10. Attachment J – Vegetation Assessment and Net Gain Analysis for a proposed hard rock extractive site, Sanders Road, Garfield North, Victoria

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DRAFT REPORT:

Vegetation Assessment and Net Gain Analysis for a proposed hard rock extractive site, Sanders Road, Garfield North, Victoria

ON BEHALF OF:

Hanson Construction Materials Pty. Ltd.
July 2008

Ecology Partners Pty Ltd

HEAD OFFICE: 420 Victoria Street, Brunswick VIC 3056 MELBOURNE: PO Box 298, Brunswick VIC 3056 GEELONG: PO Box 8048 Newtown VIC 3220

Table of Contents

Tables

Plates

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- Department of Sustainability and Environment for access to the data on the Flora Information System.

Cover Photos: Fungi within study area (Ecology Partners Pty. Ltd.)

The following Ecology Partners Pty. Ltd. employees either undertook the field assessments and/or contributed to the preparation of the draft report: Bianca Aquilina, Zed Senbergs and Jane Currie

SUMMARY

Introduction

Ecology Partners Pty. Ltd. was commissioned by Hanson Construction Materials Pty. Ltd. to undertake a vegetation assessment and Net Gain analysis for a proposed hard rock extractive site on Sanders Road, Garfield North, Victoria. The proposed quarry is seen as an important project for Melbourne with the quarry currently in use is nearly exhausted. It is expected that yearly tonnage from the proposed quarry site will be approximately two million tonnes in the medium term.

A vegetation and Net Gain assessment are required to identify any species or vegetation communities of conservation significance, to record the quality and quantity of native vegetation within the study area, to provide information in relation to Commonwealth and State environmental legislation, and to provide advice in relation to potential impacts and mitigation measures associated with the proposed works within the study area.

Methods

Biological databases maintained by the Department of Sustainability and Environment (DSE) were reviewed, including the Flora Information System (FIS). The presence of Ecological Vegetation Classes (EVC) within the study area was reviewed using DSE's biodiversity interactive maps, while information referring to matters (listed taxa and ecological communities, Ramsar wetlands) protected under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) was also obtained from the Department of Water, Heritage and the Arts Resources (DEWHA) Protected Matters Search Tool.

A flora assessment was undertaken on the 12th June, 18th - 20th June and on the 10th and 11th of December 2008, and a desktop assessment was also carried out to obtain information on the flora values within the study area and immediate surrounds. The study area was visually assessed, with all vascular plants recorded and overall condition of vegetation noted. A list of flora species observed was compiled and the location of any significant species recorded.

Results

Flora

A total of 144 plant taxa (92 indigenous, one native non-indigenous and 52 exotic) were recorded in the study area during the assessment. Planted trees and shrubs were not recorded unless they were seen to be naturally spreading on site.

The majority of the study area is dominated by introduced pasture grass species however a large proportion of indigenous vegetation still persists within the study area. The majority of this indigenous vegetation supports Mountain Grey-gum *Eucalyptus cypellocarpa* with a modified understorey; however the south-western portion of the study area supports a variety of species with a good cover. Over 300 Large Old remnant trees were recorded within the study area. Twelve wetlands occur within the study area with six of them supporting good quality indigenous aquatic vegetation. Five Ecological Vegetation Classes have been identified and mapped within the study area.

No national or state significant flora species were recorded within the study area during the assessment; however there is potential habitat present for a number of significant flora species previously recorded within the local area. A total of 19 regionally significant species were recorded within the study area during the assessment. All other indigenous species are regarded as locally significant.

Ecological significance of study area

The south-western portion of the study area is considered to be of **high regional** conservation significance. All other areas within the central and eastern portions of the study area are considered to be of **regional** conservation significance. Scattered remnants within the northern portion of the study area are considered to be of **local** conservation significance.

For more information about the ecological significance of the area, see Section 4.

Habitat Hectares

Within the study area there is an estimated combined total of **35.3 habitat hectares** of native vegetation including 297 Large Old Trees. A further 27 scattered trees are also present.

Based on a worst-case scenario (i.e. if all native vegetation within the study area is to be removed over time) there is a requirement to generate from the Highlands-Southern Fall Bioregion a total of **42.9 habitat hectares** of native vegetation and to protect 624 Large Old Trees and recruit 3226 new plants **OR** protect 594 Large Old Trees and recruit 4056 new plants.

Significantly sized remnants of the appropriate vegetation type and conservation significance need to be located within the Highlands-Southern Fall Bioregion and an Offset Management Plan devised. This is required to identify suitable offset sites in the local area, to guide management options and to ensure that Net Gain outcomes are ongoing and of a secure nature.

Further details pertaining to the habitat hectare assessment and Net Gain offset calculations are in Section 6.

Potential impacts and mitigation measures

Impacts to flora values will arise from the removal and/or disturbance of indigenous species and communities within the study area. Further potential impacts associated with the proposed works and recommended mitigation measures are detailed in Section 7.

Further requirements

Protected flora listed under the *Flora and Fauna Guarantee Act 1988* (i.e. daisies, ferns) occur within the study area. As such, an FFG permit from DSE will be required if protected flora is proposed to be removed or disturbed.

A permit is required from Cardinia Shire Council to clear/disturb native vegetation within the study area. In this instance, permits may also be referred to DSE. There may also be additional requirements and/or restrictions pertaining to the zoning and overlays covering the site (i.e. Green Wedge Zone with an Environmental Significance Overlay).

Further flora surveys at the optimal time of year (i.e. spring) are recommended in order to detect flora species which may not have been apparent at this time.

Suitable offset sites need to be located within the Bioregion, and prior to management, an audit of the proposed offset sites is required to ensure that the Net Gain outcomes are achieved. This should all be incorporated into an Offset Management Plan.

FIGURES

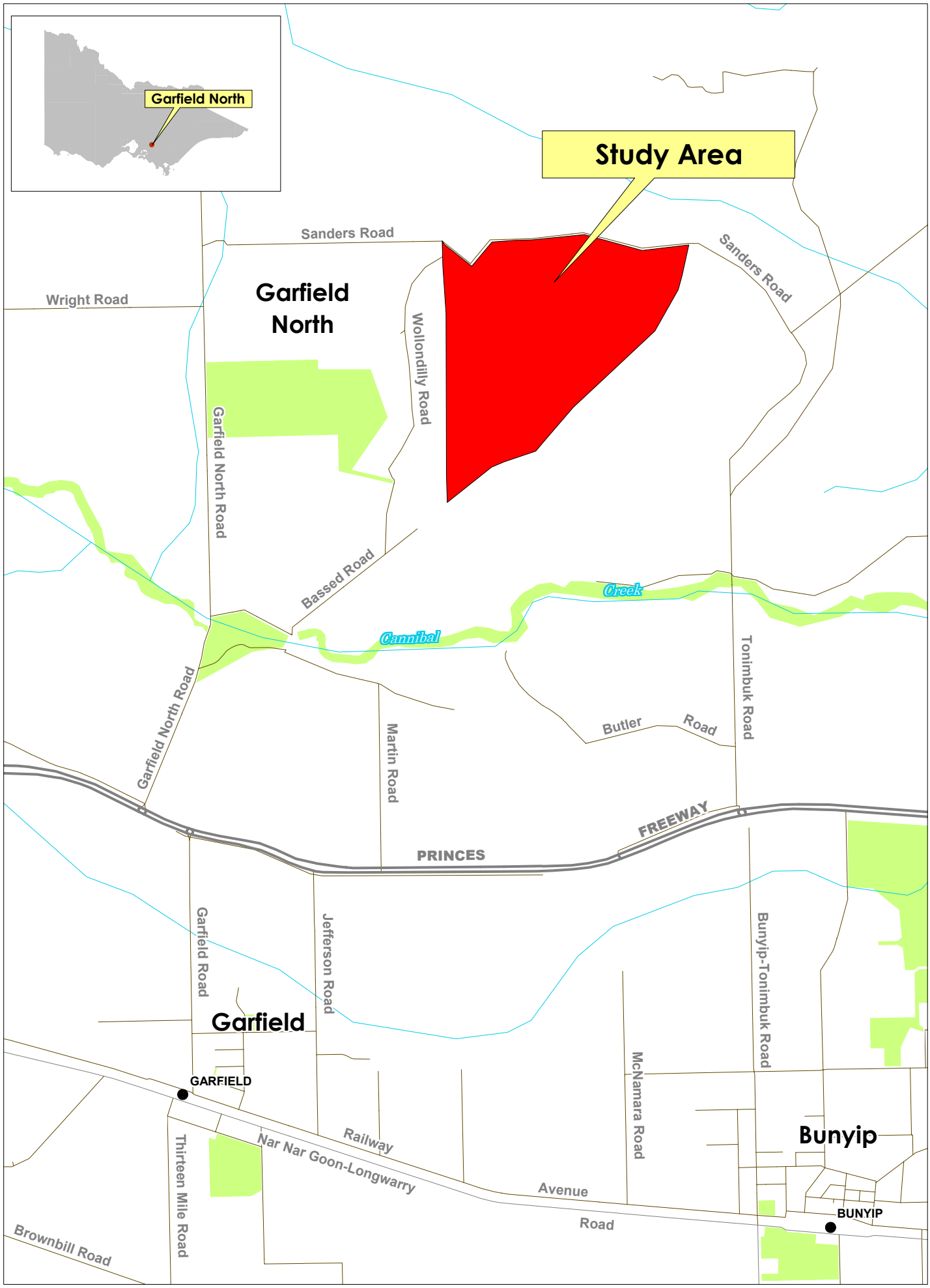

Figure 1
Location of study area, Garfield North

EP Map Num: 927 Fig 1, Issue Date: 7/7/2008

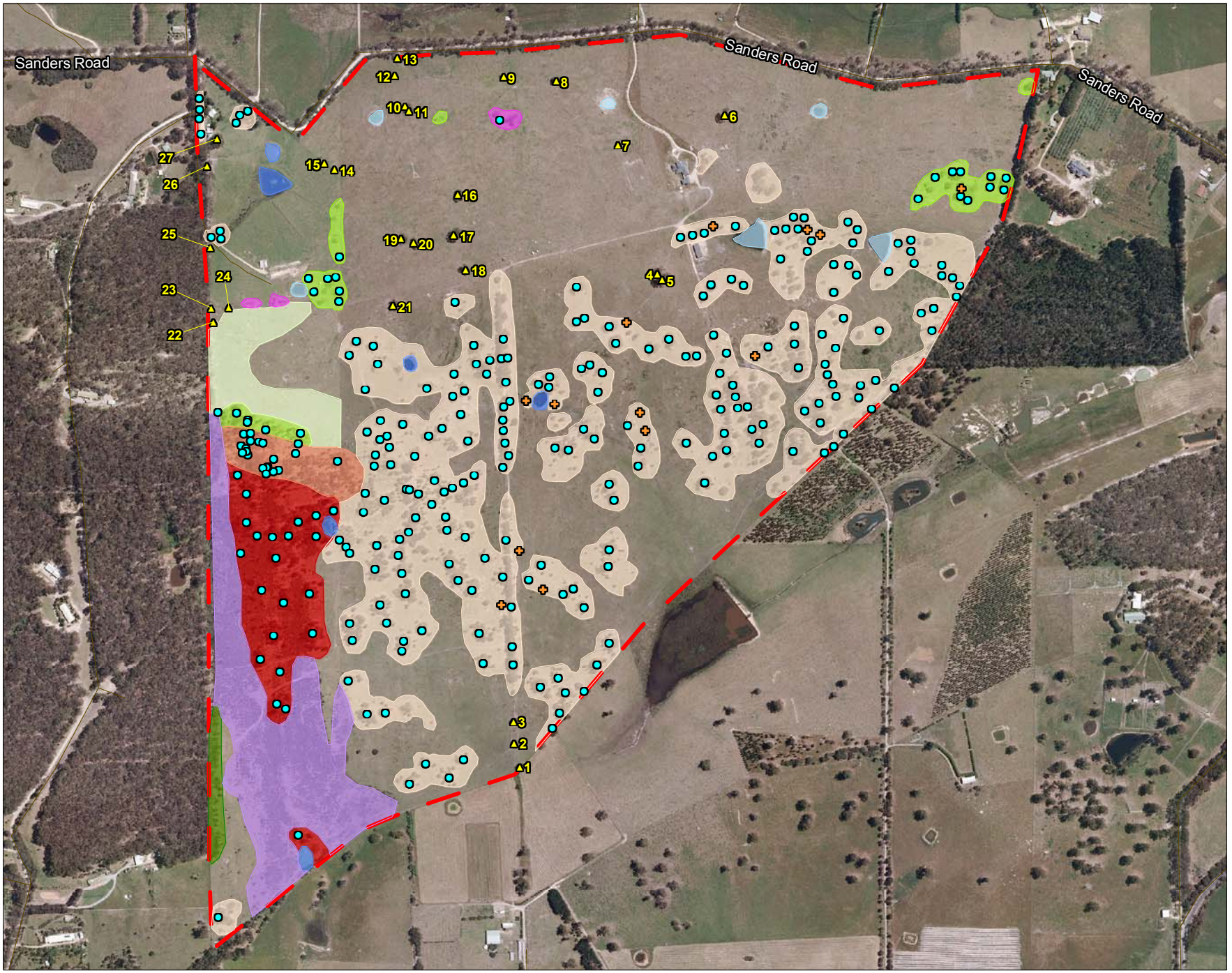

Figure 2
Ecological features within the study area, Garfield North

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