

Bushfire Hazard Assessment

Proposed Alterations and Additions

Suffolk Beachfront Holiday Park

145 Alcorn Street, Suffolk Park



Quality solutions. Sustainable future.



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Prepared for: Byron Shire Council
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Bushfire Disclaimer

This report in no way suggests or guarantees that a bushfire or grass fire will not occur at the Project Site and / or impact the proposed development. Furthermore, the measures recommended in this report do not guarantee that loss of life, injury and / or property damage will not occur during a bushfire or grass fire event. The severity and impact of a bushfire or grass fire event can be influenced by matters such as vegetation management, human behaviour and extreme weather conditions.

This report advises on matters published by the NSW Rural Fire Service in the guideline Planning for Bushfire Protection 2019 and other advice available from that organisation. Due consideration has been given to site conditions, the nature of the proposed development and to appropriate legislation and documentation available at the time of writing. The report is therefore current at the time of writing only.

Certification

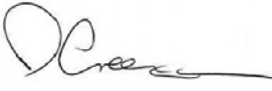
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Executive Summary

This Bushfire Hazard Assessment has been prepared to support a Development Application (DA) to Byron Shire Council for proposed alterations and additions to Suffolk Beachfront Holiday Park, 145 Alcorn Street, Suffolk Park (Lot 100 DP 1023737). The Holiday Park is identified as a special fire protection purpose, and the proposed works therefore require a Bushfire Safety Authority in accordance with Section 100B of the *Rural Fires Act 1997*.

The Bushfire Hazard Assessment has taken into consideration the proposed development layout, the vegetation creating a bushfire hazard, the effective slope and Fire Danger Index for the site in accordance with Planning for Bush Fire Protection 2019 (PBP 2019). The proposal has been assessed with respect to the objectives for development of existing special fire protection purpose facilities in Section 6.4 of PBP 2019.

The Bushfire Hazard Assessment demonstrates that the recommended bushfire protection measures are available and can be implemented to facilitate the proposed development in accordance with the requirements of PBP 2019.

The proposed development is regarded as Integrated Development under Section 4.46 of the *Environmental Planning and Assessment Act 1979*.

The following table provides a summary of the recommendations for each bushfire protection measure outlined in Chapter 6 of PBP 2019.

Bushfire Protection Measure	Recommendation
Asset Protection Zones	■ The ground layer and mid-storey vegetation within the Holiday Park is to continue to be managed to the standard of an Inner Protection Area in accordance with Appendix A4.1.1 of PBP 2019, while the existing tree canopy cover is maintained. No additional trees are to be planted on the site.
Landscaping	■ Any new landscaping within the site is to comply with the standards for an Inner Protection Area as outlined in Appendix A4.1.1 of PBP 2019 and should include a clear area of low-cut lawn or pavement adjacent to any cabins.
Emergency Management	■ A Bushfire Emergency Management and Evacuation Plan is to be prepared for the entire site, or the existing plan reviewed and updated, to include bushfire emergency management and evacuation protocols in accordance with the RFS document '<i>A Guide to Developing a Bush Fire Emergency Management and Evacuation Plan</i>' and AS 3745:2010 'Planning for emergencies in facilities'. The protocols for bushfire emergency management are to include planning for the early relocation of visitors and staff on days with forecast catastrophic fire weather conditions.



1. Introduction

1.1 Scope and Purpose

GeoLINK has been engaged by Byron Shire Council to prepare a Bushfire Hazard Assessment for proposed alterations and additions to the Suffolk Beachfront Holiday Park, 145 Alcorn Street, Suffolk Park (Lot 100 DP 1023737), referred to herein as ‘the site’.

The land on which the proposed development is located is mapped as bushfire prone land.

This Bushfire Hazard Assessment will accompany the Environmental Impact Statement (EIS) that informs the development application (DA) lodged under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) to Byron Shire Council (BSC).

This report serves to:

- identify the proposed development and site characteristics;
- determine and assess the bushfire threat; and
- recommend appropriate bushfire protection measures in accordance with PBP 2019 to minimise the impact of bushfire on the development.

1.2 Legislative Framework

The assessment contained in this report has been prepared with regard to:

- *Environmental Planning and Assessment Act 1979* (EP&A Act);
- Environmental Planning and Assessment Regulation 2021;
- *Rural Fires Act 1997*;
- Rural Fires Regulation 2022;
- Planning for Bushfire Protection (PBP) 2019.

The *Rural Fires Act 1997* and the EP&A Act institute a framework for environmental planning and assessment to consider bushfire hazard issues.

Section 100B of the *Rural Fires Act 1997* establishes that a ‘Bush Fire Safety Authority’ is required for *development of bush fire prone land for a special fire protection purpose*. Special fire protection purpose developments include *tourist accommodation*. As the existing Holiday Park provides tourist accommodation on bushfire prone land, a Bushfire Safety Authority (BFSA) is required from the NSW Rural Fire Service (RFS) in accordance with Section 100B of the *Rural Fires Act 1997*.

In addition to the requirements of PBP 2019, buildings in bushfire prone areas are also subject to the requirements of the National Construction Code (NCC). This report does not assess compliance with the NCC. In this regard, the Principal Certifying Authority should be consulted to confirm compliance with the requirements of the NCC.

This report does not include an assessment of any threatened species or threatened ecological community under the *Biodiversity Conservation Act 2016*, or any Aboriginal object or place within the meaning of the *National Parks and Wildlife Act 1974*. Refer to the Environmental Impact Statement for further information.

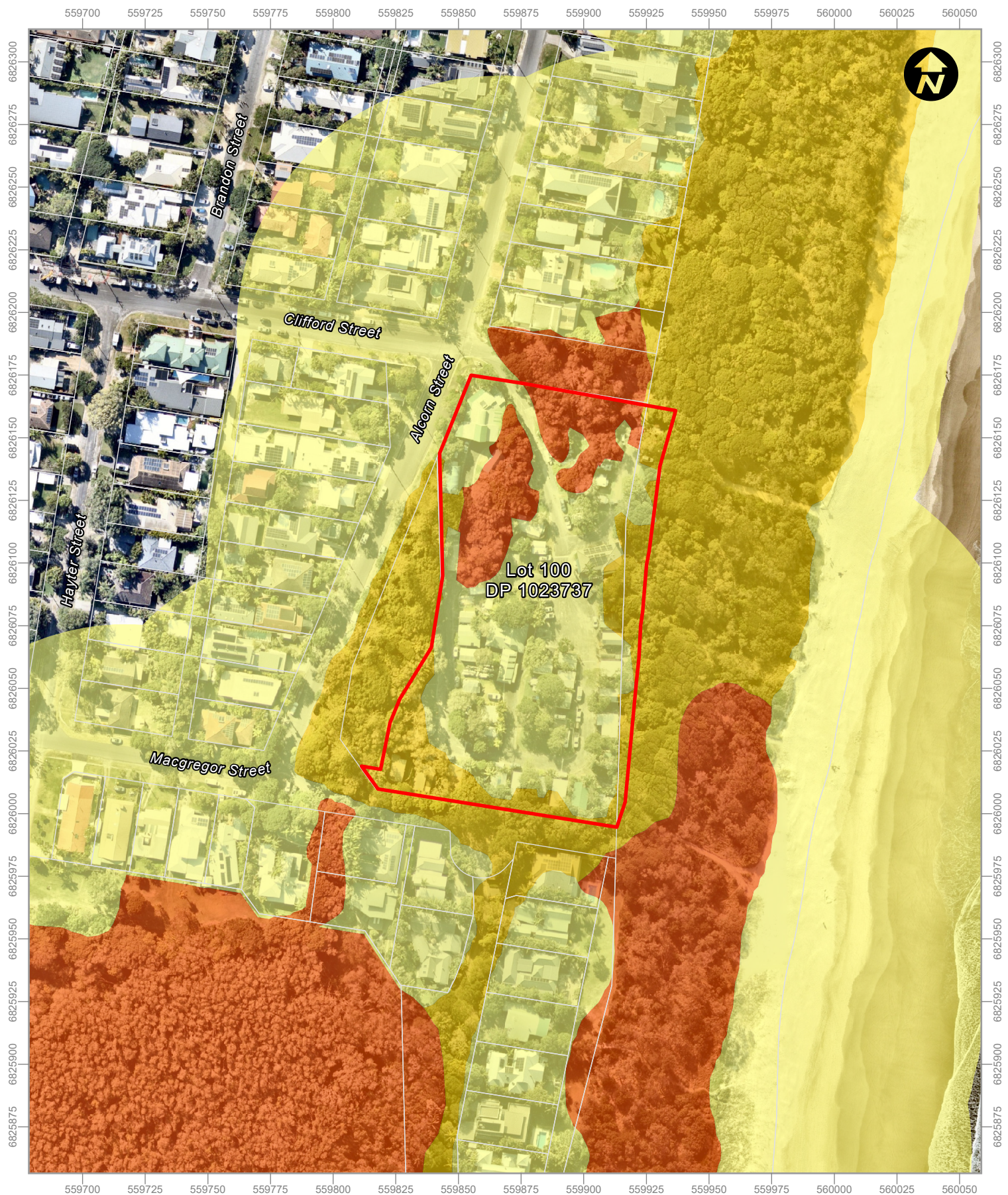


1.3 Bushfire Prone Land

Byron Shire Council's bushfire prone land mapping has been prepared as a requirement of Section 10.3 of the EP&A Act and in accordance with the NSW Rural Fire Services (RFS) *Guideline to Bushfire Prone Land Mapping*. Byron Shire Council's bushfire prone land mapping indicates that the site is classified as bushfire prone land and contains a small area of Category 1 Vegetation near the northern boundary and Category 2 Vegetation along the eastern, southern and western boundaries. The central portion of the site is mapped as Vegetation Buffer.

The surrounding land is also classified as bushfire prone land comprising predominantly Category 2 Vegetation along the dunes to the east and along narrow strips of vegetation to the south and west. Category 1 Vegetation is mapped to the south-east and south-west of the site.

The bushfire prone land mapping for the site and immediate surrounds is shown in **Illustration 1.1**.



LEGEND

- | | |
|--|--|
| Site Boundary | Vegetation category 1 |
| Cadastre | Vegetation category 2 |
| | Vegetation buffer |

0 40 Metres

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Bushfire Hazard Assessment - Proposed Alterations and Additions,
Suffolk Beachfront Holiday Park, 145 Alcorn Street, Suffolk Park
5022-1014

Bushfire Prone Land - Illustration 1.1

Information shown is for illustrative purposes only
 Drawn by: AB Checked by: JSL Reviewed by: PTC
 Source of base data: Nearmap 15/07/2024
 Spatial Reference: GDA2020 MGA Zone 56
 Date: 5/11/2025



2. Background

2.1 Location and Description

The site is located in the Byron Shire Council local government area, towards the south-eastern fringe of the Suffolk Park urban area. The site is approximately 6 km south of the Byron Bay CBD and is immediately adjacent to the dunes of Tallow Beach (refer to **Illustration 2.1**).

Table 2.1 provides a quick reference for the location and description details of the site.

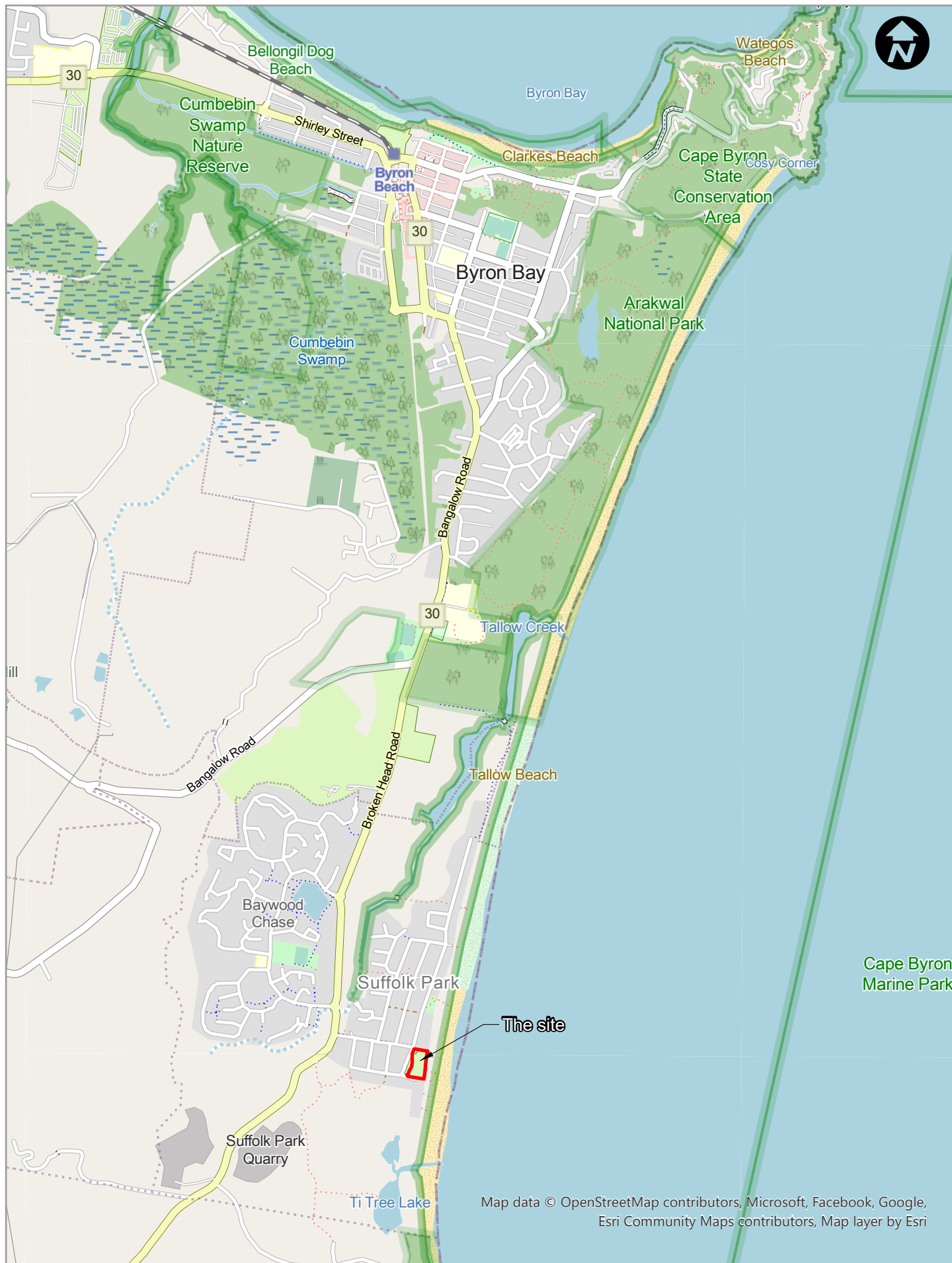
Table 2.1 Site Detail Summary

Site Details	
Lot / DP	Lot 100 DP 1023737
Street Address	145 Alcorn Street, Suffolk Park
Elevation	4 m AHD
Site Area	1.36 ha
Byron Local Environmental Plan 2014	Zone RE1 Public Recreation
Fire Weather District	Far North Coast
Fire Danger Index (FDI)	80
Fire Control Centre	Mullumbimby

The site adjoins public roads on three sides, with Clifford Street to the north, MacGregor Street to the south and Alcorn Street to the west. A narrow strip of remnant rainforest separates the site from Alcorn Street to the west. The surrounding land to the north, south and west of the site is characterised by predominantly low density residential development.

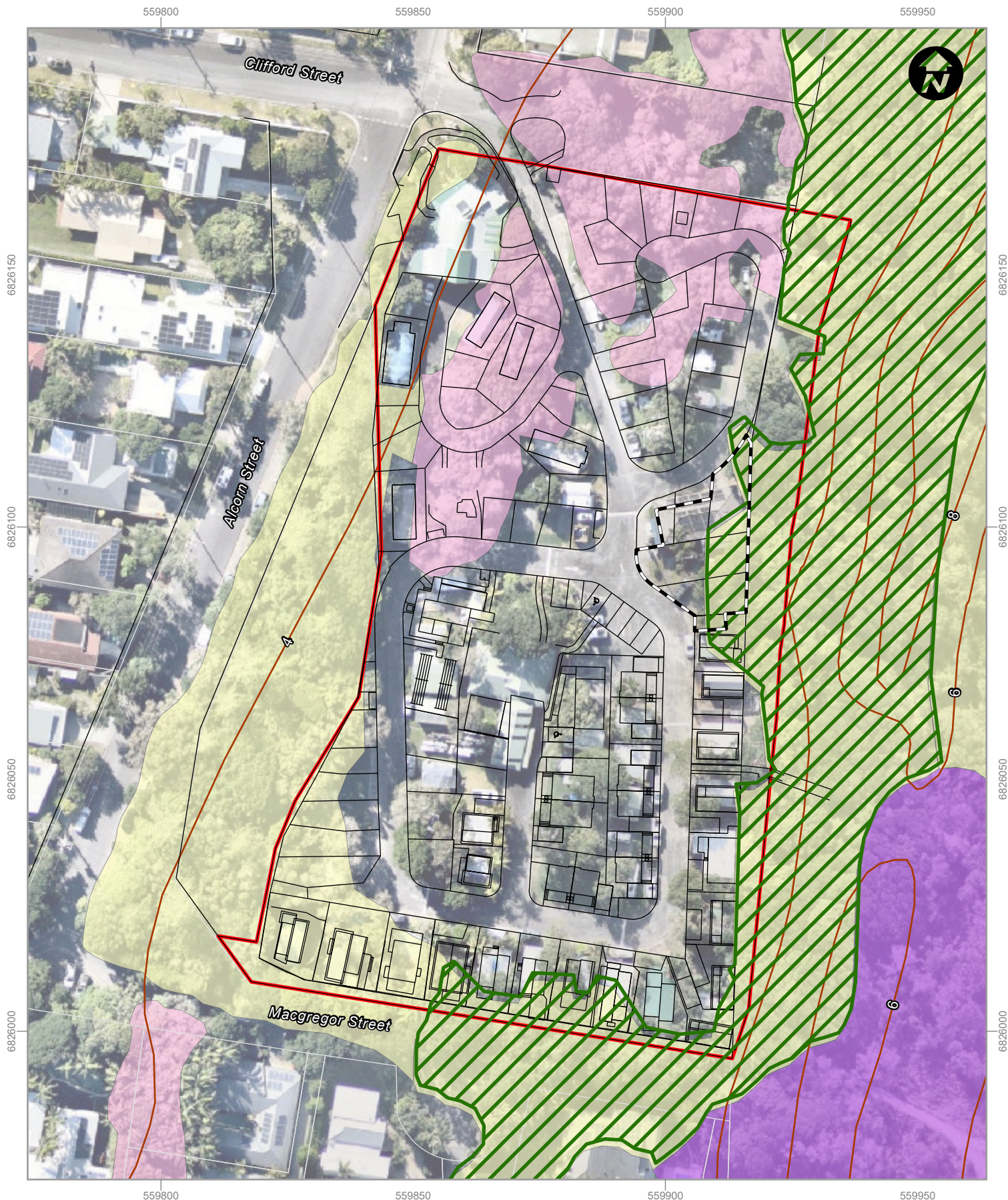
To the east of the site is Tallow Beach, separated from the site by a narrow strip of littoral rainforest vegetation on the dunes. The narrow strip of rainforest vegetation extends in a linear formation to the north-east and south-east of the site. To the south-west, beyond the adjacent residential development is forested vegetation extending into the Ti-Tree Lake Aboriginal Area.

The characteristics of the site and surrounding locality area shown in **Illustration 2.2**.



0 600 Metres

Site Locality - Illustration 2.1



LEGEND

- Site Boundary
- Cadastre
- Activity area
- Coastal Dune Dry Sclerophyll Forests
- Coastal Swamp Forests
- Littoral Rainforests
- SEPP (Resilience and Hazards) 2021 Littoral Rainforests

- Site layout
- Contours at 2 m intervals

0 20 Metres

Site Analysis - Illustration 2.2

2.2 Zoning and Land Use

The site is zoned RE1 – Public Recreation under the Byron Local Environmental Plan 2014.

The site contains an existing caravan park that includes ten short-term sites (cabins), five short-term sites (safari tents), 43 camp sites and 21 long-term sites. The caravan park also includes ancillary structures, such as amenities, office and camp kitchen (refer to **Plates 2.1 to 2.4**).

Access to the site is from the north-west corner, onto Clifford Steet at its intersection with Alcorn Street. The site contains a series of internal roads.

The site is serviced by a reticulated water supply, with existing fire hose reels located throughout the park. Electricity supply is from an overhead line on Clifford Street at the north-west corner of the site.

The surrounding land to the north, south and west consists of predominantly low density residential development. Land to the west of Alcorn Street is zoned R2 – Low Density Residential, while the land to the east of Alcorn Street and surrounding the site is identified as 'Deferred Matter' on the Local Environmental Plan Land Application Map.



Plate 2.1 Central car park adjacent to reception



Plate 2.2 Camp sites



Plate 2.3 Existing Cabins



Plate 2.4 Camp sites

2.3 Proposed Development

The proposed development under Part 4 of the *EP&A Act 1979* comprises the following alterations and additions to Suffolk Beachfront Holiday Park:

- Demolition of existing large amenities building;
- Restore land and create tourist camping sites 4, 5 and 8, and
- Install car space L3.

Plans of the proposed works are included in **Appendix A**. The site of the existing amenities building is shown on in **Plate 2.5**.

The proposed alterations and additions form part of a suite of upgrades to Suffolk Beachfront Holiday Park previously proposed under Part 5 of the EP&A Act. Works under Part 5 include demolition of workshop, shed, shelter and amenity building; installation of new dump point and garage; reconfiguration of some camp sites and creation of new sites; changes to visitor parking; installation of new motel style room studios and replacement of four cabins.



Plate 2.5 View east of existing amenities building



3. Bushfire Hazard Assessment

The following subsections were informed by a site visit undertaken by GeoLINK on 10 July 2024.

3.1 Planning for Bush Fire Protection 2019

The site is currently used as a caravan park for tourist accommodation and is therefore classified as special fire protection purpose (SFPP) for the purpose of PBP 2019.

Section 6.4 of PBP 2019 includes provisions relating to the development of existing SFPP facilities and notes that *the intention for any building work occurring within an existing SFPP development is to achieve a better bush fire outcome than if the development did not proceed.*

The objectives in Section 6.4 of PBP 2019 that apply to existing SFPP development are as follows:

- *provide an appropriate defensible space;*
- *site the building in a location which ensures appropriate separation from the hazard to minimise potential for material ignition;*
- *provide a better bush fire protection outcome for existing buildings;*
- *new buildings should be located as far from the hazard as possible and should not be extended towards or situated closer to the hazard than the existing buildings (unless they can comply with section 6.8);*
- *ensure there is no increase in bush fire management and maintenance responsibility on adjoining land owners without their written confirmation;*
- *ensure building design and construction enhances the chances of occupant and building survival; and*
- *provide for safe emergency evacuation procedures including capacity of existing infrastructure (such as roads).*

Section 4.7 outlines how the proposed development responds to the objectives of PBP – Section 6.4.

3.2 Vegetation

Vegetation classifications for the purpose of assessing bushfire hazard are based on vegetation formations and fuel loads outlined in PBP 2019.

Vegetation surrounding the site has been assessed in terms of potential bushfire hazard over a distance of 140 m, using the formation classes provided within Figure A1.2 of PBP 2019. The dominant vegetation formation in each relevant direction is outlined in **Table 3.1**.

Table 3.1 Vegetation Formation

Direction	Predominant Vegetation Formation
North	Managed Land
East	Rainforest
South-west	Forest
West	Rainforest

Vegetation within the site is predominantly managed around the camping and cabin sites, with isolated vegetated garden beds. Numerous mature trees are located throughout the site for shade; however the ground cover is minimal and is interspersed with bitumen sealed internal roads (refer to **Plates 3.1 to 3.2**).



Plate 3.1 Typical vegetation within the site



Plate 3.2 Garden beds adjacent to existing cabins

Existing managed residential development surrounds the site to the north, south and west. Narrow strips of remnant littoral rainforest trees line the street immediately to the north and south, with a narrow strip of rainforest vegetation (maximum 30 m wide) along the western site boundary (refer to **Plates 3.3 to 3.4**). Further to the south, beyond the adjacent residential development is forested vegetation leading to the Ti-Tree Lake Aboriginal Area.



Plate 3.4 Rainforest vegetation along western boundary



Plate 3.3 Remnant trees and landscaping along MacGregor Street to the south

Vegetation along the eastern boundary comprises a strip of littoral rainforest that runs in a north-south direction along the dunes of Tallow Beach. On the eastern edge adjacent to the beach, the vegetation transitions to grasses and low heath (refer to **Plates 3.5 to 3.6**). The vegetation to the east has a variable width from 60 – 80 m.



Plate 3.5 Littoral rainforest to the east



Plate 3.6 Eastern edge of dune vegetation

3.3 Slope

The effective slope is the slope of the land beneath the vegetation assessed as being a hazard that will have the greatest influence on bushfire behaviour in relation to the development. The effective slope for the proposal has been assessed over 100 m in each relevant direction.

The effective slope in relation to the development is outlined in **Table 3.2**.

Table 3.2 Effective Slope

Aspect	Effective Slope
North	N/A
East	Upslope/ flat
South-west	Upslope/ flat
West	Upslope/ flat

3.4 Fire Weather District

Byron Shire Council local government area is located within the 'Far North Coast' fire weather district, with a Fire Danger Index (FDI) of 80.

4. Bushfire Protection Measures

Table 4.1 outlines the proposed works and the potential implications for bushfire risk.

Table 4.1 Proposed works and bushfire risk

Map Ref:	Description	Comment
1	Demolish existing amenity block	No increase in bushfire risk.
2	Restore land to allow tourist sites 4, 5 and 8	Proposed Sites 4, 5 and 8 are intended for short-term use by caravans, motorhomes or camping and will not contain any permanent buildings. The proposed sites are no closer to surrounding bushfire prone vegetation than other parts of Suffolk Beachfront Holiday Park along the eastern boundary. In accordance with Section 6.3.1 of PBP 2019 <i>camping is permissible within the APZ of a caravan or tourist park, provided the other relevant BPMS (e.g. emergency management arrangements) are in place</i> Careful consideration should be given to the suitability of camping in bushfire prone areas on days of elevated bushfire danger. It is recommended that a bushfire emergency management and evacuation plan be prepared for the overall site (or the existing plan be updated) to include requirements to leaving early and/ or not operate on days of elevated bushfire danger.
3	Install car space for L3	No increase in bushfire risk.

4.1 Asset Protection Zones

PBP 2019 describes an asset protection zone (APZ) as a fuel reduced area surrounding a built asset or structure which provides a buffer zone between a bushfire hazard and the asset. The APZ provides:

- an area of reduced bushfire fuel that allows for suppression of fire;
- an area from which backburning or hazard reduction can be conducted; and
- an area which allows emergency services access and provides a relatively safe area for firefighters and home owners to defend their property.

Table 6.8a of PBP 2019 has no performance criteria for APZs for camping and primitive camping.

The existing caravan park grounds generally comply with the standard for an Inner Protection Area (IPA), except that existing tree canopy cover exceeds 15% in some northern areas of the site and around the site perimeter. It is intended to retain the existing tree canopy cover for shade.



It is therefore proposed that the ground layer and mid-storey vegetation within the entire site continue to be managed to the standard of an Inner Protection Area in accordance with Appendix A4.1.1 of PBP 2019, while the existing tree canopy cover is maintained. No new trees should be planted on the site.

The proposed APZ is provided within the site (refer to **Illustration 4.1**).

The standards for an IPA, as outlined in Appendix A4.1.1 of PBP 2019, are contained in **Appendix B**.



LEGEND

- Site Boundary
- Asset protection zone (APZ)
- Activity area
- Site layout
- Cadastre

0 20 Metres

Asset Protection Zone - Illustration 4.1

4.2 Landscaping

No specific landscaping is proposed as part of the development. Existing managed areas of the site will continue to be managed as an APZ as outlined in **Section 4.1**.

Table 4.2 assesses compliance with the acceptable solutions of PBP 2019 relating to landscaping.

Table 4.2 Landscaping Compliance with PBP 2019

Performance Criteria	Acceptable Solution	Application
Landscaping is designed and managed to minimise flame contact and radiant heat to buildings, and the potential for wind-driven embers to cause ignitions.	Landscaping is in accordance with Appendix 4.	Any new landscaping is to comply.
	Fencing is constructed in accordance with Section 7.6 of PBP 2019.	No new fencing is proposed.

4.3 Construction

The proposed alterations and additions do not involve any new or existing structures.

4.4 Access

Existing access to the caravan park will remain unchanged. The existing internal roads are 6 m wide bitumen sealed, providing two-way access around the site. Parking spaces are provided off the road carriageway adjacent to proposed cabins or within the camping sites.

Table 4.3 outlines the extent to which existing access complies with the relevant acceptable solution requirements of Table 6.8b of PBP 2019.

Table 4.3 Access Compliance with PBP 2019

Performance Criteria	Acceptable Solution	Application
Access		
Firefighting vehicles are provided with safe, all-weather access to structures and hazard vegetation	SFPP access roads are two-wheel drive, all-weather roads.	Complies.
	Access is provided to all structures.	Complies.
	Traffic management devices are constructed to not prohibit access by emergency services vehicles.	N/A
	Access roads must provide suitable turning areas in accordance with Appendix 3.	The existing internal access road incorporates a loop, allowing vehicles to enter and leave the site in a forward direction, and also provides for a Type D turning manoeuvre (PBP – Figure A3.3).

Performance Criteria	Acceptable Solution	Application
	One way only public access roads are no less than 3.5 metres wide and have designated parking bays with hydrants located outside of these areas to ensure accessibility to reticulated water for fire suppression.	N/A
The capacity of access roads is adequate for firefighting vehicles.	The capacity of road surfaces and any bridges/ causeways is sufficient to carry fully loaded firefighting vehicles (up to 23 tonnes),	The existing bitumen sealed roads are assumed to comply.
	Bridges and causeways are to clearly indicate load rating.	N/A
There is appropriate access to water supply.	Hydrants are located outside of parking reserves and road carriageways to ensure accessibility to reticulated water for fire suppression.	No new hydrants are proposed. Existing hydrants and fire hose reels are located throughout the site, clear of road carriageways (refer to Plates 4.1 and 4.2).
	Hydrants are provided in accordance with the relevant clauses of AS 2419.1:2021.	No new hydrants are proposed.
	There is suitable access for a Category 1 fire appliances to within 4 m of the static water supply where no reticulated supply is available.	N/A
Non-perimeter Roads		
Non-perimeter access roads are designed to allow safe access and egress for firefighting vehicles while occupants are evacuating.	Minimum 5.5m width kerb to kerb.	Existing internal roads have a carriageway width of 6 m.
	Parking is provided outside of the carriageway width.	Complies
	Hydrants are located clear of parking areas.	Complies
	There are through roads, and these are linked to the internal road system at an interval of no greater than 500m.	The internal road forms a loop.
	Curves of roads have a minimum inner radius of 6 m.	Complies
	The maximum grade road is 15° and average grade is 10°.	Complies
	The road crossfall does not exceed 3°.	Complies
	A minimum vertical clearance of 4 m to any overhanging	Complies

Performance Criteria	Acceptable Solution	Application
	obstructions, including tree branches, is provided.	



Plate 4.1 Hydrant on verge of internal access road



Plate 4.2 Fire hose reel adjacent to Site 15

4.5 Services – Water, Electricity and Gas

The site is serviced by a reticulated water supply, with existing fire hose reels located throughout the park (refer to **Section 4.4**).

Electricity supply is from an overhead line on Clifford Street at the north-west corner of the site and is predominantly underground within the caravan park.

The proposed works do not involve any alteration or addition to these existing services.

Table 4.4 outlines the extent to which the water, electricity and gas services comply with the relevant acceptable solution requirements of Table 6.8c of PBP 2019.

Table 4.4 Water, Electricity and Gas Compliance with PBP 2019

Performance Criteria	Acceptable Solution	Application
Water Supplies		
An adequate water supply for firefighting purposes is installed and maintained.	Reticulated water is to be provided to the development, where available.	Complies
	A 10,000 litres minimum static water supply for firefighting purposes is provided for each occupied building where no reticulated water is available.	N/A
Variations Caravan and camping grounds An adequate water supply for firefighting	Either a reticulated water supply is provided or a 10,000 litres minimum water supply on site.	Complies. Reticulated water supply is provided to the site.



Performance Criteria	Acceptable Solution	Application
purposes is installed and maintained		
Water supplies are located at regular intervals; and the water supply is accessible and reliable for firefighting operations.	Fire hydrant spacing, design and sizing comply with the relevant clauses of AS 2419.1:2021;	Existing hydrants are assumed to comply.
	Hydrants are not located within any road carriageway; and	Complies.
	Reticulated water supply to urban subdivisions uses a ring main system for areas with perimeter roads.	N/A
Flows and pressure are appropriate.	Fire hydrant flows and pressures comply with the relevant clauses of AS 2419.1:2021.	Existing hydrants are assumed to comply.
The integrity of the water supply is maintained.	All above-ground water service pipes external to the building are metal, including and up to any taps.	N/A
Water supplies are adequate in areas where reticulated water is not available.	N/A	N/A

Electricity Services

Location of electricity services limits the possibility of ignition of surrounding bush land or the fabric of buildings.	Where practicable, electrical transmission lines are underground; and	Complies
	Where overhead, electrical transmission lines are proposed as follows: Lines are installed with short pole spacing (30 m), unless crossing gullies, gorges or riparian areas; and No part of a tree is closer to a power line than the distance set out in accordance with the specifications in ISSC3 Guideline for Managing Vegetation Near Power Lines.	No new overhead electricity lines are proposed.

Gas Services

Location and design of gas services will not lead to ignition of surrounding bushland or the fabric of buildings.	Reticulated or bottled gas is installed and maintained in accordance with AS/NZS 1596:2014, the requirements of relevant authorities, and metal piping is used;	N/A The proposed alterations and additions do not involve any gas services.
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Performance Criteria	Acceptable Solution	Application
	All fixed gas cylinders are kept clear of all flammable materials to a distance of 10m and shielded on the hazard side;	
	Connections to and from gas cylinders are metal;	
	If gas cylinders need to be kept close to the building, safety valves are directed away from the building and at least 2 m away from any combustible material, so they do not act as a catalyst to combustion:	
	Polymer-sheathed flexible gas supply lines to gas meters adjacent to buildings are not to be used; and	
	Above-ground gas service pipes external to the building are metal, including and up to any outlets.	

4.6 Emergency Management Planning

The existing caravan park should have a Bushfire Emergency Management and Evacuation Plan that provides guidance in planning, preparing, responding and recovery in the event of a bushfire emergency situation originating from or impacting on the site. If such a plan does not currently exist, one should be prepared.

In accordance with the requirements of PBP 2019 – Table 6.8d, it is recommended that a Bushfire Emergency Management and Evacuation Plan be prepared, or the existing plan reviewed and updated, to include bushfire emergency management and evacuation protocols in accordance with the RFS document ‘*A Guide to Developing a Bush Fire Emergency Management and Evacuation Plan*’ and AS 3745:2010 ‘Planning for emergencies in facilities’. The protocols for bushfire emergency management should include planning for the early relocation of visitors and staff on days with forecast catastrophic fire weather conditions. The plan should be regularly monitored and amended when required. Details of its contents should be included during the induction of new staff to the site. Detailed plans of emergency assembly areas including on-site and off-site arrangements as stated in AS 3745-2010 should be clearly displayed and an annual trial emergency evacuation conducted.

4.7 Development of Existing SFPP facilities

Table 4.5 outlines how the proposed works respond to the objectives in Section 6.4 of PBP 2019 that apply to existing SFPP development.

Table 4.5 Objectives for Development of Existing SFPP Facilities

Objective	Application
Provide an appropriate defensible space;	The managed area of the site provides a defensible space.
Site the building in a location which ensures appropriate separation from the hazard to minimise potential for material ignition;	N/A No new buildings are proposed.
Provide a better bush fire protection outcome for existing buildings;	The proposed alterations and additions form part of a suite of upgrades previously proposed under Part 5 of the EP&A Act, including construction of habitable accommodation buildings to the relevant BAL and ensuring bushfire emergency management and evacuation procedures are in place for the overall holiday park. Together, these provide a better bushfire outcome.
New buildings should be located as far from the hazard as possible and should not be extended towards or situated closer to the hazard than the existing buildings (unless they can comply with section 6.8);	N/A No new buildings are proposed.
Ensure there is no increase in bush fire management and maintenance responsibility on adjoining land owners without their written confirmation;	The proposed bushfire protection measures are contained within the site.
Ensure building design and construction enhances the chances of occupant and building survival; and	N/A No new buildings are proposed.
Provide for safe emergency evacuation procedures including capacity of existing infrastructure (such as roads).	Internal roads provide for two-way traffic movement and the recommended bushfire emergency management and evacuation protocols ensure that occupants are evacuated early on high bushfire danger days.



5. Recommendations and Conclusion

5.1 Recommendations

It is recommended that the following bushfire protection measures are applied to the proposed development and be included in the consent by Byron Shire Council:

- The ground layer and mid-storey vegetation within the Holiday Park is to continue to be managed to the standard of an Inner Protection Area in accordance with Appendix A4.1.1 of PBP 2019, while the existing tree canopy cover is maintained. No additional trees are to be planted on the site.
- Any new landscaping within the site is to comply with the standards for an Inner Protection Area as outlined in Appendix A4.1.1 of PBP 2019 and should include a clear area of low-cut lawn or pavement adjacent to any cabins.
- A Bushfire Emergency Management and Evacuation Plan is to be prepared for the entire site, or the existing plan reviewed and updated, to include bushfire emergency management and evacuation protocols in accordance with the RFS document '*A Guide to Developing a Bush Fire Emergency Management and Evacuation Plan*' and AS 3745:2010 'Planning for emergencies in facilities'. The protocols for bushfire emergency management are to include planning for the early relocation of visitors and staff on days with forecast catastrophic fire weather conditions.

5.2 Conclusion

This Bushfire Hazard Assessment has taken into consideration the proposed development, existing vegetation, effective slope and FDI detailed within PBP 2019. Adequate and appropriate bushfire protection measures are available and can be implemented to facilitate the proposed alterations and additions to Suffolk Beachfront Holiday Park, 145 Alcorn Street, Suffolk Park (Lot 100 DP 1023737). The proposal conforms with the standards, performance criteria and intent of measures outlined in PBP 2019 and complies with Section 100B of the *Rural Fires Act 1997*.

It is therefore recommended that the proposed development is approved and conditioned in accordance with the recommendations provided within this assessment.



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UTS Short Course in Planning for Bushfire Prone Areas



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The dimensions, number, size and shape of lots shown on drawings are subject to detailed engineering design, final survey and Council conditions of consent.

Topographic information presented on the drawings is suitable only for the purpose of the document as stated above. No reliance should be placed upon topographic information contained in this report for any purpose other than that stated above.



Appendix A

Proposed Plans



STAGE 3 - SITE WORKS (PART 4 DA / EIS)

- 1 DEMOLISH EXISTING AMENITY BLOCK
- 2 RESTORE LAND TO ALLOW TOURIST SITES 4, 5 & 8
- 3 INSTALL CAR SPACE FOR L3





Appendix B

APZ Standards (PBP 2019)

APPENDIX 4

ASSET PROTECTION ZONE REQUIREMENTS

In combination with other BPMs, a bush fire hazard can be reduced by implementing simple steps to reduce vegetation levels. This can be done by designing and managing landscaping to implement an APZ around the property.

Careful attention should be paid to species selection, their location relative to their flammability, minimising continuity of vegetation (horizontally and vertically), and ongoing maintenance to remove flammable fuels (leaf litter, twigs and debris).

This Appendix sets the standards which need to be met within an APZ.

A4.1 Asset Protection Zones

An APZ is a fuel-reduced area surrounding a building or structure. It is located between the building or structure and the bush fire hazard.

For a complete guide to APZs and landscaping, download the NSW RFS document *Standards for Asset Protection Zones* at the NSW RFS Website www.rfs.nsw.gov.au.

An APZ provides:

- a buffer zone between a bush fire hazard and an asset;
- an area of reduced bush fire fuel that allows for suppression of fire;
- an area from which backburning or hazard reduction can be conducted; and
- an area which allows emergency services access and provides a relatively safe area for firefighters and home owners to defend their property.

Bush fire fuels should be minimised within an APZ. This is so that the vegetation within the zone does not provide a path for the spread of fire to the building, either from the ground level or through the tree canopy.

An APZ, if designed correctly and maintained regularly, will reduce the risk of:

- direct flame contact on the building;
- damage to the building asset from intense radiant heat; and
- ember attack.

The methodology for calculating the required APZ distance is contained within Appendix 1. The width of the APZ required will depend upon the development type and bush fire threat. APZs for new development are set out within Chapters 5, 6 and 7 of this document.

In forest vegetation, the APZ can be made up of an Inner Protection Area (IPA) and an Outer Protection Area (OPA).

A4.1.1 Inner Protection Areas (IPAs)

The IPA is the area closest to the building and creates a fuel-managed area which can minimise the impact of direct flame contact and radiant heat on the development and act as a defensible space. Vegetation within the IPA should be kept to a minimum level. Litter fuels within the IPA should be kept below 1cm in height and be discontinuous.

In practical terms the IPA is typically the curtilage around the building, consisting of a mown lawn and well maintained gardens.

When establishing and maintaining an IPA the following requirements apply:

Trees

- tree canopy cover should be less than 15% at maturity;
- trees at maturity should not touch or overhang the building;
- lower limbs should be removed up to a height of 2m above the ground;
- tree canopies should be separated by 2 to 5m; and
- preference should be given to smooth barked and evergreen trees.

Shrubs

- create large discontinuities or gaps in the vegetation to slow down or break the progress of fire towards buildings should be provided;
- shrubs should not be located under trees;
- shrubs should not form more than 10% ground cover; and
- clumps of shrubs should be separated from exposed windows and doors by a distance of at least twice the height of the vegetation.

Grass

- grass should be kept mown (as a guide grass should be kept to no more than 100mm in height); and
- leaves and vegetation debris should be removed.

A4.1.2 Outer Protection Areas (OPAs)

An OPA is located between the IPA and the unmanaged vegetation. It is an area where there is maintenance of the understorey and some separation in the canopy. The reduction of fuel in this area aims to decrease the intensity of an approaching fire and restricts the potential for fire spread from crowns; reducing the level of direct flame, radiant heat and ember attack on the IPA.

Because of the nature of an OPA, they are only applicable in forest vegetation.

When establishing and maintaining an OPA the following requirements apply:

Trees

- tree canopy cover should be less than 30%; and
- canopies should be separated by 2 to 5m.

Shrubs

- shrubs should not form a continuous canopy; and
- shrubs should form no more than 20% of ground cover.

Grass

- grass should be kept mown to a height of less than 100mm; and
- leaf and other debris should be removed.

An APZ should be maintained in perpetuity to ensure ongoing protection from the impact of bush fires. Maintenance of the IPA and OPA as described above should be undertaken regularly, particularly in advance of the bush fire season.

Figure A4.1

Typical Inner and Outer Protection Areas.

