

**REVISED/ADDITIONAL
DOCUMENTATION
PART 5**

2017SSH019

DA17/0467

1-21 Dillwynnia Grove, Heathcote

**BUSHFIRE AND
RURAL FIRE SERVICE
DOCUMENTATION**

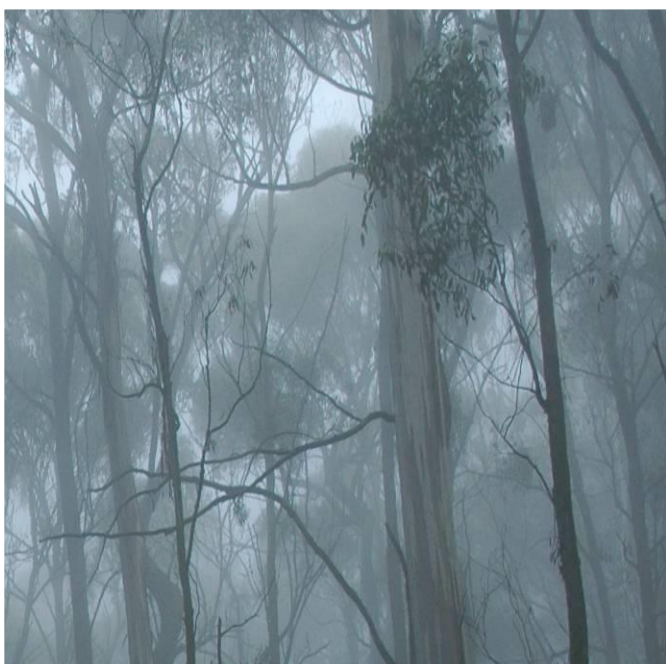


Bushfire Protection Assessment

Heathcote Hall Residential Development,
1-21 Dillwynnia Grove, Heathcote East

Prepared for
Fuzortinn Pty Ltd

20 April 2017



DOCUMENT TRACKING

Item	Detail
Project Name	Bushfire Protection Assessment: Heathcote Hall Residential Development
Project Number	16SUT_3199
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Approved by	Daniel Copland
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Template 20/11/13

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1 Property and proposal

Street or property name:	1-21 Dillwynnia Grove		
Suburb, town or locality:	Heathcote East	Postcode:	2233
Lot and DP:	Lot 2 DP 725184		
Local Government Area:	Sutherland Shire Council		
Type of area:	Urban		
Type of development:	New dwellings		

1.1 Description of proposal

Fuzortinn Pty Ltd commissioned Eco Logical Australia Pty Ltd (ELA) to prepare a bushfire protection assessment (BPA) for a multi dwelling development at 1-21 Dillwynnia Grove, Heathcote East (hereafter referred to as the subject land).

The proposed development involves the construction of 40 Townhouses and 21 Apartments in two separate 3 storey buildings, underground car parking and the restoration of the State Heritage listed Heathcote Hall.

This bushfire protection assessment was prepared by ELA Bushfire Consultant, Bruce Horkings (FPAA BPAD-A Certified Practitioner No. BPAD29962-L3), with quality assurance from Daniel Copland (FPAA BPAD Level 3 Certified Practitioner No. BPAD28853-L3). Bruce and Daniel are both recognised by the NSW Rural Fire Service as a qualified bushfire consultant in bushfire risk assessment

1.2 Location and description of subject land

The subject land is located in the suburb of Heathcote within the Sutherland Shire Council Local Government Area approximately 8 km south-west of Sutherland. It lies on the outskirts of the Shire's residential area, with the Royal National Park approximately 100 m east and south of the site. **Figure 1** shows the subject land in relation to the nearest bush fire prone vegetation within the Royal National Park.

A plan of the proposed development is shown in **Figure 2**.

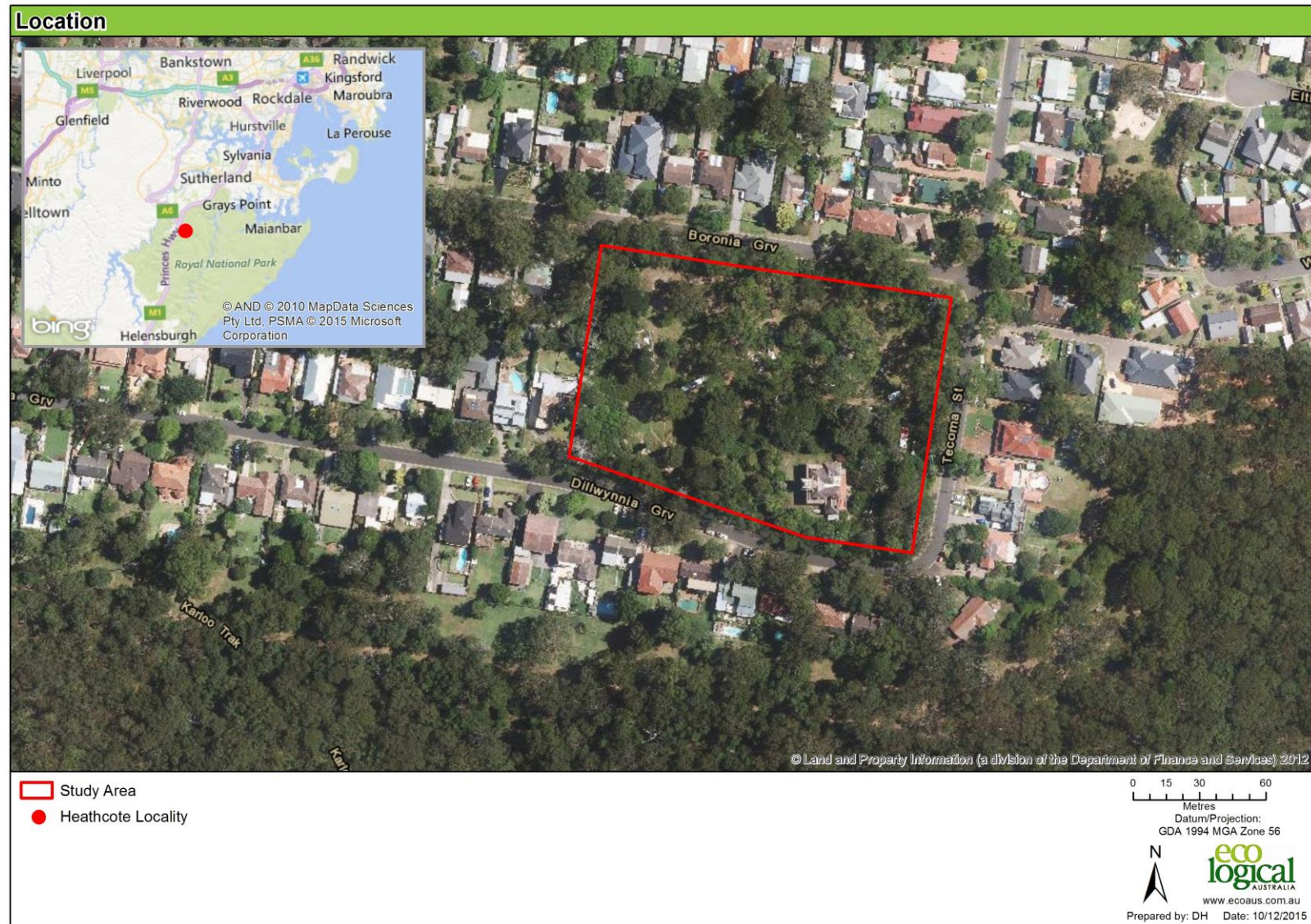


Figure 1: Location



Figure 2: Development plan



Figure 3: Vegetation Mapping

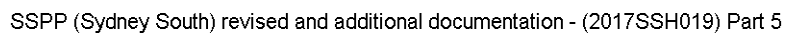




Figure 5: Bushfire Hazard Assessment

2 Bushfire threat assessment

The subject land is identified as bush fire prone land by Sutherland Shire Council as shown in **Figure 3**. The following assessment is prepared in accordance with Section 100B of the *Rural Fires Act 1997* and *Planning for Bush Fire Protection 2006* (RFS 2006), herein referred to as PBP.

2.1 Vegetation type

The predominant vegetation class has been calculated in accordance with PBP for a distance of at least 140 m out from the proposed dwellings.

The predominant vegetation in the vicinity is Sydney Turpentine Ironbark Forest (STIF). STIF occurs within 85 m of the closest building at the south-eastern corner of the site, within 90m of the southern perimeter and 100 m at the eastern perimeter, as shown in **Figure 1** and **Photo 1**. This forest vegetation is part of the extensive Royal National Park and bush fire prone land map identifies it as Category 1 (see **Figure 3** and **Figure 4**).

Managed land occurs to the north and east in the form of existing residential development and is not considered to be a fire hazard. STIF also occurs within the property boundaries, however the vegetation is not representative of the STIF community and is largely overrun by weeds. The development proposal entails clearing or management of this vegetation (**Photos 2** and **4**).

2.2 Effective slope

The slope class 'most significantly affecting fire behaviour' has been determined for a distance of at least 100 m in all directions. This assessment was made using 2 m contours and confirmed during the site inspection. The land under the bushfire hazard is on a rise which slopes downward on all sides.

The predominant STIF vegetation exists from the north-east to the south-west of the site, with the greatest hazards of a fire approaching from the south-east to the south. The most significant gradient is toward the south-east, where the effective slope falls within the PBP slope class of '>10-15 degrees downslope'. To the south, the gradient is slightly less and is within the '>5-10 degrees downslope' category.

Management of vegetation in residential properties to the north and west of the site has resulted in a reduced fire hazard and vegetation in these directions is unlikely to impact significantly on fire behaviour.

3 Asset protection zones

Table A2.4 of PBP has been used to determine the width of Asset Protection Zones (APZ) using the vegetation and slope data identified in **Section 2**. **Table 1** shows the proposed APZ whilst **Figure 5** demonstrates the bushfire hazard assessment.

Table 1: Threat assessment, APZ and category of bushfire attack

Direction from Envelope	Slope ¹	Vegetation ²	PBP required APZ ³	Proposed APZ	AS 3959-2009 Construction Standard ⁴
East	>10-15° Downslope	Forest	50 m	≥82 m	BAL-12.5
South-East	>10-15° Downslope	Forest	50 m	≥80 m	BAL-19
South	>5-10° Downslope	Forest	35 m	≥80 m	BAL-12.5
All other directions	Managed land				

¹ Slope most significantly influencing the fire behaviour of the site having regard to vegetation found. Slope classes are according to PBP.

² Predominant vegetation is identified, according to PBP and "Where a mix of vegetation types exist the type providing the greater hazard is said to be predominate".

³ Assessment according to Table A2.4 of PBP.

⁴ Assessment according to Table 2.4.2 of AS 3959-2009.

3.1 APZ maintenance

The required APZ is mostly in place however any landscaping or weed management within 100 m of the identified hazard should be in consideration with the Inner Protection Area prescription as follows:

- No tree or tree canopy is to occur within 2 m of the dwelling roofline
- The presence of a few shrubs or trees in the APZ is acceptable provided that they:
 - Are well spread out and do not form a continuous canopy
 - Are not species that retain dead material or deposit excessive quantities of ground fuel in a short period or in a danger period
 - Are located far enough away from the building so that they will not ignite the building by direct flame contact or radiant heat emission
- Any landscaping or plantings should preferably be local endemic mesic species or other low flammability species

4 Construction standard

The building construction standard is based on the determination of the Bushfire Attack Level (BAL) in accordance with Method 1 of *Australian Standard AS 3959-2009 'Construction of buildings in bushfire-prone areas'* (Standards Australia 2009). The BAL is based on known vegetation type, effective slope and managed separation distance between the development and the bushfire hazard. **Figure 6** (below) demonstrates the calculated BAL affecting the overall site. In some instances proposed dwellings will require construction to achieve BAL-12.5 standards on facades facing the south, south-east and east to a distance of 100 metres (as shown on **Figure 6**).

There are no construction level requirements at a distance greater than 100 metres. If more than one façade is exposed to a hazard, the façade with the highest BAL is used to determine the level of construction.

Furthermore, the provisions of Section 3 'Construction General' of AS 3959-2009 and the ember protection provisions outlined in section A3.7 of the 2010 Appendix 3 Addendum to PBP are also required for the proposed dwellings where applicable.

It is recommended that ember protection measure to the existing historic building be upgraded, where applicable, and with recognition of any historical constraints.

5 Utilities and access

5.1 Water supply

The subject land is serviced by reticulated water with 9 hydrants located within 25 m of the dwelling at the property in Boronia Grove, Tecoma Street and Dillwynnia Grove. This complies with PBP.

5.2 Gas and electrical supplies

Electricity supply is above ground and complies with PBP.

Reticulated or bottled gas on the lot is to be installed and maintained in accordance with *Australian Standard AS/NZS 1596 'The storage and handling of LP Gas'* (Standards Australia 2014) and the requirements of relevant authorities (metal piping must be used).

5.3 Access

The proposed dwellings will be accessed via standard residential driveways off Dillwynnia Grove, Tecoma Street and Boronia Grove. A fire involving the dwellings would be attended to by fire appliances from the hardstand surfaces of these streets. This complies with PBP and no additional provisions are required to support the proposed development.



Figure 6: BAL assessment

6 Assessment of environmental issues

At the time of assessment, there were no known significant environmental features, threatened species or Aboriginal relics identified under the *Threatened Species Conservation Act 1995* or the *National Parks Act 1974* that will affect or be affected by the bushfire protection proposals in this report.

Currently a Flora & Fauna assessment is being undertaken by ELA however, it has not been finalised as at the completion date of this report.

Sutherland Shire Council is the determining authority for this development; they will assess more thoroughly any potential environmental and heritage issues.

7 Recommendations and conclusion

The proposal involves the retention of an existing historic building and the construction of a multi dwelling development adjoining an area of low hazard. The following recommendations have been made within this report:

- APZ are to be provided and maintained as specified at **Section 3** of this report;
- The proposed dwellings are to be constructed as specified at **Section 4** of this report; and
- Any gas services installed as part of the development are to comply with AS/NZS 1596-2014 and the requirements of the relevant authorities (**Section 5**).

In the author's professional opinion, the bushfire protection measures demonstrated in this report comply with *Planning for Bush Fire Protection 2006* and allow for the issue of a Bush Fire Safety Authority under Section 100B of the *Rural Fires Act 1997*.

If further information is required, please contact Danielle Meggos on 8536 8600.



Bruce Horkings

Bushfire Planner

FPAA BPAD-A Certified Practitioner No. BPAD29962-L3



References

NSW Rural Fire Service (RFS) 2006. *Planning for Bush Fire Protection: A Guide for Councils, Planners, Fire Authorities, Developers and Home Owners* including the 2010 Appendix 3 Addendum. Australian Government Publishing Service, Canberra.

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

Standards Australia 2014. *The storage and handling of LP Gas*, AS/NZS 1596:2008, Eight edition 2014, SAI Global, Sydney.

Photographs

Photo 1: Adjoining managed land and road	Photo 2: Weed infested vegetation within property
	
Photo 3: Managed land and road	Photo 4: Fragmented vegetation within property
	



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14 March 2018

Ink Architects
Attn: Gustavo Thiermann
Suite 202/ 23 Chandos Street
St Leonards NSW 2065

Re: Heathcote Hall
1-21 Dillwynnia Grove
Heathcote

Dear Gustavo,

Following the request from Sutherland Shire Council for a statement as to how or if any impact on the original Bushfire Assessment occur, due to the proposed amendments and the additional email request, dated 12 March 2018 from Lisa Pemberton, Environmental Assessment Officer- Planner for Sutherland Shire Council, I offer the following.

I have reviewed the proposed amendments along with the original plans. The proposed amendments indicate a reduction in the number of buildings which constitutes a reduction in the number of occupants.

My opinion is that my original report remains current, including the proposed amendments and I repeat from the original report (by Barry Eadie Consulting Pty Ltd dated 20 April 2017) the following as reinforcement of my then and current position in respect to the existing Hall.

Bushfire Attack Summary

As the existing Heritage Building is not to be demolished and will be restored and the proposed residential development (outside the Bush Fire Buffer Zone) the whole site will provide an increase in the protection of the existing Heritage Building with the proposed development. Additionally screens for external windows and the sealing of any external openings.

As the existing Heritage Building was originally a residential building it would attract different bush fire construction requirements than the proposed retail/office use.

The existing Heritage Building is constructed of masonry block walls and a combination of corrugated iron and shingles roofing. The building is located approximately 44 metres from the finger of vegetation adjoining 2 Dillwynnia Grove and if for a new residential structure would attract BAL 29 on the southern and eastern elevations and BAKL 19 on the remainder. Due to the existing nature of the building and the proposed development of the whole site with the management of the present unmanaged site and the up-grading of the existing Heritage Building there will be a vastly improved bushfire outcome with the proposed development both for the site and the area as a whole.

Bushfire Conditions
1-21 Dillwynnia Grove
Heathcote NSW
REPORT 2649.01

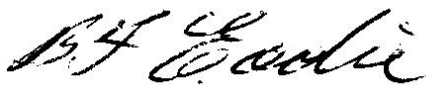
14 March 2018

Version A
Page 1

In relation to the proposed amendments impact upon the remainder of the development (i.e. basement, / townhouses/ residential flat buildings) my view in respect to bushfire matters is that the proposed amendments would have no bushfire impacts and the original bushfire report (by Barry Eadie Consulting Pty Ltd dated 20 April 2017) remains current.

If you have any questions or further information do not hesitate to contact me.

Yours truly,

A handwritten signature in black ink, appearing to read "Barry Eadie". The script is fluid and cursive.

Barry Eadie

BUSHFIRE HAZARD ASSESSMENT

FOR

RESTORATION OF EXISTING HERITAGE BUILDING

AT

**1-21 DILLWYNNIA GROVE
HEATHCOTE NSW 2233**

FOR

IDJ GROUP (JOHN INNES)

20 April 2017
Version A

Prepared by:

Barry Eadie Consulting Pty Ltd

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PREFACE

Readers of this report must be aware that the bushfire mitigation recommendations described in this report will not completely remove the risk of bushfire impacting the development site. Recommendations contained herein are designed to improve the bushfire related issues for the existing development. With regard to the application the implementation of recommendations in their entirety, together with the diligent maintenance of Asset Protection Zones, will provide for a reduction of the bushfire threat and the associated risk.

This report caters specifically for the requirements of this project and the Client. No warranty is intended or implied, or responsibility undertaken by Barry Eadie Consulting Pty Ltd for its use on any other project or by any third party.

This report does not include an environmental assessment, Aboriginal heritage assessment or identify endangered species in the area.

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1 INTRODUCTION

1.1 Report Purpose

This report assesses the bushfire implications of the restoration of the existing Heritage Building at 1-21 Dillwynnia Grove, Heathcote. The report will form part of the supporting documentation for a Development Application to Sutherland Shire Council. This Bushfire Hazard Assessment has been undertaken to determine the necessary requirements for the development in accordance with:

- NSW Rural Fire Service, Planning NSW, '*Planning for Bushfire Protection*' (2006); and
- AS 3959-2009: *Construction of Buildings in Bush Fire Prone Areas*.

Barry Eadie Consulting Pty Ltd has been engaged by IDJ Group (John Innes) to prepare the Bushfire Hazard Assessment report, to be used in support of the Development Application.

2 BUSHFIRE LEGISLATION IN NSW

The *Environmental Planning and Assessment Act 1979* and the *Rural Fires Act 1997* were amended recently via the *Rural Fires and Environmental Assessment Legislation Amendment Act 2002*.

The amendments to the legislation are not retrospective and consequently will not usually apply to development applications which were made, but not necessarily finally determined, before 1 August 2002.

With regard to the *Environmental Planning and Assessment Act 1979*, the amendments:

- a) Require local government councils to record on maps land identified by the Commissioner of the NSW Rural Fire Service as bushfire prone land; and
- b) Prevent development consent being granted for the carrying out of development for certain purposes on bushfire prone land unless the consent authority is satisfied that the development conforms to certain documented bushfire protection specifications and requirements (*'Planning for Bushfire Protection' (2006)* and *AS 3959 – Construction of Buildings in Bushfire-Prone Areas*) or has consulted with the Commissioner;

'Planning for Bushfire Protection' (2006), defines bushfire prone areas as an area that can support a bushfire or is likely to be subject to bushfire attack. In general, a bushfire prone area is an area containing a high, medium or low bushfire hazard, or any area within 100 m of a high or medium bushfire hazard, or within 30 m of a low bushfire hazard. Bushfire hazard areas do not include existing urban areas or water bodies (other than wetland vegetation), and are identified by bushfire hazard mapping produced under an approved Bushfire Risk Management Plan, or other such map certified by the Commissioner of the NSW Rural Fire Service for this purpose.

3 SITE ASSESSMENT

NAME:	IDJ Group
ADDRESS:	jinnes@ijdgroup.com
SITE ADDRESS:	1-21 Dillwynnia Grove Heathcote, NSW 2233
COUNCIL:	Sutherland Shire Council
TYPE of AREA:	Residential
TYPE of DEVELOPMENT:	79BA, restoration of existing Heritage Building.

Barry Eadie conducted an inspection of the site at 1-21 Dillwynnia Grove, Heathcote and the surrounding area on 28 March 2017. The following assessment has been undertaken in accordance with the requirements of **'Planning for Bushfire Protection' (2006)**. The proposal is for restoration of the existing Heritage Building consisting mainly of:

- Keeping the main envelope of the existing building;
- Restoration of the existing Heritage Building;
- Reducing the bushfire risk to occupants by change of use from residential to retail uses;
- Improved access to the site;
- Improved water supplies for firefighting.

The existing Heritage Building is on an existing allotment which therefore constitutes In-fill development in accordance with **'Planning for Bushfire Protection' (2006)**. Additionally, the original building was for residential purposes, the proposed restoration will not include residential purposes but is have restaurant on the ground floor and offices / retail on the first floor. The area outside the Bush Fire Buffer Zone is proposed to be developed for residential purposes which will increase the bushfire safety of the site whilst improving access and available water supplies for firefighting.

3.1 Location

The site is bounded by Boronia Grove to the North, Dillwynnia Grove to the South, Tecoma Street to the East and existing residential dwellings to the West. The subject Heritage Building is accessed directly off Tecoma Street, however with the overall development proposed for the whole site access will be both Boronia Grove and Dillwynnia Grove.

3.2 Vegetation

The vegetation has been assessed over a distance of 140 m from the existing bush vegetation both on and off site in all directions in accordance with Table A2.1 of *'Planning for Bushfire Protection' (2006)*.

The vegetation that impacts upon the site is from the Royal National Park to the South and East and in particular a finger of unmanaged vegetation to the East of 2 Dillwynnia Grove which puts the subject building within the Bushfire Buffer. The vegetation therefore that impacts upon the subject site is Forest vegetation within the Royal National Park.

It is important to note that the finger of vegetation that impacts upon the subject building is only approximately 20 metres wide. The calculations for the purposes of *'Planning for Bushfire Protection' (2006)* are based upon a fire front of 100 metres. To achieve the 100 metre fire front the subject building is further than 100 metres from this size fire front.



(Left / Middle / Right) Existing building



(Left) Existing building

(Middle / Right) Current vegetation around existing building

3.3 Slope

Based on the site inspection, the slope of the land over a distance of 100 m from the indicative building lines in all directions has been assessed. In accordance with ***‘Planning for Bushfire Protection’ (2006)***, the slope has been assessed based on the gradient that will most significantly influence the fire behaviour of the site.

The subject site is general flat, the slope under the Forest vegetation within the Royal National Park is 10-15⁰ Down-slope.

3.4 Asset Protection Zone

The Asset Protection Zone (APZ) acts as a buffer zone between the development and the hazard. The primary purpose of an APZ is to ensure that a progressive reduction of bushfire fuels occurs between the bushfire hazard and any habitable structures. The APZ consists of an Inner Protection Area (IPA) and an Outer Protection Area (OPA).

‘Planning for Bushfire Protection’ (2006), states in the dictionary:

“Infill development refers to the development of land by the erection of or addition to a residential building (or buildings) which does not require the spatial extension of services including public roads, electricity, water or sewerage and is within an existing allotment.”

As such this proposed development is considered as “Infill”.

As well as complying as ‘in-fill’ the proposal is a Heritage Building and PBP states, in relation to Heritage buildings:

In relation to land identified as having heritage significance, the usual requirements for bush fire protection may conflict with the conservation of significant heritage fabric and its setting.

Asset Protection Zone Requirements

Due to the proposed development of the subject site, which will have residential development beyond the Bush Fire Buffer Zone the whole of the site will be managed as an Inner Protection Area and with the proposed development requiring the removal of some trees and vegetation there will be a marked increase in the level of bush fire protection for the site.

3.5 Level of Construction

Table A3.3 of ***‘Planning for Bushfire Protection’ (2006)*** allow the determination of the relevant level of construction in accordance with AS 3959-1999: ***Construction of Buildings in Bushfire-Prone Areas***.

Bushfire Attack Summary

As the existing Heritage Building is not to be demolished and will be restored and the proposed residential development (outside the Bush Fire Buffer Zone) the whole site will provide an increase in the protection of the existing Heritage Building with the proposed development. Additionally, screens for external windows and the sealing of any external openings.

As the existing Heritage Building was originally a residential building it would attract different bush fire construction requirements than the proposed retail / office use.

The existing Heritage Building is constructed of masonry block walls and a combination of corrugated iron and shingles roofing. The building is located approximately 44 metres from the finger of vegetation adjoining 2 Dillwynnia Grove and if for a new residential structure would attract BAL 29 on the southern and eastern elevations and BAL 19 on the remainder. Due to the existing nature of the building and the proposed development of the whole site with the management of the present unmanaged site and the up-grading of the existing Heritage Building there will be a vastly improved bushfire outcome with the proposed development both for the site and the area as a whole.

3.6 Fire Fighting Personnel Access

3.6.1 Public Road Access

Access is provided to the Site via sealed public roads, Boronia Grove, Dillwynnia Grove and Tecoma Street are all capable of supporting fully loaded fire fighting vehicles.

3.6.2 Property Access

Property Access will be from Boronia Grove and Dillwynnia Grove providing alternate access and egress for the whole proposed development.

3.7 Electricity Supply

It is preferable that transmission lines providing power to the proposed development should be installed underground. Satisfactory provisions are available, however, if this is not possible.

3.8 Gas

Reticulated or bottled gas shall be installed and maintained in accordance with AS/NZS 1596-2002: ***Storage and Handling of LP Gas*** and the requirements of the relevant authorities. If gas cylinders are to be kept close to buildings, the release valve must be directed away from the building and away from any hazardous materials such as firewood, so that it does not act as a catalyst to combustion.

3.9 Water Supply

As there is Town reticulated water supply available in all surrounding street and hydrants will be provided within the overall site as part of the whole proposed development.

4 RECOMMENDATIONS

Based on Barry Eadie's site inspection and assessment, the following recommendations would be required for proposed development of dwelling:

- (a) The area around the existing heritage Building will to be managed as an Inner Protection Area in accordance with '*Planning for Bushfire Protection*' (2006) and Heritage issues:
- (b) If any trees are to be located within the envisaged APZs, this is considered acceptable, providing the following conditions are met:
 - (i) Vegetation is not to touch or overhang dwellings (canopy vegetation must not be within 5 metres of any building / dwelling);
 - (ii) Vegetation is not species that retain dead material or deposit excessive quantities of ground fuel in a short period or in a danger period; and
 - (iii) Vegetation is located far enough away from dwellings so that it will not ignite the dwelling by direct flame contact or radiant heat emission.
- (c) Woodpiles, combustible material storage sheds, large areas / quantities of garden mulch and stacked flammable building materials should not be located within IPA of dwellings;
- (d) The existing Heritage Building should have screens fitted to all external openable windows, screens may be fitted inside or outside and have a maximum aperture of 1.8mm of Aluminium, Bronze or Corrosion resistant steel.
- (e) All vents and weep holes shall be protected with spark guards made from 1.8mm mesh that is either Aluminium, Bronze or Corrosion resistant steel.
- (f) Roof lights shall be provided with aluminium, corrosion resistant steel or bronze mesh.
- (g) Reticulated or bottled gas shall be installed and maintained in accordance with AS/NZS 1596-2002: *Storage and Handling of LP Gas* and the requirements of the relevant authorities.

5 CONCLUSIONS

Barry Eadie has conducted a site inspection and assessment of the site. The assessment has been undertaken in accordance with ***‘Planning for Bushfire Protection’ (2006)*** and AS 3959-1999: ***Construction of Buildings in Bush Fire Prone Areas***.

Provided the recommendations stated above are implemented in full, Barry Eadie Consulting Pty Ltd is of the opinion that the proposed development will increase the level of protection from bush fire and achieves the intent of the relevant legislation and in particular the requirements as set out in ***‘Planning for Bush Fire Protection’ (2006)***.

6 REPORT BASIS INFORMATION

The report is based on the following:

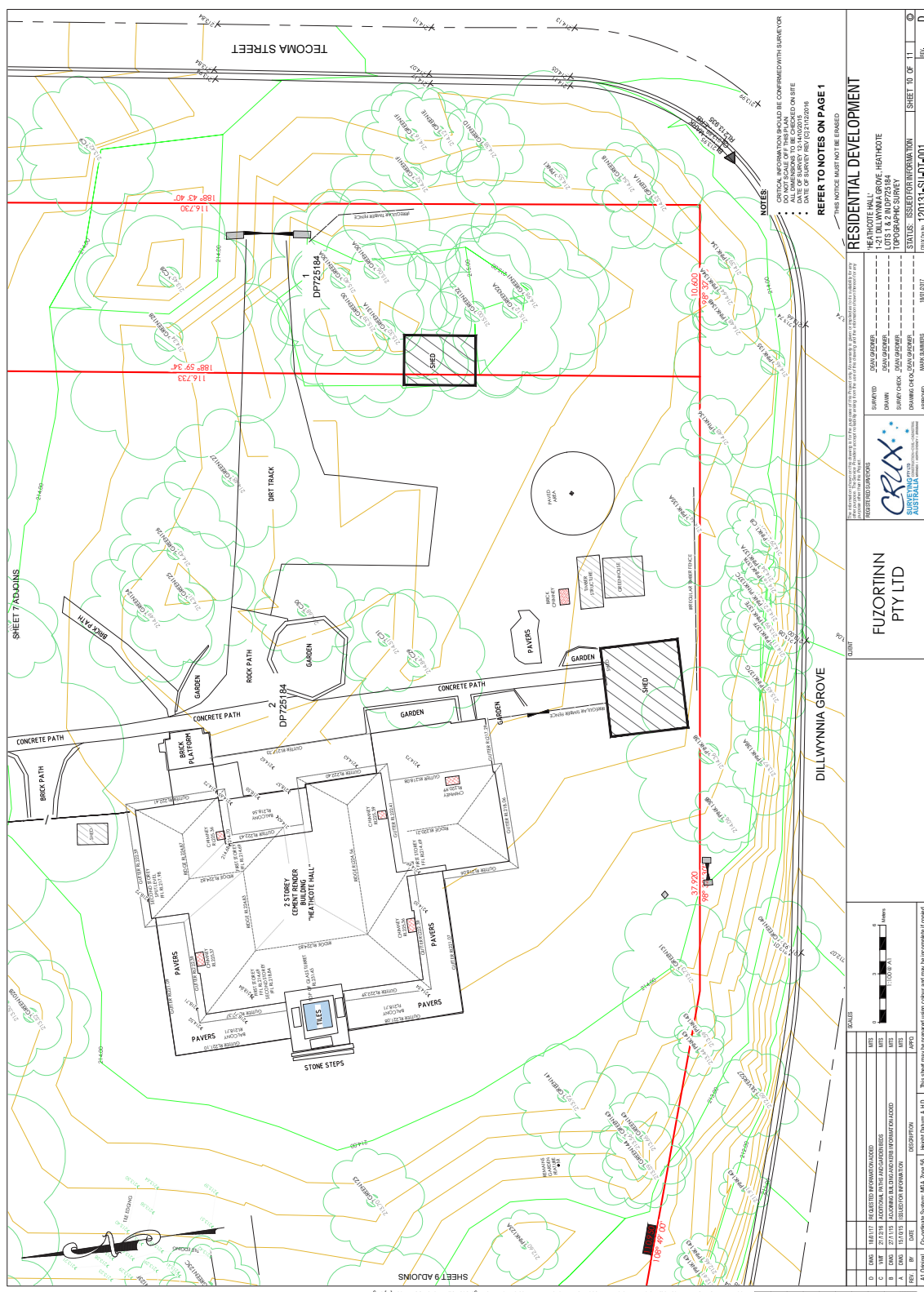
- (i) Site inspections carried out on 28 March 2017 by Barry Eadie;
- (ii) Site Plan

7 REFERENCES

- NSW Rural Fire Service, Planning NSW, ***‘Planning for Bushfire Protection’ (2006)***.
- AS 3959-2009: ***Construction of Buildings in Bush Fire Prone Areas***.

APPENDIX A – PROPOSED DEVELOPMENT PLAN







NSW RURAL FIRE SERVICE



The General Manager
Sutherland Shire Council
Locked Bag 17
SUTHERLAND NSW 1499

Your reference: DA17/0467
Our reference: D17/1511
DA17051607313

19 January 2018

Attention: Lisa Pemberton

Dear Sir/Madam,

Integrated Development for 1-21 Dillwynnia Grove Heathcote. Refurbishment and restoration of Heathcote Hall, construction of 35 townhouses and 20 apartments, associated landscape works and 56 lot strata subdivision

Reference is made to Council's correspondence dated 9 May 2017 seeking general terms of approval for the above application for integrated development in accordance with Section 91 of the *Environmental Planning and Assessment Act 1979*.

The New South Wales Rural Fire Service (NSW RFS) recognises the location of the site within the wider landscape, and the potential risk posed to future residents trying to evacuate the area in the event of an emergency.

In this regard, the NSW RFS is seeking advice about the following:

1. The status and functionality of the railway crossing located at the Heathcote Railway Station; and
2. Council's assessment of the revised *Traffic and Parking Impact Assessment* report and findings.

The NSW Rural Fire Service will provide a response within 14 days of the receipt of the required further information. If the additional information is not received within 100 days, the application will be refused on the basis of requested information not provided. A formal request for reassessment would be required after that time.

If you have any queries regarding this advice, please contact Garth Bladwell, Development Assessment and Planning Officer, on 1300 NSW RFS.

Yours sincerely,

Nika Fomin
Manager, Planning and Environment Services (East)

Postal address
NSW Rural Fire Service
Records Management
Locked Bag 17
GRANVILLE NSW 2141

Street address
NSW Rural Fire Service
Planning and Environment Services (East)
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Lisa Pemberton - 9710 0326
File Ref: DA17/0467

23 February 2018

The Manager
Planning & Environment Services
NSW Rural Fire Service
Locked Bag 17
GRANVILLE NSW 2142

ATT: Garth Bladwell

Your Ref: D17/1511
DA17051607313

Dear Sir/Madam

Development Application No. DA17/0467

Proposal: Refurbishment and restoration of Heathcote Hall, construction of 35 townhouses and 20 apartments, associated landscape works and 56 lot strata subdivision

Property: 1-21 Dillwynnia Grove, Heathcote

I write in response to your letter to Council dated 19 January 2018, seeking additional information for the above Development Application regarding:

- 1) *"The status and functionality of the railway crossing located at the Heathcote Railway Station"; and*
- 2) *"Council's Assessment of the revised Traffic and Parking Impact Assessment report and findings".*

Please note the following responses to the above:

- 1) Your letter and the development application was referred to the Local Emergency Management Committee, who reviewed the application and provided comment. A copy of their response letter is attached for your information.
- 2) Council has reviewed the revised Traffic and Parking Impact Assessment prepared by McLaren Traffic (reference 17063.01FB, dated 4 December 2017). Council advises that as a result of this report that it is considered that the traffic impact from the development is considered acceptable. In particular the assessment notes:

- **Pre development and Pre-Intersection upgrade:**

- With the existing intersection layout and current traffic volume, Council traffic modelling results indicates that the Princes Hwy / Heathcote Rd / Wilson Pde intersection is currently operating during AM peak hour with a Level of Service D (LoS D) with 47 seconds average intersection delay and during PM peak unsatisfactorily with LoS F with average delay of 182 seconds and significant delay of more than 9 minutes and queue of >1300m for Heathcote Road approach to the Princes Highway. The Wilson Pde approach to the Princes

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Highway experiences delay of 100 seconds and queue of 60m during peak hours.

Level of Service Criteria as per the RMS Guide to Traffic Generating Development are as follows:

Level of Service	Average Delay per Vehicle (secs/veh)	Traffic Signals, Roundabout	Give Way and Stop Signs
A	less than 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
C	29 to 42	Satisfactory	Satisfactory but accident study required
D	43 to 56	Operating near capacity	Near capacity and accident study required
E	57 to 70	At capacity; at signals incidents will cause excessive delays. Roundabouts require other control mode	At capacity and requires other control mode
F	More than 70	Unsatisfactory and requires additional capacity.	Unsatisfactory and requires other control mode or major treatment.

- **Pre development and Post Intersection upgrade:**

- With current traffic volume (excluding the development traffic) and with future RMS pinch point intersection upgrade at Heathcote Road intersection with the Princes Highway, modelling results shows there will be improvement in intersection level of service, delay and queue length particularly for Heathcote Road approach to the Princes Highway.
- With upgrades, the intersection will operate at LoS D with average delay of 45 seconds during AM peak hour.
- During the PM peak hour, there will be a LoS F with average delay of 71 seconds during PM peak hour.
- In particular the delay on Heathcote Road approaching the Princes Highway will reduce from 9 minutes to 1 minute and queue from 1300m to 250m.
- The Wilson Pde approach to the Princes Highway will experience delay of 85 seconds and queue of 55m during PM peak hour.

- It is estimated that the proposed development will generate additional 54 vehicle trips during AM and PM peak hours.

- **Post development and post intersection upgrade:**

- With the development traffic volume and RMS proposed intersection upgrade, the intersection will operate during AM peak hour with LoS D with average delay of 46 seconds and LoS F with average delay of 71 seconds during PM peak hour.

- The Wilson Pde approach to the Prince Highway will experiences delay of 100 seconds and queue of 60m during peak hours.
- Council traffic modelling results indicates that with the proposed RMS upgrade, the Princes Hwy / Heathcote Rd / Wilson Pde intersection performance will improve compared to current traffic conditions.
- Based on the above modelling results, with the RMS intersection upgrade there will be minor and acceptable impact on the performance of the Princes Hwy / Heathcote Rd / Wilson Pde intersection and surrounding road network from the proposed development traffic.

It is important to note that Council's assessment of the report and application **does not** include an assessment of emergency traffic scenarios. For emergency scenarios, traffic may be managed using traffic controllers in the area that may include changing signal phase and timing by RMS for Princes Hwy and Heathcote Road intersection, however this cannot be relied upon or applied to the traffic modelling.

If you require further information, please contact Council's Environmental Assessment Officer Lisa Pemberton on 9710 0326 or email lpemberton@ssc.nsw.gov.au and quote the application number in the subject.

Yours faithfully



Lisa Pemberton



21 February 2018

Lisa Pemberton
Sutherland Shire Council
By email: lpemberton@ssc.nsw.gov.au

Dear Ms Pemberton

RE: Development Application No. DA17/0467

Following your correspondence to the Local Emergency Management Committee (LEMC) dated 23 January 2018, the request for comments regarding the above Development Application was raised at the LEMC meeting on Thursday, 8 February 2018. Following the meeting, an email with details of the application was sent to all LEMC members requesting their feedback/comments.

Based on the responses received, the LEMC members have advised there is nothing specific to this development application which creates unique evacuation management issues compared to other developments currently being undertaken in the Sutherland Shire.

There are existing areas in East Heathcote (John Paul Village and Heathcote High School) which create challenges in the evacuation management context and this proposed development is an additional consideration. Evacuation management would be managed dependent on the emergency/incident situation being presented and other associated factors such as time of day, day of week and timings available to coordinate an evacuation. This would all be taken into account in terms of any proposed evacuation of the east Heathcote area, which would be coordinated via the Local Emergency Operations Controller (LEOCON) and the respective combat agency commanders.

The use of the emergency services access crossing at the northern (city) end of Heathcote station as an alternate evacuation route for the property at Dillwynnia Grove Heathcote would require liaison between a qualified Sydney Trains representative and emergency services before, during and after the utilisation of this emergency access route.

Considerations regarding the use of the crossing highlighted by Sydney Trains are as follows:

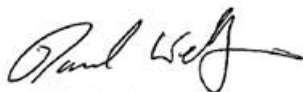
- Vehicles with insufficient ground clearance risk becoming stuck whilst traversing the crossing.
- Vehicles which are too high may risk contact with or arcing from the overhead wiring.
- The use of the crossing to walk people out of Dillwynnia Grove Heathcote would also require a similar high level of liaison between Sydney Trains and emergency services.
- An open walkway is in place at the city end of Heathcote station with ramps from platform to platform.

Regarding comments related to the development layout specifically, NSW Ambulance have requested that any lift design be able to accommodate their stretchers (dimensions listed below):

Stretcher Dimensions	DHS 302	DHS 304	DHS 305	Stretcher Bariatric Specialist	Stretcher Stryker Power Pro XT	Bariatric Ambulance Wheelchair
Height						
Fully standing						
(ground to top of mattress)	920 mm	950 mm	950 mm	1140 mm	930 mm	1010 mm
Fully Standing with patient						
(generous measurement)	1420 mm	1450 mm	1450 mm	1620 mm		
Half Height					Lowest Height	
(ground to top of mattress)	610 mm	570 mm	360 mm	380 mm	400 mm	
Width	580 mm	555 mm	547 mm	750 mm	580 mm	820 mm
Length						
Standing	2010 mm	1940 mm	1925 mm	2000 mm	2060 mm	1200 mm
Standing – reduced length	1850 mm	1680 mm	1600 mm	1690 mm	1600 mm	
Weight	47 kg	56 kg	52 kg	128 kg	65 kg	25 kg
Work Load Limit	160 kg	160 kg	160 kg	500 kg	318 kg	295 kg

Any emergency incident in East Heathcote would be managed in accordance with the procedures outlined in the Sutherland Shire Emergency Management Plan (EMPLAN) and the respective Consequence Management Guide (CMG).

Yours sincerely,



David Kelly
Chairperson
Sutherland LEMC