

Queensland Fire and Emergency Services

City of Gold Coast Bushfire Planning & Mitigation

Date: 28 November 2017
Contact: Tina Saren
Phone: 07 5582 8803
Our Ref: PN307555/02/DA9
ROL201700424

Ms Projects Pty Ltd
C/- I-plan Town Planning Pty Ltd
PO BOX 687
STONES CORNER QLD 4120

Dear Sir/Madam

TRAINING AND EMERGENCY MANAGEMENT



QUEENSLAND FIRE AND EMERGENCY SERVICES COVER SHEET FOR BUSHFIRE MANAGEMENT PLAN

Application type: Bushfire Management Plan (BMP)
Application number: ROL201700424
Property description: Lot 334 on SP193431
Property location: 84 - 160 Christensen Road South Stapylton

This cover sheet contains the findings of, conditions and recommendations sought by the Queensland Fire and Emergency Services (QFES) bushfire planning and assessment officers seconded to Council. It is intended that this QFES cover sheet is to be regarded as forming an integral part of the approved Bushfire Management Plan (BMP).

A BMP is associated with a property to ensure protection from a bushfire risk is reduced as far as practicable through mitigation and maintenance measures.

The submitted BMP being, Bushfire assessment for proposed development at 81-161 Christensen Road Stapylton Queensland, PN307555/02/DA9, dated 7 November 2017 prepared by Land and Environment Consultants is accepted subject to the additional conditions and recommendations outlined on this cover sheet and within Council of the City of Gold Coast (Council) decision notice.

QUEENSLAND FIRE AND EMERGENCY SERVICES

TRAINING AND EMERGENCY MANAGEMENT



All new purchasers/occupants must be given a copy of the QFES cover sheet along with the stamped approved BMP. All recommendations must be complied with throughout the life of the development and any changes to the development will need to be reassessed for compliance against the approved BMP.

Where the BMP has triggered the requirements of *Australian Standards AS3959 – Construction of buildings in bushfire prone areas*, QFES does not accept any responsibility or liability for, or give approval as to the accuracy of the Bushfire Attack Levels (BAL) that is contained within the BMP. QFES only assesses the development's compliance with the applicable performance outcomes from the *City Plan*.

Should any changes to the development or site parameters occur, the owner is responsible for advising a suitably qualified and experienced bushfire management consultant to confirm that the approved BMP is not affected by the changes and any specific fire mitigation measures are imposed to increase the protection to life, property and the environment.

Contacting us

Should you wish to clarify any issues contained in this letter, please do not hesitate to contact Tina Saren on **P: 07 5582 8803**.

Yours faithfully

Tina Saren
BUSHFIRE PLANNING AND ASSESSMENT OFFICER
QUEENSLAND FIRE AND EMERGENCY SERVICES

Seconded to Planning Assessment
PLANNING AND ENVIRONMENT DIRECTORATE
CITY OF GOLD COAST

65809332

7 November 2017

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QLD FIRE & EMERGENCY SERVICES
CITY OF GOLD COAST BUSHFIRE PLANNING

BUSHFIRE MANAGEMENT PLAN ASSESSED

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Subject: Bushfire assessment for proposed development at 81-161 Christensen Road, Stapylton, Queensland

1 Introduction

Land and Environment Consultants (LEC) was engaged to perform a bushfire hazard assessment for the proposed development (subdivision of industrial land in two stages) at 81-161 Christensen Road, Stapylton (the site), properly described as 344/SP193431.

The stage plans for the proposed development are attached at Appendix 1. The proposed development will seek to remove the stormwater easement on the east boundary of the stage 2 site as it is no longer required for stormwater management.

The site triggers the Gold Coast City Plan 2016 *Bushfire hazard overlay* (Bushfire hazard overlay) map for medium potential bushfire hazard and potential impact buffer. Therefore, under the Gold Coast City Plan 2016 *Bushfire hazard overlay code* (Bushfire hazard overlay code), a bushfire hazard assessment and bushfire management plan are required for the proposed development to ensure the risk of bushfire hazard associated with the site are identified and mitigated to a tolerable level.

Stage 1 is on the south side of Christensen Road. It consists of a balance lot and stormwater detention basin and is not affected by the Bushfire hazard overlay map. Therefore, the bushfire assessment focused on stage 2, which is on the north side of Christensen Road and is affected by the Bushfire hazard overlay map.

This report was prepared in accordance with relevant requirements of the Gold Coast City Plan 2016 Policy *Bushfire management plans* (Bushfire planning scheme policy). It documents the bushfire hazard assessment for the site and identifies *National Construction Code* requirements and mitigation measures which are required to demonstrate compliance with relevant development criteria in the Bushfire hazard overlay code and to mitigate the potential impacts of bushfire on life, property and the environment.

The bushfire assessment was performed by Robert Janssen who is a suitably qualified and experienced bushfire management consultant. He is the managing principal of LEC and has over 20 years of experience in bushfire planning and operations. He has prepared bushfire management plans for residential, commercial and industrial property developments, utilities, government facilities and conservation estates. Robert has university qualifications as an environmental scientist and 10 years of experience as a nationally accredited fire-fighter with the national parks and wildlife service in New South Wales and Queensland.

2 Site assessment

A site assessment was performed on 29 August 2017 and focused on land within 100 m of the north and east boundary of the stage 2 site which is mapped as medium potential bushfire hazard and potential bushfire impact buffer area. The stage 2 site assessment area is shown on Figure 1.



Figure 1: Stage 2 site assessment area (image Google Earth September 2017)

Land adjacent the east boundary of the stage 2 site is shown on Photograph 1 and is downslope 2-3 degrees. The site assessment generally agreed with version 10 regional ecosystem (RE) mapping which indicates the vegetation is RE 12.11.24 *Eucalyptus carnea*, *E. tindaliae*, *Corymbia intermedia* +/- *E. siderophloia* or *E. crebra* woodland. RE 12.11.24 is consistent with vegetation hazard class (VHC) 10.2 *Spotted gum dominated woodlands* which has a potential forest fuel load of 18 tonnes (t)/hectare (ha). Numerous vehicle access tracks were observed in the assessment area. Charring was observed on most trees in this area and indicates the area has been subject to a fire recently.

Land adjacent the north boundary of the stage 2 site is shown on Photograph 2 and is downslope 1-4 degrees. It has the same type of vegetation as the east boundary, although the vegetation occurs in a narrow corridor towards the north-west corner of the site. A vehicle access track runs along the boundary in this area and is on the adjacent property. Charring was not evident on *Melaleuca* trees in this area which suggests it has been a long time since the area was last subject to a fire.

The stage 1 and 2 sites are cleared of vegetation except for regrowth in the stormwater detention basin. Nevertheless, the regrowth in the stormwater detention basin will be removed as additional stormwater works are required for the stage 2 site.

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Photograph 1: View east



Photograph 2: View north

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3 Bushfire hazard assessment

Land in the assessment area was assessed against the exclusion criteria for low threat vegetation and non-vegetated areas in the *Australian Standard for the Construction of Buildings in Bushfire Prone Areas* (AS 3959-2009) which are:

- a) Vegetation of any type that is more than 100 m from the site.
- b) Single areas of vegetation less than 1 ha in area and not within 100 m of other areas of vegetation being classified.
- c) Multiple areas of vegetation less than 0.25 ha in area and not within 100 m of other areas of vegetation being classified.
- d) Strips of vegetation less than 20 m in width (measured perpendicular to the elevation exposed to the strip of vegetation) regardless of length and not within 20 m of the site or each other, or other areas of vegetation being classified.
- e) Non-vegetated areas, including waterways, roads, footpaths, buildings and rocky outcrops.
- f) Low threat vegetation, including grassland managed in a minimal fuel condition, maintained lawns, golf courses, maintained public reserves and parklands, vineyards, orchards, cultivated gardens, commercial nurseries, nature strips and windbreaks.

Note: Minimal fuel condition means there is insufficient fuel available to significantly increase the severity of the bushfire attack (recognizable as short-cropped grass for example, to a nominal height of 100 mm).

Land adjacent the south and west boundaries of the stage 2 site is cleared of vegetation and/or is developed with roads, buildings and hardstand areas. These areas meet AS 3959-2009 exclusion criteria e) for non-vegetated areas and f) for low threat vegetation.

Land adjacent the north and east boundaries of the stage 2 site consists of *Spotted gum dominated woodlands* and does not meet any of the exclusion criteria for low threat vegetation or non-vegetated areas in AS 3959-2009 and is a bushfire hazard.

The potential bushfire hazard of land adjacent the north and east boundaries of the stage 2 site was further assessed using the Queensland Fire and Emergency Service *Potential Bushfire Intensity Calculator* (version November 2014) with the results presented in Table 1. A forest fire danger index (FFDI) value of 53 was used in the calculations and was taken from the Commonwealth Scientific and Industrial Research Organisation severe fire weather map for Queensland which was accessed on the Queensland Fire and Emergency Services redi-portal.

Table 1: Potential bushfire hazard on east elevation

Elevation	Vegetation hazard class	Slope (°)	Potential bushfire intensity (kW/m)	Potential bushfire hazard rating
North	10.2	3	13,095	Medium
East	10.2	4	14,031	Medium

The site assessment confirmed that land to the north and east of the stage 2 site is a medium potential bushfire hazard. Land within 100 m of a medium potential bushfire hazard area could be subject to significant bushfire attack from the medium bushfire hazard area. This 100 m wide area is referred to as a potential impact buffer and its location within the stage 2 site is shown on Figure 1.

Given that the stage 2 site is affected by potential impact buffer, the proposed development within the stage 2 site is subject to demonstrating compliance with relevant development outcomes in Part B of the Bushfire hazard overlay code.

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4 Building design and lot layout

Under the Queensland Building Regulation 2006, lots affected by potential impact buffer are defined as 'bushfire prone areas'. The construction requirements for *National Construction Code* (NCC) building classes 2-9 in a bushfire prone area are defined in the NCC (volume 1). Pursuant to clause GF 5.1 of the NCC, setbacks required to achieve bushfire attack levels (BAL) and BAL construction requirements specified in AS 3959-2009 are only applicable to NCC class 2 or 3 buildings (residential buildings and apartments) and NCC class 10a buildings or decks associated with a NCC class 2 or 3 buildings.

The proposed development is for an industrial purpose and future buildings are likely to be NCC class 7b (warehouses) or class 8 (factories). Therefore, regarding compliance with the NCC (volume 1), bushfire requirements under AS 3959-2009, including setbacks and BAL construction requirements, should not be applicable to the assessment of any building application the proposed development will be subject to.

Nevertheless, buildings will need to comply with the fire resistance requirements of Section C of the NCC (volume 1) and provisions relating to the safe evacuation of occupants in the event of a fire, or other emergency, eg evacuation distances, exits, paths of travel, etc.

The proponent must seek the advice of a building certifier in relation to this matter.

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5 Recommendations

This chapter provides recommendations which are required to demonstrate compliance with relevant development outcomes in Part B of the Bushfire hazard overlay code. Assessment against Part B of the Bushfire hazard overlay code is provided at Appendix 2.

5.1 Land use

Industrial uses involving the manufacture or storage of hazardous material in bulk will be excluded from the potential impact buffer shown on Figure 1, which affects lots 14, 16 and 17 and part of lots 13 and 15.

5.2 Building design and lot layout

Advice is will be sought from a building certifier to confirm the fire resistance and evacuation requirements of buildings.

Fencing and retaining walls will be constructed with non-combustible materials. Landscaping will be designed so that plantings do not exacerbate bushfire hazard.

5.3 Vehicle access

The road design will provide access for fire-fighting and other emergency vehicles, and will meet the relevant design criteria in Gold Coast City Plan 2016 Policy *Land development guidelines*.

5.4 Water

The proposed development will be connected to reticulated water in accordance with the design criteria in Gold Coast City Plan 2016 Policy *Land development guidelines*.

Fire-fighter water supply and fire hydrants will be provided in accordance with the Queensland Fire and Emergency Services guideline, *Fire Hydrant and Vehicle Access Guidelines for Residential, Commercial and Industrial Lots 20156*

5.5 Advice to new owners

A copy of this report will be provided to new owners of the lots.

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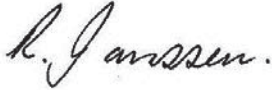
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6 Conclusion

This report provides a site-based bushfire hazard assessment and management plan for the proposed development and is in general accordance with the Bushfire management plan policy.

It was concluded that the site is affected by potential impact buffer area and is subject to complying with relevant outcomes in Part B of the Bushfire hazard overlay code which is demonstrated at Appendix 2.

Yours sincerely,



Robert Janssen
Principal consultant
Land and Environment Consultants
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Disclaimer

Notwithstanding the precautions adopted in this report, it should always be remembered that bushfires burn under a range of conditions. An element of risk, no matter how small always remains, there can be no guarantee, because of the variable nature of bushfires, that any one building will withstand bushfire attack on every occasion.

It should be noted that upon lodgement of a development application, council and/or the fire service may recommend additional requirements.

Although every care has been taken in the preparation of this report, Land and Environment Consultants accept no responsibility resulting from the use of the information in this report.

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Appendix 1: Stage 1 and 2 site plans

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Stage One



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Denotes conservation
buffer zone.

! This plan is to be read in conjunction with the QFES Cover Sheet bearing the same file number. The plan is to be read in conjunction with the QFES Cover Sheet bearing the same file number. The plan is to be read in conjunction with the QFES Cover Sheet bearing the same file number.	
Number of lots (including parts)	11
Lot sizes	2374 sqm - 7.688 Ha
PUL - Conservation Buffer area	4.5823 Ha
Total Area of Common Property	1.377 Ha
Total Site Area	25.182 Ha

Proposed Lots 1-9, 99, 100 and Common Property
Cancelling Lot 334 on SP 193431

Stage Two



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Desires conservation
buffer zone.

! This plan has been prepared in accordance with the provisions of the Subdivision Act 1988. The information, views and other matters set out in this document are subject to change without notice. The information is provided for your information only and does not constitute a guarantee, warranty or representation of any kind. The information is provided for your information only and does not constitute a guarantee, warranty or representation of any kind. The information is provided for your information only and does not constitute a guarantee, warranty or representation of any kind.

Number of new lots	0
Lot sizes	34331 sqm - 1,000 sqm
Area of New Road	6179 sqm
Total Site Area	3,000 sqm

Proposed Lots 10-17
Cancelling Lot 99

Scale 1:1000 - Lengths are in Metres.

0 100 200 300 400 500 600 700 800 900 1000

Appendix 2: Bushfire hazard overlay code assessment

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PART B – ASSESSABLE DEVELOPMENT BENCHMARKS

Table 8.2.3-2: Bushfire hazard overlay code – for assessable development

Performance outcomes	Acceptable outcomes	Compliance
Bushfire hazard		
PO1 In a bushfire hazard area, the fire mitigation methods used at the site are adequate for the bushfire hazard of the individual site, having regard to: (a) vegetation type (b) slope; (c) aspect; (d) bushfire history; (e) conservation values of the site; (f) ecological restoration, including forest succession; (g) ongoing maintenance; (h) climate change; and (i) on site and off-site¹ fire hazard implications Note¹: This includes potential hazard from land up to 10kms away from the site. For example, how might large tracts of forest away from the site impact on the bushland that surrounds the site.	A01 A written assessment by a suitably qualified and experienced bushfire management consultant confirms that the site is not in a bushfire hazard area. OR The development complies with an approved Bushfire management plan prepared in accordance with SC6.3 City Plan policy – Bushfire management plans. OR The development complies with an approved Bushfire management plan as referenced within the approved reconfiguration of a lot. Note: Prior to: (a) plan sealing for a Reconfiguration of a lot; or (b) the issue of a Building work; or (c) the commencement of use where building work is not proposed. Whichever comes first, the applicant must submit to Council, certification from an appropriately qualified and experienced person that the development has been completed in accordance with, and complies with the approved Bushfire management plan and that all risk treatments and functioning in accordance with the approved plan.	✓ The proposed development will comply with the recommendations in this report which was prepared in accordance with SC6.3 City Plan policy – Bushfire management plans. QLD FIRE & EMERGENCY SERVICES CITY OF GOLD COAST BUSHFIRE PLANNING BUSHFIRE MANAGEMENT PLAN ASSESSED File No: PN307555/02/DA9 This Plan is to be read in conjunction with QFES Cover Sheet bearing the same file number.
Land use		
PO2 In a bushfire hazard area, development: (a) does not result in high concentration of people living, working or congregating in a bushfire hazard area; (b) does not result in the bulk manufacture or storage of hazardous materials; and (c) 'essential' community infrastructure is able to function effectively during and immediately after a bushfire event.	A02 The following land uses are not located in a bushfire hazard area: (a) Aged care facility; (b) Child care centre; (c) Community care centre; (d) Community use; (e) Development involving the manufacture or storage of hazardous material in bulk; (f) Education establishment; (g) Hospital; (h) Residential care facility; (i) Retirement facility; (j) Rooming accommodation;	✓ Industrial uses involving the manufacture or storage of hazardous material in bulk will be excluded from the potential impact buffer shown on Figure 1, which affects lots 14, 16 and 17 and part of lots 13 and 15.

Performance outcomes	Acceptable outcomes	Compliance
	(k) Sport and recreation uses; (l) Tourist attraction; (m) Tourist park; and (n) Utility installation (waste management facilities) AND In a bushfire hazard area permitted essential community infrastructure is designed to function effectively during and immediately after bushfire events, as demonstrated in a Bushfire management plan.	QLD FIRE & EMERGENCY SERVICES CITY OF GOLD COAST BUSHFIRE PLANNING BUSHFIRE MANAGEMENT PLAN ASSESSED File No: PN307555/02/DA9 This Plan is to be read in conjunction with QFES Cover Sheet bearing the same file number.
Development design and lot layout		
PO3 In a bushfire hazard area, developments, including lot layout are designed to avoid bushfire hazard and provide safe sites for people, property and buildings. Notes – The development should be located: (a) away from the most likely direction of a fire front; and (b) so that element of the development least susceptible to fire are sited closest to the bushfire hazard	A03 Development, Lots and/or building envelopes are not located within bushfire hazard areas. OR The development is located in accordance with the approved Bushfire management plans as referenced within the approved reconfiguration of a lot. OR The development is designed to adequately demonstrate that the risk to life and property is minimized to achieve acceptable levels and ensure ongoing site management.	✓ The proposed development is for an industrial purpose and future buildings are likely to be <i>National Construction Code</i> (NCC) class 7b (warehouses) or class 8 (factories) which are not subject to the bushfire requirements under the <i>Australian Standard for the Construction of Buildings in Bushfire Prone Areas</i> (AS 3959-2009), including setbacks and BAL construction requirements. Nevertheless, buildings will need to comply with the fire resistance requirements of Section C of the NCC (volume 1) and provisions relating to the safe evacuation of occupants in the event of a fire, or other emergency, eg evacuation distances, exits, paths of travel, etc.
	A03.2 The development design incorporates bushfire radiation zone/s that: (a) use existing or natural fire breaks & minimize the need to clear native vegetation; (b) do not impact matters of environmental significance (c) are located entirely within the boundaries of the private property of the development site; and (d) incorporates landscaping species that are less likely to exacerbate a bushfire event.	N/A Bushfire radiation zones are not applicable to the proposed development (as stated above). Landscaping will be designed so that plantings do not exacerbate bushfire hazard.

Performance outcomes	Acceptable outcomes	Compliance
PO4 In a bushfire hazard area, when designing for bushfire hazard migration the lot layout must avoid impacts on matters of environmental significance.	AO4 Development design, Lot size and layout avoids impact on matters of environmental significance and minimizes impacts such as fragmentation, habitat loss and edge effects for any matters of environmental significance.	✓ The stage 1 and 2 sites are cleared of natural habitat and vegetation.
PO5 Development uses fencing that: (a) does not contribute to the spread of bushfire; (b) facilitates the safe movement of fauna; and (c) provides access for fire-fighting purposes.	AO5 Fences are constructed: (a) using non-combustible or fire retardant materials within 20m of any building used for accommodation; (b) that do not impede the safe movement of fauna (where applicable); and (c) has gates that can be freely accessed for fire-fighting purposes (if applicable).	✓ New fencing and retaining walls will be constructed with non-combustible materials.
Vehicular access		
PO6 In a bushfire hazard area, vehicular access (including internal roads) is designed to mitigate against bushfire hazard by ensuring adequate access for: (a) fire-fighting and other emergency vehicles, and (b) the evacuation of residents and emergency personnel, during a bushfire event.	AO6.1 The development design incorporates a perimeter road that: (a) is located between the boundary of the lots and/or buildings and the adjacent natural area and/or bushfire hazard area; (b) has a minimum cleared width of 20m; (c) has a constructed minimum road width of 6m; (d) has a maximum gradient of 12.5% (e) is constructed to an all-weather standard; and (f) is constructed to ensure all culverts and bridges have a minimum load bearing of 15 tonnes (if applicable)	✓ The road design will provide access for fire-fighting and other emergency vehicles, and will meet the relevant design criteria in SC6.9 City Plan policy – Land development guidelines . Vehicle access to the proposed development will be via an existing road (Christensen Road).
	AO6.2 The road design is capable of providing access for fire fighting and other emergency vehicles, in accordance with SC6.9 City Plan policy – Land development guidelines .	✓ As stated above

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Performance outcomes	Acceptable outcomes	Compliance
	A06.3 The road design does not include dead end roads	✓ Lots will be accessed from a cul-de-sac which is about 250 m long. The cul-de-sac will be sufficient size to manoeuvre a B-double truck and will provide sufficient access for fire-fighter and other emergency vehicles.
Clearing		
PO7 In bushfire hazard area, the development and/or lot layout designed to minimize vegetation clearing and provide landscaping to minimize fire hazard.	A07 The Bushfire management plan details the required extent of vegetation clearing and landscaping and where required modify development design and/or lot layout to minimize clearing of vegetation	✓ The stage 1 and 2 sites are cleared of natural habitat and vegetation. Landscaping will be designed so that plantings do not exacerbate bushfire hazard.
Open space management plans		
PO8 For areas to be dedicated to Council as open space, management strategies to mitigate bushfire risk must be identified.	A08 The Bushfire management plan contains a separate section detailing management strategies for area to be dedicated to Council that can be included within the Open space management plan.	N/A The proposed development does not include area to be dedicated to Council as open space.
Fire trials		
PO9 In a bushfire hazard area, fire trails must be provided to: (a) enable access for fire fighters, residents and equipment; (b) contribute to (where required) bushfire radiation zone(s); (c) mitigate against bushfire hazard; and (d) allow access for hazard reduction management programs. Note – fire trails should be located, contracted and maintained with due regard for landscaping and ecological values and should not result in soil disturbance or erosion	A09.1 Fire trails are located on public land (including public open space areas) to facilitate access for fire brigades. OR Fire trails located on private property are located as close as possible to the property boundaries and the adjoining bushfire hazard area, and an access easement is granted in favour of City of Gold Coast and Queensland Fire and Emergency Services.	N/A A vehicle access track runs along the north boundary of the stage 2 site in the adjacent property. Fire trails are not required within the stage 2 site to contribute to bushfire radiation zones or for hazard reduction management programs within the site and are not proposed.
	A00.2 The fire trail as: (a) a minimum cleared width of 6m; (b) a minimum of 4.8m vertical clearance; (c) a cross fall of no greater than 10 degrees;	N/A As stated above

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Performance outcomes	Acceptable outcomes	Compliance
	(d) a minimum formed width of 4m; (e) a maximum gradient of 12.5%, with adequate drainage to prevent soil erosion and minimize ongoing trail maintenance; and culverts and/or bridges with a minimum load bearing of 8 tonnes (if applicable).	
	A09.3 Vehicular links are provided along the fire trail either to existing fire trails or roads, and these links are designed having regard to the topography of the site, fire fighter safety and the need to regularly access water supplies. Note- where possible, these links should be intervals of approximately 200 m.	N/A As stated above
	A09.4 The fire trail has vehicular access at each end, and links either to existing fire trails or public roads.	N/A As stated above
	A09.5 The fire trail provides turning areas for fire-fighting appliances. The turning bay can be either: (a) a turning circle (b) a 'T' shaped turning bay; or (c) a 'Y' shaped turning bay.	N/A As stated above
	A09.6 The fire trail provides areas for vehicles to pass or turn at intervals of not more than 200m and with a maximum grade of 5% (1 in 20).	N/A As stated above
Areas with water reticulation		
PO10 In a bushfire hazard area, the development maintains the safety of people and property by ensuring that the water supply is reliable and has sufficient flow and pressure requirements for fire fighting purposes at all times	AO10.1 The development is proposed in a bushfire hazard area, and reticulated water is supplied in accordance with SC6.9 City Plan policy – Land development guidelines.	✓ Fire-fighter water supply and fire hydrants will be supplied in accordance with the Queensland Fire and Emergency Services 2015 guideline <i>Fire Hydrant and Vehicle Access Guidelines for Residential, Commercial and Industrial Lots.</i>
	AO10.2 Development involving new or existing buildings with a gross floor area of greater than 50m ² , each lot has a reliable reticulated water	✓ As stated above

Performance outcomes	Acceptable outcomes	Compliance
	supply that has sufficient flow and pressure characteristics for fire fighting purposes at all times. It must have a minimum pressure and flow of 10 litres a second at 200 kPa.	
Areas with no water reticulation (private water supply)		
PO11 In a bushfire hazard area, the development maintains the safety of people and property by ensuring that an adequate water supply for fire-fighting purposes is provided.	AO11.1 For development with a combined GFA less than 500m ² where one or more buildings are proposed, dedicated fire fighting water storage is provided to protect each individual building. Each dedicated fire fighting water storage must have a volume of water not less than 10,000 litres for each building, be provided within 10m of each building and be: (a) a separate tank that is either below ground level or of non-flammable construction; or (b) a reserve section in the bottom part of the main water supply tank that is either below ground level or of non-flammable construction. Note- dedicated firefighting water storage is in addition to water supply for household use and does not include swimming pools, creeks and dams.	N/A The proposed development will be connected to reticulated water.
	AO11.2 For development that proposes one or more buildings with a combined GFA greater than 500m ² there is no acceptable outcome provided.	N/A The proposed development will be connected to reticulated water.
	AO12 The outlet pipe is 50mm in diameter, fitted with a 50mm male camlock (standard rural fire brigade fitting) and an isolating valve.	N/A The proposed development will be connected to reticulated water.
PO13	AO13.1 The water supply outlet is located at least 9m from any potential fire hazards, such as venting gas bottles and combustible structures.	N/A The proposed development will be connected to reticulated water.

**QLD FIRE & EMERGENCY SERVICES
CITY OF GOLD COAST BUSHFIRE PLANNING**

BUSHFIRE MANAGEMENT PLAN ASSESSED

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Performance outcomes	Acceptable outcomes	Compliance
	AO13.2 A safe and accessible hard stand area capable of accommodating a fire fighting vehicle is provided not more than 3m from the water supply outlet.	N/A The proposed development will be connected to reticulated water.
PO14 Development in a bushfire hazard area must provide adequate fire-fighting water storage. This infrastructure must be provided on public land so as to be readily accessible to fire brigades for hazard reduction and fire fighting purposes.	AO14.1 Where public water supplies (e.g. fire hydrants or public water storage) do not exist, water supply tanks are provided for fire-fighting purposes on public land within the development. The water tanks must: (a) Be installed on land dedicated to Council; (b) Hold a volume of at least 22,500 litres per every 20 dwellings; (c) Be of concrete construction; and (d) Have an outlet pipe of 50mm in diameter, fitted with a 50mm male camlock (standard rural fire brigade fitting) and an isolating valve.	N/A The proposed development will be connected to reticulated water.
	AO14.2 Development on public land provides a safe and accessible hardstand area capable of accommodating a fire-fighting vehicle not more than 3m from the water supply outlet.	N/A The proposed development will be connected to reticulated water.
Storage of Hazardous Materials		
PO15 Development does not cause: (a) an unacceptable risk to people, property and the environment due to the impact of bushfire on hazardous chemicals; (b) excess danger or difficulty to emergency services for emergency response or evacuation.	AO15 Development involving the storage, handling or manufacture of hazardous chemicals is not located within a Bushfire hazard area.	✓ Industrial uses involving the manufacture or storage of hazardous material in bulk will be excluded from the potential impact buffer shown on Figure 1, which affects lots 14, 16 and 17 and part of lots 13 and 15.
Advice to new residents		
PO16 In a bushfire hazard area, new residents/occupants of a	AO16 A copy of the Bushfire management plan, complete with	✓ A copy of this report will be provided to new owners.

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Performance outcomes	Acceptable outcomes	Compliance
development in a bushfire hazard area are informed about: (a) the potential bushfire hazard on their site; (b) their responsibility for fire management; (c) the measures required for ongoing fire hazard mitigation; and (d) emergency procedures during a bushfire or on bad fire weather days. Note- Further information on bushfire preparation can be found at www.ruralfire.qld.gov.au	the Queensland Fire and Emergency Services cover sheet and any other addendums is provided to each resident/occupant for their information. Note - the QFES cover sheet is attached to the approved Bushfire management plan and a notification will be placed on the property's rates notice.	

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