



BUSHFIRE THREAT ASSESSMENT

FOR A
PROPOSED POULTRY BROILER

AT

755 WARRAH RIDGE ROAD, WARRAH RIDGE NSW 2343

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Prepared for:	PSA Consulting on behalf of Agright Griffith Pty Ltd
Reference No.	Warrah Ridge – Agright Griffith Pty Ltd – March 2026
Draft Document Date:	19/11/2025
Finalised Document Date:	30/3/2026
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Executive Summary

A Bushfire Threat Assessment Report (BTA) has been prepared by Firebird ecoSultants Pty Ltd prepared for PSA Consulting on behalf of Agright Griffith Pty Ltd for a proposed poultry broiler farm at 755 Warrah Ridge Road, Warrah Ridge NSW 2343. The report forms part of the supporting documentation for an Environmental Impact Statement (EIS) to be submitted to Liverpool Plains Shire Council (LPS).

This report has been undertaken to show bushfire protection measures and compliance with Planning for Bushfire Protection 2019 (PBP 2019).

The proposal is classified as Designated Development under the Environmental Planning and Assessment Act (EP&A). Designated Development projects are exempt from requiring a Bush Fire Safety Authority (BFSA) under the EP&A Act s4.14 in accordance with Planning for Bushfire Protection 2019 (NSW RFS, 2019) and the consent authority for this application is Liverpool Plains Shire Council (LPS).

The proposal includes sheds for the use of growing chickens over a production cycle of 8-10 weeks and is classified as "Other Development" in accordance with Planning for Bushfire Protection (PBP) 2019. All development on bushfire prone land should consider and comply with PBP. Intensive livestock agriculture developments have considerable flexibility to meet PBP under the requirements of Chapter 8 - Other Development. This type of development will demonstrate compliance with the aims and objectives of Chapter 1 in PBP 2019 (NSW RFS, 2019).

The proposal involving manager's residences are classified as "Infill Development" in accordance with PBP 2019 as they are residential developments on bushfire prone land. This type of development will demonstrate compliance with the provisions of Chapter 7 in PBP 2019 (NSW RFS, 2019).

This assessment aims to consider and assess the bushfire hazard and associated potential threats relevant to the proposal. Recommendations are provided with regard to fuel management, access, provision of emergency services, building protection and construction standards to facilitate an acceptable level of bushfire protection.

In summary, the following is recommended to enable the proposal to meet the relevant legislative requirements:

- The proposed fourteen (14) new poultry sheds, supporting infrastructure, and solar farm must comply with the following objectives of Chapter 1 in Planning for Bushfire Protection 2019:
 - › Afford buildings and their occupants protection from exposure to a bushfire;
 - › Provide for a defensible space to be located around buildings - defendable space areas for each laying shed, services buildings and water tanks are provided at minimum 10m

- › Provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent the likely fire spread to buildings;
 - › Ensure that appropriate operational access and egress for emergency service personnel and occupants is available – consider the preparation of a bushfire emergency management and evacuation plan to support the safe operation of the facility;
 - › Provide for ongoing management and maintenance of BPMs; and
 - › Ensure that utility services are adequate to meet the needs of firefighters.
- The proposed two (2) manager's residences must show compliance with the objectives of Chapter 7 in Planning for Bushfire Protection 2019 including:
 - › The farm manager's residences are to comply with the Bushfire Attack Level (BAL) of **BAL-LOW** and the 50m APZ provisions of this assessment. Its Asset Protection Zone is to be maintained in a low fuel condition (grass height not exceeding 10cm) all year round and in perpetuity.
 - › Direct access/egress to the proposed entrance road from Warrah Ridge Road
 - › Static water supply for the facility meets the following recommendations of this assessment:
 - a) 10m defensible space area is provided around each tank;
 - b) Each steel tank is to facilitate fire appliance access by providing an outlet within 4m of the standing position of a Category 1 tanker, which is likely to pull up on the central access road. The outlet is to be fitted with a 65mm metal Storz outlet with gate or ball valve;
 - c) The tanks are to be topped up to full capacity at the start of each regulated fire season and water levels observed throughout each fire season to ensure sufficient firefighting capacity is maintained for the duration of the season;
 - d) Ensure the fire safety provisions of the NCC are implemented and consider the ability for firefighting equipment provided on site to protect the entirety of each building (i.e. hoses are located and can stretch the perimeter around buildings, etc).
- Comply with the following in regard to fittings for static water supply:
 - › a connection for firefighting purposes is located within the IPA or non-hazard side and away from the structure; 65mm Storz outlet with a ball valve is fitted to the outlet;
 - › ball valve and pipes are adequate for water flow and are metal;
 - › supply pipes from tank to ball valve have the same bore size to ensure flow volume;
 - › underground tanks have an access hole of 200mm to allow tankers to refill direct from the tank;
 - › a hardened ground surface for truck access is supplied within 4m;
 - › above-ground tanks are manufactured from concrete or metal;



- › raised tanks have their stands constructed from non-combustible material or bush fire-resisting timber (see Appendix F of AS 3959);
- › unobstructed access can be provided at all times;
- › underground tanks are clearly marked;
- › tanks on the hazard side of a building are provided with adequate shielding for the protection of firefighters;
- › all exposed water pipes external to the building are metal, including any fittings;
- › where pumps are provided, they are a minimum 5hp or 3kW petrol- or diesel-powered pump, and are shielded against bush fire attack; any hose and reel for firefighting connected to the pump shall be 19mm internal diameter; and
- › fire hose reels are constructed in accordance with AS/NZS 1221:1997, and installed in accordance with the relevant clauses of AS 2441:2005.



Terms & Abbreviations

Abbreviation	Meaning
APZ	Asset Protection Zone
AS2419 -2021	Australian Standard – Fire Hydrant Installations
AS3959-2018	Australian Standard – Construction of Buildings in Bush Fire Prone Areas
BCA	Building Code of Australia
BPA	Bush Fire Prone Area (Also Bushfire Prone Land)
BFPL Map	Bush Fire Prone Land Map
BPMs	Bush Fire Protection Measures
BFSA	Bush Fire Safety Authority
CC	Construction Certificate
EIS	<i>Environmental Impact Statement</i>
EPA Act	<i>NSW Environmental Planning and Assessment Act 1979</i>
FFDI	Forest Fire Danger Index
FMP	Fuel Management Plan
ha	hectare
IPA	Inner Protection Area
LGA	Local Government Area
LPS	Liverpool Plains Shire Council
PBP	Planning for Bushfire Protection 2019
PoM	Plan of Management
OPA	Outer Protection Area
RF Act	Rural Fires Act 1997
RF Regulation	Rural Fires Regulation
RFS	Rural Fire Service
SSD	State Significant Development



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1 INTRODUCTION

A Bushfire Threat Assessment Report (BTA) has been prepared by Firebird ecoSultants Pty Ltd at the request of PSA Consulting on behalf of Agright Griffith Pty Ltd for a proposed poultry broiler farm at 755 Warrah Ridge Road, Warrah Ridge NSW 2343, hereafter referred to as the “site” (refer to Figure 1-1 for site locality). Refer to Appendix A for Proposed Site Plans.

This BTA is suitable for submission as part of an Environmental Impact Statement (EIS) and provides information on measures that will enable the development to comply with ‘Planning for Bushfire Protection’ (NSW RFS, 2019), hereafter referred to as PBP (RFS, 2019).

This assessment aims to consider and assess the bushfire hazard and associated potential threats relevant to such a proposal, and to outline the minimum mitigative measures which would be required in accordance with the provisions of the Environmental Planning and Assessment Amendment (Planning for Bushfire Protection) Regulation 2007 and the Rural Fires Amendment Regulation 2007 (RF Amendment Regulation 2007).

1.1 Site Particulars

Locality:	755 Warrah Ridge Road, Warrah Ridge NSW 2343
LGA:	Liverpool Plains Shire Council
Current Land Use:	RU1: Primary Production
Forest Danger Index:	80 FFDI

Legend

Subject Site

140m Buffer

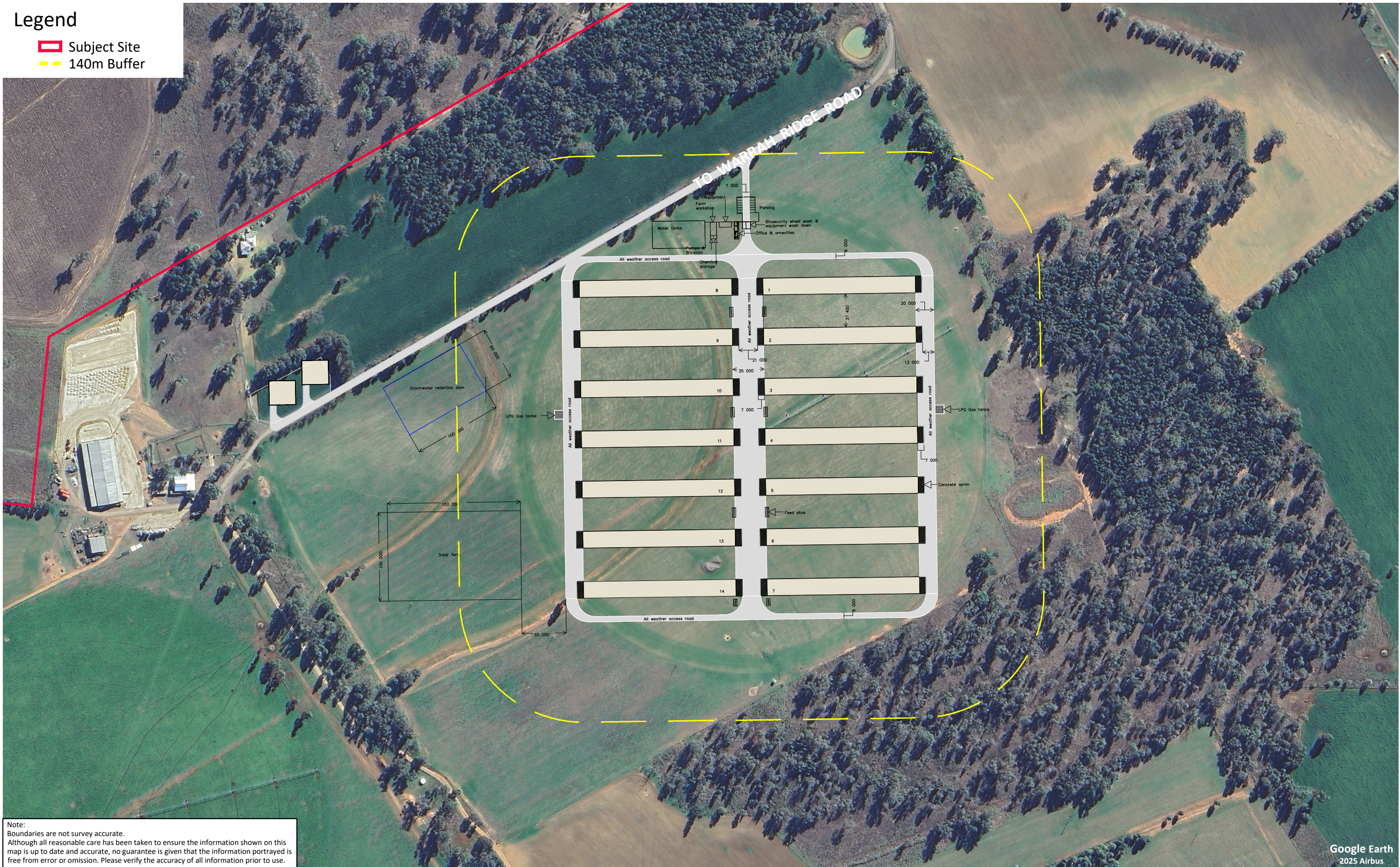
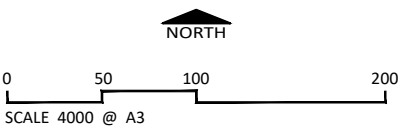


FIGURE 1 - 1 : Site M A P

SITE DETAILS
DATE

No.755 Warrah Ridge Road Warrah Ridge
14 November 2025



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1.2 Description of the Proposal

Agright Griffith Pty Ltd are proposing the commencement of works for a new poultry broiler farm at 755 Warrah Ridge Road, Warrah Ridge NSW 2343 (Figure 1-1).

The proposal involves the establishment of fourteen (14) broiler sheds with each shed accommodating a maximum of 57,900 birds and a total maximum handling capacity of 810,600 birds as well as supporting infrastructure including grain storage silos, staff amenities, access roads, gas storage infrastructure, farm workshop, water pipes, pump shed, water storage tanks, solar farm, battery storage, stormwater retention dam, and two onsite manager's houses.

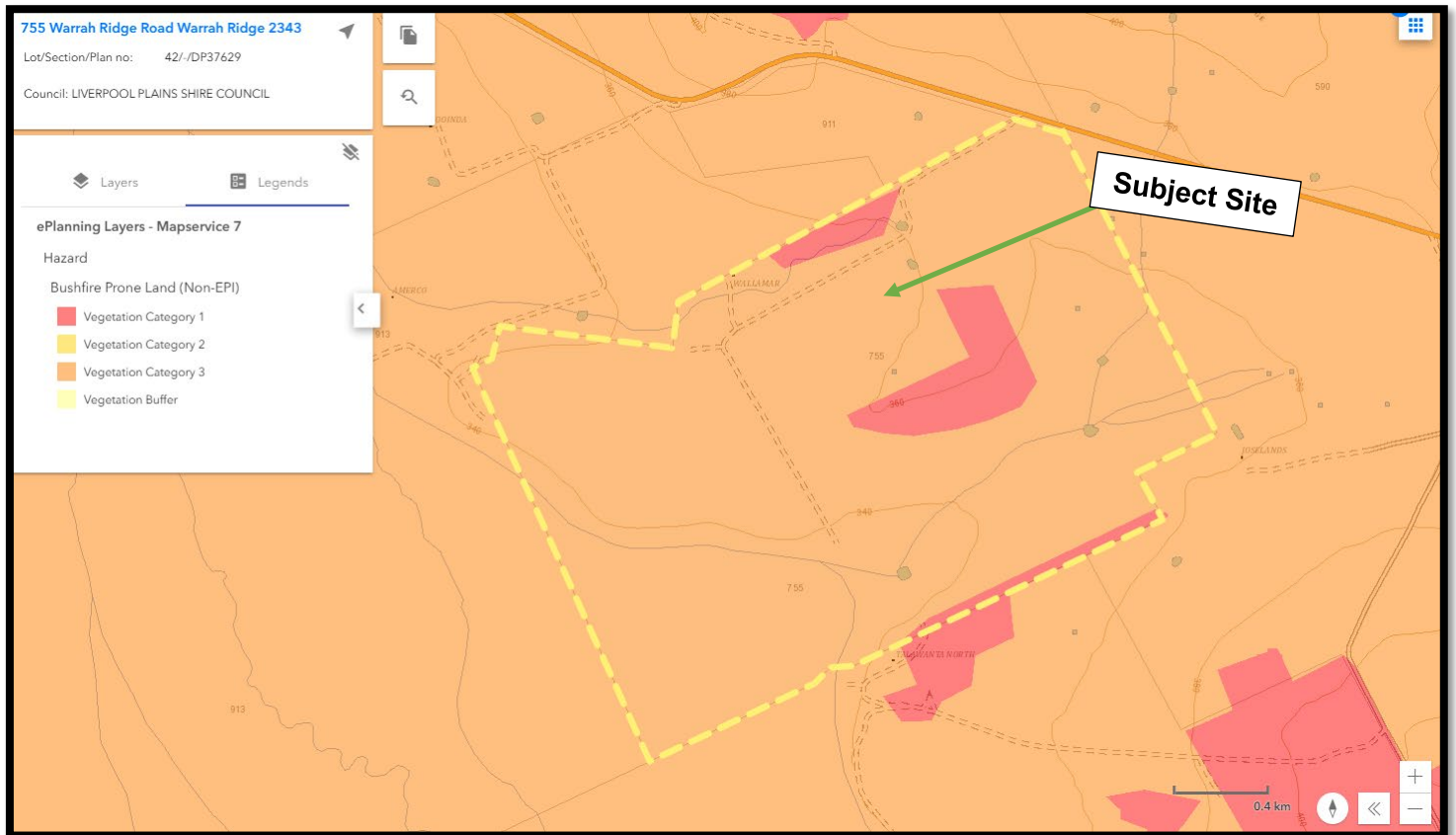
Access servicing the farm is proposed by Warrah Ridge Road / Inverkip Road which is a sealed two-way road with direct frontage to the site at a distance of approx. 920m from the location of proposed sheds and approx. 1.3km from the location of proposed manager's residences. The proposed internal roads provide a looped network that allows access to all structures.

The proposed development is for the establishment of a poultry broiler farm classified as Designated Development in accordance with Planning Secretary's Environmental Assessment Requirements (SEARs) in which an EIS must include an assessment of all potential impacts and develop appropriate measures to avoid, minimise, mitigate and/or manage these potential impacts. A Bushfire Assessment is anticipated to be requested as part of the SEARs addressing the provisions of Planning for Bushfire Protection 2019 (RFS, 2019).

1.3 Bushfire Prone Land

The Site is mapped as Bush Fire Prone Land Map (BFPLM) by LPS. Bushfire prone land maps provide a trigger for the development assessment provisions and consideration of sites that are bushfire prone.

Figure 1-2: Bushfire Prone Land Map



(NSW Planning Portal Spatial Map Viewer)



2 ASSESSMENT METHODOLOGY

The Bushfire Assessment Report is based on a desktop assessment of the site utilising the following resources:

- Planning for Bushfire Protection (NSW RFS, 2019);
- Aerial mapping
- Detailed GIS analysis

The methodology used in this assessment is in accordance with PBP and is outlined in the following sections.

2.1 Vegetation Assessment

Vegetation surveys and vegetation mapping carried out on the site has been undertaken as follows:

- Aerial Photograph Interpretation to map vegetation cover and extent
- Confirmation of the vegetation assemblage typology present.

2.2 Slope Assessment

Slope assessment has been undertaken as follows:

- Aerial Photograph Interpretation in conjunction with analysis of electronic contour maps with a contour interval of 10m.

2.3 Fire Weather

The fire weather is dictated by PBP and assumes a credible worst-case scenario and an absence of any other mitigating factors relating to aspect or prevailing winds. The LGA has a Fire Danger Index (FDI) of 80 as per PBP.



3 SITE ASSESSMENT

The following assessment has been undertaken in accordance with the requirements of PBP (RFS, 2019).

3.1 Vegetation & Slope Assessment

In accordance with PBP (RFS 2019), an assessment of the vegetation over a distance of 140m in all directions from the site was undertaken. Vegetation that may be considered a bushfire hazard was identified in all directions from the site. This assessment is depicted in Table 3-1 below.

In accordance with PBP (RFS 2019), an assessment of the effective slope underneath the vegetation considered a bushfire hazard was undertaken for a distance of 100m and the results are presented in Table 3-1 below.

Table 3-1: Vegetation Classification for Proposed Sheds

Direction	Vegetation Type	Slope
North	Grasslands and Forest vegetation	Flat ground
East	Grasslands and Forest vegetation	Flat ground
South	Grasslands and Forest vegetation	Downslope (0-5°)
West	Grasslands	Downslope (0-5°)

Table 3-2: Vegetation Classification for Proposed Manager's Residences

Direction	Vegetation Type	Slope
North	Grasslands and woodland vegetation	Flat / upslope
East	Grasslands	Flat / upslope
South	Grasslands	Flat ground
West	Grasslands	Downslope (0-5°)

Legend

- Subject Site
- 140m Buffer
- Open Forest
- Woodland
- Grassland

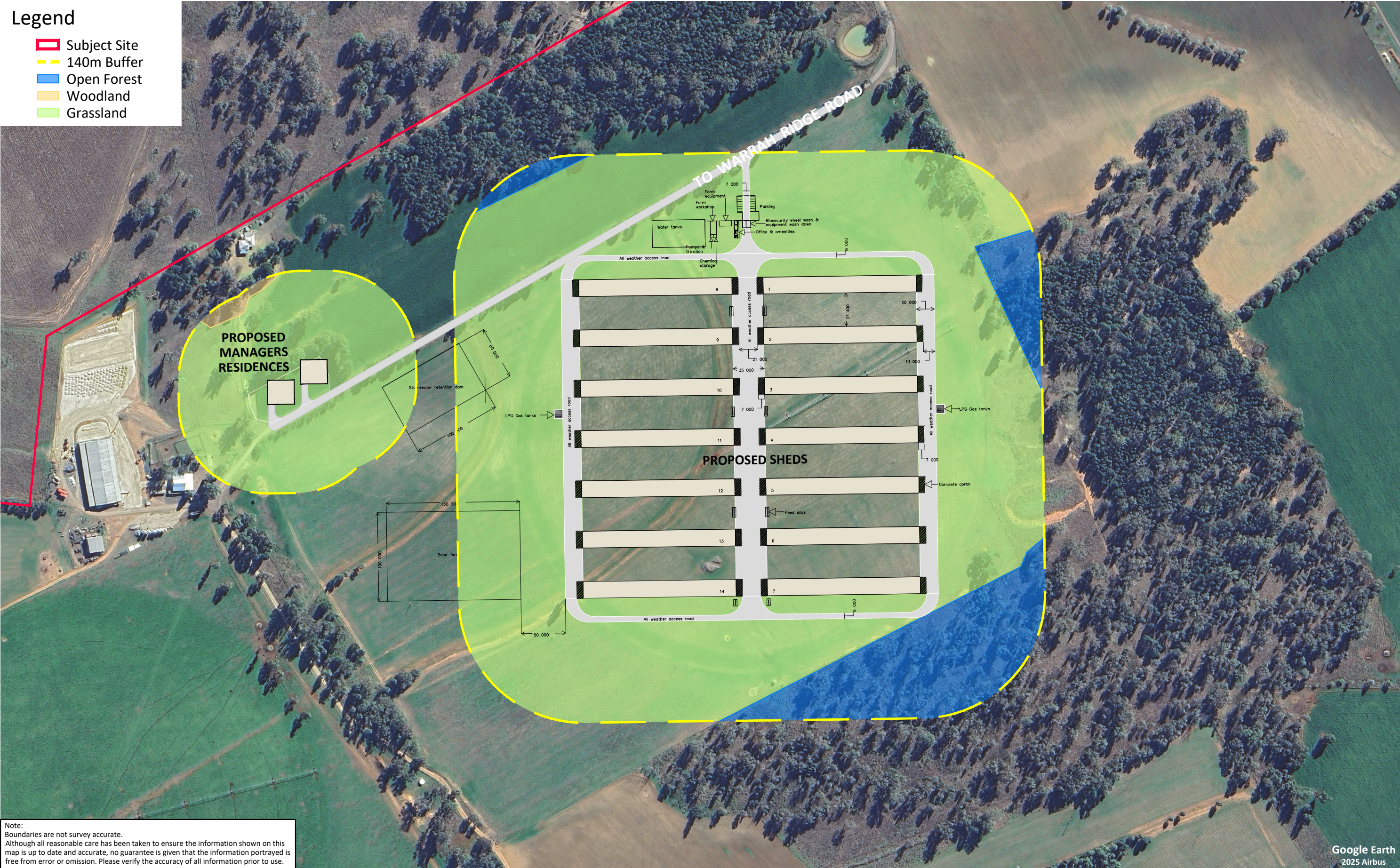
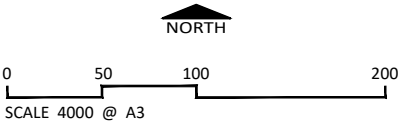


FIGURE 3 - 1: VEGETATION MAP



4 BUSHFIRE PROTECTION ASSESSMENT

4.1 Asset Protection Zones (APZ)

The PBP (RFS, 2019) guidelines have been used to determine the widths of the APZs required for habitable buildings within the site using the vegetation and slope data identified in Section 3-1 of this report.

The objective of Chapter 1 in regard to APZs details to provide for a defensible space to be located around buildings and provide appropriate separation between a hazard and buildings, which in combination with other measures, prevent the likely fire spread to buildings. The proposed sheds will comply with the assessment shown in Table 4-1.

The acceptable solution in Chapter 7 in regards to APZs for residential infill development intends for an APZ to be provided in accordance with Table A1.12.6 in Appendix 1 of PBP 2019. The proposed manager's residences will comply with the assessment shown in Table 4-2.

Table 4-1: APZs for Proposed Poultry Sheds

Direction from Development	Vegetation classified within 140m	Effective Slope (within 100m)	APZ to be provided ¹
North	Grasslands and Forest vegetation	Flat ground	Separation distance of 10m
East	Grasslands and Forest vegetation	Flat ground	Separation distance of 10m
South	Grasslands and Forest vegetation	Downslope (0-5°)	Separation distance of 10m
West	Grasslands	Downslope (0-5°)	Separation distance of 10m

¹ For 'Other Development' PBP 2019 does not prescribe a minimum APZ dimension. Rather, it notes the general fire safety requirements of the NCC are accepted as adequate for the purposes of bushfire protection, though measures over and above may be provided. Notwithstanding the above, PBP 2019 requires the consideration of a managed hazard-separation area for firefighting purposes referred to as 'defendable space', as per the aim and objectives of PBP 2019 set out at Section 1.1. Defendable space is an area between buildings and the hazard source which is capable of providing a relatively safe environment in which firefighters can undertake operations to defend an asset or structure. The defendable space dimension is defined by the ability to gain access around an asset, building or structure and conduct defensive firefighting operations.



Table 4-2: APZs for the Proposed Manager's Residences

Direction from Development	Vegetation classified within 140m	Effective Slope (within 100m)	APZ to be provided
North	Grasslands and woodland vegetation	Flat / upslope	Separation distance of 50m
East	Grasslands	Flat / upslope	Separation distance of 50m
South	Grasslands	Flat ground	Separation distance of 50m
West	Grasslands	Downslope (0-5°)	Separation distance of 50m

Legend

- █ Subject Site
- █ 50m APZ
- █ 10m APZ

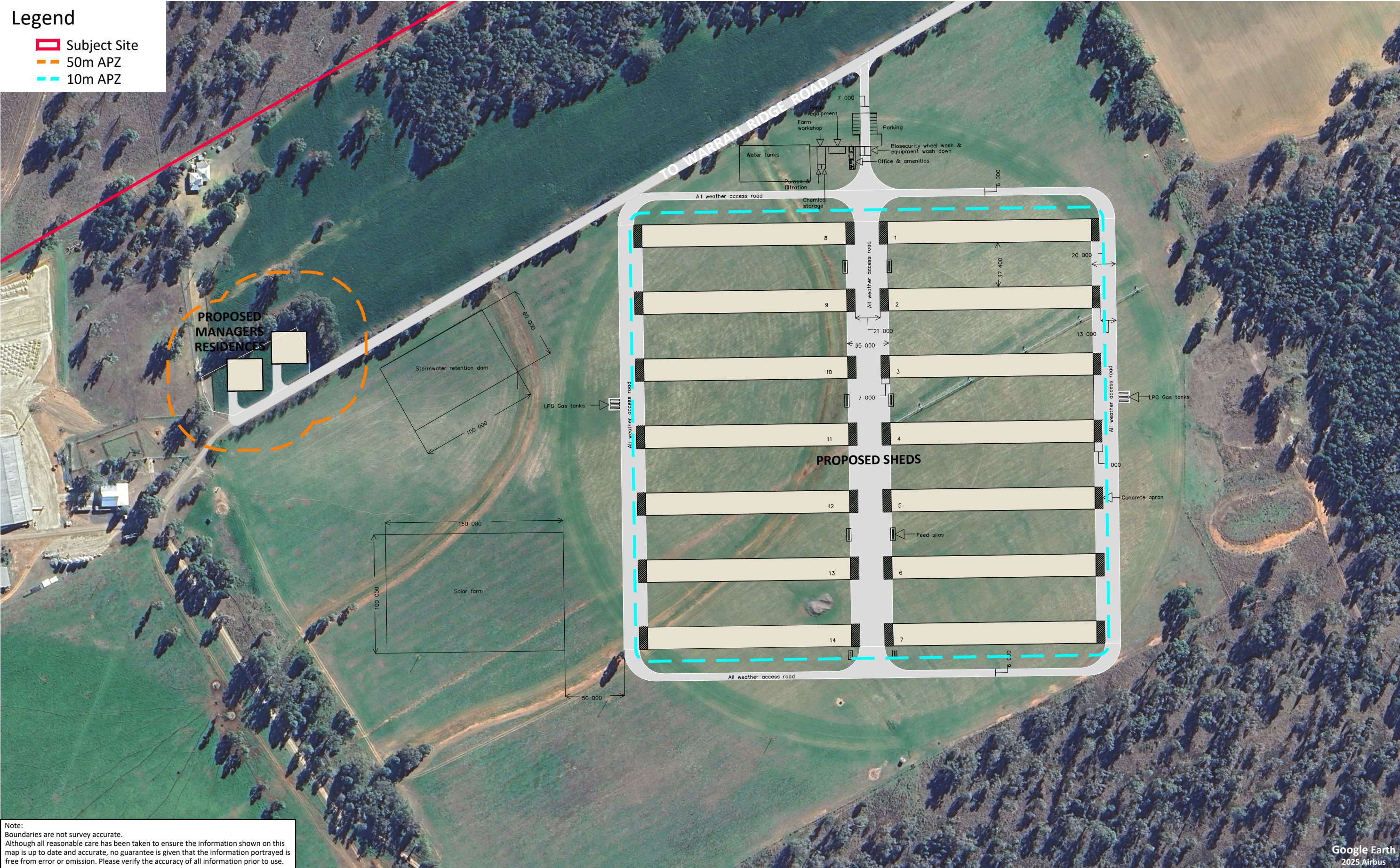


FIGURE 4-1:ASSET PROTECTION ZONES

5 ACCESS

Access servicing the farm is proposed by Warrah Ridge Road / Inverkip Road which is a sealed two-way road with direct frontage to the site at a distance of approx. 920m from the location of proposed sheds and approx. 1.3km from the location of proposed manager's residences. An existing access road will service access from Warrah Ridge Road / Inverkip Road to the poultry sheds & manager's residences and will comply with the following in accordance with Table 7.4a in PBP 2019 for property access:

- › Property access roads are two-wheel drive, all weather roads
- › The capacity of road surfaces and any bridges/causeways is sufficient to carry fully loaded firefighting vehicles (up to 23 tonnes), bridges and causeways are to clearly locate load rating
- › There is suitable access for a Category 1 fire appliance to within 4m of the static water supply where no reticulated supply is available
- › at least one alternative property access road is provided for individual dwellings or groups of dwellings that are located more than 200 metres from a public through road

In circumstances where this cannot occur, the following requirements apply:

- › minimum 4m carriageway width;
- › in forest, woodland and heath situations, rural property roads have passing bays every 200m that are 20m long by 2m wide, making a minimum trafficable width of 6m, at the passing bay;
- › a minimum vertical clearance of 4m to any overhanging obstructions, including tree branches;
- › property access must provide a suitable turning area in accordance with Appendix 3;
- › curves have a minimum inner radius of 6m and are minimal in number to allow for rapid access and egress;
- › the minimum distance between inner and outer curves is 6m;
- › the crossfall is not more than 10 degrees;
- › maximum grades for sealed roads do not exceed 15 degrees and not more than 10 degrees for unsealed roads; and
- › a development comprising more than three dwellings has formalised access by dedication of a road and not by right of way.

Given that the existing property access road complies with the above, it will ensure that appropriate operational access and egress is available for emergency services and occupants internally and to access the public road system.

6 EMERGENCY AND EVACUATION

PBP 2019 identifies at Section 8.3 the requirement for suitable emergency and evacuation arrangements. The proposed broiler farm operation will employ a workforce of two (2) onsite managers and four (4) full time staff. Contract staff are also used to assist with the placement of day-old chicks, clean out and set up the sheds for at the end of each cycle. This is a moderate number of people intended to be onsite and responsible for the management of up to 810,600 birds.

The first element of consideration in relation to emergency and evacuation arrangements is the road network which is considered above, and exceeds the minimum design requirements set out by PBP 2019. The internal road network not only doubles as defensible space for firefighting operations and limits the distance to which grass fire might occur adjacent to the buildings, it also provides a direct linkage to the proposed access road.

In the event of emergency, evacuation of employees from the site may be required in which case, the internal and external road network are capable of facilitating such activities provided departure is decided in sufficient time to enable safe evacuation.

It is not envisaged that the birds occupying the site are reasonably able to be evacuated. However, from a humane perspective the combined bush fire protection measures of defensible space and building construction are intended to offer protection in the event of grass fire. In the event of fire, it is also likely that water supply available on site would be deployed for firefighting purposes and to protect the structural assets which inherently seeks to protect the occupants as well as the birds.



7 WATER SUPPLY AND UTILITIES

As the broiler sheds are classified Other Development, the proposal in this regard must meet the objectives of Chapter 1 in PBP 2019 which is to ensure that utility services are adequate to meet the needs of firefighters. The proposal will be provided with two (2) existing bores on site with existing extraction licence. Water will be pumped to the proposed eight (8) water storage tanks for use on the poultry farm.

The proposed manager's residences are classified Infill Development and must meet the specific objectives of Chapter 7 in PBP 2019. In regard to water supply, where no reticulated water supply is available, a 20,000L static water supply for firefighting purposes is provided for each habitable building that must comply with the following:

- › a connection for firefighting purposes is located within the IPA or non-hazard side and away from the structure; 65mm Storz outlet with a ball valve is fitted to the outlet;
- › ball valve and pipes are adequate for water flow and are metal;
- › supply pipes from tank to ball valve have the same bore size to ensure flow volume;
- › underground tanks have an access hole of 200mm to allow tankers to refill direct from the tank;
- › a hardened ground surface for truck access is supplied within 4m;
- › above-ground tanks are manufactured from concrete or metal;
- › raised tanks have their stands constructed from non-combustible material or bush fire-resisting timber (see Appendix F of AS 3959);
- › unobstructed access can be provided at all times;
- › underground tanks are clearly marked;
- › tanks on the hazard side of a building are provided with adequate shielding for the protection of firefighters;
- › all exposed water pipes external to the building are metal, including any fittings;
- › where pumps are provided, they are a minimum 5hp or 3kW petrol or diesel-powered pump, and are shielded against bush fire attack; any hose and reel for firefighting connected to the pump shall be 19mm internal diameter; and
- › fire hose reels are constructed in accordance with AS/NZS 1221:1997, and installed in accordance with the relevant clauses of AS 2441:2005.



8 COMPLIANCE WITH AIMS AND OBJECTIVES OF CHAPTER 1 OF PBP

The proposal includes fourteen (14) sheds for a broiler farm captured as Other Development in PBP 2019. The aim of PBP is to provide for the protection of human life and minimise impacts on property from the threat of bush fire, while having due regard to development potential, site characteristics and protection of the environment.

The objectives are to:

1. afford buildings and their occupants protection from exposure to a bush fire
2. provide for a defendable space to be located around buildings
3. provide appropriate separation between a hazard and buildings which, in combination with other measures, minimises material ignition
4. ensure that appropriate operational access and egress for emergency service personnel and residents is available
5. provide for ongoing management and maintenance of BPMs
6. ensure that utility services are adequate to meet the needs of firefighters. Table 8-1 details the proposed broiler farm sheds compliance with Chapter 1 of PBP 2019.

Table 8-1: Proposed Broiler Farm Sheds Compliance with Chapter 1 of PBP 2019

Aim	Meets Criteria	Comment
The aim of PBP is to provide for the protection of human life and minimise impacts on property from the threat of bushfire, while having due regard to development potential, site characteristics and protection of the environment.	Yes	The proposal's landscaping, defendable space, access and egress, emergency risk management are in accordance with PBP and aims have been achieved.
Objectives	Meets Criteria	Comment
Afford occupants of any building adequate protection from exposure to bushfire.	Yes	The broiler sheds have been provided an APZ of 10m from all elevations in accordance with Appendix 1 of PBP 2019. The proposed manager's residences have been provided an APZ of 50m from all elevations in accordance with Appendix 1 of PBP 2019. Water supplies are available that can be used in firefighting operations within the

Aim	Meets Criteria	Comment
		site should there be any bushfire /fire event.
Provide for defendable space to be located around buildings.	Yes	Defendable space is provided on all sides of the breeder sheds and habitable buildings.
Provide appropriate separation between a hazard and buildings, which, in combination with other measures, prevent direct flame contact and material ignition.	Yes	APZs have been provided in accordance with Table A1.12.6 in Appendix 1 of PBP 2019 for proposed breeder sheds.
Ensure that safe operational access and egress for emergency service personnel and occupants is available	Yes	The site has an existing property access road which has direct access to Warrah Road / Inverkip Road, and access and egress for emergency vehicles and evacuation is adequate.
Provide for ongoing management and maintenance of bushfire protection measures, including fuel loads, in the asset protection zone.	Yes	The fuel loads in the site will be managed.
Ensure that utility services are adequate to meet the needs of firefighters (and others assisting in bushfire fighting).	Yes	Water supply to the broiler farm sheds is proposed via water tanks. There is sufficient capacity proposed to support firefighting operations in the event of fire/bushfire.



CONCLUSION & RECOMMENDATIONS

In summary, a Bushfire Threat Assessment has been undertaken for a proposed poultry broiler farm at 755 Warrah Ridge Road, Warrah Ridge NSW 2343. The report forms part of the supporting documentation for an Environmental Impact Statement (EIS) to be submitted to Liverpool Plains Shire Council (LPS).

The following is recommended to enable the proposal to meet the relevant legislative requirements for the proposed development:

- The proposed fourteen (14) new poultry sheds, supporting infrastructure, and solar farm must comply with the following objectives of Chapter 1 in Planning for Bushfire Protection 2019:
 - › Afford buildings and their occupants protection from exposure to a bushfire;
 - › Provide for a defensible space to be located around buildings - defensible space areas for each laying shed, services buildings and water tanks are provided at minimum 10m
 - › Provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent the likely fire spread to buildings;
 - › Ensure that appropriate operational access and egress for emergency service personnel and occupants is available – consider the preparation of a bushfire emergency management and evacuation plan to support the safe operation of the facility;
 - › Provide for ongoing management and maintenance of BPMs; and
 - › Ensure that utility services are adequate to meet the needs of firefighters.
- The proposed two (2) manager's residences must show compliance with the objectives of Chapter 7 in Planning for Bushfire Protection 2019 including:
 - › The farm manager's residences are to comply with the Bushfire Attack Level (BAL) of **BAL-LOW** and the 50m APZ provisions of this assessment. Its Asset Protection Zone is to be maintained in a low fuel condition (grass height not exceeding 10cm) all year round and in perpetuity.
 - › Direct access/egress to the proposed entrance road from Warrah Ridge Road
 - › Static water supply for the facility meets the following recommendations of this assessment:
 - a) 10m defensible space area is provided around each tank;
 - b) Each steel tank is to facilitate fire appliance access by providing an outlet within 4m of the standing position of a Category 1 tanker, which is likely to pull up on the central access road. The outlet is to be fitted with a 65mm metal Storz outlet with gate or ball valve;
 - c) The tanks are to be topped up to full capacity at the start of each regulated fire season and water levels observed throughout each fire

- season to ensure sufficient firefighting capacity is maintained for the duration of the season;
 - d) Ensure the fire safety provisions of the NCC are implemented and consider the ability for firefighting equipment provided on site to protect the entirety of each building (i.e. hoses are located and can stretch the perimeter around buildings, etc).
- Comply with the following in regard to fittings for static water supply:
 - › a connection for firefighting purposes is located within the IPA or non-hazard side and away from the structure; 65mm Storz outlet with a ball valve is fitted to the outlet;
 - › ball valve and pipes are adequate for water flow and are metal;
 - › supply pipes from tank to ball valve have the same bore size to ensure flow volume;
 - › underground tanks have an access hole of 200mm to allow tankers to refill direct from the tank;
 - › a hardened ground surface for truck access is supplied within 4m;
 - › above-ground tanks are manufactured from concrete or metal;
 - › raised tanks have their stands constructed from non-combustible material or bush fire-resisting timber (see Appendix F of AS 3959);
 - › unobstructed access can be provided at all times;
 - › underground tanks are clearly marked;
 - › tanks on the hazard side of a building are provided with adequate shielding for the protection of firefighters;
 - › all exposed water pipes external to the building are metal, including any fittings;
 - › where pumps are provided, they are a minimum 5hp or 3kW petrol- or diesel-powered pump, and are shielded against bush fire attack; any hose and reel for firefighting connected to the pump shall be 19mm internal diameter; and
 - › fire hose reels are constructed in accordance with AS/NZS 1221:1997, and installed in accordance with the relevant clauses of AS 2441:2005.

If the recommendations contained within this report are duly considered and incorporated, it is considered that the fire hazard present is containable to a level necessary to provide an adequate level of protection to life and property on the proposal for a new pig breeder farm.



9 BIBLIOGRAPHY

Department of Bush Fire Services (undated). *Bush Fire Readiness Checklist*.

NSWFB (1988). *Hazard Reduction for the Protection of Buildings in Bushland Areas*. New South Wales Fire Brigades.

NSW Rural Fire Service (1997). *Bush Fire Protection for New and Existing Rural Properties*. September 1997, NSW Government.

NSW Rural Fire Service (2006). *Planning for Bushfire Protection – A Guide for Councils, Planners, Fire Authorities, Developers and Home Owners*.

NSW Rural Fire Service (2019). *Planning for Bushfire Protection – A Guide for Councils, Planners, Fire Authorities, Developers and Home Owners*.

NSW Rural Fire Service (2005). Standards for Asset Protection Zones. NSW Rural Fire Service.

NSW Rural Fire Service (2002). *Circular 16/2002: Amendments to the Rural Fires Act 1997 – hazard reduction and planning requirements*.

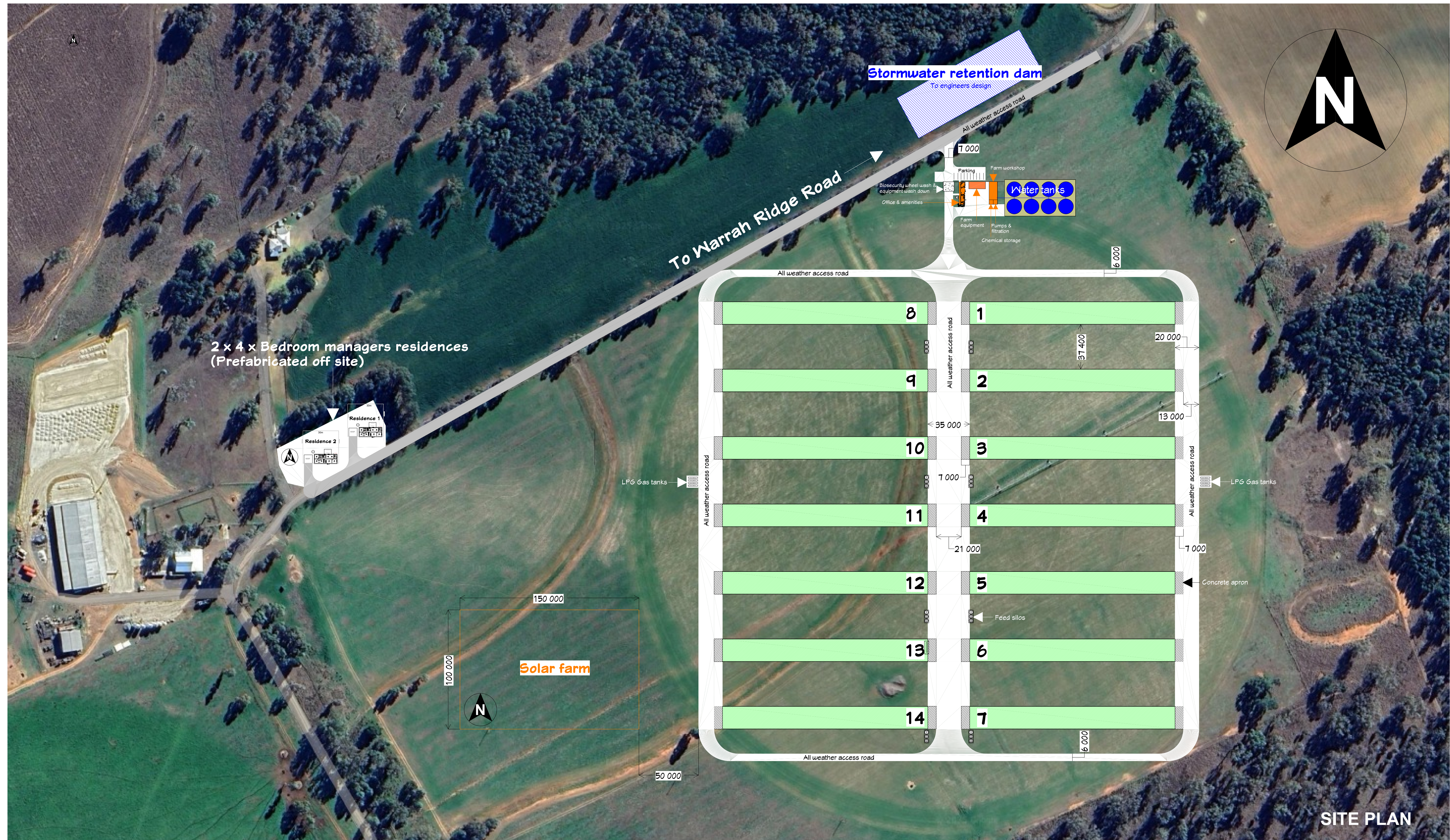
Planning NSW & NSW Rural Fire Service (2001). *Planning for Bushfire Protection – A Guide for Councils, Planners, Fire Authorities, Developers and Home Owners*.

Ramsay, GC and Dawkins, D (1993). *Building in Bushfire-prone Areas – Information and Advice*. CSIRO and Standards Australia.

Rural Fires and Environmental Assessment Legislation Amendment Act 2002.

Standards Australia (2018). *AS 3959 – 2018: Construction of Buildings in Bushfire-prone Areas*.

APPENDIX A PROPOSED SITE PLANS



APPENDIX B ASSET PROTECTION ZONES

APPENDIX 4

ASSET PROTECTION ZONE REQUIREMENTS

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

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

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

A4.1 Asset Protection Zones

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

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

An APZ provides:

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

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

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

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

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

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

A4.1.1 Inner Protection Areas (IPAs)

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

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

When establishing and maintaining an IPA the following requirements apply:

Trees

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

Shrubs

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

Grass

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

A4.1.2 Outer Protection Areas (OPAs)

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

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

When establishing and maintaining an OPA the following requirements apply:

Trees

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

Shrubs

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

Grass

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

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

Figure A4.1

Typical Inner and Outer Protection Areas.

