BUSHFIRE HAZARD REPORT
CONSTRUCTION OF A NEW CLASS 1A BUILDING
LOT 347, ELDRIDGE DRIVE, KINGSTON
FOR
HIVIS BUILDING SOLUTIONS

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Accredited Bushfire Practitioner BFP-118
Scope 1, 2, 3a and 3b
11th December 2020
CONTENTS

1. SUMMARY: ..................................................................................................................... 3
2. LOCATION: ................................................................................................................... 4
3. SITE DESCRIPTION: .................................................................................................... 5
4. PROPOSED DEVELOPMENT: ....................................................................................... 7
5. BUSHFIRE ATTACK LEVEL: ......................................................................................... 8
6. COMPLIANCE: ............................................................................................................. 16
7. CONCLUSIONS & RECOMMENDATIONS: ................................................................. 27
8. REFERENCES: ............................................................................................................. 28
9. GLOSSARY .................................................................................................................. 29

ATTACHMENT 1 - SUMMARY OF CONSTRUCTION REQUIREMENTS FOR BAL

ATTACHMENT 2 - DESIGN PLANS

ATTACHMENT 3 - BUSHFIRE HAZARD MANAGEMENT PLAN

Disclaimer:
AS 3959:2018 cannot guarantee that a habitable building will survive a bushfire attack, however the implementation of the measures contained within AS 3959:2018, this report and accompanying plan will improve the likelihood of survival of the structure. This report and accompanying plan are based on the conditions prevailing at the time of assessment. No responsibility can be accepted to actions by the landowner, governmental or other agencies or other persons that compromise the effectiveness of this plan. The contents of this plan are based on the requirements of the legislation prevailing at the time of report.
1. SUMMARY:

This Bushfire Hazard Report has been prepared to support the design and construction of a Class 1a building at Lot 347, Eldridge Drive, Kingston. The site is subject to a bushfire prone area overlay under the relevant planning scheme.

This report identifies the protective features and controls that must be incorporated into the design and construction works to ensure compliance with the standards. Fire management solutions are defined in AS 3959:2018 Construction of Buildings in Bushfire-Prone Areas, Building Amendments (Bushfire-Prone Areas) Regulations 2014 (18th June 2014), National Construction Code 2019 Building Code Australia (Volume 2) (NCC), Director's Determination, Requirements for Building in Bushfire-Prone Areas (transitional) (Version 2.2, 6th February 2020) (The Determination), Bushfire Prone Areas Advisory Note N°01-2014 (BHAN-01).

The proposed Class 1a building has been assessed as BAL-12.5 under Section 5 of AS 3959:2018 and provided the appropriate construction standards are incorporated into the design, the new building works are capable of compliance with the provisions of AS 3959:2018. See Attachment 1 for construction summary.

There are no specific access construction standards applicable for this site due to the being less than 30 metres in length and not being required for access to a water supply for firefighting purposes in accordance with Table 4.2, The Determination.

The site has been deemed to satisfy the requirements of Table 4.3, The Determination due to the identification of a fire hydrant within a 120 metre hoselay of the furthest point of the proposed development.

A Hazard Management Area is to be established in compliance with Part 4.4, The Determination. A Hazard Management Area equal to the distances specified in Table 3 will be required, and as a result, the bushfire risk to the site may be reduced.

The effectiveness of the measures and recommendations detailed in this report and AS 3959:2018 is dependent on their implementation and maintenance for the life of the development or until the site characteristics that this assessment has been measured from alter from those identified. No Liability can be accepted for actions by lot owner, Council or Government agencies which compromise the effectiveness of this report.

This report has been prepared by Liam Brightman and certified by Nick Creese, principal of Lark & Creese Surveyors. Nick is a registered surveyor in Tasmania and is accredited by the Tasmanian Fire Service to prepare Bushfire Hazard Management Plans.

Site survey carried out on the 28th October 2020.
2. LOCATION:

Property address: Lot 347 Eldridge Road, Kingston
Title owner: Kingston Spring Farm Pty Ltd
Title reference: C.T. 179537/347
PID N°: 9636018
Title area: Approximately 305 m²
Municipal area: Kingborough
Zoning: Inner Residential

Image 1: Site location (Source *The LIST*)
3. SITE DESCRIPTION:

The site is located within a new residential area on Eldridge Drive, at the intersection of Eldridge Drive and Guthrie Street, Kingston. The site is located at an elevation of approximately 58 metres with grades falling to the north in the order of <5°.

At the time of assessment, the property was vacant and vegetated by grasses.

Adjacent to the north eastern boundary is Eldridge Drive which consists of grassed verges, concrete footpaths, and a bitumen carriageway. Beyond Eldridge Drive is an extensive area of newly developed residential allotments. These allotments contain dwellings, hardstand areas and gardens.

Beyond Eldridge Drive, to the east, is the intersection of Eldridge Drive and Guthrie Street and further residential allotments. These allotments are a mix of developed and undeveloped. The developed allotments consist of dwelling, hardstand areas and gardens, the undeveloped allotments are vacant and vegetated by grasses.

South east of the site is an area of residential allotments that were yet to undergo development for residential purposes. These allotments were vacant and vegetated by grasses. Also, to the south east is Eldridge Drive which consists of grasses verges, concrete footpaths, and a bitumen carriageway.

Reticulated water supply is available to the site with domestic water supply requirements reliant on TasWater mains supply.

Planning controls are administered by the Kingborough Council under the Kingborough Interim Planning Scheme 2015 (KIPS15). The site is zoned Inner Residential.
Image 2: Looking north east towards development site

Image 3: Looking south east towards development site
4. PROPOSED DEVELOPMENT:

The construction of a new Class 1a building is proposed for the site. Construction materials are to be determined following this report.

Image 4: Site plan
5. BUSHFIRE ATTACK LEVEL:

Fire Danger Index (FDI): The Fire Risk Rating for Tasmania is adopted as 50.

Vegetation Classification:

Vegetation Assessment:
Following assessment of the characteristics of the site, the vegetation types, separation distances from development site and slope under the vegetation have been identified as shown in Table 1 below:

<table>
<thead>
<tr>
<th>Direction:</th>
<th>Description:</th>
<th>Distance:</th>
<th>Slope:</th>
</tr>
</thead>
<tbody>
<tr>
<td>North east:</td>
<td>Site:</td>
<td>0-5</td>
<td>&lt;5° down</td>
</tr>
<tr>
<td></td>
<td>- grasses</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Eldridge Drive:</td>
<td>5-28</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- grassed verges, concrete footpath, bitumen carriageway</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Neighbouring allotments:</td>
<td>28-100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- dwellings, hardstand areas, gardens</td>
<td></td>
<td></td>
</tr>
<tr>
<td>South east:</td>
<td>Site:</td>
<td>0-2</td>
<td>&lt;5° up</td>
</tr>
<tr>
<td></td>
<td>- grasses</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Neighbouring allotments:</td>
<td>2-4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- grasses</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Eldridge Drive:</td>
<td>4-28</td>
<td>Level</td>
</tr>
<tr>
<td></td>
<td>- grassed verges, concrete footpath, bitumen carriageway</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Neighbouring allotments:</td>
<td>28-74</td>
<td>&lt;5° up</td>
</tr>
<tr>
<td></td>
<td>- developed – dwellings, hardstand areas, gardens</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- undeveloped – grasses</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Eldridge Drive:</td>
<td>74-90</td>
<td>Level</td>
</tr>
<tr>
<td></td>
<td>- grassed verges, concrete footpath, bitumen carriageway</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Neighbouring allotments:</td>
<td>90-100</td>
<td>&lt;5° up</td>
</tr>
<tr>
<td></td>
<td>- grasses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>South west:</td>
<td>Site:</td>
<td>0-5</td>
<td>Level</td>
</tr>
<tr>
<td></td>
<td>- grasses</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Neighbouring allotment:</td>
<td>5-40</td>
<td></td>
</tr>
</tbody>
</table>
Grand Mews:
- grassed verges, concrete footpath, bitumen carriageway 40-50
Neighbouring allotments:
- grasses 50-74
Spring Farm Road:
- grassed verges, concrete footpaths, bitumen carriageway 74-94
Holly Hock Drive:
- grassed verges, concrete footpath, bitumen carriageway 94-100
Council Reserve:
- Eucalypts, grasses, reeds 89-100

North west:
Site:
- grasses 0-1
<5° down
Neighbouring allotments:
- grasses 1-35
Eldridge Drive:
- grassed verges, concrete footpath, bitumen carriageway 35-53
Neighbouring allotment:
- grasses 53-100

Table 1: Site Assessment
NOTE: The vegetation identified in Table 1 has been assessed in consideration of Table 2.3 and figures 2.4(A)-(H) AS 3959:2018 as follows.

Adjacent to the north eastern boundary is Eldridge Drive which consists of grassed verges, concrete footpaths, and a bitumen carriageway, beyond which are newly established residential allotments. These allotments contain dwellings, hardstand areas and gardens. As a result, the land to the north east has been assessed as being Low Threat Vegetation (LTV) under the provisions of Part 2.2.3.2 (e) & (f), AS 3959:2018.

South east of the site are several vacant residential allotments that were vegetated by grasses, beyond which is Eldridge Drive which consists of grassed verges, concrete footpath, and a bitumen carriageway. Past Eldridge Drive were further residential allotments that were a mix of developed and undeveloped. The developed allotments consist of dwellings, hardstand areas and gardens. The undeveloped allotments were vacant and vegetated by grasses that appeared to be regularly maintained in a minimal fuel condition. Beyond these allotments is a further part of Eldridge Drive. The land to the south east has been assessed as Low Threat Vegetation under the provisions of Part 2.2.3.2 (e) & (f), AS 3959:2018 and BHAN 01-2014.

Immediately to the south west are several vacant residential allotments that were vegetated by grasses that appeared to be regularly maintained in a minimal fuel condition. Past these allotments is Grand Mews which contains grassed verges, concrete footpath, and a bitumen carriageway. Beyond Grand Mews were further vacant residential allotments that are vegetated by grasses and appeared to be regularly maintained in a minimal fuel condition. Further on is Spring Farm Road and Holly Hock Drive which both consist of grassed verges, concrete footpath, and bitumen carriageways. This area has been assessed as Low Threat Vegetation under the provisions of Part 2.2.3.2 (e) & (f), AS 3959:2018 and BHAN 01-2014. At the intersection of Spring Farm Road and Holy Hock Drive is part of a Council Reserve which is vegetated by Eucalypts, reeds, and grasses. The Council will be maintaining the vegetation within the Reserve in its current form and has been assessed as B: Woodland.

North west of the site are several vacant residential allotments that were vegetated by grasses that appeared to be regularly maintained in a minimal fuel condition. Beyond these allotments is Eldridge Drive which consists of grassed verges, concrete footpath, and a bitumen carriageway. This area has been assessed as Low Threat Vegetation under the provisions of Part 2.2.3.2 (e) & (f), AS 3959:2018. Past Eldridge Drive is a relatively large allotment that is zoned inner residential and local business. This site is vacant and vegetated by short, cropped grasses. The grasses appeared to be regularly maintained in a minimal fuel condition, and as such has been assessed as Low Threat Vegetation under the provisions of Part 2.2.3.2 (f), AS 3959:2018.
Vegetation Classification:
In consideration of vegetation classifications under Table 2.3 and Figure 2.4, AS 3959:2018 and as detailed above, the predominant vegetation, separation distances from development site and slope under the classified vegetation is assessed as shown in Table 2 below:

<table>
<thead>
<tr>
<th>Direction:</th>
<th>Vegetation Type:</th>
<th>Distance (m):</th>
<th>Effective slope:</th>
<th>Exclusions:</th>
</tr>
</thead>
<tbody>
<tr>
<td>North East</td>
<td>LTV</td>
<td>0-100</td>
<td>&lt;5° down</td>
<td>Part 2.2.3.2 (e) &amp; (f)</td>
</tr>
<tr>
<td>South East</td>
<td>LTV</td>
<td>0-100</td>
<td>&lt;5° up</td>
<td>BHAN 01-2014</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Part 2.2.3.2 (e) &amp; (f)</td>
</tr>
<tr>
<td>South west:</td>
<td>LTV</td>
<td>0-90</td>
<td>Level</td>
<td>BHAN 01-2014</td>
</tr>
<tr>
<td>B: Woodland</td>
<td></td>
<td>90-100</td>
<td></td>
<td>No</td>
</tr>
<tr>
<td>North west:</td>
<td>LTV</td>
<td>0-100</td>
<td>&lt;5° down</td>
<td>BHAN 01-2014</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Part 2.2.3.2 (e) &amp; (f)</td>
</tr>
</tbody>
</table>

Table 2: Predominate vegetation
Image 5: Aerial image of predominate vegetation (Source The LIST)
Image 6: Predominate vegetation to the North east of site - LTV

Image 7: Predominate vegetation to the South east of site - LTV
Image 8: Predominate vegetation to the South west of site – B: Woodland

Image 9: Predominate vegetation to the North west of site - LTV
Bushfire Attack Level Assessment:
Based on the predominate vegetation detailed above, and the separation distances provided between the predominate vegetation and the development site, the BAL for each elevation of the proposed dwelling has been determined from Table 2.6, AS 3959:2018 as follows:

- North east elevation: BAL-LOW
- South east elevation: BAL-LOW
- South west elevation: BAL-12.5
- North west elevation: BAL-LOW

In accordance with Clause 2.2.6(d) AS 3959:2018, the highest BAL determined for the site is to be applied as the BAL for the whole of the site. As such, the bushfire attack level for each elevation has been assessed as:

<table>
<thead>
<tr>
<th>Elevation</th>
<th>BAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>North east</td>
<td>BAL-12.5</td>
</tr>
<tr>
<td>South east</td>
<td>BAL-12.5</td>
</tr>
<tr>
<td>South west</td>
<td>BAL-12.5</td>
</tr>
<tr>
<td>North west</td>
<td>BAL-12.5</td>
</tr>
</tbody>
</table>

Table 3 details the hazard management areas (HMA) required to comply with that BAL, and the area available for compliance.

<table>
<thead>
<tr>
<th></th>
<th>North east</th>
<th>South east</th>
<th>South west</th>
<th>North west</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAL</td>
<td>BAL-12.5</td>
<td>BAL-12.5</td>
<td>BAL-12.5</td>
<td>BAL-12.5</td>
</tr>
<tr>
<td>VEGETATION</td>
<td>LTV</td>
<td>LTV</td>
<td>B:Woodland</td>
<td>LTV</td>
</tr>
<tr>
<td>EFFECTIVE SLOPE</td>
<td>&lt;5° down</td>
<td>&lt;5° up</td>
<td>Level</td>
<td>&lt;5° down</td>
</tr>
<tr>
<td>HMA SPECIFIED</td>
<td>N/A</td>
<td>N/A</td>
<td>22-&lt;100 M</td>
<td>N/A</td>
</tr>
<tr>
<td>TABLE 2.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HMA REQUIRED</td>
<td>N/A</td>
<td>N/A</td>
<td>22 m</td>
<td>N/A</td>
</tr>
<tr>
<td>HAZARD MANAGEMENT</td>
<td>More than 100</td>
<td>More than 100</td>
<td>Approx. 3 m to</td>
<td>More than 100</td>
</tr>
<tr>
<td>AREA AVAILABLE</td>
<td>metres of managed land.</td>
<td>metres of managed land.</td>
<td>boundary plus additional</td>
<td>metres of managed land.</td>
</tr>
</tbody>
</table>
6. COMPLIANCE:

Building Regulations 2014:
Compliance with Part 1A – Bushfire-prone Areas the Building Regulations 2014 is achieved through the implementation of Director’s Determination - Requirements for Building in Bushfire-Prone Areas (transitional) as follows:

Part 2 Application:

The determination applies to a building located in a bushfire-prone area of the following Class:
(a) Class 1;
(b) Class 2;
(c) Class 3;
(d) Class 8;
(e) Class 9; and
(f) Class 10a that is closer than 6 metres to a habitable building.

The proposed building is a Class 1a building and as such the requirements of The Determination apply.

Part 3 Performance Requirements:

(1) A building to which this Determination applies must, to the degree necessary, be:
   a. Designed and constructed to reduce the ignition from bushfire, appropriate to the:
      i. Potential for ignition caused by burning embers, radiant heat or flame generated by bushfire; and
      ii. Intensity of the bushfire attack on the building;
   b. Provided with vehicular access to the site to assist firefighting and emergency personnel to defend the building or evacuate occupants;
   c. Provided with access at all times to a sufficient supply of water for firefighting purposes on the site; and
   d. Provided with appropriate separation of the building from the bushfire hazard.

(2) The performance requirement specified in Sub clause (1)(a) is applicable to the following:
   a. a Class 1, 2 or 3 building; or
   b. a Class 10a building or deck associated with a Class 1, 2 or 3 building.

The proposed building is a Class 1a building and has been assessed under Part 4 Deemed to Satisfy Requirements and as such Part 3 is not applicable.
Part 4 Deemed to Satisfy Requirements:

Part 4.1. Construction Requirements

(1) Building work (including additions or alterations to an existing building) in a bushfire-prone area must be designed and constructed in accordance with an Acceptable Construction Manual determined by the BCA, being either:
   a. AS 3959:2018; or
   b. NASH Standard – Steel Framed Construction in Bushfire Areas as appropriate for a BAL determined for the site.

(2) Sub clause (1)(a) is applicable to the following:
   a. a Class 1, 2 or 3 building; or
   b. a Class 10a building or deck associated with a Class 1, 2 or 3 building.

(3) Sub clause (1)(b) is applicable to the following:
   a. a Class 1 building; or
   b. a class 10a building or deck associated with a Class 1 building.

(4) Despite subsection (1) above, variations from requirements specified in 1(a) and 1(b) are as specified in Table 4.1 below.

(5) Despite subsections (1) and (4) above, performance requirements for buildings subject to BAL 40 or BAL Flame Zone (BAL-FZ) are not satisfied by compliance with subsections (1) or (4) above.

APPLICATION:

(1) The building has been assessed against the requirements of AS 3959:2018.

(2) The proposal is for a new Class 1a building and is therefore subject to this subsection.

(3) The proposed Class 1a building has not been assessed against the NASH Standards and as such this subsection is not applicable.

(4) The proposed Class 1a building is not to be constructed with straw bales, does not the shielding provisions under Part 3.5 or assessed as Vulnerable Use and as such this subsection is not applicable.

(5) The proposed habitable building has not been assessed as BAL-40 or BAL-FZ and therefore this subsection is not applicable.

The proposed building is a Class 1a building and as such the requirements of Part 4.1 apply.
<table>
<thead>
<tr>
<th>Element</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.</td>
<td>Straw Bale Construction</td>
</tr>
<tr>
<td></td>
<td>May be used in exposures up to and including BAL 19.</td>
</tr>
<tr>
<td>B.</td>
<td>Shielding provisions under Section 3.5 of AS 3959:2018</td>
</tr>
<tr>
<td></td>
<td>To reduce construction requirements, due to shielding, building plans must include suitable detailed elevations or plans that demonstrate that the requirements of Section 3.5 of the Standard can be met.</td>
</tr>
<tr>
<td></td>
<td>Comment: Application of Section 3.5 of the Standard cannot result in an assessment of BAL-LOW.</td>
</tr>
<tr>
<td>C.</td>
<td>Construction standard for vulnerable use</td>
</tr>
<tr>
<td></td>
<td>Building work for a building classified as a Vulnerable use must be constructed to a BAL that is determined in a BHMP certified by an accredited person.</td>
</tr>
</tbody>
</table>

All building works shall comply with the specification of Section 3 and for BAL-12.5 under Section 5 of AS 3959:2018. This includes the general provisions contained within AS3959:2018 and the following sub-sections:

- 5.1 General provisions
- 5.2 Sub floor supports
- 5.3 Floors
- 5.4 External walls
- 5.5 External glazed elements and assemblies and external doors
- 5.6 Roofs
- 5.7 Verandas, decks, steps, ramps and landings
- 5.8 Water and gas supply pipes
Part 4.2 Property Access:

(1) A new building constructed in a bushfire-prone area must be provided with property access to the building and the firefighting water point, accessible by a carriageway, designed and constructed as specified in subsection (4) below.

(2) For addition or alteration to an existing building in a bushfire-prone area referred to in regulation 11E(2)(b)(ii)(C) of the Building Regulations 2014, property access must be provided to the building area and the firefighting water point accessible by a carriageway designed and constructed as specified in subsection (4) below.

(3) For an addition or alteration to an existing building in a bushfire-prone area which is 20 metres squared gross floor area or less which does result in the building being closer to bushfire-prone vegetation and there is no property access available, property access must be provided to the building area and the firefighting water point accessible by a carriageway designed and constructed as specified in subsection (4) below.

(4) Vehicular access from a public road to a building must:
   a. Meet the property access requirements described in Table 4.2;
   b. Include access from a public road to within 90 metres of the furthest part of the building measured as a hose lay; and
   c. Include access to the hardstand area for the firefighting water point.

APPLICATION:

(1) There are no specific access standards applicable to the site due to its proximity to the road frontage.

(2) This bushfire hazard report refers to the construction of a new Class 1a building and as such this subsection is not applicable.

(3) This bushfire hazard report refers to the construction of a new Class 1a building as such this subsection is not applicable.

(4) The access to the site has been assessed as being less than 30 metres in length resulting in no specific access standards applicable in compliance with Element A, Table 4.2, The Determination.
The proposed access to the site <30 metres and is required for access to a water supply for firefighting purposes and as such the requirements of Element A, Table 4.2, Director's Determination - Requirements for Building in Bushfire-Prone Areas (transitional) below apply.

### Table 4.2 Standards for Property Access

<table>
<thead>
<tr>
<th>A</th>
<th>Property access length is less than 30 metres; or access is not required for fire appliance to access a firefighting water point.</th>
<th>There are no specific design and construction requirements</th>
</tr>
</thead>
</table>
| B | Property access length is 30 metres or greater; or access for fire appliance to a water connection point. | The following design and construction requirements apply to property access:  
  (a) All-weather construction;  
  (b) Load capacity of at least 20 tonnes, including for bridges and culverts;  
  (c) Minimum carriageway width of 4 metres;  
  (d) Minimum vertical clearance of 4 metres;  
  (e) Minimum horizontal clearance of 0.5 metres from the edge of the carriageway;  
  (f) Cross falls of less than 3° (1:20 or 5%);  
  (g) Dips less the 7° (1:8 or 12.5%)  
  (h) Curves with a minimum inner radius of 10 metres;  
  (i) Maximum gradient of 15° (1:3.5 or 28%), for sealed roads, and 10° (1:5.5 or 18%) for unsealed roads; and  
  (j) Terminating with a turning area for fire appliances provided by one of the following:  
    (i) A turning circle with a minimum inner radius of 10 metres;  
    (ii) A property access encircling the building; or  
    (iii) A hammerhead “T” or “Y” turning head 4 metres wide and 8 metres long. |
| C | Property access length or 200 metres or greater. | The following design and construction requirements apply to property access:  
  (a) The requirements of B above; and  
  (b) Passing bays of 2 metres additional carriageway width and 20 metres length provided every 200 metres. |
| D | Property access length is greater than 30 metres, and access is provided to 3 or more properties. | The following design and construction requirements apply to access:  
  (a) Complies with Requirements B above; and  
  (b) Passing bays of 2 metres additional carriageway width and 20 metres length must be provided every 100 metres. |
Part 4.3 Water Supply for firefighting:

(1) A new building constructed in a bushfire-prone area must be provided with a water supply dedicated for firefighting purposes as specified in subsections (4) and (5) below.

(2) For an addition or alteration to an existing building in a bushfire-prone area referred to in regulation 11E(2)(b)(ii)(B) of the Building Regulations 2014, a water supply for firefighting must be provided as specified in subsections (4) and (5) below.

(3) For an addition or alteration to an existing building in a bushfire-prone area which is 20 metres squared gross floor area or less which does result in the building being closer to bushfire-prone vegetation and there is no water supply for firefighting available, a water supply for firefighting must be provided as specified in subsection (4) and (5) below.

(4) Water supplies for firefighting must meet the requirements described in Tables 4.3A or 4.3B.

(5) The water supply must be:
   a. Provided from a fire hydrant or static water supply;
   b. Located within the specified distance from the building to be protected; and
   c. Provided with a hardstand and suitable connections

APPLICATION:

(1) The site is compliant with this subsection as a fire hydrant within 120 metre hoselay of the furthest point of the proposed Class 1a building was identified.

(2) This bushfire hazard assessment refers to the construction of a new Class 1a building and as such this subsection is not applicable.

(3) This bushfire hazard assessment refers to the construction of a new Class 1a building as such this subsection is not applicable.

(4) A fire hydrant identified within 120 metres of the furthest point of the proposed Class 1a building has been deemed to comply with the requirements of this subsection and Table 4.3A.

(5) A fire hydrant identified within 120 metres of the furthest point of the proposed Class 1a building has been deemed to comply with the requirements of this subsection and Table 4.3A.

The identification of a fire hydrant within 120 metres of the furthest point of the proposed Class 1a building is deemed to satisfy the requirements of Table 4.3A, Part 4.3, Director's Determination - Requirements for Building in Bushfire-Prone Areas (transitional) below.
<table>
<thead>
<tr>
<th></th>
<th>Table 4.3A Reticulated Water Supply for Fire fighting</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A</strong></td>
<td>Distance between building area to be protected and water supply</td>
</tr>
<tr>
<td></td>
<td>The following requirements apply:</td>
</tr>
<tr>
<td></td>
<td>(a) The building area to be protected must be located within 120 metres of a fire hydrant; and</td>
</tr>
<tr>
<td></td>
<td>(b) The distance must be measured as a hose lay, between the firefighting water point and the furthest part of the building area.</td>
</tr>
<tr>
<td><strong>B</strong></td>
<td>Design Criteria for fire hydrants</td>
</tr>
<tr>
<td></td>
<td>The following requirements apply:</td>
</tr>
<tr>
<td></td>
<td>(a) Fire hydrant systems must be designed and constructed in accordance with TASWater Supplement to Water Supply Code of Australia WSA 03-2011-3.1 MRWA Edition 2.0; and</td>
</tr>
<tr>
<td></td>
<td>(b) Fire hydrants are not installed in parking areas.</td>
</tr>
<tr>
<td><strong>C</strong></td>
<td>Hardstand</td>
</tr>
<tr>
<td></td>
<td>A hardstand area for fire appliances must be provided:</td>
</tr>
<tr>
<td></td>
<td>(a) No more than three metres from the hydrant, measured as a hose lay;</td>
</tr>
<tr>
<td></td>
<td>(b) No closer than six metres from the building area to be protected;</td>
</tr>
<tr>
<td></td>
<td>(c) With a minimum width of three metres constructed to the same standard as the carriageway; and</td>
</tr>
<tr>
<td></td>
<td>(d) Connected to the property access by a carriageway equivalent to the standard of the property access.</td>
</tr>
</tbody>
</table>
**Part 4.4 Hazard Management Areas:**

(1) A new building constructed in a bushfire-prone area must be provided with a HMA of sufficient dimensions and which provides an area around the building which separated the building from the bushfire hazard and complies with subsection (4), (5) and (6) below.

(2) For an addition or alteration to an existing building in a bushfire-prone referred to in regulation 11E(b)(ii)(A) of the Building Regulations 2014, the building must be provided with a HMA of sufficient dimensions and which provided an area around the building which separated the building from the bushfire hazard and complies with subsections (4), (5) and (6) below.

(3) For an addition or alteration to an existing building in a bushfire-prone area which is 20 metres squared gross floor area or less which does result in the building being closer to bushfire-prone vegetation it must be provided with a HMA of sufficient dimensions and which provides an area around the building which separated the building from the bushfire hazard and complies with subsection (4), (5) and (6) below.

(4) The HMA must comply with Table 4.4; and

(5) The HMA for a particular BAL must have the minimum dimensions required for the separation distances specified for that BAL in Table 2.6 of AS 3959:2018; and

(6) The HMA must be established such that fuels are reduced sufficiently, and other hazards are removed such that the fuels and other hazards do not significantly contribute to the bushfire attack.

**APPLICATION:**

(1) The HMA prescribed for the proposed Class 1a building has been assessed against the provisions of Table 4.4, The Determination and Table 2.6, AS 3959:2018 and has been assessed to significantly reduce the threat of bushfire risk to the site.

(2) This bushfire hazard assessment refers to the construction of a new Class 1a building as such this subsection is not applicable.

(3) This bushfire hazard assessment refers to the construction of a new Class 1a building such this subsection is not applicable.

(4) The HMA for the proposed Class 1a building has been designed to satisfy the requirements of Table 4.4.

(5) The distances for the HMA, for the proposed Class 1a building have been calculated using the distances specified within Table 2.6.

(6) The HMA has been calculated to reduce the potential risk of bushfire from the proposed Class 1a building.
This assessment and accompanying Bushfire Hazard Management Plan details the extent of the Hazard Management Area (HMA) which are of sufficient dimensions to accord with Element B, Table 4.4, Part 4.4, Director's Determination - Requirements for Building in Bushfire-Prone Areas (transitional) below. The dimension of the HMA is to be in accordance with Table 2.6, AS 3959:2018 and is to be always maintained in a reduced fuel condition.

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
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<th></th>
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</thead>
<tbody>
<tr>
<td><strong>Table 4.4 Requirements for Hazard Management Areas</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>A</strong></td>
<td><strong>Hazard management areas for new buildings on lots provided with a BAL at the time of subdivision</strong></td>
<td><strong>A new building must:</strong>&lt;br&gt; (a) Be located on the lot so as to be provided with a HMA no smaller than the required separation distances for the BAL determined at the time of subdivision; and&lt;br&gt; (b) Have a HMA established in accordance with a certified bushfire hazard management plan.</td>
</tr>
<tr>
<td><strong>B</strong></td>
<td><strong>Hazard management areas for new buildings on lots not provided with a BAL at the time of subdivision</strong></td>
<td><strong>A new building must:</strong>&lt;br&gt; (a) Be located on the lot so as to be provided with a HMA no smaller than the separation distances required for BAL 29; and&lt;br&gt; (b) Have an HMA established in accordance with a certified bushfire hazard management plan.</td>
</tr>
<tr>
<td><strong>C</strong></td>
<td><strong>Hazard management areas for alterations or additions to buildings</strong></td>
<td><strong>An alteration or addition to a building must:</strong>&lt;br&gt; (a) Be located on the lot so as to be provided with a HMA which:&lt;br&gt; (i) Has the separation distances required for the BAL assessed for the construction of the existing building;&lt;br&gt; or&lt;br&gt; (ii) In the case of a building without an existing BAL assessment, is no smaller than the separation distances required for BAL 29; and&lt;br&gt; (b) Have an HMA established in accordance with a certified bushfire hazard management plan.</td>
</tr>
<tr>
<td><strong>D</strong></td>
<td><strong>Hazard management areas for new buildings and additions and alterations to buildings classified as an accommodation building BCA Class 1b, BCA Class 2, or BCA Class 3, other than communal residence for persons with a disability, a respite centre or a residential aged care facility or similar.</strong></td>
<td><strong>A new building or an alteration or addition must:</strong>&lt;br&gt; (a) Be:&lt;br&gt; (i) located on the lot so as to be provided with HMAs no smaller than the separation distances required for BAL 12.5; or&lt;br&gt; (ii) provided with a certificate from an accredited person that a bushfire hazard management plan provides, to the degree necessary, separation of the building from the bushfire hazard, appropriate resistance to ignition from bushfire, property access and water supply for fire fighting;&lt;br&gt; (b) Have an HMA established in accordance with a certified bushfire hazard management plan.</td>
</tr>
</tbody>
</table>
| **E** | **Hazard management areas for new buildings** | **A new building or an addition or alteration including change of use must:**<br> (a) Be:
and additions and alterations to existing buildings classified as vulnerable use as defined in Interim Planning Directive No. 1.1, Bushfire-Prone Areas Code.

(i) located on the lot so as to be provided with HMAs no smaller than the separation distances required for BAL 12.5; or
(ii) provided with a certificate from an accredited person that a bushfire hazard management plan provides, to the degree necessary, separation of the building from the bushfire hazard, appropriate resistance to ignition from bushfire, property access and water supply for fire fighting;

(5) and
(b) Have a HMA established in accordance with a certified bushfire hazard management plan.

F Hazard management areas for new buildings or additions and alterations to buildings associated with a hazardous use.

A new building or an alteration or addition, including change of use, for a building determined as a hazardous use must:

(a) Be located on the lot so as to be provided with a HMA no smaller than the required separation distances for the BAL determined in the certified bushfire hazard management plan; and
(b) Have a HMA established in accordance with a certified bushfire hazard management plan.

The hazard management area assessed for this site is to comply with the separation distances as determined for BAL-12.5 in Table 2.6, AS3959:2018, and is to be always established and maintained in a reduced fuel condition to the minimum distance as specified in Table 4 below:

<table>
<thead>
<tr>
<th>Maintenance Requirements of the Hazard Management Area</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HMA required</strong></td>
</tr>
<tr>
<td>HMA establishment recommendations</td>
</tr>
</tbody>
</table>

- Establishing non-flammable areas around the dwelling such as paths, patios, driveway, lawns etc.
- Locating dams, orchards, vegetable garden, effluent disposal areas etc. on the bushfire prone side of the building.
- Providing heat shields and ember trap on the bushfire prone side of the dwelling such as non-flammable fencing, hedges, separated garden shrubs and small tress,
- Store flammable materials such as wood piles, fuels and rubbish heaps are stored away from the dwelling.
- Replace highly flammable vegetation with low flammability species. See Tasmanian Fire Service web site (www.fire.tas.gov.au) publications - Fire resisting garden plants.
- Provided separation between significant trees such that groups are no greater than 20 metres in width, and more than 20 metres of the other groups of significant trees. Note that the retention of some trees can screen a dwelling from windborne embers.
- Trim lower branches of retained trees to a minimum of 2 metres above ground level.
- Avoid trees overhang the dwelling so that vegetation falls onto the roof.
- Strips of vegetation less than 20 metres in width and not within 20 metres of the site or other areas of bushfire-prone vegetation may be beneficial as an ember trap, wind breaks etc.
- Removal of ground fuels such as leaves, bark, fallen branches etc.

<table>
<thead>
<tr>
<th>Ongoing Management practices</th>
<th>Slash or mow grasses to less than 100 mm.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Remove dead and fallen vegetation including branches, bark and leaves regularly.</td>
</tr>
<tr>
<td></td>
<td>Trim any regrowth branches of retained trees within HMA that overhang building or are less than 2m above ground level.</td>
</tr>
</tbody>
</table>

Table 4: Maintenance requirements for Hazard Management Areas.

For further information please see.

- Building for Bushfire. Planning and Building in Bushfire-Prone Areas for Owners and Builders.  
7. CONCLUSIONS & RECOMMENDATIONS:

This Bushfire Hazard Report and Bushfire Hazard Management Plan have been prepared to support the design and construction of a new habitable building. The report has reviewed the bushfire risks associated with the site and determined the fire management strategies that must be carried out to ensure the development on the site is at a reduced risk from bushfire attack. Provided the elements detailed in this report are implemented, the development on the site is capable of compliance with AS 3959:2018 and any potential bushfire risk to the site is reduced.

The new building works must comply with the requirements for BAL-12.5 of AS 3959:2018 as specified in Table 3 and Part 6 of this report. The Council approval issued for the building works should contain conditions requiring that the protective elements defined in this report and AS 3959:2018 are implemented during the construction phase and maintained by the lot owner for the life of the structure.

There are no specific access standards applicable to the proposed development due to the proximity of the development to the road frontage and the access not being required by the emergency services for access to a water supply for firefighting purposes.

The identification of a fire hydrant within a 120 metre hoselay of the furthest point of the proposed development has been deemed to satisfy the requirements of Table 4.3, The Determination and as such no further works are required.

The Hazard Management Area are to be established and maintained in a minimal fuel condition to the distances prescribed in Table 4 in compliance with Part 4.4, The Determination.

Although not mandatory, any increase in the construction standards above the assessed Bushfire Attack Level will afford improved protection from bushfire and this should be considered by the owner, designer and/or the builder prior to construction commencing. Hazard Management Areas must be established and maintained in a minimal fuel condition in accordance with this plan and the TFS guidelines. It is the owner's responsibility to ensure the long-term maintenance of the Hazard Management Areas in accordance with the requirements of this report.

This Report does not recommend or endorse the removal of any vegetation within or adjoining the site for the purposes of bushfire protection without the explicit approval of the local authority.

N M Creese
Bushfire Management Practitioner BFP-118
Scope 1, 2, 3a and 3b
8. REFERENCES:

- Building Amendments (Bushfire-Prone Areas) Regulations 2014 (18th June 2014).
- Director's Determination - Requirements for Building in Bushfire-Prone Areas (transitional) (Version 2.2, 6th February 2020).
- The LIST - Department of Primary Industry Parks Water & Environment.
- Bushfire Prone Areas Advisory Note N°01-2014 (Version 3, 8th November 2017) - Tasmania Fire Service (BHAN 01-2014).
9. GLOSSARY

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAL (Bushfire Attack Level)</td>
<td>A means of measuring the severity of a building’s potential exposure to ember attack, radiant heat, and direct flame contact, using increments of radiant heat expressed in kilowatts per metre squared, and the basis for establishing the requirements for construction to improve protection of building elements from attack by bushfire. The following BAL levels, based on heat flux exposure threshold are used within AS3959:2018; BAL-LOW, BAL-12.5, BAL-19, BAL-29, BAL-40, BAL-FZ.</td>
</tr>
<tr>
<td>Bushfire</td>
<td>An unplanned fire burning vegetation.</td>
</tr>
<tr>
<td>Bushfire Hazard Management Plan</td>
<td>A plan showing means of protection from bushfire in a form approved in writing by the Chief Officer.</td>
</tr>
<tr>
<td>Bushfire-Prone Area</td>
<td>An area that is subject to, or likely to be subject to, bushfire attack. Land that has been designated under legislation; or Has been identified under environmental planning instrument, development control plan or while processing and determining a development application.</td>
</tr>
<tr>
<td>Carriageway (also vehicular access)</td>
<td>The section of the road formation, which is used by traffic, and includes all the area of the traffic lane pavement together with the formed shoulder.</td>
</tr>
<tr>
<td>Classified vegetation</td>
<td>Vegetation that has been classified in accordance with Clause 2.2.3 of AS3959:2018.</td>
</tr>
<tr>
<td>Distance to</td>
<td>The distance between the building or building area to the classified vegetation.</td>
</tr>
<tr>
<td>FDI (Fire Danger Index)</td>
<td>The chance of a fire starting, its rate of spread, its intensity, and the difficulty of its suppression, according to various combinations of air temperature, relative humidity, wind speed and both long- and short-term drought effects.</td>
</tr>
<tr>
<td>Firefighting water point</td>
<td>The point where a fire appliance can connect to a water supply for firefighting purposes. This includes a coupling in the case of a fire hydrant, offtake or outlet, or the minimum water level in the case of a static water body (including a dam, lake, or pool).</td>
</tr>
<tr>
<td>Hazard Management Area</td>
<td>The area between a habitable building or building area and bushfire-prone vegetation, which provides access to a fire front for fire fighting, which is maintained in a minimal fuel condition and in which there are no other hazards present which will significantly contribute to the spread of a bushfire.</td>
</tr>
<tr>
<td>Hose lay</td>
<td>The distance between two points established by a fire hose laid out on the ground, inclusive of obstructions.</td>
</tr>
<tr>
<td>Predominate vegetation</td>
<td>The vegetation that poses the greatest bushfire threat to the development site.</td>
</tr>
<tr>
<td>Slope Effective slope</td>
<td>The slope of the ground under the classified vegetation. The calculated slope under the classified vegetation considering variations in the topography.</td>
</tr>
<tr>
<td>Water supply - Reticulated (Fire hydrant)</td>
<td>An assembly installed on a branch from a water pipeline, which provides a valved outlet to permit a supply of water to be taken from the pipeline for fire fighting.</td>
</tr>
<tr>
<td>Water supply - Static</td>
<td>Water stored on a tank, swimming pool, dam, or lake, that is always available for firefighting purposes.</td>
</tr>
</tbody>
</table>
ATTACHMENT 1 SUMMARY OF CONSTRUCTION REQUIREMENTS FOR BAL-12.5, AS 3959:2018

GENERAL:
• Buildings assessed as being BAL-12.5 shall conform with Section 3 and Section 5 of AS 3959:2018.
• All external finishes shall ensure gaps no greater than 2mm are present.

SUB-FLOOR SUPPORTS:
• No special construction standards if the subfloor space is enclosed with a wall that confirms with Clause 5.4 or a mesh compliant with Clause 3.6.

FLOORS:
• The bearers, joists and flooring, less than 400 mm above ground level, shall be of a non-combustible material or bushfire resisting timber or a combination of both.

WALLS:
• Any wall that is less than 400mm above ground level, a horizontal surface, or surface less than 18° from the horizontal, must be constructed of a non-combustible material and/or bushfire resisting timber.
• All vents and weepholes shall be screened with a mesh.

WINDOWS:
• Any glazing less than 400mm above ground level, any horizontal surface, or surface less than 18° from the horizontal must be 4mm thick Grade A safety glass. Framing material must be of bushfire resisting timber, or metal, or metal-reinforced uPVC. The openable portion of the window shall be screened.

DOORS:
• Side hung external doors - Doors shall be protected by bushfire shutters, or screens, or be constructed of a bushfire resisting material.
• Any glass elements shall be glazed with Grade A safety glass 4mm thick.
• Weather strips, draft excluders or draft seals shall be installed where applicable.
• Sliding doors - Shall be protected by bushfire shutters, or screens, or constructed of a bushfire resisting material. Glazing elements to be Grade A safety glass of 4 mm thickness.

VEHICLE ACCESS DOORS:
• Any part of the vehicle access door less than 400mm from the ground shall be of a bushfire resisting material.
• The door shall be protected with a suitable weather strips, draught excluders, draught seals or brushes where applicable.

ROOFS:
• Roofing material and roof-covering accessories shall be non-combustible. Ridge capping and under corrugations to be sealed. Roof ventilation openings, e.g., gable and roof vents, shall be fitted with ember guards.
• Tiled roofs.
• To be fully sarked located on top of roof framing, may be under battens.
• Sheet roofs.
• To be fully sarked located on top of roof framing, may be under battens; or
• All gaps sealed at the fascia, wall line, hips and ridges by a mesh or a non-combustible material.
• Veranda, carport, and awning roofs
• That are part of the main roof space shall meet all the requirements for the main roof.
• That are separated from the main roof space by an external wall confirming with Clause 6.4 shall have a non-combustible roof covering, except where the roof covering is a translucent or transparent material.

ROOF PENETRATIONS:
• Any roof penetration (with the exception of flues and chimneys) shall be covered with a bushfire resisting mesh. Roof lights and skylights must be fitted with a Grade A safety glass diffuser.

VERANDAS, DECKS, STEPS, RAMPS AND LANDINGS:
• Any decking, stair treads and trafficable surfaces that are less than 300mm horizontally, and 400mm vertically from a glazed element shall be constructed of non-combustible material.
• Veranda posts shall be mounted on galvanized mounted shoes or stirrups with a clearance of not less than 75 mm above finished ground level, or those less than 400 mm from the surface of the deck or ground shall be made of bushfire resisting material and/or bushfire resisting timber.

WATER AND GAS SUPPLY PIPES:
• Any above ground pipes shall be metal.

Note: Non-combustible means material such as cement sheeting, brick and blockwork, corrugated iron sheeting, or other non-flammable material as determined by AS 1530.1 or the National Construction Code.

WARNING: This summary is not a complete list of works required to comply with AS 3959:2018. Refer to the original document for full requirements.