LARK & CREESE PTY LTD
LAND AND ENGINEERING SURVEYORS

51434-01

BUSHFIRE HAZARD REPORT

CONSTRUCTION OF A NEW CLASS 1A BUILDING

3856 BRUNY ISLAND MAIN ROAD, SOUTH BRUNY

FOR

L. RASMUSSON

PREPARED BY L BRIGHTMAN (BFP-164)

CERTIFIED BY N M CREESE (BFP-118)

25th January 2024

LARK & CREESE

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Document Set ID: 4529584
Version: 1, Version Date: 25/10/2024

Contents

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.

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1. SUMMARY:

This Bushfire Hazard Report has been prepared to support the design, application for a building permit, and construction of a new Class 1a building at 3856 Bruny Island Main Road, South Bruny. The site is subject to a Bushfire Prone Area Overlay under the under the relevant planning scheme and has been deemed to have the potential to be bushfire prone due to its proximity to the areas of bushfire prone vegetation surrounding the site.

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 2022 (Volume 2) (NCC), Director's Determination, Requirements for Building in Bushfire-Prone Areas (transitional) (Version 2.2 6th February 2020) (Determination)*.

The proposed Class 1a building has been assessed as **BAL-29** under *Section 7* 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*.

Compliance with the following provisions of the *Directors Determination - Requirements for Building in Bushfire-Prone Areas* will be required:

- *Part 4.1 Construction Requirements*
- *Part 4.2 Property Access*
- *Part 4.3 Water Supply for Firefighting*
- *Part 4.4 Hazard Management Areas*

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. Liam is accredited by the Tasmania Fire Service to prepare Bushfire Hazard Management Plans. 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 2nd November 2023.

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2. LOCATION:

Property address:	3856 Bruny Island Main Road, South Bruny
Title owner:	L. Rasmussen
Title reference:	C.T. 209334/1
PID N°:	5060686
Title area:	±826 m²
Municipal area:	Kingborough
Zoning:	Rural Resource

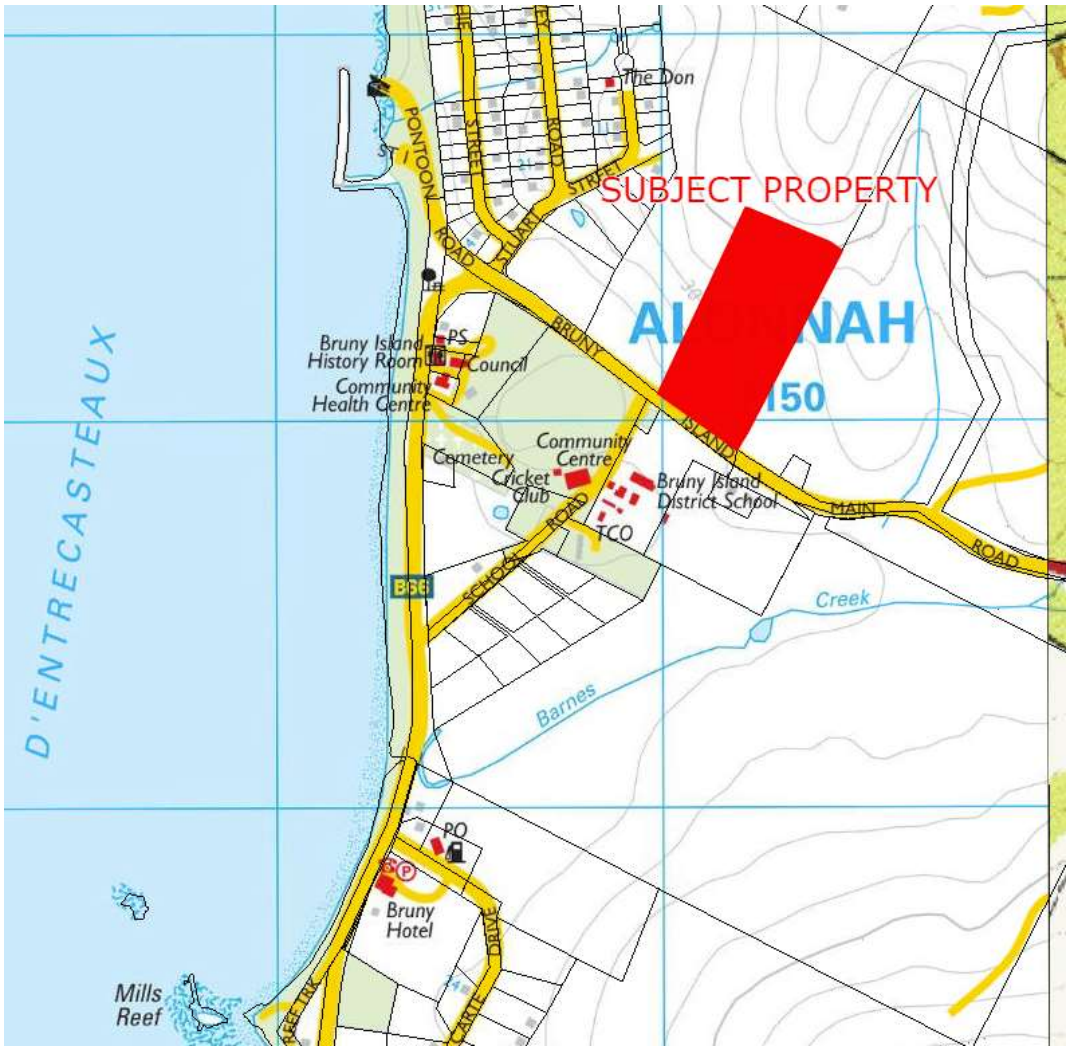

Image 1: Site location (Source *The LIST*)

3. SITE DESCRIPTION:

The site is located within an existing rural area on Bruny Island Main Road, approximately 395 metres southeast of the intersection of Bruny Island Main Road and Pontoon Road, Alonnah. The site is located at an elevation of approximately 11 metres with grades falling to the southwest in the order of 0-5°.

At the time of assessment, the property included a shipping container, a dam, and a gravel access. The site was vegetated predominately by native trees and shrubs with a grassed area at the southeastern corner of the allotment.

The allotment to the northeast and northwest of the site appeared to be undeveloped and vegetated by native trees and shrubs with grassed areas.

To the southeast was an allotment that appeared to be undeveloped, vegetated predominately by native trees and shrubs with scattered grassed areas.

Adjacent to the southwestern boundary was Bruny Island Main Road, Bruny Island Main Road was Bruny Island District School, a Community Centre, and Cricket Club, an allotment that appeared to have been developed for residential purposes. Bruny Island Main Road included grassed nature strips and a bitumen carriageway. Bruny Island District School included several buildings, a sports oval, bitumen access and parking area, playground, garden areas, and an area of pasture that was used for grazing donkeys. The Community Centre and Cricket Club included several buildings, a bitumen access and parking area, and a sports oval with trees along the northeastern and southwestern boundaries. The residential allotment included two buildings, gravel accesses, sheds, and garden.

Reticulated water supply is unavailable to the site with domestic water supply requirements reliant on on-site static water storage.

Planning controls are administered by the Kingston Council under the *Kingston Interim Planning Scheme 2015*. The site is zoned Rural Resource.

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Image 2: Looking south towards development site.

Image 3: Looking northwest towards development site.

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4. PROPOSED DEVELOPMENT:

The construction of a new Class 1a building is proposed for the site as shown in Image 4 as provided by the owner. Construction materials are to include Colorbond roofing, James Hardie 'Axon' clad walls, aluminium framed windows, glass sliding doors, and a door.

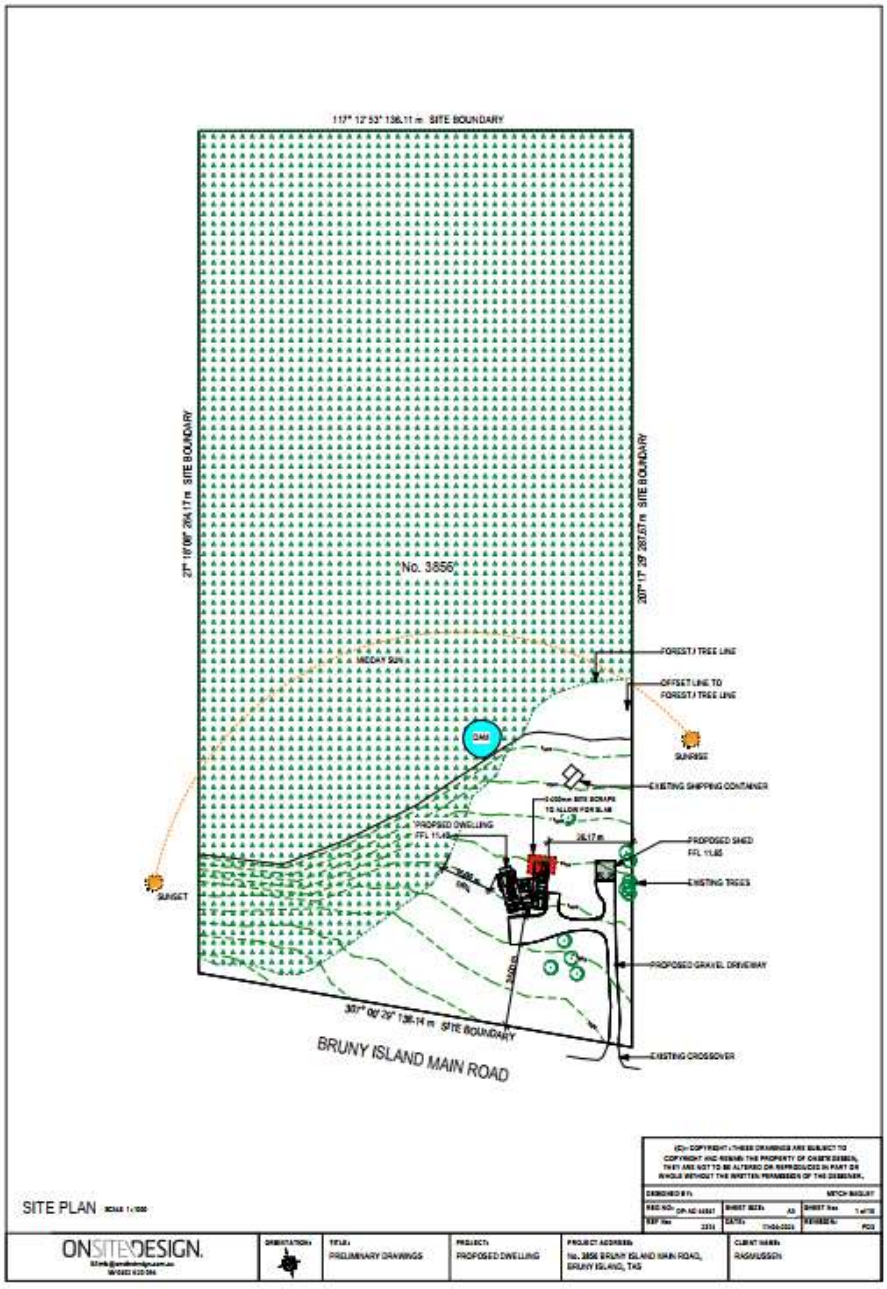

Image 4: Site plan.

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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:

Direction:	Description:	Distance:	Slope:
Northeast:	Site: • grass • native trees & shrubs	 0-54 54-100	5-10° u
Southeast:	Site: • grass Neighbouring allotment: • native trees & shrubs	 0-26 26-100	0-5° up
Southwest:	Site: • grass Bruny Island Main Road: • grassed nature strips, bitumen carriageway Bruny Island District School: • grass • sports oval Neighbouring allotments: • dwellings, sheds, accesses, garden	 0-35 35-56 56-66 66-100 84-100	0-5° down
Northwest:	Site: • grass • native trees & shrubs Neighbouring allotment: • native trees & shrubs	 0-16 16-98 98-100	15-20° up

Table 1: Site assessment.

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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.

At the time of assessment, the site included a shipping container, and a gravel access. The site was vegetated predominantly by eucalyptus, 10-20 metres in height, with an understory of smaller trees and shrubs leading to an assessed foliage coverage of >30% which has been assessed in accordance with *Figure 2.4(B)* as *Open Forest A-03* resulting in a vegetation classification of **A: Forest**. There was an area of grass at the southwestern corner of the allotment. The grass appeared to be short due to grazing by animals. It has been presumed that the grasses may exceed 100 mm in height in the future and has been assessed in accordance with *Figure 2.4(H)* as *Sown Pasture G-26* resulting in a vegetation classification of **G: Grassland**.

The vegetation, within the neighbouring allotment to the southeast, consisted of eucalyptus, 10-20 metres in height, with an understory of shrubs and reeds leading to an assessed foliage coverage of >30%. This area of vegetation has been assessed in accordance with *Figure 2.4(B)* as *Open Forest A-03* resulting in a vegetation classification of **A: Forest**.

Adjacent to the southwestern boundary was Bruny Island Main Road which included grassed nature strips and a bitumen carriageway which has been classified as **Low Threat Vegetation** (LTV) in accordance with *Part 2.2.3.2 (e) & (f), AS 3959:2018*. Beyond Bruny Island Main Road was Bruny Island District School which included an area of pasture used for grazing of donkeys, a sports oval, playground, and several buildings. The grass within the area of pasture appeared to be short due to grazing by the donkeys. It has been presumed that the grass may exceed 100 mm in height and has been assessed in accordance with *Figure 2.4(H)* as *Sown Pasture G-26* resulting in a vegetation classification of **G: Grassland**. The remaining vegetation has been classified as **Low Threat Vegetation** in accordance with *Part 2.2.3.2 (e) & (f), AS 3959:2018*. The residential allotment included two dwellings, gravel accesses, sheds, and garden which has been classified as **Low Threat Vegetation** in accordance with *Part 2.2.3.2 (e) & (f), AS 3959:2018*.

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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:

Direction:	Vegetation Type:	Distance (m):	Effective slope:	Exclusions:
Northeast:	G: Grassland A: Forest	0-54 54-100	5-10° up	No No
Southeast:	G: Grassland A: Forest	0-26 26-100	0-5° up	No No
Southwest:	G: Grassland LTV G: Grassland LTV	0-35 35-56 56-66 66-100	0-5° down	No *2.2.3.2 (e) & (f)* No *2.2.3.2 (e) & (f)*
Northwest:	G: Grassland A: Forest	0-16 16-100	15-20° up	No No

Table 2: Assessed vegetation.

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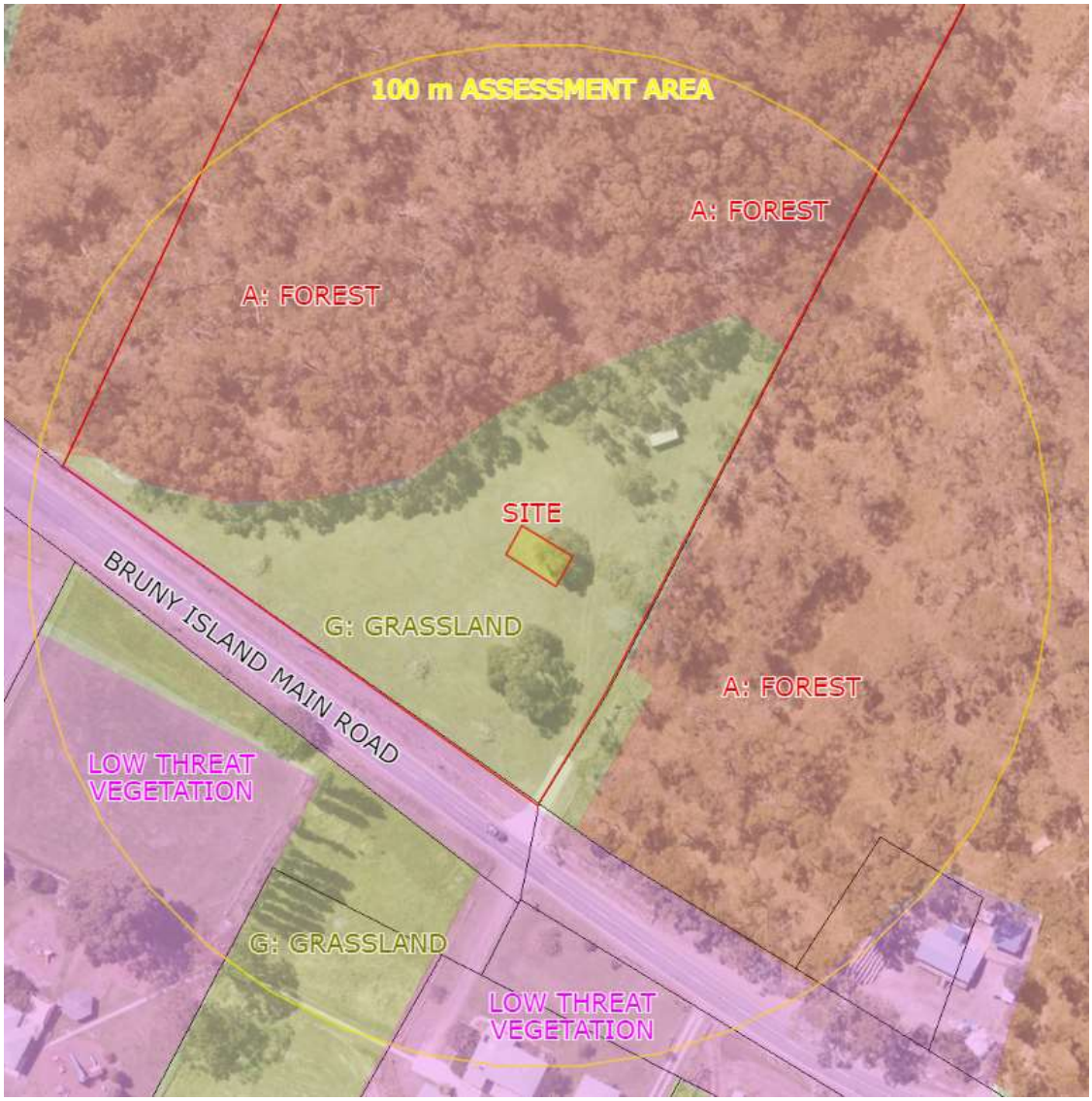

Image 5: Aerial image of assessed vegetation (Source *The LIST).*

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Image 6: Predominant vegetation to the northeast of the site – A: Forest (vegetation classified as G: Grassland in foreground)

Image 7: Predominant vegetation to the southeast of the site – A: Forest

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Image 8: Predominant vegetation to the southwest of the site – A: Forest (vegetation classified as G: Grassland in foreground)

Image 9: Predominant vegetation to the northwest of the site – A: Forest (vegetation classified as G: Grassland in foreground)

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Bushfire Attack Level Assessment:

Based on the predominant vegetation detailed above, and the separation distances provided between the predominant vegetation and the development site, the BAL for each direction from the proposed dwelling has been determined from *Table 2.6, AS 3959:2018* as follows:

Direction:	Northeast	Southeast	Southwest	Northwest
BAL	FZ	FZ	FZ	FZ

With the establishment of an appropriate Hazard Management Area, the increased risk associated with the exposure of the structure to the bushfire threat can be reduced. The resulting bushfire attack level for each elevation can then be assessed as:

BAL-29

Direction	Northeast	Southeast	Southwest	Northwest
Bushfire Attack Level	BAL-29			
Vegetation	G: Grassland **A: Forest**	G: Grassland **A: Forest**	**G: Grassland** LTV G: Grassland LTV	G: Grassland **A: Forest**
Effective slope	**5-10° up**	**0-5° up**	**0-5° down**	**15-20° up**
HMA specified *Table 2.6*	6-<10 m **16-<23 m**	6-<10 m **16-<23 m**	**7-<11 m** N/A 7-<11 m N/A	6-<10 m **16-<23 m**
HMA required	**16 metres**	**16 metres**	**7 metres**	**16 metres**
HMA available	±54 metres to predominate vegetation.	±26 metres to predominate vegetation.	±35 metres to property boundary.	±16 metres to predominate vegetation.

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

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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.

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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;

(2) The Performance requirements specified in subclause (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*.

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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 eighter:

(a) AS 3959:2018; or

(b) NASH Standard – Steel Framed Construction in Bushfire Areas

as appropriate for BAL determined for that site.

(2) Subclause (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) Subclause (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 subsection (1) and (4) above, performance requirements form buildings subject to BAL 40 or BAL FZ (BAL-FZ) are not satisfied by compliance with subsection (1) or (4) above.

APPLICATON:

(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.

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Table 4.1 Construction Requirements and Construction Variations		
Element		***Requirements***
A.	*Straw Bale Construction*	*May be used in exposures up to and including BAL 19.*
B.	*Shielding provisions under Section 3.5 of AS 3959:2018*	*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.* *Comment: Application of Section 3.5 of the Standard cannot result in an assessment of BAL-LOW.*
C.	*Construction standard for vulnerable use*	*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.*

The proposed building is a Class 1a building and as such the requirements of Part 4.1 apply.

All building works shall comply with the specification for **BAL-29** of *Section 3* and *Section 7* of *AS 3959:2018.* This includes the general provisions contained within *AS3959:2018* and the following sub-sections:

7.1 General provisions
7.2 Sub-floor supports
7.3 Floors
7.4 Walls
7.5 External glazed elements and assemblies and external doors
7.6 Roofs (including penetrations, eaves, fascias and gables, and gutters and downpipes)
7.7 Verandas, decks, steps and landings
7.8 Water and gas supply pipes

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Part 4.2 Property Access

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

(2) For an 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 squired 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 the 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) An access is required to be constructed to provide access to the building site and the firefighting water point.

(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 and as such this subsection is not applicable.

(4) The constructed access is to be located to provide access to the site, turning area and the firefighting water point within 90 m of the furthest point of the building to be protected in compliance with *Table 4.2.*

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The proposed access to the site has been assessed as being ±50 metres in length and is required for access to a firefighting water point and as such the requirements of *Element B, Table 4.2, Director's Determination - Requirements for Building in Bushfire-Prone Areas (transitional)* below apply.

Table 4.2 Standards for Property Access		
Element		***Requirement***
B	*Property access length is 30 metres or greater; or access is for a fire appliance to a firefighting water 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%) entry and exit angle;* *(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.*

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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) A minimum 10,000 litre static water supply for firefighting purposes is to be provided.

(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 as such this subsection is not applicable.

(4) A minimum of 10,000 litre static water supply, with associated fitting and hardstand area are to be installed to comply with *Table 4.3B.*

(5) The provision of a minimum static water supply of 10,000 litres will be required to comply with this subsection and *Table 4.3B*.

As there is no reticulated water supply available to the site, a static water supply of minimum capacity 10,000 litres is to be installed on the site and must be accessible at all times by fire service vehicles in compliance with *Table 4.3B, Director's Determination - Requirements for Building in Bushfire-Prone Areas (transitional) below*.

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Table 4.3B Static Water Supply for Fire fighting		
Element		**Requirement**
A	*Distance between building area to be protected and water supply*	*The following requirements apply:* *(a) The building area to be protected must be located within 90 metres of the firefighting water point of a static water supply; and* *(b) The distance must be measured as a hose lay, between the firefighting water point and the furthest part of the building area.*
B	*Static Water Supplies*	*A static water supply:* *(a) May have a remotely located offtake connected to the static water supply;* *(b) May be a supply for combined use (firefighting and other uses) but the specified minimum quantity of firefighting water must be available at all times;* *(c) Must be a minimum of 10,000 litres per building area to be protected. This volume of water must not be used for any other purpose including firefighting sprinkler or spay systems;* *(d) Must be metal, concrete or lagged by non-combustible materials if above ground; and* *(e) If a tank can be located so it is shielded in all directions in compliance with Section 3.5 of AS 3959:2018, the tank may be constructed of any material provided that the lowest 400 mm of the tank exterior is protected by:* *(i) metal;* *(ii) non-combustible material; or* *(iii) fibre-cement a minimum of 6 mm thickness.*
C	*Fittings, pipework and accessories (including stands and tank supports)*	*Fittings and pipework associated with a fire fighting water point for a static water supply must:* *(a) Have a minimum nominal internal diameter of 50 mm:* *(b) Be fitted with a valve with a minimum nominal internal diameter of 50 mm;* *(c) Be metal or lagged by non-combustible materials if above ground;* *(d) Where buried, have a minimum depth of 300 mm;* *(e) Provided a DIN or NEN standard forged Storz 65 mm coupling fitted with a suction washer for connection to firefighting equipment;* *(f) Ensure the coupling is accessible and available for connection at all times;* *(g) Ensure the coupling is fitted with a blank cap and securing chain (minimum of 220 mm length);* *(h) Ensure underground tanks have either an opening at the top of not less than 250 mm diameter or a coupling compliant with this Table; and* *(i) Where remote offtake is installed, ensure the offtake is in a position that is:* *(i) Visible;* *(ii) Accessible to allow connection by firefighting equipment;* *(iii) At a working height of 450 - 600 mm above ground level; and* *(iv) Protected from possible damage, including damage by vehicles.*

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D	*Signage for static water connections*	*The firefighting water point for a static water supply must be identified by a sign permanently fixed to the exterior of the assembly in a visible location. The sign must:* *(a) comply with water tank signage requirements within AS 2304:2019; or* *(b) comply with the Tasmania Fire Service Water Supply Signage Guidelines published by the Tasmania Fire Service.*
E	*Hardstand*	*A hardstand area for fire appliances must be provided:* *(a) No more than three metres from the firefighting water point, measured as a hose lay (including the minimum water level in dams, swimming pools and the like);* *(b) No closer than six metres from the building area to be protected;* *(c) With a minimum width of three metres constructed to the same standard as the carriageway; and* *(d) Connected to the property access by a carriageway equivalent to the standard of the property access.*

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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(2)(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 against the requirements of (4), (5) and (6) above.

(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 as 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* of *AS 3959:2018*.

(6) The HMA must be maintained in a minimal fuel condition by the owner(s) of the property into perpetuity to reduce the risk of bushfire attack.

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This assessment and accompanying Bushfire Hazard Management Plan details the extent of the Hazard Management Area (HMA) which is of sufficient dimensions to accord with *Element B, Table 4.4, Director's Determination - Requirements for Building in Bushfire-Prone Areas (transitional)* below. The dimensions of the HMA are to be in accordance with *Table 2.6, AS 3959:2018* and is to be maintained in a reduced fuel condition into perpetuity.

Table 4.4 Requirements for Hazard Management Areas		
Element		***Requirement***
B	*Hazard management areas for new buildings on lots not provided with a BAL at the time of subdivision*	*A new building must:* *Be located on the lot so as to be provided with a HMA no smaller than the separation distances required for BAL 29; and* *Have an HMA established in accordance with a certified bushfire hazard management plan.*

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The hazard management area assessed for this site is to comply with the separation distances as determined for **BAL-29** in *Table 2.6, AS3959:2018*, and must established and maintained in a reduced fuel condition to the minimum distance as specified in Table 4 below:

Maintenance Requirements of the Hazard Management Area				
Direction	Northeast	Southeast	Southwest	Northwest
HMA required	16 metres	16 metres	7 metres	16 metres
HMA establishment recommendations	• 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. • Trees are not to 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.			
Ongoing Management practices	• Slash or mow grasses to less than 100 mm. • Remove dead and fallen vegetation including branches, bark and leaves regularly. • Trim any regrowth branches of retained trees within HMA that overhang building or are less than 2m above ground level.			

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7. CONCLUSIONS & RECOMMENDATIONS:

This Bushfire Hazard Report and Bushfire Hazard Management Plan have been prepared to support the design, application for a building permit, and construction of a new Class 1a 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-29** 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.

- Property access is to comply with *Part 4.2,* the *Determination*.
  - The proposed driveway must comply with *Elements B, Table 4.2,* the *Determination*.
- The water supply for firefighting purposes is to comply with *Part 4.3,* the *Determination*.
  - A static water supply must be provided in compliance with *Table 4.3B,* the *Determination*.
- The Hazard Management Area is to comply with *Part 4.4,* the *Determination*
  - The Hazard Management Area must comply with *Element A, Table 4.4,* the *Determination*.

See section 6 of this report for further details.

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.

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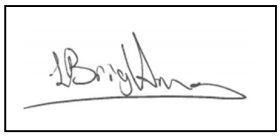
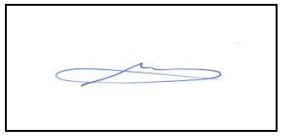
L Brightman
Bushfire Hazard Practitioner BFP-164
Scope 1, 2, 3a and 3b



N M Creese
Bushfire Hazard Practitioner BFP-118
Scope 1, 2, 3a, 3b and 3c



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8. REFERENCES:

- *AS 3959:2018 - Construction of Building in Bushfire-Prone Areas.*
- *Building Amendments (Bushfire-Prone Areas) Regulations 2014 (18th June 2014).*
- *National Construction Code 2022 (Volume 2).*
- *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.

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9. GLOSSARY

AS 3959:2018	Australian Standards AS 3959:2018 *Construction of buildings in bushfire-prone areas.*
BAL (Bushfire Attack Level)	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.
Bushfire	An unplanned fire burning vegetation.
Bushfire Hazard Management Plan	A plan showing means of protection from bushfire in a form approved in writing by the Chief Officer.
Bushfire-Prone Area	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.
Carriageway (also vehicular access)	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.
Class 1a, 1b, 2, 3, 4, 5, 6, 7, 8, 9a, 9b, 9c, 10a, 10b & 10c buildings	A system of classifying buildings of similar uses and functions to facilitate a referencing system within the National Construction Code.
Classified vegetation	Vegetation that has been classified in accordance with Clause 2.2.3 of AS3959:2018.
Distance to	The distance between the building or building area to the classified vegetation.
FDI (Fire Danger Index)	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.
Firefighting water point	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).
Hazard Management Area	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.
Hose lay	The distance between two points established by a fire hose laid out on the ground, inclusive of obstructions.
Predominant vegetation	The vegetation that poses the greatest bushfire threat to the development site.
Slope Effective slope	The slope of the ground under the classified vegetation. The calculated slope under the classified vegetation considering variations in the topography.
Water supply - Reticulated (Fire hydrant)	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.
Water supply - Static	Water stored on a tank, swimming pool, dam, or lake, that is always available for firefighting purposes.

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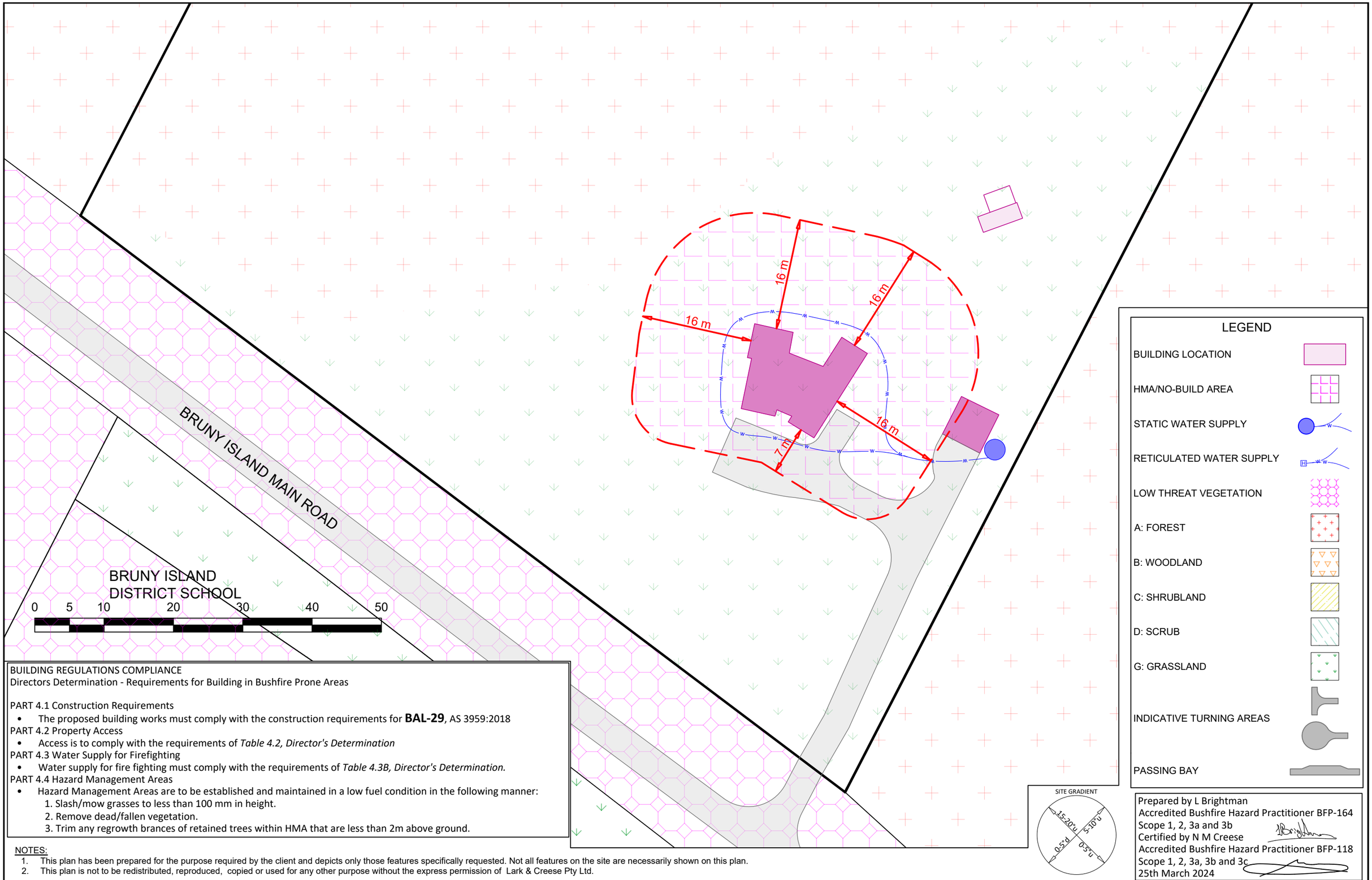

BUILDING REGULATIONS COMPLIANCE
Directors Determination - Requirements for Building in Bushfire Prone Areas

PART 4.1 Construction Requirements
- The proposed building works must comply with the construction requirements for **BAL-29**, AS 3959:2018

PART 4.2 Property Access
- Access is to comply with the requirements of *Table 4.2, Director's Determination*

PART 4.3 Water Supply for Firefighting
- Water supply for fire fighting must comply with the requirements of *Table 4.3B, Director's Determination.*

PART 4.4 Hazard Management Areas
- Hazard Management Areas are to be established and maintained in a low fuel condition in the following manner:
  1. Slash/mow grasses to less than 100 mm in height.
  2. Remove dead/fallen vegetation.
  3. Trim any regrowth brances of retained trees within HMA that are less than 2m above ground.

NOTES:
1. This plan has been prepared for the purpose required by the client and depicts only those features specifically requested. Not all features on the site are necessarily shown on this plan.
2. This plan is not to be redistributed, reproduced, copied or used for any other purpose without the express permission of Lark & Creese Pty Ltd.

Prepared by L Brightman
Accredited Bushfire Hazard Practitioner BFP-164
Scope 1, 2, 3a and 3b
Certified by N M Creese
Accredited Bushfire Hazard Practitioner BFP-118
Scope 1, 2, 3a, 3b and 3c
25th March 2024

LARK & CREESE Pty Ltd
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BUSHFIRE HAZARD MANAGEMENT PLAN

3856 BRUNY ISLAND MAIN ROAD, ALONNAH

L. RASMUSSEN

TITLE	209334/1	PROJECT	30515	DATE	25/03/2024
PID	5060686	DRAWING	51435-01	DRAWN	LB
CONTOUR	N/A	SCALE	1:500@A3	CHECKED	NC

N
MGA2020
AHD

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CERTIFICATE OF QUALIFIED PERSON – ASSESSABLE ITEM

Section 321

Form **55**

To: L. RASMUSSEN *Owner /Agent*

16 MARY STREET *Address*

DALYSTON, VIC 3992 *Suburb/postcode*

Qualified person details:

Qualified person: NICK CREESE

Address: PO BOX 136 Phone No: 03 6229 6563

KINGSTON TAS 7051 Fax No:

Licence No: BFP-118 Email address: nick@larkandcreese.com.au

Qualifications and Insurance details: Accredited to report on bushfire Hazards under Part IVA of the Fire Service Act 1979

(description from Column 3 of the Director's Determination - Certificates by Qualified Persons for Assessable Items

Speciality area of expertise: Analysis of hazards in bushfire-prone areas.

(description from Column 4 of the Director's Determination - Certificates by Qualified Persons for Assessable Items)

Details of work:

Address: 3856 BRUNY ISLAND MAIN ROAD Lot No: 1

ALONNAH, TAS 7150 Certificate of title No: 209334/1

The assessable item related to this certificate: Bushfire Attack Level (BAL)

(description of the assessable item being certified)
Assessable item includes –
- *a material;*
- *a design*
- *a form of construction*
- *a document*
- *testing of a component, building system or plumbing system*
- *an inspection, or assessment, performed*

Certificate details:

Certificate type: Bushfire Hazard

(description from Column 1 of Schedule 1 of the Director's Determination - Certificates by Qualified Persons for Assessable Items n)

This certificate is in relation to the above assessable item, at any stage, as part of - *(tick one)*

building work, plumbing work or plumbing installation or demolition work: X

or

a building, temporary structure or plumbing installation: ☐

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In issuing this certificate the following matters are relevant –

Documents:

- Bushfire Hazard Report 51434-01 dated 25th March 2024.
- Bushfire Hazard Management Plan 51434-01 dated 25th March 2024.

Relevant calculations:

See Bushfire Hazard Report 51434-01 dated 25th March 2024.

References:

- *AS 3959:2018 Construction of Buildings in Bushfire Prone Areas*
- *Building Regulations 2014*
- *National Construction Code 2019 Building Code Australia (Volume 2)*
- *Director of Building Control Determination, Requirements for Building in Bushfire-Prone Areas (Version 2.2, 6th February 2020)*

Substance of Certificate: (what it is that is being certified)

1. Assessment of bushfire attack level (BAL) of **BAL-29** for the proposed building works on the site in accordance with AS 3959:2018.

Scope and/or Limitations

Scope

This report was commissioned to identify the bushfire risk and subsequent Bushfire Attack Level (BAL) associated with the proposed buildings on the site. All advice, construction standards and measures are in compliance with *AS 3959:2018, Construction of buildings in bushfire-prone areas, Building Regulations 2014 & National Construction Code 2019.*

Limitations

The inspection has been undertaken and report provided on the understanding that;-

1. The report only deals with the potential bushfire risk. All other statutory assessments are outside the scope of this report.
2. This assessment is based on the site conditions present at the time of assessment only. No responsibility can be accepted for actions by the land owners, Council, governmental agencies, or any other persons that may compromise the effectiveness of this report.
3. Impacts of future development and vegetation growth have not been considered for the purpose of this assessment.
4. This report and AS 3959:2018 cannot guarantee that a dwelling will survive a bushfire, however the implementation of the measures contained within AS 3959:2018 and this report will improve the likelihood of survival of the structure in the event of bushfire attack.

I certify the matters described in this certificate.

	Signed:	*Certificate No:*	*Date:*
Qualified person:		51434-01	25/03/24

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