

Aaron Nagle
Department of Planning & Environment
Level 5, 10 Valentine Avenue
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Ref: 16SUT_4231

31 July 2016

Dear Aaron,

RE: Ropes Creek asset protection zones and development control plan provisions

Eco Logical Australia (ELA) has been engaged to identify asset protection zones and bushfire attack levels required for land at Ropes Creek that is identified under the *State Environmental Planning Policy (Western Sydney Employment Area) 2009*. These APZ will inform a development control plan (DCP) for the area with recommended controls included in this report. The area covered by this report is shown in **Figure 1**.

Asset protection zones and bushfire attack levels

Asset protection zones (APZ) have been determined for the subject land in accordance with *Planning for Bush Fire Protection 2006* and *Australian Standard 3959 Construction of buildings in bushfire prone areas 2009* (using effective slope and predominant vegetation communities applicable to the site).

This assessment is based on the predominant vegetation being River Flat Eucalypt Forest (RFEF) and Cumberland Plain Woodland (CPW) which are identified as Endangered Ecological Communities under the *Threatened Species Conservation Act 1995* and have a defined vegetation structure and species present. Keith (2004) provides a listing of EECs and their inferred relationships to vegetation classes. Within this listing RFEF falls within the Coastal Floodplain Wetlands class and the Forested Wetland formation, whilst CPW is in the Coastal Valley Grassy Woodlands class and the Grassy Woodlands formation. The Forested Wetland formation includes Coastal Swamp Forests, Coastal Floodplain Wetlands, Eastern Riverine Forests, and Inland Riverine Forests. Although these communities have the same formation, the fuel loads within each are significantly different; Coastal Swamp Forests have high fuel loads resulting from a prevalent understorey, bark fuels and canopy cover, whilst the fuel loads within a Coastal Floodplain Wetlands are significantly less with an absence of understorey and bark fuels, and minimal surface fuels.

Currently *Planning for Bush Fire Protection 2006* identifies fuel loads for Forested Wetland communities as 15/20 t/ha and 10/15 t/ha for Woodland. An advanced copy of the revised Planning for Bush Fire Protection (to be placed on public exhibition following a consultation process) provided by the NSW Rural Fire Service at a workshop on 13 July 2016 has provided further clarification on the Forested Wetland formation. In particular the revised document separates the Coastal Swamp Forest class from the other Forested Wetland classes. This is based on research showing fuels loads of 8.2 t/h (surface fuels) and 15.1 t/ha (overall fuels) for Coastal Floodplain Wetlands and Riverine Forests.

The fuel loads from this research are reflective of those within the riparian corridor as detailed in the *Fire Management Plan (Bushfire) Lot 4 DP262213* (Advanced Bushfire Performance Solutions, 2009), *Fire Management Plan (Bushfire) Lot 10 DP1157491* (Advanced Bushfire Performance Solutions, 2014), and the *Ropes Creek Precinct – Biodiversity and Riparian Assessment* (ELA, 2015).

This assessment (and subsequent APZ and BALs) is based on a woodland classification to reflect the vegetation communities and fuel loads present with the results shown in **Table 1**.

Table 1: Asset protection zones and bushfire attack levels

Bushfire hazard	Required APZ	BAL-FZ	BAL-40	BAL-29	BAL-19	BAL-12.5
Riparian corridor (woodland)	21 m	<15 m	15-<21 m	21-<29 m	29-<41 m	41-<100 m
Grassland (upslope from building)	10 m	<6 m	6-<9 m	9-<13 m	13-<19 m	19-50 m
Grassland (downslope from building)	10 m	<7 m	7-<10 m	10-<15 m	15-<22 m	22-50 m

Development Control Plan provisions

The following objectives and controls are to be considered for inclusion in the Development Control Plan that will apply to the subject land.

Objectives

1. To balance conservation of the natural environment, with the protection of life and property from bushfire.
2. To contain asset protection zones and other bushfire protection measures within the boundaries of the development that they are designed to protect, wherever possible.
3. To enable the maintenance of bushfire protection measures and ongoing vegetation management for the life of the development by the owner or occupier
4. To protect habitable buildings during the passage of bushfire by appropriate siting, design, choice of materials and construction
5. To enable the defence of habitable buildings against bushfire attack by providing adequate water supplies, on-site access and safe access networks for firefighting purposes.

Controls

1. General

- 1.1. A bushfire protection assessment is to be submitted for any development on bush prone land.
- 1.2. Assessment of threat from bushfire is to examine impacts of the proposal both within and external to the site.
- 1.3. Fire protection measures are to be capable of being maintained by owners and uses.

2. Asset protection zones

- 2.1. Asset protection zones are to comply with **Table 1** and *Planning for Bush Fire Protection 2006**.
- 2.2. Asset protection zones are to be placed wholly within the boundaries of the development they are intended to protect.
- 2.3. Asset protection zones are to be located and designed to minimise impacts on native flora and fauna, and where possible are located outside of environmentally sensitive areas

3. Roads

- 3.1. Public roads are to be designed and located to comply with *Planning for Bush Fire Protection 2006**.
- 3.2. Long 'dead end' sections of road are not acceptable.
- 3.3. Perimeter roads or fire trails should be provided between development and any bushfire hazard.
- 3.4. Hydrants for reticulated water supply are to be located outside the road carriageway.

4. Construction

- 4.1. Buildings are to be designed and located to comply with *Planning for Bush Fire Protection 2006**.
- 4.2. Buildings are to be constructed to comply with *Australian Standard 3959 Construction of buildings in bushfire-prone areas*. An indication of required bushfire attack levels is provided in **Table 1**.

**Planning for Bush Fire Protection 2006*, ISBN 0 9751033 2 6, prepared by the NSW Rural Fire Service in cooperation with the Department of Planning, dated December 2006, or any document/s that supersedes this.

Conclusion

A Development Control Plan is a useful means of strategically achieving bushfire protection objectives for development at Ropes Creek. It sets out in greater detail the requirements for development on bushfire prone land in the precinct.

This report uses current best practice data on vegetation and fuel loads to determine APZ and BALs.

If you require further information please contact me on the above number.

Yours sincerely,



Danielle Meggos

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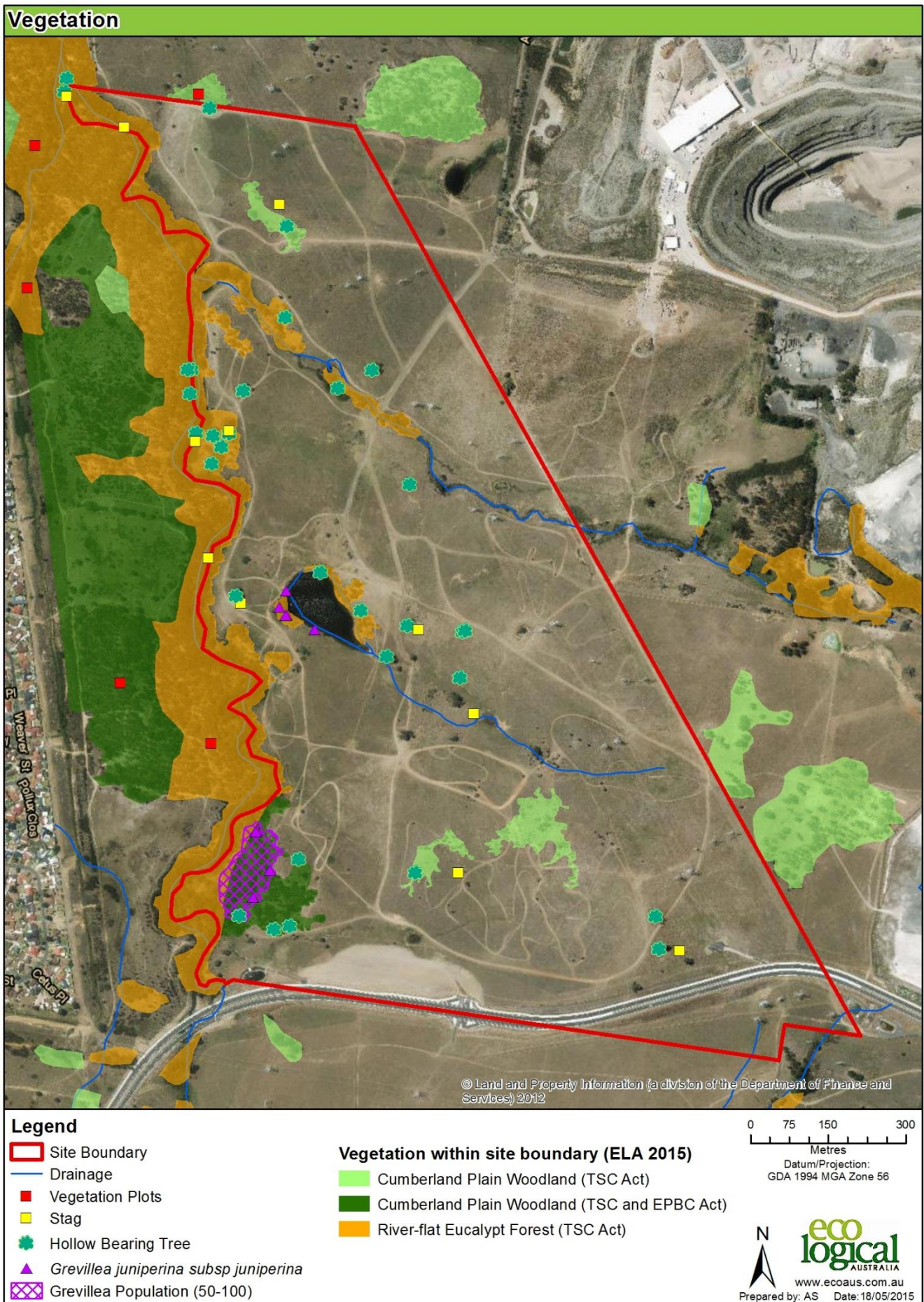


Figure 1: Site boundary and vegetation communities

References

Advanced Bushfire Performance Solutions. 2009. *Fire Management Plan (Bushfire) Lot 4 DP262213*

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