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Our Ref: PR118458
Date: 24 December 2013

Attn: Glen Pidgeon
Project Design Director
Westfield Design

Via: gpidgeon@au.westfield.com

Dear Glen,

RE: MODIFICATION OF DEVELOPMENT CONSENT DA2008/1742- ECOLOGICAL CONSIDERATIONS

Introduction

Stormwater works approved under DA2008/1742 included the construction of two additional 3.3 m (W) x 1.8 m (H) culverts beside the existing the 4 x 2.8 m (W) x 1.8 m (H) culverts under Condamine Street. It has been determined that the proposed construction of these two additional culverts under Condamine Street poses major challenges both in terms of traffic management and construction staging.

The proposed modification involves increasing the hydraulic capacity of the existing four RCBCs (Reinforced Concrete Box Culverts) by lowering the base of the two central RCBCs by one metre, and the central section of the apron slab at the culvert outfall. The base of Pit C6 (immediately upstream of the culverts) will also be lowered to match the proposed lowered culvert level. The existing gabion/rock wall at the culvert outfall will be retained.

This letter has been prepared by the Project ecologist, to determine the significance of any potential impacts of the proposed modification on ecological values, known to occur in the study area for the stormwater works approved under DA2008/1742.

Potential Ecological Impacts

Stormwater works approved under DA2008/1742 included the removal of native vegetation adjacent to the culvert outfall, to allow for access to install the new culverts under Condamine Street. The proposed modification does not require the removal of vegetation adjacent to the culvert outfall; accordingly, habitat offered by this vegetation will be retained. This is an improved outcome for biodiversity than what was approved under DA2008/1742.

Three microbat species were recorded during the 12-month microbat monitoring period undertaken between July 2009 and June 2010 (Eco Logical 2010); Eastern Bent-wing bat (*Miniopterus orianae oceanensis*), Little Bent-wing bat (*Miniopterus australis*) and Gould's Wattle Bat (*Chalinolobus gouldii*). The Eastern Bent-wing Bat is listed as a threatened species under the *Threatened Species Conservation Act 1995*, and was found to roost in the culvert

system beneath Warringah Mall. 10 individuals were observed roosting approximately 15-150 metres from the Condamine Street culvert exits during inspections undertaken in August 2009.

The location, size and extent of the construction footprint for the proposed modification remain largely unchanged from stormwater works approved under DA2008/1742. Construction activities required to lower the existing culvert level, base of Pit C6 and central section of the apron slab are less extensive than those required to install new culverts under Condamine Street. The proposed modification is unlikely to result in an increase in the type, extent and magnitude of impacts previously identified for the Project.

Potential impacts on microbats that may result from the proposed modification are consistent with impacts previously assessed by Ecological Assessment: Proposed Drain Augmentation-Warringah Mall, Brookvale (Eco Logical 2009). A Microbat Management Plan has been prepared (RPS 2013), to protect and manage microbats that have been identified roosting in the culverts beneath Warringah Mall, which may be impacted by the Project. The plan describes measures to minimise impacts on any threatened bats utilising the existing drains and trees designated for removal, describes methods for detecting the presence of bats prior to the commencement of any works, and provides options and/or measures for altering construction methods and staging should threatened bats be found roosting in the drains and culverts prior to the commencement of any works. Pre-construction and construction management measures will be implemented in accordance with the Microbat Management Plan.

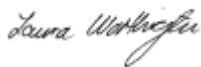
Conclusion

The proposed modification is unlikely to result in an increase in the type, extent and magnitude of impacts previously identified for the Project. The retention of vegetation adjacent to the culvert outfall is an improved outcome for biodiversity, as a result of the proposed modification. The implementation of the Microbat Management Plan and Biodiversity Management Plan (RPS 2013) will mitigate potential impacts on ecological values previously identified in the study area.

We trust this information is sufficient for your purposes; however should you require any further details or clarification, please do not hesitate to contact the writer by telephone or email.

Yours sincerely

RPS



Laura Worthington
Project Ecologist