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Baulkham Hills Shire Council

Report for Hill Road Reserve

Flora and Fauna Report

May 2008

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Definitions

activity – (the proposal) has the same meaning as in the *Environmental Planning and Assessment Act 1979* (*EP&A Act*). The nature of the proposal is described in section 1.2.

endangered population - population specified in Part 2 of Schedule 1 of the *Threatened Species Conservation Act 1995 (TSC Act)*, in Schedule 4 of the *Fisheries Management Act 1994* (*FM Act*) or in the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)*.

endangered ecological community - an ecological community specified in Part 3 of Schedule 1 of the *TSC Act,* in Schedule 4 of the *FM Act* or under the *EPBC Act.*

likely - taken to be a real chance or possibility (NPWS 1996).

locality - means the area within a 10 km radius of the subject site.

local population - the population that occurs within the study area, unless the existence of contiguous or proximal occupied habitat and the movement of individuals or exchange of genetic material across the boundary can be demonstrated (NPWS 1996).

region - means a biogeographical region that has been recognised and documented such as the Interim Biogeographical Regions of Australia (IBRA). The region that the study area falls within is the Sydney Basin Bioregion.

subject site – is the area to be directly affected by the proposal (NPWS 1996). In this case it is the Hill Road Reserve, consisting of both Council and privately owned land, off Hill Road, West Pennant Hills.

study area – the subject site and any additional areas which are likely to be affected by the proposal, either directly or indirectly (NPWS 1996). It includes the area within a 5 km radius of the subject site.

threatened species – a species specified in Schedule 1 Part 1 (endangered species), Part 4 (presumed extinct) and Schedule 2 (vulnerable species) of the *TSC Act* or under the *EPBC Act.*

unlikely – taken to be an unlikely or remote possibility of occurring.

1. Introduction

1.1 Overview

In 2003, a Recreation Needs Study found that the Hill Road Reserve was surplus to the recreational needs of the West Pennant Hills Valley. Council's Sporting and Playing Fields, Parks and Reserves Committee resolved to undertake a feasibility study to address the potential for open space use of the Hill Road Reserve and whether or not Council should acquire the privately owned property (Lot 4 DP 16095).

The feasibility study and associated specialist reports found that the site contained Blue Gum High Forest, which is now listed as a Critically Endangered Ecological Community under the NSW *Threatened Species Conservation (TSC) Act 1995* and Commonwealth *Environment Protection Biodiversity Conservation (EPBC) Act 1999*, as well as habitat for the Common Bent-wing Bat, which is listed as vulnerable under the *TSC Act*.

In 2005, Council resolved to prepare and exhibit an LEP to rezone the entire site to Residential 2(a2) to permit medium density residential development, with a site specific Development Control Plan (DCP) to protect significant vegetation and restrict development in the riparian corridor. This was not supported by the Department of Environment and Climate Change (DECC), and consequently by the Department of Planning (DoP), as it was considered that site specific controls would not provide adequate protection for future management of the vegetation on the site.

However Council believes that the site still has development potential and thus seeks to determine the most appropriate option/s for the site, taking into consideration the various site constraints.

1.2 The Proposal

GHD undertook ecological field surveys across Hill Road Reserve and adjoining private land (herein referred to as the site), primarily targeting rare or threatened species, populations or endangered ecological communities present on the site with the aim of highlighting any areas of particular ecological significance which may present constraints to future development. This assessment aims to consider the existing environment and assess the likelihood of threatened species or endangered ecological communities occurring within the site. It also aims to highlight existing ecological constraints and statutory requirements in regards to potential future development on the site.

The following tasks were undertaken:

- Literature review and database searches;
- Field assessment:
  - Botanical field survey;
  - Verification of previous vegetation mapping;
  - Fauna field surveys;
- Preparation of an ecological assessment report.

1.3 Purpose

The purpose of this report is to provide an Ecological Assessment for input into the Baulkham Hills Shire Council (BHSC) Development Concept Plan for the site. It includes:

- A description of the survey methodology, survey effort, dates of survey and weather conditions;
- Identification of the vegetation communities found at the site with references to appropriate regional vegetation mapping (if available);
- Results of targeted surveys for threatened species;
- Descriptions of the fauna habitat values of the site;
- Descriptions of the conservation significance of the site at various spatial scales, i.e. local, regional, State and National;
- Discussion of the likely impacts of potential future development on flora, fauna and vegetation communities;
- Recommendations as to the management of native vegetation and fauna habitat at the site;
- Recommendations as to possible habitat linkages to and from the site if appropriate;
- Mapping indicating areas of high, medium and low ecological value and a detailed description of how these conclusions were reached; and
- Conclusions drawing together our findings.

1.4 Background

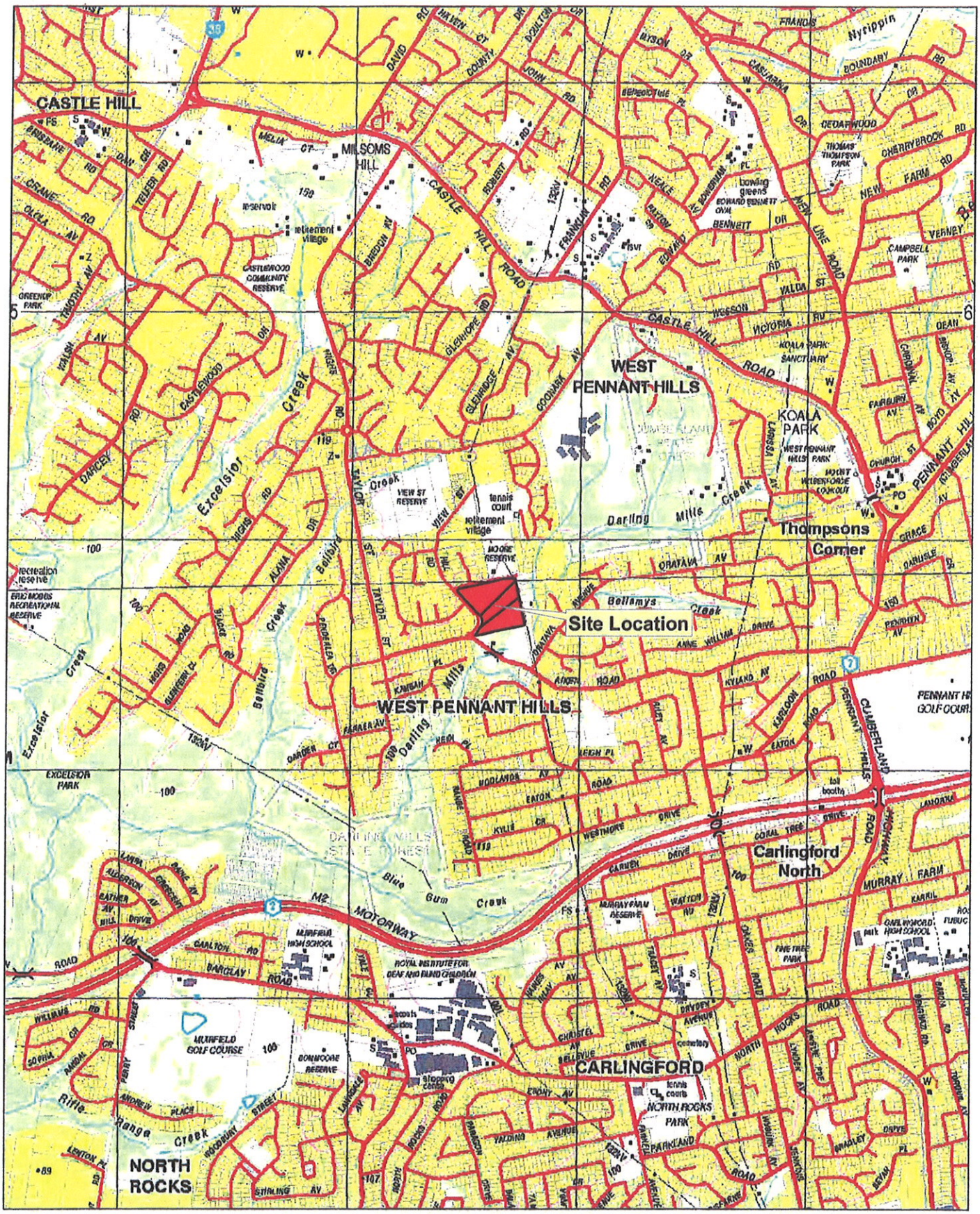
1.4.1 Site Location and Surrounding Land Use

The site is located off Hill Road, West Pennant Hills (see Figure 1). The site is located within a residential development area and is bounded to the west and northwest by residential housing. Residential housing also occurs along part of the eastern and southern boundaries of the site. Two Council bushland reserves are located close to the site: The first is located immediately north of the site along Colbarra Place, with the second, Richard Webb Reserve, located on the southern side of Aiken Road. Another recent development abuts the southwestern boundary of the site with another 8 lot subdivision recently approved immediately southeast of the site and to the north of Aiken Road. There will be restricted development access along the creekline that bisects this new subdivision.

The site consists of both Council and privately owned land, and is zoned partly Open Space 6(a) (Existing and proposed Public Recreation) and partly Residential 2(b) under the Baulkham Hills Local Environmental Plan (LEP) 2005. There are two existing dwellings located on the site – one privately owned and one on land owned by Council.

1.4.2 Climate

The Commonwealth Bureau of Meteorology website provides the following climactic information taken from the Parramatta North weather station (closest station to the site). Mean rainfall peaks in summer ranging from 123.7 mm in February to 45.7 mm in July. Mean daily maximum temperatures range from of 28.3°C in January to 17.3°C in July with a mean daily minimum temperature range from 17.4°C in January to a low of 6.2°C in July.



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Metres

Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia 1994
Grid: Map Grid of Australia, Zone 56

BAULKHAM HILLS SHIRE COUNCIL
Hill Road Reserve

Locality Map

Job Number 21-17235
Revision A
Date 2 April 2008

Figure 1

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2. Methodology

2.1 Literature Review

GHD undertook a review of the following literature and databases:

- Department of Environment and Climate Change (DECC) Threatened Species Database Records for threatened species previously recorded within the locality;
- Department of Environment and Water Resources (DEWR) Protected Matters Search Tool for Matters of National Environmental Significance (NES) listed under the Commonwealth EPBC Act;
- Abel Ecology *Flora and Fauna Condition Report for Hill Road Reserve and Adjoining Properties, West Pennant Hills* (12 July 2005);
- BHSC Mapping (vegetation, EEC);
- Council Report on Feasibility study for the site (December 2005);
- DEC letter of reply for Council rezoning submission (April 2006); and
- A review of any other relevant studies and published information for the site and locality.

2.2 Field Surveys

Ecological field surveys were conducted for Hill Road Reserve on the 26th and 27th of March 2008. Survey methods used, and the format of this report, meets survey specifications outlined in the Draft Threatened Species Biodiversity Survey and Assessment Guidelines from The Department of Environment and Climate Change (DECC) (2004) as deemed appropriate for the size, nature and context of the site. Table 1 summarises the survey effort employed during the field assessment. The weather was mild and partly cloudy with a slight breeze during both survey days and with temperatures reaching 24°C during the day, dropping below 14°C overnight. No rain was recorded on the site during the survey period.

Survey effort employed on site by GHD ecologists has been mapped and can be seen in Appendix D.

Table 1 Survey Methods and Effort

Survey method	Survey effort
Flora	
Vegetation Mapping	1 x 3 hr vegetation survey
Vegetation 20 x 20 m quadrat	3
Random meander	2 x 1 hr transects
Fauna	
Habitat assessment	Entire subject site, random traverses of study area
Hollow bearing tree assessment	Entire subject site

Survey method	Survey effort
Spotlighting	4 hrs total (2 hrs x 2 nights)
Call Playback	1 hr total (0.5 hrs x 2 nights)
Harp Trapping	1 Harp Trap x 2 nights
Anabat	1 Anabat x 2 nights
Diurnal Bird Survey	2 hrs total (0.5 hrs x 2 days dawn survey, 0.5 hrs x 2 days afternoon survey)
Amphibian and Reptile Search	1 hr total (2 people)
Scat Search	1 hr total (2 people)

2.2.1 Flora

Quadrats

The vegetation on the site was verified through characterisation of all vegetation within a 20 m x 20 m quadrat. All species present within the quadrat were recorded and a cover abundance ranking assigned to each species. Notes were also taken on species dominance, soil type and condition, level of weed invasion and any other signs of disturbance (e.g. clearing, fire, rubbish dumping and access disturbance). All species identified on the site are listed in Appendix C.

Random Meander

Targeted surveys for threatened flora species were undertaken as part of the ground truthing within the site, focussing on areas for which threatened flora species have the potential to occur. Random meander transects were carried out across the site and any threatened flora species recorded with a GPS and mapped using GIS. Any specimens thought to be threatened species or for which identification was problematic were sent to the Herbarium at the Royal Botanic Gardens for verification.

Vegetation Mapping

- Ecological Communities

A detailed ground-verification of past vegetation mapping was undertaken across the site, especially in relation to areas which have the potential to be an Endangered Ecological Community (EEC). Vegetation communities with the potential to be EEC were verified through characterisation of all vegetation within a quadrat (20 m x 20 m) placed within each of the vegetation communities. Notes were also taken on level of weed invasion and any other signs of disturbance. Ecological communities found on the site have been mapped and can be found in Appendix E.

- Connectivity and Conservation Significance

The site was traversed and vegetation assessed for its relevant conditions and habitat features. These areas were ranked according to the condition of plant communities, presence of EEC's or threatened

flora or fauna, presence of significant faunal habitat values (i.e. creek lines, hollow-bearing trees and stags), consideration of disturbance (e.g. weed infestations, fire, rubbish dumping and access disturbance) and the contribution of vegetation and habitat values found on the site to other vegetation and habitat links or 'corridors' present in the locality and region. Areas were thus assigned a conservation significance ranking of High, Medium or Low based on the presence or absence of these features. This is discussed further in section 4.3 of this report.

Noxious Weeds

An inventory of noxious weeds present on the site was also undertaken and, where suitable, infestations mapped along with the native vegetation communities (Appendix E).

2.2.2 Fauna

The site has the potential to provide habitat for a range of fauna. The assessment aimed to specifically determine the likelihood of threatened species and their habitats occurring within the site. Assessments were also made to ascertain the potential importance of these areas for native fauna in general. The methods used are described below.

Habitat Assessment

Fauna habitat assessments were carried out for threatened species recorded within the locality (DECC 2008). Surveys involved targeted searches for resources of relevance to native fauna and in particular threatened species, including tree-hollows and stags, water bodies and creek lines, rocky outcrops, overhangs and caves, areas of dense understorey etc. Special attention was given to identifying the presence of specific food trees for threatened fauna species known to occur in the surrounding locality. In addition, indirect evidence of fauna (i.e. scats, feathers, fur, tracks, dens, nests, scratches, chew marks and owl wash) was also recorded.

Hollow-bearing Trees

Hollow-bearing trees (HBT) are essential habitat for numerous fauna including arboreal mammals, bats, owls and other hollow-dependent bird species. The site was traversed using the random meander technique and hollow-bearing trees recorded using a GPS. The following features were recorded:

- Tree height;
- Number of hollows;
- Average diameter of hollows; and
- Presence of scratch marks and other signs of faunal activity.

Diurnal Bird Surveys

Bird surveys were conducted at dawn and dusk for a period of 30 minutes using the point count method. All birds heard and seen during these times were recorded. Any incidental recordings of bird species during other survey activities were also noted.

Glossy Black Cockatoo Habitat

Areas of potential foraging habitat for the Glossy Black Cockatoo were identified across the site and within the immediate survey area, along with any appropriately sized hollow-bearing trees. Indirect evidence of this species was also surveyed for, including the presence of chewed cones.