

Orchard Hills Waste and Resource Management Facility

Fauna Assessment

Prepared by:

Aquila Ecological Surveys

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Fauna Assessment

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EXECUTIVE SUMMARY

Aquila Ecological Surveys undertook a fauna survey and assessment of the former Erskine Park Quarry (the "Project Site") to determine likely impacts as a result of a proposal to establish a waste and resource management facility at the Project Site

It was found that fauna habitat at the Project Site is highly modified consisting of large areas of bare ground as a result of excavation or deposition of fill with little subsequent regeneration. Apart from this, there is a dam in the northwestern corner of the Project Site which is intentionally shallow and contains a suite of wetland plants that provide habitat for waterfowl and frogs.

The Eastern Freetail-bat, which is listed as vulnerable on the NSW *Threatened Species Conservation Act 1995*, was detected during the survey. A review of the habitat requirements of other locally occurring threatened fauna species found that the Eastern Bentwing-bat and Large-footed Myotis, which are also listed as vulnerable on the *Threatened Species Conservation Act*, were likely to periodically frequent the Project Site. No species listed on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* were detected or considered likely to occur.

Whilst there would be some impacts on those habitat types represented within the Project Site, these are either highly modified. Whilst three fauna species listed as vulnerable on the *Threatened Species Conservation Act* occur or are likely to occur, there is unlikely to be a significant effect on these species or their habitats. Given these factors, it is considered that, in terms of the likely impacts in relation to fauna and fauna habitat, there are no constraints on the Project proceeding.

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1. INTRODUCTION

1.1 Scope

Dellara Pty Ltd is proposing to establish a waste and resource management facility ("the Project") at the former Erskine Park Quarry ("the Project Site") located at 123 Patons Lane, Orchard Hills (**Figure A**). Aquila Ecological Surveys has been commissioned by R.W. Corkery & Co Pty Limited on behalf of Dellara Pty Ltd ("the Proponent") to prepare a fauna assessment to accompany the *Environmental Assessment* being prepared for the Project.

This report aims to determine whether:

- the proposed development is likely to have a "significant effect on threatened species, populations or ecological communities, or their habitats¹", based on the seven factors listed in Section 5A of the *Environmental Planning and Assessment Act 1979*. If there is likely to be a significant impact, a Species Impact Statement must accompany the development application; and
- the action has, will have, or is likely to have, a significant impact on a matter of national environmental significance listed on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Matters of national environmental significance include threatened and migratory fauna species. If a significant impact were likely the proposed action would be deemed a controlled action requiring approval from the federal Minister for the Environment.

With reference to the definitions provided by the, then, Department of Environment and Climate Change [DECC] (DECC 2007) it is noted that for the purposes of this report the:

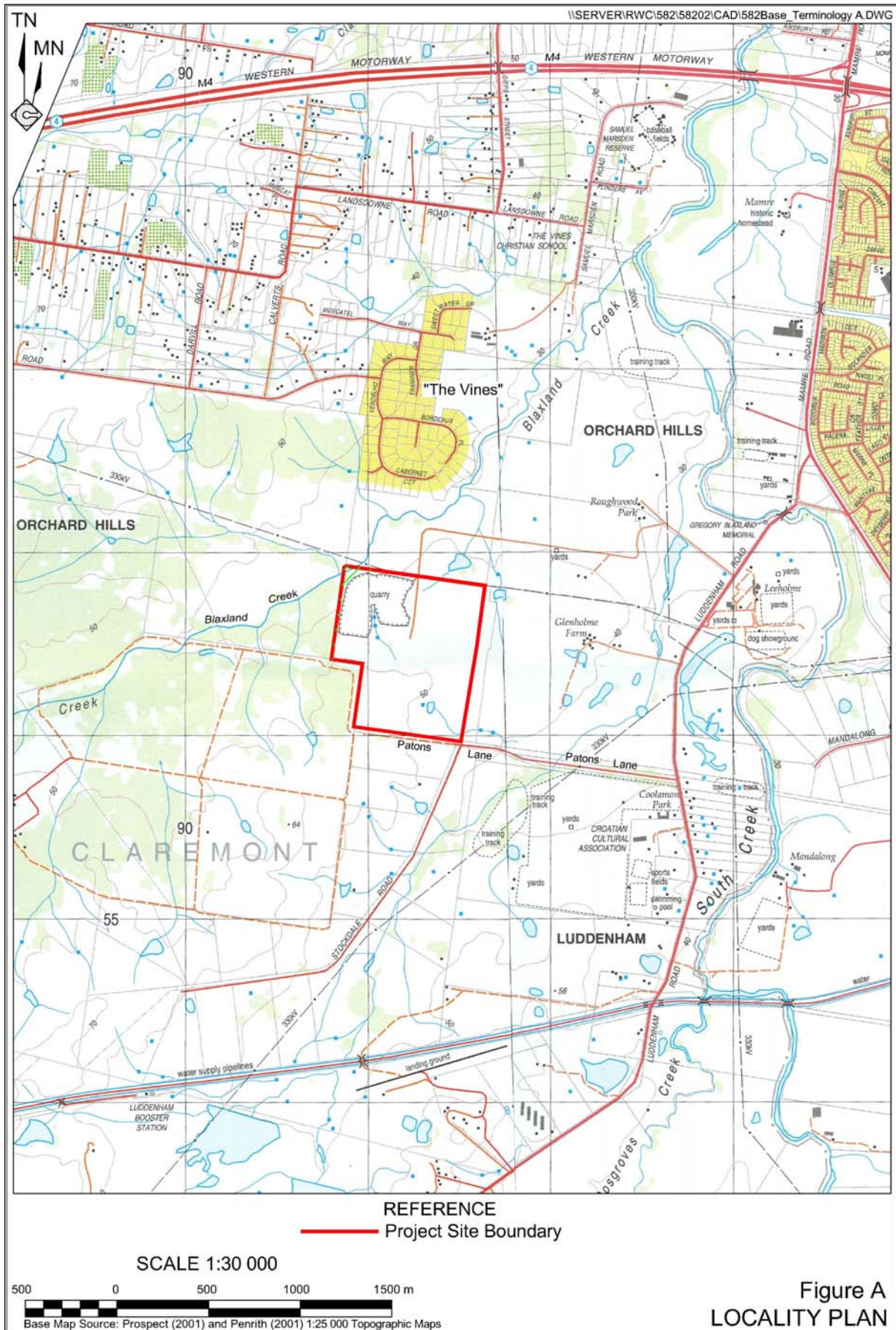
- Subject Site is defined as: the area directly affected by the Project (ie. the Project Site); and
- Study Area is defined as: the Project Site and any additional areas that are likely to be affected by the Project, either directly or indirectly. This particularly relates to the vegetated land to the west of the Project Site owned by the Commonwealth and managed by the Department of Defence.

1.2 Project Overview

The principal activities of the Project would include the following.

- Erection and operation of the waste recycling and re-processing facility.
- Development and operation of staged waste emplacement cells to contain all residual wastes from the recycling facility, other imported wastes (unable to be reprocessed) and selected construction and demolition wastes recovered from the on-site perimeter bund walls.

¹ i.e. species, populations or ecological communities listed on Schedules 1 & 2 of the *Threatened Species Conservation Act 1995*



- Refurbishment of the former weighbridge and offices together with the construction of a range of on-site infrastructure including truck wheel wash and water management structures.
- Ongoing clay/shale extraction (subject to market demand) to recover light-firing shale for use by the brick industry and other clay/shale materials for off-site construction projects and as optimal cover material for the on-site waste emplacement and final capping.
- Progressive selective removal and management of some of the material from the existing perimeter bund walls including identification, separation and re-processing or disposal of waste materials previously imported to the site and incorporated into the bund walls in contravention to the requirements of the *Protection of the Environment Operations Act 1997* and the development consent for the site.

Figure B shows the indicative Project Site layout.

2. METHODS

2.1 Literature Review

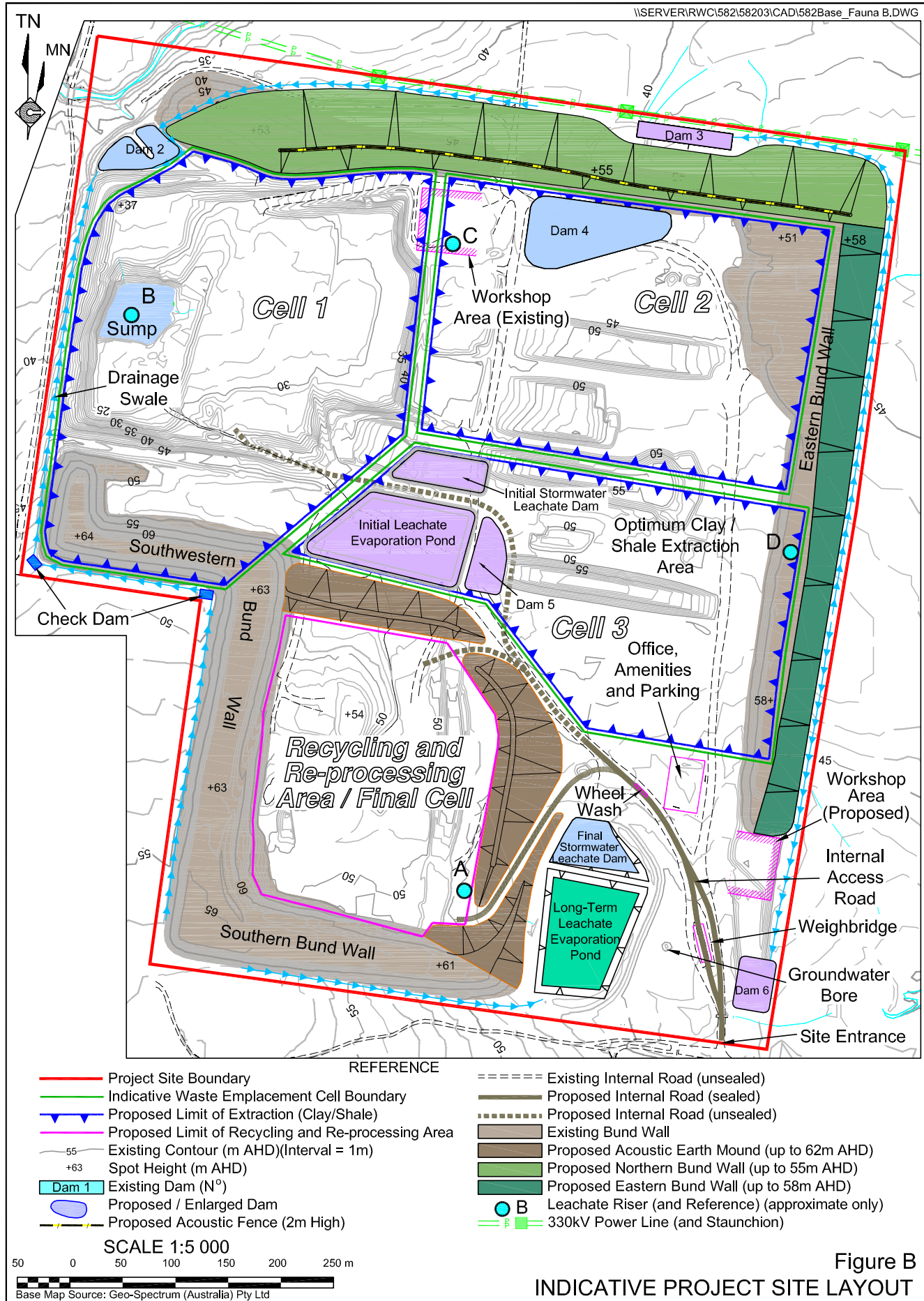
A review of literature and databases relevant to the local area was undertaken. These included the following.

- Point records of the Atlas of NSW Wildlife (DECC, 2009a).
- The Bionet online database (NSW Government, 2009).
- Vegetation Mapping of the western Sydney area (NPWS, 2002).
- The Western Sydney Urban Bushland Biodiversity Survey report (NPWS, 1997).

2.2 Field Survey

A field survey of the Project Site was undertaken on 12/01/09 and 13/01/09. The diurnal survey consisted of noting the presence/absence of specific sources of native fauna food and shelter, such as dense shrubs, flowering trees, standing water, tree hollows, caves and rock outcrops. The presence, or lack, of such fauna habitat components was noted to enable predictions of species that would be likely to utilise the Project Site. The habitat surrounding the Project Site was also evaluated to gain an appreciation of the relative importance of the habitat which occurs on the Project Site. All fauna species noted during the diurnal survey were recorded.

To detect arboreal mammal and nocturnal bird species, foot-based spotlighting was undertaken throughout those parts of the Project Site likely to support such species. This was undertaken for a period of approximately one hour after dusk on each evening. Habitats likely to support frog species (i.e. creeklines and dams) were checked for the presence of this fauna group for a period of approximately half an hour on each night.



In order to detect insectivorous (microchiropteran) bats, one Anabat II Bat detector with an internal recording device was set on voice activation and left overnight at two locations in the Study Area, one location on each night (**Figure C**). Both locations were near remnant woodland and water sources to maximise the chance of detecting this fauna group. The detectors were set in place around 15 minutes prior to dusk.

Conditions during diurnal survey were warm (around 27⁰C) with no wind and no cloud. During the nocturnal survey, conditions were also warm (around 24⁰C) and cloudless, though there was a light to moderate winds.

Whilst the fauna survey does not meet all the requirements of fauna surveys published in the draft DEC (2004) guidelines, it is considered that, given the highly modified nature of the Project Site and the completion of a database review, the level of survey is sufficient for the aims of the study.

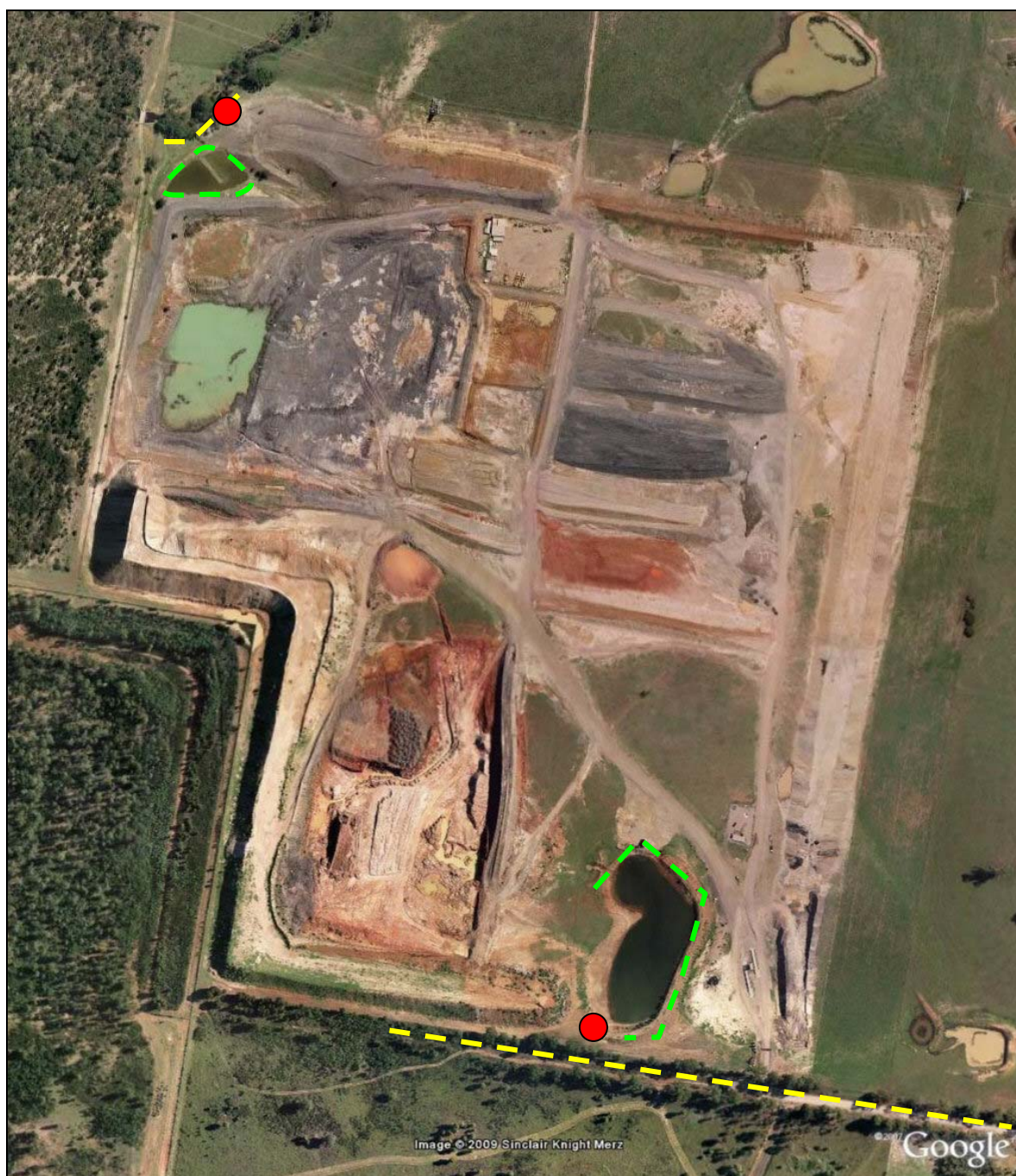


Figure C Survey Locations

Key

- Anabat detector location
- Spotlight Transect
- Frog Survey area

3. RESULTS

3.1 Literature Review

Point records of the Atlas of NSW Wildlife (DECC, 2009a) were filtered using GIS software (MapInfo™) to determine which threatened species have been recorded within a five-kilometre radius of the Project Site since 1980. Similarly, a 10km by 10km grid centred on the Project Site was used to garner records that may be on the Bionet (NSW Government 2009) but not on the Atlas of NSW Wildlife (e.g. records of NSW Fisheries and the Australian Museum). **Table 1** presents the results of this review.

Table 1
Locally Occurring Threatened Fauna Species

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Species	EPBC	TSC	Habitat (DECC 2009b)
Bush Stone-curlew <i>Burhinus grallarius</i>		E	Open forests and woodlands with a sparse grassy ground layer and fallen timber. Known from woodland in the Commonwealth land used by the Australian Defence Force to the west of the Project Site (author's field notes; NPWS, 1997).
Speckled Warbler <i>Pyrrholaemus sagittatus</i>		V	A wide range of <i>Eucalyptus</i> dominated communities that have a grassy understorey, often on rocky ridges or in gullies
Diamond Firetail <i>Stagonopleura guttata</i>		V	Found in grassy eucalypt woodlands, including Box-Gum Woodlands and Snow Gum <i>Eucalyptus pauciflora</i> Woodlands. Also occurs in open forest, mallee, Natural Temperate Grassland, and in secondary grassland derived from other communities.
Spotted-tailed Quoll <i>Dasyurus maculatus</i>	E	V	A range of habitat types, including rainforest, open forest, woodland, coastal heath and inland riparian forest, from the sub-alpine zone to the coastline. Individuals use hollow-bearing trees, fallen logs, small caves, rock crevices, boulder fields and rocky-cliff faces as den sites.
Grey-headed Flying-fox <i>Pteropus poliocephalus</i>	V	V	Subtropical and temperate rainforests, tall sclerophyll forests and woodlands, heaths and swamps as well as urban gardens and cultivated fruit crops.
Eastern Freetail-bat <i>Mormopterus norfolkensis</i>		V	Dry sclerophyll forest and woodland east of the Great Dividing Range. Roosts mainly in tree hollows but will also roost under bark or in man-made structures.
Eastern Bentwing-bat <i>Miniopterus schreibersii oceanensis</i>		V	Forages in forested areas, catching moths and other flying insects above the treetops. Caves are the primary roosting habitat, but the species also uses derelict mines, storm-water tunnels, buildings and other man-made structures.
Large-footed Myotis <i>Myotis adversus</i>		V	Roosts close to water in caves, mineshafts, hollow-bearing trees, storm water channels, buildings, under bridges and in dense foliage. Forages over streams and pools.
Key EPBC – Commonwealth <i>Environment Protection & Biodiversity Conservation Act 1999</i> TSC – NSW <i>Threatened Species Conservation Act 1995</i> E – Endangered V – Vulnerable.			

Table 1 (cont'd)
Locally Occurring Threatened Fauna Species

Page 2 of 2

Species	EPBC	TSC	Habitat (DECC 2009b)
Cumberland Land Snail <i>Meridolum corneovirens</i>		E	Vegetation remnants with intact soils on the Cumberland Plain.
<p><u>Key</u> EPBC – Species listed under the Commonwealth <i>Environment Protection & Biodiversity Conservation Act 1999</i> TSC – Species listed under the NSW <i>Threatened Species Conservation Act 1995</i> E – Endangered V – Vulnerable.</p>			

3.2 Survey Results

3.2.1 Terrestrial Fauna

Fauna habitat at the Project Site is highly modified consisting of large areas of bare ground as a result of excavation or deposition of fill with little subsequent regeneration. The few shrubs and grasses that are present are generally introduced species, mostly pasture dominated by introduced grasses and herbs, with little value for native fauna. Native fauna species detected within this habitat type included Australian Magpie (*Gymnorhina tibicens*) and Masked Plover (*Vanellus miles*). This habitat type would be removed and modified by the Project.

Near the north-west boundary of the Project Site along Blaxland Creek is remnant riparian woodland dominated by Cabbage Gum (*Eucalyptus amplifolia*) to 22m tall with Swamp Oak (*Casuarina glauca*) and *Melaleuca decora* to 8m and Blackthorn (*Bursaria spinosa*) to 2m. Groundcover is dominated by introduced grasses. This area provides habitat for a range of native fauna species adapted to the edges of woodlands. Species detected here include Common Brushtail Possum (*Trichosurus vulpecula*), Eastern Grey Kangaroo (*Macropus giganteus*), Red-rumped Parrot (*Psephotus haematonotus*) and Superb Fairy Wren (*Malurus cyaneus*). This habitat would not be affected by the Project.

3.2.2 Aquatic Fauna

The existing Sediment Detention Dam (Dam 2 – see **Figure B**) near Blaxland Creek effectively forms a small 'wetland' as a result of the impeded drainage. At the time of the survey the 'wetland' area consisted of damp ground and small pools vegetated with sedges and rushes such as Cumbungi (*Typha orientalis*), Spike-rush (*Typha orientalis*) and Common Rush (*Juncus usitatus*). Species detected here included Black-fronted Dotterel (*Elseya melanops*), Clamorous Reed-warbler (*Acrocephalus stentoreus*), Spotted Marsh Frog (*Limnodynastes tasmaniensis*) and Eastern Common Froglet (*Crinia signifera*). This habitat would be disturbed as a result of the desilting and deepening of this dam, however, this type and quality of habitat would be common in shallow farm dams and on the fringes of farm dams in the local area.

The Southern Water Storage Dam (Dam 1 – see **Figure B**) is large dam with low, vegetated edges making it attractive to waterfowl. Species detected here included Chestnut Teal (*Anas castanea*), Grey Teal (*A. gracilis*), Pacific Black Duck (*A. superciliosa*), Australasian Grebe (*Tachybaptus novaehollandiae*) and White-faced Heron (*Egretta novaehollandiae*). This habitat would be disturbed and encroached upon by the construction of leachate evaporation pond in the southern corner of the Project Site within approximately the southern two-thirds of the dam. However, as for the ‘wetland’ area, this type of habitat is typical of farm dams that are common and widespread in the local area.

3.2.3 Threatened Species

One threatened fauna species was detected during the field survey. This was the Eastern Freetail-bat, which was recorded by the Anabat detector when it was set near the Southern Water Storage Dam.

Based on habitat within the Project Site, the following threatened fauna species listed in **Table 1** are also considered likely to occur at the Project Site.

- Eastern Bentwing-bat.
- Large-footed Myotis.

The Eastern Freetail-bat and Eastern Bentwing-bat would forage at the edges of the woodlands that abut the Project Site whilst the Large-footed Myotis is likely to forage over the Southern Water Storage Dam. However, due to the lack of tree hollows, caves or similar structures, none of these species would roost within the Project Site.

None of the other threatened species listed in **Table 1** are likely to occur due to the lack of intact woodland.

4. IMPACT ASSESSMENT

4.1 Habitat Removal and Effect on Fauna

The Project would result in the removal and modification of habitat within the Project Site. As discussed in Section 3.2, the habitat within the Project Site is already highly modified and generally only suitable for a narrow range of native fauna species, all of which are common in similar habitat in the surrounding region. Whilst the Southern Water Storage Dam would largely be removed, the loss of this habitat area for waterfowl is not considered significant, as this artificial habitat type is abundant in nearby areas.

The small 'wetland' area contained within the existing Sediment Detention Dam in the northwest corner of the Project Site would be disturbed as a result of desilting and deepening of this dam. However, this habitat type is also artificial and common in shallow farm dams and dam fringes in the locality. It is noted that the final landform for the Project provides for a number of dams for ongoing water management. These dams would, to some degree, provide long-term habitat for frog and wader species similar to the 'wetland' area within the existing Sediment Detention Dam.

It is unlikely that there would be any significant impacts on surrounding habitat as a result of dust settling on vegetation. In relation to fauna, any such impact would be temporary and unlikely to affect the life cycle of any locally occurring native species. Traffic would be confined to daylight hours. Though there is likely to be some mortality of species such as reptiles due to roadkill, it is unlikely this would be significant when comparing it to that caused by the movement of traffic elsewhere in the surrounding region.

4.2 Environmental Planning and Assessment Act 1979

4.2.1 Introduction

Section 5A of this Act requires the assessment of impact of a proposal on those vulnerable or endangered species listed under the *Threatened Species Conservation Act 1995* (TSC Act). One threatened fauna species listed under the TSC Act was detected at the Project Site, being the Eastern Freetail Bat. Two other vulnerable species, the Eastern Bentwing Bat and the Large-footed Myotis, were considered likely to occur.

Each of the seven factors listed in Section 5A and required to be taken into account when deciding if "there is likely to be a significant effect on threatened species, populations or ecological communities or their habitats" are addressed in the following subsections.

4.2.2 Eastern Freetail Bat

- (a) *in the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,*

The Eastern Freetail Bat hawks through the forest canopy or in clearings at its edge feeding on flying insects. Terrestrial insects may also be gleaned from the ground. The Eastern Freetail Bat generally uses tree hollows for roosting but occasionally uses buildings and other artificial structures (Churchill, 2008; DECC, 2009b).

No tree hollows that could be used by the species would be removed by the 'proposed action'. The amount of foraging habitat affected is not significant in relation to its wider local distribution. The Project is unlikely to have an effect on local populations of these species.

- (b) *in the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction,*

The local population of this species is not listed as endangered.

- (c) *in the case of a critically endangered or endangered ecological community, whether the action proposed:*

- (i) *is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or*
(ii) *is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,*

The Eastern Freetail Bat is a threatened species, not an endangered ecological community.

- (d) *in relation to the habitat of a threatened species, population or ecological community:*

- (i) *the extent to which habitat is likely to be removed or modified as a result of the action proposed,*

The extent to which habitat is likely to be removed or modified as a result of the 'action proposed' is considered to be minimal, as it is unlikely to significantly affect the abundance of any critical habitat components (i.e. roosting trees).

- (ii) *and whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action,*

This species is highly mobile and unlikely to be affected in its local movements by the minor modifications to habitat represented by the Project.

- (iii) *and the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality,*

Habitat at the site would not be greatly modified by the Project. Habitat for the species (wooded areas with tree hollows) is widespread in the locality, particularly in the adjoining Commonwealth land and beyond in the Mulgoa Nature Reserve. Given the level of modification and the abundance of habitat locally, it is considered that there is unlikely to be an effect on the long-term survival of the species in the locality.

- (e) *whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly),*

The Eastern Freetail Bat is a vulnerable species and as such is not eligible for critical habitat listing.

- (f) *whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan,*

Numerous priority actions have been identified for the Eastern Freetail Bat, none of which are relevant to the Project.

- (g) *whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process.*

31 Key Threatening Processes are listed under Schedule 3 of the TSC Act, none of which are relevant to the Project.

Conclusion

The Project is unlikely to have a significant effect on the Eastern Freetail Bat, or its habitat.

4.2.3 Eastern Bentwing Bat

- (a) *in the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,*

This species requires caves for roosting though it will also use derelict mines, storm-water tunnels, buildings and other man-made structures. In the Sydney area such roosts are occupied between March and September. The Eastern Bentwing Bat feeds on moths and other flying insects above the tree tops. The species generally hunts in forested areas, though it is occasionally recorded foraging around artificial lights (Churchill 2008; Hoyer & Spence 2004; DEC 2009b). The nearest known active roost sites is at St Marys (Hoyer and Spence, 2004).

Very little potential foraging habitat would be affected by clearing for the 'proposed action' and the species is unlikely to roost on site. Given these factors it is considered unlikely that the Project would place the local population of this species at risk of extinction.

- (b) *in the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction,*

The local population of this species is not listed as an endangered.

(c) *in the case of a critically endangered or endangered ecological community, whether the action proposed:*

- (i) *is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or*
- (ii) *is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,*

The Eastern Bentwing Bat is a threatened species not an endangered ecological community.

(d) *in relation to the habitat of a threatened species, population or ecological community:*

- (i) *the extent to which habitat is likely to be removed or modified as a result of the action proposed,*

The extent of habitat removal and modification is minimal. Vast areas of suitable foraging habitat occur nearby and are reserved in national parks.

- (ii) *and whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action,*

The Eastern Bentwing Bat is highly mobile as is evidenced by its ability to move through already cleared and disturbed environments (Hoye & Spence 2004). Furthermore, in relation to the fragmentation and isolation of habitat that has already occurred in the wider local area, the effect of the Project on connectivity is minor.

- (iii) *and the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality,*

It is considered that the habitat represented in the Project Site is not of great importance to the Eastern Bentwing Bat. This is because it is unlikely to be used for roosting and the type of foraging habitat available is well represented in surrounding areas. Given this, the 'proposed action' is unlikely to affect the long-term survival of the species in the locality.

(e) *whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly),*

The Eastern Bentwing Bat is a vulnerable species and as such is not eligible for critical habitat listing.

(f) *whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan,*

Numerous priority actions have been identified for the Eastern Bentwing Bat, none of which are relevant to the Project.

- (g) *whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process.*

31 Key Threatening Processes are listed under Schedule 3 of the TSC Act, none of which are relevant to the Project.

Conclusion

The Project is unlikely to have a significant effect on Eastern Bentwing Bat, or its habitat.

4.2.4 Large-footed Myotis

- (a) *in the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,*

This species roosts in caves, mine shafts, hollow-bearing trees, storm water channels, buildings, under bridges and in dense foliage. It forages over streams and pools catching insects and small fish by raking its feet across the water surface (DECC, 2009b). No roosting habitat is available at the Project Site though potential foraging habitat in the form of the large, Southern Water Storage Dam. This type of potential foraging habitat is widespread and common in the local area and its loss as a result of the 'proposed action' is unlikely to place the local population of this species at risk of extinction.

- (b) *in the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction,*

The local population of this species is not listed as an endangered.

- (c) *in the case of a critically endangered or endangered ecological community, whether the action proposed:*

- (i) *is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or*
(ii) *is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,*

The Large-footed Myotis is a threatened species not an endangered ecological community.

- (d) *in relation to the habitat of a threatened species, population or ecological community:*

- (i) *the extent to which habitat is likely to be removed or modified as a result of the action proposed,*

The extent of habitat removal and modification is minimal. Vast areas of suitable foraging habitat occur nearby.

- (ii) *and whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action,*

The Large-footed Myotis is highly mobile as is evidenced by its ability to move through already cleared and disturbed environments. Furthermore, in relation to the fragmentation and isolation of habitat that has already occurred in the wider local area, the effect of the Project on connectivity is minor.

- (iii) *and the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality,*

It is considered that the habitat represented in the Project Site is not of great importance to the Large-footed Myotis. This is because it is unlikely to be used for roosting and the type of foraging habitat available is well represented in surrounding areas. Given this, the 'proposed action' is unlikely to affect the long-term survival of the species in the locality.

- (e) *whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly),*

The Large-footed Myotis is a vulnerable species and as such is not eligible for critical habitat listing.

- (f) *whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan,*

Numerous priority actions have been identified for the Large-footed Myotis, none of which are relevant to the Project.

- (g) *whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process.*

31 Key Threatening Processes are listed under Schedule 3 of the TSC Act, none of which are relevant to the Project.

Conclusion

The Project is unlikely to have a significant effect on Large-footed Myotis, or its habitat.

4.3 Environment Protection and Biodiversity Conservation Act 1999

No threatened or migratory species listed on this Act were detected at the Project Site. Nor were any considered likely to occur. Therefore, referral under this Act is not required in relation to the impact of the 'proposed action' on fauna.

It is similarly concluded that the Project would not have any impact upon the fauna and fauna habitat on the adjoining Commonwealth land managed by the Department of Defence.

5. CONCLUSION

The habitat types represented within the Project Site are either highly modified and/or well represented in the locality. Whilst three fauna species listed as vulnerable on the TSC Act occur or are likely to occur, there is unlikely to be a significant effect on these species or their habitats. Given these factors, it is considered that, in terms of the likely impacts in relation to fauna and fauna habitat, there are no constraints on the Project.

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