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Lend Lease Communities PTY Limited
C/- Adam Crampton
ADW Johnson PTY Limited
Sent via email: adamc@adwjohnson.com.au

Ref/Job No: 18SUT-9878

20 July 2018

Dear Adam,

Bushfire Protection Assessment for Proposed Basin I, Jordan Springs

This bushfire protection assessment (BPA) has been undertaken to meet the Secretary's Environmental Assessment Requirements (SEAR) 1174 (17/13571). The assessment is based upon review of background information provided by ADW Johnson, desktop analysis of spatial data and previous works within the Jordan Springs development area.

1. Overview

Proposed *Basin I* is located to the south of the Jordan Springs Masterplan Area (**Figure 1**) and situated on land zoned for drainage and Regional Park under the Sydney Regional Environmental Plan No. 30 St Marys (SREP 30). The proposed site is within the Penrith Local Government Area and will occupy Lot 1002 DP 1215087. The two proposed access roads to the site also traverse Lot 2 DP 1216994. Adjacent to the proposed site are the suburbs of Werrington Downs to the south and Cambridge Gardens to the west (**Figure 2**).

This Bushfire Protection Assessment (BPA) is for the proposed development of *Basin I* and associated access roads only. It has been assessed in accordance with Section 4.14 (formerly Section 79BA) of the Environmental Planning and Assessment Act 1979 and 'Planning for Bush Fire Protection 2006' (RFS 2006), herein referred to as PBP. As the proposed development relates to bulk earthworks and basin access roads, non-applicable bushfire protection measures have not been addressed.

As indicated in the detailed basin plans (Figure 3: Proposed basin plan**Figure 3** and **Figure 4**), the proposed *Basin I* is a designated artificial waterbody, with a maximum depth of 2 m and a water volume capacity of approximately 110 ML. Surrounding the basin will be a 4 m wide safety bench where macrophyte planting will be undertaken.

2. Hazard Assessment

In accord with PBP, the predominant vegetation class has been assessed for a distance of at least 140 m out from the proposed development.

As evident in (**Figure 5**), vegetation surrounding the basin is dominated by Shale Plains Woodland which is equivalent to Cumberland Plain Woodland. To the east, adjacent to the creekline, Alluvial Woodland is also present.

Cumberland Plain Woodland falls within the Coastal Valley Grassy Woodlands class and Grassy Woodland formation whilst Alluvial Woodland falls within the Coastal Floodplain Wetlands class and the Forested Wetland formation (Keith 2004).

The slope class 'most significantly affecting fire behaviour' has been determined for a distance of at least 100 m in all directions. The land slopes gently from east to west, with land to the west of the basin falling into the PBP slope category 'all upslopes and flat land' whilst the slope class category for land to the north and east of the basin is '>0-5° downslope'.

The construction of *Basin I* will not increase the bushfire hazard for adjacent residential areas, and in fact will result in a decrease of Alluvial Woodland vegetation and reduce the level of hazard for residential areas to the south and west of the site.

4. Asset Protection Zones

No APZ has been prescribed as this DA is for basin construction and basin access roads only.

5. Access

The proposed sealed access roads are for basin construction and maintenance only and therefore under this proposal do not constitute perimeter roads or designated fire trails. It is recommended that these access roads comply with the applicable acceptable solutions criteria identified in Error! Reference source not found. for fire trails, where feasible.

It is recommended that the proposed Basin I and access roads be approved.

Yours sincerely,

BPAD Bushfire Planning & Design Accredited Practitioner Level 3

Deanne Hickey
Environmental Consultant

Bruce Horkings
Senior Bushfire Consultant
FPAA BPAD Certified Practitioner No. BPAD29963-L3

Figure 1: Location of proposed Basin I in relation to Jordan Springs Masterplan

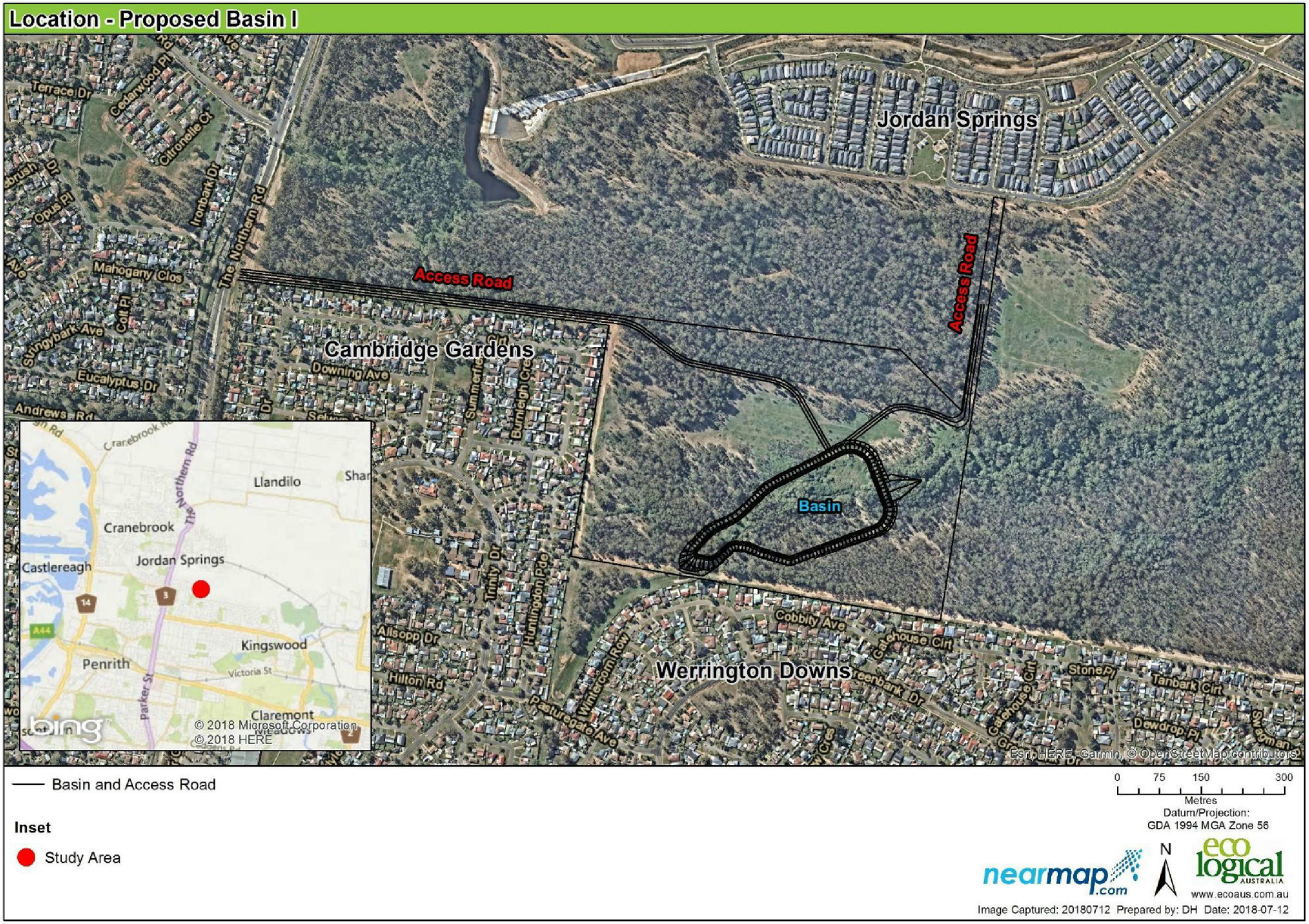

Figure 2: Locality

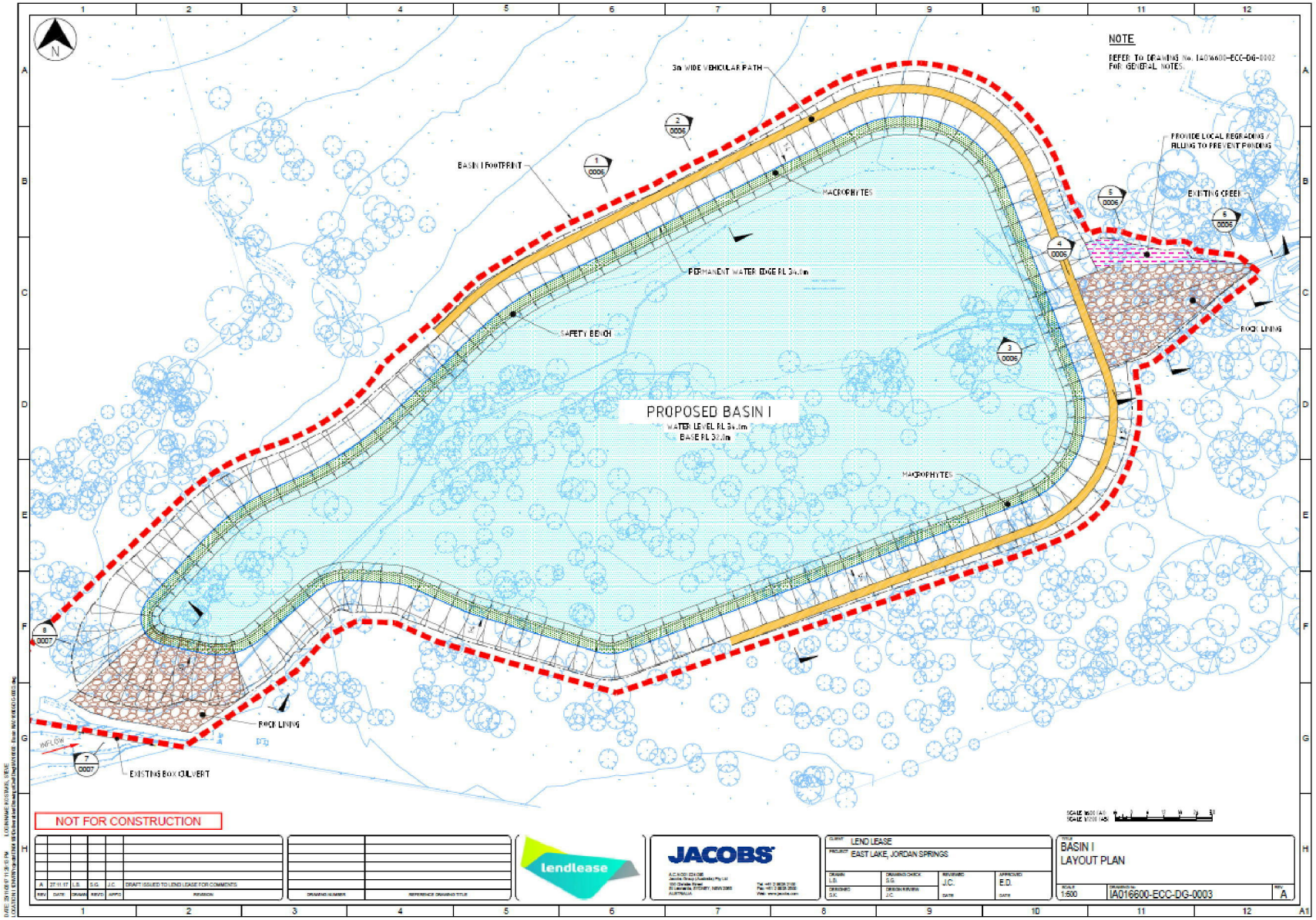

Figure 3: Proposed basin plan

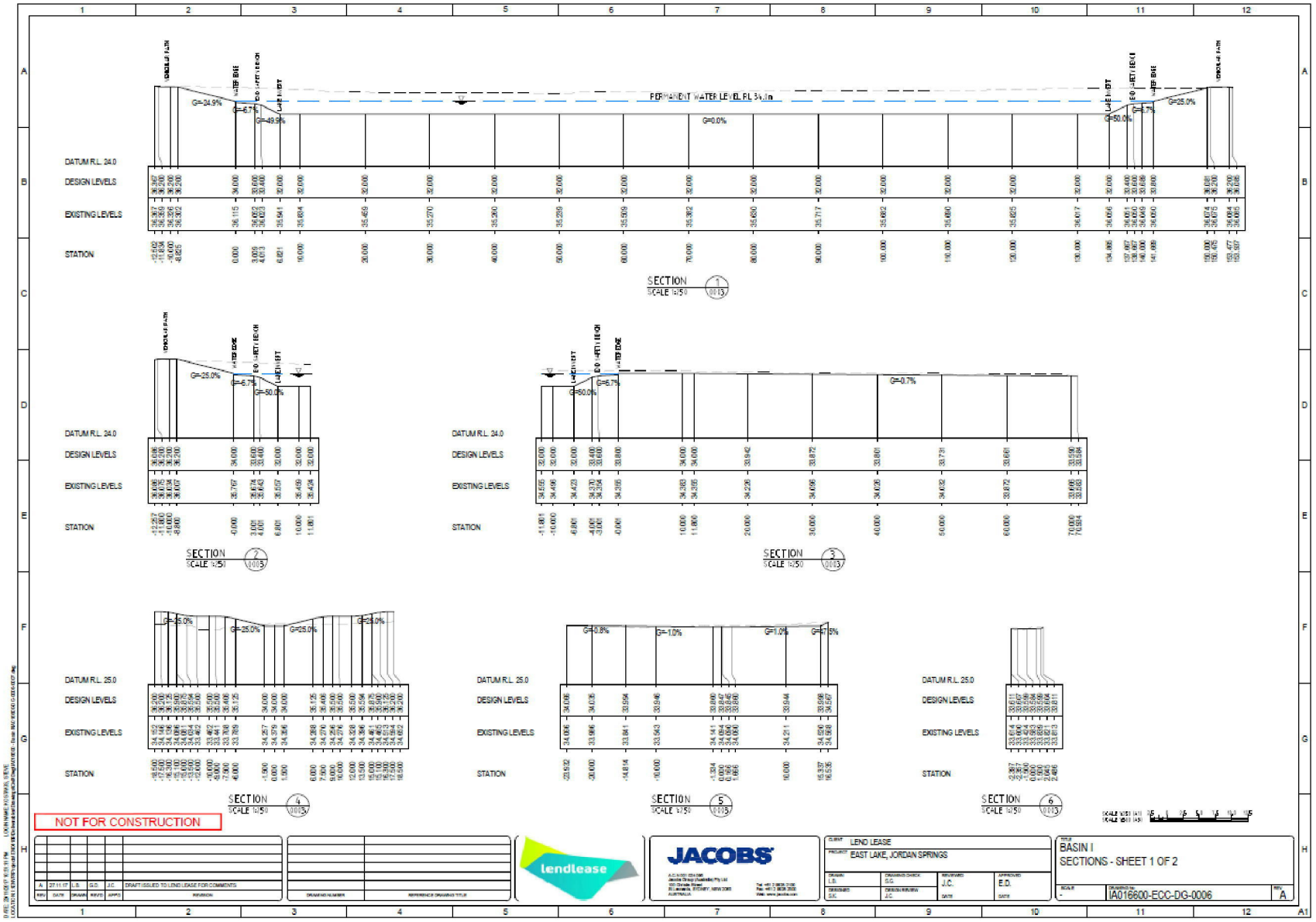

Figure 4: Basin Cross-section

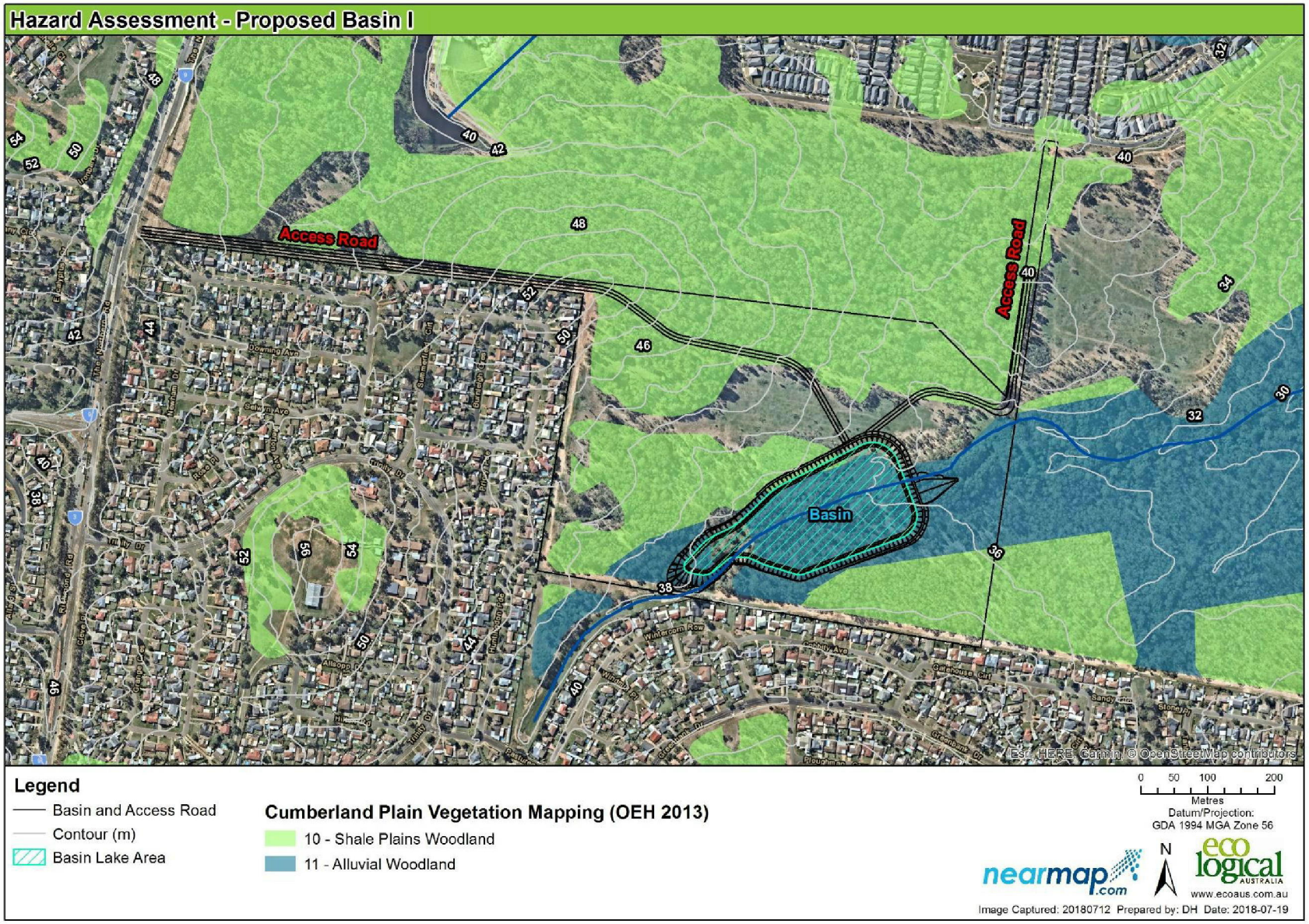

Figure 5: Hazard Assessment

Table 1: Performance criteria for proposed fire trail (PBP page 25)

Performance Criteria	Acceptable Solutions	Complies
The intent may be achieved where:		
• the width and design of the fire trails enables safe and ready access for firefighting vehicles	• a minimum carriageway width of four metres with an additional one metre wide strip on each side of the trail (clear of bushes and long grass is provided.	Can comply
	• the trail is a maximum grade of 15 degrees if sealed and not more than 10 degrees if unsealed.	Can comply
	• a minimum vertical clearance of four metres to any overhanging obstructions, including tree branches is provided.	Can comply
	• the crossfall of the trail is not more than 10 degrees.	Can comply
	• the trail has the capacity for passing by:	
	• reversing bays using the access to properties to reverse fire tankers, which are six metres wide and eight metres deep to any gates, with an inner minimum turning radius of six metres and outer minimum radius of 12 metres; and/or	N/A
	• a passing bay every 200 metres, 20 metres long by three metres wide, making a minimum trafficable width of seven metres at the passing bay.	Can comply
	• *Note: Some short constrictions in the access may be accepted where they are not less than the minimum (3.5m) and extend for no more than 30m and where obstruction cannot be reasonably avoided or removed.*	
• Fire trails are trafficable under all weather conditions. Where the fire trail joins a public road, access shall be controlled to prevent use by non-authorised persons	• the fire trail is accessible to firefighters and maintained in a serviceable condition by the owner of the land.	Can comply
	• appropriate drainage and erosion controls are provided.	Can comply
	• the fire trail system is connected to the property access road and/or to the through road system at frequent intervals of 200 metres or less.	N/A
	• fire trails do not traverse a wetlands or other land potentially subject to periodic inundation (other than a flood or storm surge).	Can comply
	• gates for fire trails are provided and locked	Can comply
• Fire trails designed to prevent weed infestation, soil erosion and other land degradation	• fire trail design does not adversely impact on natural hydrological flows.	Can comply
	• fire trail design acts as an effective barrier to the spread of weeds and nutrients.	Can comply
	• fire trail construction does not expose acid-sulphate soils.	Can comply

6. References

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

NSW Rural Fire Service (RFS). 2006. *Planning for Bush Fire Protection: A Guide for Councils, Planners, Fire Authorities, Developers and Home Owners* including the 2010 Appendix 3 Addendum. Australian Government Publishing Service, Canberra.