



## **Appendix L. Bushfire Assessment (Building Code and Bushfire Hazard Solutions, 2021)**

# Bushfire Assessment Report

**Proposed:  
Buronga Landfill  
Expansion**

**At:  
258 Arumpo Road,  
Buronga, NSW**

**Final Report**

**Reference No: 210933**

**21<sup>st</sup> September 2021**

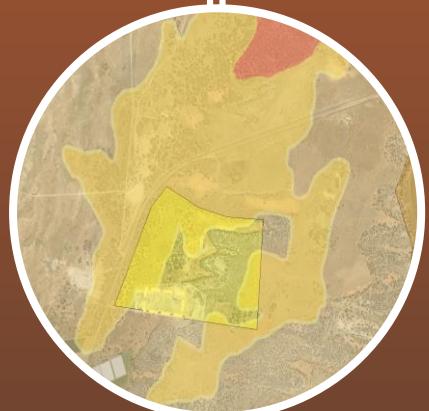


*Prepared By:*  
**Building Code & Bushfire  
Hazard Solutions Pty Limited**

Tel: (02) 9457 6530

PO Box 124  
Berowra NSW 2081  
ABN 19 057 337 774

[www.bushfirehazardsolutions.com.au](http://www.bushfirehazardsolutions.com.au)



## Contents

---

	<u>Page No.</u>
Copyright and Disclaimer	2
List of Abbreviations	3
Executive Summary	4
1.0 Introduction	5
2.0 Purpose of Report	6
3.0 Scope of Report	6
4.0 Compliance Table and Notes	6-9
5.0 Aerial view of the subject landfill site	10
6.0 Site Assessment	11 - 15
7.0 Bushfire Assessment	16 - 23
8.0 Recommendations	24 - 26
9.0 Conclusion	27
10.0 Annexure	28
- List of referenced documents and attachments	
- Attachments	

**Copyright:**

Where agreed to by Building Code and Bushfire Hazard Solutions Pty. Ltd, this report may only be copied, distributed or forwarded to other parties in its original format. No part of this document including any wording, images, or graphics can be modified, changed or altered in any way without the express permission of Building Code and Bushfire Hazard Solutions Pty. Ltd. (Copyright Act 1968).

Where this document is found to have been used or altered in any way without the express permission of Building Code and Bushfire Hazard Solutions Pty. Ltd. including any wording, images, or graphics, Building Code and Bushfire Hazard Solutions Pty. Ltd. will not be held liable for any incidental or consequential loss or damages, financial or otherwise resulting from the use of the modified document. Building Code and Bushfire Hazard Solutions Pty. Ltd. will if it considers it necessary, seek to advise third parties including authorities of such illegal use or modifications.

**Legal status:**

This report has been prepared as a submission document in support of a State Significant Development and in instances may rely upon information provided by a number of external sources including Councils, State Government Agencies and it is assumed that the information provided was accurate at the time. This report cannot be relied upon for commencement of works or construction until such time as it has been endorsed or otherwise included within the consent conditions.

Section 4.14 applications (under the Environmental Planning and Assessment Act 1979) and all infill development applications may be referred by Council to the NSW Rural Fire Service for review and concurrence during the DA process. S100B applications under the Rural Fires Act 1997 (subdivisions and Special Fire Protection Purpose Developments), Flame Zone determinations and Alternate Solutions must be referred by Council to the NSW Rural Fire Service for review and receipt of a Bushfire Safety Authority (BSA) or other such recommended conditions from the NSW Rural Fire Service before the consent can be granted.

The onus is on the applicant to cross reference this document with any conditions of consent issued or any requirements supplied by the NSW Rural Fire Service following development approval. BCBHS can review and cross reference these documents however the onus is on the applicant to provide them to us and request this review – Building Code and Bushfire Hazard Solutions Pty. Ltd. is not in a position to track every development approval and we rely upon the applicant to undertake this role as project co-ordinator.

Where any discrepancy between this document and the development approval or the NSW Rural Fire Service requirements is found, the conditions of consent always take precedence until such time as an application to review, amend or vary these conditions is approved.

**Disclaimer:**

This report has been prepared with due care and diligence by Building Code and Bushfire Hazard Solutions Pty. Ltd and the statements and opinions contained in this report are given in good faith and in the belief on reasonable grounds that such statements and opinions are correct and not misleading bearing in mind the necessary limitations noted in previous paragraphs.

Further, no responsibility is accepted by Building Code and Bushfire Hazard Solutions Pty. Ltd. or any of its officers or employees for any errors, including errors in data which is supplied by a third party, or which Building Code and Bushfire Hazard Solutions Pty. Ltd. is required to estimate, or omissions howsoever arising in the preparation of this report, provided that this will not absolve Building Code and Bushfire Hazard Solutions Pty. Ltd. from liability arising from an opinion expressed recklessly or in bad faith.

Any representation, statement of opinion, or advice expressed or implied in this document is made in good faith on the basis that Building Code and Bushfire Hazard Solutions Pty. Ltd. employees and / or agents are not liable (whether by reason of negligence, lack of care or any other reason ) to any person, company or their agents for any damage or loss whatsoever which has occurred or may occur in relation to that person taking or not taking (as the case may be) action in respect of any representation, statement or advice referred to above.

Version Control				
Version	Date	Author	Reviewed	Status
1	21/09/2021	David McMonnies BPAD Accreditation No. 2354	Stuart McMonnies BPAD Accreditation No. 9400	Final Report

## List of Abbreviations:

---

APZ	Asset Protection Zone
AS3959	Australian Standard 3959 – 2018 as amended
BAL	Bushfire Attack Level
BLE	Buronga Landfill Expansion
BPMs	Bushfire Protection Measures
BPLM	Bushfire Prone Land Map
Council	Wentworth Shire Council
DA	Development Application
ELVIS	Elevation and Depth Foundation Spatial Data
EP&A Act	<i>Environmental Planning and Assessment Act - 1979</i>
IPA	Inner Protection Area
NASH	National Association of Steel-framed Housing
NCC	National Construction Code
NP	National Park
NSP	Neighbourhood Safer Place
OPA	Outer Protection Area
PBP	<i>Planning for Bush Fire Protection – November 2019</i>
ROW	Right of Way
RF Act	<i>Rural Fires Act - 1997</i>
RFS	NSW Rural Fire Service
SEPP	State Environmental Planning Policy
SFPP	Special Fire Protection Purpose
SSD	State Significant Development
SWS	Static Water Supply

## Executive Summary:

Building Code and Bushfire Hazard Solution P/L has been commissioned by Wentworth Shire Council (Council) through Tonkin Consulting to prepare an independent Bushfire Assessment Report for the proposed “Buronga Landfill Expansion” (BLE) located at 258 Arumpo Road, Buronga (the site) and encompasses Lot 1 DP1037845; Lot 212 DP 756946 and Lot 197 DP 756946.

This application is being assessed as a State Significant Development (**SSD**) Application No. 10096818. Specifically, the SSD seeks development consent for the construction and operation of the proposed landfill extension to the north of the existing landfill operational site.

The proposed development is classified as SSD on the basis that it falls within Schedule 1; Cls 23 “Waste and resource management facilities” of the *State Environmental Planning Policy (State and Regional Development) 2011* given the maximum proposed waste to be received each year will be up to 100,000 tonnes.

The Minister for Planning, or their delegate, is the consent authority for the SSD and this application is to be lodged with the NSW Department of Planning, Industry and Environment (**NSW DPIE**) for assessment having regard to Section 4.36 of the Environmental Planning and Assessment Act 1979 and Schedule 1 of the State Environmental Planning Policy (State and Regional Development) 2011.

In this case the NSW Governments ‘ePlanning Spatial Viewer’ has been used to identify that the subject property is partially bushfire prone. The bushfire prone area contains Category 2 Vegetation together with its associated 30m buffer zone therefore the subject site is considered ‘bushfire prone’. It should be noted that the location of the proposed landfill extension is partially located outside any mapped bushfire zone. Notwithstanding, the whole of the site must be considered under the NSW Rural Fire services document “Planning for Bush Fire Protection - 2019”.

This report has been prepared to address the requirements under Section 8.3.10 “Commercial and Industrial Development” of Planning for Bush Fire Protection - 2019 (PBP) in respect to a waste management / landfill site. The subject site and proposal does not contain any residential accommodation and is therefore not captured as Special Fire Protection Purpose (SFPP) or conventional residential development.

The proposal must therefore conform to the aim and objectives as detailed in Chapter 1 ‘Introduction’ and the specific objectives and bushfire protection measures detailed in Chapter 8 ‘Other Development’ of PBP-2019.

The existing Office / Amenities building and Weigh Bridge office were found to be located outside the 30m buffer zone. A minimum Bushfire Attack Level (BAL) of 29kw/m<sup>2</sup> is required for these existing office buildings und PBP-2019; Cls 8.3.10.

The existing informal APZ’s around structures consists of maintained earthen grounds around those structures supported by several access trails within and around the whole of the site.

The proposal will satisfy all relevant specifications and requirements of *Planning for Bush Fire Protection - 2019*.

## 1.0 Introduction

The development proposal relates to the construction and operation of a substantial extension to the existing landfill site located at 258 Arumpo Road, Buronga, Lot 1 DP1037845; Lot 212 DP 756946 and Lot 197 DP 756946. The subject property has street frontage west, to the Arumpo Road and abuts neighbouring open rural space allotments to the north, east and south.

The NSW Government's 'ePlanning Spatial Viewer' identifies the subject property as partially containing Category 2 Vegetation the associated 30 metre buffer zone therefore the subject site is considered to be 'bushfire prone'. It should be noted that part of the proposed landfill extension is located outside the buffer zone. Notwithstanding, the whole of the property must be assessed as being bushfire prone.

Buildings associated with the site are 'non-habitable' consisting of the Weigh Bridge Office, the Office and Amenities building all being of metal construction and portable in nature. Several 'sheds' are also located around the site.

This report has been prepared to address the relevant specifications and requirements of Planning for Bush Fire Protection - 2019 (PBP).

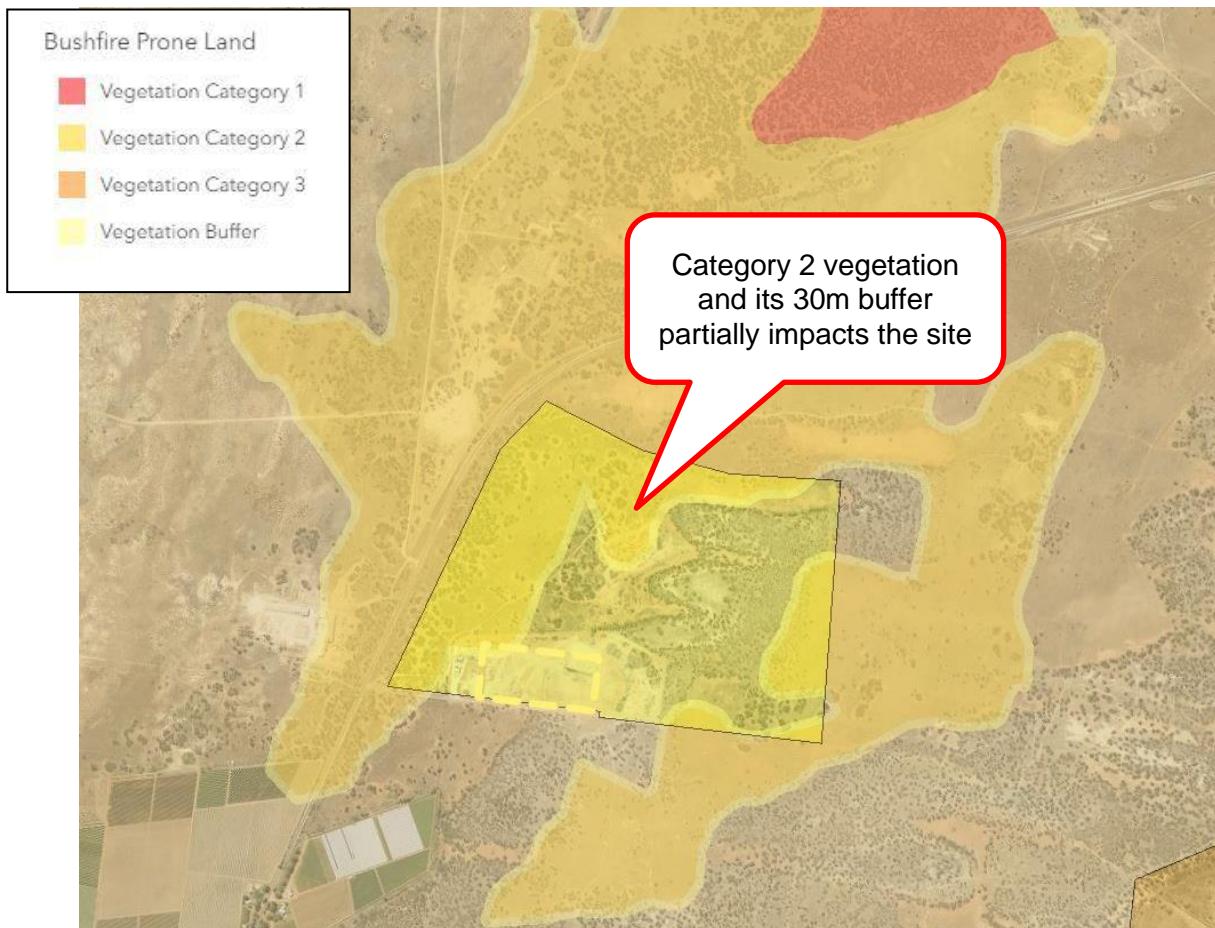


Figure 01: Extract from NSW Governments ePlanning's Bushfire Prone Land Map for the subject land fill area

## 2.0 Purpose of Report

The purpose of this Bushfire Assessment Report is to provide an independent bushfire assessment determination for the subject land fill site and determine if the SSD Application will comply with the relevant specifications and requirements of Planning for Bush Fire Protection - 2019 as required by the Planning Secretary's Environmental Assessment Requirements (SEARS) approval dated 11/11/2020.

## 3.0 Scope of this Report

The scope of this report is limited to providing a bushfire assessment and recommendations for the proposed landfill expansion area. Where reference has been made to the surrounding lands, this report does not purport to directly assess those lands; rather it may discuss bushfire impact and/or progression through those lands and possible bushfire impact to the subject property.

The General Office (NCC Class 5) and amenities building and the Weigh Bridge Office (NCC Class 5) are to remain in their current locations as indicated on Tonkin Drawing No 202597 – 010 Rev A dated 14 September 2021. PBP - 2019, Chapter 8.3.10 'Commercial and industrial development' will be applied in this case inclusive of reference to Chapters 1.1 'Aim and Objectives' and Chapter 7 'Residential Infill Development'.

## 4.0 Compliance Tables & Notes

PBP-2019; Chapter 8.3.10 'Commercial and industrial development' calls for compliance in the following areas of PBP-2019: Chapter 1.1 Aim and Objectives and Chapter 7 'Residential Infill Development'. Chapter 7 is used as a base for a package of bushfire safety measures.

Chapter 7, Table 7.4a 'Asset protection zones' calls for compliance with Table A1.12.2 for the existing buildings. The table provides the minimum distances required to achieve a Bushfire Attack Level (BAL) of 29kW/m<sup>2</sup> where different vegetation structures apply.

The following summary table sets out the required APZ distances to achieve a BAL of 29kW/m<sup>2</sup> for the four compass aspects.

	North	East	South	West
<b>Vegetation Structure</b>	Semi-arid woodland	Semi-arid woodland	Semi-arid woodland	Semi-arid woodland
<b>Slope</b>	0° Up	0° Up	0-5° Down	0-5° Down
<b>Required Asset Protection Zone</b>	12 metres	12 meters	16 metres	16 metres
<b>Available Asset Protection Zone</b>	16 metres	16 metres	16 metres	16 metres

<b>Significant Landscape Features</b>	Rural land / trails	Tip site / roads / trails	Roads / Rural land	Arumpo Road
<b>Threatened Species</b>	Not known	Not known	Not known	Not known
<b>Aboriginal Relics</b>	Not known	Not known	Not known	Not known
<b>Bushfire Attack Level</b>	BAL 29	BAL 29	BAL 29	BAL 29
<b>Required Construction Level</b>	BAL 29	BAL 29	BAL 29	BAL 29

Compliance Summary of Bushfire Protection Measures Assessed			
Bushfire Protection Measure	Acceptable Solution	Performance Solution	Report Section
Asset Protection Zones & Landscaping	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.03
Construction Standard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.03
Access	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.03
Services	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.03
Emergency Management Planning	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.03

Table 01 – Compliance Summary

## Asset Protection Zones Compliance

Chapter 8.3.10 of PBP calls for the provisions of Chapter 7 to be used as a **base** for the development of Bushfire Safety Measures (BSM's). Chapter 7 is primarily designed for residential infill development. Notwithstanding APZ compliance has been assessed and determined for the existing de-mountable Weigh Bridge Office and the Site Office / Amenities buildings and the remaining Class 10 sheds.

Asset Protection Zones for new 'residential' development are determined from Table A1.12.2 of PBP or bushfire design modelling to achieve a radiant heat impact of no more than 29.0kW/m<sup>2</sup> at the closest point of the available building footprint back to the hazard. The maximum APZ depth for the

Weigh Bridge Office and Site and Amenities building has been determined to be not less than 16.0 metres in all directions.

Current drawings suggests that none of the existing main buildings will be relocated. This being the case land to the west of the existing buildings is the only area where a new APZ of 16m is to be provided as the other aspects are already clear of vegetation for greater than 16m.

Other Class 10 structures (sheds) do not require a formal APZ. It is recommended however that 10m APZ be provided around these structures where they are located vegetated areas.

## Construction Standard Compliance

The highest Bushfire Attack Level for the existing Weigh Bridge Office and Site Office and Amenities buildings was determined from Table A1.12.2 of PBP to be 'BAL 29' (for residential dwellings).

PBP Clause 8.3.1 'Buildings of Class 5 to 8 under the NCC' notes that the National Construction Code (NCC) has no specific performance requirements for bushfire protection for these building classifications, in this case the Weigh Bridge Office and Site Office Amenities building.

It does however state that the objectives of Clause 8.3.1 are to be met in regards to access, water supply and services, and emergency and evacuation planning.

PBP Clause 8.3.2 notes in part that the NCC defines a Class 10 building as being a non-habitable building or structure such as a:

- a) *Class 10a – a non-habitable building being a private garage, carport, **shed** or the like*

For the purposes of this report all other structures can be called sheds. There is no bushfire protection requirements for a Class 10 building (shed) located more than 6.0m from a dwelling under PBP or the requirements of AS3959-2018 "Construction of buildings in bushfire prone areas". Given no dwellings are present there is no specific bushfire constructional requirements under PBP -2019 or AS3959-2018 for any sheds.

The construction of the existing Weigh Bridge Office and Site Office and Amenities building is of non-combustible metal cladding consistent with typical portable or demountable building construction and is therefore satisfactory.

However all openable windows, personnel doors or vents will require treatment to prevent the entry of wind driven embers therefore metal mesh screening and door weather strips will be required to meet the requirements of AS3959-2018.

Where compressed timber is used as a flooring the underside of the building will need protection against the lodgement of possible burning embers. This can be afforded by the application of removable, framed metal mesh screens positioned between the edge of the wall / floor and finished ground level.

## Access Compliance

Access for the purposes of public evacuation to a public road system and internal fire service vehicle movement is required under PBP-2019 Cls 8.3.1. In review of the current plans adequate vehicle movement has been provided by the existing graded unsealed road network. All roads are capably of accepting heavy vehicles.

## Services Compliance

Adequate fire-fighting water is to be provided to enable the protection of buildings. Fire-fighting water is available from the existing water storage tank.

Gas and electricity supplies are not to be located such that they would contribute to the risk of fire to a building. The existing electrical supply is an underground supply. There is no town main gas supply, all on-site gas is delivered from LPG cylinders.

## Emergency Management Compliance

An emergency management and evacuation plan is required for the site. The plan should include a section on bushfire impact.

## 5.0 Aerial view of the Buronga landfill site

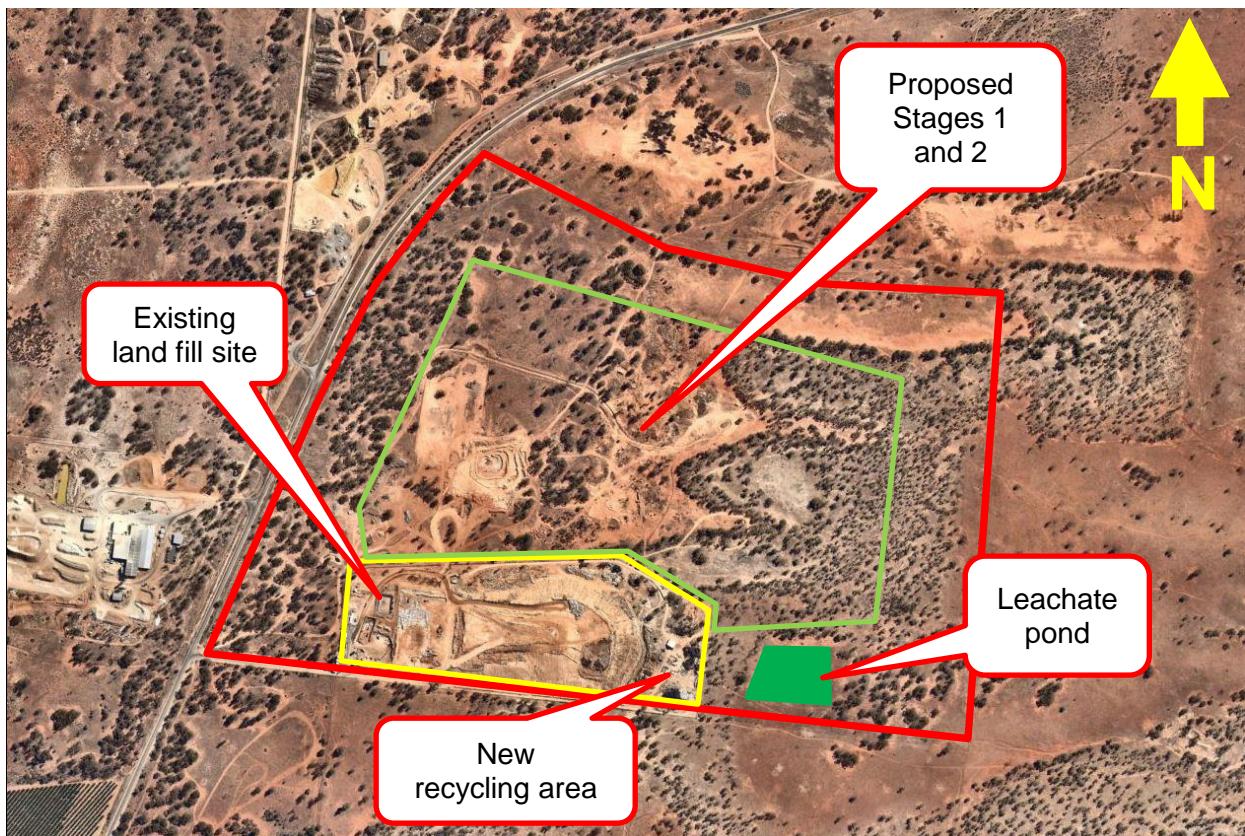


Figure 02: Aerial view of the existing working site (yellow outline),  
approximate new landfill stages 1 and 2 (green outline) and  
landfill boundary (red outline)  
Courtesy Nearmap – April 2021

## 6.0 Site Assessment

### 6.01 Location

The subject site is known as the Buronga Landfill and is located at 258 Arumpo Road, Buronga, encompassing Lot 1 of DP1037845; Lot 212 of DP 756946 and Lot 197 of DP 756946. The site comprises a semi rectangular boundary with an area of approximately 124 hectares (licenced) including the current operational area of approximately 19 hectares.

The subject site is zoned SP2: Infrastructure and is within the Wentworth Shire LGA.

The site has street frontage to the Arumpo Road to the west and abuts open space rural allotments to the north, east and south. Several internal access roads and trails service the site.



Photograph 01: View of main entry exist gate from Arumpo Road.

The proposed site is susceptible to possible bushfire impact from vegetation contained within its own boundaries however it is considered unlikely to occur. (source: Council's Bushfire Risk Management Plan)

The on-site portable weigh bridge office, site office / amenities buildings and fuel store shed the only Council buildings on site.

A private contractor is operating a re-cycling facility in the south east corner of the existing landfill site.

There were no other formal access roads observed servicing the site.

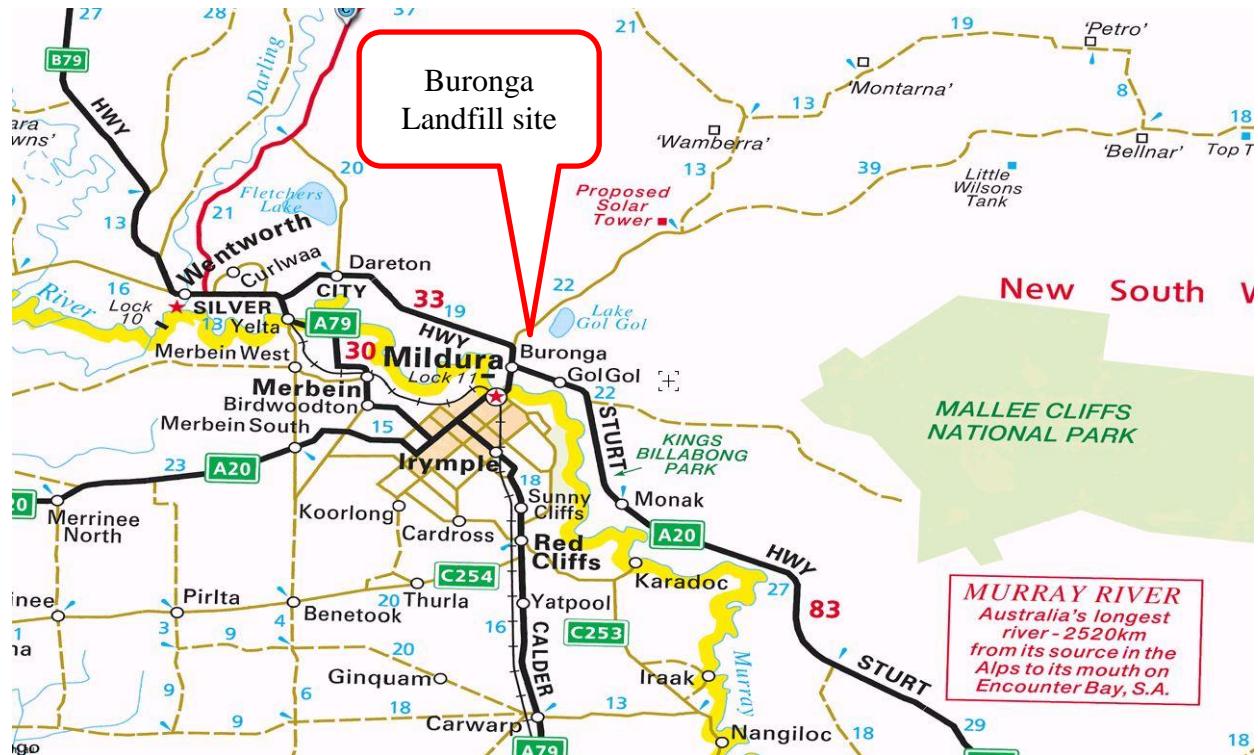


Figure 03: Extract from street-directory.com.au

## 6.02 Vegetation

In accordance with PBP-2019, Appendix 1 'Site Assessment Methodology' we have undertaken an assessment of all vegetation formations within 140 metres of the proposed expansion site for each aspect as per Keith (2004). That is, to the extents of the outer boundary fences. The predominate vegetation within the subject site and adjacent rural grazing land was found to comprise 'semi-arid woodland'.

We have determined that part of the site to the west clearly has semi-arid woodland (Category 2 vegetation) however the areas to the centre and east within the site are more open and support far less vegetation.

The lack of vegetation has been acknowledged in ePlanning's BPLM where part of the central and eastern portion of the site are not recognised as being bushfire prone. (ref Fig 01)

A review of Council's 'Bushfire Risk Management Plan' for the general area (the landfill site has not been listed as a risk) has suggested that a bushfire occurrence is "Unlikely" and the consequence would be "Moderate" resulting in a "Low" risk of bushfire.

49	Economic	Transgrid Sub Station	Arumpo Road	Wentworth	Wentworth	Unlikely	Moderate	Low	NA	6:18
----	----------	-----------------------	-------------	-----------	-----------	----------	----------	-----	----	------

Figure 04 – Extract of Council's BRMP for the Transgrid Substation approximately 6.6km northeast on Arumpo Road.

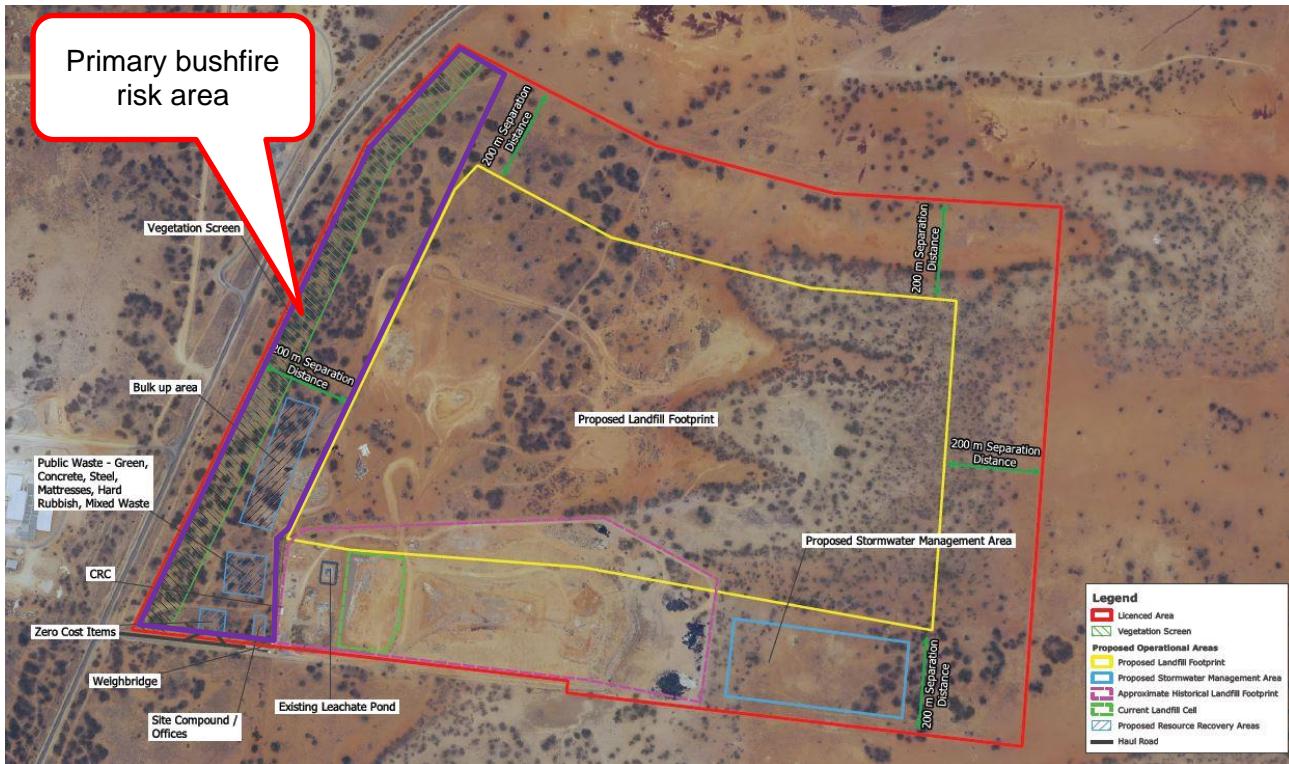


Figure 04: Aerial view of the subject site overlayed with low risk vegetation assessment area (heavy purple line)  
 (acknowledgements: Tonkin Consulting)

The primary area for possible bushfire progression is within the proposed 200m visual separation zone located to the west of the active site. Part of the southern section of this area will be modified to suit future operational structure needs. This will include the further clearing of vegetation as necessary and the construction of supplementary access trails including a car park area.

The new building operational and construction areas combined with new access road/s will significantly reduce the potential for bushfire impact to the existing Weigh Bridge Office and Site Office / Amenities building.

## 6.03 Slope and Topography

The slope of the land under the classified vegetation has a direct influence on the forward rate of spread, fire intensity and radiant heat exposure. The effective slope is considered to be the slope under the classified vegetation which will most significantly influence bushfire behaviour toward the development site.

In accordance with A1.4 'Determine slope' of PBP the slope assessment is to be derived from the most detailed contour data available.

In this instance semi-arid woodland was identified in and around the site assessment area and subsequently a slope analysis is required.



## 6.04 Fire History

There are areas within NSW that have significant fire history and are recognised as known fire paths. While the fire history is more commonly considered as part of strategic planning (to ensure future development is not exposed to an unacceptable risk), it is useful to consider at a Development Application phase to ensure the land is suitable for development in the context of bushfire risk.

In this instance there have been no wildfires recorded within the immediate area (source NPWS Fire History dataset SEED). The closest recorded wildfire was found to be located >7.0 kilometres from the proposed landfill extension.

The subject site is therefore not considered to be within a known fire path. Furthermore in consideration of the previous bushfire history the likelihood of a bushfire occurring within the immediate area is considered unlikely.

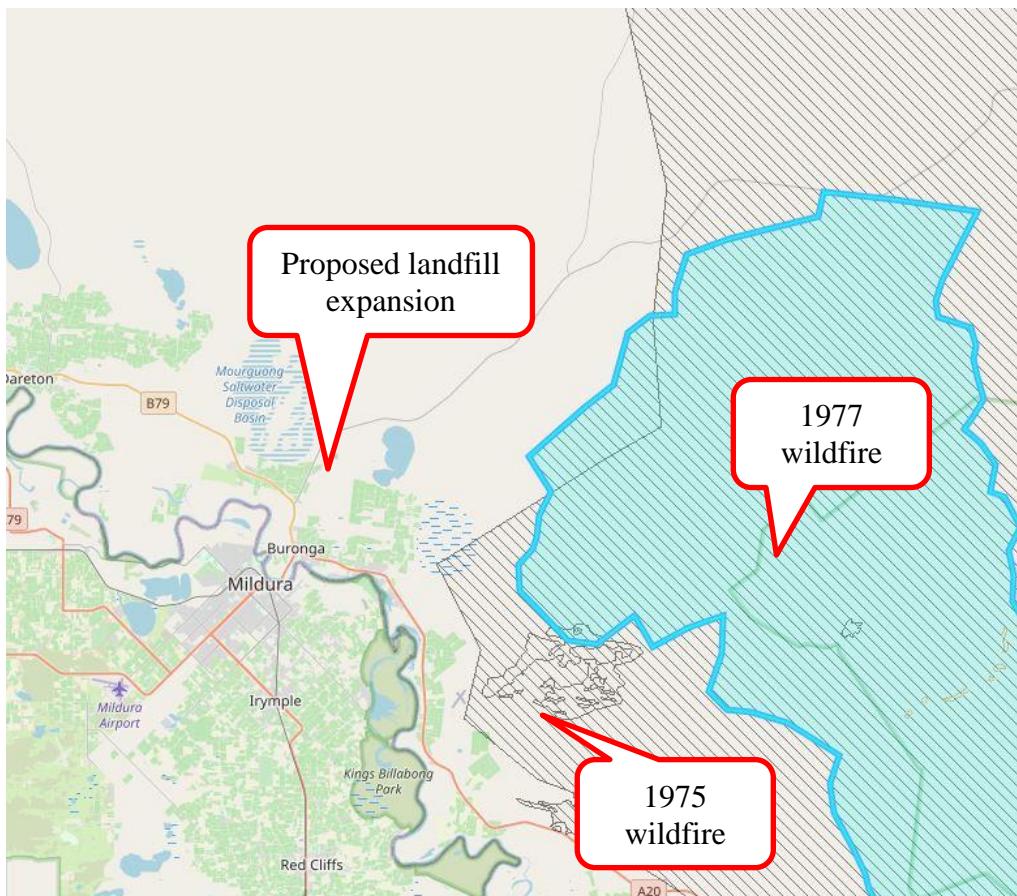


Figure 06 - Areas consumed by 1975 and 1977 wildfires.  
Noting no recorded history of wildfire in or about the subject site.  
(source: NPWLS / Seed)

Local advice is that several fires have occurred within the landfill site. These fires were not the result of bushfire impact, rather, the short circuiting of discarded batteries. All fires were extinguished by applying soil.

## 7.0 Bushfire Assessment

### 7.01 Planning for Bush Fire Protection - 2019

This application is being assessed as a State Significant Development. (SSD-10096818)

Properties considered to be affected by possible bushfire impact are determined from the local Bushfire Prone Land Map as prepared by Council and or the NSW Rural Fire Service.

Reliance has been made on the NSW Rural Fire Service mapping system and the NSW Governments 'ePlanning Spatial Viewer' to identify that the subject site partially contains Category 2 vegetation and its 30m buffer zone. Notwithstanding the partially mapped vegetation area, the whole of the subject site must be considered to be 'bushfire prone'. It should be noted that the location of part of the landfill extension is located outside the buffer zone.

This report has been prepared to address the relevant specifications and requirements of Planning for Bush Fire Protection - 2019 in relation to the proposed extension of the existing landfill site. The subject site and expansion proposal does not contain any staff or caretaker accommodation and is therefore not captured as SFPP development.

Notwithstanding the proposal does involve '*commercial and industrial development*' which is captured under Chapter 8 of PBP.

One of the objectives underpinning PBP is to provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent the likely bushfire spread to buildings.

While there are no minimum required Asset Protection Zones (APZ's) for this type of development it is acknowledged that for commercial and industrial development under PBP 8.3.10, it requires that the provisions within Chapter 7, inclusive of APZ's, are to be used as the **base** for a package of bushfire safety measures.

Chapter 7 requires that APZ's are provided in accordance with table A1.12.2, which details the minimum APZ depth required to achieve  $<29\text{ kW/m}^2$  (BAL 29) onto a building, in this case 16m.

The proposal must also conform to the aim and objectives detailed in Chapter 1 'Introduction' and the development of a suitable package of 'bushfire protection measures' as detailed in Section 7.4 'Bushfire Protection Measures' of PBP.

It is noted that Section 7 relates to '*infill residential development*' and as such the suitable package of bushfire protection measures will be tailored to the lesser risk of a landfill proposal in particular the existing buildings.

## 7.02 Aim and Objectives of PBP (CIs 1.1)

*“The aim of PBP is to provide for the protection of human life and minimise the impacts on property from the threat of bushfire, while having due regard to development potential, site characteristics and protection of the environment.”*

The recommendations within this report will satisfy the aim of PBP.

### Specific Objectives (Section 7.4)

The following table lists the specific objectives for all residential developments in accordance with section 7.4 of PBP applicable to the proposal together with our comments on compliance or otherwise.

Specific Objective	Comment
<i>APZs are provided commensurate with the construction of the building and a defendable space is provided.</i>	Limited, low risk vegetation found on site. Existing building will remain as having a 16m or greater separation from the Category 2 vegetation. Sufficient defendable space will be provided. Minimum depth APZ's will be maintained.
<i>Firefighting vehicles are provided with safe all-weather access roads to structures and hazard vegetation.</i>	An all-weather access road is existing from Arumpo Road into site. Earthen roads and trails capable of supporting fire fighting vehicles have been provided around the site to facilitate operations and fire-fighting if required.  An emergency access gate off Arumpo Road located in the north-western corner of the site will be recommended for emergency service access only.
<i>There is appropriate access to water supply</i>	Access for fire-fighting vehicles is considered satisfactory.  Suitable access and hard stand areas have been provided to existing firefighting water draw off points.  Hard stand areas for new static water draw off points will be recommended
<i>Adequate water supplies is provided for firefighting purposes.</i>	An existing 45,000ltr static water supply is available complete with hard stand and several separate water draw off points. NSWRFS Storz couplings have been provided at all water draw off points.  An additional static water supply has been recommended.
<i>Emergency management Planning exists.</i>	An emergency management plan exists. The plan is to be upgraded with a section on ‘Bushfire’.

## 7.03 Bushfire Protection Measures

Section 7.4 'Bush fire protection measures' (BPM's) of PBP - 2019 outlines the specific BPM applicable to residential infill development including APZ and Landscaping, Construction, Access, Services & Emergency Management Plan. These have been suitably modified to reflect that the proposal does not include any residential accommodation.

The following section addresses each BMP item and the proposals compliance.

### Asset Protection Zones & Landscaping

Asset Protection Zones for new infill residential development are determined from Table A1.12.2 of PBP or bushfire design modelling to achieve a radiant heat impact of not more than 29kW/m<sup>2</sup> at the closest point of the available building footprint. A resultant 16m APZ has been determined for the existing Weigh Bridge and Site Office and Amenities buildings to ensure building resilience and occupant safety should the need arise.

The vegetation determination on site was 'semi-arid woodland', in the main being located along the Arumpo Road boundary and part of the northern boundary.

All grounds around the existing Weigh Bridge and Site Office and Amenities buildings not less than 16.0m in depth will be maintained in accordance with an Inner Protection Area as detailed in Appendix 4 of *Planning for Bush Fire Protection* - 2019 and the NSW Rural Fire Service publication 'Standards for Asset Protection Zones'.

Isolated trees are permissible as garden features / shading.

There are no formal landscape plans to review at this time.

Notwithstanding, a compliance will exist for the project.

### Construction

There is no construction requirements for the existing Class 10 'sheds' under Clause 8.3.2 'Class 10 Structures' of PBP-2019. The existing metal framed portable buildings are satisfactory.

The existing Weigh Bridge and Site Office and Amenities buildings will require compliance with a Bushfire Attack Level (BAL) of 29 as determined from Table A1.12.2 of PBP. This will require a minimum 16m APZ around both buildings for both building resilience and occupant safety / refuge prior to evacuation.

The typical non-combustible metal clad construction of portable or de-mountable buildings will be satisfactory.

Where elevated, all building will require a metal mesh screen to be fixed between the floor and finished ground level to prevent under floor ember entry. Such screens are to be compliant with the screening requirements of AS3959 – 2018.

## Access

The subject site has street frontage to Arumpo Road to the west. The access road consists of an all-weather, two lane road capable of accommodating rigid and articulated heavy vehicles. The width of the access road exceeds the requirements of Chapter 7.4 and Appendix 3 of PBP-2019 being in excess of 10m in width.

The existing internal roads which will be utilised to access the existing and proposed landfill site will be graded / compacted earth with a minimum 5.0m width to achieve or exceed the carriageway requirements for access roads as detailed in Table 7.4a 'Access' of PBP. All new access roads are to comply with the same conditions having regard to slope, cross-fall and vegetation clearances.

Persons seeking to egress the landfill site will be able to do so using the main entry / exit road and existing local road infrastructure.

All static water supply points are to incorporate a hard stand area not more than 4.0m away from the water source.

Adequate vehicle passing is available in most areas or at points less than 200m apart. Vehicle turning can be undertaken freely in most areas.

In consideration of the limited hours of operation (8:00am to 4:00pm) access for fire services and opportunities for occupant evacuation are considered adequate.



Photograph 02: View of all-weather entry exit road being in excess of 16m in width.

Given the size of the landfill site overall, It is recommended that an emergency gate be provided in the north western corner of the site to allow an additional access off Arumpo Road. The gate can be locked with keys issued to local fire services. The provision of the gate will allow secondary access for fire services.



Photograph 03: View of northern boundary fence at corner with Arumpo Road.  
A rough access trail already exists along the boundary fence.

## Services – Water, electricity & gas

The landfill site is not connected to any reticulated town's water main. Existing 'pillar type' fire hydrants and water draw off points are gravity fed or pumped from the existing 45,000 ltr static water supply for both local use and for the replenishment of attending fire services.



Photograph 04 – 45,000ltr static water supply and draw off point.

A water cart truck of approximately 4,000ltrs is also available to be used in case of bush or other fire operations. All static water supply points are to incorporate a hard stand area not more than 4.0m away from the water source.

Given the landfill expansion it will be recommended that the static water supply for firefighting purposes be increased together with suitable additional draw off points. The proposed additional water supply is considered adequate for the replenishment of attending fire services.

There are no reticulated gas services. LPG gas cylinders will be used where necessary and must comply with statutory installation and maintenance regulations.

Electricity supply is underground. Recommendations will be included to ensure compliance with any new electricity services.

## Bushfire Emergency Management and Evacuation Plan

The intent of the Bushfire Emergency Management and Evacuation Plan is to provide suitable emergency and evacuation arrangements for occupants of residential, SFPP or commercial / industrial developments. This assessment includes a recommendation (where not already provided) that a Bushfire Emergency Management and Evacuation Plan is prepared.

## 7.04 PBP Clause 1.1 Aim & Objectives

The following table details the aim and objectives of Planning for Bush Fire Protection - 2019 and the proposals ability to comply.

Aim / Objective	Comment
<p><i>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.</i></p>	<p>With the inclusion of the recommendations made herein it is of our opinion that the aim of PBP has been satisfied.</p>
<p>(i) afford buildings and their occupants protection from exposure to a bush fire;</p>	<p>A 16m wide APZ is proposed around the existing Weigh Bridge Office and the Site Office and Amenities buildings to provide a defendable space, fire service access and a BAL 29 rating.</p> <p>Class 10 buildings (sheds) do not attract a formal construction level under PBP.</p> <p>Buildings and occupants will be afforded satisfactory protection.</p>
<p>(ii) provide for a defendable space to be located around buildings;</p>	<p>A 16m wide APZ is proposed around the Weigh Bridge Office and the Site Office and Amenities buildings to provide fire service access and a BAL 29 rating.</p> <p>The proposed APZ's will be satisfactory.</p>
<p>(iii) provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent the likely fire spread to buildings;</p>	<p>A 16m wide APZ is proposed around the Weigh Bridge Office and the Site Office and Amenities buildings to provide fire service access and a BAL 29 rating.</p> <p>The provision of numerous internal access roads and trails will reduce or prevent the likely spread of bush fire.</p> <p>The available static fire-fighting water supply will also be increased.</p> <p>The provision of appropriate separation, access and fire service water supplies will be compliant.</p>

Aim / Objective	Comment
<p><i>(iv) ensure that appropriate operational access and egress for emergency service personnel and occupants is available;</i></p>	<p>The main entry /exit road off Arumpo Road is sufficient for both day to day operations and for emergency service access.</p> <p>The existing internal road / trail system provides access to almost all of the landfill site. Areas not directly serviced by a road or trail can be freely driven over given the lesser level of vegetation.</p> <p>New internal access roads will be provided to support the expansion of Stage 1 and Stage 2.</p> <p>A new emergency access gate from Arumpo Road will also be recommended.</p> <p>It is considered that satisfactory operational access will be available for fire services and occupant evacuation.</p>
<p><i>(v) provide for ongoing management and maintenance of bush fire protection measures, (BPMs); and</i></p>	<p>All APZ's within the site, are to be maintained in accordance with the NSW Rural Fire Service's document 'Standards for Asset Protection Zones' and Appendix 4 of <i>Planning for Bush Fire Protection 2019</i>.</p> <p>Any new landscaping around the proposed / relocated buildings is to comply with the provisions of Appendix 4 of PBP-2019.</p>
<p><i>(vi) ensure that utility services are adequate to meet the needs of firefighters.</i></p>	<p>Existing static water is available for the replenishment of attending fire services.</p> <p>The existing pillar hydrant network and water draw off points are freely accessible for fire services.</p> <p>The existing static water supply, pillar fire hydrant network and draw off points will be expanded as part of this proposal to service the landfill expansion area.</p> <p>The proposed firefighting water supply will then be satisfactory.</p>

## 8.0 Recommendations

---

The following recommendations are provided as the minimum necessary for compliance with Planning for Bush Fire Protection – 2019. Additional recommendations are provided to supplement these minimum requirements where considered necessary.

### Asset Protection Zones

1. That a 16.0m wide APZ is provided around the Weigh Bridge Office and the Site Office and Amenities buildings and shall be maintained as an Inner Protection Area as detailed in the NSW Rural Fire Service's document 'Standards for Asset Protection Zones' and Appendix 4 of Planning for Bush Fire Protection 2019.

### Landscaping

- 2 That any new landscaping around buildings is to comply with Appendix 4 of *Planning for Bush Fire Protection 2019*.

### Emergency Management

- 3 That a Bushfire Emergency Management and Evacuation Plan be prepared (if already not done so) consistent with the NSW Rural Fire Service Guidelines. The plan can be a section of any existing Emergency Management Plan.

### Services

#### Water Supply:

- 4 That an additional 45,000 ltr static water supply (minimum) is provided to supplement the existing water tank and is to be positioned further north with respect to the proposed new landfill expansion area.
- 5 A suitable number of new pillar type fire hydrants or fixed water draw off points including suitable RFS 'storz' couplings shall be provided for fire service use.
- 6 The new static water supply location and water draw off points are to be provided with a hard stand areas in compliance with Table 7.4a of PBP "Water Supplies" to all fire service use.
- 7 Static water tanks are provided with mechanical water level devices to indicate available water within the tank.

#### Electricity:

- 8 Any new electrical services must comply with Table 7.4a of PBP "Electricity Services", specifically:
  - where practicable, electrical transmission lines are underground.
  - where overhead electrical transmission lines are proposed:

- lines are installed with short pole spacing (30 metres), unless crossing gullies, gorges or riparian areas; and
- no part of a tree is closer to a power line than the distance set out in ISSC3 *Guideline for Management Vegetation Near Power Lines*.

Gas:

9 Any new gas services must comply with Table 7.4a of PBP “Gas Services” specifically:

- reticulated or bottled gas is installed and maintained in accordance with AS/NZS 1596:2014 - *The storage and handling of LP Gas*, the requirements of relevant authorities, and metal piping is used;
- all fixed gas cylinders are kept clear of all flammable materials to a distance of 10m and shielded on the hazard side;
- connections to and from gas cylinders are metal;
- if gas cylinders need to be kept close to the building, safety valves are directed away from the building and at least 2m away from any combustible material, so they do not act as a catalyst to combustion;
- polymer-sheathed flexible gas supply lines to gas meters adjacent to buildings are not to be used; and
- above-ground gas service pipes external to the building are metal, including and up to any outlets.

## Access

10 That any new internal service roads comply with the requirements for Access Roads as detailed in Table 7.4a of PBP, specifically:

- 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 indicate load rating.
- there is suitable access for Category 1 fire appliances to within 4.0m of a static water draw off point hard stand area.
- access is provided to all structures;
- access roads must provide suitable turning areas in accordance with Appendix 3 of PBP; and
- a minimum 4.0m carriageway width kerb to kerb;
- Passing bays are provided at 200m intervals that are 20m long by 2m wide making a minimum trafficable width of 6.0m at the passing bay.
- a minimum vertical clearance of 4m to any overhanging obstructions, including tree branches;
- turning areas are to accord with Appendix 3 of PBP;
- curves of roads have a minimum inner radius of 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.

## Further recommendations:

### Emergency Access Point:

- To assist with rapid bushfire control or emergency evacuation from the site, consideration should be given to the provision of an emergency vehicle access gate off Arumpo Road at the northwestern corner of the site. The gate/s can normally be kept locked however the fire services (NSWRFS) should be provided with a key.
- A dedicated internal access road should be provided from the proposed north gate to the new static water supply point.

### Hazardous Goods Storage:

- All hazardous goods stores are to comply with the requirements of the relevant NSW authority including Safe Work NSW.

### Site Emergency Warning:

- Where not already provided, consider installation of a site wide emergency warning siren or other audible system for use by staff to warn or advise the general public of an emergency incident.

## 9.0 Conclusion

The development proposal relates to the Buronga Landfill Expansion project located at 258 Arumpo Road Buronga in the Wentworth Shire LGA. The proposal allows for an increase in annual waste collection from 30,000 tonnes up to 100,000 tonnes. The landfill footprint will increase from 19ha to 40ha expanding in a northward direction. This application is being assessed as a State Significant Development (Application No. SSD\_10096818).

Both the NSWRFS and the NSW government's ePlanning Spatial Viewer identifies the subject property as partially containing Category 2 vegetation (semi-arid woodland) and its associated 30m buffer zone therefore the subject site is considered 'bushfire prone'.

It should be noted that a portion of the proposed works appears to be partially outside the deemed bushfire prone area.

This report has been prepared to address the relevant specifications and requirements of Planning for Bush Fire Protection - 2019 (PBP).

In accordance with the bushfire safety measures contained in this report, and consideration of the site specific bushfire risk assessment it is our opinion that when combined, they will provide a reasonable and satisfactory level of bushfire protection to the subject development.

As the proposal satisfies all relevant specifications and requirements of Planning for Bush Fire Protection 2019, we are in support of the development.

Should you have any enquiries regarding this project please contact our office.

Prepared by  
Building Code & Bushfire Hazard Solutions P/L



David McMonnies, AFSM. / M I Fire E  
Masters Deg. in Construction. Mgt.  
G. D. Design in Bushfire Prone Areas.  
Advanced Fire Technology Certificate  
Managing Director,



Fire Protection Association of Australia BPAD – Level 3 Certified Practitioner  
Certification number – BPAD2354  
Unit 16/2 Marina Close, Mt. Kuring-Gai NSW 2080  
(02) 9457 6530 Office Mob: 0428 217 068

## 10.0 Annexure 01

### List of Referenced Documents

Tonkin Consulting – Buronga Landfill Proposed Expansion;  
Preliminary Scoping Report, dated 08.10.20

Tonkin Consulting – Buronga Landfill Expansion;  
Project No 202597 Drawing No's: 010 – 014 dated 14/09/2021

Australian Building Codes Board (2019). *National Construction Code Volume Two - Building Code of Australia*. ABCB

*ELVIS -Elevation - Foundation Spatial Data*. Elevation.fsdf.org.au. Available at:  
<http://elevation.fsdf.org.au/>

Keith, D. (2004). "Ocean Shores to Desert Dunes" Department of Environment and Conservation, Sydney

NSW National Parks and Wildlife Service – Wildfire History in NSW ([geo.seed.nsw.gov.au](http://geo.seed.nsw.gov.au))

NSW Department of Planning and Environment, *Planning Portal*. Accessed at:  
<https://www.planningportal.nsw.gov.au/>

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

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

Standards Australia (2018). *AS3959:2018 Construction of buildings in bushfire-prone areas*.

Standards Australia (2014). *AS/NZS 1596 The storage and handling of LP Gas*

Acknowledgements to:

Geoscience Australia  
NSW Department of Lands – SIXMaps  
ePlanning Portal, NSW Government  
Wentworth Shire Council  
Street-directory.com.au  
Google maps - Australia

### Attachments

Nil