driveway to Lesmurdie Road, then north or south via the public road network.
2. The dual Purpose EAW/FSAR to the north east to intersect with the College internal driveway system, then access as per 1 (a) and (b) above.
3. The dual Purpose EAW/FSAR to the south west to connect with Warlingham Drive.

Acceptable Solution A3.2 Public road

Development Response/Recommendations

N/A - The proposed development does not include the construction of any new public roads. Therefore, A3.2 is not applicable to this development.

Acceptable Solution A3.3 Cul-de-sac (including a dead-end road)

Development Response/Recommendations

N/A - The proposed development does not include the construction of any new cul-de-sacs and is not serviced by an existing cul-de-sac. Therefore, A3.3 is not applicable to this development.

Acceptable Solution A3.4 Battle-axe

Development Response/Recommendations

N/A - The proposed development does not include any battle-axes. Therefore, A3.4 is not applicable to this development.

Acceptable Solution 3.5 Private driveway longer than 50 metres

A private driveway is to meet all of the following requirements:

- Requirements in Table 4A, Column 3;
- Required where a house site is more than 50 metres from a public road;
- Passing bays: every 200 metres with a minimum length of 20 metres and a minimum width of two metres (i.e. the combined width of the passing bay and constructed private driveway to be a minimum six metres);
- Turn-around areas designed to accommodate type 3.4 fire appliances and to enable them to turn around safely every 500 metres (i.e. kerb to kerb 17.5 metres) and within 50 metres of a house; and
- Any bridges or culverts are able to support a minimum weight capacity of 15 tonnes.
- All-weather surface (i.e. compacted gravel, limestone or sealed).

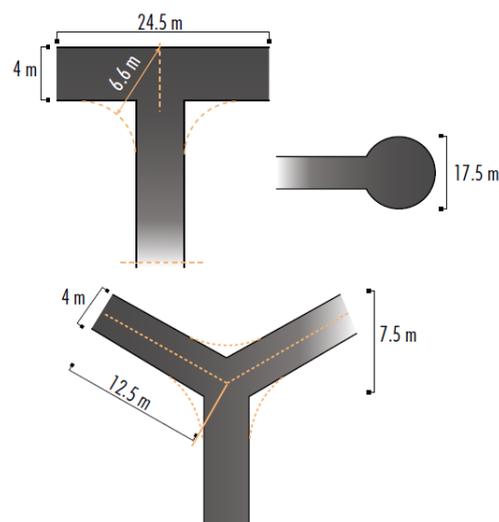


Figure 20: Design requirements for a private driveway longer than 50 metres
 Turning areas should allow type 3.4 fire appliances to turn safely

Source: *The Guidelines* (WAPC, 2017)

Development Response/Recommendations

The building will be serviced by a private driveway meeting or exceeding the requirements of Table 4A. The primary access driveway is 6m wide for the entire length aside from a small section at the southern end which has the minimum 4m wide trafficable surface.

The dual purpose EAW/FSAR connects directly to the private driveway to provide alternative access if required.

Implementation

- To be implemented prior to occupation of the building serviced by the private driveway.
- It is the responsibility of the individual land owner to ensure the private driveway meets the required standard in accordance with Table 4A and provisions b-f above.

- iii. It is the responsibility of the College Management to ensure the private driveway continues to meet the required standard.

Acceptable Solution 3.6 Emergency access way

An access way that does not provide through access to a public road is to be avoided in bushfire prone areas. Where no alternative exists (this will need to be demonstrated by the proponent), an emergency access way is to be provided as an alternative link to a public road during emergencies. An emergency access way is to meet all of the following requirements:

- Requirements in Table 4, Column 4;
- No further than 600 metres from a public road;
- Provided as right of way or public access easement in gross to ensure accessibility to the public and fire services during an emergency; and
- Must be signposted.

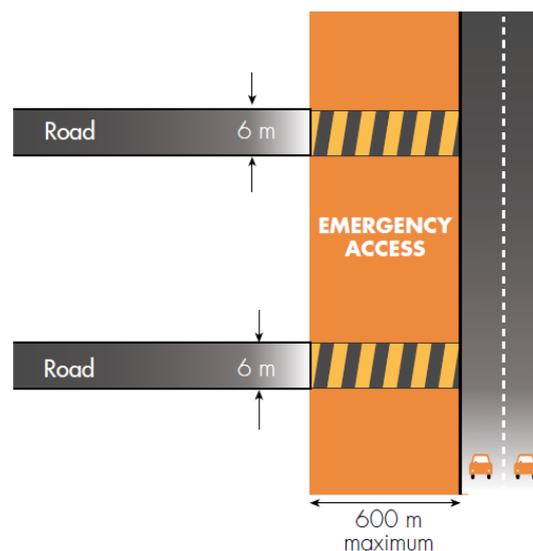


Figure 21: Minimum design requirements for an emergency access way

Source: *The Guidelines (WAPC, 2017)*

Development Response/Recommendations

Two (2) dual purpose EAWs/FSARs are proposed for the development as indicated in Figures 4A to 4C and detailed in section 3.1 above.

Implementation

- To be implemented prior to the occupation of the building that the emergency access way services.
- It is the responsibility of the developer to ensure the emergency access way meets the required standard in accordance with Table 4A and provisions b-d above.
- It is the responsibility of the College Management to ensure the emergency access ways continue to meet the required standard.

Acceptable Solution 3.7 Fire service access routes (perimeter roads)

Fire service access routes are to be established to provide access within and around the edge of the subdivision and related development to provide direct access to bushfire prone areas for fire fighters and link between public road networks for firefighting purposes. Fire service access routes are to meet the following requirements:

- a. Requirements Table 4, Column 5;
- b. Provided as right of ways or public access easements in gross to ensure accessibility to the public and fire services during an emergency;
- c. Surface: all-weather (i.e. compacted gravel, limestone or sealed)
- d. Dead end roads are not permitted;
- e. Turn-around areas designed to accommodate type 3.4 appliances and to enable them to turn around safely every 500 metres (i.e. kerb to kerb 17.5 metres);
- f. No further than 600 metres from a public road;
- g. Allow for two-way traffic and;
- h. Must be signposted.

Development Response/Recommendations

Two (2) dual purpose EAWs/FSARs are proposed for the development as indicated in Figures 4A to 4C and detailed in section 3.1 above.

Implementation

- i. To be implemented prior to occupation of the buildings that the fire service access route services.
- ii. It is the responsibility of the developer to ensure the fire service access route meets the required standard in accordance with Table 4A and provisions b-h above.
- iii. It is the responsibility of the College Management to ensure the fire service access route continues to meet the required standard.

Acceptable Solution A3.8 Firebreak width

Lots greater than 0.5 hectares must have an internal perimeter firebreak of a minimum width of three metres or to the level as prescribed in the local firebreak notice issued by the local government.

Development Response/Recommendations

Lots greater than 0.5ha in area (including balance title lots) are required to have a 3 metre wide internal perimeter firebreak installed in accordance with the annual City of Kalamunda Firebreak and Fuel Load Notice as amended. The locations of the firebreaks that are required as part of this development are shown in Figure 4A.

The 2017/18 Firebreak and Fuel Load Notice is included at Appendix A and summarised below:

Land, with a building on it, with an area greater than 5,000m²

- *Have all flammable matter slashed, mowed or trimmed down by other means to a height no greater than 50mm across the entire property (living trees, shrubs, plants and lawn under cultivation are excepted).*
- *Install bare earth firebreaks three (3) metres wide immediately inside and along all boundaries of land in a continuous form, including on boundaries adjacent to roads, rail and drain reserves*



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and all public open space reserves, with all overhanging branches, trees, limbs etc. to be trimmed back from over the firebreak area from ground level to a minimum height of four (4) metres. Driveways must also be maintained to these conditions.

- Ensure the roofs, gutters and walls of all buildings on the land are free of flammable matter.
- Install and maintain an Asset Protection Zone in accordance with the requirements set out in Part 4 of this Notice.

4. Asset Protection Zones

- The area of land that extends out 20m from a habitable building or attached structure (for example verandas or gazebos) within the boundaries of a lot on which a habitable building is situated, is considered to be an Asset Protection Zone, also known as 'Building Protection Zone' (Asset Protection Zone).
- In the Asset Protection Zone, unless an approved 'Alternative Bushfire Management Plan' is in place:
 - Non-flammable managed vegetation, reticulated lawns and gardens and other non-flammable features are permitted only.
 - All grass must be maintained to or under 50mm in height.
 - Mature trees over five (5) metres in height must be under pruned to at least a height of two (2) metres from the ground (which means you must prune branches and leaves etc. from the ground up to the first 2 metres in height of the tree).
 - Tree or shrubs over two (2) metres high must not be within 2 metres of a habitable building.

Implementation

- i. To be implemented prior to occupation of the proposed habitable building/ prior to the date stated in the Firebreak and Fuel Load Notice (whichever is sooner).
- ii. It is the responsibility of the College Management to ensure the firebreaks meet the required standard in accordance A3.8 and the annual firebreak notice issued by the Local Government.
- iii. It is the responsibility of the College Management to ensure the firebreaks continue to meet the required standard.

4.4 Element 4 - Water

Intent: To ensure that water is available to the subdivision, development or land use to enable people, property and infrastructure to be defended from bushfire.

Performance Principle (P4): The subdivision, development or land use is provided with a permanent and secure water supply that is sufficient for firefighting purposes.

The following table outlines the Acceptable Solutions (AS) that are relevant to the proposal; identifies where a Performance Solution (PS) has been used instead of an AS; and states, where applicable, the reason why the AS is not relevant to the proposal.

Solution	AS	PS	N/A	Comment
A4.1 Reticulated areas	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A4.2 Non-reticulated areas	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
A4.3 Individual lots within non-reticulated areas	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Acceptable Solution A4.1 Reticulated areas

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.

Development Response/Recommendations

The closest reticulated fire hydrant is located on Lesmurdie Road just south of the College entrance roundabout, a distance of approximately 225m, as indicated in Figure 4A.

Implementation

- i. It is the responsibility of the Water Corporation to ensure the firefighting hydrants continue to meet the required standard.

Acceptable Solution A4.2 Non-reticulated areas

Development Response/Recommendations

N/A - The site will be serviced by individual dedicated firefighting water. Therefore, A4.2 is not applicable to this development.

Acceptable Solution A4.3 Individual lots within non-reticulated areas

Single lots above 500 square metres need a dedicated static water supply on the lot that has the effective capacity of 10,000 litres.

Note - Only for use if creating one additional lot and cannot be applied cumulatively.

Development Response/Recommendations

In recognition of the Vulnerable Land Use and heritage value of the building, the development will include 2x 10,000 litre dedicated water tanks in the locations illustrated in Figures 4A to 4C.

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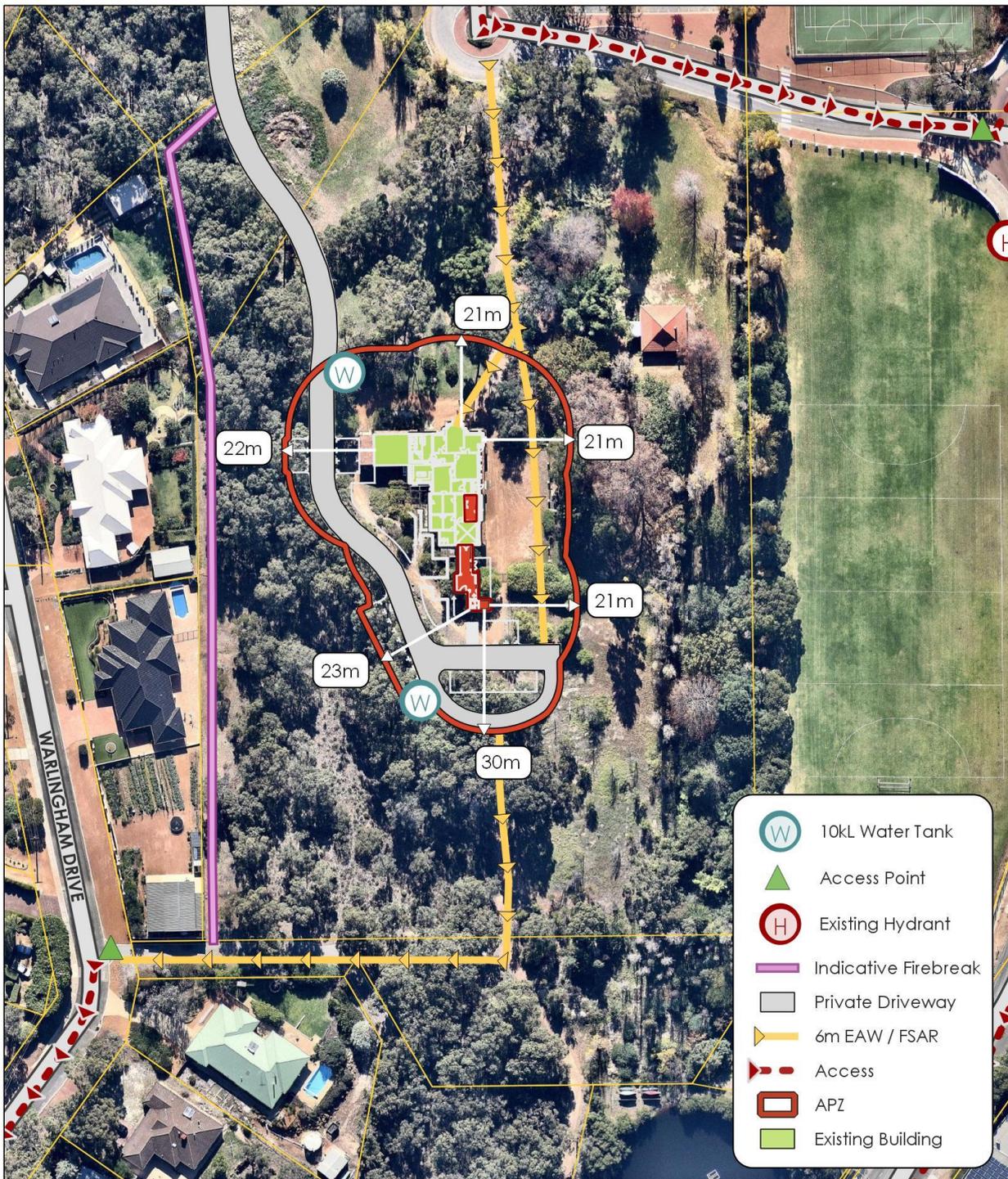
Standard

- i. Volume: minimum 10,000L dedicated firefighting reserve per tank;
- ii. 100mm male camlock and 125mm Storz couplings, with full flow valve suitable for local firefighting Appliances in accordance with relevant standards from the Department of Fire and Emergency Services;
- i. Above ground tanks are constructed of concrete or metal and the stands of raised tanks are constructed using non-combustible materials and heat shielding where appropriate (ie heat shielding will be required in the case of metal tank stands);
- ii. Incorporate an externally visible heat resistant float gauge; and
- iii. Hardstand suitable for a 3.4 appliance are provided within 3 metres of each water tank

Implementation

- i. All new domestic dedicated firefighting water tanks are required to meet the standards at the time of construction.
- ii. The minimum 10,000L dedicated firefighting reserve shall be placed in the tank at the time of construction.
- iii. It is the responsibility of the College Management to ensure the firefighting water tanks meets the required construction standards on installation.
- iv. It is the responsibility of the College Management to ensure that firefighting water tanks and firefighting valves are operational at all times.

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Size: A4
Scale: 1:1,200

BUSHFIRE MANAGEMENT PLAN MAP
Saint Bridgets High School, Lesmurdie

Bushfire Management Strategies,
Detail



Ref: 7214_004_01_BM6_Detail_20171106
Projection: GDA94 / MGA50
Author: MM - RUIC | Date: 2017-11-08
Data Source: Cadastre - Landgate; Imagery -
Nearmap; Roads, Site Boundary, Veg, BAL, Buffers,
BM6 - RUIC.

- Proposed Extensions
- Cadastre
- Main Road
- Proposed Site Plans

Disclaimer: Although the data within this map is considered accurate at the time of creation, RUIC Fire does not guarantee, and accepts no legal liability whatsoever arising from or connected to, the accuracy, reliability, currency or completeness of any data used within this map.

Figure 4A: Bushfire Management Strategies Map/Access Map (Detailed View)



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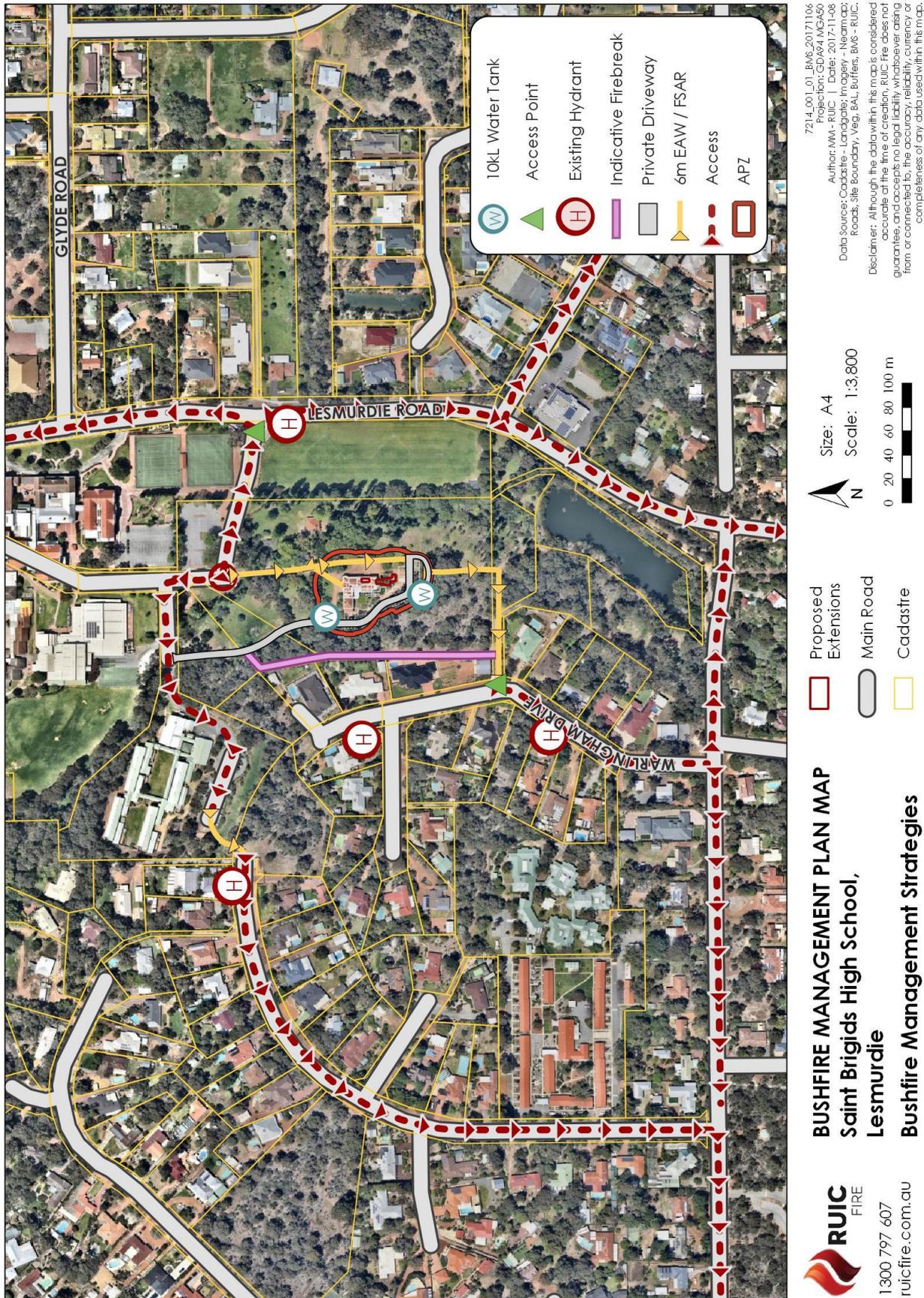


Figure 4B: Bushfire Management Strategies/Access Map

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5.0 Implementation and Enforcement

Table 5A: Schedule of Works

Strategy	Implementation		Maintenance	
	Responsible	Time Frame	Responsible	Time Frame
Amendments to BMP	Any amendments to this BMP shall be approved by the relevant Jurisdiction Having Authority			
Asset Protection Zone	Developer	Prior to occupation of building	College Management	Ongoing
Construction to AS 3959	N/A	N/A	N/A	N/A
Public roads	N/A	N/A	N/A	N/A
Cul-de-sacs	N/A	N/A	N/A	N/A
Battle-axes	N/A	N/A	N/A	N/A
Private driveways longer than 50m	Developer	Prior to occupation of building	College Management	Ongoing
Emergency access ways	Developer	Prior to occupation of building	College Management	Ongoing
Fire service access routes	Developer	Prior to occupation of building	College Management	Ongoing
Firebreaks	Developer	Prior to occupation building/ dates stated in Firebreak Notice	College Management	Ongoing
Firefighting water (hydrants)	Existing	Existing	Water Corporation	Ongoing
Firefighting water (private tanks)	Developer	Prior to occupation of habitable building	College Management	Ongoing
Bushfire Management Plan	Developer/College Management	Prior to occupation of habitable building	College Management	Ongoing
Bushfire Emergency Evacuation Plan	College Management	Prior to occupation of habitable building	College Management	Ongoing
Firefighting services and response	DFES and Local Government	Ongoing	DFES and Local Government	Ongoing
Fuel load reduction and firebreak notice works	College Management	In accordance with firebreak notice	College Management	Ongoing
Issue of fuel load reduction and firebreak notice	Local Government	In accordance with firebreak notice	Local Government	In accordance with firebreak notice



BUSHFIRE MANAGEMENT PLAN
St Brigid's College, Lesmurdie

Strategy	Implementation		Maintenance	
	Responsible	Time Frame	Responsible	Time Frame
Inspection and issue of works orders or fines	Local Government	Ongoing	Local Government	Ongoing



6.0 References

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7.0 Appendix A

City of Kalamunda Firebreak Notice

City of Kalamunda 2017/2018

FIREBREAK AND FUEL LOAD NOTICE

Bush Fires Act 1954

Notice to Owners and/or Occupiers* of Land situated within the City of Kalamunda.

As a measure to assist in the control of bushfires and pursuant to the powers contained in section 33 of the *Bush Fires Act 1954* (as amended), as the property owner or occupier of land within the City of Kalamunda, you are hereby required before 1 November 2017, or within 14 days of becoming an owner or occupier of land if after this date, to comply with the requirements set out in this notice.

The applicable works outlined below must be completed before 1 November 2017 and maintained up to and including 31 March 2018.

Persons who fail to comply with the requirements of this notice may be issued with an infringement notice penalty (\$250) or prosecuted with an increased penalty (maximum penalty \$5,000). Additionally, the City of Kalamunda may carry out the required work at cost to the owner/occupier.

1. Land, with a building on it, with an area *greater than 5,000m²*

You are required to:

- Have all flammable matter slashed, mowed or trimmed down by other means to a height no greater than 50mm across the entire property (living trees, shrubs, plants and lawn under cultivation are excepted).
- Install bare earth firebreaks three (3) metres wide immediately inside and along all boundaries of land in a continuous form, including on boundaries adjacent to roads, rail and drain reserves and all public

open space reserves, with all overhanging branches, trees, limbs etc. to be trimmed back from over the firebreak area from ground level to a minimum height of four (4) metres. Driveways must also be maintained to these conditions.

- Ensure the roofs, gutters and walls of all buildings on the land are free of flammable matter.
- Install and maintain an Asset Protection Zone in accordance with the requirements set out in Part 4 of this Notice.

2. Land, with a building on it, with an area *less than 5,000 m²*

You are required to:

- Have all flammable matter slashed, mowed or trimmed down by other means to a height no greater than 50mm across the entire property (living trees, shrubs, plants and lawn under cultivation are excepted).
- Install a firebreak immediately inside all external boundaries of the property unless the property is maintained clear of flammable matter by slashing and mowing or maintaining living garden beds or lawn.
- Ensure the roofs, gutters, walls of all buildings on the land are free of flammable matter. Driveways must also be maintained to these conditions.
- Install and maintain an Asset Protection Zone in accordance with the requirements set out in Part 4 of this Notice.

** Please note that the Bush Fires Act 1954 (WA) requires the owner or occupier of land to attend to all requirements in this Notice. The City may take action against either the owner or occupier of land for a failure to comply with this Notice at its absolute discretion.*



**city of
kalamunda**

3. All Vacant Land

You are required to:

- Have all flammable matter slashed, mowed or trimmed down by other means to a height no greater than 50mm across the entire property (living trees, shrubs, plants under and lawn under cultivation excepted).
- On vacant land larger than 1,000 m², install bare earth firebreaks three (3) metres wide immediately inside and along all boundaries of land in a continuous form, including on boundaries adjacent to roads, rail and drain reserves and all public open space reserves, with all overhanging branches, trees, limbs etc. to be trimmed back from over the firebreak area from ground level to a minimum height of four (4) metres. Driveways must also be maintained to these conditions. A Fire Control Officer may request firebreaks to be installed on vacant land under 1,000m² should they deem it necessary under Part 5 of this Notice to reduce risk of fire.

4. Asset Protection Zones

The area of land that extends out 20m from a habitable building or attached structure (for example verandas or gazebos) within the boundaries of a lot on which a habitable building is situated, is considered to be an Asset Protection Zone, also known as 'Building Protection Zone' (Asset Protection Zone).

In the Asset Protection Zone, unless an approved 'Alternative Bushfire Management Plan' is in place:

- Non-flammable managed vegetation, reticulated lawns and gardens and other non-flammable features are permitted only.
- All grass must be maintained to or under 50mm in height.
- Mature trees over five (5) metres in height must be under pruned to at least a height of two (2) metres from the ground (which means you must prune branches and leaves etc. from the ground up to the first 2 metres in height of the tree).

- Tree or shrubs over two (2) metres high must not be within 2 metres of a habitable building.

5. Additional Works

In addition to the requirements noted above, regardless of land size and location, the City of Kalamunda or its duly authorised officer(s) may require you to undertake additional works on your property to improve access and/ or undertake further hazard removal (Additional Works) where, in the opinion of an authorised officer, such Additional Works are necessary to prevent the outbreak and/or the spread of a bush fire.

6. Firebreak Variations

If you consider for any reason that it is impractical to clear firebreaks as required by this Notice, or if natural features render firebreaks unnecessary, you may apply in writing to the City of Kalamunda or its duly authorised officers, not later than 1 October 2017, for alternative positions, or other methods of fire prevention on your land.

If permission is not granted, you must comply with the requirements of this Notice. This applies to variations to the Asset Protection Zone as well. The Chief Bush Fire Control Officer reserves the right to review and revoke any variation granted.

Fuel Dumps and Depots

You are required to remove all flammable matter within ten (10) metres of where fuel drums, fuel ramps or fuel dumps are located, and where fuel drums, whether containing fuel or not, are stored.

By order of the City of Kalamunda.

Rhonda Hardy

CHIEF EXECUTIVE OFFICER



**city of
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8.0 Appendix B

Landscape Management Plan and Management Regime



BUSHFIRE MANAGEMENT PLAN
St Brigid's College, Lesmurdie



Landscape Management maintenance regime principles

In order to prevent the bushfire threat to the proposed building from increasing over that which has been assessed within this BMP, the following ongoing maintenance principles are required to be adhered to in perpetuity:

- All grassland within the Asset Protection Zone is to be maintained at <50mm all year round through regular mowing/slashing or other means that are appropriate;
- Retained trees throughout the APZ are to have low hanging limbs pruned to at least 2m above the ground. Further planting of trees within the APZ is not permitted, over that identified within the Landscape Management Plan;
- The use of mulch is to be restricted to coarse mulch (wood chips) with a thickness of at least 6mm for the entirety of the depth;
- Dead fine fuels, being twigs, leaves, ferns, low plants, grass etc. is to be regularly removed from garden beds and the APZ in general, particularly within 2m of the building;
- Low plants should not be planted under tree canopy's;
- Cultivated gardens should be irrigated; and
- Weed control should be maintained.

The APZ should continue to be maintained all year round, however particular emphasis should be on the inspection and rectification of any outstanding issues prior to the summer bushfire season. This should be carried out in September/October of each year.

DFES provides the latest up to date information in relation to preparation for the bushfire season on their website here:

<https://www.dfes.wa.gov.au/safetyinformation/fire/bushfire/Pages/allpublications.aspx>

Landscape preparation should also be a time to review the preparation of the building (leaves in gutters, maintenance to close gaps etc. and test and update the Bushfire Emergency Evacuation Plan.



9.0 Appendix C

Draft Bushfire Emergency Evacuation Plan



ST.BRIGID'S
COLLEGE

ST BRIGID'S COLLEGE BUSHFIRE PLAN (2018/2019)

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ST. BRIGID'S
COLLEGE

Introduction

Planning for bushfires means ensuring the resources, information and communication methods used in fighting fires are established, reliable and current. It also means establishing emergency management procedures for managing, bushfires, evacuations, road closures and the dissemination of information to the public and key stakeholders.

Planning is not only essential to provide an effective response to a local bushfire emergency; they also underpin the State level plan WESTPLAN Fire (available on the Office of Emergency Management (OEM) website) for dealing with a bushfire emergency.

St Brigid's College plays a major role in ensuring that all emergency management activities pertaining to the Prevention, Preparedness, Response & Recovery (PPRR) from bushfires is undertaken. This plan has been developed to ensure that the threat and impact from bushfires is managed to provide protection of life, property and the environment within the City of Kalamunda.

The plan is designed to assist staff in the event of a total fire ban, catastrophic fire danger rating, or a bushfire. Letters to staff and parents are included in the appendix as well as notices regarding the plans of closures of the school.

This document is to be read in conjunction with the St Brigid's College Emergency Managements Plans and Procedures and the St Brigid's College Crisis Management Plan.

Overview

GENERAL INFORMATION This Bushfire Plan (BP) has been developed during Term Three after consultation with:

- families of students attending the School
- members of the emergency services (e.g. DFES, Local Emergency Management Committee and/or Community Emergency Services Manager)

The BP is to be reviewed annually during Term Three each year to reflect any changes that may have taken place in:

- Department of Education or government policy
- Site facilities
- Personnel normally on site.

The BP outlines required actions to prepare the school before the bushfire season.

The BP also outlines activities to be undertaken by staff and students at the different levels of a bushfire emergency:

- on days of Total Fire Ban
- Catastrophic fire danger rating
- when there is a fire in the local district
- when a bushfire is threatening or impacting on the site
- during the period immediately after a bushfire has impacted on the site (known as the 'Recovery Phase').

The Principal will forward a copy of the site BP to the CEOWA.

The Principal will include bushfire season reminders and information in site newsletters at least three times in each of Term when applicable. The School's Information Booklet, updated in Term One each year, includes detailed information about actions and procedures included in the BP.

All staff members receive pre-fire season updates during Term Three and ongoing information and

instruction about the contents and requirements of the BP during Term Four and Term One staff meetings. The Principal or delegated officer will forward a copy of the site BP to the City of Kalamunda Community Emergency Services Manager (CESM) by Week 2 of Term 3 each year. The Principal or delegated officer will publish a copy of the school's bushfire plan on the college website at the beginning of Term 1 each year

- Details of the website will be provided to families of new students by the Enrolment Officer during the enrolment process.
- The Principal will ensure that all new staff members, relieving staff and visitors are briefed about the requirements of the BP during the college induction process.

The Principal will also include bushfire season reminders and information in site newsletters at least three times each term during bushfire season. The college information booklet includes detailed information about actions and procedures included in the Bushfire Plan.

Bushfire Preparation checklist (refer to Appendix 1)

The safety and wellbeing of students, staff and visitors is at all times St Brigid's College main priority.

Staff are not expected to fight bushfires.

The college will review (and update where appropriate) the plan on an annual basis and submit the up to date version of this plan to the CEOWA in Term Three.

In this regard, any bushfire advice received by the school from the Department of Fire and Emergency Services (DFES), the Local Emergency Management Committee (LEMC), Community Emergency Services Manager (CESM) or external experts needs to be documented identifying the date and source of the advice.

Date of Review	Reviewing Officer	Date Submitted	Next scheduled Review
20.09.15	Karen Stearne		
16.12.15	Karen Stearne	16.12.15	20.09.16
28.11.16	Karen Stearne	16.12.16	20.09.17
07.02.18	Darrel Krammer (RUIC Fire)		20.09.19

Glossary

BUSH - Includes trees, bushes, plants, stubble, scrub, and undergrowth of all kinds whatsoever whether alive or dead standing or not standing and also part of a tree, bush, plant, or undergrowth, and whether severed there from or not so severed. The term does not include sawdust and other waste timber remains upon the premises of a saw mill in which sawmilling is carried on.

BUSH FIRE - A fire or potential fire, however caused, and includes a fire in a building. (Bush Fires Act 1954)

BUSH FIRE HAZARD - Concerned with the condition of the fuel and takes into consideration several factors including vegetation type (land use), quantity of fuel (fuel load), arrangement of fuel, seasonal conditions, moisture content, and topography.

BUSH FIRE PREVENTION - The planning and implementation of measures necessary to minimise and alleviate the occurrence and effect of bush fires. This includes firebreak and access maintenance, fire detection and education.

BUSH FIRE PROTECTION – A combination of bush fire prevention (planning, fuel reduction) and response.

BUSH FIRE RISK - The likelihood of a fire starting and the probability that it will burn out of control to become a bush fire. It is important to identify causes of bush fires (eg. arson, machinery, escape from controlled burn, etc.).

BUSH FIRE THREAT - The combination of bush fire risk and hazard. Bush fire threat is greatest where the likelihood of fires starting is high and where fuels are adjacent to developments or assets

CONSEQUENCE - The outcome of an event or situation expressed qualitatively. In the emergency risk management context, consequences are generally described as the effects on persons, society, the environment and the economy.

CONTROLLING AGENCY- An agency nominated to control the response activities to a specified type of emergency.

EMERGENCY - Is the occurrence or imminent occurrence of a hazard of such a nature or magnitude that it requires a coordinated response.

FIRE BREAK – Any natural or constructed discontinuity in a fuel bed used to segregate, stop, and control the spread of a bush fire, or to provide a fire line from which to suppress a fire.

HAZARD – The features and conditions affecting fire behaviour, size of bushland area, topography, vegetation types adjoining properties, wind conditions summer weather patterns.

HAZARD MANAGEMENT AGENCY (HMA) – The organisation which, because of its legislative responsibility or specialised knowledge, expertise and resources is responsible for ensuring that emergency management activities pertaining to the prevention of, preparedness for, response to and recovery from a specific hazard are undertaken. Such organisations are either designated by legislation or detailed in State level emergency management plans.

INCIDENT CONTROLLER- The person designated by the relevant Controlling Agency, responsible for the overall management and control of an incident within an incident area and the tasking of agencies in accordance with the needs of the situation. [Note: Agencies may use different terminology however the function remains the same].

INCIDENT MANAGEMENT TEAM (IMT) – A group of incident management personnel

comprising the incident controller, and he or she appoints to be responsible for the functions of planning, operations and logistics.

INCIDENT SUPPORT GROUP (ISG) – A group of agency/organisation liaison officers, including the designated Emergency Coordinator, convened and chaired by a person appointed by the Controlling Agency to provide agency specific expert advice and support in relation to operational response to the incident.

LIKELIHOOD - Used as a qualitative description of probability or frequency based on the description of hazards, and the degree of vulnerability of the community and environment.

LIFELINES – Systems or networks that provide for the circulation of people, goods, services and information upon which health, safety, comfort and economic activity depend.

OCCUPIER OF LAND – A person residing on the land or having charge or control of it, whether the person is the owner or tenant or a bailiff, servant, caretaker, or other person residing or having charge or control of the land and includes a person who as mortgagee in

possession has possession of the land, while the land is unoccupied, and also a person who has the charge or control of two or more separate parcels of land, although the person resides on only one of the parcels. OPERATIONAL AREA (OA) – the area defined by the Operational Area Manager for which they have overall responsibility for the strategic management of an emergency. This area may include one or more Incident Areas.

OPERATIONAL AREA SUPPORT GROUP (OASG) - A group of agency / organisation liaison officers, including the designated Emergency Coordinator, convened by the Shire of Kalamunda.

Operational Area Manager/Incident Controller to provide agency specific expert advice and support in relation to strategic management of the incident/s.

PREVENTION – Measures to eliminate or reduce the incidence or severity of emergencies.

PREPAREDNESS – Measures to ensure that should an emergency occur, communities' resources and other services are capable of coping with the effects.

RESPONSE – Actions taken in anticipation of, during, and immediately after an emergency to ensure that people affected are given immediate relief and support.

RECOVERY - Measures which support emergency-affected individuals and communities in the reconstruction of the physical infrastructure and restoration of emotional, economic, environmental and physical wellbeing.

RESTRICTED BURNING TIMES – The times of the year during which it is declared by the Authority under Section 18 to be unlawful to set fire to the bush within a zone of the State except in accordance with a permit obtained under that section and with the conditions prescribed for the purposes of that section and, in relation to land in such a zone;

(a) Includes any extension of those times made, or any further times imposed, under that section in respect of the whole of that zone or in respect of the part of that zone, or the district or part of a district, in which that land is situated; but

(b) Does not include any period by which those times are reduced, or for which those times are suspended, under that section in respect of the whole of that zone or in respect of that part of that zone, or the district or part of a district, in which that and is situated.

RISK - Risk is now defined in terms of the effect of uncertainty on objectives.

NOTE 1 An effect is a deviation from the expected — positive and/or negative.

NOTE 2 Objectives can have different aspects (such as financial, health and safety, and environmental goals) and can apply at different levels (such as strategic, organization-wide, project, product and process).

NOTE 3 Risk is often characterized by reference to potential events and consequences or a combination of these.

NOTE 4 Risk is often expressed in terms of a combination of the consequences of an event (including changes in circumstances) and the associated likelihood of occurrence.

AS/NZS ISO 31000:2009

ACRONYMS

The following acronyms are used throughout these arrangements:

AIIMS Australasian Inter-service Incident Management System
BFAC Bush Fire Advisory Committee
BFLO Bush Fire Liaison Officer
BOM Bureau of Meteorology
BP Bushfire Plan
CoK City of Kalamunda
CBFCO Chief Bush Fire Control Officer
COMCEN Communication Centre
DCPFS Department of Child Protection and Family Support
DCBFCO Deputy Chief Bush Fire Control Officer
DFES Department of Fire & emergency Services
ECC Emergency Co-Ordination Centre
FCO Fire Control Officer
FCP Forward Control Point
HAZMAT Hazardous Material
HMA Hazard Management Agency
IC Incident Controller
ICV Incident Control Vehicle
ISG Incident Support Group
IMT Incident Management Team
LEC Local Emergency Coordinator
LEMC Local Emergency Management Committee
OASG Operations Area Support Group
OIC Officer in Charge
PAW Parks & Wildlife
VFRS Volunteer Fire & Rescue Brigade
SAP Standard Administration Procedure
SES DFES State Emergency Services
SEMC State Emergency Management Committee
SOP Standard Operating Procedures
WAPOL Western Australian Police
WESTPLAN West Australian Emergency Management Plan
VBFB Volunteer Bush Fire Brigade
VES Volunteer Emergency Service 8

Communication

There are several levels of communication requirements at school level before, during and after bushfire events.

Preparing for Bushfire Season

- The Principal will ensure all students and staff, including relief staff and parents are aware of the College bushfire response plan. A copy is available on the college website. School newsletter draft attached.
- The Principal or nominated person will establish contact with emergency services, including DFES, the local volunteer fire brigade, WA Police, the LEMC and CESM.
- The College will incorporate key bushfire messages in the curriculum.
- Communication plans (including emergency contacts and a telephone tree) need to be in place for evacuation or planned closure.
- The College has an effectively working emergency warning or alert system and emergency communication equipment is available and working.
- The College has in place systems to account for students, staff and visitors in an emergency, such as class rolls (or equivalent) and visitor registers. Consideration is in place for situations such as a loss of power affecting the ability to print from electronic sources.
- Arrangements are in place in relation to school buses (notification of contractors if pre-emptive closure is invoked; the availability of buses if off-site evacuation is required).

Pre-emptive Closure

- The Executive Director of Catholic Education will make the decision to close a school based upon advice from Emergency Services and this will be relayed to the Principal via the School Improvement Advisor.
- The Principal will notify staff and parents using emergency contacts and the telephone tree of closure. Draft letter to parents attached.
- All other necessary parties are advised including (but not limited to) other schools that may have siblings at the college, community users of the school facilities (including before and after school care, community kindergartens or holiday programs), on site contractors and Parent Forum.
- If appropriate, bus contractors will be contacted to arrange for the evacuation of students to a designated area.
- Notice of Planned Temporary School Closure will be posted both physically at the school and electronically on the website.

During Evacuation

- The college will contact their School Improvement Advisor.
- The college will contact parents (for boarding students emergency contacts will also be advised) via phone or email.
- The college will notify bus contractors and out of school programs.
- The college has landlines (**9290 4200**). It would be preferable that parents restrict calling the school at this time to emergency calls only.
- The official broadcaster of Emergency Events is ABC radio. Our local station is ABC local radio. They will provide up to date information during a bushfire event in our area.
- The DFES website provides up to date information on fire events. Refer to <https://www.emergency.wa.gov.au/>.

NOTE: DFES uses the national Emergency Alert system to send community warning messages via mobile telephones in affected areas. (Information can be obtained from <https://www.emergency.wa.gov.au/>)

The Principal communicates directly with the CEOWA personnel including any media communications. Staff should not comment directly to media.

Reopening the School

- The School Improvement Advisor is to advise the Principal when the school can re-open.
- Parents will be notified when the school is reopened through SMS and via updates on the College website. In the event of a pre-emptive closure details are contained in the draft letter attached.
- The Notice of Planned Temporary School Closure should be physically removed from the school premises and website.
- All parties that were advised of closure (e.g. Bus Contractors, Out of hours users, P&C) will be advised of reopening.

DRAFT

TYPES OF FIRE EVENT

In the event of a Total Fire Ban, catastrophic weather warning, or bushfire, the **Bushfire Plan** will be activated.

1. Total Fire Ban

In the event of a Total Fire Ban the **Bushfire Plan** will be invoked:

This means:

- you must not light or use any fires in the open air;
- all open fires for the purpose of cooking or camping are not allowed;
- 'hot work' such as metal work, grinding, welding, soldering, gas cutting or similar is not allowed unless you have an exemption; and
- You must not undertake any other activities that may start a fire.

The latest DFES advice regarding TFB restrictions can be access from the DFES website here:

https://www.dfes.wa.gov.au/safetyinformation/fire/bushfire/BushfireFactsheets/DFES_Bushfire_Factsheet-Total_Fire_Bans.pdf

It is also necessary to ensure:

- The equipment or machinery is mechanically sound.
- All reasonable precautions are taken to prevent a bushfire starting.

It is recommended postponing the activity altogether to minimise the risk of fire.

Individuals could be fined up to \$25,000 or jailed for 12 months or both if the Total Fire Ban is ignored.

If the information you want is not available from the website, telephone the Total Fire Ban Information Line 1800 709 355.

This information is also available by visiting www.dfes.wa.gov.au

2. Catastrophic Fire Danger

The Catastrophic Fire Danger Index (FDR) has been added to the Australia-wide FDR system since the 2009 bushfires in Victoria. If a fire starts in catastrophic conditions, its impact potential includes death or injury to people and destruction of buildings.

FIRE DANGER RATINGS

PREPARE. ACT. SURVIVE.

If you live in a bushfire risk area you need to know what the Fire Danger Rating is for your area, monitor local conditions and keep informed. Understanding the FDR categories and what they mean will help you make decisions about what to do if a bushfire starts.

FIRE DANGER RATING	WHAT SHOULD I DO?	FIRE DANGER RATING TODAY
CATASTROPHIC	<p>YOU NEED TO ACT NOW</p> <ul style="list-style-type: none"> Put your survival first and leave bushfire risk areas the night before or early in the day – this is your best option. Act immediately - do not wait and see: <ul style="list-style-type: none"> ➢ leave now. ➢ avoid forested areas, thick bush or long, dry grass. ➢ take shelter if you cannot leave. 	
EXTREME	<p>YOU NEED TO GET READY TO ACT</p> <ul style="list-style-type: none"> Only stay with your property if you are prepared to the highest level. This means your home needs to have been constructed to bushfire protection levels e.g. enclosed eaves, covers over external air conditioners, metal fly screens etc. You must be well prepared and able to actively defend your home if a fire starts. This means you have the right equipment and resources to put out fires around your home e.g. enough water supply, petrol/diesel portable pump, generator, protective clothing etc. 	
SEVERE	<ul style="list-style-type: none"> If you are not prepared to the highest level, leaving bushfire risk areas early in the day is your safest option. 	
VERY HIGH	<p>YOU NEED TO BE AWARE</p> <ul style="list-style-type: none"> Well prepared homes that are actively defended can provide safety. This means you have the right equipment and resources to put out fires around your home e.g. enough water supply petrol/diesel portable pump, generator, protective clothing etc. 	
HIGH	<ul style="list-style-type: none"> Check your bushfire survival plan. Monitor conditions. Action may be required. Leave if necessary. 	
LOW-MODERATE		

The Fire Danger Rating is based on the weather forecast and gives you advice about the level of bushfire threat on a particular day

For additional information and resources:

- Visit the DFES website. www.dfes.wa.gov.au
- DFES' Prepare. Act. Survive.
- For more information please contact DFES Community Engagement on 9395 9816



Category	Fire Danger Index (FDR)	Action
Catastrophic	100+	St Brigid's College will be closed on instruction from the Executive Director of Catholic Education, through the School Improvement Advisor. The College to invoke communication plan and cancel bus services.
Extreme	75-99	Monitor DFES website
Severe	50-74	Monitor DFES website
Very High	32-49	Normal school operations
High	12-31	Normal school operations
Low-Moderate	0-11	Normal school operations

In the event of a catastrophic weather warning the **Bushfire Plan** will be invoked as per the flow chart at Appendix 2.

2.1 Planned Pre-emptive Closure

The CEOWA will contact Principals of affected schools directly when a planned (pre-emptive) closure is to be invoked in a particular part of the State. The lead time for a planned closure varies depending on weather patterns, but every attempt is made to give Principals as much notice as possible to prepare written documentation for parents.

Once advised that the college is to undertake pre-emptive closure the principal will send letters to parents (emergency contacts for boarding students) via email, the College Website and the College App and provide each staff member with a memo that clearly states when the closure is planned to occur and that the college is on standby. It may be that between declaration of the closure and the day of closure, weather conditions improve sufficiently to remove the need to close and the college can therefore stand down its pre-emptive closure plans. The Executive Director confirms with the Principal the final decision to close the college no later than 4.30 pm the day before the planned closure. If weather conditions become less severe after 4.30 pm, the closure goes ahead regardless, in order to provide a level of certainty to parents.

The DEFS is the final authority on advice about which schools are in danger and the level of risk at the time. The Executive Director makes the final decision as to whether or not a planned closure of St Brigid's College is to proceed, based on DFES's advice.

2.2 During a Planned Closure

The Principal must stay informed of current fire danger rating and any fire activity by monitoring local media (local radio, especially the ABC, and television) and by regularly checking for updates with DFES.

2.3 Re-opening School

Parents need to know when the Catastrophic FDR has been downgraded and that it is therefore safe for their children to return to the college after a planned closure. The draft letter to parents (emergency contacts for Boarding students) contains advice on how parents can monitor the situation. The college will put communication plans in place, by notice on the college website, email, College App and SMS providing a number for parents to call for information about the reopening of the college. Parents who have alerted the college that they do not have internet access or who have diverse needs (e.g. multicultural, special needs) will be provided with information via phone.

3. Bushfire

In the event of a bushfire threatening the college, the college will notify DFES and the **Bushfire Plan** will be invoked by way of the Lockdown alarm (Bong...Bong...Bong). (Refer to Emergency Management Plans and Procedures 2015 attached).

3.1. Bushfire- Watch community

During a bushfire, Emergency Services provide as much information as possible through a number of different channels. There are three levels of warning, **ADVICE**, **WATCH AND ACT** and **EMERGENCY WARNING**. These change to reflect the increasing risk to life and the decreasing amount of time you have until the fire arrives.

If the College is likely to be threatened by fire, the Emergency and Critical Incident Management Plan will be activated immediately.

If the college is likely to be threatened by the fire, the college will activate the Emergency Management Plan immediately. The Chief Warden (Director of Business) will notify DFES Communication Centre of the decision and relocation point.

3.1.1 Advice

An **ADVICE** provides you with information on a bushfire that is not threatening lives or property but may be causing smoke near the college. Turn off evaporative air conditioners. Regular checks of the college will be undertaken paying special attention to the evaporative air conditioners.

3.1.2 Watch and Act

A **WATCH AND ACT** message tells you the fire conditions are changing and there is a possible threat to lives and the college. The Chief Warden decision to evacuate or relocate students, staff and visitors off site will be based upon assessment of known information and current circumstances, including advice from Emergency Services or observations at the time of the event..

The direction to evacuate by the Emergency Services Incident Controller will consider the location of the bushfire, the ability to travel safely to the selected evacuation point and the safest route to get there. In some circumstances, it may not be safe to evacuate.

3.1.3 Emergency Warning

An **EMERGENCY WARNING** is the highest level of warning and tells you of **immediate** danger. In some circumstances it may start with a siren sound called the Standard Emergency Warning Signal (SEWS) to get your attention as the fire is about to arrive. SEWS is a distinctive sound that is broadcast immediately prior to major emergency announcements on radio, television and other communication systems. SEWS tells people 'you need to listen-there is an emergency in your area and you need to take action now'. It is used like a siren and is strictly controlled for use by an authorised hazard management agency only.

The College will activate their Bushfire Plan in regards to evacuation. Consideration will include; location of fire and ability to travel safely to the selected relocation point, the Chief Warden will notify DFES Communication Centre of the decision and relocation point. The Principal will liaise with the School Improvement Advisor. **If it is not safe to evacuate, direct all students, staff and visitors to the school's Safer Location.**

3.1.4 All Clear

An **ALL CLEAR** is issued when the threat has passed and the fire is under control. Fire fighters will be working to put out the last remnants of the fire and making the area safe, so it is important to remain vigilant in case the situation changes. It may still not be safe to leave the college to return home. Emergency services will advise when it is safe to return home.

Bushfire Warning System

Bushfire Fact Sheet

During a bushfire, emergency services will provide you as much information as possible through a number of different methods.

There are **four levels of warning**. These change to reflect the increasing risk to your life or property, and the decreasing amount of time you have until the fire arrives.

Bushfire Warning System



ADVICE



WATCH AND ACT



EMERGENCY WARNING



ALL CLEAR

ADVICE

A fire has started but there is no immediate threat to lives or homes. Be aware and keep up to date.

WATCH AND ACT

There is a possible threat to lives or homes. You need to leave or get ready to defend – do not wait and see.

EMERGENCY WARNING

You are in danger and need to take immediate action to survive. There is a threat to lives or homes.

ALL CLEAR

Take care to avoid any dangers and keep up to date.

Your surroundings could be your best information source.

Stay alert to what is happening around you.

If you believe you may be in danger, act immediately to stay safe.



Where can you get information during a bushfire?

Know where to find information before the fire season starts. Work out what your local ABC radio station is and familiarise yourself with the DFES website.

Bushfire Warnings at www.emergency.wa.gov.au

DFES Information Line on 13DFES (13 3337)

Local radio and other local media



**Stay alert when a bushfire starts!
Do not wait and see, this can be deadly.**



For more information visit dfes.wa.gov.au

or contact DFES Community Engagement – 9395 9816

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**Government of Western Australia
Department of Fire & Emergency Services**



**ARE YOU
BUSHFIRE
READY?**

September 2017 V1.0

3.2. Bushfire- Act

3.2.1 Response when a bushfire starts and the school is open

3.2.1.1 Bushfire Evacuation Procedure (activate the St Brigid's College Emergency Management Plans and Procedures 2015)

Evacuate off-site on advice from DFES.

- All classes remain with their teachers and allocated education assistants.
- All other staff and visitors report to the Front Office.
- Teachers account for each child and identify students and support staff with known respiratory conditions.
- Doors, roof vents and windows must be closed and **evaporative air coolers turned off**. Students and staff are to remain in classrooms unless directed otherwise by their fire warden.
- Students and staff are to remain in classroom unless directed otherwise by their fire warden.
- Fire wardens are designated to manage evacuation routes, liaise with staff.
- The Chief Warden and fire wardens, will control this response until the arrival of DFES or emergency services who will then take over.
- Students and adults with known respiratory conditions will be identified and given special consideration.

Parent Access

Parents (emergency contacts for Boarding students) will be informed when and where to pick up students up on advice from the college or through DFES.

3.2.1.2 Safer Location Procedure – if evacuation is not possible (activate the St Brigid's College Emergency Management Plans and Procedures 2015)

Remain on site on advice from DFES.

- All classes remain with their teachers and allocated education assistants.
- All other staff and visitors report to the Front Office.
- Teachers account for each child and identify students and support staff with known respiratory conditions.
- Doors, roof vents and windows must be closed and **evaporative air coolers turned off**. Students and staff are to remain in classrooms unless directed otherwise by their fire warden.
- Fire wardens are designated to manage evacuation routes and liaise with staff.
- The Chief Warden and fire wardens, will control this response until the arrival of the DFES or emergency services who will then take over.
- Students and adults with known respiratory conditions will be identified and given special consideration.

Parent Access

Parents advised **NOT** to pick up students and to monitor local media for specific access information.

3.2.2 Response when a bushfire starts and the school is closed

If the Executive Director makes a decision on the college closure based upon advice from Emergency Services the School Improvement Advisor will inform the Principal of closure.

The Principal will notify staff and parents using the emergency contact list (see Appendix 4 for a Communication Plan) of Closure.

The Executive Director will, in consultation with the Principal identify alternative accommodation of students and staff if required. The CEOWA Media Unit will utilise media outlets to make public announcements of school closures, temporary alternative accommodation and contact number(s) for further information.

The Executive Director in consultation with DFES will inform the School Improvement Advisor when the school can reopen, who will inform the Principal accordingly.

3.2.3 Recovery

The priorities for the college during recovery are

1. Health and Safety of individuals;
2. Social Recovery;
3. Physical (Structural) Recovery.

General

- When possible, return to normal routine.
- Attend to staff and student welfare, considering counselling support.
- Relocate to alternative accommodation if necessary.
- The Principal will provide information for families and the community of any impact (including if there is none) on the college and school routine following the bushfire.
- Undertake a check of any equipment or stock used and arrange replacement/replenishment.
- Address any physical damage to the college, isolating areas if required and if necessary relocate to alternative accommodation. The CEOWA and MEL is to be advised of any damage caused by the bushfire.
- Attend to security if necessary (contact High Standard Security on 9440 4666)
- Manage Administrative details including insurance.

Debrief

- What worked, what didn't?
- Was anything overlooked?
- What could you and your staff do better next time?
- Should roles change?
- If changes are made, incorporate them into the formal plan and advise the appropriate parties including staff and other authorities.
- Share the knowledge with other schools.
- Test the revised bushfire management plan and procedures.

For further details and contacts refer to the Recovery Section of the *Emergency and Critical Incident Management Plan* and *The Principal's Guide to Bushfire*.

APPENDICIES

1. COMPLIANCE: Bushfire Preparation Checklist

 <p>ST. BRIGID'S COLLEGE</p>		Bushfire Preparation Check List for the Summer Months
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Principals should be thoroughly familiar with their current plans for dealing with bushfires.

All staff members should be aware of their responsibilities in accordance with the plans.

MANAGEMENT ACTIVITIES

Tick when task has been completed, or write NA if not applicable

Evidence

The School <i>Emergency and Critical Incident Management Plan</i> includes a separate plan for dealing with bushfires.	✓	M:\Staff Handbook\Emergency Management\Bushfire Management Plan.pdf
Principal is thoroughly familiar with their current <i>Emergency and Critical Incident Management plan</i> and their stand-alone bushfire plan.	✓	Plan reviewed 28.11.16
<ul style="list-style-type: none"> Students, staff, relief staff and parents/carers have been made aware of the school bushfire plan. The bushfire plan must be reviewed prior to each bushfire season (Term 3) and a copy forwarded to CEOWA. 	✓	Letter to parent included in new student pack and available on college website, M:\Staff Handbook\Emergency Management\Bushfire Management Plan.pdf
The principal (or a nominated staff member) has established contact with emergency services, including DFES, the local volunteer fire brigade, WA Police, your Local Emergency Management Committee (LEMC) or Community Emergency Services Manager (CESM) and incorporated their feedback into the plans (as required) .	✓	Mark Leach Audit Fire and Emergency
<ul style="list-style-type: none"> Refer to Emergency Alert warning system (www.emergencyalert.gov.au/) Emergency Services must be informed of your nominated Safer Location as part of your <i>Emergency Critical Incident Management Plan procedures</i>. 	✓	Safer location opposite College at Church unless advised otherwise by DFES
Incorporate key bushfire messages into the curriculum.	✓	Bushfire information provided to Teaching staff and students. Student diaries have Emergency Evacuation plans included
Evaporative air conditioners – awareness of location of the switches and how to switch off the units.	✓	Property & Works/ Director of Business have access to main Systems to shutdown.
Communication plans (include telephone tree – see Appendix 6) are in place for evacuation or planned closure.	✓	

Practice evacuation drills prior to October and at least once per term during the bushfire season, October to March. Note this is a minimum three drills per year.		
College has a correctly functioning emergency warning or alert system.	✓	Tested T2 beak 2016
Emergency communications equipment is available e.g. mobile telephones, hand-operated fire alarm (portable siren), and spare batteries.	✓	Checked T3 break 2016
Class rolls and visitor register (or equivalent) are readily accessible in an emergency to account for students, staff and visitors.	✓	Student Reception have student and staff register and College reception has visitor sign in/sign out registers
First aid equipment is available and staff members trained in first aid have been identified.	✓	Prepared and checked by College Nurse
Evacuation kit should be checked at least once per term.	✓	Checked by Mark Leach, Audit Fire & Emergency
Arrangements are in place in relation to school buses (notification of contractors if pre-emptive closure is invoked; availability of buses if off-site evacuation is required)	✓	Bus Companies advised by Director of Business
Procedures are in place to restrict use of machinery (e.g. angle grinders, mowers, and machinery with internal combustion engines) in close proximity to bushfire fuels where they may start a fire on severe fire danger days.	✓	Property and Works Manager advised and provided with the Bushfire Emergency Plan
A Safer Location within the school building should be identified and prepared in the event that an off-site evacuation is not possible.	✓	College Gym
Asset Protection Zone (minimum 20 metre radius), cleared of all rubbish, long dry grass, bark and flammable materials.	✓	College surrounded mostly by paving, Property & Works Manager advised of requirements

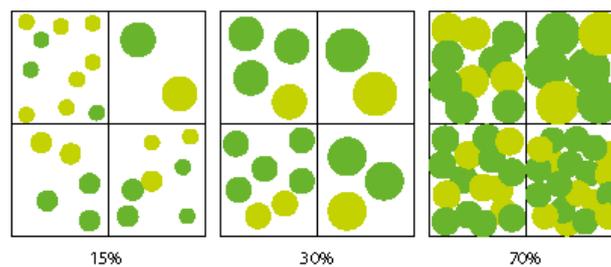


ELEMENT 2: SITING AND DESIGN OF DEVELOPMENT

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.

Figure 18: Tree canopy cover – ranging from 15 to 70 per cent at maturity



- 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.

Source: Planning in Bushfire Prone Areas Guidelines Appendices (V1.3) – December 2017

1.1 Bushfire Management Plan

Objective of this Plan

This main objective of this plan is to provide effective and efficient approaches to bushfire risk management in order to achieve a suitable level of residual risk. This involves systematically identifying and eliminating the weakest points to mitigate the risk of bushfire to St Brigid's staff and those in their charge.

Note: CSIRO research shows that the majority of houses lost in bushfires survive the passage of the fire front and burn down during the following few hours due to lower intensity fire spreading from ignition by burning debris (ember attack). All gaps of more than 2 mm in any building envelope are considered potential points for Ember entry (Standards Australia 2009).

Mitigate the risk posed by embers accumulating on or against the building envelope from igniting the buildings.

A bushfire would attack the property in the same three ways that a bushfire spreads:

1. Embers and burning debris carried by the wind.
2. Radiant heat from the fire or nearby burning structures/vegetation.
3. Flames directly touching the building.

This can be achieved by a variety of means including:

At all buildings

- Ensuring all combustible objects (ie. door mats, cardboard boxes, etc) are removed from verandas and adjacent to any building cladding on days declared very high – catastrophic Fire Danger.
- Remove flammable mulch to a minimum gap of 2 metres from perimeters of all buildings.

Managing vegetation in the safety Building has three main purposes:

1. To reduce direct flame contact and radiant heat from igniting the buildings during the passage of a fire front.
2. To reduce ember attack and provide a safer space for occupants in the buildings before, during and after the fire front.
3. To help the school buildings survive the passage of the fire front and provide occupants with a safe place to shelter during this time.

Implementing and maintaining the following program within the safety Building (minimum 20 metres surrounding each building):

- Remove 50% of over storey trees and 50% of the shrubs and provide physical gaps between them.
- Clear and maintain low levels of fine fuels (ie. by removing fuels such as leaves, twigs, branches and keeping grass and other ground vegetation under 5cm in height.
- Prune all branches that are within three metres of the ground.
- Remove fine fuels on verandahs, decks and against building perimeters.
- Trim or remove trees so that they are not overhanging any buildings.
- Maintain a minimum gap of two metres between trees and buildings.

Response if the college is OPEN when a Bushfire Starts

TAKE ACTION

Tick when task has been completed or write NA if not applicable	Evidence
If you notice a bushfire before receiving official advice, call triple zero (000) to report the fire.	
If the college is likely to be threatened by the fire, activate the <i>Emergency and Critical Incident Management Plan</i> immediately.	
All staff members are ready to activate in accordance with their responsibilities in the plans.	
The Chief Warden or school emergency liaison officer has made contact with the controlling agency to seek advice, as a fire has started.	
Evaporative air conditioners have been turned off, roof vents and doors are closed.	
Chief Warden and Deputy Warden to patrol the college to undertake regular checks of bushfire activity, paying special attention to the evaporative air conditioners.	
Communication plans (include telephone tree attached) are ready for activation for directed evacuation.	
Emergency contact list for parents, staff, other agencies etc. is on hand and ready to use.	
College emergency warning or alert system is ready to be sounded – ICT department has been advised.	
Emergency communications equipment is ready for use (e.g. mobile telephones, hand-operated fire alarm (portable siren), portable radios and spare batteries).	
Evacuation kit is to hand and ready to use.	
Class rolls and visitor register are to hand and ready to use (part of evacuation kit).	
First aid equipment is ready to use and staff members trained in first aid have been activated.	
The Safer Location is ready for use.	
Buses are on standby if off-site evacuation is required.	
Mobile telephones are ready and batteries are charged.	

Response if the college is OPEN when a Bushfire Starts RESPONSE

	Tick when task has been completed or write NA if not applicable	Evidence
If you notice a bushfire before receiving official advice, call triple zero (000) to report the fire.		
If the college is likely to be threatened by the fire, activate the <i>Emergency and Critical Incident Management Plan</i> immediately.		
Turn off evaporative air conditioners. Close roof vents. Undertake regular patrols/checks of college for bushfire activity, paying special attention to the evaporative air conditioners.		
College to inform the School Improvement Advisor of the situation.		
If ADVICE stage warning issued by Emergency Services or received by Principal from School Improvement Advisor:		
<ul style="list-style-type: none"> Situation assessed by Principal and Chief Warden 		
<ul style="list-style-type: none"> Information sought on level of threat from controlling agency website or information line (if DFES on 13 DFES (13 33 37) or www.dfes.wa.gov.au) 		
<ul style="list-style-type: none"> Assistance sought from School Improvement Advisor on availability of resources to evacuate students and staff off-site, if directed by the controlling agency 		
<ul style="list-style-type: none"> Monitor controlling agency website or information line for change in level warning (if DFES on 13 DFES (13 33 37) or www.dfes.wa.gov.au); Assign a member of staff to monitor local radio, TV and websites for bushfire or weather alerts 		Ongoing
<ul style="list-style-type: none"> Class rolls checked to confirm absentees and visitor register checked for visitors currently at the college 		
<ul style="list-style-type: none"> Mobile telephones charged 		
<ul style="list-style-type: none"> Emergency contacts list for parents, guardians, staff, other agencies etc accessed 		
<ul style="list-style-type: none"> Evacuation kit accessed 		
<ul style="list-style-type: none"> Confirm readiness of Safer Location 		
If bushfire warning is/upgraded to (WATCH AND ACT stage) or (EMERGENCY WARNING stage):		
<ul style="list-style-type: none"> Update sought from controlling agency website or 		Ongoing

information line (if DFES on 13 DFES (13 33 37) or www.emergency.wa.gov.au)		
<ul style="list-style-type: none"> Determine the Emergency Services contact point and send college emergency liaison officer to Incident Control Point, if requested 		
<ul style="list-style-type: none"> Seek instructions from the Emergency Services Incident Controller (managing the fire) or delegate as to action to take 		Ongoing
<ul style="list-style-type: none"> Follow the advice of the Emergency Services Incident Controller or delegate to move to the pre-determined Safer Location or evacuate. (The decision to evacuate by the Emergency Services Incident Controller will consider the location of the bushfire, the ability to travel safely to the selected evacuation point and the safest route to get there. In some circumstances it may not be safe to evacuate) 		
<ul style="list-style-type: none"> If/when directed and it is safe to do so, move students, staff and visitors, to the pre-determined Safer Location or on to buses to evacuate 		
<ul style="list-style-type: none"> Check class roll and visitor register after moving or evacuating staff, students and visitors, and advise Emergency Services Incident Controller if anyone is missing 		
<ul style="list-style-type: none"> Update Emergency Services Incident Controller or delegate on location of students, staff and visitors 		
<ul style="list-style-type: none"> Liaise with Principal School Advisor regarding instructions of the controlling agency and college action 		

Response if the college is CLOSED when a Bushfire Starts RESPONSE

	Tick when task has been completed or write NA if not applicable	Evidence
If college is to remain closed:		
<ul style="list-style-type: none"> Principal School Advisor will liaise with the Director of Catholic Education to determine the contact point and seek instructions from the Emergency Services Incident Controller or delegate (managing the fire emergency) as to action to take 		Ongoing
<ul style="list-style-type: none"> Follow the direction of the Emergency Services Incident Controller or delegate, who will advise if the college should remain closed 		
<ul style="list-style-type: none"> Principal School Advisor to inform Principal if college is to remain closed 		
<ul style="list-style-type: none"> Principal to notify staff and parents using emergency contact list of school closure (part of evacuation kit) 		
<ul style="list-style-type: none"> Director of Catholic Education to identify temporary alternative accommodation and contact number for further information 		
When the college is to re-open		
<ul style="list-style-type: none"> Follow the direction of the Emergency Services Incident Controller or delegate, who will advise when the college can re-open 		
<ul style="list-style-type: none"> The controlling agency will inform the Director of Catholic Education when the college can re-open 		
<ul style="list-style-type: none"> The Principal School Advisor will inform the Principal when the college can re-open 		
<ul style="list-style-type: none"> Principal will notify staff and parents using emergency contact list of school re-opening (part of evacuation kit) 		
<ul style="list-style-type: none"> CEWA Media Unit notified to utilise media outlets to make public announcements of school re-opening by the Principal Schools Advisor 		

In advance of Declaration of Pre-emptive Closure

Tick when task has been completed or write NA if not applicable	Evidence
Principal familiar with college Emergency and Critical Incident Management Plan and the College Bushfire Plan.	
Stay informed of current fire danger ratings or fire activity (local media – television and radio, especially ABC Local Radio; 13 DFES (13 33 37) or www.dfes.wa.gov.au)	Ongoing
Staff members aware of their responsibilities in accordance with the plan, including that they are not to be on school sites during a day which has been declared a Catastrophic FDR	
Staff aware media enquiries are to be directed to Catholic Education Office Media Unit.	
Stand-down and leave arrangements discussed with staff	
Two staff members (usually Principal and Director of Business) identified to be at the college from 8.00am to 10.00am on the day of Catastrophic FDR to communicate the college closure to the community (these people should only attend if it is safe to do so, roads are open and a fire has not started at the time).	
Contact lists for staff and parents are up to date	
College community informed that the college is on the Bushfire Zone Register	
Letter to parents and memo to staff advising of planned closure prepared (see templates)	
Approved planned closure signage laminated ready for placement on external school access points.	
Communication plan established, including telephone tree to notify school community of pre-emptive closure where lead time is too short for notification by letter.	
College Action Plan includes mechanisms for advising the following of planned closure:	
<ul style="list-style-type: none"> • Schools in close proximity and/or siblings of your students 	
<ul style="list-style-type: none"> • Parents, including making provision for parents from diverse backgrounds (e.g. multicultural, special needs) 	
<ul style="list-style-type: none"> • Any staff, including part-time staff, students, volunteers and parents of students who are absent on the day of declaration or confirmation of planned closure 	

<ul style="list-style-type: none"> • Visitors planning to visit the college on the day of planned closure 		
<ul style="list-style-type: none"> • School Advisory Council and Parent Forum 		
<ul style="list-style-type: none"> • Community hirers (including music tutors) 		
<ul style="list-style-type: none"> • Contractors (bus contractors, grounds maintenance, cleaners) 		
<ul style="list-style-type: none"> • Building construction workers (if applicable) 		
Bushfire Preparation Checklist Actioned.		

Upon Declaration of Pre-emptive Closure

	Tick when task has been completed or write NA if not applicable	Evidence
The bushfire plan is activated immediately upon declaration of pre-emptive closure		
All necessary people are informed:		
<ul style="list-style-type: none"> Schools in close proximity and/or with siblings of your students 		
<ul style="list-style-type: none"> Parents/guardians, including making provision for parents from diverse backgrounds (e.g. multicultural, special needs) 		
<ul style="list-style-type: none"> Any staff, including part-time staff, students, volunteers and parents of students who are absent today 		
<ul style="list-style-type: none"> Visitors planning to visit the college on the day of planned closure 		
<ul style="list-style-type: none"> School Advisory Council and Parent Forum 		
<ul style="list-style-type: none"> Community hirers (including Music Tutors) 		
<ul style="list-style-type: none"> School contractors (bus contractors, grounds maintenance, cleaners) 		
<ul style="list-style-type: none"> Building construction workers 		
Notice of Planned Temporary School Closure signs placed on the main notice board (at the front of the college), on main administration entrance doors and other entry/exit doors throughout the buildings, including kindergarten and pre-primary.		
Two staff members (Principal and Director of Business) who are to be at school from 8.00am to 10.00am on the day of the planned closure advised, attendance confirmed and reminded to secure the facility and activate the electronic security system when leaving the college at 10.00 am (ONLY IF SAFE TO DO SO).		
Principal Schools Advisor informed of actions taken		
Fire danger ratings or fire activity monitored (local media – television and radio, especially ABC Local Radio; 13 DFES (13 33 37) or www.dfes.wa.gov.au)		Ongoing
If plan to close is reversed, Notice of Planned Temporary School Closure signs removed from the main notice board (at the front of the college), on main administration entrance doors and other entry/exit doors throughout the buildings, including kindergarten and pre-primary		

Prior to Leaving before the Day of Closure

	Tick when task has been completed or write NA if not applicable	Evidence
BUSHFIRE ALERT Notice of Temporary School Closure sign placed on the main notice board (at the front of the college), on main administration entrance doors and other entry/exit doors throughout the buildings, including kindergarten and pre-primary		
Notice of Temporary School Closure notice placed prominently on college website		
Turn off evaporative air conditioners. Close roof vents and doors.		
All money removed from the college premises.		
Expensive items of equipment secured.		
Data backed up and at least one copy (preferably two) taken off-site.		
All non-essential electrical equipment switched off (leave on server, router and alarms)		
College premises secured and security system activated		
College Security contacted (High Standard Security) prior to departure, to confirm that all security systems have been armed and the site secured.		
Principal School Advisor informed of actions taken		

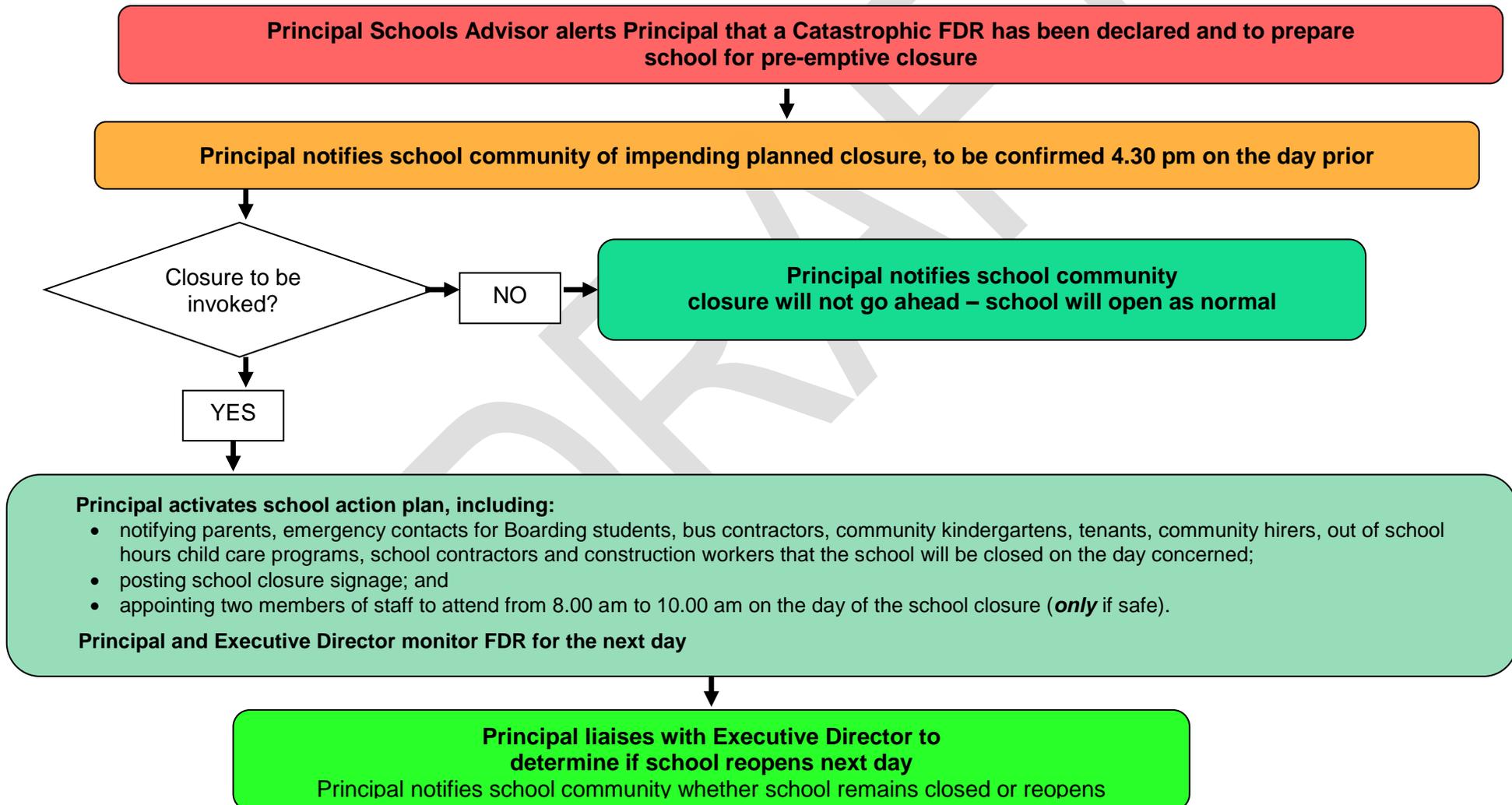
On the Day of Closure

	Tick when task has been completed or write NA if not applicable	Evidence
Principal liaison with the Principal Schools Advisor to be maintained		Ongoing
Turn off evaporative air conditions. Close roof vents and doors		
Media enquires directed to the CEWA Media Unit		Ongoing
Fire danger ratings or fire activity monitored (local media – television and radio, especially ABC Local Radio, 13 DFES (13 33 37) or www.dfes.wa.gov.au)		Ongoing
When advised by the Director of Catholic Education either to re-open on the following day or to remain closed, all necessary people informed:		
<ul style="list-style-type: none"> Schools in close proximity and/or with siblings of your students 		
<ul style="list-style-type: none"> Parents, including making provision for parents from diverse backgrounds (e.g. multicultural, special needs) 		
<ul style="list-style-type: none"> Any staff, including part-time staff, students, volunteers and parents of students who are absent today 		
<ul style="list-style-type: none"> Visitors who have been planning to visit the college on the day of closure 		
<ul style="list-style-type: none"> College Advisory Council and Parent Forum 		
<ul style="list-style-type: none"> Community Hirers (including Music Tutors) 		
<ul style="list-style-type: none"> Contractors (bus contractors, grounds maintenance, cleaners) 		
<ul style="list-style-type: none"> Building construction workers 		
Notice of Temporary Closure notice on college website updated or revised to advise college re-opens tomorrow		
When college re-opens, BUSHFIRE ALERT Notice of Temporary School Closure signs removed from all doors and main notice board.		

Catastrophic Event Flow Chart

In the event of a catastrophic weather warning the **Bushfire Plan** will be invoked as per the following flow chart:

PRINCIPAL'S RESPONSE TO Catastrophic Fire Danger Rating



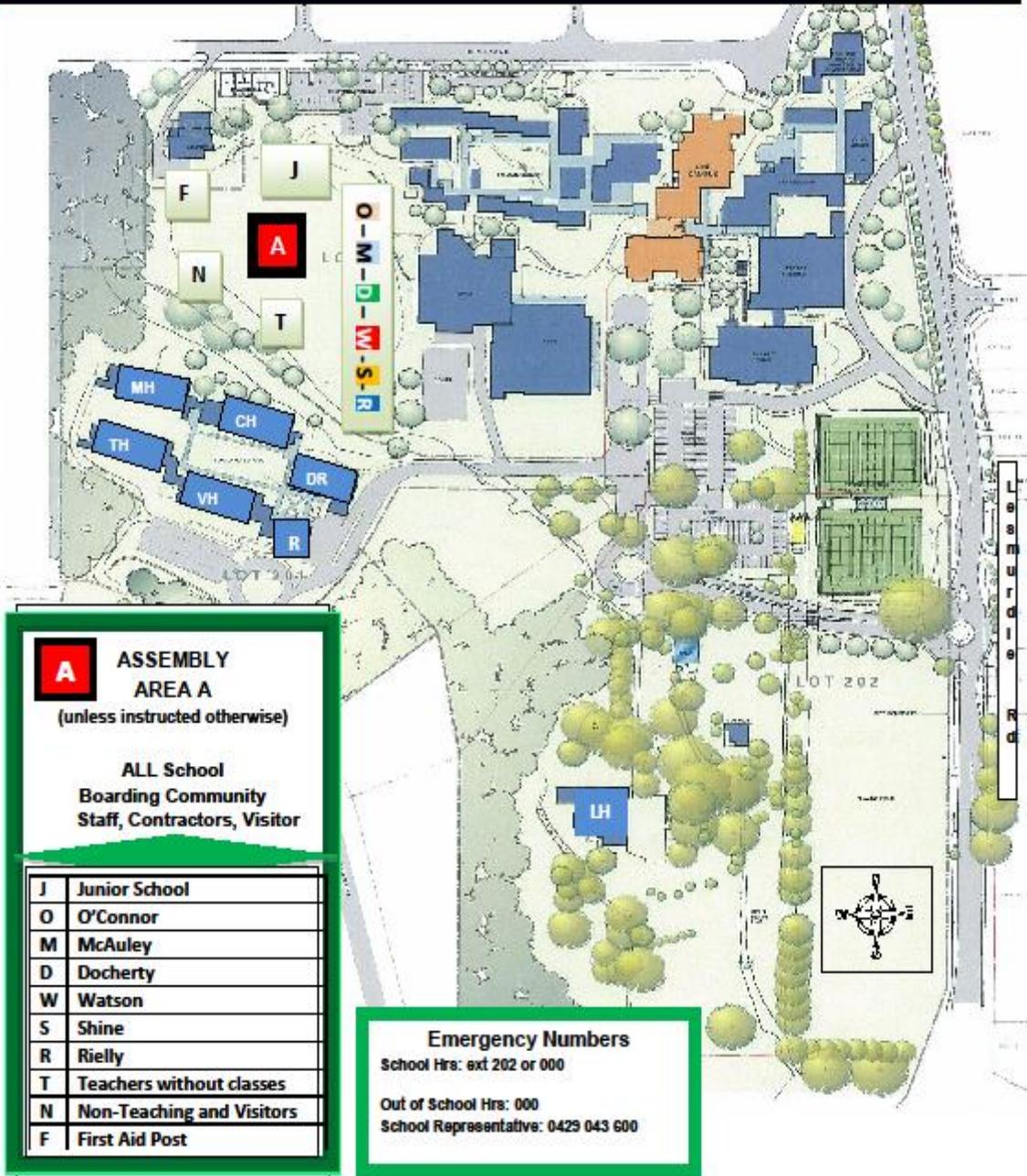
3. Bushfire Evacuation Plan

St Brigid's College

EVACUATION

ASSEMBLY MAP

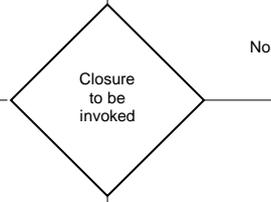
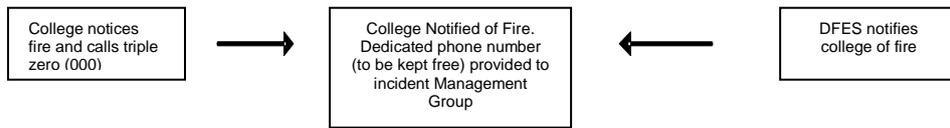
- Evacuate the buildings on the sounding of the alarms.
- DO NOT re-enter buildings until the "All Clear" Announcement / Signal has been given.



Staff Resources/Emergency Management Policies -3/07/12

4. Communication Plan

PRINCIPAL'S RESPONSE TO Bushfire Notice when College Open



Bushfire Warning

WATCH & ACT

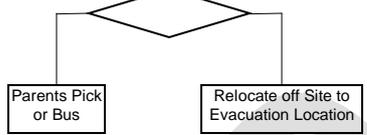
ADVICE

WATCH & ACT

Evacuate or Relocate

Monitor DFES website and ABC

Stay on site



Principal's Response

Follow Emergency Management procedures
College closure to be invoked
Notify RED and CEOWA Media Unit
Implement Communication Plan to Parents
Notify Bus Contractors out of school progs etc.

Follow Emergency Management procedures
Move to safer Location
Notify RED and CEOWA Media Unit
Implement Communication Plan to Parents
Notify Bus Contractors out of school progs etc.

Initial Message

College under threat of bushfire
Emergency Services (ES) advice to college to evacuate to designated position (Note ES will identify location)
Please pick up students from (location description)
Please monitor local media for specific access information

Bushfire in the area
ES advice is to stay on site
(Option – On ES advice parents are advised NOT to pick up students)
Please monitor local media for specific access information

Interim Message

College remains under threat of bushfire
ES advice to college was to evacuate
College remains closed
Please monitor local media for specific access information

Bushfire in the area
ES advice is to stay on site
(Option to repeat – On DFES advice parents are advised NOT to pick up students)
Please monitor local media for specific access information

Close Out Message

Threat has passed
ES advice is college is safe
Students to return to school on (date)
Please monitor local media for specific access information

Threat has passed
ES advice is college is safe
Students to return to school on (date)
Please monitor local media for specific access information

5. Emergency Response Contact List

 Assess
  Evacuate
  Inform
  Organise
  Undertake

EMERGENCY CONTACT & PHONE NUMBERS		ROLES AND RESPONSIBILITIES	
Police	000 Local: 9359 1033	Evacuation: Chief Warden (Director of Business) Invacuation: Chief Warden (Director of Business)	Siren/Pause x 3 Whoop...Whoop...Whoop Siren/Pause x 3 Bong...Bong...Bong
Ambulance / Hospital	000 Swan District 9347 5244 Armadale 9391 2000	Checking Rooms	Fire Wardens Refer Evacuation Muster Control Checklist #1 Refer Lockdown Checklist #2
Fire	000 Local: 9257 9999 or 9257 1666 Kalamunda Shire: 9257 9999	Marshalling Evacuation: Junior oval Invacuation: classrooms	Teachers - Teachers -
Bus Contractors	Bus West: 9256 3223 Paul's Bus Services: 0417 188 434		
Power Outage	131 351	Nurse	Cate Mitchell Judy Brand
State Emergency Service	132 500	Communication	Principal PA – Pauline Guerinoni
Poisons Information	131 126	Next of Kin Notification	Principal (Police if death)
EXECUTIVE DIRECTOR Tim McDonald PRINCIPAL SCHOOLS ADVISOR John Aldous	0427 476 384 0438 140 006	Reporting and Review	Principal
PRINCIPAL	Amelia Toffoli		9290 4201 Mobile: 0409 376 833
DIRECTOR OF BUSINESS	Neil Grime		9290 4203 Mobile: 0417 897 718

In the case of an EMERGENCY
Call
000

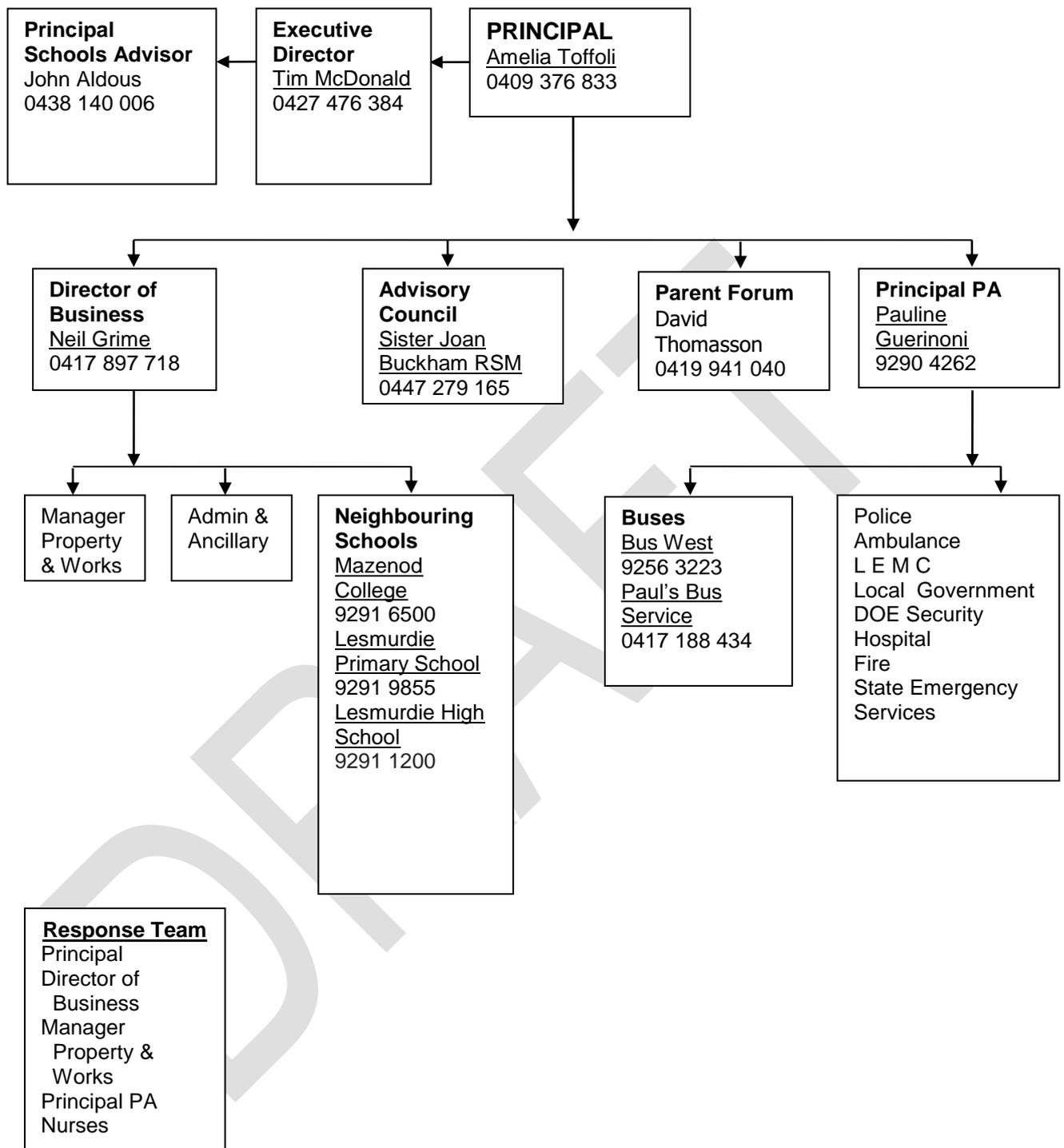
5.1 Additional Contacts

BOARDING COMMUNITY – EMERGENCY CONTACTS

BUILDING	WARDEN	CONTACT
VH	Veronica House - Housemother	0439 098 452 or ext 281
MH	Mercy House - Housemother	0407 198 181 or ext 284
TH	Teresa House - Housemother	0407 086 962 or ext 283
CH	Catherine House - Housemother	0409 294 037 or ext 282
LH	Lesmurdie House - Housemother	0438 071 932 or ext 285
PH	Paula House - Housemother	0407 981 145 or 9291 8904
RECEPTION	Boarding Receptionist	9290 4222

EMERGENCY SERVICE/HELPLINE	CONTACT NUMBER
Water	131 375
Electrical Faults	131 351
Gas Leak	131 352
Kalamunda Shire Office - (24 hour line that is diverted to on call staff)	9257 9999
Kalamunda Bush Fire Brigade Fire Station	9257 9999 or 9257 1666
Fire – Police – Ambulance	000
Police (Local - Forrestfield)	9359 1033
Medical- Hills Family Medical Practice 9/169 Railway Rd Gooseberry Hill. M-F 8.30 – 5.30 Sat 8.00 – 11.30	9454 5544
Hospital – SWAN DISTRICT HOSPITAL CAMPUS Eveline Road, Middle Swan WA 6056	9347 5244
Hospital – ARMADALE – KELMSCOTT MEMORIAL HOSPITAL 3056 Albany Highway, Mount Nasura WA 6112	9391 2000
State Emergency Services (SES)	132 500
National Security Hotline	1800 123 400
Poisons information Centre	131 126
Kids Helpline	1800 551 800
Lifeline	131 114
Child Abuse Services WA & Crisis Care	9223 1111
HSS - Security Control Room Monitor	1300 303 227
Static Security Guard Attendance	9324 4021
Electrician	0411 119 892 or 0420 908 014
Plumber (Oasis)	0428 941 467
Glazier (Premier Glass) paging service	9361 9736

6. Communication Tree



TEXT FOR SCHOOL NEWSLETTER

Bushfire Zone Register

St Brigid's College is committed to maximising the safety of its students and staff. The College has been added to the Bushfire Zone Register. Inclusion on this register means that, although highly unlikely, the college may be required to invoke pre-emptive closure on a day for which a Catastrophic Fire Danger Rating (FDR) has been declared for the Shire of Kalamunda. A Catastrophic FDR means that if a fire starts, it is likely to be uncontrollable, unpredictable and fast moving.

When given advance warning by the Department of Fire and Emergency Services (DFES) that a Catastrophic FDR has been forecast for a given day, the Executive Director of Catholic Education may direct the pre-emptive closure of St Brigid's College. If the college receives such a direction, you will be informed of the possible planned closure via the St Brigid's College APP and SMS. Please ensure the college has up to date email and phone contact details for you and your emergency contacts.

Please be assured that the welfare and safety of our students is our primary concern and the College would be following advice from DFES and the emergency services if this closure were to be actioned.

In the intervening period between the declaration of the pre-emptive closure and the day of planned closure, DFES will monitor weather patterns to keep the Director of Catholic Education informed of any change to the forecast for the declared day. The final decision to pre-emptively close the college will be confirmed by the Executive Director with the Principal no later than 4.30 pm on the day before the declared day. If the forecast changes after that deadline, the closure will stand, regardless of improvements to the weather conditions later in the afternoon of the day before the declared day or overnight. The intention is to limit confusion or uncertainty for parents.

Parents will be advised of the confirmation of closure, or its reversal, via updates on the College website, the College App and telephone SMS notification.

It is anticipated that the college will typically only be required to close for a single day at a time, but this will depend on the weather. You will receive an SMS to advise you whether the college will reopen the day after the planned closure, or whether it will remain closed. The college website will contain a notice to advise you of the current status of the college closure and when it is expected to reopen.

I ask that you monitor local media for current information about fire danger ratings and notification of schools reopening. Staying tuned to ABC Local Radio in your locality is advisable. You can also check with DFES on 13 DFES (13 33 37) or <http://www.dfes.wa.gov.au>. If any of the options listed above for finding out when to send your child back to school will prove problematic, please contact the college to arrange for us to phone you to advise you when the college will reopen.

Please contact the college on 9290 4200 if you have any questions about planned closures during the bushfire season.

Dr Amelia Toffoli
Principal

DRAFT LETTER TO PARENTS
ADVISING OF PRE-EMPTIVE CLOSURE

Dear Parent

Based on advice from the Department of Fire and Emergency Services (DFES), the Executive Director of Catholic Education has directed the temporary closure of St Brigid's College, on *<insert day, date>*, due to a Catastrophic Fire Danger Rating (FDR) for the Shire of Kalamunda. A Catastrophic FDR means that if a fire starts, it is likely to be uncontrollable, unpredictable and fast moving.

DFES will monitor weather patterns to keep the Director of Catholic Education informed of any change to the forecast for *<insert date>*. The final decision to pre-emptively close the school will be confirmed by the Executive Director of Catholic Education with me no later than 4.30 pm on *<insert date of the day before the declared day>*. If the forecast changes after that deadline, the closure will stand, regardless of improvements to the weather conditions on the afternoon of *<insert date of the day before the declared day>* or overnight. The intention is to limit confusion or uncertainty for parents.

You will be advised of the confirmation of closure, or its reversal, SMS notification. If your child is absent on that day, the college will phone you to advise whether the closure will go ahead as planned. Please ensure that we have up to date phone contact details for you.

It is anticipated that the college will only be required to close for a single day at a time, but this will depend on the weather. You will receive an SMS to advise you whether the college will reopen the day after the planned closure, or whether it will remain closed. The college website will contain a notice to advise you of the current status of the college closure and when it is expected to reopen.

I ask that you monitor local media for current information about fire danger ratings and notification of schools reopening. Staying tuned to ABC Local Radio in your locality is advisable. You can also check with DFES on 13 DFES (13 33 37) or www.dfes.wa.gov.au.

If any of the options listed above for finding out when to send your child back to school will prove problematic, please contact the college to arrange for us to phone you to advise you when the school will reopen.

Children may experience some anxiety as a result of this closure. You are encouraged to reassure your children of the safe environment we will provide for them on their return. We will be taking measures, consistent with advice from DFES, to make the college safe before children return.

While no formal education program is available during this time, children are encouraged to:

- continue unfinished work;
- undertake research;
- complete due assignments;
- review recent school work;
- play educational games; and
- read.

This precautionary measure will maximise children's safety.

Thank you for your cooperation.

Dr Amelia Toffoli
Principal

DRAFT

DRAFT MEMO TO STAFF
ADVISING OF PRE-EMPTIVE CLOSURE

NOTIFICATION OF TEMPORARY SCHOOL CLOSURE

MEMO TO STAFF

Based on advice from the Department of Fire and Emergency Services (DFES), the Executive Director of Catholic Education has directed the temporary closure of St Brigid's College, on *<insert day, date>*, due to a Catastrophic Fire Danger Rating (FDR) for the Shire of Kalamunda. A Catastrophic FDR means that if a fire starts, it is likely to be uncontrollable, unpredictable and fast moving.

DFES will monitor weather patterns to keep the Executive Director of Catholic Education informed of any change to the forecast for *<insert date>*. The final decision to pre-emptively close the school will be confirmed by the Executive Director of Catholic Education with me no later than 4.30 pm on *<insert date of the day before the declared day>*. If the forecast changes after that deadline, the closure will stand, regardless of improvements to the weather conditions on the afternoon of *<insert date of the day before the declared day>* or overnight. The intention is to limit confusion or uncertainty.

You will be advised of the confirmation of closure, or its reversal, by me on *<insert day and date of the day before the planned closure>*. If you are absent on that day, the school will phone you to advise whether the closure will go ahead as planned. Please ensure that we have up to date phone contact details for you.

It is anticipated that the school will only be required to close for a single day at a time, but this will depend on the weather. The school website will contain a notice to advise you of the current status of the school closure and when it is expected to reopen.

I ask that you monitor local media for current information about fire danger ratings and notification of schools reopening. Staying tuned to ABC Local Radio in your locality is advisable. You can also check with DFES on 13 DFES (13 33 37) or www.dfes.wa.gov.au. Alternatively you can call me on 0409 376 333.

During this period of closure you will be considered to be on duty and are to undertake professional duties from home (e.g. preparation, planning, assessment and reporting). Measures will be taken, consistent with the advice from DFES, to make sure the school is safe before you return.

This precautionary measure will maximise staff and student safety.

Thank you for your cooperation.

Dr Amelia Toffoli
Principal

NOTICE OF PLANNED TEMPORARY SCHOOL CLOSURE

Please be advised that as a result of a Catastrophic Fire Danger Rating for *<day, date>*, it is planned to temporarily close this school on that day.

The final decision to close the school will be confirmed by the Executive Director of Catholic Education with the Principal no later than 4.30 pm on *<insert date of the day before the declared day>*. If conditions have improved sufficiently by that time, the school will open as normal on *<day, date>*. If not, closure will go ahead.

For further information please contact College on 9290 4200.

Thank you for your cooperation.

Dr Amelia Toffoli
PRINCIPAL

DRAFT LETTER TO PARENTS
CONFIRMING PRE-EMPTIVE CLOSURE

Dear Parent

The planned pre-emptive closure of St Brigid's College on *<insert day, date of planned closure>* of which I advised you on *<insert date that initial letter was sent>* **will** go ahead as planned. The Catastrophic Fire Danger Rating for that day has not changed, so the safest option remains to close the college for the day.

It is anticipated that the college will only be required to close for the single day, but this will depend on the weather. You will receive an SMS to advise you whether the college will reopen the day after the planned closure, or whether it will remain closed. The college website will contain a notice to advise you of the current status of the college closure and when it is expected to reopen.

I ask that you monitor local media for current information about fire danger ratings and notification of schools reopening. Staying tuned to ABC Local Radio in your locality is advisable. You can also check with DFES on 13 DFES (13 33 37) or www.dfes.wa.gov.au. Alternatively you can call the college on 9290 4200.

Thank you for your patience and understanding as we work to make our college as safe as possible for your children.

Dr Amelia Toffoli
Principal

DRAFT LETTER TO PARENTS
REVERSING PRE-EMPTIVE CLOSURE

Dear Parent

The planned pre-emptive closure of St Brigid's College on *<insert day, date of planned closure>* of which I advised you on *<insert date that initial letter was sent>* will **not** go ahead. The Catastrophic Fire Danger Rating for that day has been downgraded. Accordingly, the school will open and operate as normal.

Thank you for your patience and understanding as we work to make our school as safe as possible for your children.

Dr Amelia Toffoli
Principal

BUSHFIRE ALERT

NOTICE OF TEMPORARY SCHOOL CLOSURE

Please be advised that as a result of a Catastrophic Fire Danger Rating, this school has been temporarily closed.

The school will re-open on advice from DFES.

If you have any further questions or concerns about the threat of bushfire, please call 13 DFES (13 33 37) or visit the DFES website at www.dfes.wa.gov.au or stay tuned to ABC Local Radio.

For further information please contact the college on 9290 4200.

Thank you for your cooperation.

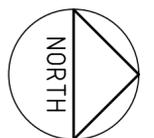
Dr Amelia Toffoli
PRINCIPAL



LOCATION PLAN 1:1000

LEGEND

- > VEHICLE ACCESS
- > PEDESTRIAN ACCESS



LEGEND

INDOOR PLAY SPACES
TOTAL : 218.8m²

TEACHERS SPACES

MISCELLANEOUS/TRANSITION SPACES

WET AREAS

STORAGE

KITCHEN

NEW WORK



SK00

FLOOR PLANS

NOV 2017

1:100 @ A1
1:200 @ A3

0 1 2 5



ST. BRIGID'S COLLEGE

EARLY LEARNING CENTRE

200 LESMURDIE RD, LESMURDIE



UNIVERSAL ACCESS

- LANDSCAPE DESIGNED FOR UNIVERSAL ACCESSIBILITY. FACILITATING EASY ACCESS BY PARENTS WITH PRAMS AND VARYING LEVELS OF VISION AND MOBILITY.

EXISTING BUILDING

- EXISTING BUILDING FORM AND INTEGRITY MAINTAINED.
- EXISTING PERGOLA STRUCTURE RETAINED.
- GENERAL FACILITIES UPGRADE.

PROPOSED ADDITIONS

- 90m² OF ADDITIONAL FLOOR AREA.
- ENTRY FOYER.
- STORAGE
- UNIVERSAL ACCESS FACILITIES.
- EXTENSIVE LANDSCAPING TO PROMOTE UNIVERSAL ACCESS.

VISITOR PARKING

- 20 VISITOR PARKING BAYS AND ONE UNIVERSAL ACCESS BAY.
- CONVENIENTLY LOCATED NEAR THE CENTRE'S MAIN ENTRY.

STAFF PARKING

- 6 STAFF CAR BAYS. ADJACENT TO STAFF FACILITIES FOR EASE OF ACCESS.

PRIMARY ACCESS ROAD

- NEW TWO WAY ACCESS ROAD CONNECTING TO THE EXISTING COLLEGE ROAD NETWORK.

BUSHFIRE PROTECTION

- TWO 10,000L DEDICATED FIREFIGHTING TANKS TO BE USED IN THE CASE OF AN EMERGENCY.
- ESTABLISHMENT OF 2 ALTERNATIVE EMERGENCY ACCESS WAYS IN/OUT OF THE SITE.

STAFF FACILITIES

- STAFF FACILITIES LOCATED IN UPPER LEVEL OF EXISTING BUILDING.

OUTDOOR PLAY

- STRUCTURED PLAY SPACES DIRECTLY ACCESSIBLE FROM INDOOR AREAS.
- A MIXTURE OF SHADED AND OPEN AREAS.

ADVENTURE PLAY

- SUPERVISED CREEK AND LOWER GARDEN ACCESS VIA SECURE GATED POINT.

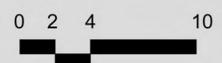


SK01

SITE PLAN

NOV 2017

1:200 @ A1
1:400 @ A3



ST. BRIGID'S COLLEGE

EARLY LEARNING CENTRE

200 LESMURDIE RD, LESMURDIE





SOUTHERN ELEVATION



EASTERN ELEVATION

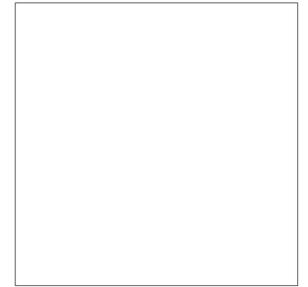


WESTERN ELEVATION



NORTHERN ELEVATION

PROPOSED COLOUR SCHEME



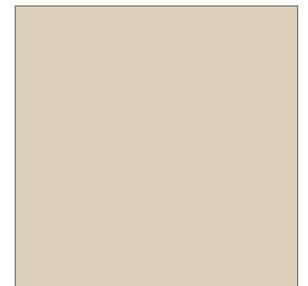
1. NON TINTED WHITE

- ALL EXISTING TIMBER DOOR FRAMES AND WINDOW FENESTRATION.



2. NATURAL WHITE

- ALL WEATHERBOARDS - NEW AND EXISTING
- EXISTING TIMBER SOFFITS



3. HOG BRISTLE

- ALL RENDERED ELEMENTS - NEW AND EXISTING



4. DOMINO

- ALL GUTTERS AND FASCIA
- NEW DOOR FRAMES AND WINDOW FENESTRATION.



Submission Table

Nature of Submission	Submitter Number	Applicant's Justification	Officer Comment
<p>No Objection</p> <p>This is an expansion of the school in the middle of the school facility. Issue the approval and let them get on with it.</p>	3	Nil.	Noted.
<p>No Objection</p> <p>Impact upon surrounding properties will be negligible.</p>	27	Nil.	Noted.
<p>Comment Only</p> <p>Additional work should be done to see if there is another location that can be chosen to reduce the amount of clearing.</p>	34	Nil.	Noted.
<p>Objection – No Comment</p>	17	Nil.	Noted.
<p>Objection</p> <p>The additional traffic will increase the amount of congestion in the area, specifically during hours when 40km/ph school zones are active.</p>	1, 4, 13, 16, 31, 33, 42	<p>The ELC is not increasing the number of students at the College, it is simply redistributing the existing traffic around the existing road network.</p> <p>As noted in the Traffic impact statement "During both AM and PM peak hour periods, the roundabout (on Lesmurdie Road) will continue to operate at level</p>	<p>The applicant has stated that the purpose of the new centre is to relocate a portion of an existing centre on site. For this reason, it is considered that the number of cars attending the site will not increase, as the total number of students has not been proposed to increase.</p>

		of service A, which indicated good operations.”	
Objection The Traffic Impact Assessment is incorrect or incomplete.	1, 42	Nil.	The Traffic Impact Assessment has been reviewed by the City and it has been determined to be acceptable.
Objection The Heritage report is incomplete	42	Nil.	The Heritage Council has reviewed the report and recommended approval of the proposal.
Objection The Noise Management Plan is incomplete	42	A complete Environmental Noise Report has been completed concluding that “...the noise emissions from the proposed facility will comply with the Environmental Protection (Noise) Regulation 1997.” (P.7 Environmental Noise Report) If required, a Noise Management Plan can be provided as a condition of the DA.	The Noise Management Plan has been assessed by the City and it has been determined to be acceptable.
Objection The development is not compliant with the requirements of SPP 3.7 Planning in Bushfire Prone Areas	42	Nil.	The Department of Fire and Emergency Services (DFES) has reviewed the application and recommended approval subject to minor changes to the report. If the proposal were non-compliant with Bushfire Planning Guidelines, DFES would have notified the City as part of this assessment.

<p>Objection</p> <p>St Brigid's should construct an internal road to relieve the pressure placed on external roads</p>	1	<p>An internal road network already exists, accessed via the Lesmurdie Road round-a-bout. The internal road network will be extended to access the Proposed ELC.</p>	<p>A new access road to Lesmurdie House is proposed as part of the application.</p>
<p>Objection</p> <p>There is very little native vegetation left within the area, and clearing of this land will impact the Black Cockatoo habitat, as well as Quendas and other low foraging fauna.</p>	2, 4, 7, 8, 9, 10, 11, 12, 13, 14, 16, 18, 19, 25, 26, 28, 29, 30, 40, 42	<p>The College engaged local environmental consultants Matisse Consulting undertake a flora and vegetation study of the area to be cleared / parkland managed. The key findings of the study were that no declared or listed threatened or priority flora species were found and no suitable hollows for the listed Black Cockatoos were recorded and that the proposed works could not be considered significant in the local or regional context for the foraging activities of the Black Cockatoos. It should be noted that a number of mature trees are being retained as part of the parkland management strategy.</p>	<p>The environmental assessment notes that despite extensive searching on the site no trees suitable for habitation by Black Cockatoos were noted. In addition to this, the report also notes that it is unlikely the trees on site would be considered a significant habitat for the Black Cockatoos.</p>
<p>Objection</p> <p>It is unnecessary to clear the area when the school has a road and carpark in place already, and alternate parking locations can be considered.</p>	2, 7, 8, 10, 11, 13, 14, 15, 16, 18, 19, 20, 23, 24, 25, 39, 40, 42	<p>Both of these areas are a significant distance away from the entry to the Early Learning Centre and unsuitable for drop-off and pickup which requires convenient, short term / high turnover of parking bays. The gradient of the land to the north of Lesmurdie House is too</p>	<p>It is considered that the applicant has provided suitable justification concerning the location of parking on the site.</p>

		<p>steep for parking and unable to meet universal access requirements</p> <p>The land to the south-east of Lesmurdie House is also sloping and is not as level as the proposed area.</p> <p>Both areas slope toward, and are closer to the Lesmurdie Falls Creek than the proposed parking areas.</p>	
<p>Objection</p> <p>There is too much parking provided as part of the application</p>	42	Nil.	For the purposes of assessing parking, it is considered that the application falls under the definition of 'Educational Establishment' within the City's Scheme. Under this definition the car parking that has been provided is compliant.
<p>Objection</p> <p>The use of the building is inconsistent with the Heritage purposes of the site.</p>	4, 6, 13, 16, 21, 28, 29, 32, 42	Nil.	The Department of Planning, Lands and Heritage have provided a non-objection to the proposal, stating that the proposed use is well suited for the site.
<p>Objection</p> <p>There will be large impacts upon amenity of surrounding residents.</p>	4, 13, 15, 32, 42	<p>A number of specialist studies have been undertaken to assess the potential impact of the Proposed LC on the surrounding Community. Including by not limited to:</p> <ul style="list-style-type: none"> - Heritage 	St Brigid's has been operating as an educational establishment in this area for many years, and as such Lesmurdie House has been used over the years for various educational purposes and uses. It is considered that the Early Learning Centre will be a low impact use for this portion of the

		<ul style="list-style-type: none"> - Noise - Bushfire - Environmental - Traffic - Civil <p>Each report has found that the proposed ELC complies with all relevant legislation.</p> <p>Furthermore, the proposed use of Lesmurdie House as and ELC will provide a unique opportunity for significant heritage conservation work to be undertaken on the building by the College, improving the overall amenity of the area and ensuring that a building with great local historical significance can be enjoyed by many future generations to come.</p>	<p>site, and the impacts of the proposal on surrounding properties are manageable.</p>
<p>Objection</p> <p>Detrimental impacts upon the surrounding environment (flora and fauna) – Object to the clearing.</p>	<p>4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 20, 21, 22, 23, 24, 25, 26, 28, 31, 32, 33, 35, 36, 37, 39, 40, 41, 42</p>	<p>The land clearing area is a DFES requirement known as an “Asset Protection Zone” that is required around the building to reduce vulnerability to bushfire attack.</p> <p>The proposal is not for total clearing but rather “parkland management” which clears the understorey and allows retention of a percentage of existing trees.</p> <p>Car parking is being collocated in these areas as it also assists in reducing fuel load and achieving</p>	<p>It is considered that the applicant has provided suitable justifications in regard to the managed clearing on site.</p>

		compliance and stops the need for clearing in other areas for parking. This strategy is fully supported and approved by DFES and facilitates the City of Kalamunda being able to move forward with approving Lesmurdie House as an Early Learning Centre.	
Objection The earthworks will cause too much noise and dust. Do not want to see the earthworks occur	42	Nil.	Dust management will be addressed as part of the Construction Management Plan required as a recommended condition of approval. The earthworks are required to ensure at grade access to the site.
Objection Potential asbestos contamination of the site since the rebuild of a building that burned down has not been addressed.	4, 13, 28	Nil.	The structure referred to was renovated and all asbestos was removed from the site by qualified personnel. A certificate of inspection and approval was provided to the City stating that the site had been inspected and no asbestos had been found post works. Any additional potential contamination will be addressed as part of the Construction Management Plan prior to the commencement of works.
Objection Traffic will use the emergency access roads	5, 32, 38, 39, 42	The Emergency Access Ways will require gates to be fitted in accordance with SPP. 3.7.	The plans supplied within the Bushfire Management Plan note the provision of emergency Fire Access and Evacuation roads

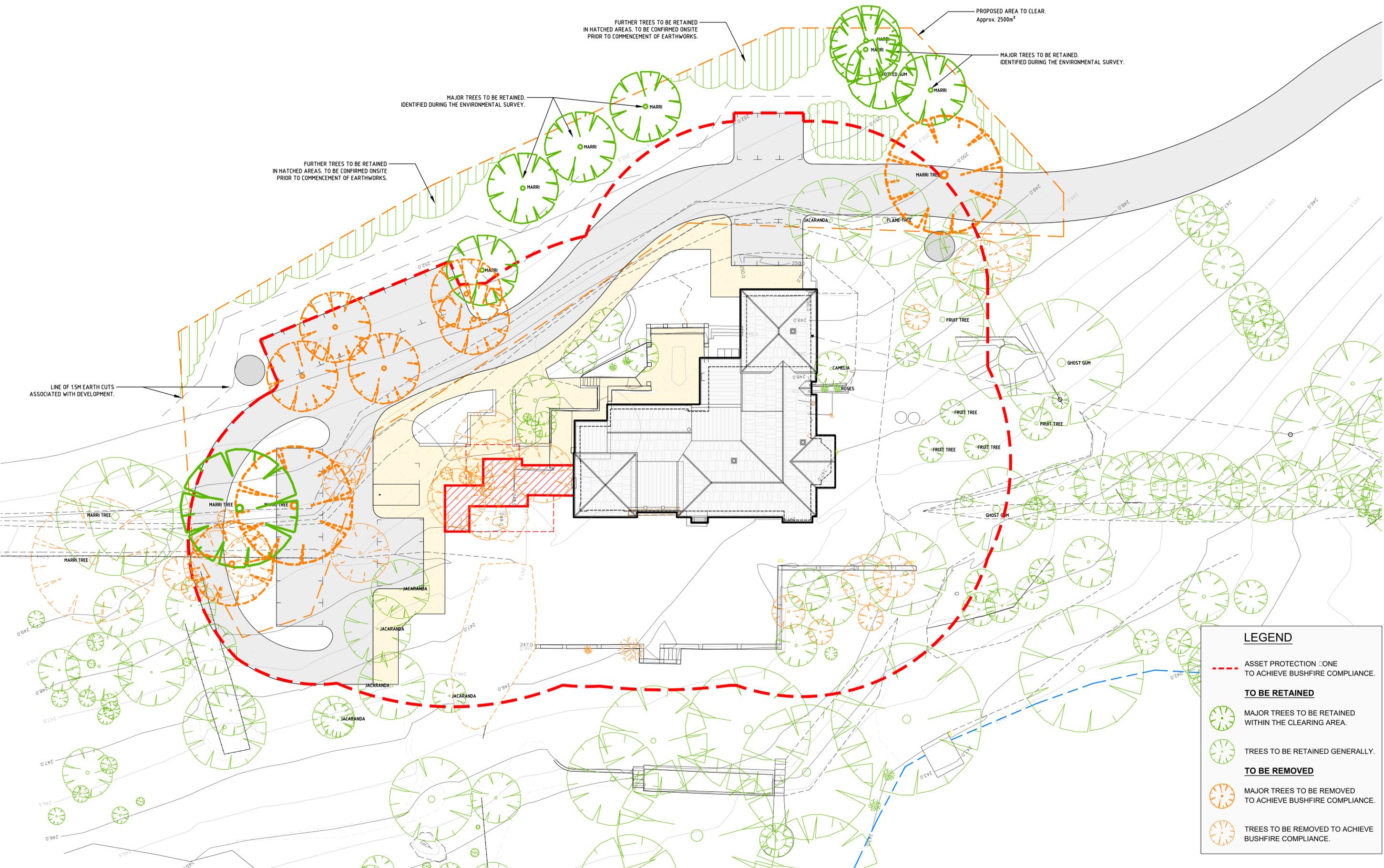
			(Fire Service Route). The intent would be for these roads to only be used during an emergency and access appropriately managed outside these times.
<p>Objection</p> <p>The vegetation on site is a community asset and the ecological communities should be protected as they are endangered.</p>	10, 21	Nil.	The Department of Water and Environmental Regulation had reviewed the proposal and stated that the proposed area is not considered to be a Threatened Ecological Community.
<p>Objection</p> <p>Other day care centres in the area may not get the same degree of funding that this centre will get.</p>	13	Nil.	It is considered that this is not a valid planning consideration.
<p>Objection</p> <p>The City of Kalamunda appears to be ignoring inconsistencies in the zoning for the site.</p>	13, 28, 42	Nil.	The City acknowledges that there are multiple zonings on the subject site. In addition to this an Early Learning Centre is a land use that is permissible on all zonings on the site. This has been factored into the assessment of the site in its context as an established school and as part of the broader application.
<p>Objection</p> <p>Would like to see a weed and disease management plan and an offset planting plan provided.</p>	20	Nil.	These management requirements will be considered as aspects of the Landscape Management Plan required as a recommended condition of approval.

Objection Build the Early Learning Centre in a location closer to the town centre.	22	Nil.	There is no planning restrictions within the City's Scheme that prevents the applicant applying for the proposed development.
Objection Do not want to see another early learning centre in the area.	30, 33	Nil.	There is no planning restrictions within the City's Scheme that prevents the applicant applying for the proposed development.
Objection Development will cause detrimental impacts upon the Lesmurdie Brook.	28, 29	The project has been referred to the Department of Water and Environmental Regulation by Council as part of the DA process.	The Department of Water and Environmental Regulation have returned no objection to the proposal. They have not raised any concerns regarding potential impacts to Lesmurdie Brook.
Objection The internal roads are not appropriate to support the amount of traffic	42	An extension is proposed to the existing internal road network as part of the Proposed ELC at Lesmurdie House.	It is considered that the internal road network will be adequate to service the traffic demand.
Objection Pedestrians and Cyclists accessing the site will not have a safe way to do so.	42	Nil.	There are sufficient facilities on the site to cater for pedestrian and cycle movements. The on-going management of these movements within the site is the responsibility of the landowner.
Objection The proposal does not contribute to surveillance, safety, or accessibility on the site	42	Nil.	It is considered that increasing the number of staff and pedestrians within this portion of the school property will increase the amount of passive surveillance at the site, thus increasing both the surveillance and safety within the school.

<p>Objection</p> <p>The reports provided give little indication of the Asset Protection Zone clearing that will be undertaken, and the state policy itself is vague in this regard.</p>	28	Nil.	It is considered that State Planning Policy 3.7 (Planning in Bushfire Prone Areas) is comprehensive in its requirements relating to Asset Protection Zones.
<p>Objection</p> <p>Any approval granted would lead to further clearing and development above and beyond the application.</p>	28	Nil.	Any approval granted for clearing on the subject site relates only to the area identified as part of the application and does not constitute approval to clear beyond the approval. Any additional clearing undertaken will require a separate application.
<p>Objection</p> <p>There is a possibility of flooding in the area, which may lead to incidents with any effluent disposal system.</p>	28	The effluent disposal system for the proposed ELC in Lesmurdie House will be located in high ground where it will not be susceptible to seasonal flooding.	The proposed effluent location has been assessed and accepted by the City.
<p>Objection</p> <p>The land is subject to flooding which may be hazardous</p>	42	The land directly surrounding Lesmurdie House and the proposed primary access road to Lesmurdie House are not susceptible to flooding.	Nil.
<p>Objection</p> <p>Care will be outside of regular school hours.</p>	32	Nil.	The applicant has specified particular hours of operation that are within what is considered 'normal operating hours'. Any approval granted will bind the

			applicant to these hours of operation only.
Objection There is already enough development on the site already.	35	Nil.	Site coverage requirements of the City's Local Planning Scheme No. 3 have been complied with.
Objection The Early Learning Centre should be in another location on site	42	An extensive planning process was undertaken to review a number of possible locations on the College's grounds. The Lesmurdie House site offers the most amenities for two main reasons: - In terms of the Nature based learning pedagogy embraced by the College for early learning education. By facilitating the restoration and conservation of a significant local historical landmark to ensure its survival for future generations.	The location of the building is compliant with the site and setback requirements of the Scheme.
Objection The proposal does not meet the access requirements of 'Liveable Neighbourhoods' as it relates to places of education	42	Nil.	The 2015 Draft of Liveable Neighbourhoods (Design Principle 11) states that the street network surrounding the site must be able to facilitate short, safe trips for pedestrians and cyclists, rather than the movement within the site.
Objection	42	The proposal is fully compliant. Please refer to the 'Site and Plan	A Disability Access Report has been prepared which addresses

The Early Learning Centre does not meet the requirements of the Disability Discrimination Act		Review' prepared by Anita Harrop of O'Brien Harrop.	requirements to assist access for people with a disability.
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LEGEND	
	ASSET PROTECTION ZONE TO ACHIEVE BUSHFIRE COMPLIANCE.
TO BE RETAINED	
	MAJOR TREES TO BE RETAINED WITHIN THE CLEARING AREA.
	TREES TO BE RETAINED GENERALLY.
TO BE REMOVED	
	MAJOR TREES TO BE REMOVED TO ACHIEVE BUSHFIRE COMPLIANCE.
	TREES TO BE REMOVED TO ACHIEVE BUSHFIRE COMPLIANCE.

10.3. Asset Services Reports

10.4. Office of the CEO Reports

10.4.1. Creating Active Citizens Plan

This late item was provided to Councillors at the beginning of the forum for their review and therefore was not present in the agenda.

The Chief Executive Officer provided a presentation on this item.

A member of the public asked for clarification on the resources involved and costings. The Chief Executive Officer advised the Council will look at this during the budget process.

The full report will be available in the 24 April Ordinary Council Meeting agenda.

11. Closure

There being no further business, the Presiding Member declared the Meeting closed at 7.26pm.

I confirm these Minutes to be a true and accurate record of the proceedings of this Council.

Signed: _____
Presiding Member

Dated this _____ day of _____ 2018.