

18 August 2022

Ms. Keira Mears  
Senior Project Manager  
Mace  
300 Adelaide Street, Brisbane 4000, Australia  
By email: Mears, Keira Keira.Mears@macegroup.com

Dear Ms. Mears,

### **Murwillumbah High School Bushfire Review - Comments**

Blackash has provided design advice and a Bushfire Hazard Assessment report for Murwillumbah High School State Significant Development (SSD-16848913) Educational Establishment at 86 Riverview Street, Murwillumbah which is legally known as Lot, 2//DP578679, Lot 5//DP820602 and Lot, 6//DP820602 (the site). This response has been provided by Lew Short (CV at Attachment 1) who is a Bushfire Planning & Design (BPAD) Level 3 Certified Practitioner (No. BPD-PA 16373).

The Bushfire Risk Assessment has been updated to reflect the management of the core and retained Hoop Pine areas to protect the *Rhodamnia rubescens* and Hoop Pine areas. An updated Bushfire Management Plan (formally referred to in the EIS as the Landscape Management Plan) has been completed (see Appendix 2 of the updated Bushfire Risk Assessment), that provides for retained vegetation areas of less than 1ha in the core Hoop Pine area and which retains the threatened species *Rhodamnia rubescens*. The core Hoop Pine area will be maintained to less than 1ha and the sugar cane to the south of the site is a managed crop and as such meets the PBP 2019 test for low threat vegetation. The retained areas of Hoop Pine to the south of the core Hoop Pine area are separated from the core Hoop Pine area and are currently maintained by regular slashing. This will continue. As such, these areas meet the low threat vegetation test as required in PBP 2019. This will continue presenting a low bushfire hazard.

The Planning Secretary's Environmental Assessment Requirements (SEAR) as required under Section 4.12(8) of the *Environmental Planning and Assessment Act 1979* (EPA Act) and Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* (EPA Reg) issued on 5 May 2021 required:

## 21. Bushfire

*Provide a bush fire assessment that details proposed bush fire protection measures and demonstrates compliance with Planning for Bush Fire Protection (NSW RFS, 2019).*

Blackash have completed the Bushfire Hazard Assessment report. The NSW Rural Fire Service (RFS) provided a response on the 31 May 2022 that considered the Blackash Bushfire Hazard Assessment and Bushfire Management Plan. The RFS recommended the following condition be included in any consent granted:

*1. Bush Fire Emergency Management and Evacuation Plan shall be prepared in accordance with the NSW RFS document: 'A Guide to Developing a Bush Fire Emergency Management and Evacuation Plan'.*

This can be completed prior to occupation.

Following extensive work by a range of specialists, particularly the Biodiversity Development Assessment Report, modification is required to protect the *Rhodamnia rubescens* and Hoop Pine areas. An updated Bushfire Management Plan (formally referred to in the EIS as the Landscape Management Plan) has been completed (see Appendix 2 of the updated Bushfire Risk Assessment) that provides for retained vegetation areas of less than 1ha and which retains threatened species.

A meeting was held with BCD on the 10<sup>th</sup> August 2022 to discuss the items raised and to provide context and Low Short consideration of bushfire risk at the site. The meeting was productive with the lower bushfire risk of the site and ensuing management arrangements being accepted by BCD.

A separate Bushfire Management Plan has been drafted to align the bushfire and biodiversity requirements.



**Lew Short | Principal**

Blackash Bushfire Consulting

B.A., Grad. Dip. (Design for Bushfires), Grad. Cert. of Management (Macq), Grad. Cert.  
(Applied Management), BA (Resource & Environmental Management)  
Fire Protection Association of Australia Level 3 BPAD 16373

## Attachment 1 - Response to bushfire submissions

|          | 2. Bushfire                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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| Blackash | <p>a. either amend the bushfire risk assessment to include further explanation and justification for identifying the hoop pine plantation as low threat vegetation or revise the bushfire risk assessment to include a bushfire APZ consistent with PBP 2019 between the proposed buildings and the hoop pine plantation.</p> | <p>The Bushfire Risk Assessment has been updated to reflect the management of the core and retained Hoop Pine areas to protect the <i>Rhodamnia rubescens</i> and Hoop Pine areas. An updated Bushfire Management Plan (formerly referred to as the Landscape Management Plan) has been completed that provides for retained vegetation areas of less than 1ha in the core Hoop Pine area and which retains the threatened species <i>Rhodamnia rubescens</i>.</p> <p>The core Hoop Pine area will be maintained to less than 1ha and as such meets the PBP 2019 test for low threat vegetation. The retained areas of Hoop Pine to the south of the core Hoop Pine area are separated from the core Hoop Pine area and are currently maintained by regular slashing. This will continue. As such, these areas meet the low threat vegetation test as required in PBP 2019. This will continue presenting a low hazard.</p> <p>The Bushfire Risk Assessment has been updated to reflect the management of the core and retained Hoop Pine areas to protect the <i>Rhodamnia rubescens</i> and Hoop Pine areas.</p> <p>PBP 2019 provides for low threat vegetation exclusions (section A1.10) stating (p. 88). The following is relevant to the consideration of the core Hoop Pine area and the maintained Hoop Pine areas:</p> <p>The following exclusions of AS 3959 apply, and are not required to be considered for the purposes of PBP, as detailed below:</p> <ol style="list-style-type: none"> <li>1. <i>Single areas of vegetation less than 1 hectare in area and greater than 100 metres separation from other areas of Category 1 or 2 vegetation.</i></li> <li>2. <i>Vegetation regarded as low threat due to factors such as flammability, moisture content or fuel load, including grassland managed in a minimal fuel condition, mangroves and other saline wetlands, maintained lawns, golf courses such as playing areas and fairways,</i></li> </ol> |

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|  |                                                                                                                                                                                                                 | <p><i>maintained public reserves and parklands, sporting fields, vineyards, orchards, banana plantations, market gardens and other non-curing crops, cultivated gardens, arboretums, commercial nurseries, nature strips and windbreaks.</i></p> <p><i>Note: 1. Minimal fuel condition means there is insufficient fuel available to significantly increase the severity of the bush fire attack (recognizable as short cropped grass for example, to a nominal height of 100 mm). 2. A windbreak is considered a single row of planted trees located on a boundary and used as a screen or to reduce the effect of wind on the leeward side of the trees.</i></p> <p>3. Existing areas of managed gardens and lawns within curtilage of buildings.</p> <p>The core Hoop Pine area will be maintained to less than 1ha (see Figure 1 in Bushfire Management Plan) and as such meets the PBP 2019 test (see number 1 above).</p> <p>The retained areas of Hoop Pine to the south of the core Hoop Pine area are separated from the core Hoop Pine area and are currently maintained by regular slashing (see Photographs 1 – 7). This will continue. As such, these areas meet the low threat vegetation test as required in numbers 2, 3, 4 and 5 with these areas currently being managed. This will continue presenting a low hazard.</p> |
|  | b. revise the bushfire hazard assessment and setback requirements specified in the bushfire risk assessment on the basis the area of pasture on the property adjoining the subject land is grassland vegetation | <p>The grassland and managed areas within the site have been assessed as managed areas in our assessment. The Bushfire Management Plan (formally referred to as the Landscape Management Plan) provides extensive areas within the site that are to be managed as Inner Protection Area.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

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|  |                                                                                                                                                                                                                                                                                                      | <p>The NSW Rural Fire Service (RFS) provided a response on the 31 May 2022 that considered the Blackash Bushfire Hazard Assessment and Bushfire Management Plan. The RFS recommended the following condition be included in any consent granted:</p> <p><i>1. Bush Fire Emergency Management and Evacuation Plan shall be prepared in accordance with the NSW RFS document: 'A Guide to Developing a Bush Fire Emergency Management and Evacuation Plan'.</i></p> <p>This accepts the low bushfire risk presented by then Hoop Pines to the site. The Bushfire Risk Assessment report has been updated with detail to provide for management of the Hoop Pine areas while meeting threatened species requirements.</p> |
|  | c. revise the bushfire risk assessment to demonstrate how the hoop pine plantation would be managed to the standard of an Asset Protection Zone without impacting the habitat viability for the critically endangered flora species, Rhodamnia rubescens, occurring within the hoop pine plantation. | Bushfire Management Plan (formally referred to as the Landscape Management Plan) has been revised to provide for managed areas of the Hoop Pine and retention of threatened plants.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|  | d. revise the BDAR to include mitigation and management measures aimed at maintaining and protecting Rhodamnia rubescens and its habitat on the subject land during the operational phase of the project.                                                                                            | For ecologist to complete                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|  | e. The bushfire risk assessment, BDAR and EIS should be reviewed to ensure the proposed bushfire hazard reduction measures have been consistently described and assessed                                                                                                                             | Additional review of existing reports                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

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|  | throughout the project EIS documentation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|  | <p>TSC item 6. Sustainability &amp; Environment</p> <p>Bushfire management</p> <p>a. The bushfire assessment has been prepared in relation to the existing development footprint and so does not adequately address the proposed development, including proposed landscape plan. The assessment does not meet the SEARs, specifically in relation to how the proposed retained, landscape and compensatory plantings will be achieved consistent with the required minimum 36m wide APZ and how the proposed development demonstrates compliance with PBP 2019 objectives.</p> | <p>The bushfire assessment has been completed having regard to the SEARS which requires a consideration of bushfire risk. The bushfire risk to the site is low and the assessment has been completed having regard to the management of the hoop pine presenting a low bushfire risk to the school as provided within Planning for Bushfire Protection 2019.</p> <p>The Bushfire Risk Assessment has been updated to reflect the management of the core and retained Hoop Pine areas to protect the Rhodamnia rubescens and Hoop Pine areas. An updated Bushfire Management Plan (formally referred to as the Landscape Management Plan), has been completed that provides for retained vegetation areas of less than 1ha in the core Hoop Pine area and which retains the threatened species Rhodamnia rubescens.</p> <p>The core Hoop Pine area will be maintained to less than 1ha and as such meets the PBP 2019 test for low threat vegetation. The retained areas of Hoop Pine to the south of the core Hoop Pine area are separated from the core Hoop Pine area and are currently maintained by regular slashing. This will continue. As such, these areas meet the low threat vegetation test as required in PBP 2019. This will continue presenting a low hazard.</p> <p>The alternative to not managing the Hoop Pine below the 1ha threshold is that the Hoop Pine is treated as forest or remnant vegetation with the commensurate asset protection zones and Bushfire Attack Levels (BAL) being applied to the existing and new buildings. Modelling for short fire run could be completed to reduce the BAL. However, due to the low bushfire risk of the Hoop Pines, the risk based approach was to manage/ treat this area to get it below the 1ha threshold within Planning for Bushfire Protection.</p> <p>The sugar cane field to the south of the site is not mapped as bushfire prone land and is an annual crop. Cane from the Tweed is typically grown for one year due to the warmer temperatures. Further south the cycle is two years. Sugarcane is harvested annually during the drier months of June through to November. This removes any fuel and hazard presenting to the school. Sugar cane burning is carried out by farmers before they harvest the cane. Sugar cane burning season generally runs from July to November/December again reducing fuel. As grasses (including sugar cane) cure, the amount of moisture within the grass decreases and the amount of dead material in the grassland increases. Sugar</p> |

# BLACKASH

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|  |  | <p>cane is generally not cured and is not considered a bushfire risk and or, it is generally harvested before the Bushfire Danger Period from 1 October each year - thus removing the hazard.</p> <p>Alternatively, the Hoop Pine area can be managed to Rural Fire Service Asset Protection Zone (APZ) standards The key APZ requirement would be separation of tree crowns by 2 – 5 metres. This would require significant removal and thinning of the trees that would most likely impact the threatened species.</p> <p>Blackash has taken a risk-based consideration of bushfire risk to the school and has held the position throughout the process that the bushfire risk presented to the school from the sugar cane and the Hoop Pine is minimal. The Bushfire Management Plan (formally referred to as the Landscape Management Plan) has been drafted considering the threatened species issues and the bushfire risk.</p> |
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## Attachment 1 – Lew Short Curriculum Vitae



# Curriculum Vitae

Lew Short

**Director BlackAsh Bushfire Consulting**

T: 0419 203 853 E: lew.short@blackash.com.au

**Summary**

Lew is an experienced leader in the government and emergency sector. He has an intimate knowledge of the workings of government and how emergency service organisations operate. He is not only a technical expert but a practitioner who has deep industry knowledge.

Lew has extensive experience providing national leadership in building community resilience representing AFAC and the FPAA. Lew's technical expertise is in bushfire consequence management, risk assessment and mitigation, specifically the planning and design of new developments in high bushfire risk areas to comply with legislative and planning requirements.

Lew has worked with some of Australia's leading organisations including NSW Rural Fire Service, Country Fire Authority, Emergency Management Victoria, Lend Lease, Mirvac, Victorian State and Local Governments, Sydney Water Corporation, Great Lakes and Warringah Councils. Lew has a deep operational understanding of how fire works in the Australian landscape. He has multifaceted insight into how governments respond to this threat. Lew provides unique strategies to comply with regulatory requirements and safety outcomes.

Lew established and led the Community Resilience Group for the New South Wales Rural Fire Service (RFS). His areas of responsibility included land use planning, community engagement, education, vulnerable communities, bunkers, Neighbourhood Safer Places, business systems and projects, social media, integrated risk management and environmental management. He was responsible for the establishment, management and leadership of the development assessment function for the RFS at a State level where he was responsible for the assessment of over 80,000 development applications in Bush Fire Prone Areas.

**Areas of Expertise**

- Landuse planning & consequence management
- Legal strategy, Land & Environment Court and Expert Witness
- Bushfire planning, design & construction requirements in accordance with National Standards
- Insurance threat, vulnerability and constraints assessments
- Bushfire Prone Mapping, hazard mapping and risk assessments
- Australian Standard AS3959 Construction of Buildings in Bushfire Prone Areas
- Bushfire Management Plans
- Alternative & performance based solutions
- Evacuation planning and implementation
- Technical and Strategic advice

**Qualifications / Accreditation**

**BPAD Level 3** Accredited Practitioner  
Fire Protection Association of Australia

**Graduate Diploma of Bush Fire Design**  
University of Western Sydney, 2006

**Graduate Certificate of Applied Management**  
Australian Institute of Police Management, 2005

**Graduate Certificate of Management Macquarie**  
Graduate School of Management Macquarie University, 2001

**Bachelor of Arts, Resource and Environmental Management**  
Macquarie University, 1994