

From: "Emma Staines" <Emma.Staines@braziermotti.com.au>
Sent: Tue, 9 Dec 2025 04:13:08 +1000
To: "Development Assessment" <developmentassessment@townsville.qld.gov.au>
Subject: Development Application - 43390-002-01
Attachments: 43390-002-01 - Development Application.pdf

Good morning,

Please find attached a Development Application made on behalf of Impact Drill and Blast.

The application fee will be paid to Council by the Applicant on receipt of the reference number and tax invoice.

If you require any further information, please do not hesitate to contact our office.

Kind regards,



Emma Staines
Town Planner

P 07 4772 1144
M +61 0429 516 011

595 Flinders Street
Townsville Q 4810

braziermotti.com.au



The information transmitted is intended only for the person or entity to which it is addressed and may contain confidential and/or privileged material. Any review, retransmission, dissemination, or other use of, or taking of any action in reliance upon, this information by persons or entities other than the intended recipient is prohibited. If you received this in error, please contact the sender and delete the material from any device.



09 December 2025

Our Ref: 43390-002-01

Assessment Manager
Townsville City Council
PO Box 1268
TOWNSVILLE CITY QLD 4810

Via email: developmentassessment@townsville.qld.gov.au

Attention: Development Assessment

Dear Sir/Madam,

DEVELOPMENT APPLICATION
Development Permit for Material Change of Use – Medium Impact Industry
(Explosives Storage) and Caretaker’s Accommodation
91 Giesman Road, Black River

We act on behalf of the Applicant, Impact Drill & Blast, in relation to the abovementioned application.

Please find enclosed a Development Application seeking a Development Permit for Material Change of Use at 91 Geisman Road, Black River on land formally described as Lot 114 on EP1670.

In accordance with Townsville City Council’s schedule of fees and charges 2025/2026, the development application fee is **\$6,132.00**. This comprises:

Material Change of Use		
Medium Impact Industry (Explosives Storage)	Not exceeding 200m ² of TUA	\$3,796.00
Caretaker’s Accommodation	Base Fee	\$1,168.00
Material change of use - impact assessable applications		\$1,168.00
Total		\$6,132.00

The fee will be paid directly to council by the Applicant upon receipt of Council’s application reference number.

Thank you in advance, and please do not hesitate in contacting the undersigned should you require further information.

Yours faithfully,

Emma Staines
Town Planner
Brazier Motti Pty Ltd

Encl. Development Application

595 Flinders Street, Townsville Q 4810 P 07 4772 1144 E townsville@braziermotti.com.au W www.braziermotti.com.au

DEVELOPMENT APPLICATION SEEKING A
DEVELOPMENT PERMIT FOR:

Material Change of Use – Medium Impact
Industry (Explosives Storage Facility) and
Caretaker’s Accommodation

on behalf of
IMPACT DRILL & BLAST

at
91 GIESEMAN ROAD, BLACK RIVER

on
LOT 114 ON EP1670





Brazier Motti have prepared this report for the sole purposes of Impact Drill & Blast for the specific purpose of a Development Application seeking a Development Permit for Material Change of Use – Medium Impact Industry (Explosives Storage Facility) and Caretaker’s Accommodation at 91 Gieseman Road, Black River.

In preparing this report we have assumed that all information and documents provided to us by others, such as the client, other consultants acting on the client’s behalf or government agencies, to be complete, accurate and current.

Signed on behalf of Brazier Motti Pty Ltd

EMMA STAINES

Town Planner

Brazier Motti Pty Ltd



BRAZIER MOTTI

595 Flinders Street

Townsville Q 4810

Ph: 07 4772 1144

Final: December 2025

Prepared by: EJS

QA: es

Job No: 43390-002-01



CONTENTS

1.0	INTRODUCTION	5
2.0	THE SITE	6
3.0	THE PROPOSAL	8
3.1	DEFINITION OF PROPOSED USE	
3.2	DEVELOPMENT PLANS	
3.3	PROPOSED DEVELOPMENT	
4.0	RELEVANT LEGISLATION	11
4.1	COMMONWEALTH LEGISLATION	
4.2	THE PLANNING ACT 2016	
4.3	STATE ASSESSMENT AND REFERRALS	
4.4	STATE PLANNING POLICY	
4.5	NORTH QUEENSLAND REGIONAL PLAN	
4.6	ASSESSMENT MANAGER AND PLANNING SCHEME	
4.7	PUBLIC NOTIFICATION	
5.0	THE PLANNING FRAMEWORK	13
5.1	LAND DESIGNATION	
5.2	LEVEL OF ASSESSMENT, ASSESSABLE BENCHMARKS & APPLICABLE CODES	
6.0	TOWNSVILLE CITY PLAN 2014	15
6.1	STRATEGIC FRAMEWORK	
6.2	ZONE CODE PROVISIONS	
6.3	DEVELOPMENT CODES	
6.4	OVERLAY CODES	
7.0	CONCLUSION	25



APPENDICES

- Appendix A: DA form 1: Development Application Details
Owner's Consent
Relevant Purpose Determination (Section 22A)
- Appendix B: Certificate of Title, Smart Map and Survey Plan
- Appendix C: Development Plans prepared by Brazier Motti
- Appendix D: SARA Mapping
- Appendix E: Response to State Code 16: Clearing Native Vegetation
- Appendix F: Bushfire Hazard Assessment and Management Plan prepared by Max Protection Bushfire Consulting
- Appendix G: Hazard Assessment for Explosives prepared by Frontier Safety



1.0 INTRODUCTION

This town planning report has been prepared on behalf of the Applicant, Impact Drill and Blast, in support of a Development Application seeking a Development Permit for Material Change of Use to establish a storage facility for Class 1 Explosives with ancillary site office (Medium Impact Industry) and a Caretaker's Accommodation and on the land at 91 Gieseman Road, Black River.

The development application is made in accordance with section 51 of the *Planning Act 2016* and contains the mandatory supporting information specified in the applicable development application form (version 1.6), included in **Appendix A**.

The subject site is located within the Townsville City Council local government area and the applicable planning scheme for use by the Assessment Manager is the Townsville City Plan 2014 (Version 2024/01) ("the Planning Scheme").

In accordance with the Planning Scheme, the application is subject to impact assessment and therefore public notification is required.

To assist in Council's determination of this development application, this planning report covers the following matters:

- Section 2:- A site description including the site characteristics and its immediate surrounds.
- Section 3:- A detailed description of the development proposal.
- Section 4:- A review of the relevant legislation provisions.
- Section 5:- A review of the planning framework.
- Section 6:- An assessment of the proposal against the Townsville City Plan, 2014.
- Section 7:- Conclusion and recommendation.

1.1 BACKGROUND

A development application seeking a Development Permit for Material Change of Use (Special Industry – Explosives Storage) was previously lodged to Townsville City Council by the Applicant on 21 July 2025 which was determined to be a properly made application on 4 August 2025 (Council ref: MCU25/0046).

That application was prohibited development because a Relevant Purpose Determination (s22A) was not obtained from the chief executive in accordance with the *Vegetation Management Act 1999*, prior to lodgement with Townsville City Council.

As such, Townsville City Council was required to return the development application to the Applicant until a Relevant Purpose Determination (s22A) was obtained from the Department of Natural Resources and Mines, Manufacturing and Regional and Rural Development (DNRMMRRD). The application was returned on 24 September 2025, and a partial refund of the assessment fee was to be provided directly to the Applicant.

Written confirmation that the chief executive of the *Vegetation Management Act 1999* is satisfied the clearing of native vegetation, subject of this development application, is for a relevant purpose under section 22A of the *Vegetation Management Act 1999* has since been obtained and is included in **Appendix A**.



2.0 THE SITE

The subject site is located at 91 Gieseman Road, Black River in Queensland on land more formally described as Lot 114 on EP1670. It is situated approximately 21.5 kilometres west of the Townsville CBD and accessible via the Bruce Highway and Black River Road.

An executed landowner consent is included in **Appendix A** and the certificate of title confirming ownership of the site by Laura Payne is included **Appendix B**.

Figure 1 below shows an aerial image of the site and its immediate surrounds. It is an irregular shaped lot, 56.50ha in area and bound by Gieseman Road to the north and west, Black River to the east and adjoins rural land to the north and south. The site is not burdened by any easements, and the Smart Map and survey plan are included in **Appendix B** which confirm the site area, tenure and surrounding cadastre.

Figure 1: Aerial image of the site and immediate surrounds



Source: Queensland Globe, 2025

A stream order 3 watercourse traverses the site from east to west branching off from Black River before splitting into a fork at the western end of the property. The site is predominantly covered in dense vegetation that is mapped as Category B (Remnant Vegetation) on the Vegetation Management Map. It is defined as least concern regional ecosystem.

The balance of the site comprises residential houses, maintained gardens and lawns, and vegetated areas. *Figures 2 and 3* show aerial images of the existing built form on site.

Figure 2: Aerial image of the existing built form on site



Figure 3: Aerial image of an existing residence on site



Source: Queensland Globe, 2025

A new primary residence has recently been relocated to western portion of the site (Council ref: EAR2025/222) and the existing residence will be used a secondary dwelling, subordinate to the main dwelling. The secondary dwelling overlooks a pond a surrounded by landscapes areas. A large shed associated with the secondary dwelling is located



at the northern boundary and used for storage of personal vehicles and small machinery (lawn mowers etc) to maintain the property.

To the west of the shed is another structure that is used as an office and was built prior to council approval building approval requirements. This structure will be reclassified to a commercial office and used as part of the explosive's storage facility. The secondary dwelling and site office are not connected to Council's reticulated water or sewer networks and are serviced by an onsite water supply and a sewerage treatment system.

On the western side of the subject site is a third structure shown in *Figure 4* below, that is to be used as a caretaker's accommodation associated with the explosive's storage facility. This structure is accessed off Gieseman Road via a gravel crossover and driveway. It is serviced by an onsite sewerage treatment and disposal system and two 25,000L water tanks.

Figure 4: Aerial image of



Source: Realestate.com.au

An 11kv high voltage overhead electricity supply is located in the Gieseman Road reserve that services the subject site. A power pole is situated on the western side of the access driveway.

The land is wholly contained within the rural zone (mixed farming precinct) for the purposes of the Planning Scheme. *Figure 5* below shows an extract of the Planning Scheme zone map.

Figure 5: Zone Map



Source: Townsville City Plan, 2014

Overall, the pattern and zoning of development, in the vicinity of the site, is characterised by rural uses including single detached dwellings on large lots with no access to infrastructure.



3.0 THE PROPOSAL

This report details an application seeking a Development Permit for Material Change of Use to establish a storage facility for Class 1 Explosives with ancillary site office (Medium Impact Industry) and a Caretaker's Accommodation on the subject site described above.

3.1 DEFINITION OF PROPOSED USE

Table SC1.1.2.1 – Industry thresholds of the Planning Scheme, identifies a facility, goods yard or warehouse for the storage or distribution of dangerous goods not involving manufacturing processes and not a major hazard facility under the *Work Health and Safety Act 2011* as Medium Impact Industry.

In accordance with Table SC1.1.2 – Use definitions of the Planning Scheme, *Medium Impact Industry* is defined as follows:

Premises used for industrial activities that include the manufacturing, producing, processing, repairing, altering, recycling, storing, distributing, transferring or treating of products and have one or more of the following attributes:

- *potential for noticeable impacts on sensitive land uses due to offsite emissions including aerosol, fume, particle, smoke, odour and noise;*
- *potential for noticeable offsite impacts in the event of fire, explosion or toxic release;*
- *generates high traffic flows in the context of the locality or the road network;*
- *generates an elevated demand on the local infrastructure network;*
- *onsite controls are required for emissions and dangerous goods risks;*
- *the use is primarily undertaken indoors;*
- *evening or night activities are undertaken indoors and not outdoors.*

And *Caretaker's Accommodation* is defined as:

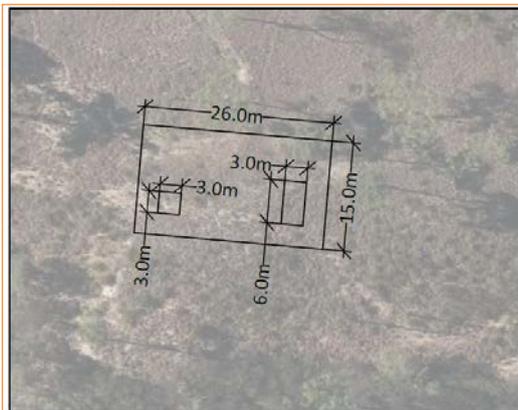
A dwelling provided for a caretaker of a non-residential use on the same premises.

3.2 PROPOSED DEVELOPMENT

The planned explosives storage includes two magazines, each the size of freight container, with one magazine storing up to 2,000kg of high explosives of Division 1.1D (i.e. boosters, detonating cord, packaged emulsion) and one magazine storing up to 20,000 detonators of Division 1.1B/1.4B/1.4S.

One magazine is 3m x 3m and the other 3m x 6m. Both are to be situated on a 26m x 15m hard stand area secured with fencing, shown in *Figure 6*.

Figure 6: Magazine Compound



Source: Brazier Motti



Staff & Operational Hours

There will be no full-time on-site personnel manning the proposed storage facility however the site office will be used as required for operational purposes. Personnel will predominantly work off-site at work sites and utilise the site office for administration on an irregular basis however use of the site office would be limited to the hours of 6:00am to 6:00pm, Monday to Friday. Residents of the caretaker's accommodation will be involved in site activities and to provide security for the facility.

Water and Sewer

No new water or sewer infrastructure is required to service the storage facility. The site office and caretaker's accommodation will continue to be serviced by the existing onsite infrastructure. No services are required for the storage facility.

Stormwater

The storage facility will be situated on a hard stand area 26.0m x 15.0m in size which equates approximately 0.069% of the total site area. This change in impervious area is not expected to impact on the existing stormwater regime on or off site therefore no stormwater infrastructure is proposed as part of this application.

Access and Carparking

Access to the site is provided directly off Gieseman Road at three (3) locations. One at the north east corner of the site, servicing the secondary dwelling, shed and proposed site office. It is an unsealed gravel crossover and driveway. The second access is located 160m west of the first and is also an unsealed road suitable for heavy rigid and light vehicles. This includes an access gate for security. The third access is located approximately 580m further west of the second and is also an unsealed road.

Minor earthworks are required to extend the existing roadway (access 2) to the explosive storage compound and to level the explosives storage area. That access track is conceptually shown in *Figure 7*.

Figure 7: Road Access to Storage Facility



Source: Brazier Motti

No changes to the accesses 1 and 3 are required to facilitate the development.



Heavy rigid and light vehicles will deliver and receive explosives from the site. It is expected deliveries will be monthly to site by a heavy rigid vehicle and stock is to be taken from site by a light vehicle, as required, for blasting activities at worksites, multiple times per week.

Vehicles are not to be parked near the compound overnight due to security requirements for explosive storage facilities. Any vehicles, while on site, will be parked in the explosives compound during loading and unloading of materials only.

2 shaded car parking spaces are provided on the northern side of the caretaker's accommodation, and 3 car parking spaces are provided by the site office for personnel.

Waste Management

Explosives waste will be disposed by a licenced shotfirer at an approved location. Cardboard and other wastes from packaging must be rendered safe by on-site personnel by confirming no explosives are present and that all signage and labels are removed, then disposed as general waste, as required.

That general waste will be stored in wheelie bins located by the site office and disposed by on-site personnel. No waste collection companies will be required to collect waste from the subject site.

Landscaping

The subject site is secured by existing fencing. Given the rural location and nature of the proposed development, all existing vegetation will be retained where practical however no additional landscaping is proposed as part of this application as it is impractical.

3.3 DEVELOPMENT PLANS

The proposed development is illustrated on the following proposal plans prepared by Brazier Motti included in **Appendix C:**

- 43390/001C – Site Plan
- 43390/002C – Bushfire hazard overlay
- 43390/003A – Proposed Floor Plan – Caretakers Accommodation
- 43390/004A – Proposed Floor Plan – Site Office



4.0 RELEVANT LEGISLATION

4.1 COMMONWEALTH LEGISLATION

The application is not subject to assessment against Commonwealth legislation. It is not anticipated that development of this land will trigger assessment against the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC), as it is not anticipated that the development will significantly impact upon a matter of national environmental significance.

4.2 THE PLANNING ACT 2016

The *Planning Act 2016* provides the framework for coordinating local, regional and state planning. Given the nature of the development, the application requires assessment against this legislation.

4.3 STATE ASSESSMENT AND REFERRALS

The Development Assessment Rules incorporates a referral process, established through the *Planning Regulation 2017*, enabling relevant State agencies to have input in the assessment process.

Consideration of the proposed development against Schedule 10 of the *Planning Regulation 2017* determined that the proposal triggers referral for the matters identified in Table 1 below.

Table 1 – Referral Triggers

MATTER	STATUTORY TRIGGER
Clearing Native Vegetation	<p>Schedule 10, Part 3, Division 1, Table 3, Item 1</p> <p>Development application for a material change of use that is assessable development under a local categorising instrument and relates to a lot that is 5ha or larger, if—</p> <p>(a) the application—</p> <ul style="list-style-type: none"> (i) is for a preliminary approval that includes a variation request; and (ii) relates to a lot that contains native vegetation shown on the regulated vegetation management map as a category A area or category B area; and (iii) is for a material change of use, other than a non-referable material change of use; or <p>(b) the application is not stated in paragraph (a) and all of the following apply—</p> <ul style="list-style-type: none"> (i) the material change of use does not involve prescribed clearing; (ii) accepted operational work may be carried out because of the material change of use, or the material change of use involves operational work that is assessable development under section 5; <p>(a) the accepted operational work or assessable operational work includes development other than the clearing of regulated regrowth vegetation on freehold land, indigenous land, land the subject of an occupation licence under the Land Act, or land the subject of a lease given under the Land Act for agriculture or grazing purposes.</p>

The site contains mapped vegetation that is identified as least concern regional ecosystem in category B area on a regulated vegetation management map. Development will be guided by the outcomes sought by the State Development Assessment Provisions to the extent relevant to native vegetation being *State Code 16 – Native Vegetation Clearing*.

A Matters of Interest Report is included in **Appendix D** and an assessment against State Code 16 is included in **Appendix E**.



Further consideration of the proposed development determined that the proposal does not trigger referral to SARA for:

- Schedule 10, Part 7, Division 3, Table 1 Item 1 – Hazardous Chemical Facilities; and
- Schedule 10, Part 5, Division 4, Table 2, Item 1 – Non-devolved Environmentally Relevant Activity.

4.4 STATE PLANNING POLICY

In accordance with section 2.1 – State Planning Policy, of the Planning Scheme, the Minister has identified that all aspects of the State Planning Policy (SPP) (2014) have been integrated into the Planning Scheme. It is understood that Townsville City Council is currently in the process of implementing a major amendment to the City Plan which incorporates all aspects of the 2017 SPP.

For the purposes of this development application, it is considered that separate assessment of the proposal against the provisions of the SPP is not required, and all relevant matters will be dealt with under the provisions of the Planning Scheme.

4.5 NORTH QUEENSLAND REGIONAL PLAN

The subject site is included in Renewable Energy Investigation Area (REIA) and contains areas of Regional Biodiversity Value as identified in the North Queensland Regional Plan (NQRP). The NQRP identifies locations considered most suitable for the establishment of new commercial-scale solar and wind farms. These locations are called REIAs. The NQRP also considers important biodiversity and landscape values, that are not mapped as Matters of State Environmental Significance. Identifying these regional biodiversity values assists in protecting and managing impacts on regional biodiversity.

The proposed development aligns with the outcomes sought by the NQRP with respect to REIAs and areas of Regional Biodiversity Value, specifically noting that the storage facility is small in scale and not expected to adversely impact the long-term use of the land. It is sited within a previously cleared area on site and does not result in high traffic movements to, from and over the site that would otherwise impact the natural environment.

4.6 ASSESSMENT MANAGER AND PLANNING SCHEME

Townsville City Council is nominated as the Assessment Manager for the application. The applicable planning scheme is the Townsville City Plan, 2014.

4.7 PUBLIC NOTIFICATION

The proposed development on the subject site **does** require public notification under the provisions of the *Planning Act 2016*. Public notification will be undertaken for a period of 15 business days.



5.0 THE PLANNING FRAMEWORK

The Planning Scheme seeks to achieve outcomes through the identification of a number of overall outcomes, performance outcomes and acceptable outcomes. It is performance-based meaning that the acceptable solutions are to be read as offering one way of achieving compliance with a code but do not prohibit alternate solutions where the performance outcomes can be shown to be met.

Land identified within the Planning Scheme is categorised by a number of zones and precincts to guide development across the region. The Planning Scheme further identifies a range of overlays that may impact the land, these are governed by overlay codes.

The assessment benchmarks establish outcomes expected for a type of development, though there is a principal that each application is to be considered on its merits.

Section 45 (5) (b) of the *Planning Act 2016* identifies that, together with consideration of assessment benchmarks, assessment may also be carried out against, or having regard to, *any other relevant matter*.

These are matters that are particular to the specifics of the application and they would be identified in the formal Decision Notice to explain why the approval was given, and to be able to be used to differentiate the proposal from others to avoid establishing an open precedent.

5.1 LAND DESIGNATION

In accordance with the Planning Scheme, the site is included within the rural zone and is designated on the following overlay maps:

- Bushfire hazard Overlay Map OM-02 – Medium bushfire hazard area
- Development Constraints Overlay Map OM-06.1 to OM-06.2 – Flood hazard - Low to high hazard area
- Development Constraints Overlay Map OM-07.2 – Landslide hazard - Slope angle greater than 23 degrees
- Environment Natural Assets Overlay Map OM-08 – Environmental importance - High and very high
- Natural Resources Overlay Map OM-05 – Extractive resources - Transport route

In accordance with Section 5.3.2 of the Planning Scheme; determining the category of development and categories of assessment, where development is proposed on premises partly affected by an overlay, the category of development for assessment for the overlay only relates to the part of the premises affected by the overlay.

The subject site is designated on the Development Constraints Overlay Map OM-07.2 and contains area of slope angle greater than 23 degrees. The mapped area is minimal and confined along the eastern boundary of the site, at the bank of Black River. The development site, subject of this development, is not impacted by any area of slope angle greater than 23 degrees. On that basis, assessment against the landslide hazard overlay code is not required for the purposes of this development application.

5.2 LEVEL OF ASSESSMENT, ASSESSMENT BENCHMARKS AND APPLICABLE CODES

Table 5.5.21 of the Planning Scheme identifies:

- Material change of use for Medium Impact Industry as assessable development and is subject to impact assessment.
- Material change of use for Caretaker's Accommodation as assessable development and is subject to code assessment as it will result in more than two dwellings of any kind on the subject lot.

The assessment table identifies that an application requires assessment against the Planning Scheme hence, the Strategic Framework and the following codes:



- Rural zone code;
- Healthy waters code;
- Landscape code;
- Transport impact, access, and parking code;
- Works code;
- Bushfire hazard overlay code;
- Extractive resources overlay code;
- Flood hazard overlay code; and
- Natural assets overlay code.



6.0 TOWNSVILLE CITY PLAN 2014

A complete assessment of the proposed development against the Planning Scheme is discussed below.

6.1 STRATEGIC FRAMEWORK

The strategic framework, described in Part 3 of the City Plan provides sensible measures that are of assistance in determining the suitability of development to meet the needs of the community. It establishes four themes that represent the policy intent of the Scheme. The themes are:

- (a) *Shaping Townsville;*
- (b) *Strong Connected Community;*
- (c) *Environmentally Sustainable future; and*
- (d) *Sustainable Economic Growth.*

The themes, on balance, seek to create opportunities for a diversity of lifestyle options in settings that are efficiently and affordably serviced, and that are respectful of environmental values. The proposed development achieves this balance.

The theme, **Shaping Townsville**, seeks to ensure adequate land for housing, business and community uses, sufficient to meet Townsville's needs for at least 25 years, is allocated appropriately. In doing so, the theme ensures a range of housing and lifestyle choices will be provided in accessible and affordable locations not creating conflict with potential surrounding uses (i.e. rural uses, extractive industry operations, natural assets and environmental values).

The proposal responds to this outcome as the development is expected to:

- Utilise a small portion of rural land for a defined use that cannot be more reasonably located within an urban area; and
- Protects the amenity of surrounding residential uses.

The theme, **Strong and Connected Community**, seeks to strengthen the character and identity of communities in urban and rural areas through good urban design of places. The proposal does not require consideration against this theme.

The theme, **Environmentally Sustainable Future**, seeks to protect Townsville's natural assets, to provide life supporting capacities for present and future generations.

The proposal responds to this outcome as the development is expected to:

- Avoid any high value environmental areas;
- Protect ground and surface water quality and the environmental values of water; and
- Mitigate, where practical, the extent or the severity of flood and bushfire hazard on and off site.

The theme, **Sustainable Economic Growth**, seeks to ensure economic and employment growth is primarily located in Townsville's centres and industrial areas. Sensitive land uses are prevented from encroaching on the city's freight routes, special purpose areas, industrial areas and specialised centres, to ensure their ongoing efficient operation, minimise risks and avoid conflicts.

The proposal responds to this outcome as the storage facility will support mining, quarrying and civil construction industries in North Queensland.

Overall, the proposed development appropriately responds the themes nominated by the Strategic Framework and enables a suitable land use on the subject site. The following planning grounds have been identified to support the application, despite the conflict with the Scheme:-



- The use is properly secured by fencing;
- The proposed facility is small in scale and will not exceed ERA thresholds;
- Sensitive receptors are protected;
- The nature of the land use cannot be more reasonably located within an urban area; and
- Any hazard aspects can be secured by reasonable and relevant conditions.

6.2 ZONE CODE PROVISIONS

6.2.1 Rural Zone Code

The proposed development is nominated for assessment against the rural zone code.

The purpose of this code is to:

- provide for a wide range of rural uses including cropping, intensive horticulture, intensive animal industries, animal husbandry, animal keeping and other primary production activities;*
- provide opportunities for non-rural uses that are compatible with agriculture, the environment, and the landscape character of the rural area where they do not compromise the long-term use of the land for rural purposes; and*
- protect or manage significant natural features, resources, and processes, including the capacity for primary production.*

The particular purpose of this code is to:

- the productive capacity of all rural land and opportunities to diversify and add value to rural production are maximised, within the ecological constraints of the land;*
- the character and landscape values of non-urban land are maintained; and*
- urban or rural residential development does not expand into rural zoned land.*

The purpose of the zone will be achieved through the following overall outcomes:

- the zone primarily accommodates cropping or animal husbandry and ancillary detached houses;*
- all rural land is protected from further fragmentation. A lack of viability for existing farm units and small holdings does not justify their further subdivision or use for non-rural purposes;*
- housing in the rural zone only occurs to the extent that it supports the productive use of the land. Urban and rural residential development is contained within designated growth areas and does not expand into the rural zone;*
- other new enterprises, including rural industries and tourism activities, are accommodated where:*
 - they are directly associated with rural production, a natural resource or the natural environment or need to be remote from urban uses as a result of their impacts;*
 - the productive capacity of the land is not diminished and conflicts with existing and intended activities in the surrounding area are avoided;*
 - the existing landscape and natural resource values of the land are maintained; and*
 - the development is not more appropriately located in another zone;*
- extractive resources and existing extractive operations on rural land are protected from encroachment by incompatible uses;*
- the environmental, character and landscape values of all rural land are maintained; and*
- adequate separation and buffering is provided by new development in nearby urban or rural residential zoned land to ensure the encroachment by more intensive residential and other sensitive uses is avoided.*

The purpose of the zone will also be achieved through the following additional overall outcomes for the Mixed farming precinct:

- this precinct contains low intensity animal husbandry with some potential for cropping.*
- animal keeping (being kennels and catteries), intensive animal industries, aquaculture and rural industries establish where they:*



- i. are able to be located on less productive land within the precinct;
 - ii. are adequately separated from rural dwellings and other sensitive land uses;
 - iii. do not diminish the productive capacity of other land nearby; and
 - iv. do not diminish water quality, natural, scenic or environmental values, including remnant vegetation;
- (c) subdivision of lots below 400ha in the Ross River Dam catchment and 40ha elsewhere generally does not occur.

Response

The proposed development is for the storage of explosives on a small section of unproductive rural land that is unlikely to result in determinantal impact to adjoining land uses due to the legislative requirements under the *Explosives Act 1999* for spacing between explosive storage buildings and setbacks of buildings from boundaries.

Whilst the proposal does not represent a rural use, the development is compatible with the surrounding environment and the existing landscape character. The footprint of the proposed development is minor with respect to the size of the subject site and will not detrimentally compromise the long-term use of the land for rural purposes.

The following performance outcomes are considered relevant and have been addressed:

PO1 – Alternate Outcome

A primary residence has recently been relocated to the western portion of the site (Council ref: EAR2025/222) and a secondary dwelling is located on the eastern portion of the site.

The proposed caretaker's accommodation is to be located in the centre of the site within an existing structure that will require building approval. The dwellings are adequately spaced so not to detract from rural landscape characters and amenity of the site.

AO2 – Complies

The caretaker's accommodation will retain the existing gravel crossover and driveway off Gieseman Road and has connection to two water tanks with a total capacity of 50,000 litres.

AO3.2 – Complies

The caretaker's accommodation is setback more than 150m from Gieseman Road.

PO8 – Complies

The proposed development has been designed and sited on a section of the land that is not productive. It does not restrict the potential rural uses of adjoining properties or surrounding land.

PO10 – Complies

The proposed use cannot be more appropriately located in an industrial or any other zone in accordance with *Explosives Act 1999* and the *Explosives Regulation 2017*. The explosives storage is required to be separated from protected places where people and property not associated with the explosive's storage are located. This requires compliance with Table 3.2.3.2 of AS2187.1 for the storage of explosives. The separation distances for the site comply with AS2187.1 as detailed in the report prepared by Frontier Safety, included in **Appendix G**. Further assessment will be undertaken as part of the explosives storage licence application to be submitted to the Explosives Inspectorate, Resources Safety and Health Queensland (RSHQ).

PO11 – Complies

The nature of the proposed use is low risk give the scale and nature of the storage facility. Details on separation is provided in response to PO10 above.



PO12 – Complies

The proposed development is intended at this location to integrate into the character, amenity and scenic values the subject site has to offer. The size and intensity of the proposal align with the rural setting and takes into consideration likely emissions, including noise, dust and lighting, as well as volume of traffic generated.

PO13 – Complies

The proposed development has been designed and sited on a section of the land that ensures the protection of ecological values, habitat corridors and soil and water quality. It is the intent to retain, protect and integrate the existing remnant vegetation on site to minimise impact on the existing amenity. Minimal earthwork is required to establish essential access tracks to the development site and to ensure finished levels are above the defined flood event. The compound is positioned to have no impact on the natural drainage lines and hydrological regimes.

6.3 DEVELOPMENT CODES

6.3.1 Healthy Waters Code

The proposed development is nominated for assessment against the healthy waters code.

The purpose of this code is to *ensure development manages stormwater and wastewater as part of the integrated total water cycle and in ways that help protect the environmental values specified in the Environmental Protection (Water) Policy 2009.*

Response

The proposed development is considered consistent with the purpose and overall outcomes of the healthy waters code, given there will be no wastewater generated from this development. All explosives are stored in boxes inside the magazines on site. All explosives are solid, and any spills can be picked up and will not cause any contamination of ground or water.

Furthermore, the storage facility will be situated on a hard stand area 390m² in size, which comprises approximately 0.069% of the total site area. It also involves the re-use of existing buildings and on-site infrastructure for the common use of facilities, all of which are considered appropriate to service the development. It is not anticipated the development will cause adverse effects on stormwater quality, stormwater flow, receiving waters and wastewater impacts within the local area.

Multiple stream order 1, 2 and 3 watercourses have been identified within the subject site, however, the siting and extent of the development site is setback more than 50m from the natural corridors in accordance with State requirements.

Furthermore, the proposed development does not include any constructed lakes, artificial waterways or ship source pollutants that would require assessment.

Given the above, the proposal is considered to comply with the purpose and overall outcomes of the healthy waters code.

6.3.2 Landscape Code

The proposed development is nominated for assessment against the landscape code.

The purpose of this code is to *ensure landscaping in both the private and public domains is designed and constructed to a high standard, provides a strong contribution to the city image, is responsive to the local character, site and climatic conditions and remains fit for purpose over the long-term.*



Response

Given the rural setting of the area, no additional landscaping is proposed as part of this application. Regulated vegetation will be retained where practical and any clearing will be governed by any subsequent Vegetation Management Plan issued by the State. A detailed assessment against this code is not required.

6.3.3 Transport Impact, Access and Parking Code

The proposed development is nominated for assessment against the transport impact, access and parking code.

The purpose of this code is to *ensure appropriate provision for transport and end of trip facilities, and to facilitate, as far as practicable, an environmentally sustainable transport network.*

Response

The proposed development will not generate an adverse amount of traffic along Gieseeman Road therefore it is not expected that any upgrades to the existing road network will be required to facilitate the development. An overview of traffic impact, access and parking is provided below.

Traffic

Heavy rigid and light vehicles will deliver and receive explosives from the site. Deliveries will be monthly to site by a heavy rigid vehicle. Stock will be taken from site by a light vehicle as required for blasting activities at worksites, multiple times per week.

Access

Access to the site is provided directly off Gieseeman Road at three (3) locations. One at the north east corner of the site, servicing the secondary dwelling, shed and proposed site office. It is an unsealed gravel crossover and driveway. The second access is located 160m west of the first and is also an unsealed road suitable for heavy rigid and light vehicles. This includes an access gate for security. The third access is located approximately 580m further west of the second and is also an unsealed road.

Minor earthworks are required to extend the existing roadway (access 2) to the explosive storage compound.

No changes to access 1 to the site office and access 3 to the caretaker's accommodation are required.

Parking

In accordance with the Parking rates planning scheme policy no. SC6.10, one (1) space is required for a caretaker's accommodation and one (1) space per 100m² of GFA is required for medium impact industry.

Two (2) shaded car parking spaces are provided on the northern side of the caretaker's accommodation.

The GFA of the site office is 149.5m² and the TUA of the storage facility is 390m². A conservative three (3) carparking spaces are provided next to the site office for personnel to utilise when on site. Vehicles will not be parked near the magazine compound overnight due to security requirements for explosive storage facilities and any vehicles delivering and receiving explosives on site will be parked in the magazine compound during loading and unloading of materials only. On that basis, no permanent carparking spaces are provided next to the magazine compound.

Given the above, the proposed development is considered consistent with the purpose and overall outcomes of the code.

6.3.4 Works Code

The proposed development is nominated for assessment against the works code.



The purpose of this code is to *ensure development is provided with a level of infrastructure which maintains or enhances community health, safety and amenity and which avoids or minimises impacts on the natural environment.*

Response

The development is considered generally consistent with the purpose and overall outcomes of the works code as the subject site is serviced by all relevant on-site water and sewerage infrastructure is afforded adequate access arrangements.

Electricity (ergon) infrastructure is located within the road corridor servicing the site and these connections will be maintained for the life of the development.

Given the above, the proposed development complies with the performance outcomes and acceptable outcomes of the works code.

6.4 OVERLAY CODES

6.4.1 Bushfire Hazard Overlay Code

The proposed development is nominated for assessment against the bushfire hazard overlay code.

The purpose of this code is to *ensure that development does not:*

- (a) increase the extent or the severity of bushfire hazard; or*
- (b) increase the risk to life, property, community and the environment.*

Response

The subject site is designated in the medium hazard bushfire area in the Townsville City Plan, 2014, refer *Figure 8*.

Figure 8: Development Constraints Overlay Map

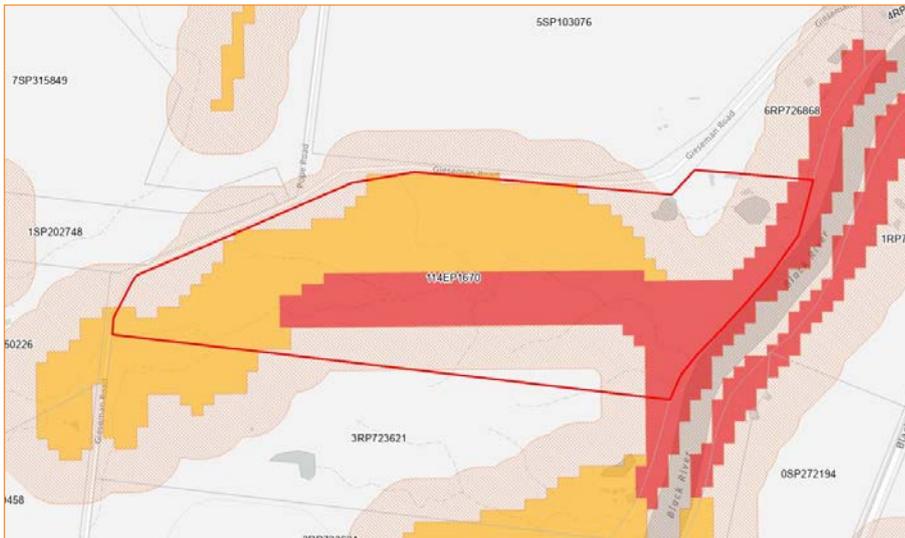


Source: Townsville City Plan, 2014

The SPP confirms the above, as indicated by the assessment benchmark mapping in *Figure 9* below, which identifies the subject site as being impact by medium and high potential bushfire hazard area and potential impact buffer area.



Figure 9: Natural Hazards Risk and Resilience



Source: SPP Assessment Benchmark Mapping, 2024

Given the extent of the mapped hazard, the locality and the nature of the proposal, a site-specific bushfire hazard assessment has been prepared by Max Bushfire Protection Consulting to assess the potential bushfire hazard and related risks concerning the proposed development.

The hazard assessment concluded that the proposed development has been designed to ensure that the exposure of people and property to unacceptable bushfire hazard risks has not increased. The development will mitigate bushfire risk through appropriate siting, design, and management measures. This includes:

- Suitable access and evacuation routes for both private and emergency service vehicles, in line with the nature of the development and the level of bushfire risk;
- An adequate water supply for firefighting purposes is to be provided; and
- The proposed development does not create any additional bushfire prone areas.

A copy of the bushfire hazard assessment is included in **Appendix F**.

6.4.2 Extractive Resources Overlay Code

The proposed development is nominated for assessment against the extractive resources overlay code.

The purpose of this code is to ensure:

- extractive resources are protected from development that might prevent or constrain current or future extraction or mining when the need for the resource arises; and*
- extractive industry uses are operated in a way that minimises impacts on surrounding land uses and environmental values.*

Response

Gieseman Road is identified as a transport route to a resource processing area located to the west of the development site.

PO5 of the overlay code ensures development with direct vehicle access to a transport route does not adversely impact the safety and efficiency of transport route. Given the proposed development is not expected to create an adverse amount of traffic along Gieseman Road, it is not anticipated to cause an adverse impact upon the road network.



6.4.3 Flood Hazard Overlay Code

The proposed development is nominated for assessment against the flood hazard overlay code.

The purpose of this code is to *manage development outcomes in flood hazard areas so that risk to life, property, community, economic activity and the environment during future flood events is minimised, and to ensure that development does not increase the potential for flood damage on-site or to other property.*

Response

The subject site is mapped as containing low, medium and high flood hazard area which varies in depth along the eastern boundary of the lot and at the waterway traversing the site, off Black River.

Figure 10: Development Constraints Overlay Map OM-06.1 to OM-06.2 - Flood hazard

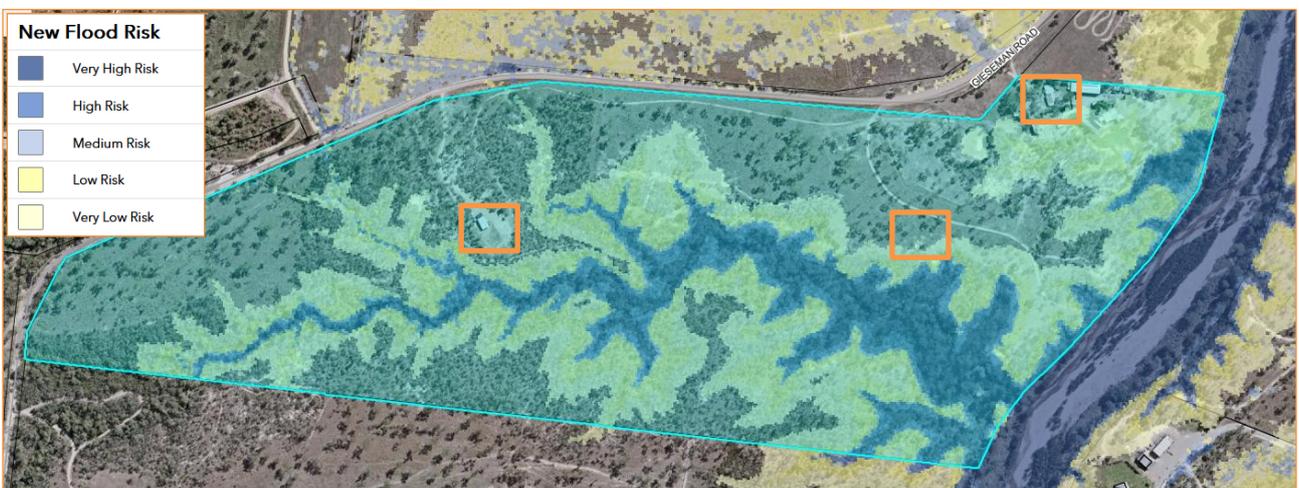


Source: Townsville City Plan, 2014

The newly released flood risk map prepared by Townsville City Council demonstrates that flooding on site is consistent with the development constraints overlay map, shown in Figure 11. The new model includes the whole site and flood hazard is limited to the abovementioned watercourse.

Each component of the proposed development including the new storage facility, the site office and the caretaker's accommodation are located on higher points and outside any mapped of flood hazard area.

Figure 11: Development Constraints Overlay Map OM-06.1 to OM-06.2 - Flood hazard



Source: Townsville City Plan, 2014



The storage facility will be situated on a hard stand area 26.0m x 15.0m in size which comprises approximately 0.069% of the total site area. This change in impervious area is not expected to change flood characteristics on or off site. The site office and caretaker's accommodation are within existing structures on site and are expected to remain free of flood hazard.

Access to each component of the development from Gieseman Road is free of flood hazard which ensures continued safe evacuation during the event of a flood.

Given the above, the proposed development generally complies with the performance outcomes of the code, as the design of the proposed development will minimise susceptibility to, and the potential impacts of flooding to people and property.

6.4.3 Natural Assets Overlay Code

The proposed development is nominated for assessment against the Natural assets overlay code.

The purpose of this code is to:

- (a) protect areas of environmental significance, and the ecological processes and biodiversity values of terrestrial and aquatic ecosystems;
- (b) maintain ecosystem services and other functions performed by Townsville's natural areas; and
- (c) protect water quality, ecosystem health and the natural hydrological functioning of waterways, wetlands and their riparian areas.

Response

The subject site is identified as containing areas of high and very high environmental importance, shown in *Figure 12*. The areas identified as very high importance follow the general direction of the watercourse traversing the site. For the purpose of the proposed development, the site is located outside areas identified as very high importance and wholly within area of high importance.

The balance of the site mapped as high importance represents regulated vegetation identified as Category B on the vegetation management map and is least concern regional ecosystem.

Figure 12: Environment Natural Assets Overlay Map OM-08 - Environmental importance



Source: Townsville City Plan, 2014

There is to be no change to the natural environmental surround the magazine compound that would otherwise impact on biodiversity or flora and fauna. Specifically, the proposed development:

- protects network of habitats by reducing the extent of native vegetation to be cleared;
- utilises existing access tracks where reasonable, to avoid fragmentation of habitat;



- is considerably setback from existing waterways and their riparian buffers; and
- maintains the natural hydrological regime and functioning of waterways.

Native vegetation clearing will be assessed by the State Assessment and Referral Agency in accordance with Schedule 10 of the Planning Regulation 2017.

Written confirmation that the chief executive of the *Vegetation Management Act 1999* is satisfied the clearing of native vegetation, subject of this development application, is for a relevant purpose under section 22A of the *Vegetation Management Act 1999* is included in **Appendix A**.

The proposed development aligns with the performance outcomes of the code, as the design of the proposed development will maintain natural areas and their functions. A detailed assessment against the code is not warranted.



7.0 CONCLUSION

This proposal details a development application to Townsville City Council seeking a seeking a Development Permit for Material Change of Use to establish a explosives storage facility and associated caretakers' accommodation on land at 91 Gieseman Road, Black River.

Whilst the proposed development does not represent rural development, it is consistent with the purpose of the rural zone code, as it responds to its setting and does not detrimentally impact on the environment or ecological processes on or off site.

The proposed development is recommended for approval as:

- the proposal permits use of a small-scale explosive storage facility that is not expected to impact the rural character of the locality;
- the land use cannot be more appropriately located within an industrial zone or any other zone;
- environmental hazards can be managed appropriately; and
- the proposal integrates well into the existing road network and it does not require implementation of any new on site infrastructure.

Given the above facts and circumstances, the proposal can be favourably considered, and we recommend that Council **approve** the development subject to reasonable and relevant conditions.

APPENDIX A

DA form 1: Development Application Details
Owner's Consent
Relevant Purpose Determination (Section 22A)



DA Form 1 – Development application details

Approved form (version 1.6 effective 2 August 2024) made under section 282 of the Planning Act 2016.

This form **must** be used to make a development application **involving code assessment or impact assessment**, except when applying for development involving only building work.

For a development application involving **building work only**, use *DA Form 2 – Building work details*.

For a development application involving **building work associated with any other type of assessable development (i.e. material change of use, operational work or reconfiguring a lot)**, use this form (*DA Form 1*) and parts 4 to 6 of *DA Form 2 – Building work details*.

Unless stated otherwise, all parts of this form **must** be completed in full and all required supporting information **must** accompany the development application.

One or more additional pages may be attached as a schedule to this development application if there is insufficient space on the form to include all the necessary information.

This form and any other form relevant to the development application must be used to make a development application relating to strategic port land and Brisbane core port land under the *Transport Infrastructure Act 1994*, and airport land under the *Airport Assets (Restructuring and Disposal) Act 2008*. For the purpose of assessing a development application relating to strategic port land and Brisbane core port land, any reference to a planning scheme is taken to mean a land use plan for the strategic port land, Brisbane port land use plan for Brisbane core port land, or a land use plan for airport land.

Note: All terms used in this form have the meaning given under the *Planning Act 2016*, the *Planning Regulation 2017*, or the *Development Assessment Rules (DA Rules)*.

PART 1 – APPLICANT DETAILS

1) Applicant details	
Applicant name(s) (individual or company full name)	Impact Drill & Blast c/- Brazier Motti Pty Ltd
Contact name (only applicable for companies)	Emma Staines
Postal address (P.O. Box or street address)	595 Flinders Street
Suburb	Townsville City
State	QLD
Postcode	4810
Country	Australia
Contact number	4772 1144
Email address (non-mandatory)	emma.staines@braziermotti.com.au
Mobile number (non-mandatory)	
Fax number (non-mandatory)	
Applicant's reference number(s) (if applicable)	43390-002-01

1.1) Home-based business

Personal details to remain private in accordance with section 264(6) of *Planning Act 2016*

2) Owner's consent

2.1) Is written consent of the owner required for this development application?

- Yes – the written consent of the owner(s) is attached to this development application
 No – proceed to 3)

PART 2 – LOCATION DETAILS

3) Location of the premises (complete 3.1) or 3.2), and 3.3) as applicable)

Note: Provide details below and attach a site plan for any or all premises part of the development application. For further information, see DA Forms Guide: Relevant plans.

3.1) Street address and lot on plan

- Street address **AND** lot on plan (all lots must be listed), **or**
 Street address **AND** lot on plan for an adjoining or adjacent property of the premises (appropriate for development in water but adjoining or adjacent to land e.g. jetty, pontoon. All lots must be listed).

a)	Unit No.	Street No.	Street Name and Type	Suburb
		91	Giesman Road	Black River
	Postcode	Lot No.	Plan Type and Number (e.g. RP, SP)	Local Government Area(s)
	4818	114	EP1670	Townsville City Council
b)	Unit No.	Street No.	Street Name and Type	Suburb
	Postcode	Lot No.	Plan Type and Number (e.g. RP, SP)	Local Government Area(s)

3.2) Coordinates of premises (appropriate for development in remote areas, over part of a lot or in water not adjoining or adjacent to land e.g. channel dredging in Moreton Bay)

Note: Place each set of coordinates in a separate row.

- Coordinates of premises by longitude and latitude

Longitude(s)	Latitude(s)	Datum	Local Government Area(s) (if applicable)
		<input type="checkbox"/> WGS84 <input type="checkbox"/> GDA94 <input type="checkbox"/> Other:	

- Coordinates of premises by easting and northing

Easting(s)	Northing(s)	Zone Ref.	Datum	Local Government Area(s) (if applicable)
		<input type="checkbox"/> 54 <input type="checkbox"/> 55 <input type="checkbox"/> 56	<input type="checkbox"/> WGS84 <input type="checkbox"/> GDA94 <input type="checkbox"/> Other:	

3.3) Additional premises

- Additional premises are relevant to this development application and the details of these premises have been attached in a schedule to this development application
 Not required

4) Identify any of the following that apply to the premises and provide any relevant details

- In or adjacent to a water body or watercourse or in or above an aquifer

Name of water body, watercourse or aquifer: Black River

- On strategic port land under the *Transport Infrastructure Act 1994*

Lot on plan description of strategic port land:

Name of port authority for the lot:

- In a tidal area

Name of local government for the tidal area (if applicable):

Name of port authority for tidal area (if applicable)

- On airport land under the *Airport Assets (Restructuring and Disposal) Act 2008*

Name of airport:

<input type="checkbox"/> Listed on the Environmental Management Register (EMR) under the <i>Environmental Protection Act 1994</i>
EMR site identification: <input type="text"/>
<input type="checkbox"/> Listed on the Contaminated Land Register (CLR) under the <i>Environmental Protection Act 1994</i>
CLR site identification: <input type="text"/>

5) Are there any existing easements over the premises?
Note: Easement uses vary throughout Queensland and are to be identified correctly and accurately. For further information on easements and how they may affect the proposed development, see [DA Forms Guide](#).

Yes – All easement locations, types and dimensions are included in plans submitted with this development application

No

PART 3 – DEVELOPMENT DETAILS

Section 1 – Aspects of development

6.1) Provide details about the first development aspect

a) What is the type of development? *(tick only one box)*

Material change of use Reconfiguring a lot Operational work Building work

b) What is the approval type? *(tick only one box)*

Development permit Preliminary approval Preliminary approval that includes a variation approval

c) What is the level of assessment?

Code assessment Impact assessment *(requires public notification)*

d) Provide a brief description of the proposal *(e.g. 6 unit apartment building defined as multi-unit dwelling, reconfiguration of 1 lot into 3 lots):*

Medium Impact (Explosives Storage) and Caretaker's Accommodation

e) Relevant plans
Note: Relevant plans are required to be submitted for all aspects of this development application. For further information, see [DA Forms guide: Relevant plans](#).

Relevant plans of the proposed development are attached to the development application

6.2) Provide details about the second development aspect

a) What is the type of development? *(tick only one box)*

Material change of use Reconfiguring a lot Operational work Building work

b) What is the approval type? *(tick only one box)*

Development permit Preliminary approval Preliminary approval that includes a variation approval

c) What is the level of assessment?

Code assessment Impact assessment *(requires public notification)*

d) Provide a brief description of the proposal *(e.g. 6 unit apartment building defined as multi-unit dwelling, reconfiguration of 1 lot into 3 lots):*

e) Relevant plans
Note: Relevant plans are required to be submitted for all aspects of this development application. For further information, see [DA Forms Guide: Relevant plans](#).

Relevant plans of the proposed development are attached to the development application

6.3) Additional aspects of development

Additional aspects of development are relevant to this development application and the details for these aspects that would be required under Part 3 Section 1 of this form have been attached to this development application

Not required

6.4) Is the application for State facilitated development?

- Yes - Has a notice of declaration been given by the Minister?
 No

Section 2 – Further development details

7) Does the proposed development application involve any of the following?

Material change of use	<input checked="" type="checkbox"/> Yes – complete division 1 if assessable against a local planning instrument
Reconfiguring a lot	<input type="checkbox"/> Yes – complete division 2
Operational work	<input type="checkbox"/> Yes – complete division 3
Building work	<input type="checkbox"/> Yes – complete <i>DA Form 2 – Building work details</i>

Division 1 – Material change of use

Note: This division is only required to be completed if any part of the development application involves a material change of use assessable against a local planning instrument.

8.1) Describe the proposed material change of use

Provide a general description of the proposed use	Provide the planning scheme definition <i>(include each definition in a new row)</i>	Number of dwelling units <i>(if applicable)</i>	Gross floor area (m ²) <i>(if applicable)</i>
Medium Impact Industry	<p>Premises used for industrial activities that include the manufacturing, producing, processing, repairing, altering, recycling, storing, distributing, transferring or treating of products and have one or more of the following attributes:</p> <ul style="list-style-type: none"> potential for noticeable impacts on sensitive land uses due to offsite emissions including aerosol, fume, particle, smoke, odour and noise; potential for noticeable offsite impacts in the event of fire, explosion or toxic release; generates high traffic flows in the context of the locality or the road network; generates an elevated demand on the local infrastructure network; onsite controls are required for emissions and dangerous goods risks; the use is primarily undertaken indoors; evening or night activities are undertaken indoors and not outdoors. 		<p>Magazines - 27m²</p> <p>Total Hard Stand – 390m²</p> <p>Site Office - 149.5m²</p>
Caretaker's Accommodation	A dwelling provided for a caretaker of a non-residential use on the same premises.	1	86.4m ²

8.2) Does the proposed use involve the use of existing buildings on the premises?

- Yes
 No

8.3) Does the proposed development relate to temporary accepted development under the Planning Regulation?

- Yes – provide details below or include details in a schedule to this development application
 No

Provide a general description of the temporary accepted development	Specify the stated period dates under the Planning Regulation

Division 2 – Reconfiguring a lot

Note: This division is only required to be completed if any part of the development application involves reconfiguring a lot.

9.1) What is the total number of existing lots making up the premises?	
9.2) What is the nature of the lot reconfiguration? (tick all applicable boxes)	
<input type="checkbox"/> Subdivision (complete 10)	<input type="checkbox"/> Dividing land into parts by agreement (complete 11)
<input type="checkbox"/> Boundary realignment (complete 12)	<input type="checkbox"/> Creating or changing an easement giving access to a lot from a constructed road (complete 13)

10) Subdivision				
10.1) For this development, how many lots are being created and what is the intended use of those lots:				
Intended use of lots created	Residential	Commercial	Industrial	Other, please specify:
Number of lots created				
10.2) Will the subdivision be staged?				
<input type="checkbox"/> Yes – provide additional details below				
<input type="checkbox"/> No				
How many stages will the works include?				
What stage(s) will this development application apply to?				

11) Dividing land into parts by agreement – how many parts are being created and what is the intended use of the parts?				
Intended use of parts created	Residential	Commercial	Industrial	Other, please specify:
Number of parts created				

12) Boundary realignment			
12.1) What are the current and proposed areas for each lot comprising the premises?			
Current lot		Proposed lot	
Lot on plan description	Area (m ²)	Lot on plan description	Area (m ²)
12.2) What is the reason for the boundary realignment?			

13) What are the dimensions and nature of any existing easements being changed and/or any proposed easement? (attach schedule if there are more than two easements)				
Existing or proposed?	Width (m)	Length (m)	Purpose of the easement? (e.g. pedestrian access)	Identify the land/lot(s) benefitted by the easement

Division 3 – Operational work

Note: This division is only required to be completed if any part of the development application involves operational work.

14.1) What is the nature of the operational work?		
<input type="checkbox"/> Road work	<input type="checkbox"/> Stormwater	<input type="checkbox"/> Water infrastructure
<input type="checkbox"/> Drainage work	<input type="checkbox"/> Earthworks	<input type="checkbox"/> Sewage infrastructure
<input type="checkbox"/> Landscaping	<input type="checkbox"/> Signage	<input type="checkbox"/> Clearing vegetation
<input type="checkbox"/> Other – please specify:		
14.2) Is the operational work necessary to facilitate the creation of new lots? (e.g. subdivision)		
<input type="checkbox"/> Yes – specify number of new lots:		
<input type="checkbox"/> No		
14.3) What is the monetary value of the proposed operational work? (include GST, materials and labour)		
\$		

PART 4 – ASSESSMENT MANAGER DETAILS

15) Identify the assessment manager(s) who will be assessing this development application	
Townsville City Council	
16) Has the local government agreed to apply a superseded planning scheme for this development application?	
<input type="checkbox"/> Yes – a copy of the decision notice is attached to this development application	
<input type="checkbox"/> The local government is taken to have agreed to the superseded planning scheme request – relevant documents attached	
<input checked="" type="checkbox"/> No	

PART 5 – REFERRAL DETAILS

17) Does this development application include any aspects that have any referral requirements?	
Note: A development application will require referral if prescribed by the Planning Regulation 2017.	
<input type="checkbox"/> No, there are no referral requirements relevant to any development aspects identified in this development application – proceed to Part 6	
Matters requiring referral to the Chief Executive of the Planning Act 2016:	
<input checked="" type="checkbox"/> Clearing native vegetation	
<input type="checkbox"/> Contaminated land (<i>unexploded ordnance</i>)	
<input type="checkbox"/> Environmentally relevant activities (ERA) (<i>only if the ERA has not been devolved to a local government</i>)	
<input type="checkbox"/> Fisheries – aquaculture	
<input type="checkbox"/> Fisheries – declared fish habitat area	
<input type="checkbox"/> Fisheries – marine plants	
<input type="checkbox"/> Fisheries – waterway barrier works	
<input type="checkbox"/> Hazardous chemical facilities	
<input type="checkbox"/> Heritage places – Queensland heritage place (<i>on or near a Queensland heritage place</i>)	
<input type="checkbox"/> Infrastructure-related referrals – designated premises	
<input type="checkbox"/> Infrastructure-related referrals – state transport infrastructure	
<input type="checkbox"/> Infrastructure-related referrals – State transport corridor and future State transport corridor	
<input type="checkbox"/> Infrastructure-related referrals – State-controlled transport tunnels and future state-controlled transport tunnels	
<input type="checkbox"/> Infrastructure-related referrals – near a state-controlled road intersection	
<input type="checkbox"/> Koala habitat in SEQ region – interfering with koala habitat in koala habitat areas outside koala priority areas	
<input type="checkbox"/> Koala habitat in SEQ region – key resource areas	
<input type="checkbox"/> Ports – Brisbane core port land – near a State transport corridor or future State transport corridor	
<input type="checkbox"/> Ports – Brisbane core port land – environmentally relevant activity (ERA)	
<input type="checkbox"/> Ports – Brisbane core port land – tidal works or work in a coastal management district	
<input type="checkbox"/> Ports – Brisbane core port land – hazardous chemical facility	

- Ports – Brisbane core port land – taking or interfering with water
- Ports – Brisbane core port land – referable dams
- Ports – Brisbane core port land – fisheries
- Ports – Land within Port of Brisbane’s port limits (*below high-water mark*)
- SEQ development area
- SEQ regional landscape and rural production area or SEQ rural living area – tourist activity or sport and recreation activity
- SEQ regional landscape and rural production area or SEQ rural living area – community activity
- SEQ regional landscape and rural production area or SEQ rural living area – indoor recreation
- SEQ regional landscape and rural production area or SEQ rural living area – urban activity
- SEQ regional landscape and rural production area or SEQ rural living area – combined use
- SEQ northern inter-urban break – tourist activity or sport and recreation activity
- SEQ northern inter-urban break – community activity
- SEQ northern inter-urban break – indoor recreation
- SEQ northern inter-urban break – urban activity
- SEQ northern inter-urban break – combined use
- Tidal works or works in a coastal management district
- Reconfiguring a lot in a coastal management district or for a canal
- Erosion prone area in a coastal management district
- Urban design
- Water-related development – taking or interfering with water
- Water-related development – removing quarry material (*from a watercourse or lake*)
- Water-related development – referable dams
- Water-related development – levees (*category 3 levees only*)
- Wetland protection area

Matters requiring referral to the local government:

- Airport land
- Environmentally relevant activities (ERA) (*only if the ERA has been devolved to local government*)
- Heritage places – Local heritage places

Matters requiring referral to the Chief Executive of the distribution entity or transmission entity:

- Infrastructure-related referrals – Electricity infrastructure

Matters requiring referral to:

- The **Chief Executive of the holder of the licence**, if not an individual
- The **holder of the licence**, if the holder of the licence is an individual
- Infrastructure-related referrals – Oil and gas infrastructure

Matters requiring referral to the Brisbane City Council:

- Ports – Brisbane core port land

Matters requiring referral to the Minister responsible for administering the Transport Infrastructure Act 1994:

- Ports – Brisbane core port land (*where inconsistent with the Brisbane port LUP for transport reasons*)
- Ports – Strategic port land

Matters requiring referral to the relevant port operator, if applicant is not port operator:

- Ports – Land within Port of Brisbane’s port limits (*below high-water mark*)

Matters requiring referral to the Chief Executive of the relevant port authority:

- Ports – Land within limits of another port (*below high-water mark*)

Matters requiring referral to the Gold Coast Waterways Authority:

- Tidal works or work in a coastal management district (*in Gold Coast waters*)

Matters requiring referral to the Queensland Fire and Emergency Service:

- Tidal works or work in a coastal management district (*involving a marina (more than six vessel berths)*)

18) Has any referral agency provided a referral response for this development application?

- Yes – referral response(s) received and listed below are attached to this development application
 No

Referral requirement	Referral agency	Date of referral response

Identify and describe any changes made to the proposed development application that was the subject of the referral response and this development application, or include details in a schedule to this development application (if applicable).

PART 6 – INFORMATION REQUEST

19) Information request under the DA Rules

- I agree to receive an information request if determined necessary for this development application
 I do not agree to accept an information request for this development application

Note: By not agreeing to accept an information request I, the applicant, acknowledge:

- that this development application will be assessed and decided based on the information provided when making this development application and the assessment manager and any referral agencies relevant to the development application are not obligated under the DA Rules to accept any additional information provided by the applicant for the development application unless agreed to by the relevant parties
- Part 3 under Chapter 1 of the DA Rules will still apply if the application is an application listed under section 11.3 of the DA Rules or
- Part 2 under Chapter 2 of the DA Rules will still apply if the application is for state facilitated development

Further advice about information requests is contained in the [DA Forms Guide](#).

PART 7 – FURTHER DETAILS

20) Are there any associated development applications or current approvals? (e.g. a preliminary approval)

- Yes – provide details below or include details in a schedule to this development application
 No

List of approval/development application references	Reference number	Date	Assessment manager
<input type="checkbox"/> Approval <input type="checkbox"/> Development application			
<input type="checkbox"/> Approval <input type="checkbox"/> Development application			

21) Has the portable long service leave levy been paid? (only applicable to development applications involving building work or operational work)

- Yes – a copy of the receipted QLeave form is attached to this development application
 No – I, the applicant will provide evidence that the portable long service leave levy has been paid before the assessment manager decides the development application. I acknowledge that the assessment manager may give a development approval only if I provide evidence that the portable long service leave levy has been paid
 Not applicable (e.g. building and construction work is less than \$150,000 excluding GST)

Amount paid	Date paid (dd/mm/yy)	QLeave levy number (A, B or E)
\$		

22) Is this development application in response to a show cause notice or required as a result of an enforcement notice?

- Yes – show cause or enforcement notice is attached
 No

23) Further legislative requirements

Environmentally relevant activities

23.1) Is this development application also taken to be an application for an environmental authority for an **Environmentally Relevant Activity (ERA)** under section 115 of the *Environmental Protection Act 1994*?

Yes – the required attachment (form ESR/2015/1791) for an application for an environmental authority accompanies this development application, and details are provided in the table below

No

Note: Application for an environmental authority can be found by searching “ESR/2015/1791” as a search term at www.qld.gov.au. An ERA requires an environmental authority to operate. See www.business.qld.gov.au for further information.

Proposed ERA number:

Proposed ERA threshold:

Proposed ERA name:

Multiple ERAs are applicable to this development application and the details have been attached in a schedule to this development application.

Hazardous chemical facilities

23.2) Is this development application for a **hazardous chemical facility**?

Yes – *Form 536: Notification of a facility exceeding 10% of schedule 15 threshold* is attached to this development application

No

Note: See www.business.qld.gov.au for further information about hazardous chemical notifications.

Clearing native vegetation

23.3) Does this development application involve **clearing native vegetation** that requires written confirmation that the chief executive of the *Vegetation Management Act 1999* is satisfied the clearing is for a relevant purpose under section 22A of the *Vegetation Management Act 1999*?

Yes – this development application includes written confirmation from the chief executive of the *Vegetation Management Act 1999* (s22A determination)

No

Note: 1. Where a development application for operational work or material change of use requires a s22A determination and this is not included, the development application is prohibited development.
2. See <https://www.qld.gov.au/environment/land/vegetation/applying> for further information on how to obtain a s22A determination.

Environmental offsets

23.4) Is this development application taken to be a prescribed activity that may have a significant residual impact on a **prescribed environmental matter** under the *Environmental Offsets Act 2014*?

Yes – I acknowledge that an environmental offset must be provided for any prescribed activity assessed as having a significant residual impact on a prescribed environmental matter

No

Note: The environmental offset section of the Queensland Government’s website can be accessed at www.qld.gov.au for further information on environmental offsets.

Koala habitat in SEQ Region

23.5) Does this development application involve a material change of use, reconfiguring a lot or operational work which is assessable development under Schedule 10, Part 10 of the Planning Regulation 2017?

Yes – the development application involves premises in the koala habitat area in the koala priority area

Yes – the development application involves premises in the koala habitat area outside the koala priority area

No

Note: If a koala habitat area determination has been obtained for this premises and is current over the land, it should be provided as part of this development application. See koala habitat area guidance materials at www.desi.qld.gov.au for further information.

Water resources

23.6) Does this development application involve **taking or interfering with underground water through an artesian or subartesian bore, taking or interfering with water in a watercourse, lake or spring, or taking overland flow water under the *Water Act 2000***?

Yes – the relevant template is completed and attached to this development application and I acknowledge that a relevant authorisation or licence under the *Water Act 2000* may be required prior to commencing development

No

Note: Contact the Department of Resources at www.resources.qld.gov.au for further information.

DA templates are available from planning.statedevelopment.qld.gov.au. If the development application involves:

- Taking or interfering with underground water through an artesian or subartesian bore: complete DA Form 1 Template 1
- Taking or interfering with water in a watercourse, lake or spring: complete DA Form 1 Template 2
- Taking overland flow water: complete DA Form 1 Template 3.

Waterway barrier works

23.7) Does this application involve **waterway barrier works**?

Yes – the relevant template is completed and attached to this development application

No

DA templates are available from planning.statedevelopment.qld.gov.au. For a development application involving waterway barrier works, complete DA Form 1 Template 4.

Marine activities

23.8) Does this development application involve **aquaculture, works within a declared fish habitat area or removal, disturbance or destruction of marine plants**?

Yes – an associated *resource* allocation authority is attached to this development application, if required under the *Fisheries Act 1994*

No

Note: See guidance materials at www.daf.qld.gov.au for further information.

Quarry materials from a watercourse or lake

23.9) Does this development application involve the **removal of quarry materials from a watercourse or lake** under the *Water Act 2000*?

Yes – I acknowledge that a quarry material allocation notice must be obtained prior to commencing development

No

Note: Contact the Department of Resources at www.resources.qld.gov.au and www.business.qld.gov.au for further information.

Quarry materials from land under tidal waters

23.10) Does this development application involve the **removal of quarry materials from land under tidal water** under the *Coastal Protection and Management Act 1995*?

Yes – I acknowledge that a quarry material allocation notice must be obtained prior to commencing development

No

Note: Contact the Department of Environment, Science and Innovation at www.desi.qld.gov.au for further information.

Referable dams

23.11) Does this development application involve a **referable dam** required to be failure impact assessed under section 343 of the *Water Supply (Safety and Reliability) Act 2008* (the *Water Supply Act*)?

Yes – the 'Notice Accepting a Failure Impact Assessment' from the chief executive administering the *Water Supply Act* is attached to this development application

No

Note: See guidance materials at www.resources.qld.gov.au for further information.

Tidal work or development within a coastal management district

23.12) Does this development application involve **tidal work or development in a coastal management district**?

Yes – the following is included with this development application:

- Evidence the proposal meets the code for assessable development that is prescribed tidal work (*only required if application involves prescribed tidal work*)
- A certificate of title

No

Note: See guidance materials at www.desi.qld.gov.au for further information.

Queensland and local heritage places

23.13) Does this development application propose development on or adjoining a place entered in the **Queensland heritage register** or on a place entered in a local government's **Local Heritage Register**?

- Yes – details of the heritage place are provided in the table below
 No

Note: See guidance materials at www.desi.qld.gov.au for information requirements regarding development of Queensland heritage places. For a heritage place that has cultural heritage significance as a local heritage place and a Queensland heritage place, provisions are in place under the Planning Act 2016 that limit a local categorising instrument from including an assessment benchmark about the effect or impact of, development on the stated cultural heritage significance of that place. See guidance materials at www.planning.statedevelopment.qld.gov.au for information regarding assessment of Queensland heritage places.

Name of the heritage place:

Place ID:

Decision under section 62 of the *Transport Infrastructure Act 1994*

23.14) Does this development application involve new or changed access to a state-controlled road?

- Yes – this application will be taken to be an application for a decision under section 62 of the *Transport Infrastructure Act 1994* (subject to the conditions in section 75 of the *Transport Infrastructure Act 1994* being satisfied)
 No

Walkable neighbourhoods assessment benchmarks under Schedule 12A of the Planning Regulation

23.15) Does this development application involve reconfiguring a lot into 2 or more lots in certain residential zones (except rural residential zones), where at least one road is created or extended?

- Yes – Schedule 12A is applicable to the development application and the assessment benchmarks contained in schedule 12A have been considered
 No

Note: See guidance materials at www.planning.statedevelopment.qld.gov.au for further information.

PART 8 – CHECKLIST AND APPLICANT DECLARATION

24) Development application checklist

I have identified the assessment manager in question 15 and all relevant referral requirement(s) in question 17

Yes

Note: See the *Planning Regulation 2017* for referral requirements

If building work is associated with the proposed development, Parts 4 to 6 of [DA Form 2 – Building work details](#) have been completed and attached to this development application

Yes
 Not applicable

Supporting information addressing any applicable assessment benchmarks is with the development application

Note: This is a mandatory requirement and includes any relevant templates under question 23, a planning report and any technical reports required by the relevant categorising instruments (e.g. local government planning schemes, State Planning Policy, State Development Assessment Provisions). For further information, see [DA Forms Guide: Planning Report Template](#).

Yes

Relevant plans of the development are attached to this development application

Note: Relevant plans are required to be submitted for all aspects of this development application. For further information, see [DA Forms Guide: Relevant plans](#).

Yes

The portable long service leave levy for QLeave has been paid, or will be paid before a development permit is issued (see 21)

Yes
 Not applicable

25) Applicant declaration

- By making this development application, I declare that all information in this development application is true and correct
 Where an email address is provided in Part 1 of this form, I consent to receive future electronic communications from the assessment manager and any referral agency for the development application where written information is required or permitted pursuant to sections 11 and 12 of the *Electronic Transactions Act 2001*

Note: It is unlawful to intentionally provide false or misleading information.

Privacy – Personal information collected in this form will be used by the assessment manager and/or chosen assessment manager, any relevant referral agency and/or building certifier (including any professional advisers which may be engaged by those entities) while processing, assessing and deciding the development application. All information relating to this development application may be available for inspection and purchase, and/or published on the assessment manager's and/or referral agency's website.

Personal information will not be disclosed for a purpose unrelated to the *Planning Act 2016*, Planning Regulation 2017 and the DA Rules except where:

- such disclosure is in accordance with the provisions about public access to documents contained in the *Planning Act 2016* and the Planning Regulation 2017, and the access rules made under the *Planning Act 2016* and Planning Regulation 2017; or
- required by other legislation (including the *Right to Information Act 2009*); or
- otherwise required by law.

This information may be stored in relevant databases. The information collected will be retained as required by the *Public Records Act 2002*.

PART 9 – FOR COMPLETION OF THE ASSESSMENT MANAGER – FOR OFFICE USE ONLY

Date received: Reference number(s):

Notification of engagement of alternative assessment manager

Prescribed assessment manager	
Name of chosen assessment manager	
Date chosen assessment manager engaged	
Contact number of chosen assessment manager	
Relevant licence number(s) of chosen assessment manager	

QLeave notification and payment

Note: For completion by assessment manager if applicable

Description of the work			
QLeave project number			
Amount paid (\$)		Date paid (dd/mm/yy)	
Date receipted form sighted by assessment manager			
Name of officer who sighted the form			



**Owner's consent to the making of a development application under the
*Planning Act 2016***

I,

LAURA ANNE PAYNE

as owner of the premises identified as follows:

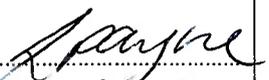
91 GIESEMAN ROAD, BLACK RIVER (LOT 114 ON EP1670)

consent to the making of a development application under the *Planning Act 2016* by:

BRAZIER MOTTI PTY LTD

on the premises described above for:

MATERIAL CHANGE OF USE – MEDIUM IMPACT INDUSTRY (EXPLOSIVES STORAGE FACILITY) AND
CARETAKER'S ACCOMMODATION


.....
Signature of Laura Payne

12/11/2025
.....
Date

Author: Amy Sprott
Ref number: 2025/002520

Department of
**Natural Resources and Mines,
Manufacturing and Regional
and Rural Development**

17 October 2025

Mr Luke Payne
Email: lpayne@impactdrillblast.com

Dear Mr Payne

**Application for a Relevant Purpose determination under section 22A of the
Vegetation Management Act 1999 for the clearing of native vegetation on lot 114
EP1670 - Townsville City Council**

I refer to your application submitted to the Department of Natural Resources and Mines, Manufacturing and Regional and Rural Development (the department) on 22 September 2025.

As the delegate for the Chief Executive, I have considered your request and am satisfied that the proposed development to clear vegetation for the purpose of Relevant Infrastructure Activities meets the relevant requirements of section 22A of the *Vegetation Management Act 1999*. The infrastructure determined to be for a relevant purpose is shown as 'Proposed Magazine Compound' on the attached Proposed Site Plan, prepared by Brazier Motti, plan no. 43390/001 A, dated 3 September 2025.

This decision is based on:

- the development proposal and information you submitted to the department on 22 September 2025
- circumstances at the time of this determination; and
- the attached Proposed Site Plan.

Should your proposal change (eg. development footprint) or circumstances associated with your proposal change (eg. legislation changes, regional ecosystem mapping changes), you will need to request another section 22A relevant purpose determination.

This relevant purpose determination is valid for 2 years and will expire on 17 October 2027.

Telephone: 13 58 34 or 135 VEG
Email: vegetation@resources.qld.gov.au
Web: www.nrmmrrd.qld.gov.au

ABN 59 020 847 551

Please note that this letter is not a development approval to carry out vegetation clearing. You will need to apply for a development approval from your local Council, or the Department of State Development, Infrastructure, Local Government and Planning (DSDILGP) under the *Planning Act 2016*.

Disclaimer: *Please note, assessment of rehabilitation requirements and environmental offset requirements will be undertaken as part of the State Development Assessment Provisions: State Code 16 (SDAP: State Code 16) assessment. Accordingly, any determination that the proposed development is for a relevant purpose under section 22A of the Vegetation Management Act 1999 is not a finding that the proposed development also satisfies any Performance Outcome requirements to rehabilitate or provide environmental offsets where required under SDAP: State Code 16.*

Other relevant Commonwealth or State approvals may also be required to undertake vegetation clearing. An indicative list of other legislation is provided in Attachment 1.

Should you require any additional information please contact your local SARA office as below:

SARA North Qld Office

Postal address: PO Box 5666, Townsville Qld 4810

Telephone: 07 4758 3423

Email: nqsara@dsdilgp.qld.gov.au

Should you have any enquiries or require assistance regarding this request, please do not hesitate to contact Mrs Amy Sprott, Natural Resource Management Officer, on 4529 1320 or amy.sprott@nrmrrd.qld.gov.au quoting the above reference number.

Yours sincerely



Mike McGahan

Senior Natural Resource Management Officer (VM1)

Attachment 1 - Legislation and Acts

Activity	Legislation	Agency	Contact details
Interference with overland flow	<i>Water Act 2000</i>	Department of Local Government, Water and Volunteers (Queensland Government)	Ph: 13 QGOV (13 74 68) www.dlgwv.qld.gov.au
Earthworks, significant disturbance	<i>Soil Conservation Act 1986</i>	Department of Natural Resources and Mines, Manufacturing and Regional and Rural Development (Queensland Government)	Ph: 13 QGOV (13 74 68) www.nrmmrd.qld.gov.au
Indigenous Cultural Heritage	<i>Aboriginal Cultural Heritage Act 2003</i> <i>Torres Strait Islander Cultural Heritage Act 2003</i>	Department of Women, Aboriginal and Torres Strait Islander Partnerships and Multiculturalism (Queensland Government)	Ph: 13 QGOV (13 74 68) www.tatsipca.qld.gov.au
Mining and environmentally relevant activities Infrastructure development (coastal) Heritage issues Protected plants and protected areas ¹	<i>Environmental Protection Act 1994</i> <i>Coastal Protection and Management Act 1995</i> <i>Queensland Heritage Act 1992</i> <i>Nature Conservation Act 1992</i>	Department of Environment, Tourism, Science and Innovation (Queensland Government)	Ph: 13 QGOV (13 74 68) www.desi.qld.gov.au
Koala mapping and regulations.	<i>Nature Conservation Act 1992</i>	Department of Environment, Tourism, Science and Innovation (Queensland Government)	Ph: 13 QGOV (13 74 68) www.desi.qld.gov.au
Interference with fish passage in a watercourse, mangroves Forest activities	<i>Fisheries Act 1994</i> <i>Forestry Act 1959</i> ²	Department of Primary Industries (Queensland Government)	Ph: 13 25 23 www.daf.qld.gov.au
Matters of National Environmental Significance including	<i>Environment Protection and Biodiversity Conservation Act 1999</i>	Department of Climate Change, Energy, the	Ph: 1800 803 772 www.dcceew.gov.au

¹ In Queensland, all plants that are native to Australia are protected plants under the [Nature Conservation Act 1992](#), which endeavours to ensure that protected plants (whether whole plants or protected plants parts) are not illegally removed from the wild, or illegally traded. Prior to **clearing**, you should check the flora survey trigger map to determine if the **clearing** is within a high-risk area by visiting [For further information or assistance on the protected plants flora survey trigger map for your property, contact the Department of Environment, Tourism, Science and Innovation on 13QGOV \(13 74 68\) or email \[palm@des.qld.gov.au\]\(mailto:palm@des.qld.gov.au\)](#)

² Contact the Department of Primary Industries before **clearing**:

- Any sandalwood on state-owned land (including leasehold land)
- On freehold land in a 'forest consent area'
- More than five hectares on state-owned land (including leasehold land) containing commercial timber species listed in parts 2 or 3 of Schedule 6 of the Vegetation Management Regulation 2023 and located within any of the following local government management areas—Banana, Bundaberg Regional, Fraser Coast Regional, Gladstone Regional, Isaac Regional, North Burnett Regional, Somerset Regional, South Burnett Regional, Southern Downs Regional, Tablelands Regional, Toowoomba Regional, Western Downs Regional.

listed threatened species & ecological communities		Environment and Water (Australian Government)	
Development and planning processes	<i>Planning Act 2016</i> <i>State Development and Public Works Organisation Act 1971</i>	Department of State Development, Infrastructure and Planning (Queensland Government)	Ph: 13 QGOV (13 74 68) www.statedevelopment.qld.gov.au
Road corridor permits	<i>Transport Infrastructure Act 1994</i>	Department of Transport and Main Roads (Queensland Government)	Ph: 13 QGOV (13 74 68) www.tmr.qld.gov.au
Wet Tropics World Heritage Area	<i>Wet Tropics World Heritage Protection and Management Act 1993</i>	Wet Tropics Management Authority	Ph: (07) 4241 0500 www.wettropics.gov.au
Local government requirements	<i>Local Government Act 2009</i> <i>Planning Act 2016</i>	Your relevant local government office	

APPENDIX B

Current Title Search, Smart Map and Survey Plan

brazier motti



Queensland Titles Registry Pty Ltd
 ABN 23 648 568 101

Title Reference: 21120090	Search Date: 12/11/2025 03:45
Date Title Created: 12/08/1980	Request No: 54058053
Previous Title: 20779030	

ESTATE AND LAND

Estate in Fee Simple
 LOT 114 CROWN PLAN EP1670
 Local Government: TOWNSVILLE

REGISTERED OWNER

Dealing No: 722802540 10/10/2023
 LAURA ANNE PAYNE

EASEMENTS, ENCUMBRANCES AND INTERESTS

- Rights and interests reserved to the Crown by
 Deed of Grant No. 20726202 (POR 21)
 Deed of Grant No. 20726203 (POR 21)
- MORTGAGE No 722802541 10/10/2023 at 15:38
 COMMONWEALTH BANK OF AUSTRALIA A.C.N. 123 123 124

ADMINISTRATIVE ADVICES

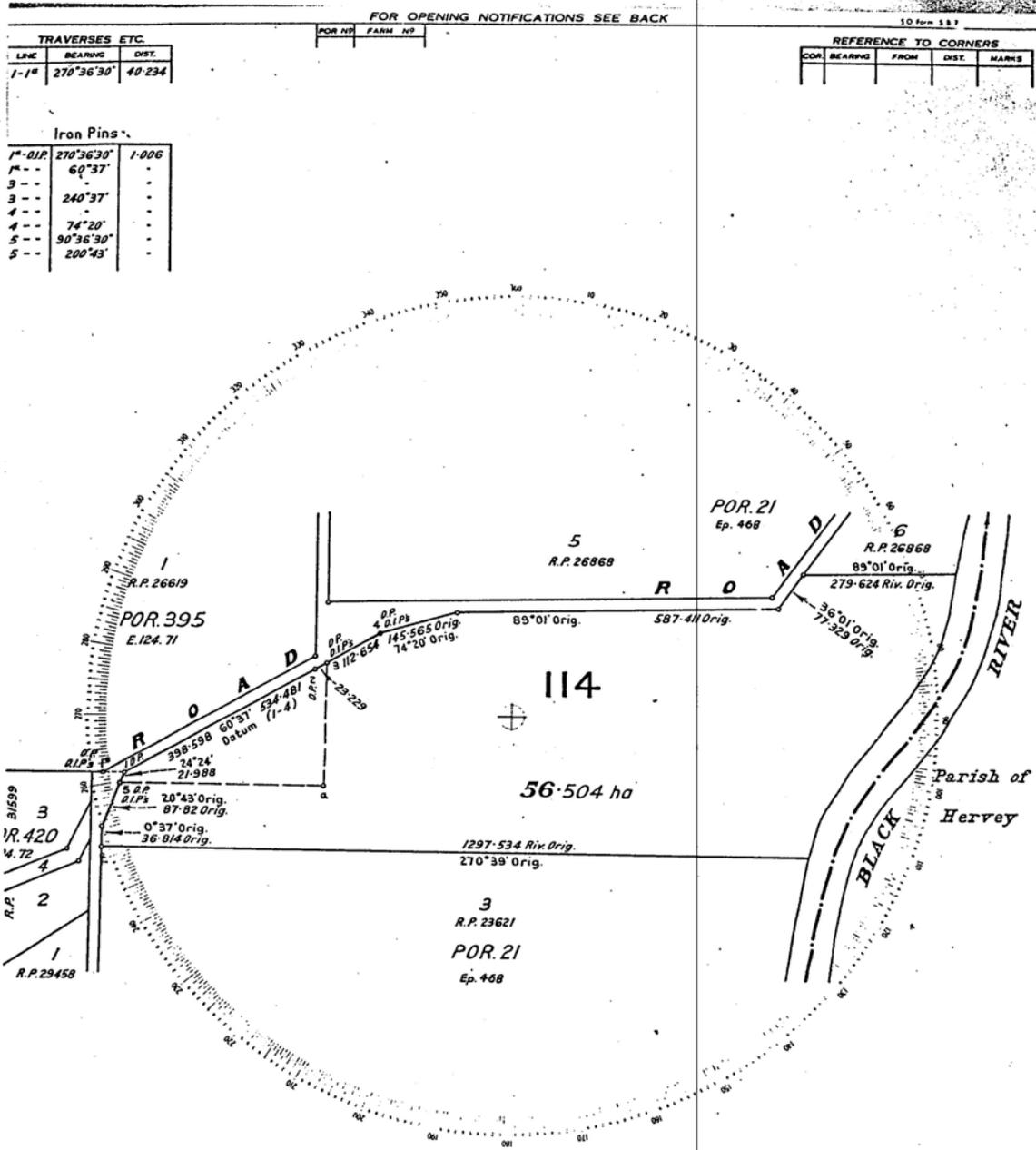
Dealing	Type	Lodgement Date	Status
713747726	VEG NOTICE VEGETATION MANAGEMENT ACT 1999	08/03/2011 11:02	CURRENT

UNREGISTERED DEALINGS

NIL

Caution - Charges do not necessarily appear in order of priority
 ** End of Current Title Search **

HALIFAX IS



TRAVERSES ETC.		
LINE	BEARING	DIST.
1-1"	270°36'30"	40-234

Iron Pins		
1"	Bearing	Dist.
1"	270°36'30"	1-006
1"	60°37'	-
3"	-	-
3"	240°37'	-
4"	-	-
4"	74°20'	-
5"	90°36'30"	-
5"	200°43'	-

REFERENCE TO CORNERS				
COR.	BEARING	FROM	DIST.	MARKS

Area of road to be closed & added to Lot 1 on RP26618
4.595 ha (1.3 a 5.1)

Information shown 'Orig' compiled from
 P. 26618 in the Titles Office, Townsville.
A.M. Shong
 Licensed Surveyor

DRY	INSTRUCTIONS	DRAWN	EXAMINED	CHECKED	PASSED	CHARTED	MERIDIAN OBSERVATIONS STN OBS TABULATION C.A.M.		SURVEY PLAN Por 114
108	Private	K.R. 15-8-78	A. 3-11-78	C.S.C. 10-11-78					
DRY	POR.	PREV. AREA	DRAWN	EXAMINED	CHECKED	PASSED	CHARTED	Meridian of RP 26618	SURVEYED BY A.M. Shong
CROWN COPYRIGHT RESERVED							DATE 15-9-1972	REFERENCE 78K2/405	Ep. 1670

DRAWING OF PLAN MUST BE RESTRICTED TO THE SPACE INSIDE THE BLUE LINES

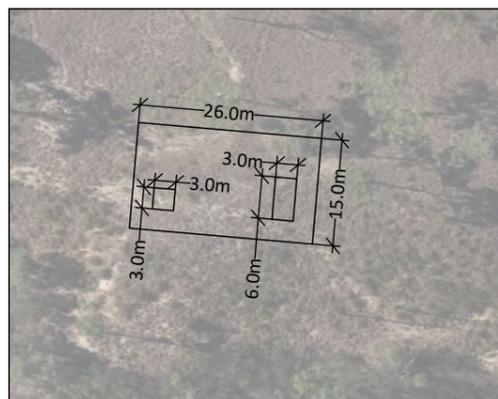
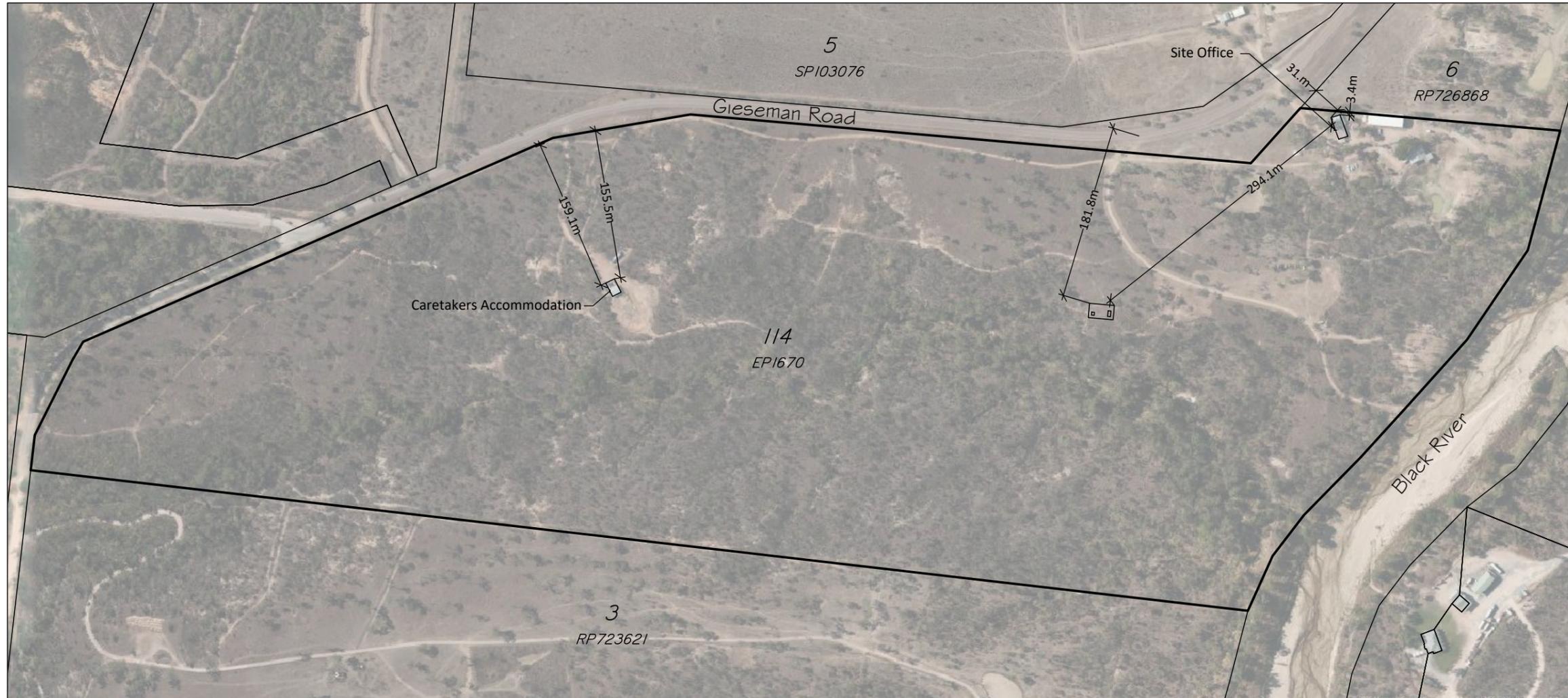
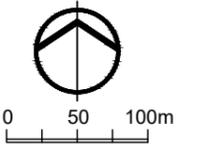
APPENDIX C

Development Plans prepared by Brazier Motti

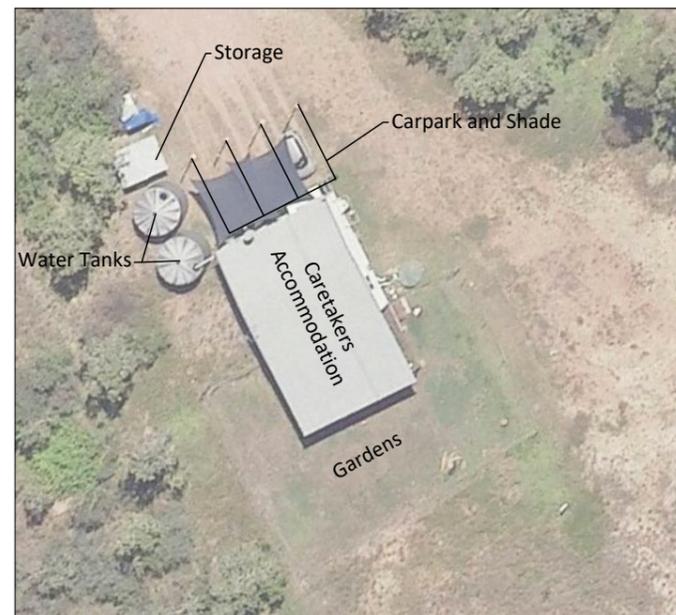
brazier motti



**PROPOSED
SITE PLAN**
Lot 114 on EP1670



Proposed Magazine Compound - 1:1000



Caretakers Accommodation



Explosives Facility - Site Office

Date: 19th November, 2025	
Scale: 1:4000	A3
Drawn: MJM	
Job No: 43390/002-01	
Plan No:	43390/001 C

brazier motti

braziermotti.com.au

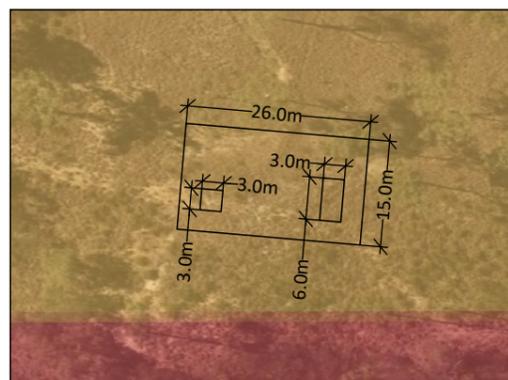
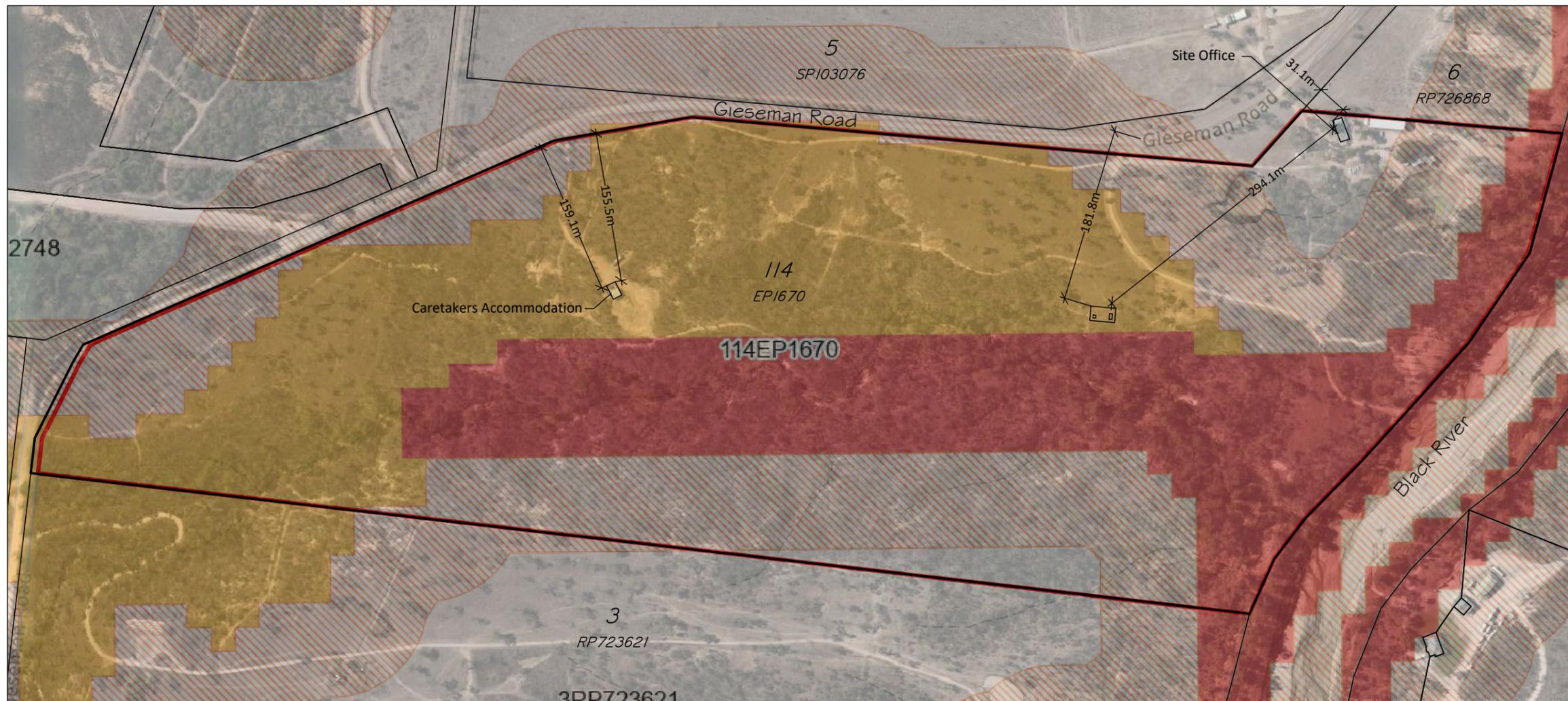
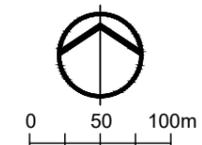
SURVEYING
TOWNPLANNING
PROJECT MANAGEMENT
MAPPING & GIS



This plan is conceptual and for discussion purposes only. All areas, dimensions and land uses are preliminary, subject to investigation, survey, engineering, and Local Authority and Agency approvals.

BUSHFIRE OVERLAY

Lot 114 on EP1670



Proposed Magazine Compound - 1:1000

Legend

Bushfire prone area	
CLASS	
	High Potential Bushfire Intensity
	Medium Potential Bushfire Intensity
	Potential Impact Buffer

Date: 19th November, 2025	
Scale: 1:4000	A3
Drawn: MJM	
Job No: 43390/002-01	
Plan No:	43390/002 C

brazier motti

Note: Bushfire overlay from DAMS-map-export-2025-09-01-223545

This plan is conceptual and for discussion purposes only. All areas, dimensions and land uses are preliminary, subject to investigation, survey, engineering, and Local Authority and Agency approvals.

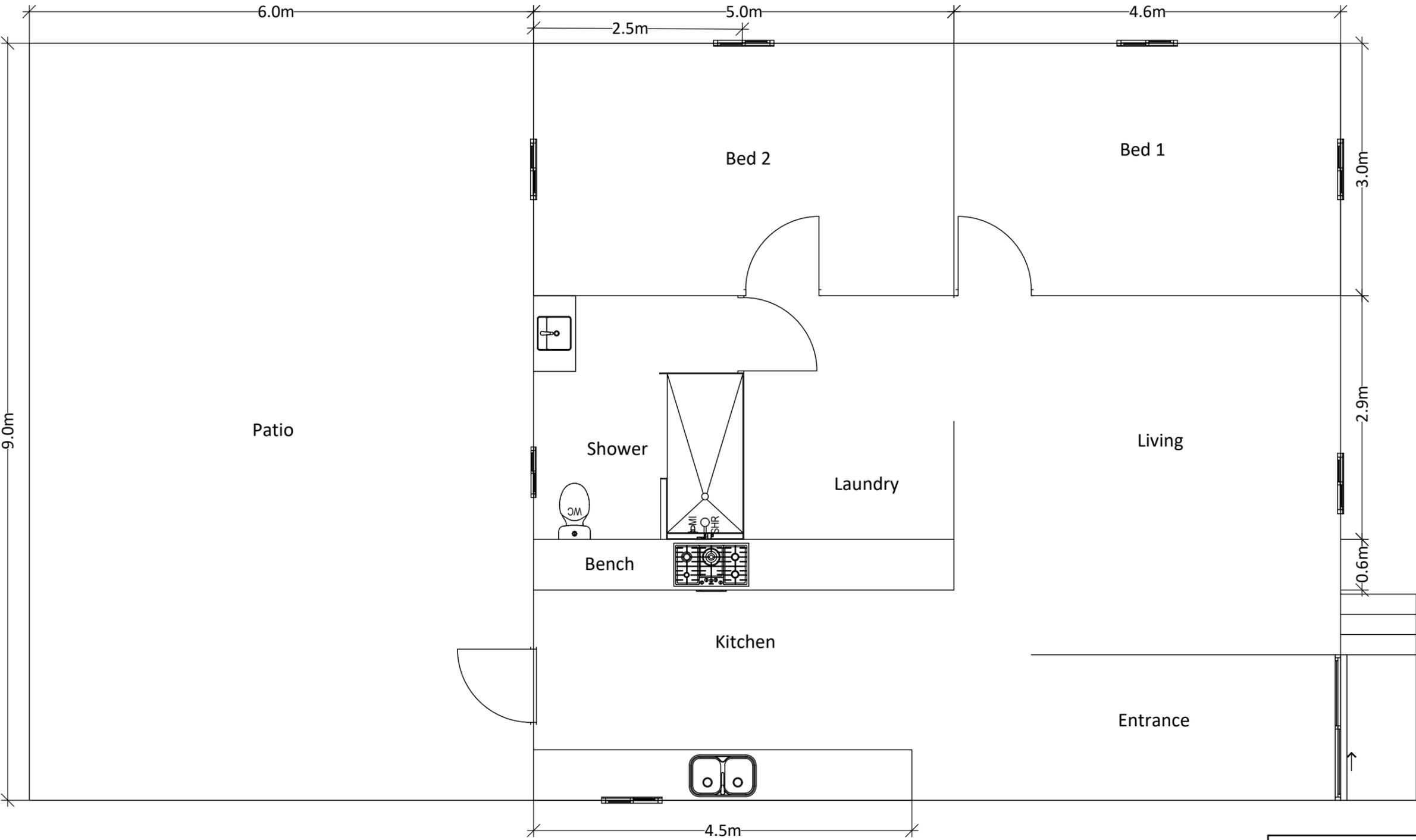
braziermotti.com.au

SURVEYING
TOWNPLANNING
PROJECT MANAGEMENT
MAPPING & GIS



**PROPOSED
FLOOR PLAN**

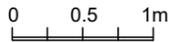
Caretaker's Accommodation



Date: 12th November, 2025	
Scale: 1:50	A3
Drawn: MJM	
Job No: 43390-001-01	
Plan No:	43390/003 A

brazier motti

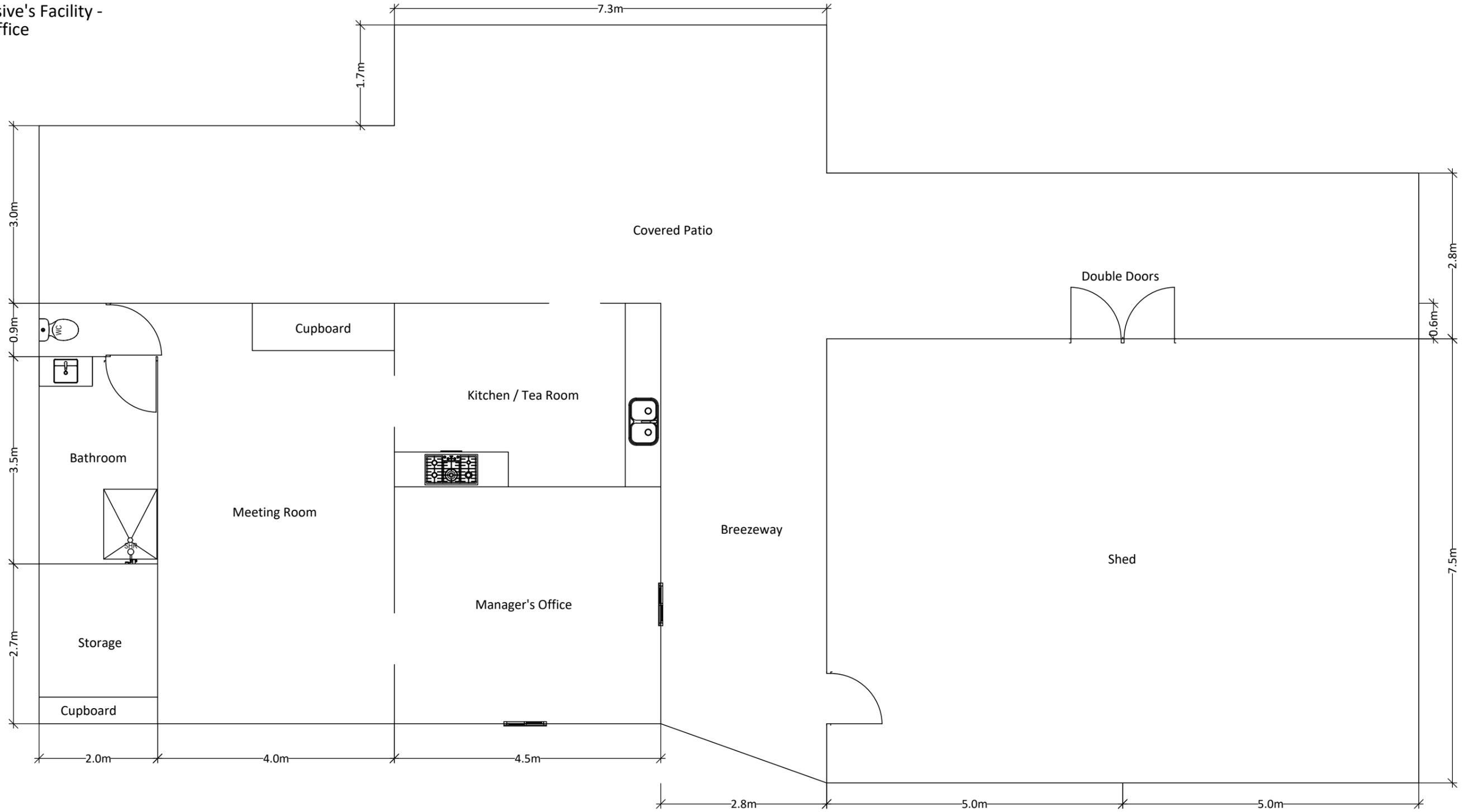
braziermotti.com.au
 SURVEYING
 TOWNPLANNING
 PROJECT MANAGEMENT
 MAPPING & GIS



This plan is conceptual and for discussion purposes only. All areas, dimensions and land uses are preliminary, subject to investigation, survey, engineering, and Local Authority and Agency approvals.

**PROPOSED
FLOOR PLAN**

Explosive's Facility -
Site office



Date: 12th November, 2025	
Scale: N.T.S	A3
Drawn: MJM	
Job No: 43390-001-01	
Plan No:	43390/004 A

brazier motti

This plan is conceptual and for discussion purposes only. All areas, dimensions and land uses are preliminary, subject to investigation, survey, engineering, and Local Authority and Agency approvals.



APPENDIX D

SARA Mapping

brazier motti



Matters of Interest for all selected Lot Plans

Queensland waterways for waterway barrier works

Regulated vegetation management map (Category A and B extract)

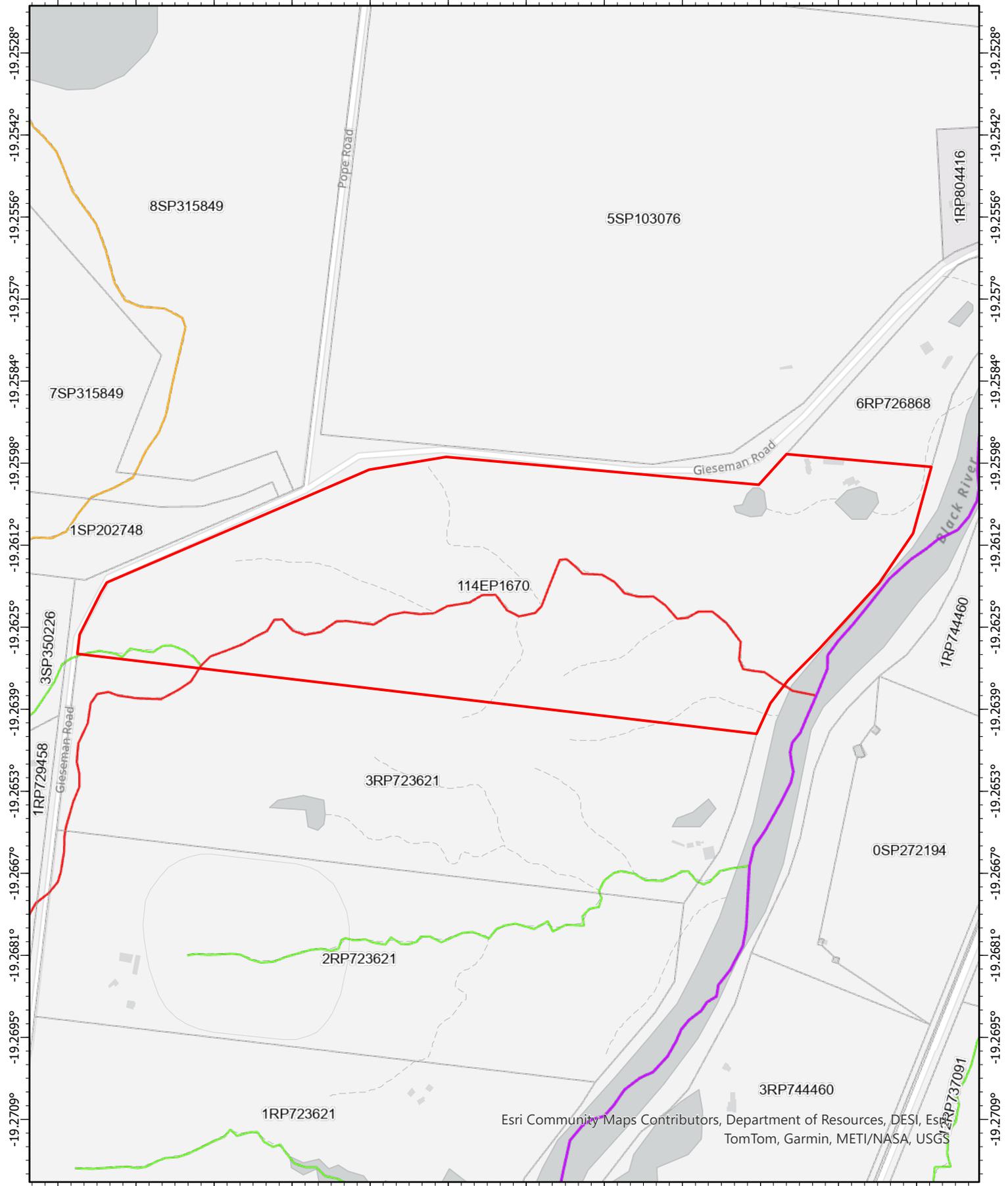
Matters of Interest by Lot Plan

Lot Plan: 114EP1670 (Area: 565040 m²)

Queensland waterways for waterway barrier works

Regulated vegetation management map (Category A and B extract)

146.5986° 146.6° 146.6013° 146.6027° 146.6041° 146.6055° 146.6069° 146.6083° 146.6097° 146.6111° 146.6125° 146.6138°



Queensland waterways for waterway barrier works

Risk of impact

- Moderate
- High
- Major
- Low

Date: 12/11/2025

Scale: 1:9,900

0 100 200 300 400

Metres



Disclaimer This map has been generated from the information supplied to the Queensland Government for the purposes of the Development Assessment Mapping System. The map generated has been prepared with due care based on the best available information at the time of publication. The State of Queensland holds no responsibility for any errors, inconsistencies or omissions within this document. Any decisions made by other parties based on this document are solely the responsibility of those parties.

Document Set ID: 27804339

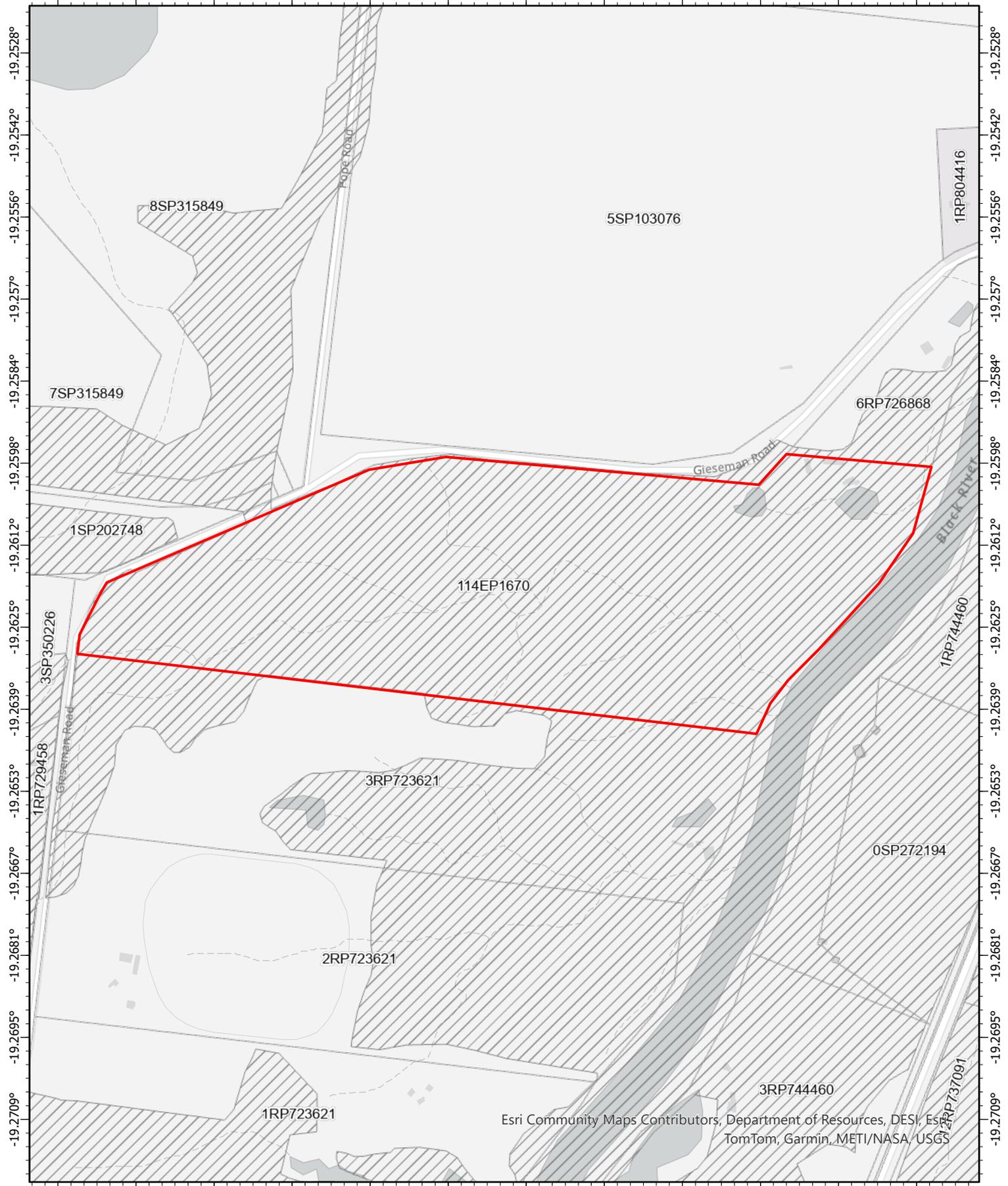
Version: 1, Version Date: 10/12/2025

Queensland Government

Queensland Government

© The State of Queensland 2025.

146.5986° 146.6° 146.6013° 146.6027° 146.6041° 146.6055° 146.6069° 146.6083° 146.6097° 146.6111° 146.6125° 146.6138°

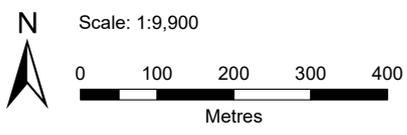


Esri Community Maps Contributors, Department of Resources, DESI, Esri, TomTom, Garmin, METI/NASA, USGS

Date: 12/11/2025

Regulated vegetation management map (Category A and B extract)

Category B on the regulated vegetation management map



Queensland Government



Disclaimer This map has been generated from the information supplied to the Queensland Government for the purposes of the Development Assessment Mapping System. The map generated has been prepared with due care based on the best available information at the time of publication. The State of Queensland holds no responsibility for any errors, inconsistencies or omissions within this document. Any decisions made by other parties based on this document are solely the responsibility of those parties.

Document ID: 27861339
 Version: 1, Version Date: 10/12/2025

© The State of Queensland 2025.

APPENDIX E

Response to State Code 16: Clearing Native Vegetation



State code 16: Native vegetation clearing

Please note: It is only necessary to provide a response to the performance outcomes relevant to the clearing purpose(s). Table 16.1 below specifies which tables of performance outcomes are relevant for each clearing purpose. Tables that are not relevant to your clearing purpose can be left blank or deleted.

Table 16.1: Relevant code provisions for each type of development

Clearing purpose	Relevant provisions
Material change of use and / or reconfiguring a lot and / or operational work	
Public safety, relevant infrastructure activities and / or consequential development of IPA approval	Table 16.2 and Table 16.3
Extractive industry	Table 16.2 and Table 16.4
Coordinated project (agriculture)	Table 16.2 and Table 16.5
Coordinated project (extractive industry)	Table 16.2 and Table 16.6
Coordinated project (all other purposes)	Table 16.2 and Table 16.7
Material change of use and / or reconfiguring a lot for all other purposes	Table 16.2 and Table 16.8
Material change of use and / or reconfiguring a lot for which there will be no clearing as a result of the material change of use or reconfiguring a lot	Table 16.9
Material change of use and / or reconfiguring a lot for which clearing is limited to clearing that could be done as exempt clearing work for the purpose of the development prior to the material change of use or reconfiguring a lot application being approved	Table 16.2 and Table 16.10
Operational work	
Necessary environmental clearing	Table 16.2 and Table 16.11
Control non-native plants or declared pests	Table 16.2 and Table 16.12
Encroachment	Table 16.2 and Table 16.13
Fodder harvesting	Table 16.2 and Table 16.14
Managing thickened vegetation	Table 16.2 and Table 16.15

Table 16.2: General

Performance outcomes	Acceptable outcomes	Response
PO1 Clearing of vegetation is consistent with any notice requiring compliance on the land subject to the development application, unless a better environmental outcome can be achieved.	No acceptable outcome is prescribed.	Not applicable The subject site does not contain any notices requiring compliance. Relevant conditions issued by SARA will be complied with.
PO2 Clearing of vegetation is consistent with vegetation management requirements for particular regulated areas unless a better environmental outcome can be achieved.	No acceptable outcome is prescribed.	Complies The siting of the development site has been determined ensuring safety distances in accordance with Resources Safety and Health Queensland storage requirements.

		<p>The extent of clearing has been reasonably minimised by nominating areas for the development site which contains less dense vegetation and by re-purposing existing structures on site.</p> <p>The development does not propose clearing in a natural wetland or within 100 meters of a defining bank of any natural wetland or clearing of vegetation within 25m of the adjacent stream order 3 watercourse.</p>
<p>PO3 Clearing of vegetation in a legally secured offset area:</p> <ol style="list-style-type: none"> is consistent with the offset delivery plan; or is consistent with an agreement for the offset area on the land subject to the development application; or only occurs if an additional offset is provided. 	No acceptable outcome is prescribed.	<p>Not applicable</p> <p>The subject site is not included within a legally secured offset area.</p>

Table 16.8: Material change of use and / or reconfiguring a lot for all other purposes

Performance outcomes	Acceptable outcomes	Response
Clearing avoids and minimises impacts		
<p>PO80 Clearing of vegetation and adverse impacts of clearing vegetation do not occur unless the application has demonstrated that the clearing and the adverse impacts of clearing have been:</p> <ol style="list-style-type: none"> reasonably avoided; or reasonably minimised where it cannot be reasonably avoided. 	No acceptable outcome is prescribed.	<p>Complies</p> <p>The siting of the development site has been determined ensuring safety distances in accordance with Resources Safety and Health Queensland storage requirements.</p> <p>The extent of clearing has been reasonably minimised by nominating areas for the development site which contains less dense vegetation by re-purposing existing structures on site.</p>
Clearing associated with wetlands		
<p>PO81 Clearing of vegetation within a natural wetland and/or within 100 metres of the defining bank of a natural wetland maintains the composition, structure and function of any regional ecosystem associated with any natural wetland to protect all of the following:</p> <ol style="list-style-type: none"> bank stability by protecting against bank erosion; 	<p>AO81.1 Clearing does not occur in a natural wetland or within 100 metres of the defining bank of any natural wetland.</p> <p>OR</p>	<p>Complies</p> <p>The development does not propose clearing in a natural wetland or within 100 meters of a defining bank of any natural wetland.</p>

Performance outcomes	Acceptable outcomes	Response
<p>2. water quality by filtering sediments, nutrients and other pollutants;</p> <p>3. aquatic habitat;</p> <p>4. terrestrial habitat.</p>	<p>AO81.2 Clearing within 100 metres of the defining bank of any natural wetland:</p> <p>1. does not occur within 10 metres of the defining bank of any natural wetland; and</p> <p>2. does not exceed widths in reference table 1 in this code.</p>	
<p>PO82 Where clearing of vegetation in a regional ecosystem associated with a natural wetland does not maintain the composition, structure and function of the regional ecosystem, and cannot be avoided and has been mitigated, an offset is provided for any acceptable significant residual impact.</p>	<p>No acceptable outcome is prescribed.</p>	<p>Complies</p> <p>The development does not propose clearing of vegetation in a regional ecosystem associated with a natural wetland.</p>
<p>Clearing associated with watercourses and drainage features</p>		
<p>PO83 Clearing of vegetation within a watercourse and/or drainage feature and/or within the relevant distance (listed in reference table 2) of a watercourse and/or drainage feature, maintains the composition, structure and function of the regional ecosystem associated with the watercourse and/or drainage feature to protect all of the following:</p> <p>1. bank stability by protecting against bank erosion;</p> <p>2. water quality by filtering sediments, nutrients and other pollutants;</p> <p>3. aquatic habitat;</p> <p>4. terrestrial habitat.</p>	<p>AO83.1 Clearing does not occur in any of the following areas:</p> <p>1. inside the defining bank of a watercourse or drainage feature; and</p> <p>2. within the relevant distance of the defining bank of any watercourse or drainage feature in reference table 2 of this code.</p> <p>OR</p> <p>AO83.2 Clearing within any watercourse or drainage feature, or within the relevant distance of the defining bank of any watercourse or drainage feature in reference table 2 of this code:</p> <p>1. does not exceed the widths in table reference table 1 of this code; and</p> <p>2. does not occur within 10 metres of the defining bank, unless clearing is required into or across the watercourse or drainage feature.</p>	<p>Complies</p> <p>The development does not propose clearing of vegetation within 25m of the adjacent stream order 3 watercourse.</p>
<p>PO84 Where clearing of vegetation in a regional ecosystem associated with a watercourse and/or drainage feature does not maintain the composition, structure and function of the regional ecosystem, and cannot be avoided and has been mitigated, an offset is provided for any acceptable significant residual impact.</p>	<p>No acceptable outcome is prescribed.</p>	<p>Complies</p> <p>The development does not propose clearing of vegetation within 25m of the adjacent stream order 3 watercourse.</p>

Performance outcomes	Acceptable outcomes	Response
Connectivity		
<p>PO85 Regional ecosystems on the subject land and any adjacent land, retain sufficient vegetation to maintain:</p> <ol style="list-style-type: none"> ecological processes; and ensure the regional ecosystem remains in the landscape despite threatening processes. 	<p>AO85.1 Clearing occurs in accordance with reference table 3 in this code.</p>	<p>Complies</p> <p>The storage facility will be situated on a hard stand area 26.0m x 15.0m in size which comprises approximately 0.069% of the total site area. Vegetation of the balance of the site will be retained to maintain ecological processes.</p>
Soil erosion if the local government is not the assessment manager for the development application		
<p>PO86 Clearing does not result in accelerated soil erosion within or outside the land the subject of the development application.</p>	<p>AO86.1 Clearing only occurs if an erosion and sediment control plan is developed and implemented to prevent soil erosion and instability resulting from the clearing.</p>	<p>Not applicable</p> <p>The local government is the assessment manager for the development application.</p>
Salinity		
<p>PO87 Clearing within 100 metres of a salinity expression area does not contribute to or accelerate land degradation through either of the following:</p> <ol style="list-style-type: none"> waterlogging; the salinisation of groundwater, surface water or soil. 	<p>AO87.1 Clearing does not occur within 100 metres of a salinity expression area.</p>	<p>Complies</p> <p>The proposed development does not require clearing in a salinity expression area.</p>
Conserving endangered and of concern regional ecosystems		
<p>PO88 Clearing of vegetation maintains the composition, structure and function of endangered regional ecosystems and/or of concern regional ecosystems.</p>	<p>AO88.1 Clearing does not occur in an endangered regional ecosystem or an of concern regional ecosystem.</p> <p>OR</p> <p>AO88.2 Total clearing of endangered regional ecosystems and of concern regional ecosystems combined does not exceed the widths prescribed in reference table 1 of this code.</p> <p>OR</p> <p>AO88.3 Total clearing of endangered regional ecosystems and of concern regional ecosystems combined does not exceed areas prescribed in reference table 1 of this code.</p>	<p>Complies</p> <p>The subject site is not included within endangered regional ecosystem or an of concern regional ecosystem.</p>

Performance outcomes	Acceptable outcomes	Response
<p>PO89 Where clearing of vegetation in an endangered regional ecosystem or an of concern regional ecosystems does not maintain the composition, structure and function of the regional ecosystem, and cannot be avoided and has been mitigated, the cleared area:</p> <ol style="list-style-type: none"> 1. is rehabilitated; or 2. where the cleared area cannot be rehabilitated, an offset is provided for any acceptable significant residual impact. 	No acceptable outcome is prescribed.	<p>Complies</p> <p>The subject site is not included within endangered regional ecosystem or an of concern regional ecosystem.</p>
<p>Essential habitat excluding essential habitat for <i>Phascolarctos cinereus</i> (koalas) if development is assessable under Schedule 10, Part 10 of the Planning Regulation 2017</p>		
<p>PO90 Clearing of vegetation in a regional ecosystem that is an area of essential habitat maintains the composition, structure and function of the regional ecosystem for each protected wildlife species individually.</p>	<p>AO90.1 Clearing does not occur in essential habitat.</p> <p>OR</p> <p>AO90.2 Clearing in essential habitat does not exceed the widths prescribed in reference table 1 of this code.</p> <p>OR</p> <p>AO90.3 Clearing in essential habitat does not exceed the areas prescribed in reference table 1 of this code.</p>	<p>Complies</p> <p>The subject site is not mapped within area containing essential habitat.</p>
<p>PO91 Where clearing of vegetation in a regional ecosystem that is an area of essential habitat does not maintain the composition, structure and function of the regional ecosystem, and cannot be avoided and has been mitigated, an offset is provided for any acceptable significant residual impact for each protected wildlife species individually.</p>	No acceptable outcome is prescribed.	<p>Complies</p> <p>The subject site is not mapped within area containing essential habitat.</p>
<p>Acid sulfate soils if the local government is not the assessment manager for the development application</p>		
<p>PO92 Clearing does not result in, or accelerate, disturbance of acid sulfate soils or changes to the hydrology of the location that will result in either of the following:</p> <ol style="list-style-type: none"> 1. aeration of horizons containing iron sulphides; 2. mobilisation of acid or metals. 	<p>AO92.1 Clearing does not occur in land zone 1, land zone 2 or land zone 3.</p> <p>OR</p>	<p>Not applicable</p> <p>The local government is the assessment manager for the development application</p>

Performance outcomes	Acceptable outcomes	Response
	<p>AO92.2 Clearing in land zone 1, land zone 2 or land zone 3 in areas below the five metre Australian Height Datum only occurs where:</p> <ol style="list-style-type: none"> 1. mechanical clearing does not disturb the soil to a depth greater than 30 centimetres; and 2. acid sulfate soils are managed consistent with the Queensland Acid Sulfate Soil Technical Manual. 	

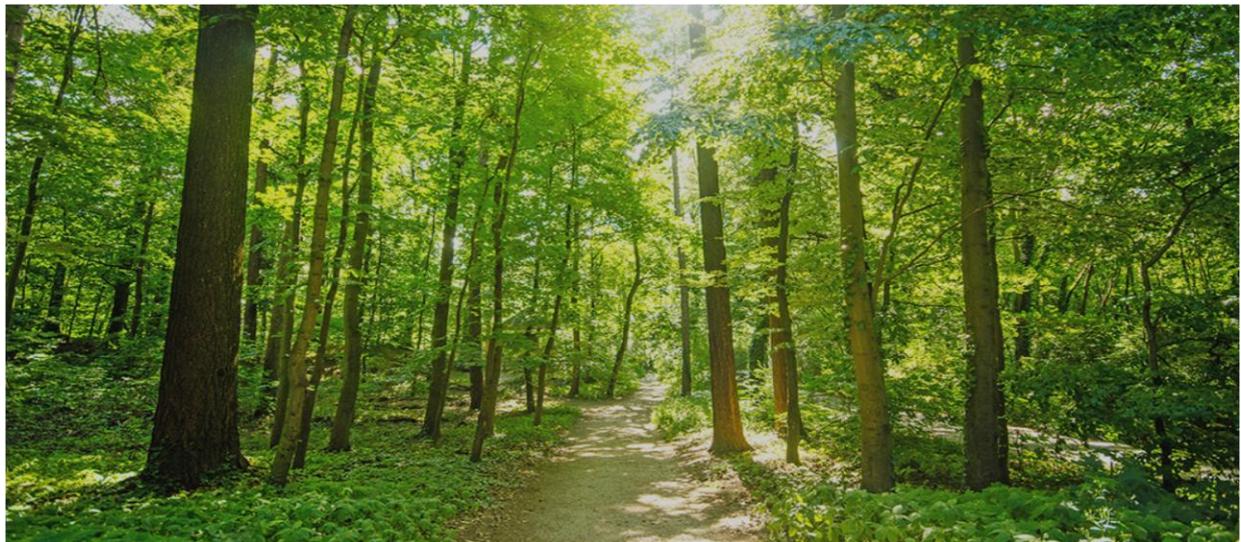
APPENDIX F

Bushfire Hazard Assessment and Management Plan prepared by Max Protection Bushfire Consulting



Bushfire Hazard Assessment

Bushfire Report



Project No:	B5565
Address:	91 Gieseman Road Black River QLD 4818
Lot Plan:	Lot 114 EP1670
Local Government Area:	Townsville City Council
Proposed Development:	MCU - Medium Industry (Explosives Storage)
Radiant Heat Flux:	9.49 kW/m ²
BAL Rating:	BAL-12.5

Max Bushfire Protection Consulting / ABN 81 671 088 887
 Suite 1605 17 Gould Rd Herston QLD 4006 / PO BOX 186 Toowong DC QLD 4066
 Mobile: 0432 89 82 82 / Email: service@maxbp.com.au
 www.maxbp.com.au

Document History				
Version	Description	Date	Author	Approved by
1.0	Report - Draft	23/10/2025	HL	HL
2.0	Report - Final	31/10/2025	HL	HL
3.0	Report - Final	18/11/2025	HL	HL

Report Expiry

Please be aware that the bushfire hazard assessment and BAL rating provided in this report are valid for 12 months from the date of issuance. It is advisable to consult with a qualified professional to confirm the accuracy of the assessment if this report is more than 12 months old. If any discrepancies are identified or if an update is necessary, a new report should be obtained.

Copyright Statement

The contents of this document are the exclusive property of Max Bushfire Protection Consulting and are protected by copyright and other intellectual property laws. This document is intended solely for the use of the client and regulatory agencies involved in the project. Any reproduction or distribution, in whole or in part, without the prior written consent of the copyright holder, is strictly prohibited and may constitute a violation of copyright law. This report is provided for the specific purpose of the project at hand and may not be used for any other purpose without the express written consent of the author. Individuals are required to maintain all copyright and other notices contained within the materials. Unauthorized distribution of copies, whether in electronic or physical form, is prohibited without the prior written consent of the copyright holder.

Disclaimer

This report has been prepared based on information provided by the client and is intended solely for the client's exclusive use for the stated purpose for which it was provided. Any inaccuracies or amendments to the report or development application will require revision. Please note that, despite our best efforts, there is no guarantee that desirable outcomes are achievable during extreme bushfire weather episodes, which may result in unpredictable bushfire behaviour and detrimental consequences to life, property, and the environment. Any representation, statement, opinion, or advice expressed or implied in this report is made in good faith.

Max Bushfire Protection Consulting and its employees will not be liable (whether by reason of negligence, lack of care, or otherwise) to any person for any damage or loss whatsoever that may occur in relation to that person taking or not taking action in respect of any representation, statement, or advice referred to in this report.

Legislation may impact vegetation clearing activities. It is strongly recommended that clients contact the relevant agencies to determine if their proposed vegetation clearing activity complies with local, state, and federal laws.

Practitioner Declaration

Name:	Henry (Hongxi) Liang
Position:	Senior Bushfire Consultant
<p>I hereby certify that I have undertaken the assessment of the above-mentioned site and determined the Bushfire Attack Level stated above in accordance with the requirements of AS 3959:2018 and/or the Bushfire Resilient Communities - Technical Reference Guide published by Queensland Fire and Emergency Services.</p> <p>I hereby declare that I am a suitably qualified bushfire consultant, holding AQF Level 8 qualifications and tertiary degrees below:</p> <ul style="list-style-type: none"> ▪ Graduate Certificate in Bushfire Protection ▪ Master of Business Administration ▪ Bachelor in Engineering 	
Signature:	<i>H. LIANG</i>
Email: service@maxbp.com.au Mobile: 0432898282	Max Bushfire Protection Consulting ABN: 81 671 088 887

Table of Contents

Executive Summary	7
1. Introduction	8
1.1 Purpose.....	8
1.2 Subject site.....	8
1.3 The proposed development.....	9
1.4 Bushfire Prone Land.....	9
1.5 Scope and objectives	9
2. Assessment Methodology	10
2.1 Assessment and Legislative	10
2.2 Bushfire Hazard Assessment	10
2.3 Bushfire Attack Level Assessment.....	11
3. Legislative Context.....	12
3.1 State Planning Policy (July 2017)	12
3.2 National Construction Code 2022: Building Code of Australia	12
3.3 AS 3959 Construction of Buildings in Bushfire-prone Areas	13
3.4 Townsville City Council Planning Scheme	13
4. Bushfire Hazard Assessment.....	14
4.1 Current Bushfire Hazard Mapping	14
4.2 Local FFDI.....	14
4.3 Site-Specific Hazard Assessment.....	15
4.3.1 Ground-Truthed VHC.....	16
4.3.2 Potential Bushfire Intensity Calculations	27
4.4 Probable Direction of Bushfire Attack	28
4.5 Fire History.....	29
4.6 Radiant Heat Flux Modelling.....	29
4.7 Asset Protection Zone	29
4.8 Bushfire Attack Level and Construction Requirements	30
5. Bushfire Management Plan	32
5.1 Bushfire Behaviours	32
5.1.1 Topography	32
5.1.2 Weather Conditions	32
5.1.3 Vegetation	33
5.2 Potential Bushfire Impacts and Attack Mechanisms	33
5.2.1 Direct Flame Contact	34
5.2.2 Radiant Heat Exposure.....	34

5.2.3	Ember Attack	35
5.2.4	Wind and Smoke Attack.....	35
5.2.5	Convection and Conduction.....	35
5.3	Bushfire Protection Measures.....	35
5.3.1	Asset Protection Zone (APZ)	36
5.3.2	Building Construction, Siting and Design	39
5.3.3	Access and Evacuation Arrangement	40
5.3.4	Water Supply	40
5.3.5	Landscaping Management Plan.....	41
5.3.6	Reducing Fuel Load and Weed Management.....	41
5.3.7	Importance of Ongoing Vegetation Management.....	42
5.4	Biodiversity Overlay.....	42
6.	Conclusion	43
7.	References	44
8.	Appendix.....	44

Acronyms and Abbreviations

APZ	Asset Protection Zone
AEP	Annual Exceedance Probability
AS 3959:2018	Australian Standard 3959:2018 Construction of Buildings in Bushfire prone Areas (This Standard incorporates Amendment No. 1 (June 2019) and Amendment No. 2 (December 2020))
BCA	Building Code of Australia
BPA	Bushfire Prone Area
BMP	Bushfire Management Plan
BVG	Broad Vegetation Group
FDI	Fire Danger Index
FFDI	Forest Fire Danger Index
FWS	Fire Weather Severity
IMS	Interactive Mapping System
LMP	Landscape Management Plan
MCU	Material Change of Use
NCC	National Construction Code
QFES	Queensland Fire and Emergency Services
RH	Relative Humidity
RAL/ROL	Reconfigure A Lot/Reconfiguration of Lot
SPP	State Planning Policy 2017
SPP map input data	Statewide Map of Bushfire Prone Areas Input Data E.G. FFDI (5% AEP), Maximum Landscape and Vegetation Hazard Class
VHC	Vegetation Hazard Class
VMP	Vegetation Management Plan

Executive Summary

Project No:	B5565
Type of bushfire assessment:	Site-specific bushfire hazard assessment Bushfire attack level assessment Bushfire management plan
Location:	91 Gieseman Road Black River QLD 4818 Lot 114 EP1670
Site area:	565,040 sqm
Local Government Area:	Townsville City Council
Client(s):	Impact Drill & Blast C/- Brazier Motti
Proposed Development:	MCU - Medium Industry (Explosives Storage) Caretaker's Accommodation and Site Office
Site plan by:	The Client(s)
Asset Protection Zone:	Designed APZ with IPA and OPA
Radiant Heat Flux:	9.49 kW/m ² < 10 kW/m ²
Bushfire Attack Level:	BAL-12.5

1. Introduction

1.1 Purpose

Max Bushfire Protection Consulting was engaged by the client(s) to conduct a site-specific bushfire hazard assessment for the proposed development on the subject site.

The objective of this report is to assess the potential bushfire hazard and related risks concerning the proposed development, aligning with several regulatory frameworks such as the Queensland State Government State Planning Policy - Part E (SPP 2017), the Bushfire Resilient Communities Technical Reference Guide (QFES, 2019), the local council planning scheme - bushfire hazard overlay code, and the Australian Standard – Construction in Bushfire Prone Areas (AS 3959:2018). These guidelines delineate the State and Council's concerns regarding bushfire hazard within the context of evaluating development applications.

The development shall be carried out on the lot referred to as the ‘Subject Site,’ and the dwelling shall be situated within the proposed building location envelope.

1.2 Subject site

- Site Address: 91 Gieseman Road Black River QLD 4818
- Lot Plan: Lot 114 EP1670
- Site Area: 565,040 sqm

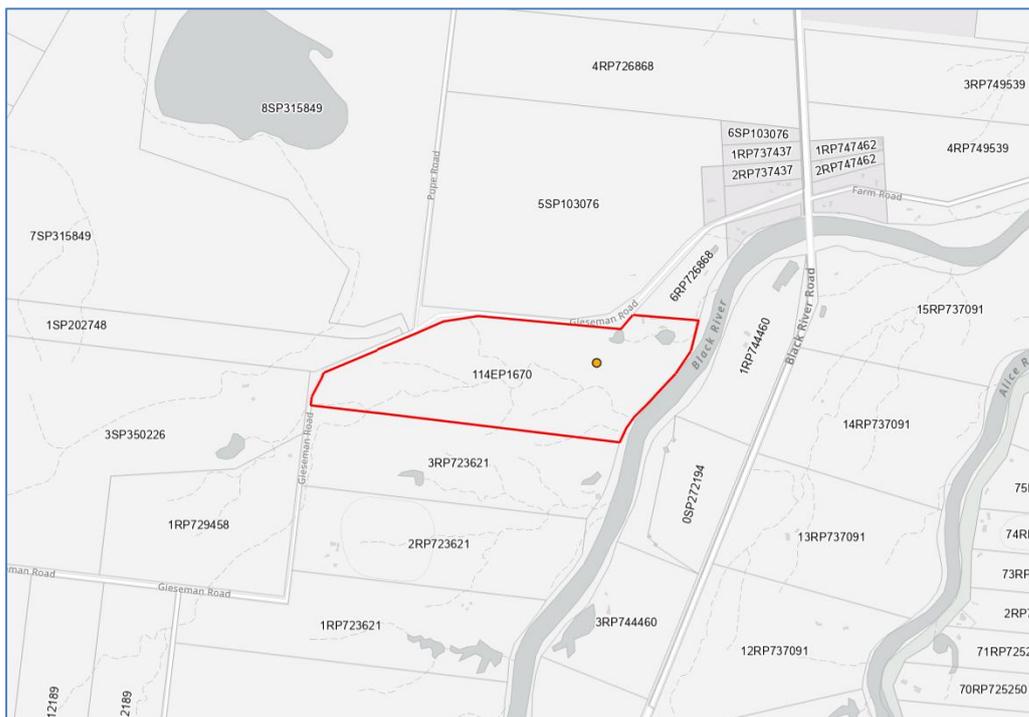


Figure 1-1: Subject Site

1.3 The proposed development

The proposed development is seeking a development permit for a storage for Class 1 Explosives from Townsville City Council. The planned explosives storage includes two magazines, each the size of freight container. The proposal also includes a caretaker's accommodation and a site office.

1.4 Bushfire Prone Land

The Council's designation of land as "bushfire prone" carries two primary consequences:

- It mandates the formulation of a Bushfire Management Plan that conforms to the specifications delineated in the Planning Scheme. This includes strict adherence to the Bushfire Overlay Code stipulated within the planning scheme.
- It activates the application of the Building Code of Australia (BCA) and the National Construction Code (NCC), necessitating compliance with their performance objectives pertaining to bushfire mitigation. Furthermore, adherence to AS 3959:2018, which governs the construction of buildings in bushfire prone regions, is imperative.

1.5 Scope and objectives

The scope and objectives of this assessment are to:

- Identify bushfire-related risk factors linked to the positioning of the development footprint. This includes the probable direction of bushfire attack, hazard ratings associated with existing and proposed vegetation on and around the subject site, and planning separation from potential hazards.
- Recommend suitable protective measures to alleviate the risk posed by the assessed BAL in alignment with the State Planning Policy (SPP 2017), AS 3959:2018, and the Bushfire Hazard Overlay Code of the Council Planning Scheme.
- Prepare a comprehensive site-specific bushfire management plan and conduct an assessment of compliance with the Bushfire Hazard Overlay Code to illustrate how adherence can be attained.

2. Assessment Methodology

2.1 Assessment and Legislative

Assessment and legislative review were conducted to identify overlay mapping and requirements under the SPP 2017 and Townsville City Council planning scheme.

The review included:

- Planning Act 2016 (Planning Act)
 - Planning Regulation 2017 (Planning Regulation)
 - State Planning Policy (SPP 2017) mapping
 - State Assessment and Referral Agency (SARA) mapping (Department of Infrastructure, Local Government and Planning)
- Townsville City Council Planning Scheme
 - Bushfire Hazard Overlay Code
 - Planning Scheme interactive mapping
- Queensland Fire and Emergency Services
 - Catalyst/BRC interactive mapping
- Building Act 1975 (Building Act)
- National Construction Code 2022: Building Code of Australia (NCC 2022)
- AS 3959:2018 Construction of Buildings in Bushfire-prone Areas

2.2 Bushfire Hazard Assessment

A site-specific bushfire hazard assessment aims to identify and understand the bushfire hazards on the site. The site's vegetation and terrain characteristics were surveyed using a complete site examination, aerial photography, accessible databases, and relevant mapping. The site-specific assessment included:

- Recording the structure, composition, and condition of vegetation communities located in the development footprint and all land within 100m of the development footprint, extending to 150m-300m where necessary.
- Assessing site slope and effective slope.
- Determining the aspect of the site.
- Identifying waterway and wetland features within the assessment area.
- Calculating potential fire line intensity and Radiant Heat Flux.

Bushfire Hazard Assessment and subsequent BAL review were conducted in accordance with the Bushfire Resilient Communities Technical Reference Guide for the State Planning Policy State Interest 'Natural Hazards, Risk and Resilience – Bushfire' (QFES 2019), which was prepared by the Queensland Fire and Emergency Services to provide technical guidance for the SPP 2017 guidance material. The method involves a quantitative assessment of the vegetation communities, fuel loads, slope, and other relevant factors.

2.3 Bushfire Attack Level Assessment

The determination of the site-specific Bushfire Attack Level (BAL) for the development footprint and classified vegetation was undertaken in accordance with the Bushfire Resilient Communities – SPP Technical Reference Guide and AS 3959:2018. This includes the identification of the following input values:

- FFDI (5% AEP fire weather event)
- Vegetation hazard class, surface and overall fuel load
- Site slope, effective slope, and whether the effective slope is upslope or downslope of the development
- Distance of the development footprint from classified vegetation

Radiant heat exposure was calculated using the Bushfire Asset Protection Zone calculator provided by the Sustainable Development Unit of Queensland Fire and Emergency Services and/or the AS 3959:2018 Method 2 Calculator.

AS 3959:2018 defines the Bushfire Attack Level as a method for measuring the severity of a building's potential exposure to ember attack, radiant heat, and direct flame contact, using increments of radiant heat expressed in kilowatts per square metre. This method serves as the basis for establishing construction requirements to improve the protection of building elements from bushfire attack. Consequently, the assessment results and accompanying BAL construction requirements only apply to proposed buildings or structures, not the entire development area.

3. Legislative Context

The following key legislation, policies and guidelines are relevant to the preparation of bushfire assessment:

- State Planning Policy (July 2017, QLD)
- National Construction Code 2022
- AS 3959:2018 Construction of Buildings in Bushfire-prone Areas
- Local Council Planning Scheme
- Planning Act 2016 (Planning Act) and Building Act 1975 (Building Act)

3.1 State Planning Policy (July 2017)

Supporting the Planning Act 2016 (Planning Act) (Qld), the purpose of the SPP is to guide State and Local government in land-use planning and development by defining the Queensland Government's policies about matters of state interest, to which there are 17 state interests arranged under five broad themes:

- liveable communities and housing
- Economic growth
- Environment and heritage
- Safety and resilience to hazards
- Infrastructure

The SPP Interactive Mapping System includes bushfire hazard area (bushfire prone area) mapping based on the methodologies outlined in Leonard et al. (2014). Under the safety and resilience to hazards theme, the state's interest is to ensure that natural hazards are properly considered in all levels of the planning system. This includes the avoidance of natural hazard areas or the mitigation of risks to an acceptable or tolerable level. The SPP is supported by the SPP – State Interest Guideline – Natural Hazards, Risk and Resilience (April 2016), Technical Manual – Evaluation Report: Bushfire Hazards (April 2016), and Technical Manual – A 'Fit for Purpose' Approach in Undertaking Natural Hazard Studies and Risk Assessments (April 2016) by the Department of Infrastructure, Local Government and Planning. These documents identify the outcomes sought by the state and their application when planning development within a bushfire hazard area (bushfire prone area).

3.2 National Construction Code 2022: Building Code of Australia

The National Construction Code 2022: Building Code of Australia (NCC 2022) sets out technical requirements for the design and construction of buildings and other structures in Australia (The Australian Building Codes Board). NCC 2022 defines ten core building classes, along with various subclasses. It mandates that buildings constructed within designated bushfire prone areas must be designed and constructed to minimise the risk of ignition from bushfires.

3.3 AS 3959 Construction of Buildings in Bushfire-prone Areas

Where development is proposed in designated bushfire prone areas, AS 3959:2018 provides construction requirements designed to enhance resistance against bushfire attack. These construction specifications are determined by specific heat flux exposure thresholds and are categorized into six Bushfire Attack Levels (BAL):

Bushfire Attack Level (BAL)	Radiant Heat Exposure (AS3959:2018)	Description of Predicted Bushfire Attack and Levels of Exposure
BAL – Low	Insignificant	Minimal attack from radiant heat and flame due to the distance of the building from the vegetation, although some attack by burning debris is possible. There is insufficient threat to warrant specific construction requirements
BAL - 12.5	0 to 12.5kW/m ²	Attack by burning debris is significant with radiant heat (not greater than 12.5kW/m ²). Radiant heat is unlikely to threaten building elements (such as unscreened glass). Specific construction requirements for ember protection and accumulation of debris are warranted.
BAL - 19	12.5 to 19kW/m ²	Attack by burning debris is significant with radiant heat flux (not greater than 19kW/m ²) threatening some building elements (such as screened glass). Specific construction requirements for embers and radiant heat are warranted.
BAL – 29	19 to 29kW/m ²	Attack by burning debris is significant and radiant heat flux (not greater than 29kW/m ²) threatens building integrity. Specific construction requirements for ember and higher levels of radiant heat are warranted. Some flame contact is possible.
BAL – 40	29 to 40kW/m ²	Radiant heat flux and potential flame contact could threaten building integrity.
BAL - FZ	40kW/m ² plus (Flame Contact)	Significant radiant heat and significantly higher likelihood of flame contact from the fire front will threaten building integrity and result in significant risk to residents.

Table 1: AS3959:2018 Using BAL to determine construction requirements

3.4 Townsville City Council Planning Scheme

Relevant bushfire provisions of the Council’s Planning Scheme reflect SPP State and Local level interests by identifying designated bushfire prone areas. Where assessable development is proposed on land mapped as containing bushfire hazard areas, a site-specific bushfire hazard assessment prepared in accordance with the planning scheme is required.

4. Bushfire Hazard Assessment

Several factors determine the likelihood and severity of bushfires in a landscape. Key factors include the type of vegetation and the amount of available fuel. Other considerations are topography and land use patterns around potentially hazardous vegetation. Additionally, connectivity between vegetation communities can influence the development and persistence of bushfires.

4.1 Current Bushfire Hazard Mapping

A review of the Bushfire Hazard Overlay Mapping indicates that the site contains bushfire hazard areas, as shown in Figure 4-1.

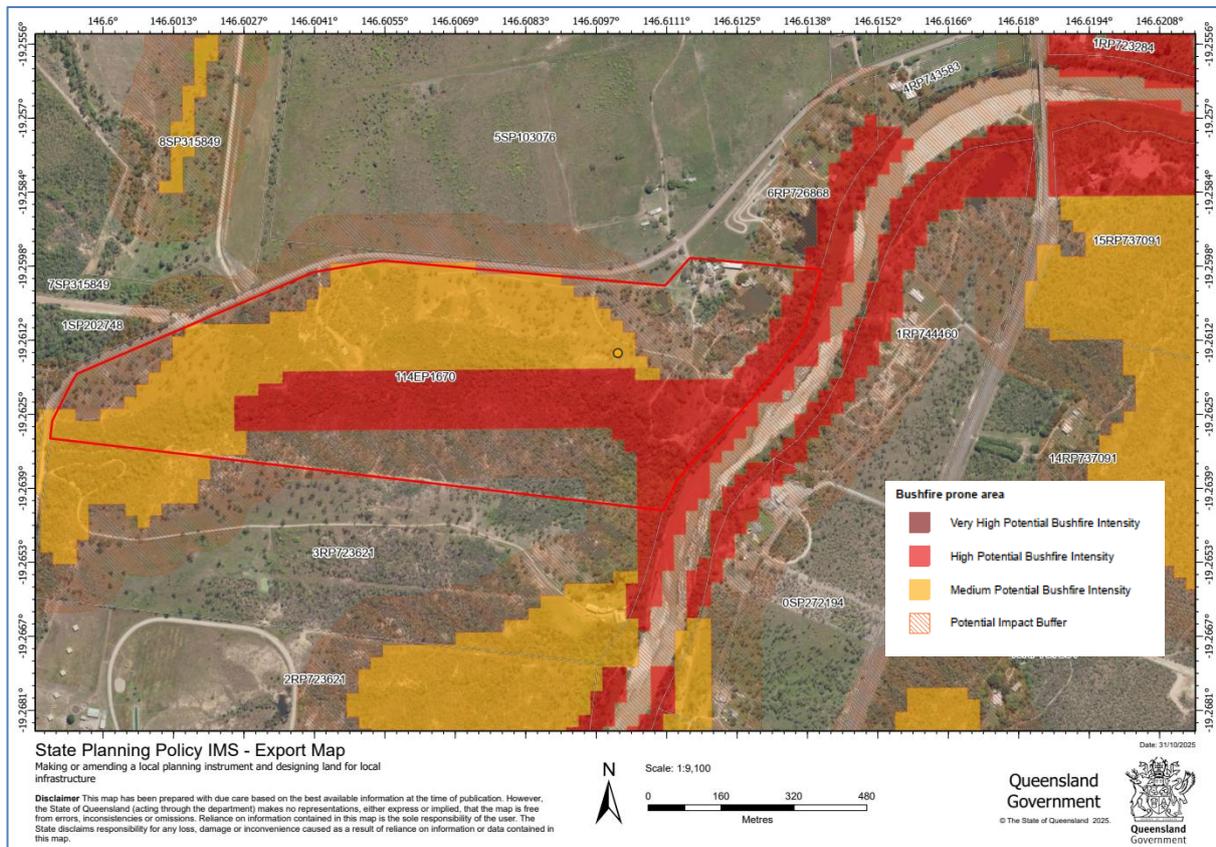


Figure 4-1: Bushfire Hazard Overlay Mapping

4.2 Local FFDI

The fire season in Queensland typically begins in the far north in July, advancing southward by spring and occasionally lasting until February in southern and far south-western regions. These timeframes vary annually due to fuel loads, long-term climate patterns, and short-term weather conditions, differing from other Australian states. In the far north and the northwest, warm, dry winters and springs, with dead grasses and dry fuels, heighten bushfire risks. In the south, the greatest danger follows dry winters and springs, with severe conditions arising when low-pressure

systems bring strong, hot, dry westerly winds to coastal areas. The season ends with the arrival of moist conditions, often influenced by tropical cyclones near the coast.

The Forest Fire Danger Index (FFDI) evaluates the likelihood of fire ignition, its propagation rate, intensity, and the difficulties encountered during suppression, amalgamating factors like air temperature, relative humidity, wind speed, and drought effects. This assessment is accessible through state mappings, revealing an annual exceedance probability FFDI of 54 at a 5% probability level for the subject site. Fire Danger Ratings (FDR) are determined by forecasted weather conditions, particularly the FFDI, offering insight into the level of bushfire threat on a given day. This FFDI corresponds to a high FDR, indicating hot, dry, and windy conditions. Under such circumstances, the ignition and spread of fires may present significant challenges for containment, especially in areas with extensive bushland vegetation.

4.3 Site-Specific Hazard Assessment

This Site-Specific Bushfire Hazard Assessment draws upon several key references and sources, including:

- Vegetation Hazard Classification and Potential Fire-line Intensity for Queensland, as outlined in "A new methodology for state-wide mapping of bushfire prone areas in Queensland" by CSIRO, Australia (2014).
- The Bushfire Resilient Communities Technical Reference Guide (QFES, 2019).
- The Bushfire Attack Level (BAL), Building setback requirements, and Construction Standards as specified in the Australian Standard AS3959:2018 Construction of buildings in bushfire prone areas.
- Bushfire Risk Mitigation Measures aligned with current industry best-practice assessment methodologies and compliance with Council's Planning Scheme.

This assessment will utilize factors such as vegetation composition and extent, slope, and industry-standard fuel load calculations to determine the potential bushfire hazard affecting the proposed development. Furthermore, this Bushfire Management Plan (BMP) will ensure compliance with the Council's Bushfire Overlay Code in relation to the proposed development.

The assessment involved an analysis of the site and its immediate 100 m radius surroundings to determine the typical bushfire risk characteristics. It included the application of Vegetation Hazard Classifications to vegetation located within 100 m of the site. Where necessary, it was expanded to cover an additional area ranging from 150 to 300 m.

According to AS3959:2018, the following vegetation shall be excluded from a BAL assessment, which is considered as low threat vegetation and/or non-vegetation areas:

- Vegetation of any type that is more than 100m from the site.

- Single areas of vegetation less than 1 ha in area and not within 100 m of other areas of vegetation being classified vegetation.
- Multiple areas of vegetation less than 0.25 ha in area and not within 20 m of the site, or each other or of other areas of vegetation being classified vegetation.
- 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 vegetation.
- Non-vegetated areas, that is, areas permanently cleared of vegetation, including waterways, exposed beaches, roads, footpaths, buildings and rocky outcrops.
- Vegetation regarded as low threat due to factors such as flammability, moisture content or fuel load. This includes grassland managed in a minimal fuel condition, mangroves and other saline wetlands, maintained lawns, golf courses (such as playing areas and fairways), maintained public reserves and parklands, sporting fields, vineyards, orchards, banana plantations, market gardens (and other non-curing crops), cultivated gardens, commercial nurseries, nature strips and windbreaks.

The assessment also takes into account the small and or isolated patches and corridor filtering process of Bushfire Resilient Communities:

- Sub-hectare areas of continuous fuel (i.e. surrounded by either no fuel or non-continuous fuel) those are further than 100 m from any other continuous fuel greater than two hectares.
- Downgrade the effective fuel load of continuous vegetation patches measuring (a) 1 to 2 hectares (by 66 per cent), and (b) 2-3 hectares patches (by 50 per cent) if the patch is surrounded by either non-continuous fuel or a low-hazard vegetation or land use type, and if the patch is further than 100 m from any other continuous-fuel vegetation patch greater than two hectares.
- Remove narrow corridors and areas of continuous fuel < 50 m in width that are not sufficiently wide to support a fully developed flame front.
- Small fragments are removed because of the varied quality of the vegetation mapping inputs.

It is noted that the client is actively undertaking vegetation management activities on the site, including the removal of invasive weeds, thinning of overgrown vegetation, and general landscape and property maintenance.

4.3.1 Ground-Truthed VHC

The locations of site assessment plots are shown on Figure 4-2. Table 2 presents a summary of observations and the features of site assessment points.

Aspect	Assessment Plot	Mapped VHC	Ground-Truthed VHC
North	A	VHC 40.4 Continuous low grass or tree cover	VHC 40.4 Continuous low grass or tree cover
East	B	VHC 40.4 Continuous low grass or tree cover	VHC 40.4 Continuous low grass or tree cover
South	C	VHC 22.1 Melaleuca open forests on seasonally inundated lowland coastal swamps	VHC 22.1 Melaleuca open forests on seasonally inundated lowland coastal swamps
West	D	VHC 40.4 Continuous low grass or tree cover	VHC 40.4 Continuous low grass or tree cover

Table 2: Ground-Truthed VHC

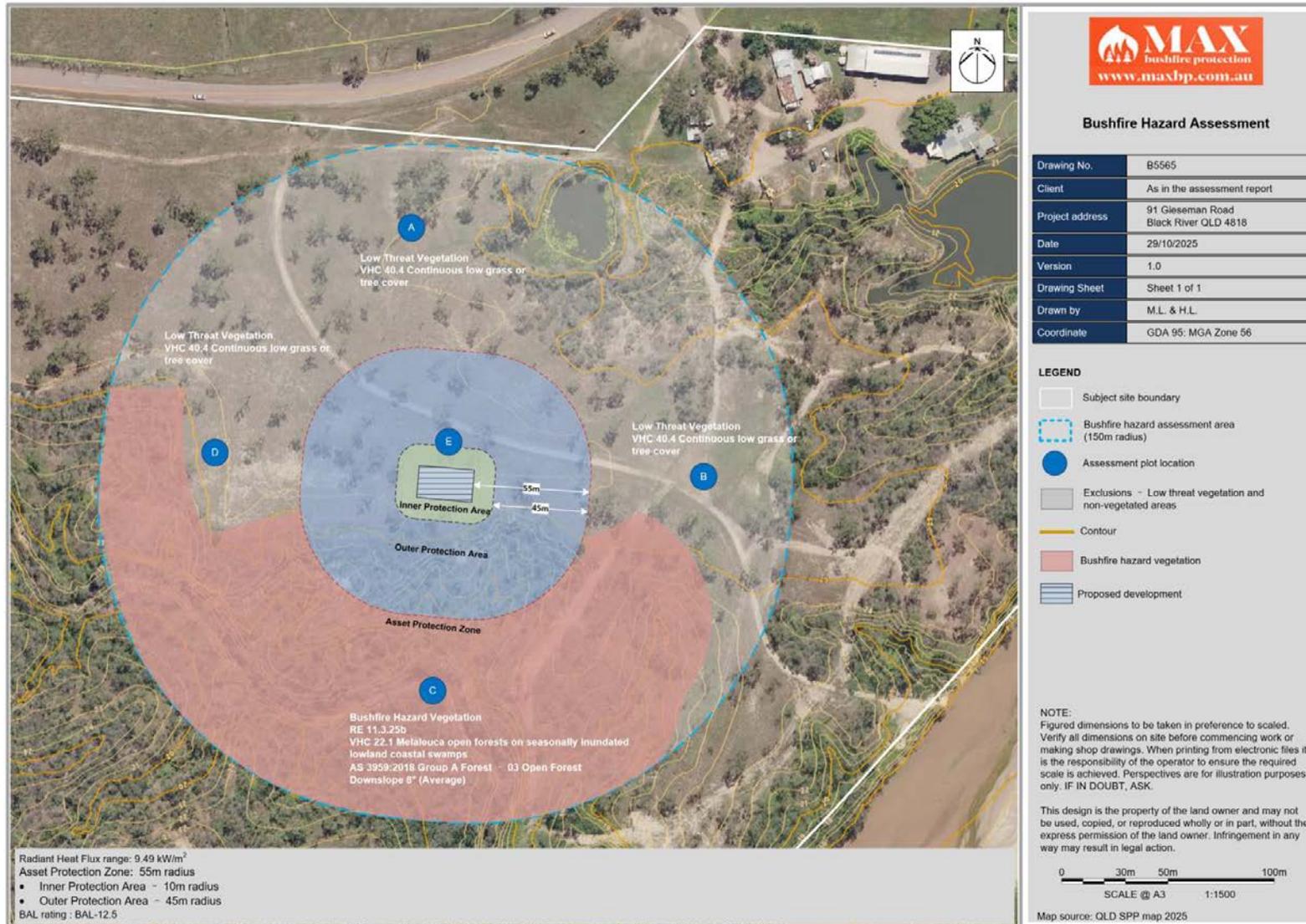


Figure 4-2: Ground-Truthed VHC and local Bushfire Prone Area map

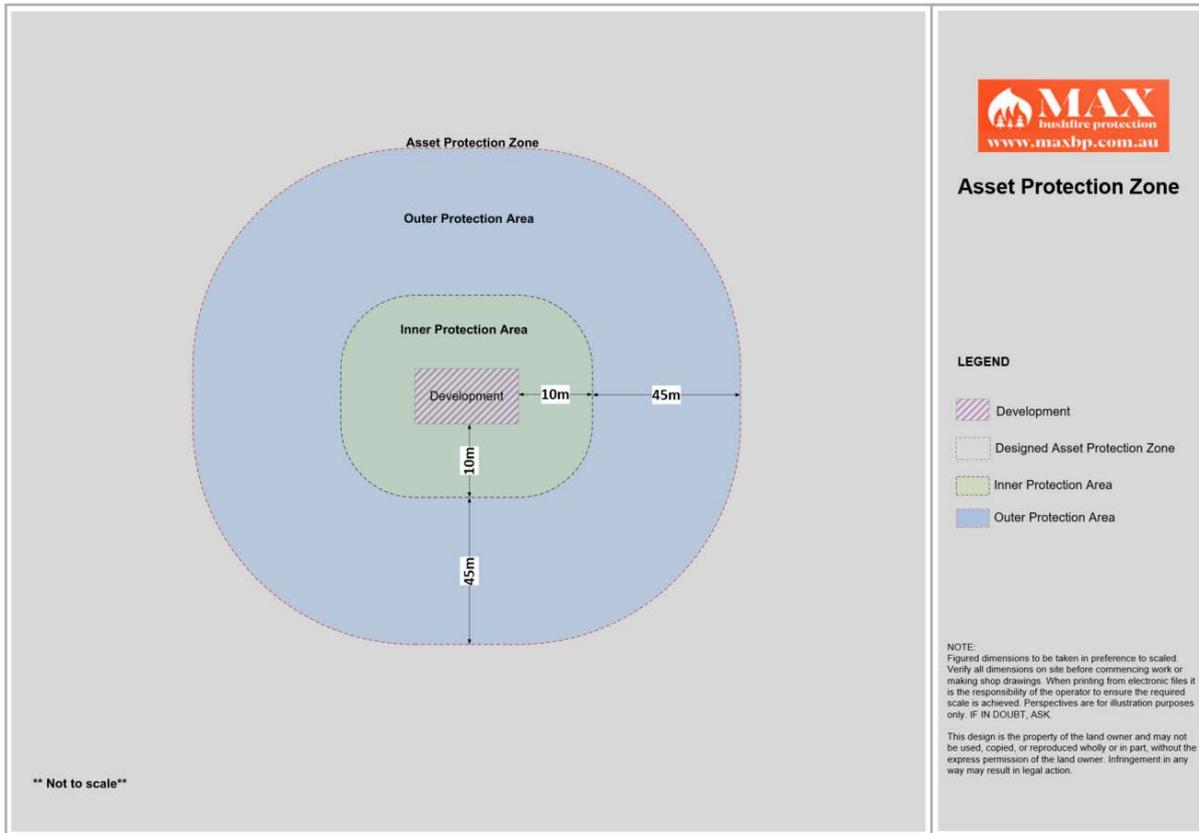


Figure 4-3: Asset Protection Zone for Explosives Storage

▪ **Classified vegetation conditions to South**

Land at assessment plot C, a large continuous hazardous vegetation patch VHC 22.1 Melaleuca open forests on seasonally inundated lowland coastal swamps was found approximately 55m from the proposed development area to the south, where the designed Asset Protection Zone is applied. This vegetation patch may contain RE 11.3.25b Eucalyptus tereticornis or E. camaldulensis woodland fringing drainage lines. Limited regular maintenance activities have been carried out in this area.

Trees ranging from 10m to 30m in height, characterized by foliage cover 30% to 70%, are typically dominated by Melaleuca. The understorey is sclerophyllous, comprising small trees, tall scrubs, or tall shrubs with hard leaves and short internodes. A diverse range of weeds and invasive plant species, including weedy grasses and Lantana, is widespread across the area, occurring under conditions varying from sparse to moderately dense. The tallest tree reaches a height of approximately 30m.

The potential fuel load of the bushfire hazard vegetation patch is determined as following:

Vegetation context	VHC 22.1 with RE 11.3.25b
Vegetation structure	Open Forest

AS3959:2018 Classification of vegetation	Group A Forest – Open Forest 03
Effective slope under the hazardous vegetation	Downslope 8° South
Slope Between Site and hazardous vegetation	Downslope 3° South
Surface fuel load	15.4 t/ha
Near-surface fuel load	8.0 t/ha
Elevated fuel load	3.0 t/ha
Bark fuel load	2.0 t/ha
Total fuel load	28.4 t/ha

Table 3: Potential fuel load

- **Unmanaged vegetation / grassland Conditions**

Unmanaged vegetation, such as unmanaged grassland and grassy woodland, characterised by overgrowth typically exceeding 10cm in height, dense ground cover, and the accumulation of dry or dead vegetation due to the absence of mowing, slashing, or grazing would contribute to a build-up of fine fuels that are easily ignitable and capable of sustaining rapid fire spread under dry and windy conditions, thereby posing a potential bushfire risk.

- **Low hazard conditions to North, East and West**

Ground-Truthed VHC to the north, the east and the west presents the characters VHC 40.4 Continuous low grass or tree cover. The area comprises managed gardens, residential houses, well-maintained lawns, and paddocks, with trees regularly trimmed, mowing, slashing, and weed removal conducted to minimise fuel load. As a result, it is classified as managed vegetation with a low bushfire hazard.

- **Vegetation Conditions within the proposed development**

Within the proposed development area and the designed Asset Protection Zone, vegetation conditions will be consistently maintained in a low-fuel state, aligning with the characteristics of VHC 40.4 Continuous low grass or tree cover.

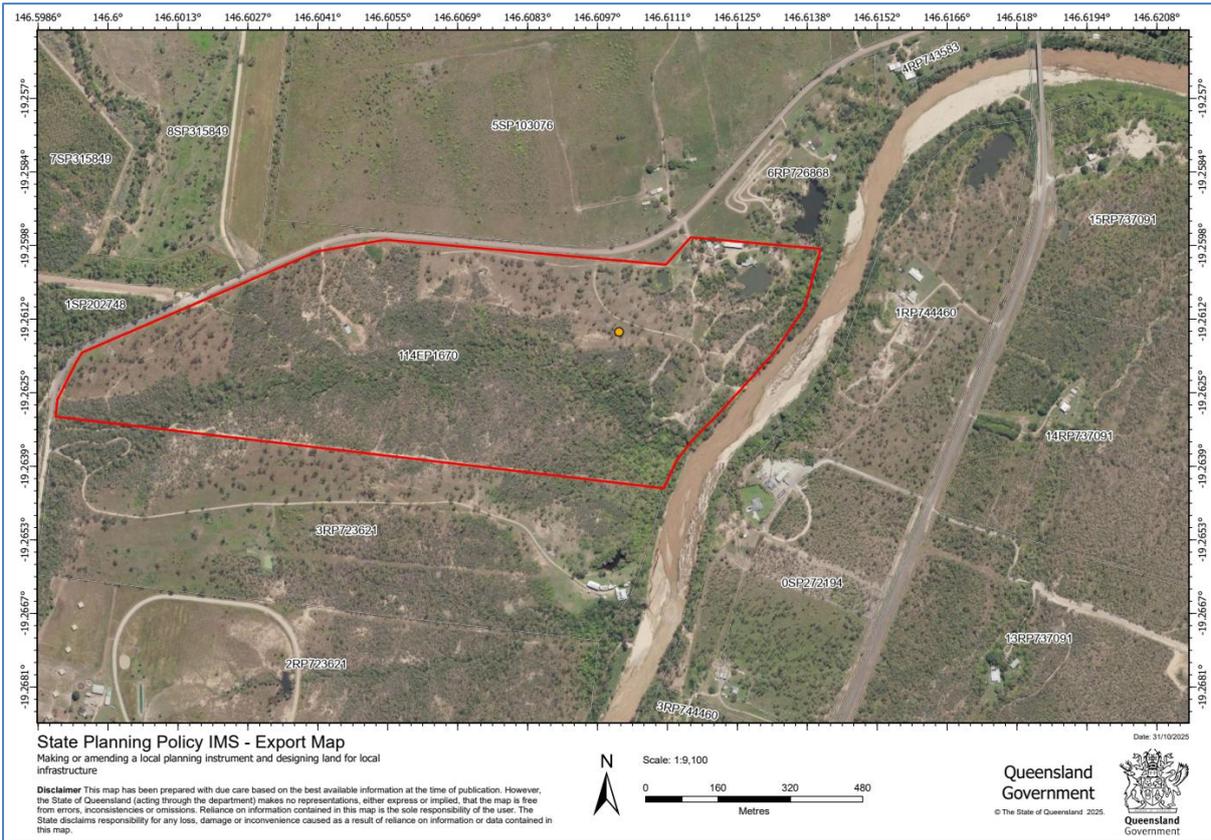


Figure 4-4: Aerial view providing landscape context for the site (Sourced from QLD SPP mapping, captured 10/2025)

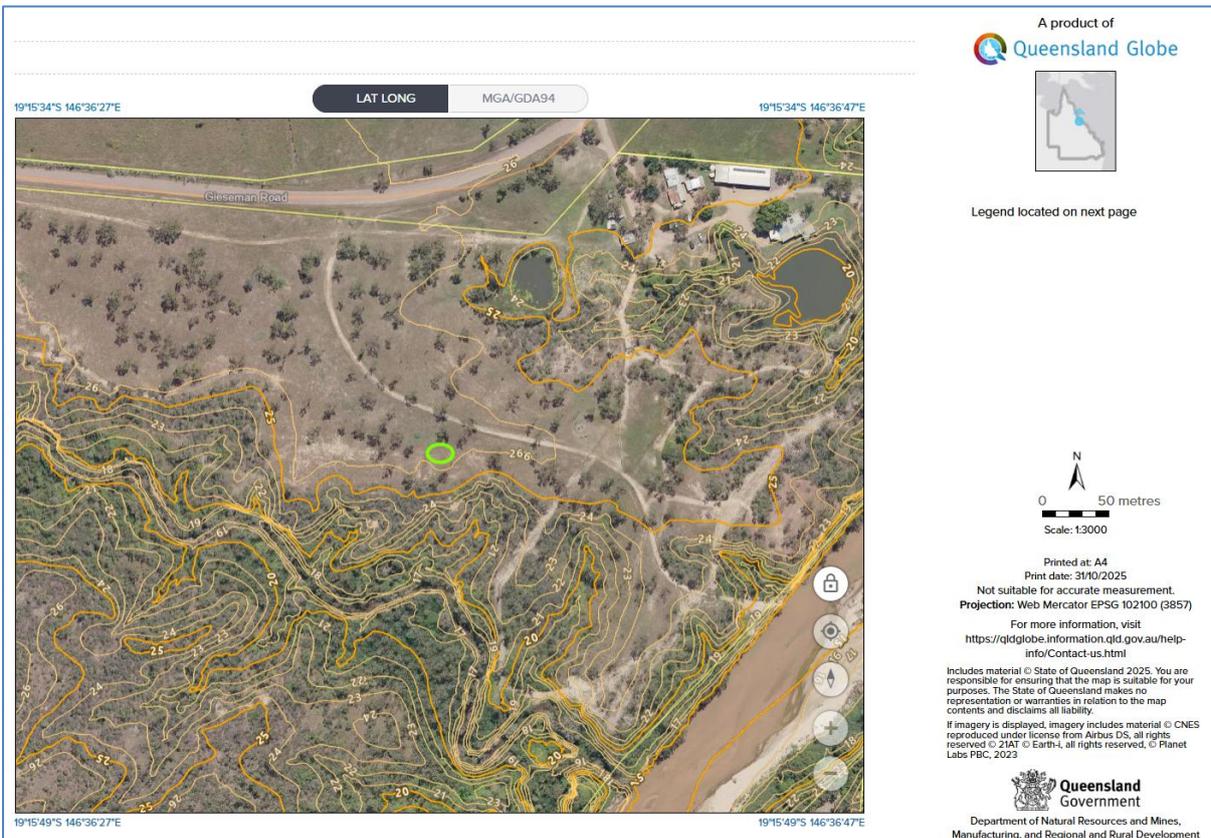
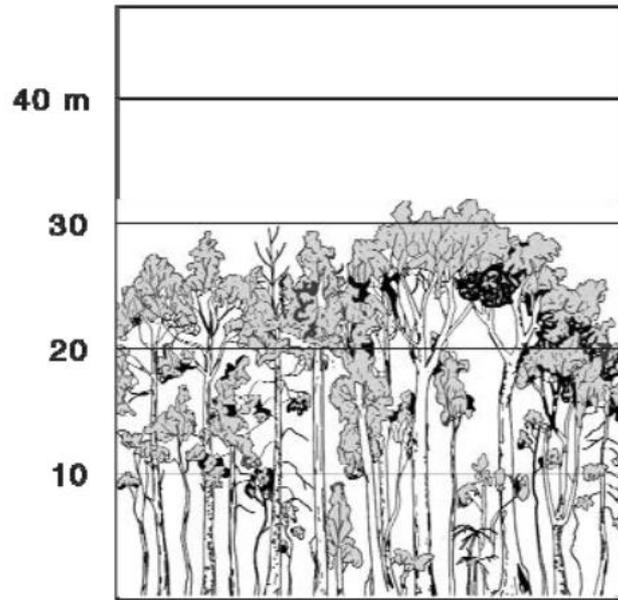


Figure 4-5: 1m interval contour map (Sourced from Queensland Globe mapping, captured 10/2025)



OPEN FOREST A-03

Figure 4-6: AS 3959:2018 Classification of vegetation – Open Forest A-03

Regional ecosystem details for 11.3.12		Supplementary description
Regional ecosystem	11.3.12	Christian et al. (1953), Manton; Cumming (2000)
Vegetation Management Act class	Least concern	Protected areas
Wetlands	Contains Palustrine	Pinnacles NP, Bowling Green Bay NP, Wongaloo CP, Horseshoe Bay Lagoon CP, Cape Upstart NP, Magnetic Island NP, Magnetic Island CP 2, Bowling Green Bay CP, Magnetic Island CP 1
Biodiversity status	No concern at present	Fire management guidelines
Subregion	1, (2), (9.4), (6), (7.1), (12), (14), (3)	SEASON: Mid-dry season. INTENSITY: Low to moderate. INTERVAL: Occasional fires, typically every 5 - 10 years. INTERVAL_MIN: 5. INTERVAL_MAX: 10. STRATEGY: Use occasional burning to promote herbs and shrubs and reduce excessive fuel build up that can cause high intensity fires. ISSUES: The coastal north Queensland populations of <i>Grevillea pteridifolia</i> are fire-killed obligate seeders with fire promoted germination. Many herbs are promoted by fire, such as ground orchids. Conversely, terrestrial orchids can be killed by fires that are intense enough to scorch them in the canopy and therefore they provide a useful indicator of past fire intensities. Ensure maintenance of a diverse ground and shrub layer. Where <i>Grevillea pteridifolia</i> or other fire-killed shrubs are present, wait until subsequent post-fire seedlings have matured before burning again.
Estimated extent ¹	Pre-clearing 46000 ha; Remnant 2021 28000 ha	Comments
Short description	<i>Melaleuca viridiflora</i> , <i>M. argentea</i> +/- <i>M. dealbata</i> woodland on alluvial plains	11.3.12: Extensively cleared for cropping and pasture. 11.3.12a: Naturalised species associated with this regional ecosystem include <i>Asclepias curassavica</i> , <i>Argyrea nervosa</i> and <i>Passiflora suberosa</i> , <i>Crotalaria pallida</i> .
Structure code	Woodland	
Description	<p><i>Melaleuca viridiflora</i> woodland to open woodland, occasionally with <i>M. argentea</i> and <i>M. dealbata</i>. Occasional midstratum of <i>Grevillea pteridifolia</i> and <i>Acacia leptocarpa</i>. Ground layer of perennial grasses such as <i>Themeda triandra</i>, <i>Elionurus citreus</i>, <i>Ectrosia leporina</i>, <i>Eriachne rara</i>, <i>Eremochloa bimaculata</i>, <i>Thaumatocochloa pubescens</i>, <i>Eragrostis brownii</i> and <i>Ischaemum australe</i>. Occurs on alluvial plains on strongly duplex clay soils with restricted drainage. Contains Palustrine. (BVG1M: 21a).</p> <p>Vegetation communities in this regional ecosystem include: 11.3.12a: <i>Melaleuca leucadendra</i> and <i>Livistona decora</i> open forest, with occasional <i>Corymbia tessellaris</i> and <i>Nauclaea orientalis</i>. The secondary tree or shrub layer is dense, including <i>Atractocarpus fitzalanii</i>, <i>Chionanthus ramiflorus</i>, <i>Carallia brachiata</i>, <i>Macaranga tanarius</i>, <i>Ficus copiosa</i> and <i>Hibiscus tiliaceus</i>. The ground layer is sparse to moderately dense. <i>Scleria polycarpa</i> forms pure stands in swampy parts. Other common species are <i>Ludwigia octovalvis</i>, <i>Crinum pedunculatum</i>, <i>Eclipta prostrata</i> and <i>Basilicum polystachyon</i>. Several vine species are present, such as <i>Entada phaseoloides</i>, and <i>Luffa aegyptiaca</i>. Occurs in depressions on coastal floodplains. Palustrine. (BVG1M: 22c).</p>	

Figure 4-7: Ecological Condition Profile of RE 11.3.12

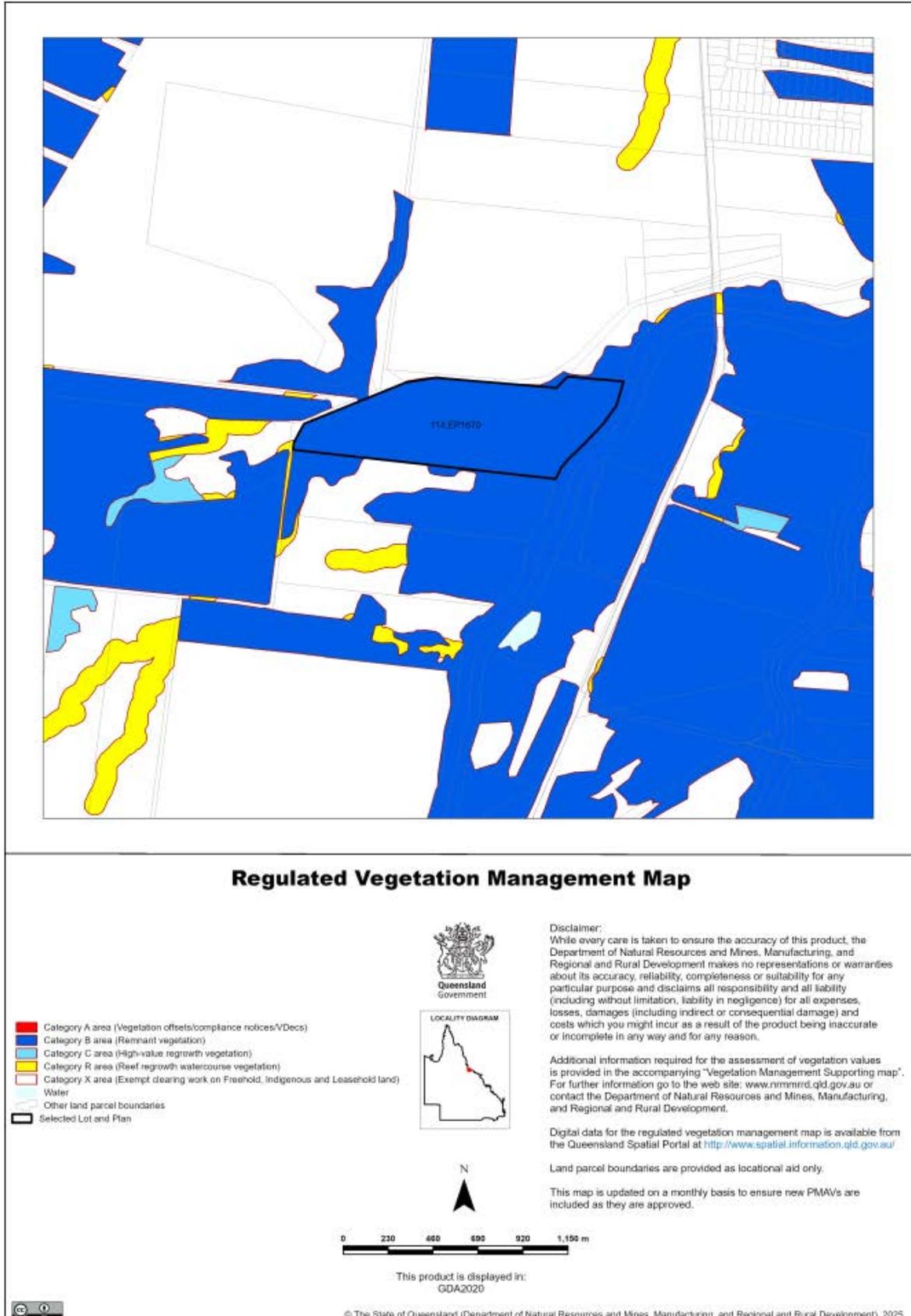


Figure 4-8 Regulated vegetation management map (sourced from Vegetation management report, Department of Resources, 2025)

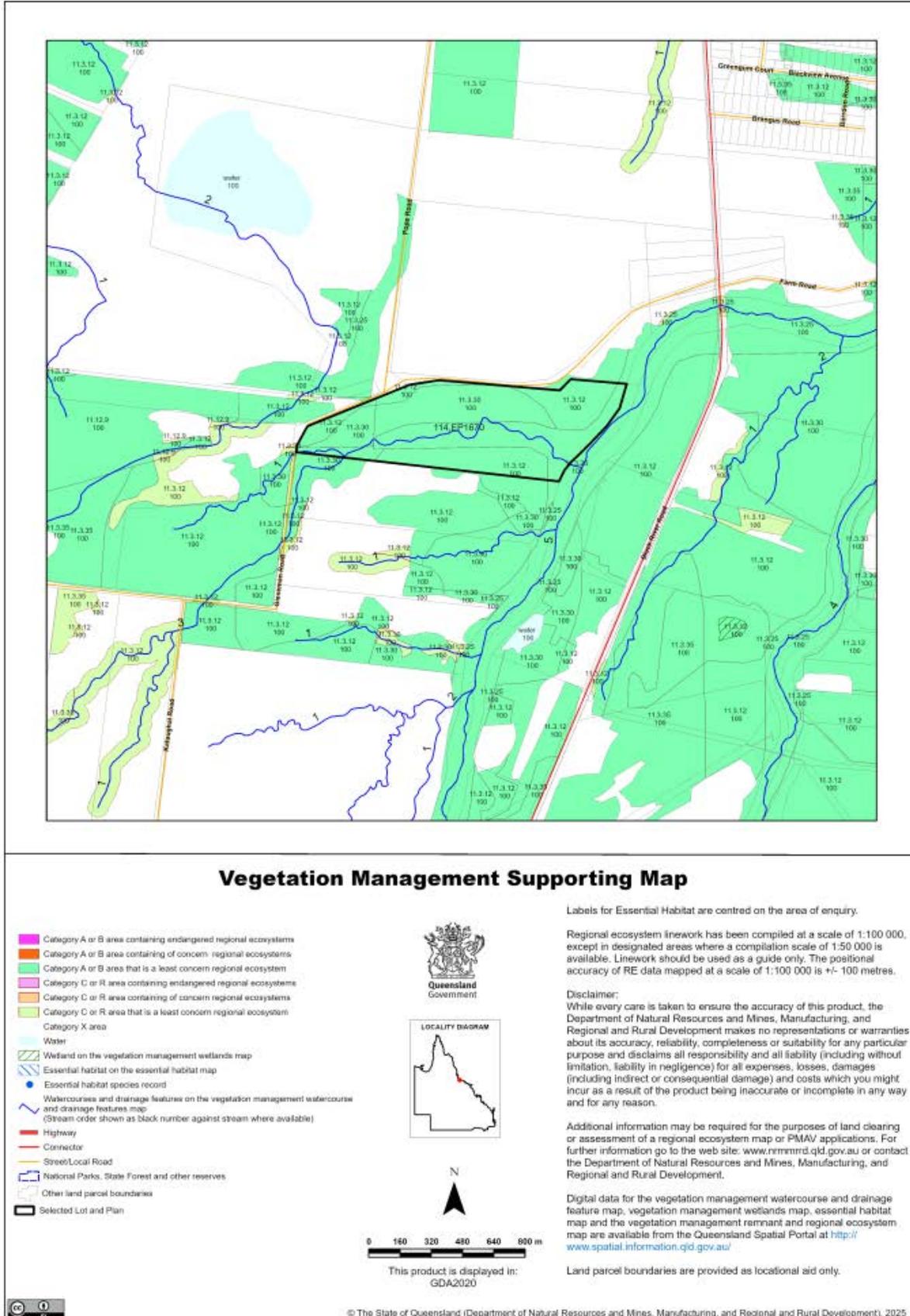


Figure 4-9: Vegetation Management Support Map providing RE context on the site (sourced from Vegetation management report, Department of Resources, 2025)



Photo 1: The proposed development area





Photo 2: Bushfire hazard vegetation VHC 22.1 to South



Photo 3: Low hazard areas

4.3.2 Potential Bushfire Intensity Calculations

The Bushfire Resilient Communities Technical Reference Guide (QFES, 2019) defines bushfire hazard classes as follows:

- Very high potential bushfire intensity > 40,000 kW/m.
- High potential bushfire intensity 20,000 - 40,000 kW/m.
- Medium potential bushfire intensity 4,000 - 20,000kW/m.
- Grass fire hazard, generally less than 4,000kW/m.
- Potential impact buffer, where land is within 100m of a very high, high and medium potential bushfire intensity area.
- Low hazard, where potential bushfire intensity < 4,000kW/m and more than 100m to very high, high and medium potential bushfire intensity area.

Potential fireline intensity is a function of fire weather severity (Local FFDI), landscape slope and vegetation fuel load based on classified vegetation communities according to the method described by the CSIRO methodology as follows:

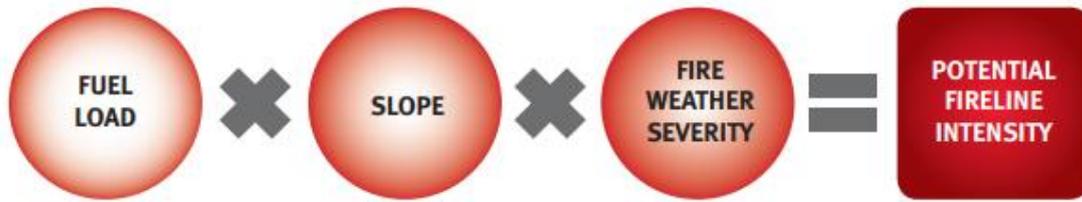


Figure 4-10: Method for calculation of potential fireline intensity (by CSIRO)

The results of the potential bushfire intensity calculations as presented in Table 4.

Local FFDI	Aspect	Ground-Truthed VHC	Potential fuel load (t/ha)	Slope (°)	Potential bushfire intensity (kW/m)	Bushfire hazard class
54	North	VHC 40.4	5	Upslope 2	729	Low hazard
	East	VHC 40.4	5	Upslope 2	729	Low hazard
	South	VHC 22.1	28.4	Downslope 8	46898	Very high potential bushfire intensity
	West	VHC 40.4	5	Downslope 2	961	Low hazard

Table 4: Potential bushfire intensity calculation

Figure 4-2 presents a local bushfire hazard prone area map, which confirms the potential fireline intensity class of all identified Vegetation Hazard Classes (VHCs) in proximity to the site, taking into account the patch and corridor filtering process as defined by the Bushfire Resilient Communities Technical Reference Guide. This local bushfire prone area map can then replace the SPP map and the Council’s Bushfire Hazard Overlay map for the purposes of assessing the application.

4.4 Probable Direction of Bushfire Attack

The anticipated directions of bushfire threat to the proposed development are expected to originate from any direction, primarily in areas classified as having medium, high and very high bushfire hazard levels from the south.

4.5 Fire History

Fire history information from QFES reveals that between 2010 and 2024, there were no recorded fires within a 2-kilometre radius of the location. Both the historical fire data and observations of fire scars suggest that it has been a substantial amount of time since the site was last exposed to a large-scale fire event. However, it is important to note that while this information does not guarantee the site will remain free from future fires, the likelihood of such events occurring appears to be decreasing due to the surrounding residential and commercial land development patterns.

4.6 Radiant Heat Flux Modelling

The radiant heat exposure level for hazardous materials storage, as outlined in the SPP Bushfire Prone Area Code under the Natural Hazards, Risk and Resilience – State Planning Policy State Interest guidance material (DSDMIP 2019), is a radiant heat flux of $\leq 10 \text{ kW/m}^2$.

Figure 4-2 indicates that the proposed explosives storage can comply with the no more than 10 kW/m^2 radiant heat flux criterion is achieved through a 55 m separation distance from the classified bushfire hazard vegetation to the south.

4.7 Asset Protection Zone

An Asset Protection Zone (APZ) will need to be established and maintained on the subject site to ensure adequate separation from hazardous vegetation.

This designed APZ will have a low fuel area around the proposed development footprint as minimum, consisting of the Inner Protection Area and a further distance for the Outer Protection Area.

Building	Asset Protection Zone
Explosives Storage	APZ: 55m Inner Protection Area: 10m Outer Protection Area: 45m
Caretaker’s Accommodation	APZ: 25m Inner Protection Area: 10m Outer Protection Area: 15m
Site Office	APZ: 25m Inner Protection Area: 10m Outer Protection Area: 15m

Table 5: Designed APZ for each proposed building

Figure 4-2 and Figure 4-3 illustrate the minimum APZ requirements. All distance measurements for the APZ should be taken as horizontal distances. Management strategies within the APZ will ensure that vegetation or other structures proposed do not increase the overall potential fuel load. The Bushfire Management Plan will detail these requirements comprehensively.

In the remaining areas on the subject site, the client should continue to maintain the current vegetation management practices. Unmanaged vegetation will increase the bushfire risk.

It is critically important to note that failure to maintain the Asset Protection Zone (APZ) will compromise its effectiveness, leading to an elevated bushfire risk to the proposed development.

4.8 Bushfire Attack Level and Construction Requirements

It is noted the Building Code of Australia only requires Classes 1,2 and 3 and certain Class 9 buildings and Class 10a building associated with those buildings to comply with the bushfire provisions of the NCC /BCA. Other class building may not require complying with the bushfire protection provisions. To further enhance the building’s bushfire resilience, it is recommended that all structures/buildings of the proposed development should be constructed in accordance with the BAL-12.5 construction requirements of AS 3959:2018.

Where considering the application of the designed Asset Protection Zone, the overall Bushfire Attack Level (BAL) for the proposed Caretaker’s accommodation site office and has been assessed as being BAL-12.5.

BAL-12.5 is primarily concerned with protection from ember attack and radiant heat up to and including 12.5 kW/m² where the site is less than 100 m from the source of bushfire attack.

To meet the construction standards outlined in AS3959:2018, both Section 3 "Construction General" and Section 5 "Construction Requirements for BAL-12.5" should be adhered to.

To assist in managing the impacts of bushfires in Queensland, the Queensland Government has developed guidelines aimed at enhancing the resilience of both new and existing homes. These guidelines provide practical, site-specific recommendations on building design and landscaping measures to improve bushfire resilience.

It is recommended that the client refer to and apply these guidelines to strengthen the bushfire resilience of the dwelling.

- Queensland Reconstruction Authority (2024). Bushfire Resilient Building Guidance for Queensland Homes.

[https://www.qra.qld.gov.au/sites/default/files/2024-02/0873_QRA%20CSIRO%20Bushfire%20Guideline%20\(updated%20February%202024\).pdf](https://www.qra.qld.gov.au/sites/default/files/2024-02/0873_QRA%20CSIRO%20Bushfire%20Guideline%20(updated%20February%202024).pdf)

SPP Bushfire Asset Protection Zone Width Calculator			
VARIABLE DESCRIPTION	VARIABLE	UNITS	VALUE
<i>Input Values</i>			
FIRE WEATHER SEVERITY	FDI		54.00
VEGETATION HAZARD CLASS	VHC	-	22.1 Melaleuca open forests on seasonally inundated lowland coastal swamps
REMNANT STATUS	-	-	Non-Remnant
SLOPE TYPE (UPSLOPE OR DOWNSLOPE)	ST	-	Downslope
EFFECTIVE SLOPE UNDER THE HAZARDOUS VEGETATION	eSlope	degrees	3.00
SLOPE BETWEEN SITE AND HAZARDOUS VEGETATION	θ	degrees	8.00
DISTANCE OF THE SITE FROM HAZARDOUS VEGETATION	d	m	55.00
<i>Advanced Input Values</i>			
FLAME WIDTH	W_f	m	100.00
FUEL MOISTURE FACTOR	mf	-	5.00
FUEL AGE	age	y(years)	20.00
HEAT OF COMBUSTION	hc	kJ/kg	18600.00
FLAME TEMPERATURE	T_f	K	1200.00
AMBIENT TEMPERATURE	T_a	K	308.00
RELATIVE HUMIDITY	RH	%	25.00%
FLAME EMISSIVE POWER	ϵ	-	0.95
WIND SPEED	v	km/h	45.00
<i>Output Values</i>			
SURFACE FUEL LOAD	-	t/ha	15.40
NEAR SURFACE FUEL LOAD	-	t/ha	8.00
BARK FUEL LOAD	-	t/ha	3.00
ELEVATED FUEL LOAD	-	t/ha	2.00
PRONE TYPE	-	-	1.00
EFFECTIVE SLOPE UNDER THE HAZARDOUS VEGETATION	eSlope	°	3.00
AVERAGE HEIGHT OF CLASSIFIED VEGETATION	VH	m	0.00
TOTAL OVERALL FUEL LOAD	W	t/ha	28.40
TOTAL SURFACE FUEL LOAD	w	t/ha	23.40
FORWARD RATE OF SPREAD	R	km/h	1.52
FORWARD RATE OF SPREAD ADJUSTED FOR EFFECTIVE SLOPE	R_{slope}	km/h	1.87
POTENTIAL FIRE LINE INTENSITY	I	kW/m	27366
FLAME LENGTH	L_f	m	15.53
FLAME EMISSIVE POWER	E	-	111.69
FLAME ANGLE	α	°	86
VIEW FACTOR	ϕ	-	0.1100
ELEVATION OF RECEIVER	h	m	0.02
ATMOSPHERIC TRANSMISSIVITY	τ	-	0.772
RADIANT HEAT FLUX	q	kW/m ²	9.49
BUSHFIRE ATTACK LEVEL (AS 3959-2018)	BAL	-	BAL 12.5

DISCLAIMER: Fire-line intensity and radiant heat calculations where effective slope exceeds 20 degrees (downslope) or 15 degrees (upslope) may be

Figure 4-11: Radiant Heat Flux Modelling and BAL Rating

5. Bushfire Management Plan

This Bushfire Management Plan (BMP) identifies the bushfire protection measures that should be implemented as part of the proposed development to manage and to reduce the risk from bushfire to an acceptable level. It is important to understand the processes that influence bushfire behaviour and the sources of damage that threaten people and property.

5.1 Bushfire Behaviours

Understanding bushfire behaviour is crucial when planning development on bushfire prone land to effectively mitigate the risks associated with bushfires. Three primary elements significantly influence bushfire behaviour, as follows:

5.1.1 Topography

The physical characteristics of the landscape significantly influence bushfire behaviour. It is well-established that fires tend to spread more rapidly when they move uphill. This is because flames can easily access unburnt fuel ahead of the fire, which is pre-heated by radiant heat, making it more combustible. Studies indicate that for every 10-degree increase in slope, the fire's speed can double. For example, if a fire is moving at a rate of 5 km per hour on flat ground, and it encounters a 10-degree slope, its speed can double to 10 km per hour uphill. As the fire gains momentum, it also increases in intensity, becoming even hotter.

Conversely, when a fire moves downhill, its speed decreases because the flames have less fuel to consume, and radiant heat pre-heats less fuel in front of the fire. For every 10-degree decrease in slope, the fire's speed is halved. It is important to note that fires typically move more slowly as the slope declines.

5.1.2 Weather Conditions

Weather conditions are a major factor in the behaviour and spread of bushfires. Hot, dry, and windy conditions can make fires more intense and difficult to control, while cooler and more humid conditions can slow their spread. Wind can also influence the direction and speed of the fire, and changes in wind direction can make it more difficult for firefighters to predict the fire's behaviour. Weather forecasting is a critical component of bushfire management, as it allows firefighters and other responders to anticipate changes in fire behaviour and take action to mitigate the risks. In addition, many communities now use tools like automated alert systems to warn residents of potential fire danger based on weather conditions.

The new Australian Fire Danger Rating System (AFDRS) improves and simplifies the reporting of fire danger. Fire danger ratings describe the potential level of danger should a bushfire start. It is a valuable information for taking actions to protect people and property. The AFDRS has four levels, each with a distinct title, colour and key message.

5.1.3 Vegetation

The amount and type of fuel available can greatly influence the behaviour of a bushfire. Vegetation is the source of fuel of a bushfire. Vegetation that is dry and dead, or that is densely packed, can create more intense and long-lasting fires. In contrast, areas with little fuel or sparse vegetation may not support a fire at all. The arrangement of fuel can also play a role, as fires that encounter a continuous "fuel ladder" from the ground up into the canopy can become more severe. The amount of fuel surrounding a building can directly impact a buildings survival. Vegetation management, landscaping for bushfire and breaking the continuity of vegetation can limit the spread of fire.

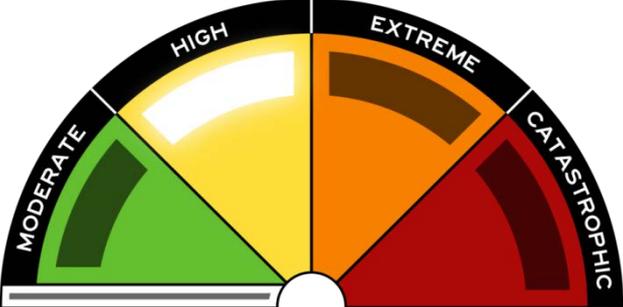

<p>Moderate: Plan and Prepare. Most fires can be controlled</p> <ul style="list-style-type: none"> Stay up to date and be ready to act if there is a fire.
<p>High: Be Ready to Act Fires can be dangerous</p> <ul style="list-style-type: none"> Decide what you will do if a fire starts. There's a heightened risk. Be alert for fires in your area. If a fire starts, your life and property may be at risk. The safest option is to avoid bushfire risk areas.
<p>Extreme: Take Action Now to protect your life and property Fires will spread quickly and be extremely dangerous</p> <ul style="list-style-type: none"> These are dangerous fire conditions. Check your bushfire plan and make sure your property is fire ready. If a fire starts, take immediate action. If you and your property are not prepared to the highest level, go to a safer location well before the fire impacts. Reconsider travel through bushfire risk areas.
<p>Catastrophic: For your survival, leave bushfire risk areas If a fire starts to take hold, lives are likely to be lost</p> <ul style="list-style-type: none"> These are the most dangerous conditions for a fire. Your life may depend on the decisions you make, even before there is a fire. For your survival, do not be in bushfire risk areas. Stay safe by going to a safer location early in the morning or the night before. If a fire starts and takes hold, lives and properties are likely to be lost. Homes cannot withstand fires in these conditions. You may not be able to leave and help may not be available.

Table 4: Australian Fire Danger Rating

5.2 Potential Bushfire Impacts and Attack Mechanisms

Bushfire attack mechanisms are typically interconnected, rarely occurring in isolation. Both people and property often face a combination of bushfire attack

factors, each operating across different spatial scales. Nevertheless, strategies aimed at mitigating the impacts of direct flame contact, radiant heat exposure, and ember attack can be effectively addressed within the framework of land use planning and development assessments, conducted at manageable scales.

The main sources of direct bushfire attack that give rise to loss of life, and damage to property and infrastructure are as follows:

5.2.1 Direct Flame Contact

Direct flame contact occurs when flames from a bushfire come into direct contact with a building, structure, or individuals. When this happens, the flames can ignite any flammable material present and cause fires to spread rapidly. Direct flame contact can also cause burns and other heat-related injuries to people who are in the path of the flames.

Direct flame contact is a significant concern during a bushfire, especially for buildings and structures that are located in close proximity to the fire. The intensity of the flames and the duration of the exposure can have a significant impact on the severity of the damage.

To reduce the risk of direct flame contact during a bushfire, it's essential to create a defensible space around buildings and structures, clear flammable materials from the area, and use fire-resistant building materials when constructing or renovating buildings. Additionally, it's crucial to follow evacuation orders and stay informed about the fire's behaviour and movement to ensure personal safety.

5.2.2 Radiant Heat Exposure

Radiant heat exposure is a significant danger during a bushfire. When a bushfire occurs, the heat generated by the flames causes the air surrounding the fire to heat up, and this heat energy is then radiated out in the form of electromagnetic waves. These waves can travel a considerable distance from the fire and can cause surfaces that are not in direct contact with the flames to heat up.

During a bushfire, radiant heat exposure can be intense, and the effects can be severe. Radiant heat can ignite flammable materials, such as dry vegetation or wooden structures, and cause them to catch fire. It can also cause buildings and structures to overheat, leading to structural damage or collapse. Additionally, people who are too close to the flames can suffer from heat stress, dehydration, and serious burns.

The risk of radiant heat exposure during a bushfire can be mitigated by creating a defensible space around buildings and structures, clearing flammable materials from the area, and using fire-resistant building materials when constructing or renovating buildings. It's also important to follow evacuation orders and stay informed about the fire's behaviour and movement to ensure personal safety.

5.2.3 Ember Attack

Ember attack, often referred to as spot fires, represents a prominent hazard during bushfires. This phenomenon occurs when burning embers, also known as firebrands or spot fires, are carried by the wind and land in different locations, potentially igniting new fires.

In the midst of a bushfire, the combination of hot air and flames generates updrafts capable of lifting burning embers over considerable distances. These embers can alight on rooftops, in gutters, or on flammable materials near buildings and structures, leading to ignition and the potential initiation of new fires.

Ember attack poses a unique danger because it can manifest hours or even days after the primary fire front has passed, and it has the capacity to ignite fires in areas previously unaffected by the bushfire. Consequently, it is imperative to prepare for ember attack through measures such as establishing a defensible space around buildings and structures, removing flammable materials from the vicinity, and sealing gaps and openings in buildings to prevent ember ingress.

5.2.4 Wind and Smoke Attack

Strong winds can cause a bushfire to spread more rapidly and can also increase the likelihood of ember attack, as burning embers can be carried by the wind over long distances. Wind can also push flames and radiant heat towards buildings and structures, increasing the risk of direct flame contact and radiant heat exposure.

Smoke from a bushfire can also pose a danger to people's health, particularly for those with respiratory problems. Smoke can contain particulate matter, carbon monoxide, and other harmful pollutants that can irritate the lungs and worsen respiratory conditions. In addition to health effects, smoke can reduce visibility, making it more difficult for firefighters to contain the fire and for people to evacuate safely.

5.2.5 Convection and Conduction

Both convection and conduction can play a significant role in the spread and intensity of a bushfire. To reduce the risk of a bushfire spreading through convection and conduction, it's important to create a defensible space around buildings and structures, clear flammable materials from the area, and use fire-resistant building materials when constructing or renovating buildings. It's also crucial to follow evacuation orders and stay informed about the fire's behaviour and movement to ensure personal safety.

5.3 Bushfire Protection Measures

This section identifies the bushfire protection measures that will be implemented as part of the proposed development to comply with the requirements of both the State

and local council's Bushfire Prone Area code and to minimise the impact of potential bushfires on people and property.

The proposed measures are prepared in accordance with Queensland State Government State Planning Policy - Part E (SPP 2017), the Bushfire Resilient Communities Technical Reference Guide (QFES, 2019), the local council's Bushfire Overlay Code, and the Australian Standard (AS 3959:2018) for Construction of buildings in bushfire prone areas.

The legislation mentioned above aims to protect individuals and buildings from bushfires by ensuring that new developments meet specific Performance Outcomes that are appropriate for the identified bushfire hazard. These Performance Outcomes are typically achieved by properly separating the development from the bushfire hazard, providing adequate access for firefighting vehicles, and constructing buildings to the appropriate standards. Additionally, the legislation includes other relevant factors that are deemed necessary for ensuring the safety of individuals and buildings during a bushfire emergency.

5.3.1 Asset Protection Zone (APZ)

An Asset Protection Zone (APZ) is the most important bushfire protection measure. An APZ is a designed area surrounding a building or structure that has been well managed to reduce the risk of a bushfire impacting the building or structure. An APZ provides:

- A buffer zone between a bushfire hazard and an asset
- An area of reduced bushfire fuel that allows suppression of fire
- An area from which backburning may be conducted
- An area which allows emergency services access and provides a relatively safe area for firefighters and homeowners to defend their property.

A correctly designed and regularly maintained APZ will reduce the risk of:

- Direct flame contact on the asset
- Damage to the build asset from intense radiant heat
- Ember attack on the asset

An APZ is typically designed and created by removing vegetation and other combustible materials from around the building or structure, reducing the fuel available for a bushfire. The width of the APZ and the level of vegetation removal required depend on a number of site-specific factors, including the slope of the land, the hazardous vegetation type, and the intensity of the bushfire hazard. The property owner is responsible for creating and maintaining regularly the designed APZ.

(1) Creating APZ by reducing bushfire fuel

The intensity of bush fires can be greatly reduced where there is little to no available fuel for burning. To effectively manage bushfire fuels, there are several approaches to reduce, remove, or change the condition of the fuel.

- Raking or manual removal of fine fuels
- Mowing or grazing of grass
- Removal or pruning of trees, shrubs and understorey
- Slashing and trittering

It is important to note that reducing fuel does not always require removal of all vegetation, which would cause environmental damage. Trees and plants also provide protection against bushfires by mitigating the impact of strong winds, intense heat and flying embers (by filtering embers) and changing wind patterns. Some ground cover vegetation is also needed to prevent soil erosion.

(2) Ongoing management for APZ

The creation of an Asset Protection Zone (APZ) establishes a controlled fuel-managed area that serves to reduce the potential impact of direct flame contact and radiant heat on property development, effectively acting as a defensible space. It is crucial to emphasize that the management of vegetation and landscaping within the APZ is of paramount importance and should maintain a minimal fuel load.

An APZ should be maintained in perpetuity to ensure ongoing protection from the impact of bushfires, and maintenance of the APZ should be regularly undertaken, especially in advance of the bushfire season. The requirements are set out as follows.

(i) Inner Protection Area

The Inner Protection Area 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 proposed development and act as an important space. Vegetation within this area should be kept below 100 mm in height and be discontinuous.

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

When establishing and maintaining the inner protection zone, the following requirements apply:

- **General**
 - A minimum 1m wide area, suitable for pedestrian traffic, must be provided around the immediate curtilage of the building
 - Planting is limited in the immediate vicinity of the building
 - All leaves and vegetation debris must be removed at regular intervals during the declared fire danger period
 - Planting does not provide a continuous canopy to the building
 - Within 10 m of a building, flammable objects must not be located close to the vulnerable parts of the building
 - Plants greater than 10 cm in height must not be placed within 3 m of a window or glass feature of the building

- Low flammability vegetation species are used
- 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 2 m above the ground
 - Tree canopies should be separated by 2 to 5 m
 - 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
 - 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 regularly (as a guide grass, should be kept to no more than 100 mm in height)
 - Leaves and vegetation debris should be removed regularly

(ii) Outer Protection Area

The Outer Protection Area is located between the Inner Protection Area and 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 inner protection zone.

- Trees
 - Tree canopy cover should be less than 30% at maturity
 - Tree canopies should be separated by 2 to 5 m
- Shrubs
 - Shrubs should not form a continuous canopy, and
 - Shrubs should not form more than 20% ground cover
- Grass
 - Grass should be kept mown regularly to height of less than 100 mm
 - Leaves and other debris should be removed regularly.

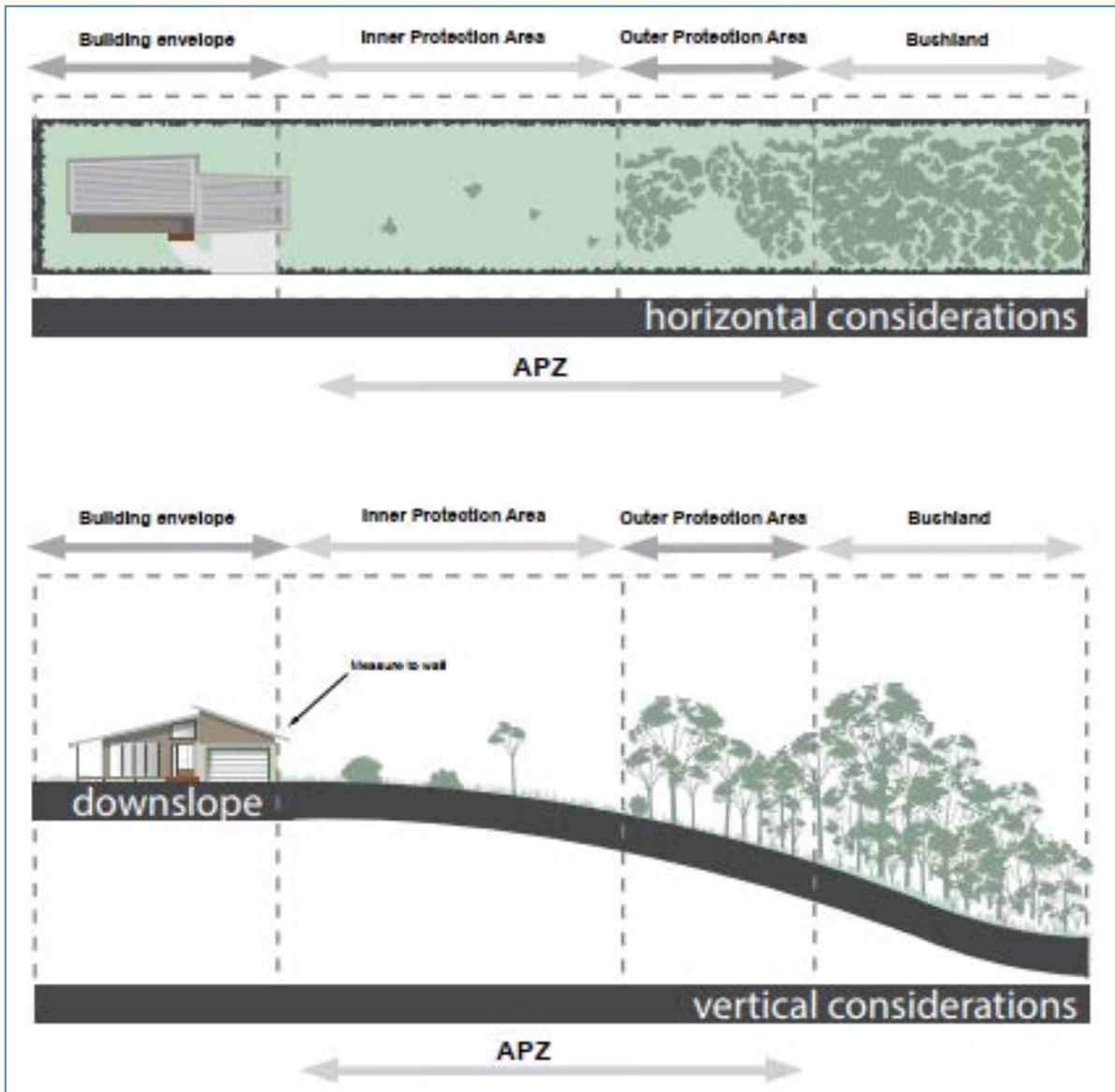


Figure 5-1: Inner protection area and Outer protection area

5.3.2 Building Construction, Siting and Design

The appropriate design and construction of buildings enhance their survivability from bushfires. Construction measures should not be applied as a stand-alone mitigation solution but should form part of a suite of measures. This should also include APZ, appropriate access, water supply and landscaping. Building design needs to ensure adequate protection of vulnerable building elements. Construction standards are outlined in AS 3959:2018 and the NASH Standard to provide various levels of protection for different building elements.

The outcome of the BAL assessment is **BAL-12.5** in accordance with AS 3959:2018 and the Bushfire Resilient Communities.

It should be noted the Building Code of Australia only requires Classes 1, 2 and 3 and certain Class 9 buildings and Class 10a building associated with those buildings to comply with the bushfire provisions of the NCC 2022.

5.3.3 Access and Evacuation Arrangement

Developments in bushfire prone areas should be serviced by safe access/exit points for both site personnel and emergency services personnel in the event of an emergency. The local council's Bushfire Hazard Overlay Code prescribes appropriate access for fire management an evacuation to be provided as below:

- Do not exceed an average gradient of 12.5%
- Have a minimum width of 4 m and 6 m of vegetation clearing, can be up to 10 m.
- Have a minimum of 4.8 m vertical clearance
- Accommodate turning areas for fire-fighting appliances in accordance with Qld Fire and Emergency Services' Fire Hydrant and Vehicle Access Guidelines
- Passing bays for firefighting appliances are 20 m long by 3 m wide, with a minimum trafficable width of 7m at the passing bay
- Reversing bays for firefighting appliances are 6 m wide and 8.5 m deep to any gates, meeting above turning requirements
- Passing bays or turning intervals located every 200 m with a maximum grade of 5%
- Compacted driveway to ensure all weather surfaces

The proposed development will provide with vehicular access that enables safe evacuation for occupants and easy access by firefighting appliances. Consequently, the proposed development is in compliance with the Council Bushfire Hazard Overlay.

5.3.4 Water Supply

It is noted that AS 3959:2018 – Construction of buildings in bushfire prone areas does not include requirements for water supply for firefighting purposes; nor is water supply a factor in determining a building's Bushfire Attack Level (BAL) rating. Accordingly, the building certifier should not impose conditions on the building approval relating to water supply for firefighting purposes, unless such conditions are required under a development permit issued by the local council or are specified in the applicable local planning scheme.

An adequate supply of water is essential for firefighting purposes and suitable water supply arrangements shall be provided. The proposed development should provide an appropriate water supply to support effective emergency services response includes reticulated water and/or appropriate static water supply.

- (1) If the development is serviced by public fire hydrant, this is considered an accepted solution, as the infrastructure is maintained by the local authority

and no further assessment or testing, such as pressure test, by the client is required.

- (2) Where a private fire hydrant system is proposed, the reticulated hydrant network must be designed, installed, and certified in accordance with the Queensland Fire and Emergency Services (QFES) Fire Hydrant and Vehicle Access Guidelines.
- (3) Where reticulated water is unavailable, an appropriate static water supply should consist of a dedicated water tank specifically for firefighting purposes, with suitable access for firefighting appliances.

It is recommended that the tank be located within 10 m of the building. To ensure durability and compliance with safety standards, it is strongly recommended that the tank be constructed underground or from non-combustible materials, such as steel or concrete. The tank must include a take-off connection providing a minimum of 10,000 litres of static water exclusively for firefighting access.

The site must permit clear access for a medium rigid fire appliance (15 tonnes) to within 6 m of the tank. Tanks and associated pumps must be protected from bushfire impact in accordance with AS 2304:2011 – Water storage tanks for fire protection systems. Where the site is serviced by a rural fire brigade, the tank shall be fitted with brigade-compatible fittings, including a 50-millimetre ball valve and a male camlock coupling. If the tank is underground, a minimum 200-millimetre access hole must be provided to allow suction line access. Directional signage must clearly indicate the tank’s location at the street frontage.

5.3.5 Landscaping Management Plan

The type, location and ongoing maintenance of landscaping are considered a necessary bushfire protection measure. Landscaping management for bushfire is the process of designing, constructing, and maintaining a landscape in a way that reduces the risk of bushfire. The management strategies typically involve creating fire breaks, reducing fuel loads, and selecting vegetation that is less flammable.

Appendix A provides a list of less flammable plants.

The landscaping management shall be carried out as the requirements set out for Asset Protection Zone in Section 5.3.1.

5.3.6 Reducing Fuel Load and Weed Management

Removing excess ground fuels and combustible material is a crucial aspect of effective fire prevention and management. This process involves the careful clearance of various flammable materials, including long dry grass, accumulated dead leaves, and fallen branches. By systematically reducing these fuel sources, the risk of fire ignition and spread is significantly mitigated. Regular maintenance of such

clearance efforts is essential to ensure ongoing fire safety and resilience within the environment.

Unmanaged invasive pest plants can swiftly amplify fuel loads, comprising fast-growing introduced grasses, dense woody weeds, and invasive climbing vines. These factors collectively escalate fuel loads, fostering a "laddering" effect, intensifying fire spread and allowing it to transition from ground to canopy. Effective weed management markedly diminishes bushfire risk to the site and surrounding properties.

5.3.7 Importance of Ongoing Vegetation Management

Ongoing vegetation management is essential to maintain the effectiveness of bushfire protection measures and ensure the site continues to meet relevant performance requirements. Without regular maintenance, vegetation can quickly regenerate, resulting in increased fuel loads, higher flame heights, and elevated radiant heat exposure to buildings and access routes.

Routine activities such as mowing, slashing, mulching, weed control, and the removal of fallen branches or debris should be undertaken on a regular basis. The maintenance program should be implemented on an ongoing and scheduled cycle, taking into account seasonal growth patterns, rainfall, and local climatic conditions. Regular monitoring and prompt intervention are critical to ensure that vegetation conditions remain consistent with the prescribed bushfire protection objectives.

5.4 Biodiversity Overlay

Bushfire risk is defined in the Natural Hazards, Risk and Resilience - Bushfire State Planning Policy – State Interest Guidance Material (December 2019) and is categorized as Acceptable or Tolerable risk. It is noted that exemptions under Schedule 6, Part 3, Section 20A(a)(i) of the Planning Regulation 2017 allow for the clearing of vegetation for essential management, specifically for “establishing or maintaining a necessary firebreak to protect infrastructure, if the maximum width of the firebreak is equal to 1.5 times the height of the tallest vegetation next to the infrastructure or 20 m, whichever is wider.”

The Bushfire Management Plan has been designed to have minimal impact on the Biodiversity Overlay Area. This includes the implementation of asset protection zones and measures aimed at reducing vegetation clearing. The majority of the proposed Asset Protection Zone utilizes existing cleared and landscaped areas, thereby minimising further disturbance. In the Outer Protection Area of the designed Asset Protection Zone, a small portion may intersect with an area mapped under the Biodiversity MSES Overlay. Within this zone, fuel load reduction activities will be carefully targeted, focusing exclusively on the management of invasive weeds, overgrown ground cover, and understorey vegetation. Importantly, these measures will not require the removal of mature native trees, ensuring the preservation of significant ecological values.

6. Conclusion

The following recommendations are provided in relation to the requirements of Council's Bushfire Hazard Overlay Code.

- An asset protection zone has been designed and shall be established and managed.
- Provision of water and service to be in accordance with the requirements.
- The location of the proposed dwelling maximizes the use of existing cleared and open space while minimizing the clearing of native vegetation and its impact on the environment.
- The development footprint will achieve a radiant heat flux of < 10 kW/m² with proper separation from the classified bushfire hazard vegetation. Therefore, the proposed development is considered to meet the requirement of radiant heat flux level of the SPP bushfire prone area code.
- Construction of building to meet **BAL-12.5** construction requirements of AS 3959:2018 for caretaker's accommodation and site office.

In conclusion, the proposed development has been designed and managed to ensure that the exposure of people and property to unacceptable bushfire hazard risks has not increased. The development will mitigate bushfire risk through appropriate siting, design, and management measures. It provides suitable access and evacuation routes for both private and emergency service vehicles, in line with the nature of the development and the level of bushfire risk. An adequate water supply for firefighting purposes will be provided, and no hazardous goods will be stored on-site. Overall, the development meets all necessary requirements to minimise the risk of bushfires to people, property, public health, and the environment.

This assessment assumes that vegetation on the site will be maintained according to the client's outlined plans. Should the proposed development require the removal of site vegetation to meet specific BAL requirements set by either the developer or the client, it is the client's responsibility to comply with relevant regulations regarding native vegetation clearing.

Although emergency management arrangements are not a mandatory measure for the proposed development, it is recommended that residents in bushfire prone areas prepare a bushfire survival plan.



Henry (Hongxi) Liang

BEng, GradCert (Bushfire Protection), MBA

Senior Bushfire Consultant

Max Bushfire Protection Consulting

Email: service@maxbp.com.au

Max Bushfire Protection Consulting

7. References

Australian Standard, 2018. Construction of Buildings in Bushfire prone Areas (AS3959–2018).

Leonard, J, Newnham, G, Opie, K, and Blanche, R; 2014. A New Methodology for State-wide Mapping of Bushfire Prone Areas in Queensland. CSIRO, Australia.

Queensland Development Assessment Mapping System;
<https://sara.dsdip.esriaustraliaonline.com.au/saraviewer/>

Queensland Government SPP Interactive Mapping System; 2022.
<http://www.dilgp.qld.gov.au/planning/state-planning-instruments/spp-interactive-mappingsystem.html>.

The State of Queensland, July 2017. Queensland State Planning Policy (July 2017). Queensland Department of Infrastructure, Local Government and Planning. Gold Coast.

The State of Queensland, October 2019. Bushfire Resilient Communities Technical Reference Guide for the State Planning Policy State Interest 'Natural Hazards, Risk and Resilience – Bushfire.

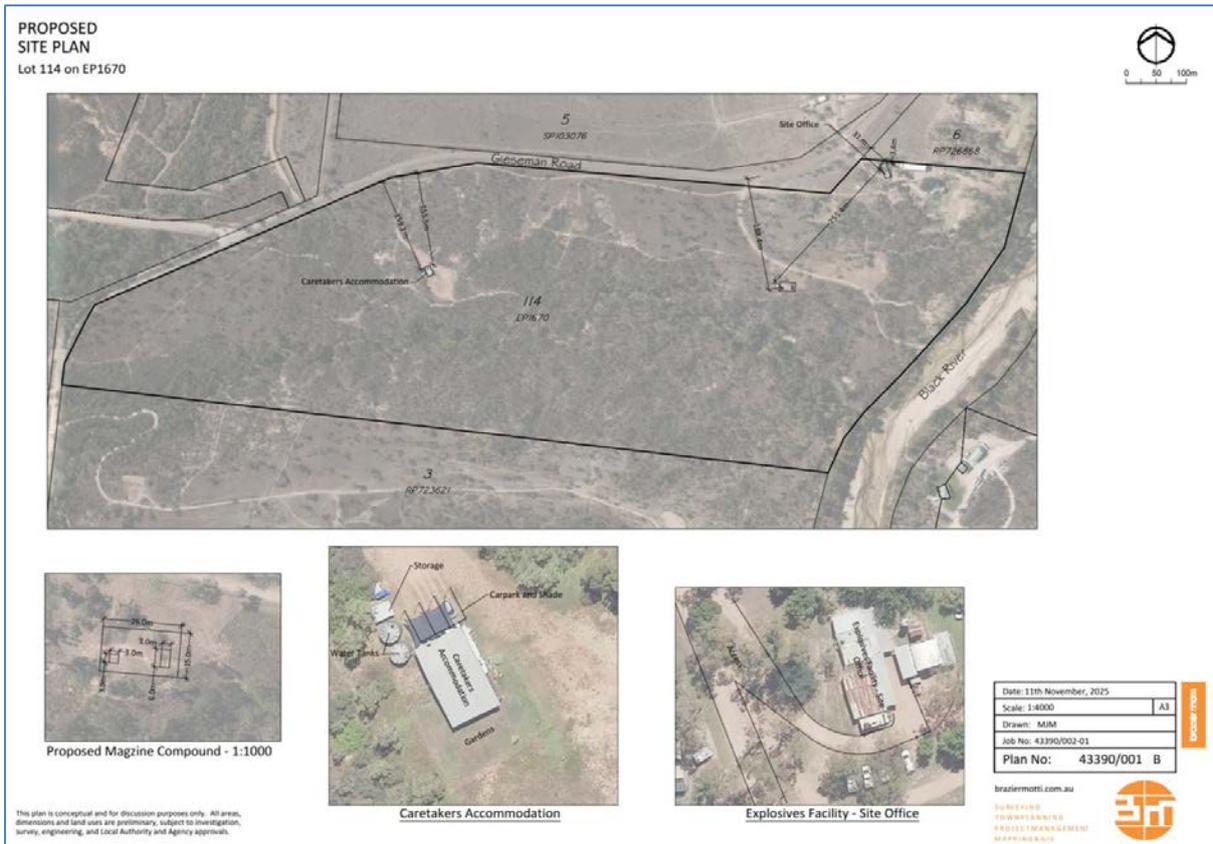
8. Appendix

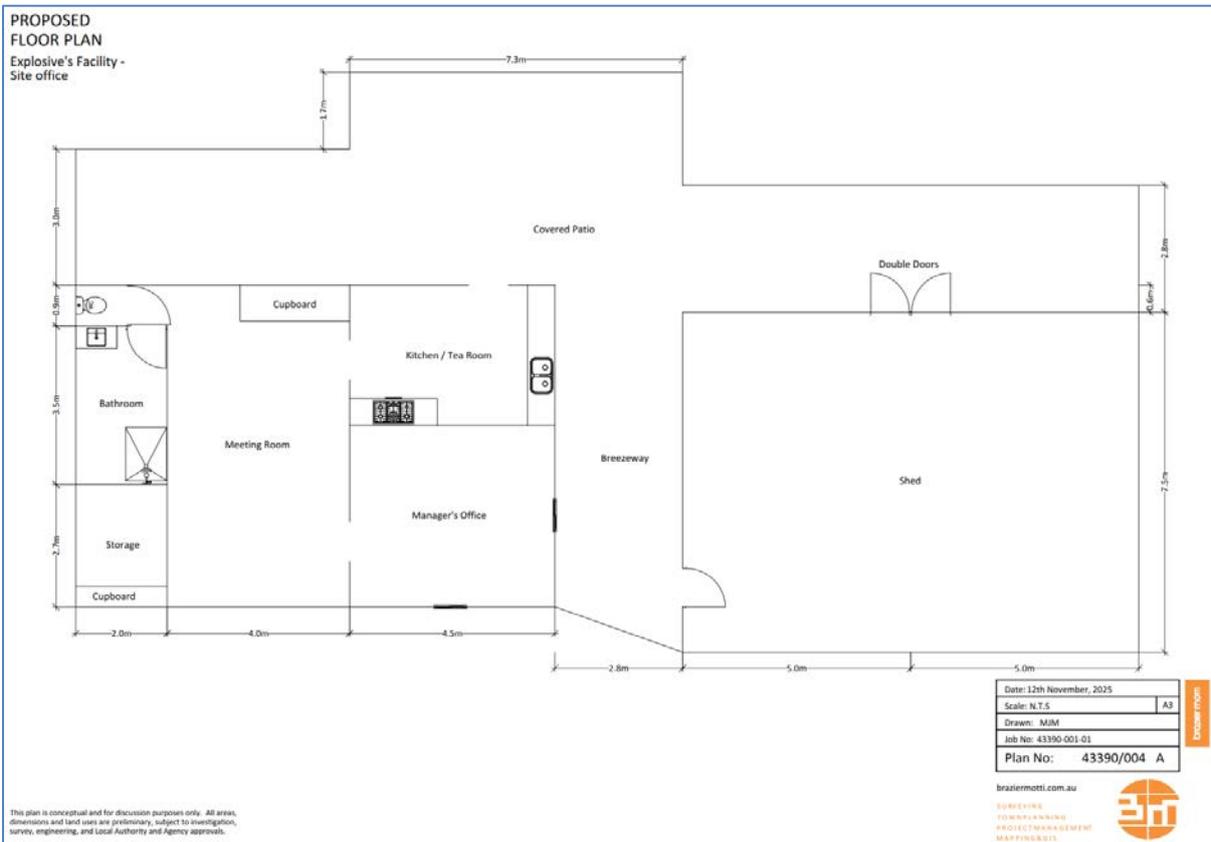
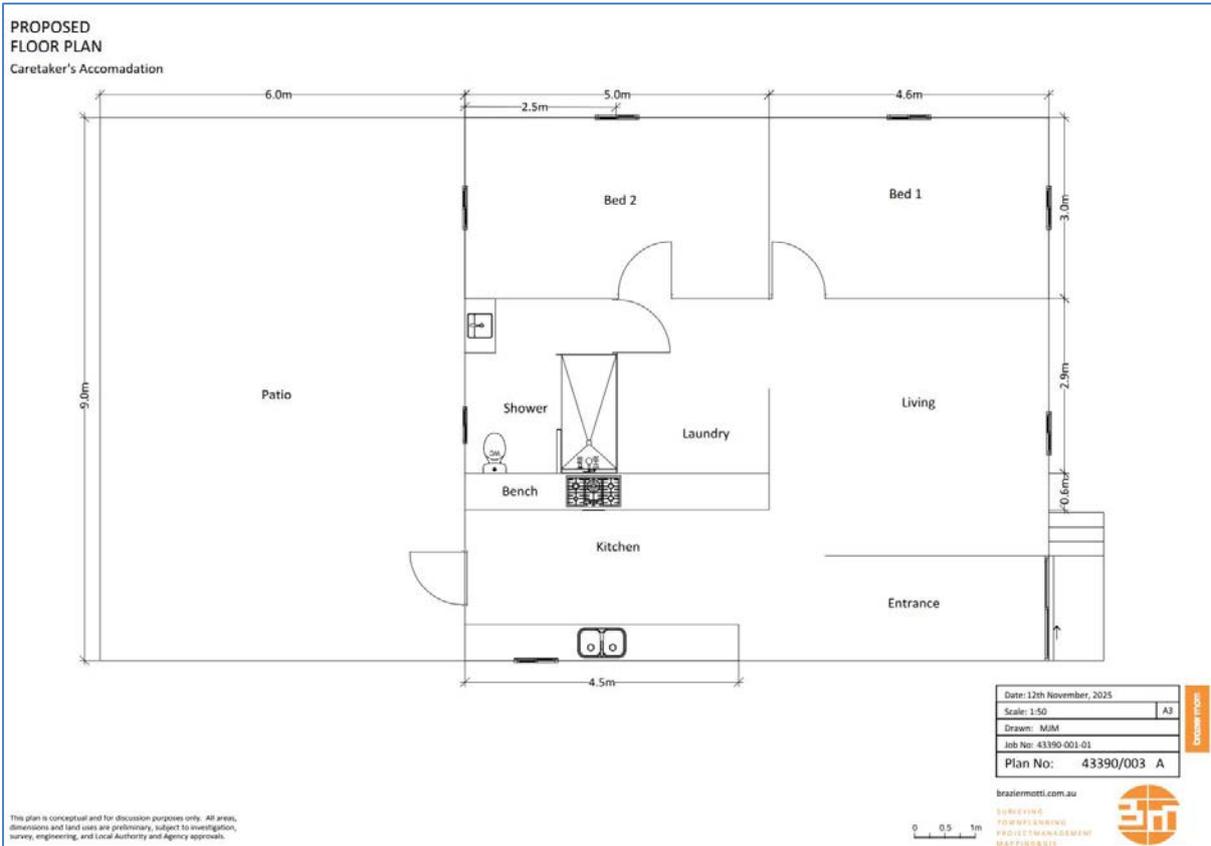
Appendix A Site Plan

Appendix B Low Flammability Plant Species List

Appendix C Summary of AS3959-2018 Construction Requirements for Bushfire Attack Level

Appendix A Site Plan





Appendix B Low Flammability Plant Species List

This list is intended as a general guide. It is essential to conduct independent research to identify fire-resistant species specific to the region of the subject site, as suitability varies across Queensland. Notably, all plants, whether native or exotic, will combust when exposed to extreme heat or flame; therefore, additional precautions may be required.

Ground covers and creeping plants
• <i>Casuarina glauca</i> prostrate, commonly known as grey she oak or marsh she oak
• <i>Anigozanthos</i> , commonly known as kangaroo paw
• <i>Carpobrotus glaucescens</i> , commonly known as pigface
• <i>Hardenbergia violacea</i> , commonly known as sarsaparilla or purple coral pea
• <i>Liriope muscari</i> , commonly known as lilyturf
• <i>Lomandra longifolia</i> , commonly known as spiny-headed mat-rush
• <i>Lomandra hystrix</i> , commonly known as mat-rush
• Varieties of <i>Brachyscome</i>
• Varieties of <i>Dampiera</i>
• <i>Dianella caerulea</i> , commonly known as blue berry lily
• Varieties of <i>Dianella prunina</i>
• <i>Dianella revoluta</i> , commonly known as blue berry lily or spreading flax lily
• <i>Dichondra repens</i> , commonly known as kidney weed
• <i>Einadia nutans</i> , commonly known as climbing saltbush
• <i>Hardenbergia violacea</i> , commonly known as false sarsaparilla, purple coral pea, happy wanderer, native lilac or waraburra
• <i>Scaevola aemula</i> , commonly known as fairy fan flower
• <i>Scaevola humilis</i> , commonly known as sandplain fan flower
• Varieties of <i>Cotyledon</i>
• <i>Myoporum insulare</i> , commonly known as boobialla, native juniper or blueberry tree
• <i>Eremophila glabra</i> , commonly known as kalbarri carpet
• <i>Eremophila debilis</i> , commonly known as winter apple
• <i>Elaeocarpus eumundi</i> , commonly known as eumundi quandong
• <i>Elaeocarpus prima donna</i> , commonly known as blueberry ash
• <i>Kennedia rubicunda</i> , commonly known as Dusky coral pea or red kennedy pea
• <i>Rhododendron hybrid</i> , commonly known as azalea
• Varieties of <i>Arctotis</i>
• Varieties of <i>Photinia</i>
• <i>Westringia fruticosa</i> , commonly known as native rosemary

Shrubs
• All varieties of Aloe
• Correa reflexa, commonly known as nativefuchsia
• Varieties of Acacia
• Nerium oleander, commonly known as oleander
• Varieties of Atriplex, commonly known as saltbushes
• Varieties of Escallonia
• Varieties of Maireana, commonly known as cottonbush
• Varieties of Eremophila, commonly known as emu bushes or fuchsia bushes
• Varieties of Grevillea
• Melaleuca nodosa, commonly known as prickly leaf paperbark
• Varieties of Syzygium
• Varieties of Photinia
• Varieties of Rhagodia
• Rhamphiolepis indica, commonly known as india hawthorn
• Strelitziaceae hutch
• Strelitzia banks
• Strelitzia nicolai
• Sambucus australasica, commonly known as yellow elderberry or native elderberry
• Varieties of Coprosma
• Varieties of Plectranthus
• Senna artemisioides, commonly known as silver cassia

Deciduous trees
• Brachychiton acerifolius, commonly known as the flame kurrajong
• Ulmus parvifolia, commonly known as chinese elm
• Morus alba, commonly known as the mulberry tree
• Eriobotrya japonica, commonly known as loquat
• Gleditsia triacanthos, commonly known as honey locust
• Trees from the genus Prunus, including ornamental cherries, plums and peaches
• Trees from the genus Malus, including apples and crab apples

Evergreen trees
• Grevillea robusta, commonly known as silky oak
• Melia azedarach, commonly known as cape lilac, white cedar, persian lilac or chinaberry
• Lophostemon confertus, commonly known as brush box, queensland box, brisbane box or pink box
• Tristaniopsis laurina, commonly known as water gum, kanooka or kanuka
• Rapanea variabilis, commonly known as muttonwood
• Varieties of Acacia
• Varieties of Acmena
• Varieties of Magnolia
• Cupaniopsis anacardioides, commonly known as tuckeroo or beach tamarind
• Elaeocarpus reticulatus, commonly known as blueberry ash
• Alectryon subcinereus, commonly known as native quince
• Callicoma serratifolia, commonly known as black wattle
• Canthium coprosmoides, commonly known as supple jack or sweet susie
• Cassine australis, commonly known as red olive berry or red olive plum
• Croton insularis, commonly known as Queensland cascarilla, native cascarilla bark or silver croton
• Cuttsia viburnea, commonly known as native elderberry
• Varieties of Citrus
• Denhamia celastroides, commonly known as denhamia or orange boxwood
• Diospyros australis, commonly known as black plum or yellow persimmon
• Eupomatia laurina, commonly known as bolwarra, grey beech or native guava
• Glochidion ferdinandi, commonly known as the cheese tree or buttonwood
• Guioa semiglauca, commonly known as guioa or wild quince
• Hodgkinsonia ovatiflora, commonly known as golden ash
• Hymenosporum flavum, commonly known as native frangipani or Queensland frangipani
• Petalostigma triloculare, commonly known as quinine berry, forest quinine or bitter bark
• Podocarpus elatus, commonly known as she pine
• Rhodosphaera rhodanthema, commonly known as yellow cedar, tulip satinwood or deep yellow wood
• Sarcopteryx stipata, commonly known as corduroy
• Scolopia braunii, commonly known as scolopia or brown birch
• Stenocarpus sinuatus, commonly known as white silky oak, tulip flower, white beefwood Or wheel of flower tree
• Streblus brunonianus, commonly known as the whalebone tree, axehandle wood or white handlewood
• Symplocos stawellii, commonly known as white hazelwood
• Symplocos thwaitesii, commonly known as buff hazelwood
• Varieties of Ficus (fig trees)

Appendix C Summary of AS3959-2018 BAL-12.5 Construction Requirements

Note: this is a summary of some portions of the standard - the building designer, builder and subcontractors should refer to AS3959-2018 in full prior to construction.

Subfloor supports

The Standard does not provide construction requirements for sub-floor supports where the sub-floor is enclosed in accordance with wall that conforms to the requirements for walls listed below or is enclosed with corrosion resistant steel, bronze or aluminium mesh with a maximum aperture of 2 mm.

Floors

The Standard does not provide construction requirements for concrete slabs on the ground.

Unenclosed subfloor space

The standard does not provide construction requirements for bearers, joists and floors that are greater than 400mm above finished ground level

External walls

External walls that are less than 400mm from the ground, decks, carport roofs and similar elements should be:

- (a) made of non-combustible materials (e.g. full masonry, brick veneer etc.) with a minimum thickness of 90 mm,
- (b) timber logs with a density of 680 kg/m³ and a minimum nominal thickness of 90mm; or
- (c) cladding that is fixed externally to a timber or metal frame and is:
 - (i) non-combustible; or
 - (ii) fibre cement a minimum of 6mm thick; or
 - (iii) bushfire-resisting timber.

Joints

All joints in the external surface material of walls shall be covered, sealed, overlapped, backed or butt-jointed.

Vents and weepholes

Vents and weepholes in external walls are to be screened with corrosion-resistant steel, bronze or aluminium mesh with a maximum aperture of 2 mm.

External glazed elements, assemblies and doors

Screens for windows and doors

Where fitted, screens for windows and doors shall have mesh or perforated sheet made of corrosion-resistant steel, bronze or aluminium with a maximum aperture of 2 mm.

Windows

Frame material for windows less than 400 mm from the ground, decks, carport roofs and awnings, window frames are to be made from bushfire-resisting timber, metal or metal-reinforced uPVC.

Where glazing is less than 400mm from the ground, decks, carport roofs and awnings, glazing shall be Grade A safety glass with a minimum 4 mm thickness.

The openable portions of windows shall be screened with a mesh with a max aperture of 2 mm made of corrosion resistant steel, bronze or aluminium.

Doors - side hung external doors, panel fold & sliding doors

Doors- shall be completely protected externally by a screen with a mesh with a max aperture of 2mm made of corrosion resistant steel, bronze or aluminium, **OR**

Door panel material shall be:

- (a) non-combustible; or
- (b) solid timber, laminated timber or reconstituted timber, having a minimum thickness of 35 mm for the first 400 mm above the threshold;
- (c) hollow core, solid timber, laminated timber or reconstituted timber with a non-combustible kickplate on the outside for the first 400 mm above the threshold; or
- (d) protected externally by a metal screen with a maximum aperture of 2 mm; or
- (e) fully framed glazed door panels with framing made from metal or bushfire resisting timber.

There is no requirement to screen the openable part of a door at this level.

Garage doors

The lower portion (within 400 mm of the ground) of vehicle access doors shall be made from:

- (i) non-combustible material; or
- (ii) bushfire-resisting timber; or
- (iii) fibre-cement sheet, a minimum of 6 mm in thickness; or
- (iv) a combination of any of items (i), (ii) or (iii) above.

All vehicle access doors to be protected with suitable weather strips, draught excluders, draught seals or brushes.

Roofs

The following apply to all types of roofs and roofing systems:

- (a) roof tiles, roof sheets and roof covering accessories shall be non-combustible,
- (b) the roof/wall and roof/roof junction shall be sealed, or otherwise protected to prevent openings greater than 2mm,
- (c) roof ventilation openings, such as gable and roof vents, shall be fitted with ember guards made of non-combustible material or a mesh or perforated sheet with a max aperture of 2mm made of corrosion resistant steel, bronze or aluminium.

Tiled roofs shall be fully sarked.

Sheet roofs shall:

- (a) be fully sarked with sarking, except that foil backed insulation blankets may be installed over battens; **OR**
- (b) have any gaps sealed at the fascia, or wall line, hips and ridges by:
 - (i) a mesh or perforated sheet with a maximum aperture of 2 mm, made of corrosion-resistant steel, bronze or aluminium (this may include gutter guard), or
 - (ii) mineral wool, or
 - (iii) other non-combustible material, or
 - (iv) -a combination of any of the above.

Roof penetrations

The following apply to roof penetrations:

- (a) roof penetrations, including roof lights, roof ventilators, roof-mounted evaporative cooling units, aerials, vent pipes and supports for solar collectors, shall be adequately sealed at the roof to prevent gaps greater than 3 mm.
- (b) openings in vented roof lights, roof ventilators or vent pipes shall be fitted with ember guards made from a mesh or perforated sheet with a maximum aperture of 2 mm, made of corrosion-resistant steel, bronze or aluminium.
- (c) glazed elements in roof lights and skylights may be of polymer provided a grade safety glass diffuser, complying with AS 1288, is installed under the glazing.

Eaves linings, fascias and gables

The following apply to eaves linings, fascias and gables:

- (a) gables shall comply with requirements for walls.
- (b) eaves ventilation openings are to be fitted with ember guards and be made of corrosion resistant steel, bronze or aluminium.

The Standard does not provide construction requirements for fascias, bargeboards and eaves linings.

Gutters and downpipes

The Standard does not provide material requirements for gutters and downpipes, with the exception of box gutters.

Box gutters are to be non-combustible and flashed at the roof junction with non-combustible material.

If installed, gutter and valley leaf guards are to be non-combustible.

Verandas, decks, steps, ramps and landings

Decking may be spaced. There is no requirement to enclose the subfloor spaces of verandas, decks, steps, ramps or landings.

Decking, stair treads and trafficable surfaces of ramps and landings less than 300 mm (measured horizontally at deck level) from glazed elements that are less than 400 mm (measured vertically) from the surface of the deck are to be made from:

- (a) of non-combustible material; or
- (b) of bushfire-resisting timber; or
- (c) a combination of items (a) and (b) above.

Water and gas supply pipes

Above ground, exposed water and gas supply pipes shall be metal.

AS 3959:2018	116
<p>APPENDIX F BUSHFIRE-RESISTING TIMBER (Normative)</p>	
<p>F1 GENERAL</p> <p>Bushfire-resisting timber is timber that is in solid, laminated or reconstituted form and has been tested and is deemed to be acceptable to withstand exposure up to a BAL—29 condition.</p> <p>Timber may be ‘bushfire-resisting’ by means of one or more of—</p> <ul style="list-style-type: none"> (a) the inherent properties of the material itself; (b) being impregnated with fire-retardant chemicals; or (c) the application of fire-retardant coatings or substrates. 	
<p>F2 TESTING</p> <p>The following applies:</p> <ul style="list-style-type: none"> (a) To satisfy the requirements for bushfire-resisting timber, timber shall be tested in accordance with AS/NZS 3837 and shall meet the following criteria: <ul style="list-style-type: none"> (i) The maximum heat release rate shall be not greater than 100 kW/m². (ii) The average heat release rate for 10 minutes following ignition shall be not greater than 60 kW/m² when the material is exposed to an irradiance level of 25 kW/m². (b) Where the timber has been altered by chemicals, the test samples shall be subjected to the regime of accelerated weathering described in Paragraph F3 except that where the timber is protected from the weather, as described in the AS 1684 series (for example, cladding protected by a veranda), accelerated weathering of the test samples is not required before being tested to AS/NZS 3837. <p>External timbers are deemed to be protected if they are covered by a roof projection (or similar) at 30 degrees or greater to the vertical and they are well detailed and maintained (painted or stained and kept well ventilated).</p> <p>NOTE: The purpose of testing is to assess timber performance rather than to simulate a bushfire. The irradiance set for the test is not to be considered to be correlated to the BAL.</p>	
<p>F3 ACCELERATED WEATHERING</p> <p>Where accelerated weathering is required before testing to AS/NZS 3837, external fire-retardant-coated substrates shall be subjected to the ASTM D2898 Method B weathering regime, with the water flow rate modified to be the same as that within ASTM D2898 Method A.</p> <p>NOTE: Accelerated weathering does not account for mechanical wear and tear within trafficable areas and care should be exercised when using coating materials.</p>	
<p>F4 BUSHFIRE-RESISTING SPECIES</p> <p>The species listed in Table F1 have been tested and have met the requirements of Paragraph F2.</p>	
© Standards Australia	www.standards.org.au

117	AS 3959:2018
<p>TABLE F1 BUSHFIRE-RESISTANT SPECIES</p>	
Standard trade name	Botanical name
Ash, silvertop	<i>Eucalyptus sieberi</i>
Blackbutt	<i>Eucalyptus pilularis</i>
Gum, red, river	<i>Eucalyptus camaldulensis</i>
Gum, spotted	<i>Corymbia maculata</i>
Ironbark, red	<i>Eucalyptus sideroxylon</i>
Kwila (Merbau)	<i>Intsia bijuga</i>
Turpentine	<i>Syncarpia glomulifera</i>

APPENDIX G

Q-D Assessment for Explosives prepared by Frontier Safety

brazier motti



Report

Hazard Assessment Impact Drill and Blast - Black River Magazine Storage

Document Reference: 251208-01

Status: Approved

Version: 2.0 (08 December 2025)

Owner: Director



Table of Contents

1	Summary	3
2	Site Description	3
3	Location.....	5
4	Hazardous Chemicals	6
5	Hazard Identification and Hazard Analysis	7
	Application of Accepted Codes	7
	Fume Modelling	7
	Blast Effects.....	7
	Qualitative Hazard Assessment.....	10
	Risk Assessments	10

1 Summary

- 1-1 Impact Drill and Blast have applied for a development application for a material change of use (MCU) with Townville City Council. The location of the proposed development is 91 Giesman Road, Black River.
- 1-2 The planned development includes two explosive storage magazines, each the size of freight container, with one magazine storing up to 2,000kg of high explosives of Division 1.1D and one magazine storing up to 20,000 detonators of Division 1.1B/1.4B/1.4S.
- 1-3 The hazard assessment considers the risk of hazard scenarios including fire, explosion, spill and contamination for the storage and handling of Class 1 explosives.
- 1-4 The explosives storage site will be managed and licensed by Impact Drill and Blast.

2 Site Description

- 2-1 Figure 1 below shows the aerial image of the land considered for the proposal. The site access is from Gieseman Road, with a dry creek running through the property from west to east feeding into Black River that is located outside the eastern boundary of the property.
- 2-2 There are three residences on the property. Currently there is generator power on site, with no power requirements for the explosives storage. Single phase power runs past the property to the north along Gieseman Road. All sewerage waste is captured on site.



Figure 1. Aerial image of 91 Gieseman Road, Black River.

- 2-3 The land is zoned as Rural Zoning – Mixed Farming and the surrounding land is zoned the same (Figure 2). There is no density of population or any areas of strategic interest that will be affected by this proposal.



Figure 2. Zoning Map from Townsville City Plan.

3 Location

The two storage magazines will be located in a secure fenced area on the site in the Proposed Explosives Storage as shown in Figure 3. The land for the roadway extension and storage compound is already cleared land and no vegetation removal will be required.

There are three residences on the property, these will not be affected by the proposed storage and shall be further assessed as part of the separation distance requirements for the explosive storage compliance to AS2187.1 (Figure 4).

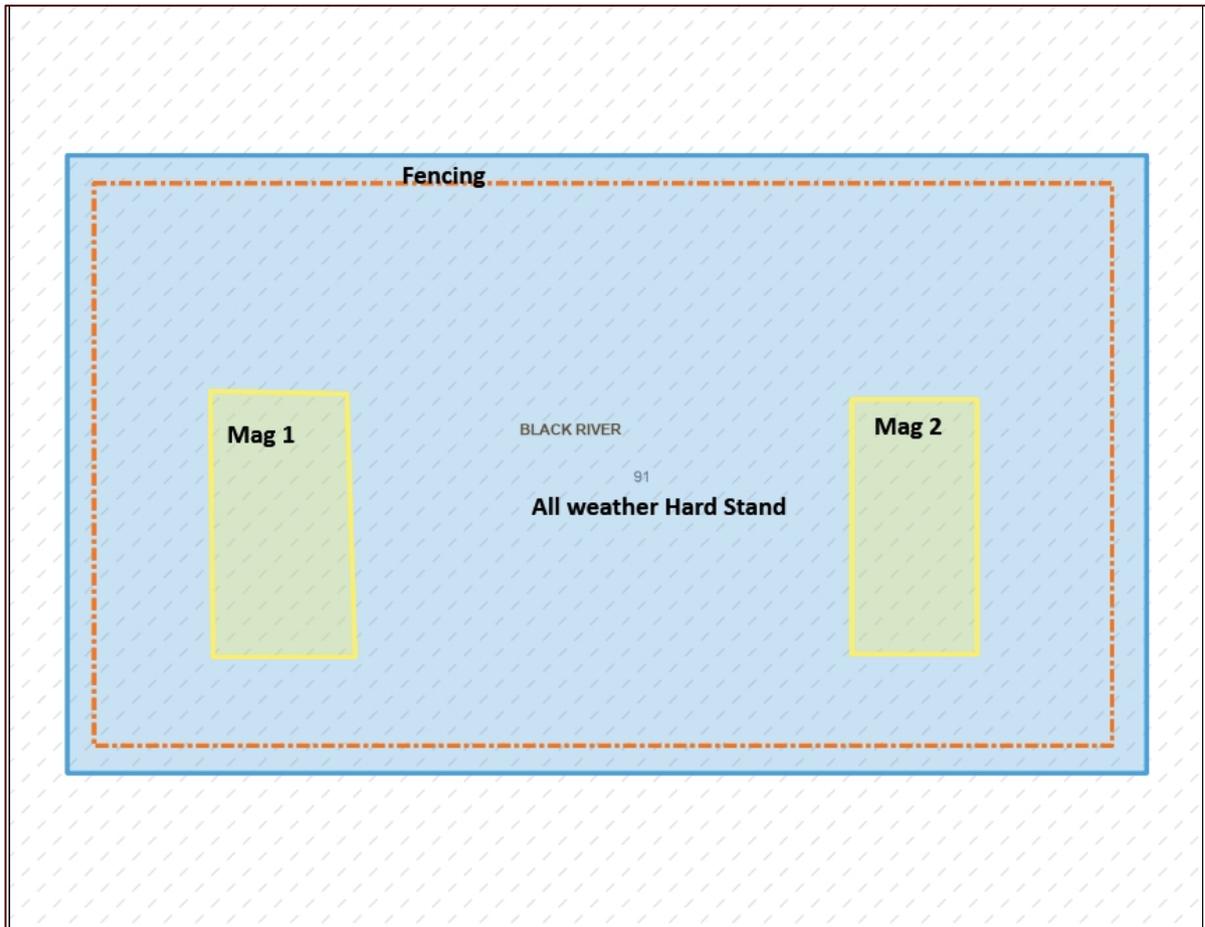


Figure 3. Proposed explosives storage compound.



Figure 4. Proposed site location for Explosives Storage.

4 Hazardous Chemicals

4-1 The following table lists the hazardous chemicals planned to be stored on site:

Chemical Name	UN Number	GHS Classification	DG Classification	Storage Volume	Storage Location
Boosters, without detonator	0042	Explosives – Division 1.1 Serious eye damage/irritation – Category 2A	Division 1.1D	2,000kg	High explosive magazine – MAG1
Detonating Cord	0065				
ANFO	0082				
Packaged emulsion	0241				
Non-electric detonators	0360	Explosives – Division 1.1	Division 1.1B/1.1B/1.4S	20,000 units	Detonator magazine – MAG2
Electric detonators	0255				
Electronic detonators	0030				

5 Hazard Identification and Hazard Analysis

- 5-1 The hazard assessment is conducted in accordance with the requirements of the following Queensland legislation:
- Work Health and Safety Act 2011
 - Work Health and Safety Regulation 2011
 - Explosives Act 1999
 - Explosives Regulation 2017
 - Environmental Protection Act 1994
 - Environmental Protection Regulation 2019

Application of Accepted Codes

- 5-2 Within the legislative requirements of the Explosives Regulation 2017 for explosives storage and handling, there are standards and codes to ensure compliance with health, safety and security. These standards and codes have been developed by experts to consider the hazards and appropriate risk control measures required for the storage and handling of these dangerous goods. Compliance with the codes or standards is considered valid in meeting the intent of the risk assessment to meet risk tolerability of SFARP.
- 5-3 The storage areas within the explosives storage facility shall comply with Australian Standard 2187.1: 1998 Explosives – Storage, Transport and Use, Part 1: Storage (AS2187.1).

Fume Modelling

- 5-4 The credible scenario for toxic dispersion is a fire involving the Class 1 explosives. In this scenario, gases of nitrogen oxides (NOx) will be released during the fire and will travel downwind.
- 5-5 Given the remote nature of the explosives storage facility, and with the land surrounding the storage cleared providing a reduction in fire risk to the facility, a fume study was not undertaken.
- 5-6 Any fire involving explosives would require an evacuation of the area and the Emergency Response Plan (ERP) for the facility will provide the details of the evacuation plan and escalation to the whole of site and surrounding area.

Blast Effects

- 5-7 The explosives storage is required to be separated from protected places where people and property not associated with the explosives storage are located. This requires compliance with Table 3.2.3.2 in AS2187.1 for the storage of explosives.
- 5-8 As shown in Figure 5 and Table 1, the separation distances for the site comply with AS2187.1. Further assessment will be undertaken as part of the explosives storage licence application to be submitted to the Explosives Inspectorate, Resources Safety and Health Queensland (RSHQ).



Figure 5. Separation distance map with compliance to AS2187.1 for the explosives storage.

Table 1. Separation Distances Compliance calculations for explosives storage.

Impact D&B Black River Explosives Storage – 1x HE magazine (2,000kg) and 1x detonator magazine (20,000 units)

Identify each Potential Explosion Site (PES)		Adjusted NEQ PES	Exposed Sites (ES)			Check required distances are met		
			Type	Details	Actual Distance	Distance required		Requirement Met?
						Description	Metres	
No Warning Explosion	Class 1 Storage	2,000 kg (HE Magazine)	Protected Works Class A	A. Gieseeman Road	160 m	Public Road	160 m	Yes
			Protected Works Class B	A. Residence 1 B. Residence 2 C. Residence 3 D. Neighbour to north	320 m 270 m 475 m 300 m	Residences surrounding the explosives storage	240 m	Yes Yes
			Vulnerable	B. Vulnerable facilities	>560 m	N/A	560 m	Yes
			Other Explosives Storage	E. Detonator Storage	>13 m	Unmounded storage	13 m	Yes

Qualitative Hazard Assessment

5-9 The following table describes the hazards identified related to hazardous chemicals:

Task	Hazard	Unwanted event
Storage of Class 1 explosives	Fire	Environmental harm, loss of product, toxic gas release, injury to people
	Explosion	Environmental harm, loss of product, injury to people
Transfer of Class 1 explosives articles to/from vehicle	Spill	Environmental harm, loss of product
	Fire/explosion	Environmental harm, loss of product, toxic gas release, injury to people

Risk Assessments

5-10 In addition to compliance with the codes listed in Section 5-3, Impact D&B will conduct a detailed operational risk assessment to ensure compliance with the storage and handling of explosives and hazardous chemicals.