BUSHFIRE MITIGATION REPORT
FM 6573-3
for
RED HILL RENEWABLE ENERGY PTY LTD
(ABN 86 675 077 291)
at
873 RED HILL ROAD
BORDOREN

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22/04/2026

TABLE OF CONTENTS

DISCLAIMER

1. INTRODUCTION

1.1. Address
1.2. Local Authority
1.3. R.P.D.
1.4. Site Area
1.5. Responsible Fire Authority
1.6. Potential Bushfire Hazard Rating.
1.7. Land Tenure
1.8. Adjoining Owners
1.9. Current Land Use
1.10. Fire Danger Index
1.11. Topography
1.12. Predominant Wind Direction
1.13. Slope
1.14. Aspect
1.15. Fuel Type
1.16. Threat Vegetation Location
1.17. Fire History
1.18. Location of access tracks
1.19. Location of fire breaks
1.20. Location of existing firefighting infrastructure
1.21. Historical and cultural sites
1.22. Koala Habitat

2. SITE AND HAZARD ASSESSMENT

2.1. Discussion with Responsible Fire Authority
2.2. Vegetation Types
2.3. Potential Bushfire Hazard Rating.
2.4. Building Construction
2.5. Radiant Heat Calculations
2.6. Ecological Requirements

3. RISK MANAGEMENT PLAN

3.1. Agencies / Persons Responsible
3.2. Bushfire Safety Objectives
3.3. Aims
3.4. Functional Requirements
3.5. Proposed Fire Fighting Infrastructure
3.6. Construct a Fire Trail/Emergency Access Trail
3.7. Fire Trail Identification
3.8. Minimum Vehicular Fire Trail Standards
3.9. Vegetation Management
3.10. Fencing
3.11. Fire Trail and Fire Break Maintenance
3.12. Building Construction
3.13. Street Numbering
3.14. Less Flammable Landscaping
3.15. Insurance
3.16. Emergency Response Procedures
3.17. Community Awareness Strategies
3.18. Administering Staff

4. FIRE MANAGEMENT ACTION SUMMARY AND SCHEDULE

5. APPENDICES

5.1. Form 15
5.2. Site Plans
5.3. Supporting Information

6. PROFILES

DISCLAIMER

Experienced fire fighters with extensive knowledge of building have prepared this Report. Their practical knowledge of fire fighting has been backed up by academic study.

However, fire is an element of nature. Small natural occurrences can disastrously affect the outcome of the best planning. Human actions similarly can have disastrous results.

Whilst every care has been taken in the formulation of this management report, there can be no guarantee that even the strictest adherence to its recommendations can guarantee safety of life and property.

The authors of this report accept no responsibility for any damage to life or property caused by fire or any other cause to persons using land or structures, which could in any way be construed to be the subject of this report.

The report has been commissioned as the land falls within an area deemed a fire risk by the local authority.

As such, it must be recognized that structures upon this land and those using the structures could be deemed at risk.

Logo by LogoInstant

Very Important Note;

This report is valid for the following periods;

a) A maximum time of 5 years from date of preparation.
b) The currency of the legislation referred to in Section 1 Report Brief
c) Changes to any legislation generally that may impact on the report outcomes.
d) Changes to vegetation, both on and off site, which may impact on the results of this report.
e) Any other changes that may impact on the report in any manner.

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THIS REPORT RELIES ON THE AS 3959 FOR THE CALCULATION OF CONSTRUCTION LEVELS.
ANY POSSIBLE ERRORS IN THE STANDARD ARE NOT THE RESPONSIBILITY OF THE AUTHOR.

THIS REPORT IS ONLY TO BE USED AND DISTRIBUTED AS A COMPLETE REPORT CONTAINING AS A MINIMUM SECTIONS 1,2,3,4 AND 5 (SECTIONS 5.1 & 5.2)

THIS REPORT IS NOT TO BE AMENDED IN ANY WAY BY ANY PERSONS OTHER THAN THE ORIGINAL AUTHOR.

THIS REPORT IS ONLY TO BE USED FOR PROJECTS IDENTIFIED IN THE REPORT AND REPRESENTED ON THE SITE PLAN ACCOMPANYING THE REPORT.

INTRODUCTION

This Fire Management Report has been written for the benefit of future occupants of this proposed site and developed in accordance with the requirements of;

- The Gladstone Regional Council Town Plan,
- SPP 07/2017.
- Queensland Planning Act 2016
- "Bushfire Resilient Communities Technical Reference Guide for the State Planning Policy State Interest" Natural Hazards, Risk and Resilience-Bushfire" published by QFES and Queensland Government.
- Natural hazards, risk and resilience-Bushfire State Planning Policy-state interest guidance material published by Queensland Government
- Bushfire Resilient Building Guidance for Queensland Homes published by CSIRO and Queensland Government
- The National Construction Code
- Queensland Bushfire Plan published by Queensland Government prepared by QFES.
- Australian Standard AS3959,
- International Fire Safety Engineering Guidelines
- Australian Fire Engineering Guidelines

The report has been prepared as supporting documentation for a Material Change of Use (Community Infrastructure-Battery Banks) Application. This version has been updated in relation to the proposed subdivision.

1.1. **Address:**
873 Red Hill Road
Bororen

1.2. **Local Authority**
Gladstone Regional Council

1.3. **R.P.D.**
Proposed Lots 1, 2 & 4 of Proposed Lots 1 to 4
cancelling Lot 132 on FD700

Site area
1.4. Not available

Responsible Fire Authority
1.5. Rural Fire Service Queensland via the rural fire brigade for rural fires and QFES for Structural fires.

Potential Bushfire Hazard Rating.
1.6. The hazard rating maps prepared for the Council show the ratings on this property ranging from Low to High and being in a Bushfire Hazard Buffer Area
The draft risk rating maps prepared for the State Government show the ratings on this property ranging from Low to High and being in a Bushfire Hazard Buffer Area

It must be noted that State Government is currently revising the mapping and there may be changes to mapped areas.

Land tenure.
1.7. Freehold

Adjoining owners are:
1.8. Freehold

Current Land Use:
1.9. Farm

Fire danger Index
1.10. FDI 53 (QFES Catalyst)

Topography
1.11. Plain to Gorges and Mountains, with the proposed development being generally in the areas described as Plain and Undulating.

1.12. Predominant Wind Direction

The predominate wind direction is from the South East. In times of severe fire weather, the wind direction will be from the North to South West. The Topography will create microclimates, which will cause swirling, which will modify the apparent wind direction according to primary direction and velocity.

1.13. Slope

-5 degrees
Upslope

1.14. Aspect

East and West and variable.

1.15. Fuel Types

REGIONAL ECOSYSTEM	VHC	VHC DESCRIPTION	SURFACE FUEL LOAD	TOTAL FUEL LOAD	% COVER	EFFECTIVE SURFACE FUEL LOAD	EFFECTIVE FUEL LOAD
12.3.3	16.2	Eucalyptus dominated woodland on drainage lines and alluvial plains	7.5	11.6	85		
12.3.7	16.2	Eucalyptus dominated woodland on drainage lines and alluvial plains	7.5	11.6	15		
TOTAL FUEL LOAD						7.5	11.6

Predominate Vegetation Grasslands.

1.16. Threat Vegetation Location

Central Southern Area (proposed Lots 1 & 2)
and
Grasslands are in the balance areas.

1.17. Fire History

There is evidence of substantial fires that have involved large portions of the site- see fire scar mapping.

1.18. Location of Access Tracks

The site is served by an unsealed access road from a sealed road system.
There are a series of existing access tracks across the site.

1.19. Location of Fire Breaks

There are no formal firebreaks.

1.20. Location of existing firefighting Infrastructure

There is no formal firefighting infrastructure.

1.21. Historical and Cultural Sites

There is no evidence of Historical and Cultural sites on the property.

1.22. Koala Habitat

The site is not located in a Koala Habitat Area
.

2. SITE AND HAZARD ASSESSMENT

2.1. Discussion with Responsible Fire Authority

The fire management report has not been discussed with the First Officer of the Rural Fire Brigade, due to a Commissioners Directive in relation to advice provided by Rural Fire Brigade members.
We have unsuccessfully attempted to contact the Rural Fire Service at Area Director and Regional Inspector level by email and phone.

2.2. Vegetation Types

The vegetation type predominate to this site are as scheduled in section 1.15.

2.3. Potential Bushfire Hazard Rating.

Desktop study, site inspection and assessment against the State Planning Policy Mapping Methodology generally confirms the intent of both Local Government and State Mapping in that the area is in a Potential Bushfire Hazard Area, and the relevant aspects required for Town Planning and Building are to be addressed.

2.4. Building Construction

2.4.1. Proposed buildings and battery banks situated within the site may be in a Designated Risk Area.

2.4.2. There is a requirement that certain Buildings within this area be constructed in accordance with the National Construction Code/Building Code of Australia, which refers to either the Australian Standard for Construction in Bushfire Prone Areas (AS 3959) or NASH Standard-Steel Framed Construction in Bushfire Areas as Deemed to Satisfy Solutions.

2.4.3. The levels determined effect the types and usage of materials in relation to the type of Bushfire Attack, which may occur as assessed under the Standard. The Level of Bushfire Attack is assessed taking the vegetation types, slope, and distance from vegetation into account. The most common elements affected are Windows and flyscreening, with some restrictions on cladding and timber types. A comprehensive breakdown is available in either the National Construction Code, the Australian Standard for Construction in Bushfire Prone Areas or NASH Standard-Steel Framed Construction in Bushfire Areas.

2.4.4. Note that the Building Code of Australia only requires Classes 1,2 and 3 buildings, certain Class 9 buildings and Class 10a building associated with those buildings to comply with the bushfire provisions of the NCC /BCA.

2.4.5. The assessment of Building and relevant Town Planning requirements for bushfire is to be conducted at time of Building Approval Application and are not generally covered by this report.

2.4.6. Work Buildings may be required to comply with the *"Queensland Development Code, Mandatory Part 3.7 Farm buildings and vehicle storage farm sheds,"* where and as applicable under that code.

2.4.7. The Battery Bank development is the subject of a separate hazard engineering report prepared by Arriscar addressing the State Code 27 and QFD.

2.5. Radiant Heat Calculations

Calculations are based on an advised State requirement for a 100m wide buffer around the proposed development areas.

2.5.1. FDI 53

2.5.2. Vegetation Classification Site Specific Fuel Loads

2.5.3. P**redominate vegetation Central Southern Area**

2.5.4. Land slope Upslope
-5 degrees

Distance of building from Predominate vegetation class (m) (Vegetation Management Zone)	**Radiant Heat Impact Kw/m2**
-<100	0.79

2.5.5. Predominate Vegetation Grasslands

2.5.6. FDI 63

Distance of building from Predominate vegetation class (m) (Vegetation Management Zone)	**Radiant Heat Impact Kw/m2**
-<100	0.24

2.6. Ecological Requirements

There are potential specific ecological requirements involving potential contamination of waterways by waterborne debris and contaminates because of an equipment or bushfire and fire fighting run off.

Note;
The Category of Bushfire Attack referred to in the Australian Standard is different to the Hazard/Risk area referred to above.

Extensive modification of the existing vegetation types including that on adjoining sites could result in a change of Category of Bushfire Attack and therefore variation in the Level of construction required.

It is the responsibility of the owner of each individual site to ensure that plantings after their occupation of the site do not reduce the safety of their buildings in a manner, which could require a higher level of Construction than that originally utilised.

3. RISK MANAGEMENT PLAN

3.1. Agencies / Persons Responsible

The responsible Fire Authority is the Rural Fire Service Queensland through the Rural Fire Brigade being responsible for Bush Fires and the Queensland Fire and Emergency Service being responsible for Structural Fires

It is the responsibility of the Developers and Owners of the properties to ensure that the relevant measures required by this Management Report are in place prior to inspection by the Council and the Building Certifier and to ensure that those measures are in place prior to the occupation of any buildings, which are the subject of this report. It is the responsibility of Council and Building Certifiers to ensure that relevant measures within their responsibility are in place prior to the issuance of any certification.

3.2. Bushfire Safety Objective

The objective of this report is to minimise potential risk to life and property by protecting the buildings from the effects of bushfire.

3.3. Aims

The aims to achieve this objective are to mitigate the effect of the bushfire attack mechanisms of: -

3.3.1. Radiant Heat
3.3.2. Direct Flame Contact
3.3.3. Wind
3.3.4. Ember Attack
3.3.5. Smoke

3.4. Functional Requirements

The functional requirements to achieve this objective are: -

3.4.1. The provision of safe conditions for fire fighters
3.4.2. The provision of safe conditions for residents
3.4.3. Ensure adequate and safe access to and from the property.
3.4.4. Ensure adequate and safe water supply to the property and the establishment of firefighting water reserves.
3.4.5. Provide a system of fire breaks and trails to protect the building component.
3.4.6. Remove vegetation that is considered dangerous and a hazard in Fire Conditions
3.4.7. To ascertain the required standard of construction of the buildings in accordance with the requirements of the National Construction Code and the Australian Standard for Construction in Bushfire Prone Areas or the provision of a satisfactory alternative solution
3.4.8. Facilitate the return to “normalcy “

3.5. Proposed Fire Fighting Infrastructure

3.5.1. Generally

3.5.1.1. Each work-related building is to be provided with a minimum dedicated firefighting capacity of 10,000l or as required under the Queensland Development Code.
3.5.1.2. Each residential building is to be provided with a minimum dedicated firefighting capacity of 10,000l.
3.5.1.3. Pools and dams are not suitable for firefighting due to potential water quality, chemistry issues, and reliability of supply.
3.5.1.4. The tank storage can comprise part of a larger tank providing the normal outlet is positioned to reserve 22,500l in the bottom for firefighting purposes only. Provide a 50mm male cam lock fitting outlet with isolating valve for fire brigade purposes only.
3.5.1.5. The tank is to be of concrete.

3.5.2. Storage Battery Installations

3.5.2.1. Batteries are to be installed in a Fire and explosion rated shelter, specifically designed to suit the fire characteristics of Lithium-Ion batteries. It is recommended that the shelter is a combination of concrete walls and earth berms.
3.5.2.2. It is recommended that heat active sprinkler systems are installed.
3.5.2.3. The installation is to contain the potential spread of contaminates that are a potential by product of a fire and consequential extinguishment
3.5.2.4. A buffer area (width designed by a fire engineer) is to be provided separating the battery installation and adjoining infrastructure.

3.5.3. Fire Appliances

3.5.3.1. It is highly recommended that site management has a minimum of 2 x 4WD firefighting appliances specifically designed to suit the terrain and specific potential uses including bushfire and battery bank firefighting, along with staff fully trained in their operation and use.

3.6. Construct a Fire Trail/Emergency Access track.

3.6.1. New fire trails are to be established to, around and between the battery banks. These trails are to comply fully with the standards as set out in this Report.

3.6.2. NO WORKS CAN BE CARRIED OUT ON ADJOINING PROPERTIES UNLESS FORMAL APPROVAL IN PERPETUITY IS PROVIDED AND ATTACHED TO THE LAND TITLE

3.7. Fire Trail and Threat Identification

3.7.1. Install and maintain permanent signage at each end and at intersections advising the purpose and location of the trail, generally as indicated on the plan that forms part of this report. Fire trails are required to be numbered and signposted. If the site has or is required to have fire trails, a 50mm diameter (nominal) capped CHS galvanised steel signpost 1.8m in length, concreted to a depth of 600mm is to be installed at every entrance to a fire trail from a roadway or property boundary. Should there be an intersection of fire trails then each branch of a trail is to have a signpost installed. Where the trail connects with a road or boundary the signpost is to be within 2m of the boundary. At an intersection the signpost is to be within 5m of the intersection.

3.7.2. Gryphon Energy will allocate trail numbers and install the numbering on the post.

3.7.3. Other fire trail related signage is to be installed complete.

3.7.4. Signage is to comply with Section 3.8 Sign Types - Fire Trail Signage of the GCCC Natural Areas Management Unit Signage Guidelines (Page 16) a copy of which is attached as an appendix at the rear of this report.
(Note that the reference to the Gold Coast Guidelines is due to the intention by QFES/RFSQ to have this as the standard for the whole of Queensland)

3.7.5. Trail Number and Key Point signage is to be as specified. The symbols on other signs are to comply with the Queensland Fire and Rescue Service Field Incident Guide Page 191 'Mapping Symbols' a copy of which is attached as an appendix at the rear of this report.

3.7.6. Master identification signs showing a plan of the whole of the site and identifying buildings, trails, identification signs and hydrant locations are to be located at the Helicopter Service Area. The master sign should be a minimum of 1200mm high and 1500mm wide, with the lower edge 1000mm above ground.

3.7.7. Power Lines are to have markers as appropriate for aerial identification.

3.7.8. Warning signs in relation to access and appropriate safety and suppression methods during a potential battery bank fire are to be provided at each access point.

3.7.9.

3.8. Minimum Vehicular Fire Trail Standards

The Fire/Maintenance trail has: -

3.8.1. A minimum width of 6m cleared of midstorey vegetation.

3.8.2. A minimum trafficable width of 4m.

3.8.3. A minimum height of 4.8m

3.8.4. A maximum gradient of 16% or one that has been satisfactorily test driven with the type of Fire Service Appliance that would be utilised on the site during a fire event with adequate drainage to prevent soil erosion and minimise ongoing trail maintenance.

3.8.5. Turning /passing areas at a maximum of 400m with a maximum gradient of 5%

3.9. Vegetation management

3.9.1. Any grass and existing mid storey vegetation within 100m of the battery banks and associated infrastructure shall be always kept to a maximum of 100mm.

3.9.2. Existing non rainforest trees within this area are to be reduced to give a noncontinuous canopy cover between trees with a total cover of less than 30% of the area.

3.9.3. Generally, no trees that are of protected size are required to be removed to comply with the above requirements, subject to the comments below in relation to wind during a bushfire event.

3.9.4. The above vegetation management scenario will produce a Low Threat scenario like *"maintained public reserves and parklands"* as cited in section 2.2.3.2(f) of AS 3959.

3.9.5. All other grass in unforested areas to be always kept to a maximum of 300 mm by slashing and/or grazing to 100m from the building.

3.9.6. All dead and damaged timber to be removed from the building envelope and the surrounding areas indicated to be fuel reduced and removed from site.

3.9.7. NO WORKS CAN BE CARRIED OUT ON ADJOINING PROPERTIES UNLESS FORMAL APPROVAL IN PERPETUITY IS PROVIDED AND ATTACHED TO THE LAND TITLE

3.9.8. Requirements noted above may be subject to State and Local Authority approval. Those approvals must be obtained prior to implementation of any of these measures.

3.9.9. Refer to Sections 14 and 19 of the Planning Act 2016 in relation to Local Authority Approval.

3.9.10. The management referred to above is regarded as "Essential Management "(necessary to remove or reduce the imminent risk that the vegetation poses of serious personal injury or damage to infrastructure" under the Sustainable Planning Regulation Schedule 24. It is recommended that the owner register any clearing work with www.dnrm.qld.gov.au, "Vegetation management notification form for self-assessable codes".

Under changes to **Planning Regulation 2017 effective December 13, 2019**, permitted operational work includes the following:

Schedule 6, Part 3, Section 20A - Operational work for necessary firebreaks or fire management lines

Operational work that is clearing native vegetation if—
(a) the clearing is necessary for—
(i) establishing or maintaining a necessary firebreak to protect infrastructure, other than a fence, road or vehicular track, and the maximum width of the firebreak is equal to 1.5 times the height of the tallest vegetation next to the infrastructure, or 20m, whichever is the wider; or
(ii) establishing a necessary fire management line, and the maximum width of the clearing for the fire management line is 10m; and
(b) the clearing—
(i) is on freehold land; or
(ii) is on indigenous land; or
(iii) is on land leased under the Land Act 1994 for agriculture or grazing purposes; or
(iv) is on land leased under the Land Act 1994, other than for agriculture or grazing purposes, and is consistent with the purpose of the lease; or
(v) is on trust land under the Land Act 1994, other than indigenous land, is carried out, or allowed to be carried out, by the trustee and is consistent with achieving the purpose of the trust; or
(vi) is on unallocated State land and is carried out, or allowed to be carried out, by the chief executive of the department in which the Land Act 1994 is administered; or
(vii) is on land that is subject to a licence or permit under the Land Act 1994 and is carried out by the licensee or permittee.

As an example, with a height of the tallest vegetation being between 30 – 35m, the width of clearing would be calculated as between 45 – 52.5m.

*Under **Planning (Spit Master Plan and Other Matters) Amendment Regulation 2019 (Subordinate Legislation 2019 No.243)** amends Schedule 6 Part 3 stating that "Development local categorising instrument is prohibited from stating if the above operational work is assessable development".*

Under Schedule 7 Part 3 this is placed in context, stating that *the above operational work is* accepted development.

It must be noted that the distances noted above in relation to 20m, and vegetation height are not related to distances regarding radiant heat impacts but relate more to damage that may occur from a tree falling.
In relation to bushfire this could be from wind which is one of the attack mechanisms of bushfire and could be exacerbated by the drying impacts of a bushfire loosening tree roots through drying out of the soil.

Note. The major fire threat to this development is from ember attack.

Recent research (Project Vesta) indicates that tree canopy without mid storey and surface fuels forms an important filter for control of ember attack, which is responsible for more than 90% all bushfire related house fires.

3.10. Fencing

Any boundary fencing located adjoining bushland, or a fire access trail is to be.

3.10.1. A maximum of 1000mm high
3.10.2. At least 75 % transparency
3.10.3. Contain at least 1 personal gate each 80m.
3.10.4. Fencing materials to be non-combustible materials or wood compliant with Appendix F of AS 3959.
3.10.5. No CCA treated timbers are to be used due to the potential toxicity of the products of combustion

3.11. Runoff Treatment

Provisions such as detention basins are to be designed and located to prevent runoff containing possible bushfire and fire contaminants from entering watercourses in accordance with the relevant State Codes.

3.12. Fire Trail and Fire Break Maintenance

3.12.1. The existing Driveway and any proposed driveways are to be always kept in a condition suitable for 2wd Heavy Vehicles.
3.12.2. The fire trails are to be kept always mowed to a maximum of 50mm and to be kept in a manner suitable for 4wd Fire Vehicles and to the satisfaction of the Fire Brigade.

3.13. Less Flammable Landscaping

Any new landscaping within the site is to be Less Flammable, in accordance with the list enclosed as an Appendix at the rear of this Report, rainforest species, or cultivated gardens, and comply with the requirements of *" Bushfire Resilient Communities Technical Reference Guide for the State Planning Policy*

State Interest" Natural Hazards , Risk and Resilience-Bushfire" published by QFES and Queensland Government, and "Natural hazards, risk and resilience-Bushfire-Assessment Benchmark 5" which cite a maximum Fuel Load of 8t/ha for revegetation or rehabilitation within bushfire prone areas.
"Bushfire Resilient Building Guidance for Queensland Homes" published by Qld State Government provides a schedule of species in Appendix E.
https://www.qra.qld.gov.au/bushfireguideline

3.14. Insurance

Failure to comply with this management report may have a detrimental effect upon the Insurance of the subject Buildings.

3.15. Emergency Response Procedures

In the event of Fire Emergency, assistance is to be obtained by dialling 000.

3.15.1. The owner should read thoroughly the brochures contained and those recommended at the rear of this report. They contain valuable information that could assist in the saving of lives and property in a fire event!

3.16. Community Awareness Strategies

3.16.1. The operators are to contact RFSQ at Regional, Area, and Local levels to fully brief on the development including proposed fire mitigation measures. This is to include site visits and regular familiarisation tours, intervals to be determined by RFSQ.

3.17. Administering Staff

It is the responsibility of the developers and owners to ensure compliance with this Report, ensure that site managers are provided with a copy of this report, are aware of the requirements, and manage the requirements in conjunction with RFSQ.

At all times a continuing relationship should be maintained with QFES and RFSQ.

Site Staff should be trained in initial firefighting procedures and receive continuing development and currency training.

It is the responsibility of the ensuing owners of the properties to maintain the properties in the conditions outlined in this report.

4. FIRE MANAGEMENT ACTION SUMMARY AND SCHEDULE

DEVELOPMENT REQUIREMENTS	INFRASTRUCTURE REQUIREMENTS	MAINTENANCE
Provision of fire access trails All dead and damaged timber to be removed from the areas indicated to be mowed and removed from site. Signs placed at trails indicating emergency access. Provision of Fire Fighting Water supply tanks	Emergency Fire Fighting supplies Vehicle access around Site	Regular mowing and maintenance of the vegetation management areas as set out in this report. Fire trail access to be kept clear and accessible to satisfaction of the Fire Brigade. Construction materials are to be maintained in “as new “condition to preserve the integrity of the relevant materials.

5. APPENDICES

5.1. Site Plans

5.2. Supporting Information:

- 5.2.1. Radiant Heat Tolerance Chart
- 5.2.2. Radiant Heat Calculation printouts
- 5.2.3. Fuel Load Calculations

Note. These items below are referenced for information purposes only and are not to be construed as being part of the management report.
This information is generic and not provided for approval purposes.
It is only provided for end user knowledge and only included within the report hardcopy.

- 5.2.4. Planning Regulation Fact Sheet December 2019
- 5.2.5. Prepare. Act. Survive
- 5.2.6. Rural property Fire Management Guide 2010
- 5.2.7. Notes for Landholders
- 5.2.8. Bushfire Action Guide
- 5.2.9. Bushfire Safety in Urban Fringe Areas
- 5.2.10. Water + Power -Vital for Fire fighting
- 5.2.11. Less Flammable Vegetation
- 5.2.12. Fire Retardant Native Plants
- 5.2.13. Tree selection for Fire-Prone Areas
- 5.2.14. Bushfire Resilient Building Guidance for Queensland Homes Appendix E
- 5.2.15. First Draft (specifying timber in bush fire zones)
- 5.2.16. External water spray system
- 5.2.17. Fire Retardant Coating Solutions
- 5.2.18. Archicentre Bushfire Design Guide
- 5.2.19. Section 3.8 Sign Types - Fire Trail Signage of the GCCC Natural Areas Management Unit Signage Guidelines (Page 16)
- 5.2.20. Trail Number and Key Point signage
- 5.2.21. Bushfire Hydrant detail
- 5.2.22. Tank detail
- 5.2.23. Recycled Water for Firefighting
- 5.2.24. Sample Easement Document
- 5.2.25. Bushfire Windows and Shutters
- 5.2.26. A guide to retrofit your home for better protection from a bushfire.
- 5.2.27. FireFly BAL-FZ System
- 5.2.28. Bushfire Planning and Design Certification Scheme Update
- 5.2.29. Eaves Water System
- 5.2.30. Aussi Ember Guard
- 5.2.31. The Australian “False Alarm: the great rainforest fire that wasn’t”.
- 5.2.32. Hijacking Australian 2019 Bushfire Tragedies to Fearmonger Climate Change
- 5.2.33. Bushfires have been in Australia for over 60 million years.

We also recommend that the landholder obtains and reads the following;

- 5.2.34. Bushfire Hazard Planning in Queensland
- 5.2.35. Protecting your home against Bushfire

Both available from the Dept. of Local Government and Planning, and

- 5.2.36. Fire in Bushland Conservation

Available from Queensland Heritage Trust.

- 5.2.37. Bushfire Resilient Building Guidance for Queensland Homes

https://www.qra.qld.gov.au/bushfireguideline

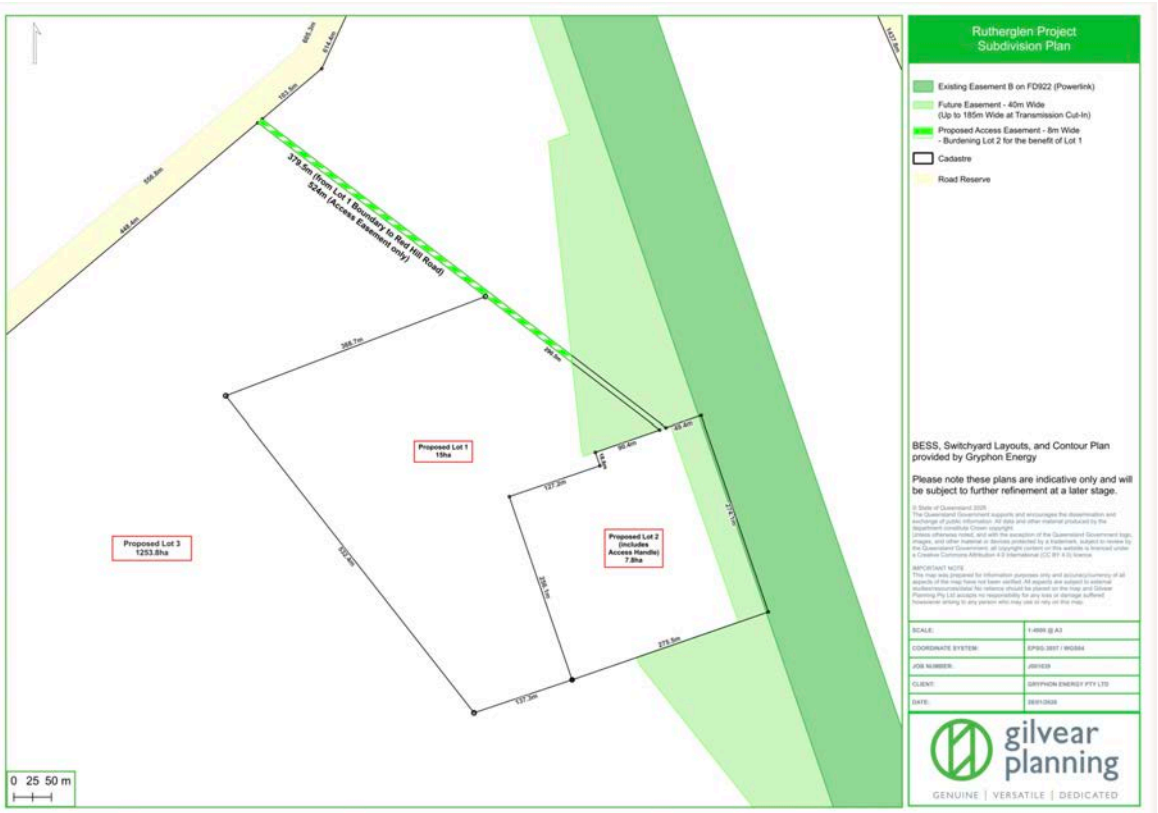
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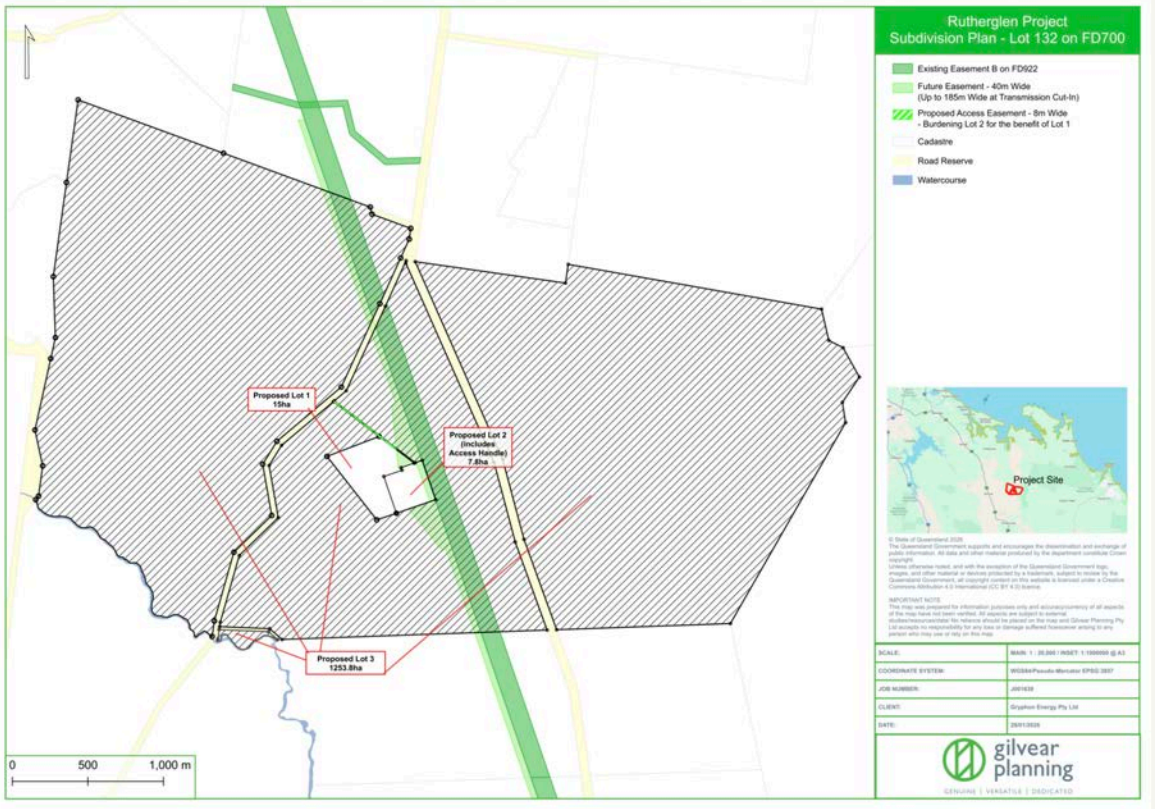
E J Bottcher

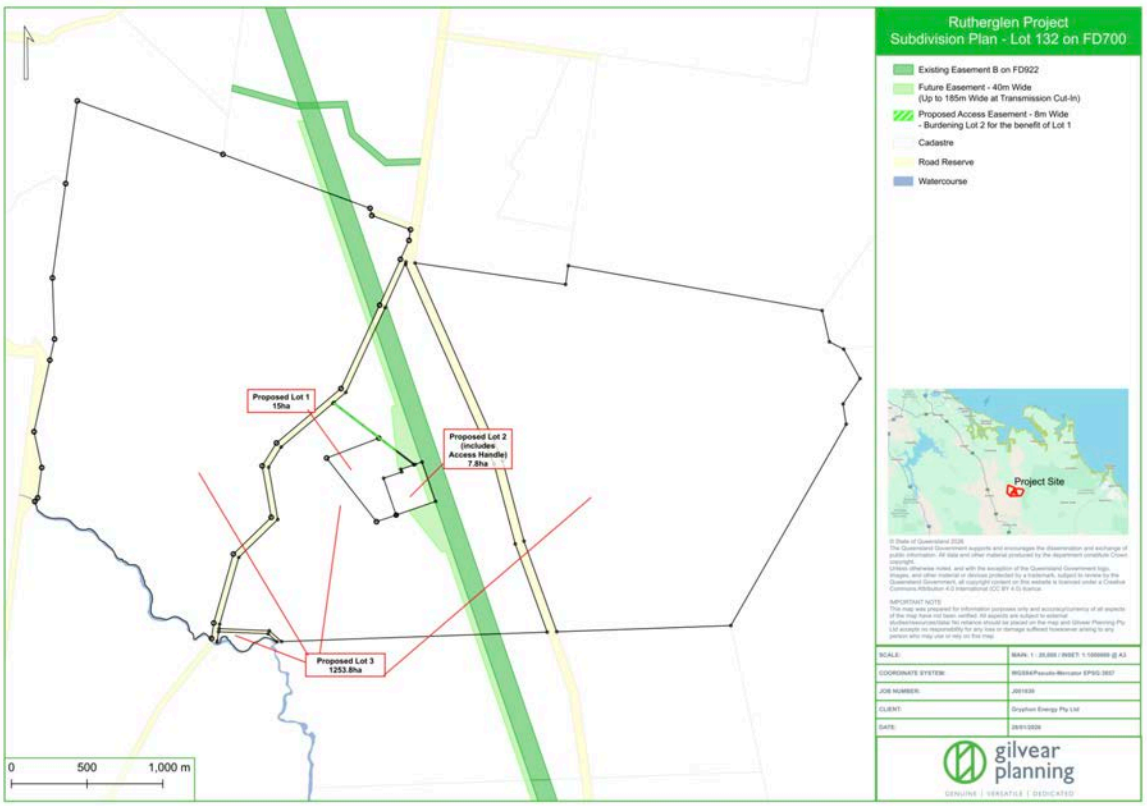
……..
Eldon Bottcher
Grad. Dip. DBPA (UWS) Dip. Arch. (QIT), Cert. R.F.M. (USQ), F.R.A.I.A., M.A.I.E.S. AIFireE
Architect
BPAD-L3 Practitioner

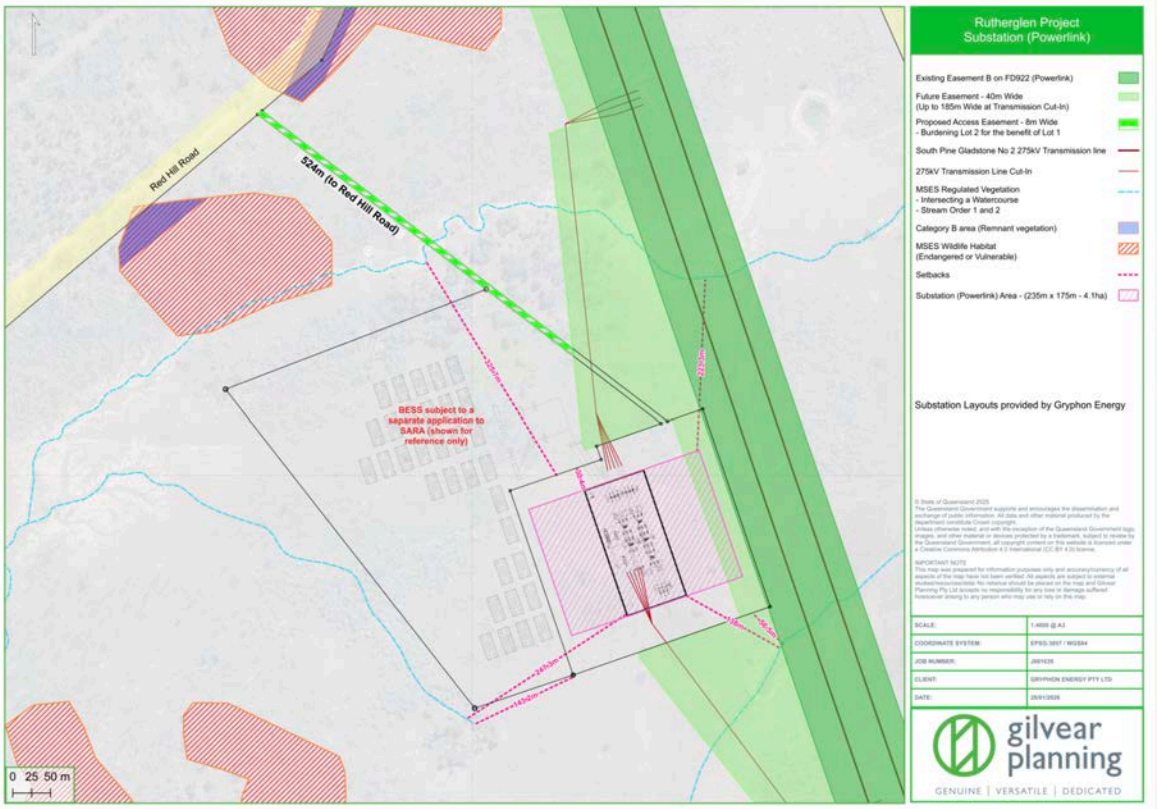
BPAD Bushfire Planning & Design Accredited Practitioner Level 3

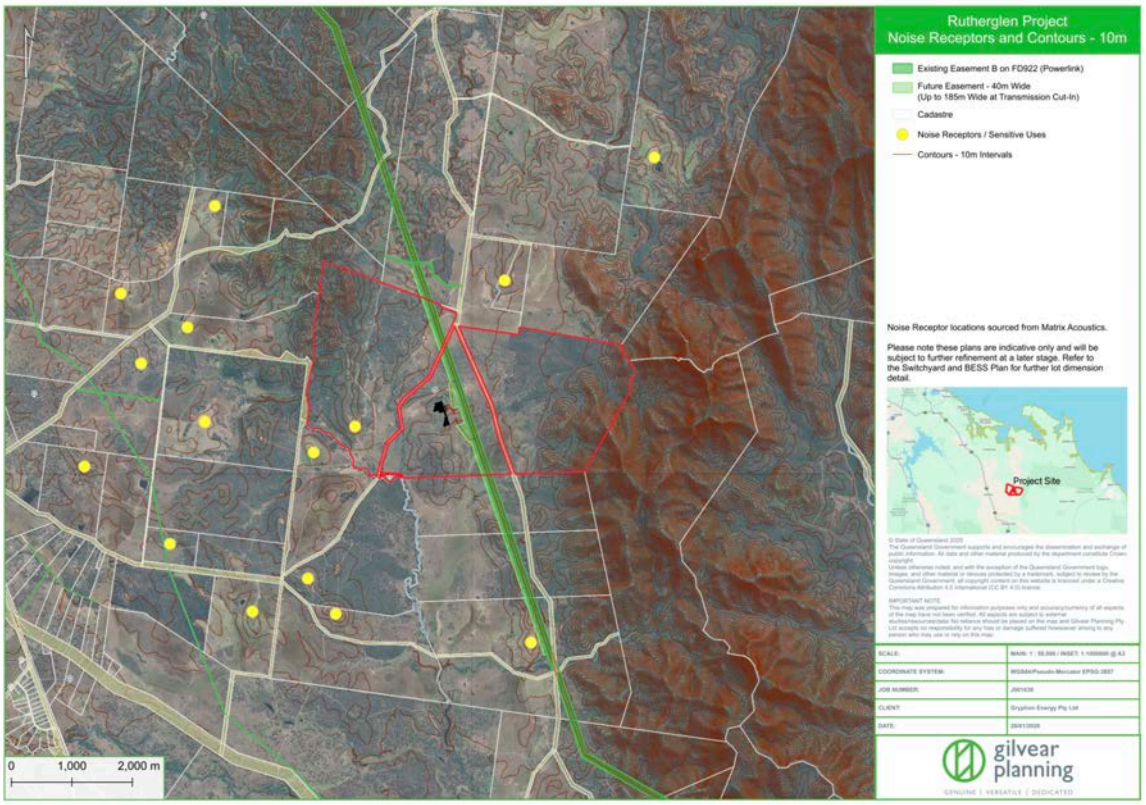
APPENDIX 5.1
SITE PLANS

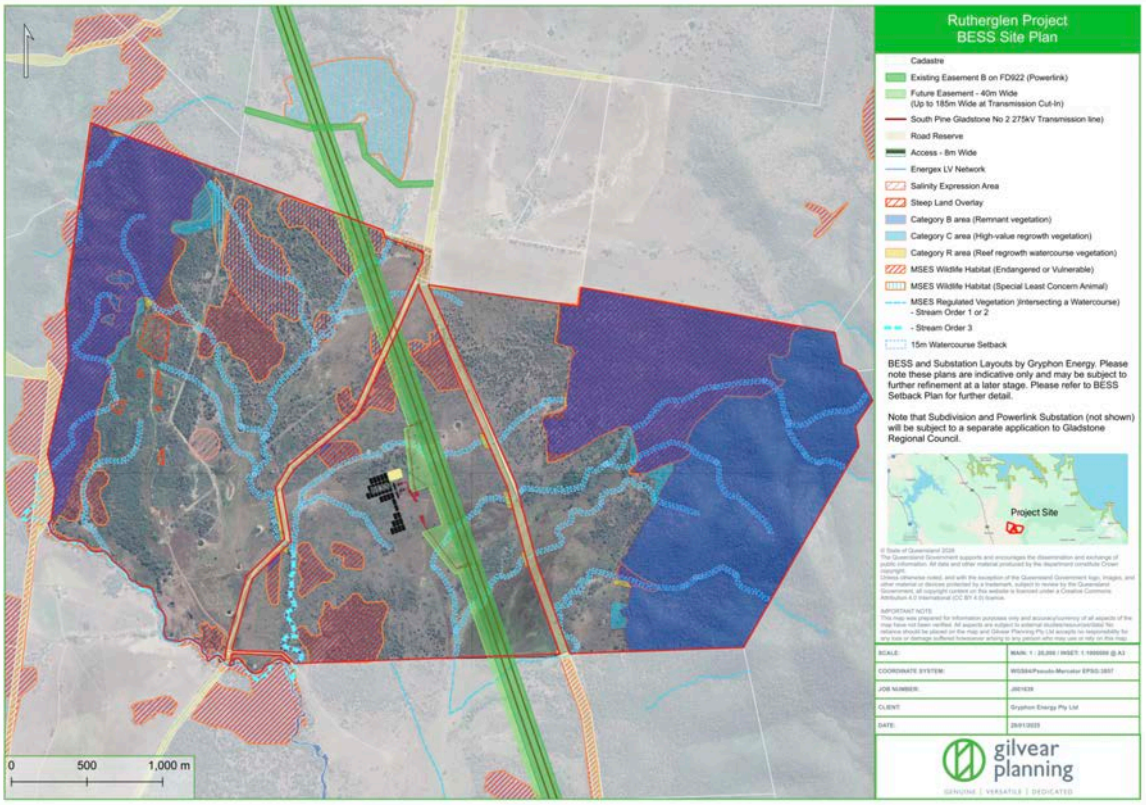

Rutherglen Project
Subdivision Plan
Existing Easement B on FD922 (Powerlink)
Future Easement - 40m Wide
(Up to 185m Wide at Transmission Cut-In)
Proposed Access Easement - 8m Wide
- Burdening Lot 2 for the benefit of Lot 1
Cadastre
Road Reserve
379.5m (from Lot 1 Boundary to Rod Hill Road)
524m (Access Easement only)
Proposed Lot 1
15ha
Proposed Lot 2
(includes
Access Handle)
7.8ha
Proposed Lot 3
1253.8ha
BESS, Switchyard Layouts, and Contour Plan
provided by Gryphon Energy
Please note these plans are indicative only and will
be subject to further refinement at a later stage.
0 25 50 m
gilvear
planning
GENUINE | VERSATILE | DEDICATED

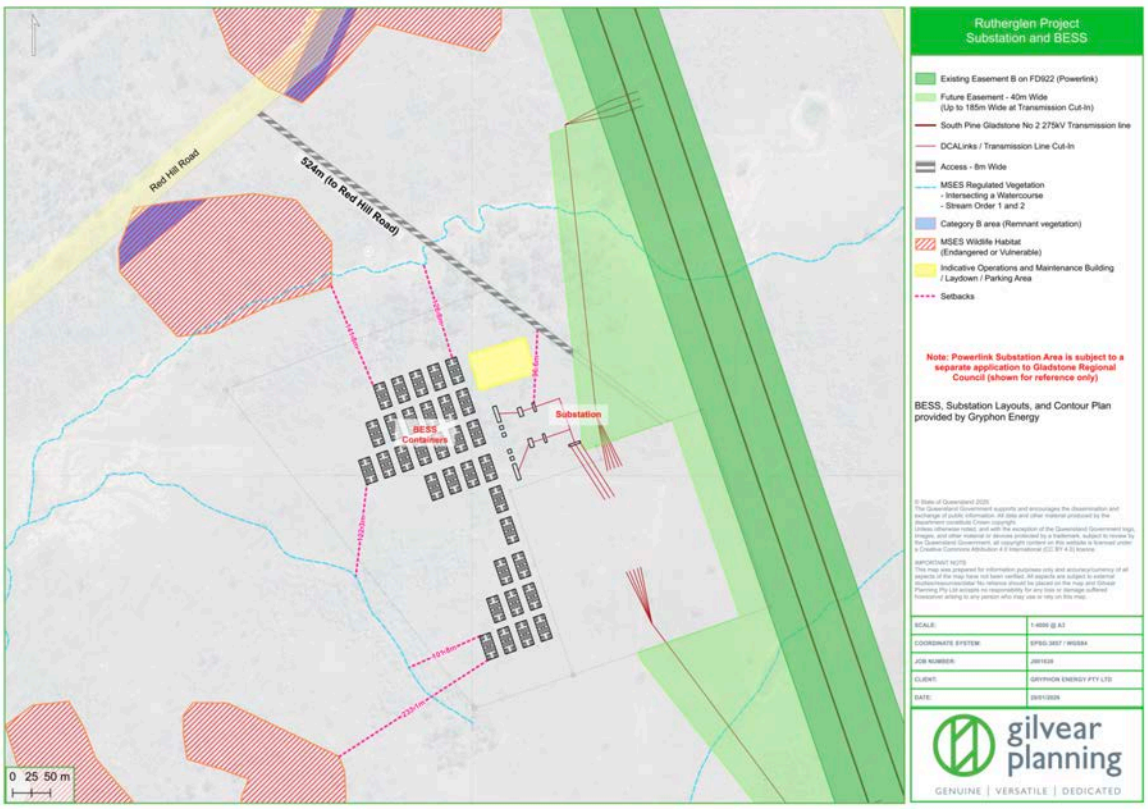

Rutherglen Project
Subdivision Plan - Lot 132 on FD700
Existing Easement B on FD922
Future Easement - 40m Wide
(Up to 185m Wide at Transmission Cut-In)
Proposed Access Easement - 8m Wide
- Burdening Lot 2 for the benefit of Lot 1
Cadastre
Road Reserve
Watercourse
Proposed Lot 1
15ha
Proposed Lot 2
(includes
Access Handle)
7.8ha
Proposed Lot 3
1253.8ha
Project Site
0 500 1,000 m
gilvear
planning

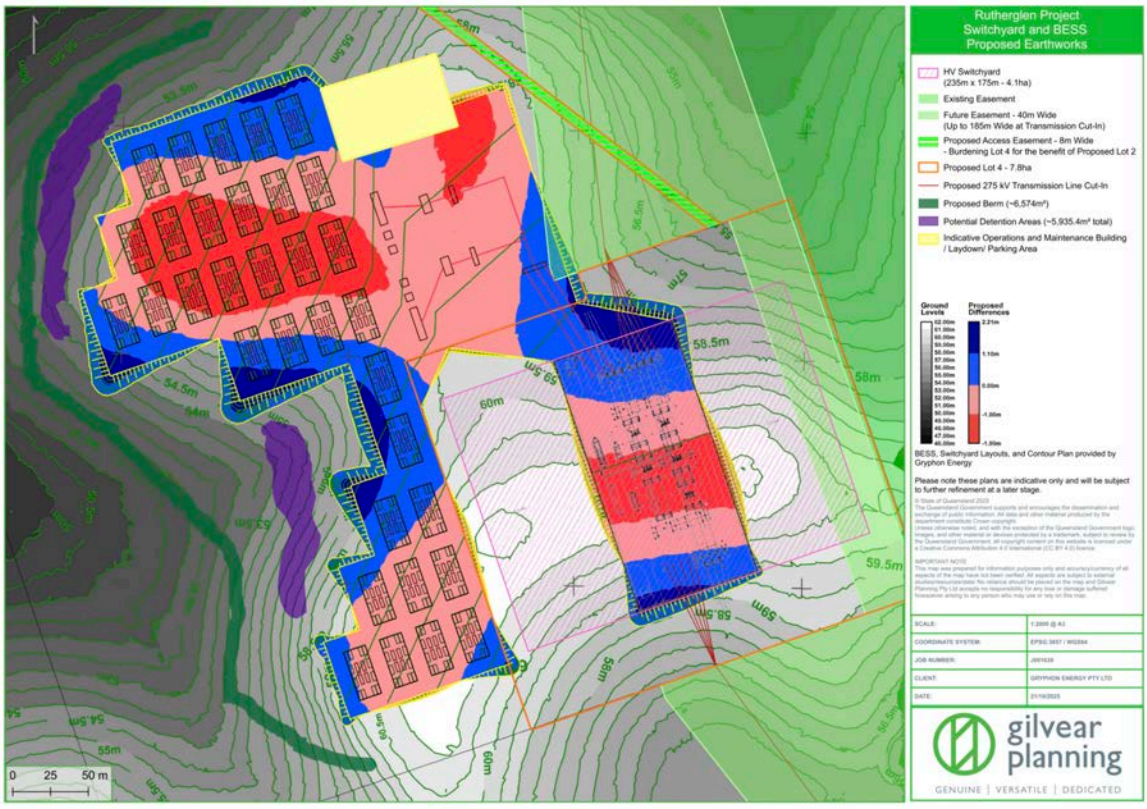

Rutherglen Project
Subdivision Plan - Lot 132 on FD700
Existing Easement B on FD922
Future Easement - 40m Wide
(Up to 185m Wide at Transmission Cut-In)
Proposed Access Easement - 8m Wide
- Burdening Lot 2 for the benefit of Lot 1
Cadastre
Road Reserve
Watercourse
Proposed Lot 1
15ha
Proposed Lot 2
(includes
Access Handle)
7.8ha
Proposed Lot 3
1253.8ha
Project Site
0
500
1,000 m
gilvear
planning
GENUINE | VERSATILE | DEDICATED

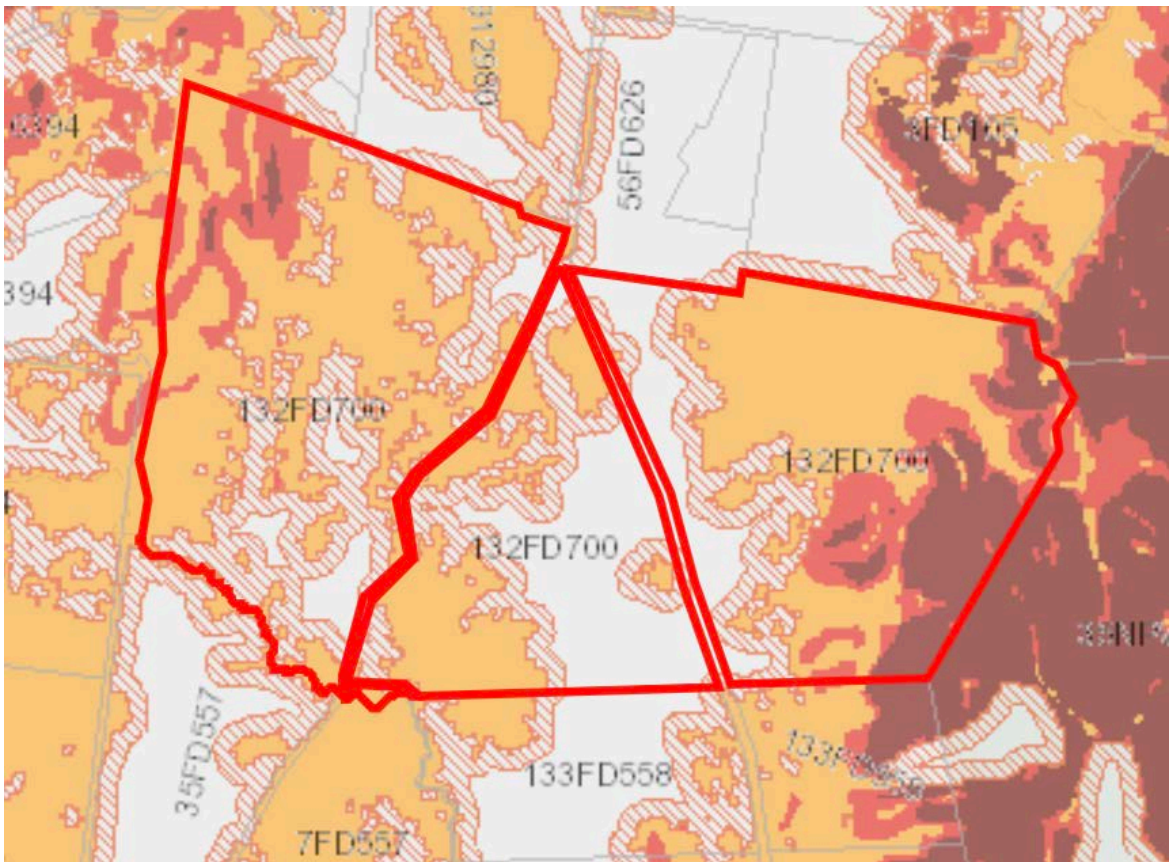

Rutherglen Project
Substation (Powerlink)
Existing Easement B on FD922 (Powerlink)
Future Easement - 40m Wide
(Up to 185m Wide at Transmission Cut-In)
Proposed Access Easement - 8m Wide
- Burdening Lot 2 for the benefit of Lot 1
South Pine Gladstone No 2 275kV Transmission line
275KV Transmission Line Cut-In
MSES Regulated Vegetation
- Intersecting a Watercourse
- Stream Order 1 and 2
Category B area (Remnant vegetation)
MSES Wildlife Habitat
(Endangered or Vulnerable)
Setbacks
Substation (Powerlink) Area - (235m x 175m - 4.1ha)
Substation Layouts provided by Gryphon Energy
Red Hill Road
524m (to Red Hill Road)
BESS subject to a
separate application to
SARA (shown for
reference only)
0 25 50 m
gilvear
planning
GENUINE | VERSATILE | DEDICATED


Rutherglen Project
Noise Receptors and Contours - 10m
Existing Easement B on FD922 (Powerlink)
Future Easement - 40m Wide
(Up to 185m Wide at Transmission Cut-In)
Cadastre
Noise Receptors / Sensitive Uses
Contours - 10m Intervals
Noise Receptor locations sourced from Matrix Acoustics.
Please note these plans are indicative only and will be subject to further refinement at a later stage. Refer to the Switchyard and BESS Plan for further lot dimension detail.
Project Site
0
1,000
2,000 m
gilvear planning

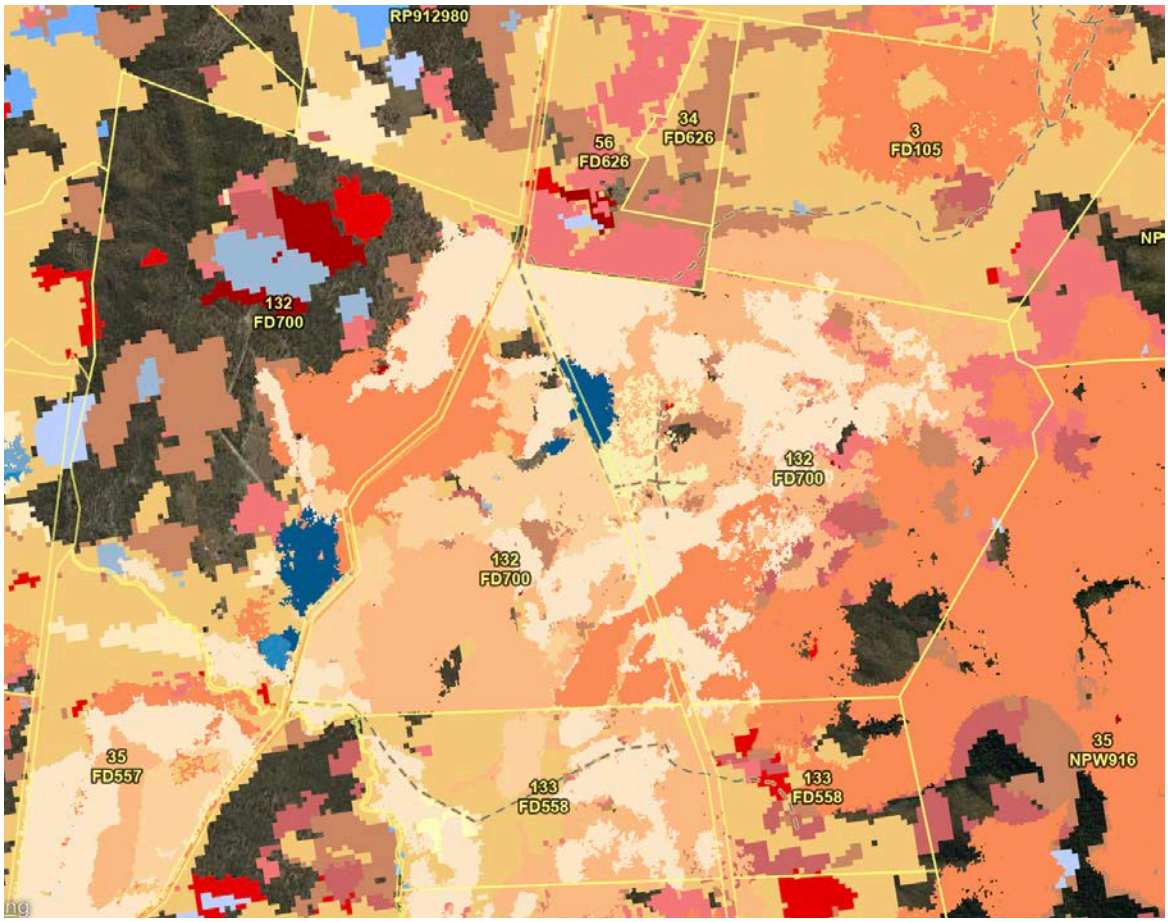

Rutherglen Project
BESS Site Plan
Cadastre
Existing Easement B on FD922 (Powerlink)
Future Easement - 40m Wide
(Up to 185m Wide at Transmission Cut-In)
South Pine Gladstone No 2 275kV Transmission line)
Road Reserve
Access - 8m Wide
Energex LV Network
Salinity Expression Area
Steep Land Overlay
Category B area (Remnant vegetation)
Category C area (High-value regrowth vegetation)
Category R area (Reef regrowth watercourse vegetation)
MSES Wildlife Habitat (Endangered or Vulnerable)
MSES Wildlife Habitat (Special Least Concern Animal)
MSES Regulated Vegetation)Intersecting a Watercourse)
- Stream Order 1 or 2
- Stream Order 3
15m Watercourse Setback
BESS and Substation Layouts by Gryphon Energy. Please note these plans are indicative only and may be subject to further refinement at a later stage. Please refer to BESS Setback Plan for further detail.
Note that Subdivision and Powerlink Substation (not shown) will be subject to a separate application to Gladstone Regional Council.
Project Site
0
500
1,000 m
gilvear planning


Rutherglen Project
Substation and BESS
Existing Easement B on FD922 (Powerlink)
Future Easement - 40m Wide
(Up to 185m Wide at Transmission Cut-In)
South Pine Gladstone No 2 275kV Transmission line
DCALinks / Transmission Line Cut-In
Access - 8m Wide
MSES Regulated Vegetation
- Intersecting a Watercourse
- Stream Order 1 and 2
Category B area (Remnant vegetation)
MSES Wildlife Habitat
(Endangered or Vulnerable)
Indicative Operations and Maintenance Building
/ Laydown / Parking Area
Setbacks
Note: Powerlink Substation Area is subject to a separate application to Gladstone Regional Council (shown for reference only)
BESS, Substation Layouts, and Contour Plan provided by Gryphon Energy
Red Hill Road
524m (to Red Hill Road)
Substation
BESS Containers
0 25 50 m
gilvear planning
GENUINE | VERSATILE | DEDICATED


Rutherglen Project
Switchyard and BESS
Proposed Earthworks
HV Switchyard
(235m x 175m - 4.1ha)
Existing Easement
Future Easement - 40m Wide
(Up to 185m Wide at Transmission Cut-In)
Proposed Access Easement - 8m Wide
- Burdening Lot 4 for the benefit of Proposed Lot 2
Proposed Lot 4 - 7.8ha
Proposed 275 kV Transmission Line Cut-In
Proposed Berm (~6,574m²)
Potential Detention Areas (~5,935.4m² total)
Indicative Operations and Maintenance Building
/ Laydown/ Parking Area
Ground Levels
Proposed Differences
BESS, Switchyard Layouts, and Contour Plan provided by Gryphon Energy
Please note these plans are indicative only and will be subject to further refinement at a later stage.
0 25 50 m
gilvear planning
GENUINE | VERSATILE | DEDICATED



Bushfire Hazard mapping



Bushfire Scar mapping

APPENDIX 5.2
SUPPORTING INFORMATION

(NOTE: SOME OF THIS INFORMATION IS GENERIC AND NOT PROVIDED FOR APPROVAL PURPOSES. IT IS ONLY PROVIDED FOR END USER KNOWLEDGE)

Radiant heat flux (kW/m²)	Potential effects
Greater than 40	• unpiloted ignition of timber walls and fences
	• direct flame contact likely
	• extreme levels of radiant heat
29–40	• failure of toughened glass
	• direct flame contact possible, extreme levels of radiant heat
	• unpiloted ignition of some timber species after prolonged exposure (e.g. several minutes)[29]
19	• failure of screened float glass
16	• blistering of skin with › 5 seconds exposure
12.5	• failure of plain glass
	• piloted ignition of dry timber elements after prolonged exposure (e.g. several minutes)[30]
10	• fabrics inside a building could ignite spontaneously with long exposure
	• critical limit for emergency services – firefighters cannot operate
	• life threatening with ‹ 1 minute exposure in protective clothing.
7	• fatal to an unprotected person after exposure for several minutes
4.7	• firefighter in protective clothing will feel pain (60 seconds exposure)
3	• firefighters can operate for a short period (10 minutes)
2	• pain is felt on bare skin after 1 minute exposure (non-fatal)
	• firefighters with protective clothing can withstand this exposure level for a few minutes however, they are likely to experience rise in core body temperature
1	• maximum for indefinite skin exposure
0.5	• direct sunlight at noon on a bright sunny day

BUSHFIRE ATTACK ASSESSMENT

ELDON BOTTCHER ARCHITECT PTY LTD
145 VARSITY PARADE PH 0755920082
VARSITY LAKES E architects@eb-a.com.au
QLD. 4327

THIS ASSESSMENT USES AS 3959-2009 METHOD 2

PROJECT	**PROPOSED SOLAR ARRAY**	
SITE ADDRESS	**873 RED HILL ROAD BORDREN**	
	PREDOMINATE VEGETATION CENTRAL SOUTHERN AREA	
INPUTS		
FDI		53
VEGETATION TYPE	SEE TABLE	Site Specific Fuel Loads
TOTAL FUEL LOAD		11.6 tonnes/ha
SLOPE UNDER VEGETATION		-5 degrees
SLOPE BETWEEN VEGETATION AND BUILDING		-5 degrees
FLAME WIDTH		100 m
ELEVATION OF RECEIVER		3 m
DISTANCE BETWEEN VEGETATION AND BUILDING		**100** m
RESULTS		
RADIANT HEAT		**0.79** kw/m²
FLAME LENGTH		3.59 m
RATE OF SPREAD		0.34 km/hr
ATMOSPHERIC TRANSMISSIVITY		106%
PEAK ELEVATION OF RECEIVER		3 m
FLAME ANGLE		83 degrees

BUSHFIRE ATTACK ASSESSMENT

ELDON BOTTCHER ARCHITECT PTY LTD
145 VARSITY PARADE
VARSITY LAKES
QLD. 4327
PH 0755920082
E architects@eb-a.com.au

THIS ASSESSMENT USES AS 3959-2009 METHOD 2

PROJECT	**PROPOSED SOLAR ARRAY**	
SITE ADDRESS	**873 RED HILL ROAD BOROREN**	
	PREDOMINATE VEGETATION GRASSLANDS	
INPUTS		
FDI		63
VEGETATION TYPE	SEE TABLE	Grassland
TOTAL FUEL LOAD		4.5 tonnes/ha
SLOPE UNDER VEGETATION		-5 degrees
SLOPE BETWEEN VEGETATION AND BUILDING		-5 degrees
FLAME WIDTH		100 m
ELEVATION OF RECEIVER		3 m
DISTANCE BETWEEN VEGETATION AND BUILDING		**100** m
RESULTS		
RADIANT HEAT		**0.24** kw/m²
FLAME LENGTH		1.07 m
RATE OF SPREAD		0.13 km/hr
ATMOSPHERIC TRANSMISSIVITY		106%
PEAK ELEVATION OF RECEIVER		3 m
FLAME ANGLE		84 degrees

RURAL FIRE SERVICE

Queensland Government

State-wide Bushfire Prone Area Mapping

Vegetation Hazard Class Descriptions and Fuel Characteristics – Jan 2017

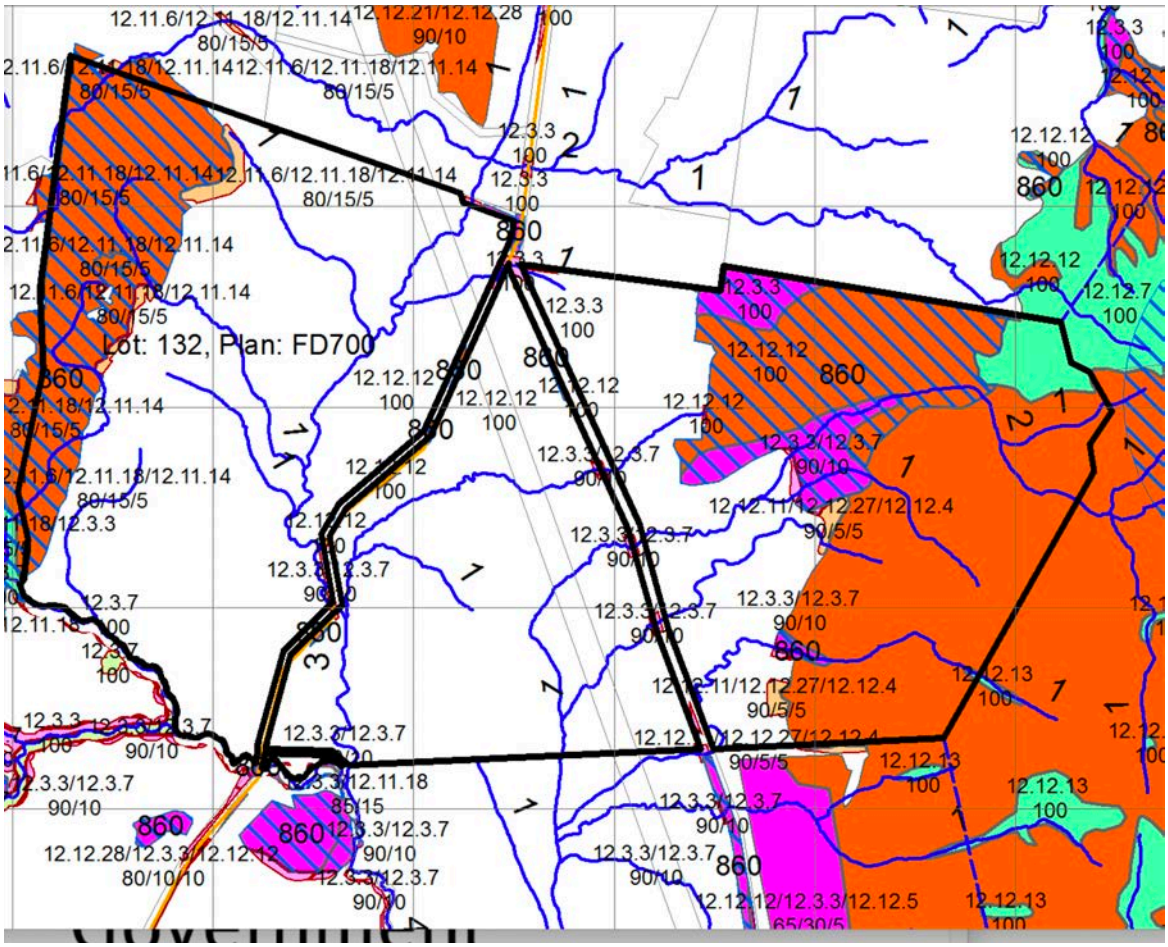
Vegetation Hazard Class	Potential Fuel Load (t/ha)						Prone Type [1]		Fuel Continuity [2]	
	Surface	Near Surface	Elevated	Bark	Total (Remnant)	Total (Non-Remnant)	Remnant	Non-Remnant	Remnant	Non- Remnant
1.1 *Complex mesophyll to notophyll vine forests*	2.6	0.0	0.0	0.0	2.6	12.0	3	1	2	1
2.1 *Complex to simple, semi-deciduous mesophyll to notophyll vine forest*	3.5	0.0	0.0	0.0	3.5	12.0	3	1	2	1
3.1 *Notophyll vine forest*	4.5	0.0	0.0	0.0	4.5	12.0	3	1	2	1
3.3 *Notophyll vine thicket*	4.4	0.0	0.0	0.0	4.4	12.0	3	1	2	1
4.1 *Notophyll and notophyll palm or vine forest*	4.5	0.0	0.0	0.0	4.5	12.0	3	1	2	1
5.1 *Notophyll to microphyll vine forests*	3.9	0.0	0.0	0.0	3.9	12.0	3	1	2	1
5.2 *Notophyll to microphyll vine forest with sparse overstorey*	3.9	0.0	0.0	0.0	3.9	12.0	3	1	2	1
5.5 *Sedgeland within Notophyll to microphyll vine forests*	3.9	0.0	0.0	0.0	3.9	12.0	3	1	2	1
6.1 *Montane Notophyll vine forest and microphyll fern forest*	3.9	0.0	0.0	0.0	3.9	12.0	3	1	2	1
6.3 *Montane Notophyll vine thicket and microphyll fern thicket*	3.9	0.0	0.0	0.0	3.9	12.0	3	1	2	1
7.1 *Semi-evergreen to deciduous microphyll vine forest*	6.0	0.0	0.0	0.0	6.0	12.0	3	1	2	1
7.2 *Sparse semi-evergreen to deciduous microphyll vine forest*	6.0	0.0	0.0	0.0	6.0	12.0	3	1	2	1
8.1 *Wet eucalypt tall open forest*	28.0	3.0	2.0	2.0	35.0	35.0	1	1	1	1
8.2 *Wet eucalypt tall woodland*	18.0	3.1	1.7	1.0	23.8	23.8	1	1	1	1
9.1 *Moist to dry eucalypt open forests on coastal lowlands and ranges*	17.5	3.5	2.2	1.0	24.2	24.2	1	1	1	1
9.2 *Moist to dry eucalypt woodland on coastal lowlands and ranges*	**11.4**	**3.5**	**1.3**	**1.0**	**17.2**	**17.2**	**1**	**1**	**1**	
9.3 *Shrubland within moist to dry eucalypt on coastal lowlands and ranges*	7.8	3.0	1.9	0.0	12.7	12.7	1	1	1	1
10.1 *Spotted gum dominated open forests*	16.3	3.0	1.5	0.0	20.8	20.8	1	1	1	1
10.2 *Spotted gum dominated woodlands*	**14.0**	**3.0**	**1.0**	**0.0**	**18.0**	**18.0**	**1**	**1**	**1**	**1**
11.2 *Moist to dry eucalypt woodlands on basalt areas*	7.5	4.0	0.5	1.0	13.0	13.0	1	1	1	1
12.1 *Dry eucalypt open forest on sandstone and shallow soils*	15.0	3.5	1.5	1.0	21.0	21.0	1	1	1	1

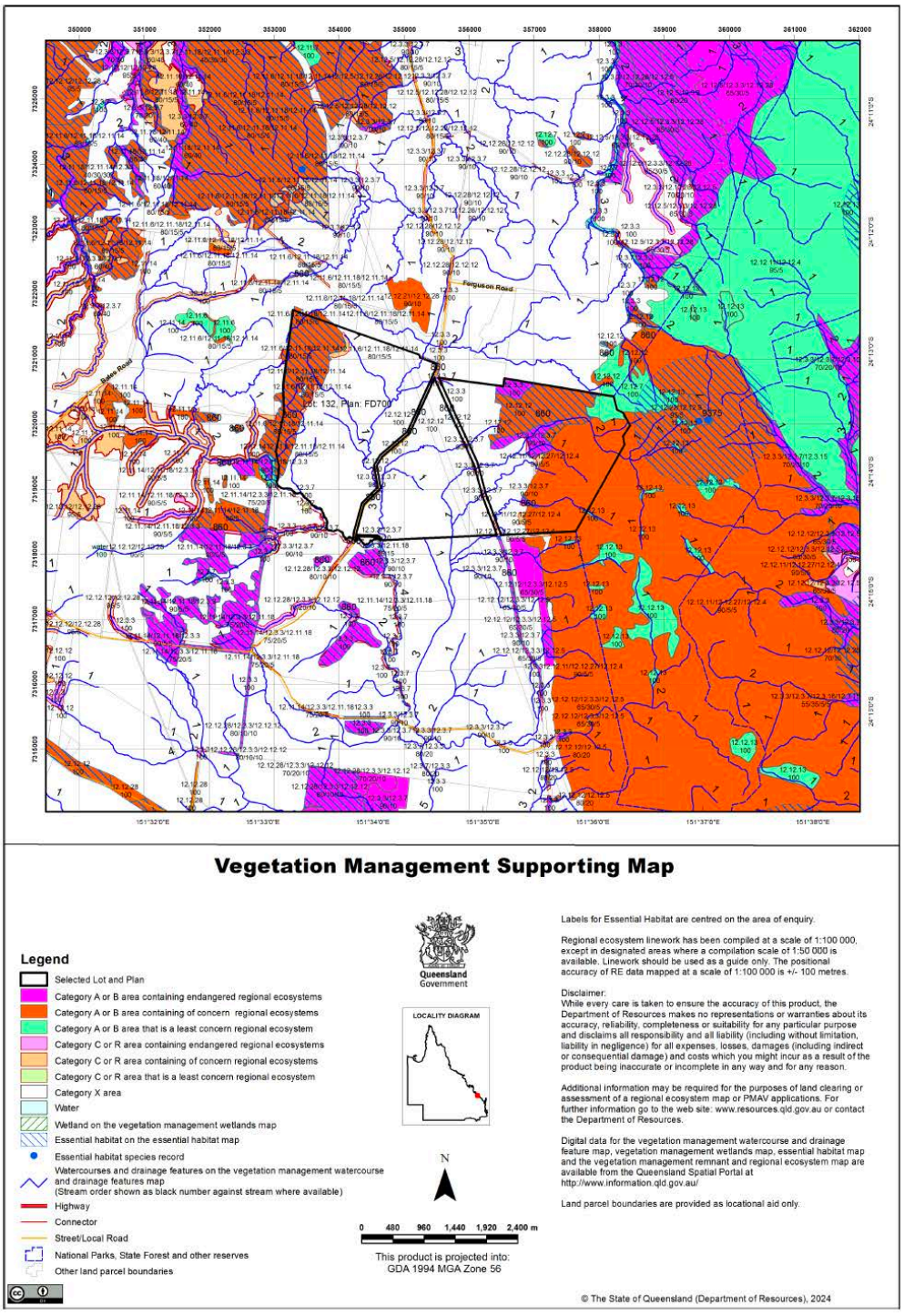
[1] Prone Type: 1 = Bushfire Prone, 2 = Grass Fire Prone, 3 = Low Hazard

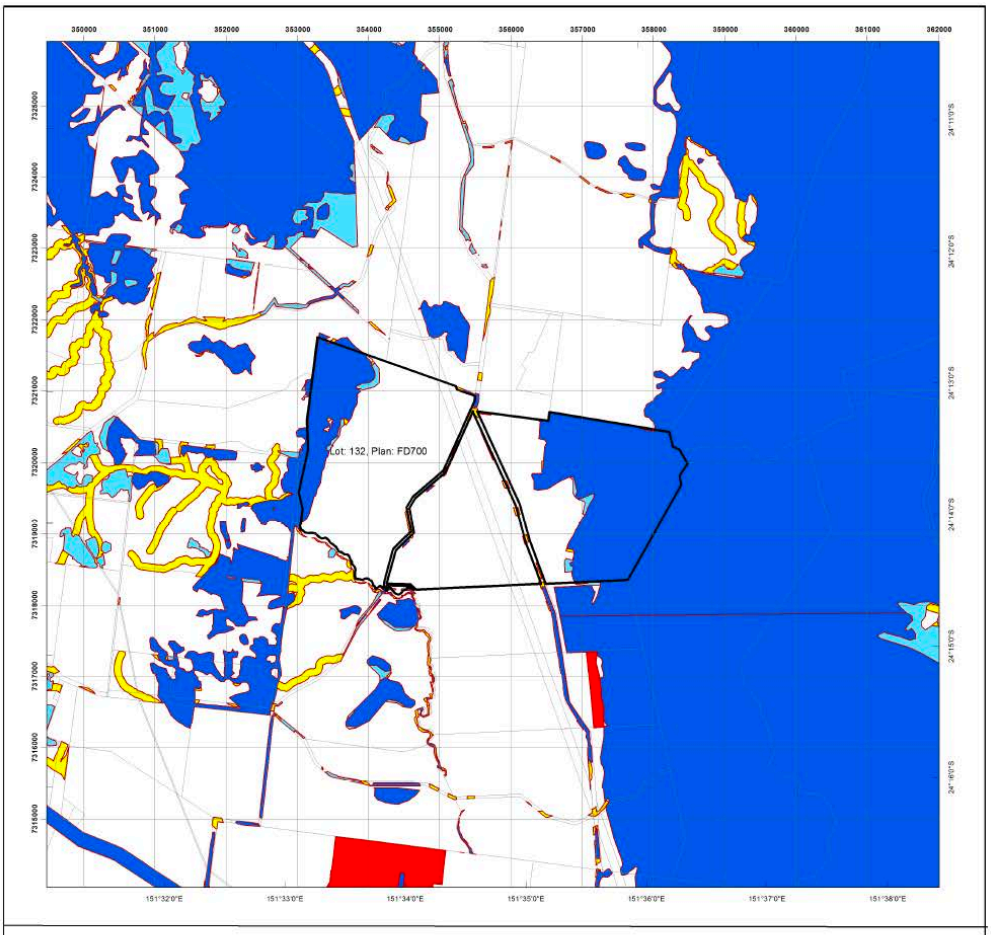
[2] Fuel Continuity: 1 = Continuous, 2 = Discontinuous

Vegetation Hazard Class	Potential Fuel Load (t/ha)						Prone Type [1]		Fuel Continuity[2]	
	Surface	Near Surface	Elevated	Bark	Total (Remnant)	Total (Non-Remnant)	Remnant	Non-Remnant	Remnant	Non- Remnant
12.2 *Dry eucalypt woodlands on sandstone and shallow soils*	12.0	2.6	1.8	1.0	17.4	17.4	1	1	1	1
13.1 *Dry to moist eucalypt open forests on undulating metamorphics and granite*	15.9	3.5	1.4	1.0	21.8	21.8	1	1	1	1
13.2 *Dry to moist eucalypt woodlands on undulating metamorphics and granite*	**9.4**	**3.4**	**0.6**	**1.0**	**14.4**	**14.4**	**1**	**1**	**1**	**1**
13.3 *Shrubland associated with dry to moist eucalypt woodlands on undulating terrain*	4.3	2.3	0.9	0.0	7.5	7.5	1	1	1	1
14.1 *Open forest dominated by Darwin stringybark, Melville Island bloodwood or scarlet gum*	22.3	1.4	2.1	2.0	27.8	27.8	1	1	1	1
14.2 *Woodlands dominated by Darwin stringybark, Melville Island bloodwood or scarlet gum*	8.4	2.4	0.8	1.0	12.6	12.6	1	1	1	1
14.3 *Shrubland associated with woodlands dominated by Darwin stringybark, Melville Island bloodwood or scarlet gum*	1.1	3.4	3.3	1.0	8.8	8.8	1	1	1	1
14.6 *Sparsely vegetated areas associated with Darwin stringybark, Melville Island bloodwood or scarlet gum*	0.0	0.3	1.3	0.0	1.6	1.6	3	3	2	2
15.1 *Temperate open eucalypt forests*	23.7	0.3	1.8	1.0	26.8	26.8	1	1	1	1
15.2 *Temperate eucalypt woodlands*	10.2	1.8	1.8	0.0	13.8	13.8	1	1	1	1
16.1 *Eucalyptus dominated forest on drainage lines and alluvial plains*	10.0	3.8	1.2	1.0	16.0	16.0	1	1	1	1
16.2 *Eucalyptus dominated woodland on drainage lines and alluvial plains*	**7.5**	**3.6**	**0.5**	**0.0**	**11.6**	**11.6**	**1**	**1**	**1**	**1**
16.3 *Shrubland associated with Eucalyptus woodlands on drainage lines*	5.8	2.7	0.1	0.0	8.6	8.6	1	1	1	1
16.4 *Grassland associated with Eucalyptus dominated woodlands on drainage lines*	0.3	2.1	0.1	0.0	2.5	2.5	2	2	1	1
16.5 *Sedgeland associated with Eucalyptus woodlands on drainage lines**	3.9	5.0	3.5	0.0	12.4	12.4	1	1	1	1
16.6 *Sparsely vegetated areas associated with Eucalyptus woodlands on drainage lines*	1.2	2.0	0.0	0.0	3.2	3.2	3	3	2	2
17.1 *Dry open forests dominated by poplar box, silver-leaved ironbark or White's ironbark on sand or depositional plains*	10.6	4.1	0.3	0.0	15.0	15.0	1	1	1	1
17.2 *Dry woodlands dominated by poplar box, silver-leaved ironbark or White's ironbark on sand or depositional plains*	6.0	3.0	0.6	0.0	9.6	9.6	1	1	1	1
18.1 *Dry eucalypt open forests on sand or depositional plains*	10.8	3.4	0.6	0.0	14.8	14.8	1	1	1	1
18.2 *Dry eucalypt woodlands on sand or depositional plains*	7.1	3.3	0.6	0.0	11.0	11.0	1	1	1	1
18.5 *Sedgeland associated with dry eucalypt woodlands on sand or depositional plains*	3.9	3.4	3.5	0.0	10.8	10.8	1	1	1	1
19.2 *Low open eucalyptus woodlands dominated by snappy gum, Cloncurry Box or Normanton box*	4.3	3.0	0.8	1.0	9.1	9.1	1	1	1	1

2


Lot: 132, Plan: FD700


Lot: 132, Plan: FD700
Bates Road
Ferguson Road
Vegetation Management Supporting Map
Legend
Selected Lot and Plan
Category A or B area containing endangered regional ecosystems
Category A or B area containing of concern regional ecosystems
Category A or B area that is a least concern regional ecosystem
Category C or R area containing endangered regional ecosystems
Category C or R area containing of concern regional ecosystems
Category C or R area that is a least concern regional ecosystem
Category X area
Water
Wetland on the vegetation management wetlands map
Essential habitat on the essential habitat map
Essential habitat species record
Watercourses and drainage features on the vegetation management watercourse and drainage features map
(Stream order shown as black number against stream where available)
Highway
Connector
Street/Local Road
National Parks, State Forest and other reserves
Other land parcel boundaries
Queensland Government
LOCALITY DIAGRAM
N
0 480 960 1,440 1,920 2,400 m
This product is projected into:
GDA 1994 MGA Zone 56
Labels for Essential Habitat are centred on the area of enquiry.
Regional ecosystem linework has been compiled at a scale of 1:100 000, except in designated areas where a compilation scale of 1:50 000 is available. Linework should be used as a guide only. The positional accuracy of RE data mapped at a scale of 1:100 000 is +/- 100 metres.
Disclaimer:
While every care is taken to ensure the accuracy of this product, the Department of Resources makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which you might incur as a result of the product being inaccurate or incomplete in any way and for any reason.
Additional information may be required for the purposes of land clearing or assessment of a regional ecosystem map or PMAV applications. For further information go to the web site: www.resources.qld.gov.au or contact the Department of Resources.
Digital data for the vegetation management watercourse and drainage feature map, vegetation management wetlands map, essential habitat map and the vegetation management remnant and regional ecosystem map are available from the Queensland Spatial Portal at http://www.information.qld.gov.au/
Land parcel boundaries are provided as locational aid only.
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Regulated Vegetation Management Map

Legend

- Selected Lot and Plan
- Category A area (Vegetation offsets/compliance notices/VDecs)
- Category B area (Remnant vegetation)
- Category C area (High-value regrowth vegetation)
- Category R area (Reef regrowth watercourse vegetation)
- Category X area (Exempt clearing work on Freehold, Indigenous and Leasehold land)
- Water
- Other land parcel boundaries

LOCALITY DIAGRAM

N

0 675 1,350 2,025 2,700 3,375 m

This product is projected into:
GDA 1994 MGA Zone 56

Disclaimer:
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Additional information required for the assessment of vegetation values is provided in the accompanying "Vegetation Management Supporting map". For further information go to the web site: www.resources.qld.gov.au or contact the Department of Resources.

Digital data for the regulated vegetation management map is available from the Queensland Spatial Portal at http://www.information.qld.gov.au/

Land parcel boundaries are provided as locational aid only.

This map is updated on a monthly basis to ensure new PMAVs are included as they are approved.

Queensland Government

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ELDON BOTTCHER

EDUCATION AND QUALIFICATIONS

Graduate Diploma in Design in Bushfire Prone Areas
University of Western Sydney
Diploma in Architecture
Queensland Institute of Technology
Certificate of Rural Fire Management
University of Southern Queensland
Registered Architect
Queensland
A+ Architect
Australian Institute of Architects
FPA Australia Certified Practitioner (BPAD-Level 3-16935)
Bushfire Planning and Design (BPAD-LEVEL 3), Alternate Solutions & DTS

PROFESSIONAL MEMBERSHIPS

Fellow
Australian Institute of Architects
Member
Australian Institute of Emergency Services
Member
Australian Institute of Engineers Society of Fire Safety
Member
Queensland Environmental Law Association.
Member Board of Experts
Bushfire Building Council of Australia
Associate Member
Institution of Fire Engineers
Corporate Member
Fire Protection Association of Australia

PROFESSIONAL EXPERIENCE

Director
Eldon Bottcher Architect Pty Ltd since 1978

Bushfire Assessment and Planning Consultant since 1998 with Involvement in more than 6,000 Bushfire Mitigation Projects ranging from single dwellings to major subdivisions, burn plans and general mitigation advice.

Group Officer
Albert Rural Fire Brigades Group
Queensland Fire and Rescue Service
Group Officer
Gold Coast Rural Fire Brigades Group
Queensland Fire and Rescue Service
Group Officer
South East Regional Support Group
Queensland Fire and Rescue Service
Planning Officer
Gold Coast Rural Fire Brigades Group
Queensland Fire and Rescue Service

Life Member
Guanaba Rural Fire Brigade
Member
Clagiraba Rural Fire Brigade

Member Practice Committee AIA Qld Chapter

AIA delegate to Building Industry and Research Consultation Panel on Bushfire Hazard advising Queensland State Bushfire Committee

BBCA representation to Australian Standards Committee FP20 (AS 3959 & AS 5414)

Research Consultant to Queensland University of Technology Scenic Rim Black Saturday Recovery Project

OTHER BUSHFIRE RELATED COURSES AND TRAINING

I.C.S./AIIMS (40 hr. course) in Incident Command Systems
Certificate 4 (Workplace Training and Assessment)
RFSQ Level 1
RFSQ Level 2 (Officer)
RFSQ Fire Management 1
RFSQ Crew Leader
Certificate II in Public Safety (Firefighting Operations)
Fire Weather 1
QELA Expert Witness Workshop 2020

BUSHFIRE RELATED AWARDS

National Planning Award
State Planning Award
Planning Institute of Australia
Gold Coast Bushfire Management Strategy
(Co-Initiator and Member of Preparation Committee)

Australian Government
National Medal
Long and Distinguished Service to Fire fighting
Queensland Fire and Rescue Service
Diligent and Ethical Service Medal + Clasp
Service to Fire fighting

Queensland Government
Australia Day Medallion
Services to Rural Fire Fighting
Queensland Government
Year of the Volunteer Medallion
Services to Fire fighting
UDIA
Best Consultancy Team Award in 2007.

SERVICES OFFERED

Bushfire management Reports

Bushfire Safety Engineering

Bushfire Planning and Design

Bushfire Hazard Assessment

Alternative Solutions

Expert Witnessing
(See Planning and Environment Court of Queensland Determination
File No. BD 624 of 2005 sections 28 to 35)

Continuing Professional Development Lectures

Tertiary Education Lectures and Tutorials

Town Planning Bushfire Codes for Local Authorities

Bushfire Burn Planning

General consultancy relating to all aspects of Bushfire

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