

**Our Ref:** 16015 Eco Assessment – MOD 9 triangle, Huntlee  
**Via:** email

**Date:** 30<sup>th</sup> May 2019

Attn: Glenn Swan  
LWP Property Group Pty Ltd  
1 Triton Boulevard  
Nth Rothbury NSW 2335

Dear Glenn

**RE: ECOLOGICAL ASSESSMENT 7-PART TEST, MOD9 LOT 1531, HUNTLEE**

This ecological advice has been prepared by MJD Environmental to provide additional information with regard to the ecology of a triangular shaped area covering approximately 971m<sup>2</sup> situated on the northern boundary of the Huntlee Town Centre Stage 1 approval area, hereafter referred to as the 'site.' This advice and subsequent assessment has been prepared in response to OEH submissions relating to biodiversity for the S4.55 2 Modification Application (MOD 9) to Project Approval MP10\_0137, specifically:

*Provide description of the biodiversity values of the area of lot 1531 that is not subject to the SEPP VPA.*

The study requirements for MOD 9 (MP 10\_0137MOD 9) were issued on the 9<sup>th</sup> Feb 2018 and the modification lodged with the NSW Department of Planning and Environment (DPE) in October 2018.

NSW Biodiversity Reforms - This assessment has been prepared with due regard to the transitional arrangements set out under the *Biodiversity Conservation (Savings and Transitional) Regulation 2017* (Transitional Regulations). Under Part 7 clause 27 of the Transitional Regulations, the proposal is categorised as a *pending or interim planning application* pursuant to subclause (e) as the development application was lodged with the consent authority within an Interim Designated Area within the stipulated transition period from commencement of the NSW Biodiversity Reforms (25<sup>th</sup> February 2018), being before 24<sup>th</sup> November 2018. It is on this basis that the assessment aims to examine the likelihood of the proposal having a significant effect on any threatened species, populations or ecological communities listed under the *NSW Threatened Species Conservation Act 1995* (TSC Act). This assessment recognises the relevant requirements of the EP&A Act 1979 (as amended by the *NSW Environmental Planning and Assessment Amendment Act 1997*).

In order to address the OEH submission, this ecological advice and assessment considers the following:

- Undertaking updated database searches of the NSW Atlas of Wildlife for threatened species, populations and ecological communities within a 10km radius of the site.
- Review RPS EAR (2010) with regard to the nature and extent of vegetation, habitat features, flora and fauna species observations including threatened species records, and any other relevant ecological information relating to the site which is the subject of the current assessment.
- Site pre-clearance surveys and ecological supervision undertaken in the locality for the Huntlee including
  - Town Centre development
  - Wine Country Drive realignment
  - Jemena Gas Pipeline
- Assesses the likelihood of impacts to each species / community resulting from clearing, taking into account direct and indirect short and long-term impacts.
- Provision of a 7-part test of significance.

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## Site Details

|                         |   |
|-------------------------|---|
| <u>Area</u>             | Lot 1531– Site area (part lot) 971m <sup>2</sup>  |
| <u>Boundaries</u>       | The site is bound to the north by the town centre entrance road from the northern Wine Country Drive roundabout, to the south and west by development of the town centre and associated road, and to the east by Wine Country Drive, and the Hunter Expressway. |
| <u>Current Land Use</u> | The site consists of the north east corner of a lot which is currently vacant and forms part of the town centre area of the Huntlee development.  |
| <u>Topography</u>       | The land generally slopes gently from west to east across the lot.  |
| <u>Zoning</u>           | The site is currently zoned RU2 – Rural Landscape.  |

## Background

A review of the Environmental Assessment Report (EAR) prepared by RPS (September 2010) for Huntlee Pty Ltd coupled with other site based works completed by MJD Environmental was undertaken to gain an understanding of the sites ecological character and inform the ecological assessment. With regards to biodiversity over the site, the review determined:

- The site contained *Eucalyptus fibrosa* – *Corymbia maculata* Open Forest (MU 18h in Bell & Driscoll, 2007) commensurate with the TSC Act listed Endangered Ecological Community *Central Hunter Ironbark – Spotted Gum – Grey Box Forest*.
- Hollow bearing tree density was assessed as low (1 to 4 hollow bearing trees per 100m x 100m ECMP assessment grid) for the lands surveyed adjacent to the site, while mature tree densities were higher (28 to 37 trees per grid) in the adjacent area.
- Threatened flora species, such as North Rothbury Persoonia (*Persoonia pauciflora*), have not been recorded within the site or directly adjacent within Huntlee Town Centre lands. No *P. pauciflora* individuals were observed during pre-clearance surveys.
- Grey-crowned Babblers were recorded by RPS (2010) in the immediate vicinity south of the site in the Town Centre.
- Clearing has occurred to the east and north of site as part of Wine Country Drive realignment works undertaken under NSW RMS approval. Minor battering occurred on site and required clearing for batter formation (**Attachment 1**).
- Clearing has occurred to the south of site as part of the Jemena Gas line alignment approval and overall Huntlee Town Centre approval (**Attachment 1** ref pipeline in NearMap capture 5/4/2016 and 9/1/2017). Following construction of the northern Huntlee Town Centre access road from Wine Country Drive the Jemena Gas Pipeline was re-aligned to sit within the access road corridor.

## Database Searches

Database searches were conducted of the NSW BioNet Atlas (30-5-2019).

The database search results are presented as **Attachment 2**.

### **Site inspection**

A pre-clearance inspection and a threatened flora survey was undertaken by MJD Environmental on 8<sup>th</sup> March 2017 during which time targeted searches for threatened flora species, with particular reference to *P. pauciflora* were carried out. No threatened flora were recorded on the site. Ten potential habitat trees (trees with hollows and/or nests) were identified. Clearing Compliance letter has been provided as **Attachment 4**. Note this pre-clearance and supervision pertained to the entire area containing the Wine Country Drive road connection to the Huntlee Town Centre and site subject of this ecological advice.

### **Impact Assessment**

Based on the site assessment, the following key outcomes have informed the impact assessment:

- The site contained up to 971m<sup>2</sup> of Central Hunter Ironbark – Spotted Gum – Grey Box Forest commensurate with the BC Act listed Endangered Ecological Community *Central Hunter Ironbark – Spotted Gum – Grey Box Forest*;
- Existing approved clearing and development surrounds the site on all sides, including extensive areas developed for the Huntlee town centre, the roundabout on Wine Country Drive, and other smaller roadways resulted in the vegetation being isolated by ~40m from the closest patches of contiguous vegetation situated to the north-east;
- Pre-clearing inspection of the Wine Country Drive road to the Huntlee Town Centre connection and site conducted by MJD Environmental identified 10 potential habitat trees within the site;
- Pre-clearing site inspections conducted by MJD environmental did not record any threatened flora species (including *P. pauciflora*) despite targeted searches covering the entire site area; and
- The site contains limited habitat attributes with a total of 11 canopies (per API) and only a single large canopy.

A likelihood of occurrence and of potential impacts (direct and indirect) on species listed under the TSC Act has been undertaken in **Attachment 2** and **Attachment 3**. This assessment considered site inspection results against the habitat requirements for individual threatened species, populations and ecological communities known from the site locality (10km radius). A 7-part test of significance was applied to one threatened flora species (*Persoonia pauciflora*) two threatened fauna species (Squirrel Glider and Grey-crowned Babbler) deemed as having potential to occur within the site and by employing the precautionary principle, potential to be impacted by the clearing, and one Endangered Ecological Community (Central Hunter Ironbark – Spotted Gum – Grey Box Forest) recorded as occurring in the site.

Detailed assessment under the 7-part test concluded that the project is unlikely to have a significant impact on any threatened species, populations or ecological communities in the locality.

### State Environmental Planning Policy No. 44 (Koala Habitat Protection)

Assessment of potential Koala habitat under SEPP 44 requires the following steps be undertaken:

- a. Identification of 'potential Koala habitat' within the proposed development area; if the total tree cover contains 15% or more of the Koala food tree species listed in Schedule 2 of SEPP 44 then it is deemed to be 'potential Koala habitat'. Identification of 'potential Koala habitat' requires the determination of the presence of 'core Koala habitat';
- b. Identification of 'core Koala habitat' within the development area. 'Core Koala habitat' is defined as an area of land with a resident population of Koalas, evidenced by attributes such as breeding females (females with young), recent sightings and historical records of a Koala population;
- c. Identification of 'core Koala habitat' will require that a plan of management must accompany the DA application;
- d. If the rezoning of lands, other than to environmental protection, involves potential or core Koala habitat then the Director of planning may require a local environmental study be carried out.

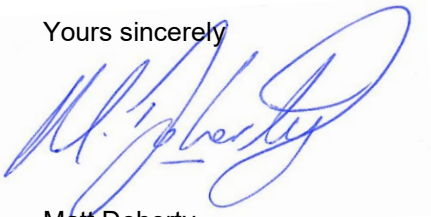
Based on vegetation community mapping delineation for the site, no tree species listed in Schedule 2 of the above policy as 'Koala Feed Tree Species' occur on the Site. Furthermore, at no point where trees persist on site does a single species represent 15% or more of the total tree cover. Additionally, pre-clearance investigations did not detect Koalas or signs of Koalas within the Site. Therefore, the vegetation on the Site does not constitute Core Koala Habitat.

### **Conclusion**

This ecological advice and assessment has considered the potential for the vegetation clearing of the site to result in a significant impact to threatened species, populations and ecological communities known from the locality. The assessment concluded that the proposal is unlikely to have a significant impact under the TSC Act.

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

Yours sincerely

A handwritten signature in blue ink, appearing to read 'M. Doherty', is written over a light blue rectangular background.

Matt Doherty  
Director  
MJD Environmental Pty Limited

**Encl:** Attachment 1 – Site over NearMap Aerial captures  
Attachment 2 - Database Search Results  
Attachment 3 – 7 Part Test  
Attachment 4 – Preclearance and Ecological clearance Supervision Compliance Letter (MJD 2017)

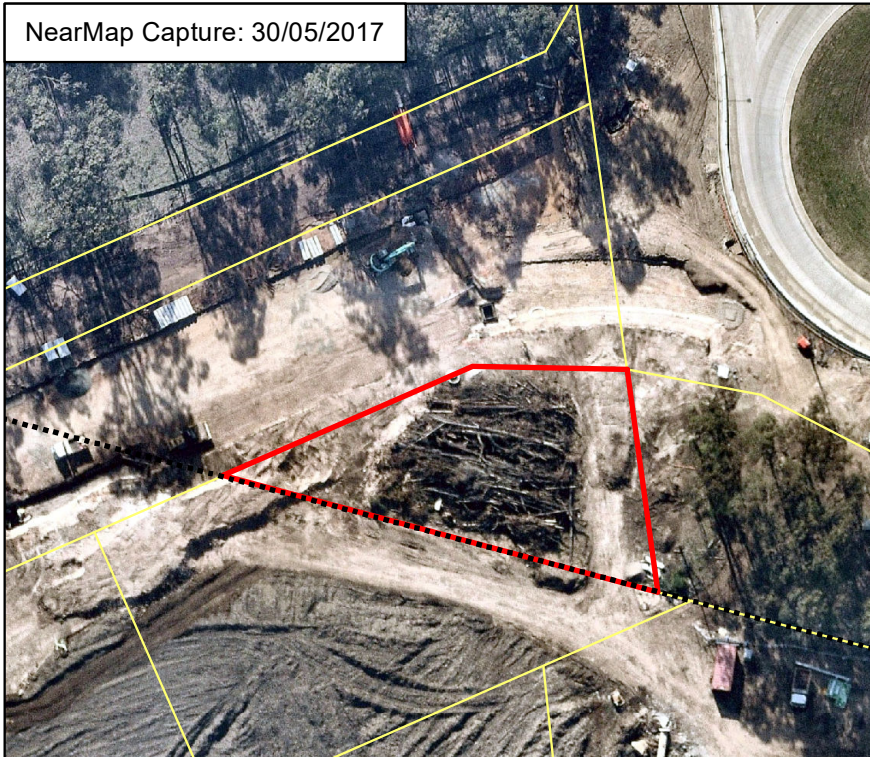
## References:

- Bell S.A.J. & Driscoll C (2007) Vegetation of the Cessnock-Kurri Region, Cessnock LGA, New South Wales: Survey, Classification & Mapping. Unpublished Report to Department of Environment & Climate Change. Eastcoast Flora Survey. November 2007.
- Bell, S. & Driscoll, C. (2005) Vegetation survey of 'Sweetwater', North Rothbury, mid Hunter Valley, New South Wales. Final Report. Report to Harper Somers O'Sullivan.
- NSW OEH (2018a) NSW Bionet. Threatened Biodiversity Data Collection Accessed online – <http://www.bionet.nsw.gov.au/> (accessed January 2019)
- NSW OEH (2018b) Threatened Species Profile Search - <http://www.environment.nsw.gov.au/threatenedSpeciesApp/> (accessed January 2019)
- NSW Planning & Environment (2018). *ePlanning Spatial Viewer*. Accessed from: <https://www.planningportal.nsw.gov.au/spatialviewer/#/find-a-property/address>
- Peake, T.C. (2006) *The Vegetation of the Central Hunter Valley, New South Wales*: Volume Two: Profiles of Vegetation Communities. Hunter-Central Rivers Catchment Management Authority, Paterson;
- RPS (2010). *Ecological Assessment Report: Huntlee (Final. September 2010)*. Prepared for Huntlee Pty Ltd

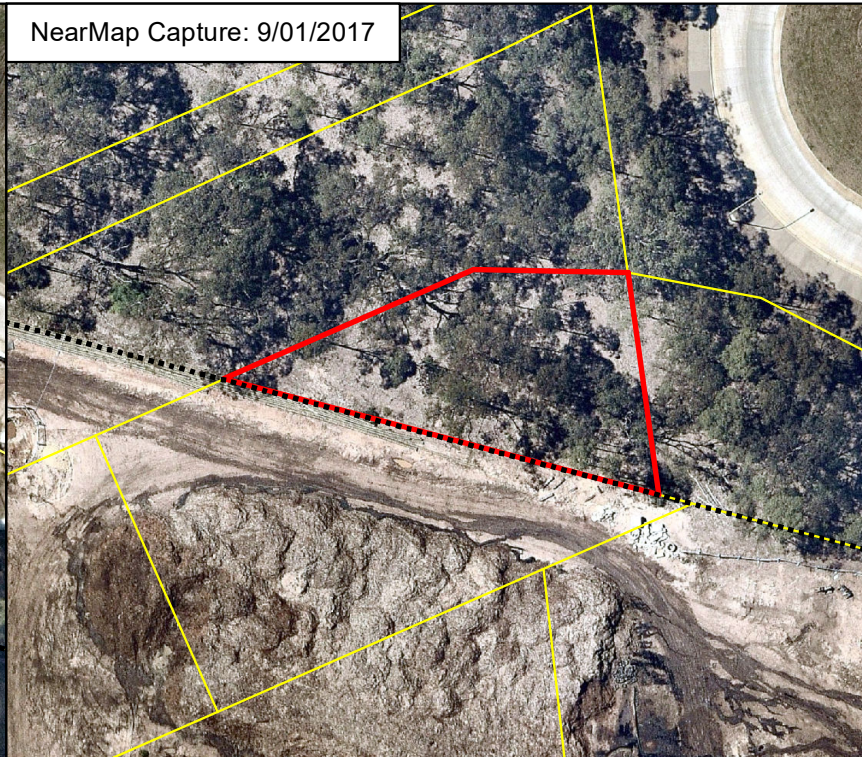
**Attachment 1 – Site over NearMap Aerial captures**



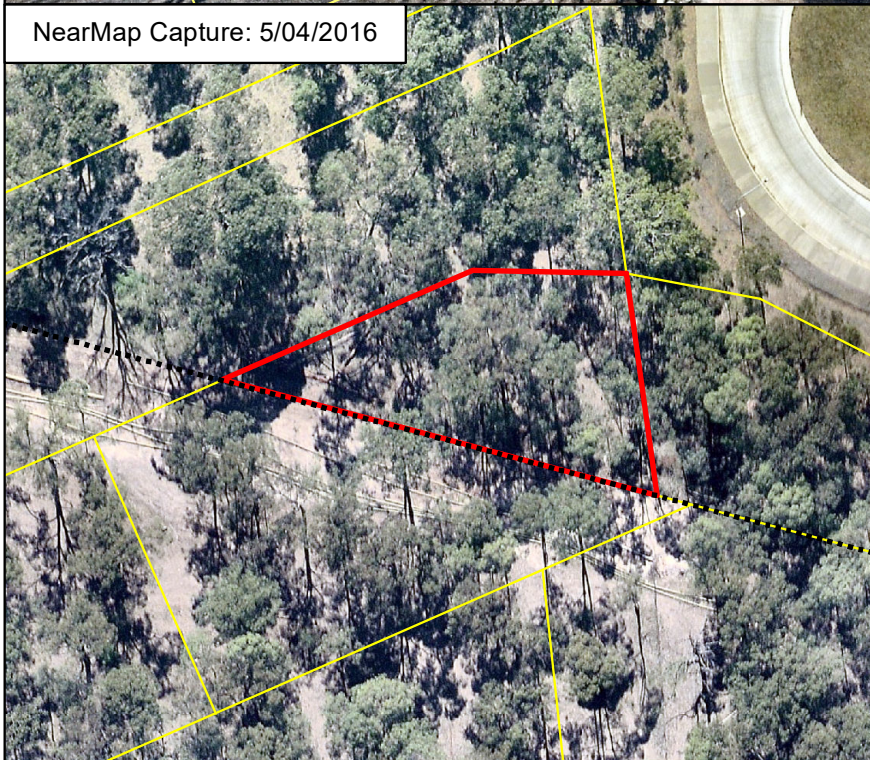
NearMap Capture: 30/05/2017



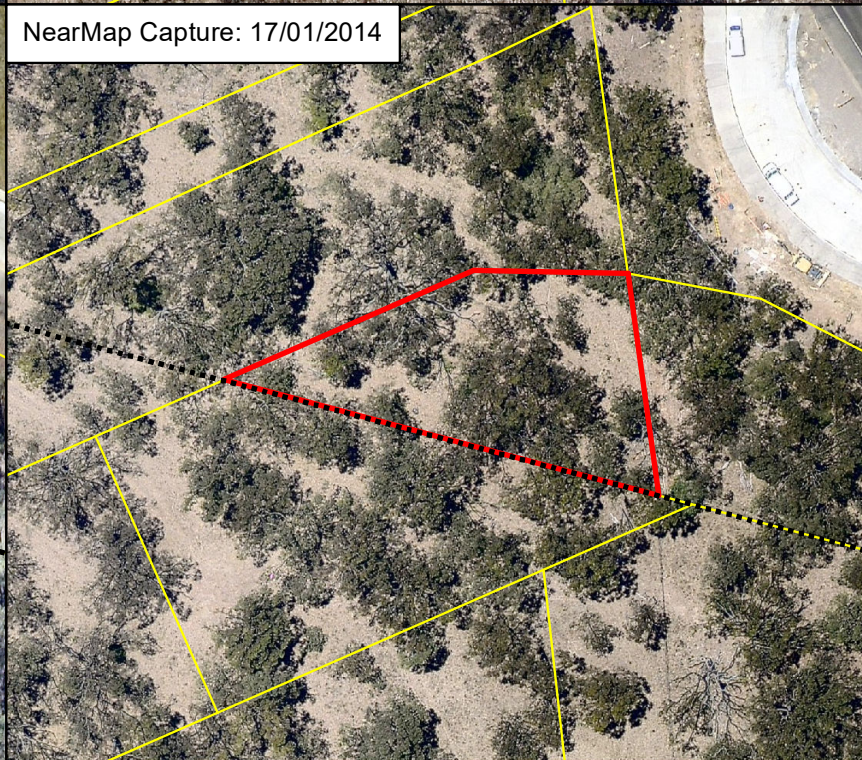
NearMap Capture: 9/01/2017



NearMap Capture: 5/04/2016



NearMap Capture: 17/01/2014



## Huntlee, Mod 9 Triangle

### Legend

..... Stage 1 Boundary

Site

Lots

NearMap Capture: 25/04/2019



0 10 20 40

Meters

1:1,000

**MJD**Environmental  
PTY LIMITED

Aerial: NearMap (various dates) | Data: MJD Environmental, Daly Smith (13/02/2019) | Datum/Projection: GDA 1994 MGA Zone 56 | Date: 6/06/2019 | Version 6 | GIS\16015 - Huntlee, Branxton\5. GIS | This plan should not be relied upon for critical design dimensions.



## Attachment 2 – Database Search Results and Likelihood of Occurrence Assessment

Threatened flora and fauna species (listed under the TSC/BC Act) that have been gazetted and recorded within a 10 kilometres radius of the site have been considered within this assessment. Each species / community is considered for its likelihood to occur on the site and potential for impact arising from the proposal. Where a potential for impact is considered the entity has been nominated for further assessment under an assessment of significance (7-part test) in **Attachment 3**.

**'Species / Community'** – Lists each threatened species / EEC known from the locality (10 km radius). The status and number of records along with source and notes for each threatened entity under the TSC/BC Act are also provided.

**'Likelihood of Occurrence on Site'** – Assesses the likelihood of each locally recorded species and EEC to occur within the site, using knowledge of each species' habitat and lifecycle requirements and with regard the habitat types present within the Site, results of the literature review and database searches and field investigations. The location and number of records of the species (NSW BioNet Atlas) were also considered in determining probability of occurrence.

**'Potential for Impact'** – Assesses the likelihood of impacts to each species / community that would result from the proposed development and taking into account direct and indirect short and long-term impacts.

Database searches were conducted of the NSW BioNet Atlas (30-5-2019).

Note: marine species (bird, reptile, fish, mammal) recorded on the Protected Matters have not been listed.

| Scientific Name  | Common Name | BC Act | No. of Records | Likelihood of Occurrence / Likely Level of Impact  |
|--|-------------|--------|----------------|--|
| <b>Threatened Ecological Communities</b>   |             |        |                |  |
| Central Hunter Grey Box-Ironbark-Woodland in the NSW North Coast and Sydney Basin Bioregion                  |             | E      |                | This community was not recorded on site.<br>An AoS is not required for this community.   |
| Central Hunter Ironbark-Spotted Gum-Grey Box Forest in the NSW North Coast and Sydney Basin Bioregion        |             | E      |                | This community was recorded on Site.<br>An AoS has been applied in <b>Attachment 3</b> . |
| Coastal Saltmarsh in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions          |             | E      |                | This community was not recorded on site.<br>An AoS is not required for this community.   |
| Freshwater Wetlands on coastal Floodplains of NSW North Coast, Sydney Basin and South East corner Bioregions |             | E      |                | This community was not recorded on site.   |



| Scientific Name   | Common Name | BC Act | No. of Records | Likelihood of Occurrence / Likely Level of Impact                                      |
|---|-------------|--------|----------------|--|
|   |             |        |                | An AoS is not required for this community.   |
| Hunter Floodplain Red Gum Woodland in NSW North Coast and Sydney Basin Bioregions   |             | E      |                | This community was not recorded on site.<br>An AoS is not required for this community. |
| Hunter Lowland Redgum Forest in the Sydney Basin and New South Wales North Coast Bioregions   |             | E      |                | This community was not recorded on site.<br>An AoS is not required for this community. |
| Hunter Valley Footslopes Slaty Gum Woodland in the Sydney Basin Bioregion   |             | V      |                | This community was not recorded on site.<br>An AoS is not required for this community. |
| Hunter Valley Vine Thicket in the NSW North Coast and Sydney Basin Bioregion  |             | E      |                | This community was not recorded on site.<br>An AoS is not required for this community. |
| Hunter Valley Weeping Myall (Acacia Pendula) Woodland in the Sydney Basin Bioregion   |             | CE     |                | This community was not recorded on site.<br>An AoS is not required for this community. |
| Kurri Sand Swamp Woodland in the Sydney Basin Bioregion   |             | E      |                | This community was not recorded on site.<br>An AoS is not required for this community. |
| Littoral Rainforest in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions                               |             | E      |                | This community was not recorded on site.<br>An AoS is not required for this community. |
| Lower Hunter Spotted Gum-Ironbark Forest in the Sydney Basin Bioregion  |             | E      |                | This community was not recorded on site.<br>An AoS is not required for this community. |
| Lower Hunter Valley Dry Rainforest in the Sydney Basin and NSW North Coast Bioregion  |             | V      |                | This community was not recorded on site.<br>An AoS is not required for this community. |
| Lowland Rainforest in the NSW North Coast and Sydney Basin Bioregions   |             | E      |                | This community was not recorded on site.<br>An AoS is not required for this community. |
| River-Flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions |             | E      |                | This community was not recorded on site.<br>An AoS is not required for this community. |
| Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions                       |             | E      |                | This community was not recorded on site.<br>An AoS is not required for this community. |
| Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregion    |             | E      |                | This community was not recorded on site.<br>An AoS is not required for this community. |
| Sydney Freshwater Wetlands in the Sydney Basin Bioregion  |             | E      |                | This community was not recorded on site.<br>An AoS is not required for this community. |

| Scientific Name   | Common Name   | BC Act | No. of Records | Likelihood of Occurrence / Likely Level of Impact  |
|---|---|--------|----------------|--|
| Warkworth Sands Woodland in the Sydney Basin Bioregion                              |   | E      |                | This community was not recorded on site.<br>An AoS is not required for this community.   |
| White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland |   | E      |                | This community was not recorded on site.<br>An AoS is not required for this community.   |
| Flora   |   |        |                |  |
| <i>Acacia bynoeana</i>  | Bynoe's Wattle  | E      | 5              | This conspicuous species was not detected during pre-clearing site inspection and it has only been recorded in low numbers within a 10km BioNet search of the locality. Suitable habitat in the form of Central Hunter Spotted Gum – Ironbark – Grey Box Forest (CHIBSGGBF) is present on site. On this basis, this species may have had <b>potential</b> to occur due to the suitable habitat found on site but is <b>unlikely</b> to have been impacted as a pre-clearing inspection did not identify individuals within the site.<br>An AoS is not required for this species.   |
| <i>Cymbidium canaliculatum</i>  | <i>Cymbidium canaliculatum</i> population in the Hunter Catchment | E      | 1              | Pre-clearing site inspection did not detect this species within known host trees such as Eucalypt and Acacia species. The location of the site is within the south-eastern extent of the geographical distribution limit of this species. Only one record exists within a 10km radius and pre-clearing site inspection within the site did not locate any individuals of this species. On this basis it is <b>unlikely</b> for this species to have occur within the cleared vegetation, and as such <b>unlikely</b> to be impacted.<br>An AoS is not required for this species.   |
| <i>Diuris tricolor</i>  | Pine Donkey Orchid  | V      | 1              | No targeted threatened flora surveys were undertaken for this species during the preclearance surveys due to surveys being undertaken outside the known optimal flowering period (Sept-Oct) for this species. Thus, detection of this species was not likely during the survey period.<br>This species has been observed on lands adjacent to Huntlee (part of the offset package associated with the development) in the west, where in 2016 a single individual of this species was confirmed within similar vegetation to the site. This record extended the eastern geographical distribution for this species. On this basis, this species has <b>potential</b> to occur within the site.<br>An AoS has been applied in <b>Attachment 3</b> . |
| <i>Eucalyptus glaucina</i>  | Slaty Red Gum   | V      | 8              | This conspicuous species was not detected during pre-clearance and threatened flora survey. It has only been recorded in low numbers within a 10km BioNet search of the locality. Suitable habitat exists on site in the form of grassy woodland and dry eucalypt forest within the CHISGGBF. On this basis, this species may have had <b>potential</b> to occur due to the suitable habitat found on site but is <b>unlikely</b> to have been impacted as a pre-clearing inspection did not identify individuals within the site.<br>An AoS is not required for this species.   |

| Scientific Name   | Common Name              | BC Act | No. of Records | Likelihood of Occurrence / Likely Level of Impact   |
|---|--------------------------|--------|----------------|---|
| <i>Eucalyptus parramattensis</i> subsp. <i>decadens</i> | Earp's Gum               | V      | 3              | This conspicuous species was not detected during pre-clearance and threatened flora survey. It has only been recorded in low numbers within a 10km BioNet search of the locality. The extensive historic surveys of the wider Huntlee area did not identify any occurrences of this species within the development area adjacent to the subject site. On this basis, it is <b>unlikely</b> for this species to occur on site and <b>unlikely</b> that this species to be impacted.<br>An AoS is not required for this species.  |
| <i>Persoonia pauciflora</i>                             | North Rothbury Persoonia | CE     | 1084           | No individuals of this species were found during MJD Environmental targeted threatened flora searches during the pre-clearance inspection. However, due to the large number of records within a 10 km Bionet search and the presence of optimal habitat occurring on Site in the form of dry open forest dominated by <i>C. maculata</i> or <i>E. crebra</i> supporting a moderate to sparse shrub layer and grassy groundcover within the CHISGGB, an AoS has been applied in <b>Attachment 3</b> .  |
| <i>Pterostylis chaetophora</i>                          |                          | V      | 12             | No targeted threatened species surveys were undertaken for this species, as the preclearance survey was undertaken outside the optimal flowering period for this species. Nevertheless, <i>P. chaetophora</i> is known from NPWS lands west of Wine Country Drive (south of the site). Habitat within the site is marginal for this species as it was observed to be a drier sclerophyll forest compared to the known habitat within the NPWS lands. Therefore, it's <b>unlikely</b> to have occur on the site cannot be discounted.<br>An AoS is not required for this species.  |
| <b>Birds</b>  |                          |        |                |   |
| <i>Anthochaera phrygia</i>                              | Regent Honeyeater        | CE     | 1              | This species was not recorded during RPS (2010) surveys, however one record exists within 10km of the site in the vicinity of North Rothbury. Low quality winter foraging habitat is present in the form of CHISGGB Forest. This species has <b>potential</b> to forage intermittently within the site and within the CHISGGB Forest which has been cleared. However, due to the small area of clearing and large extent of this vegetation within retained lands in the locality, the site represents a small loss of foraging habitat which is unlikely to be important for the long-term survival of this species in the locality. On this basis, this species is <b>unlikely</b> to be impacted by the vegetation clearing on site.<br>An AoS is not required for this species. |
| <i>Calyptrorhynchus lathamii</i>                        | Glossy Black-cockatoo    | V      | 4              | This species was not during RPS (2010) surveys; four records exist within 10km. Very limited foraging habitat in the form of <i>Allocasuarina luehmannii</i> individuals were present on site. However no hollows large enough to provide nesting sites are present on site. Although this species could <b>potentially</b> use this Site to forage intermittently, due to the small size of the impact area, it is <b>unlikely</b> this species will be impacted by the proposal.<br>An AoS is not required for this species   |



| Scientific Name                       | Common Name                            | BC Act | No. of Records | Likelihood of Occurrence / Likely Level of Impact  |
|---------------------------------------|--|--------|----------------|--|
| <i>Chthonicola sagittata</i>          | Speckled Warbler                       | V      | 9              | A moderate number of records exist within 10km and suitable foraging habitat exists on site in the form of <i>Eucalyptus</i> dominated communities that have a grassy understorey. While this species has the <b>potential</b> to occur on site, due to the small and isolated impact area with high levels of disturbance from adjacent roads and development, this species is <b>unlikely</b> to be impacted by the proposal.<br>An AoS is not required for this species.  |
| <i>Climacteris picumnus victoriae</i> | Brown Treecreeper (eastern subspecies) | V      | 1              | Only one record exists within 10km and suitable foraging habitat exists on site in the form of <i>Eucalyptus</i> dominated canopy trees. While this species has the <b>potential</b> to occur on site, due to the small and isolated impact area with high levels of disturbance from adjacent roads and development, the vegetation on site is not likely to be important to any individuals of this species occurring in the locality and it is <b>unlikely</b> to be impacted by the proposal.<br>An AoS is not required for this species.                |
| <i>Daphoenositta chrysoptera</i>      | Varied Sittella                        | V      | 10             | A moderate number of records exist within 10km and suitable foraging habitat exists on site in the form of <i>Eucalyptus</i> dominated communities that have a grassy understorey. While this species has the <b>potential</b> to occur on site, due to the small and isolated impact area with high levels of disturbance from adjacent roads and development, this species is <b>unlikely</b> to be impacted by the proposal.<br>An AoS is not required for this species.  |
| <i>Falco subniger</i>                 | Black Falcon                           | V      | 1              | One record of this species exists within 10 km of the site. This species is mainly associated with plains, grasslands, foothills, timbered watercourses, wetland environments, crops and built-up towns or cities. Although this species has the <b>potential</b> to fly over the site as part of its wider foraging range, no preferred habitat occurs on site and only a small area has been cleared within a disturbed landscape, therefore it is <b>unlikely</b> this species will be impacted.<br>An AoS is not required for this species.              |
| <i>Glossopsitta pusilla</i>           | Little Lorikeet                        | V      | 3              | Three records exist within a 10 km search. This species has <b>potential</b> to intermittently occur on site in response to eucalypt flowering events offering foraging opportunities. However, due to the small area of clearing within a disturbed landscape, and the presence of large areas of suitable foraging habitat in the locality, this species is <b>unlikely</b> to be impacted by the vegetation clearing.<br>An AoS is not required for this species.   |
| <i>Haliaeetus leucogaster</i>         | White-bellied Sea Eagle                | V      | 1              | One record of this species exists within a 10 km Bionet search of the site. Suitable habitat exists for this species in the form of open eucalypt forest and it has potential to occur on site intermittently. This species has a widespread distribution, however no preferred habitat occurs within the site. As such, it is considered <b>unlikely</b> to occur within the site. Due to the lack of records within the area and the minor impact of the area in question, it is considered <b>unlikely</b> to be impacted by vegetation clearing on site. |

| Scientific Name               | Common Name        | BC Act | No. of Records | Likelihood of Occurrence / Likely Level of Impact   |
|-------------------------------|--------------------|--------|----------------|---|
|                               |                    |        |                | An AoS is not required for this species.  |
| <i>Hieraaetus morphnoides</i> | Little Eagle       | V      | 1              | One record of this species exists within a 10 km Bionet search of the site. Suitable habitat exists for this species in the form of open eucalypt forest and it has potential to occur on site intermittently. This species has a widespread distribution and occurs in a wide variety of habitats. As such, it is considered to have <b>potential</b> to occur within the site. However, due to the lack of records within the area and the minor impact of the area question, it is considered <b>unlikely</b> to be impacted by vegetation clearing on site.<br>An AoS is not required for this species.   |
| <i>Lathamus discolor</i>      | Swift Parrot       | E      | 50             | Many records exist within a 10km Bionet search of the site, and suitable winter foraging habitat was present on site in the form of <i>C. maculata</i> . Clearing potential winter foraging habitat of flowering eucalypts results in a small reduction in available foraging habitat; however, given the presence of similar conserved vegetation in the locality and the high level of disturbance surrounding the site, the site is not likely to represent important foraging habitat for any individuals intermittently moving through the locality. On this basis, this species is <b>unlikely</b> to be impacted by vegetation clearing on site.<br>An AoS is not required for this species. |
| <i>Lophoictinia isura</i>     | Square-tailed Kite | V      | 1              | Only one record exists within a 10 km Bionet search and marginal suitable habitat is present in the form of dry woodlands and open forests however no preferred habitat exists in the form of timbered watercourses. This species has the <b>potential</b> to occur on site intermittently while foraging over a wider area. However, due to the small size of the impact area coupled with the lack of records within the area it is considered <b>unlikely</b> for this species to be impacted by vegetation clearing on site.<br>An AoS is not required for this species.  |
| <i>Neophema pulchella</i>     | Turquoise Parrot   | V      | 1              | Only one record exists within a 10km search of the site and marginal foraging habitat is present. This species has the <b>potential</b> to occur on site while foraging, however due to the small area of clearing and high level of surrounding disturbance, it is <b>unlikely</b> to be impacted by vegetation clearing on site.<br>An AoS is not required for this species.  |
| <i>Ninox connivens</i>        | Barking Owl        | V      | 1              | Only one record exists within a 10km search of the site and marginal foraging habitat is present. This species has the <b>potential</b> to occur on site while foraging over a wider home range; however due to the small area of clearing and high level of surrounding disturbance, it is <b>unlikely</b> to be impacted by vegetation clearing on site.<br>An AoS is not required for this species.  |
| <i>Ninox strenua</i>          | Powerful Owl       | V      | 2              | Only two records exist within a 10km search of the site and marginal foraging habitat is present. This species has the <b>potential</b> to occur on site while foraging over a wider home   |

| Scientific Name                           | Common Name                               | BC Act | No. of Records | Likelihood of Occurrence / Likely Level of Impact  |
|---|---|--------|----------------|--|
|   |   |        |                | range; however due to the small area of clearing and high level of surrounding disturbance, it is <b>unlikely</b> to be impacted by vegetation clearing on site.<br>An AoS is not required for this species.   |
| <i>Petroica boodang</i>                   | Scarlet Robin                             | V      | 2              | There are two records within 10km, and suitable open Eucalypt woodland habitat is present. On this basis, this species has <b>potential</b> to occur on site, however due to the small scale of the development area within an area with high levels of disturbance, coupled with the low of records within the area, it is considered <b>unlikely</b> to be impacted by the vegetation clearing.<br>An AoS is not required for this species.  |
| <i>Pomatostomus temporalis temporalis</i> | Grey-crowned Babbler (eastern subspecies) | V      | 49             | Many records of this species exist in the surrounding area, including records in close proximity to the site. Suitable nesting and foraging habitat is present on site. Therefore, this species has <b>potential</b> to occur and <b>potential</b> to be impacted by vegetation clearing.<br>An AoS has been applied in <b>Attachment 3</b> .  |
| <b>Mammals</b>                            |   |        |                |  |
| <i>Dasyurus maculatus</i>                 | Spotted-tailed Quoll                      | V      | 4              | There are four records within 10km of the site. Although suitable habitat exists in the form of open forest and woodland, no suitable den sites in the form of hollow-bearing trees, fallen logs, small caves, or rocky cliff faces occur on site. Although this species has the <b>potential</b> to occur on site on an intermittent basis for foraging purposes, due to the small scale of the clearing area, high levels of disturbance, and no suitable denning habitat is it considered <b>unlikely</b> for this species to be impacted by the vegetation clearing.<br>An AoS is not required for this species. |
| <i>Phascolarctos cinereus</i>             | Koala                                     | V      | 2              | This species was not detected during the field survey period and two records exist within a 10 km Bionet search. The site provides only limited foraging potential for the species. Due to the habitat retention in the conservation offset of the major project approval coupled with the absence of the species from the region in the past decade, it is considered <b>unlikely</b> to occur. On this basis, it is <b>unlikely</b> the species will be impacted by the vegetation clearing.<br>An AoS is not required for this species.   |
| <i>Petaurus norfolcensis</i>              | Squirrel Glider                           | V      | 15             | Many records of this species exist in the surrounding area. Suitable foraging habitat is present in the site area due to the presence of flowering eucalypts, and hollows potentially suitable for nesting were also present. Therefore, this species has <b>potential</b> to be impacted by the vegetation clearing.<br>An AoS is provided in <b>Attachment 3</b> .   |
| <i>Pteropus poliocephalus</i>             | Grey-headed Flying Fox                    | V      | 25             | Twenty-five records exist within a 10 km Bionet search and foraging habitat is present on site in the form of seasonal blossom in eucalypt woodlands. On this basis, this species has <b>potential</b> to occur on site intermittently while foraging. However, the small area of clearing is not likely to be significant for the survival of any population occurring in the locality, and therefore this species <b>unlikely</b> to be impacted by the proposal.  |



| Scientific Name                            | Common Name                    | BC Act | No. of Records | Likelihood of Occurrence / Likely Level of Impact   |
|--|--------------------------------|--------|----------------|---|
|  |                                |        |                | An AoS is not required for this species.  |
| <i>Chalinolobus dwyeri</i>                 | Large-eared Pied Bat           | V      | 1              | This species may forage over the site as part of a wider home range. However, foraging activity in the locality is likely to continue in the locality and the immediate site surroundings owing to the presence of larger areas of similar retained vegetation. Additionally, no roosting habitat (caves) are present on site. Clearing on site represents small reduction in foraging area which is <b>unlikely</b> to be important for the continued survival of this species in the locality. An AoS is not required for this species. |
| <i>Mormopterus norfolkensis</i>            | Eastern Freetail-bat           | V      | 16             | This species was recorded in the site vicinity by RPS (2010). This species may forage over the site as part of a wider home range. However, foraging activity in the locality is likely to continue in the locality and the immediate site surroundings owing to the presence of larger areas of similar retained vegetation. Clearing on site represents small reduction in foraging area which is <b>unlikely</b> to be important for the continued survival of this species in the locality. An AoS is not required for this species.  |
| <i>Miniopterus australis</i>               | Little Bentwing-bat            | V      | 14             | This species may forage over the site as part of a wider home range. However, foraging activity in the locality is likely to continue in the locality and the immediate site surroundings owing to the presence of larger areas of similar retained vegetation. Clearing on site represents small reduction in foraging area which is <b>unlikely</b> to be important for the continued survival of this species in the locality. An AoS is not required for this species.  |
| <i>Miniopterus schreibersii oceanensis</i> | Eastern Bentwing-bat           | V      | 28             | This species was recorded in the site vicinity by RPS (2010). This species may forage over the site as part of a wider home range. However, foraging activity in the locality is likely to continue in the locality and the immediate site surroundings owing to the presence of larger areas of similar retained vegetation. Clearing on site represents small reduction in foraging area which is <b>unlikely</b> to be important for the continued survival of this species in the locality. An AoS is not required for this species.  |
| <i>Myotis macropus</i>                     | Southern Myotis                | V      | 4              | This species was recorded in the site vicinity by RPS (2010). This species may forage over the site as part of a wider home range. However, foraging activity in the locality is likely to continue in the locality and the immediate site surroundings owing to the presence of larger areas of similar retained vegetation. Clearing on site represents small reduction in foraging area which is <b>unlikely</b> to be important for the continued survival of this species in the locality. An AoS is not required for this species.  |
| <i>Saccolaimus flaviventris</i>            | Yellow-bellied Sheath-tail-bat | V      | 1              | This species may forage over the site as part of a wider home range. However, foraging activity in the locality is likely to continue in the locality and the immediate site surroundings owing to the presence of larger areas of similar retained vegetation. Clearing on site represents small reduction in foraging area which is <b>unlikely</b> to be important for the continued survival of this species in the locality.   |

| Scientific Name                 | Common Name             | BC Act | No. of Records | Likelihood of Occurrence / Likely Level of Impact   |
|---------------------------------|-------------------------|--------|----------------|---|
|                                 |                         |        |                | An AoS is not required for this species.  |
| <i>Scoteanax rueppellii</i>     | Greater Broad-nosed Bat | V      | 4              | This species may forage over the site as part of a wider home range. However, foraging activity in the locality is likely to continue in the locality and the immediate site surroundings owing to the presence of larger areas of similar retained vegetation. Clearing on site represents small reduction in foraging area which is <b>unlikely</b> to be important for the continued survival of this species in the locality.<br>An AoS is not required for this species. |
| <i>Vespadelus troughtoni</i>    | Eastern Cave Bat        | V      | 1              | This species may forage over the site as part of a wider home range. However, foraging activity in the locality is likely to continue in the locality and the immediate site surroundings owing to the presence of larger areas of similar retained vegetation. Clearing on site represents small reduction in foraging area which is <b>unlikely</b> to be important for the continued survival of this species in the locality.<br>An AoS is not required for this species. |
| <b>Amphibians</b>               |                         |        |                |   |
| <i>Heleioporus australiacus</i> | Giant Burrowing Frog    | V      | 1              | Only one record exists within a 10km Bionet search. Preferred habitat for this species does not occur on site and due to the small scale of the clearing area and high levels of surrounding disturbance, it is considered <b>unlikely</b> for this species to occur and <b>unlikely</b> to be impacted by the proposal.<br>An AoS is not required for this species.  |

**Key:** V = Vulnerable M = Migratory  
E = Endangered CE = Critically Endangered

### Attachment 3 – 7 Part Test

Section 5A of the EP&A Act lists seven factors that must be taken into account in the determination of the significance of potential impacts of proposed activities on ‘threatened species, populations or ecological communities or their habitats’ (threatened biota) listed under the TSC Act. The ‘7-part test’ is used to determine whether there is likely to be a significant effect on threatened species, populations or ecological communities, or their habitats and thus further assessment is required.

The significance of the impacts on those threatened species and EECs which have been recorded in the Site or are likely to occur and are likely to utilise habitat to be potentially impacted by the proposal (see **Attachment 2**) have been assessed. The following threatened species and ecological community have been considered:

#### Flora

- *Diuris tricolor* (Pine Donkey Orchid)
- *Persoonia pauciflora* (North Rothbury Persoonia)

#### Fauna

- Squirrel Glider *Petaurus norfolcensis*
- Grey-crowned Babbler (eastern subspecies) *Pomatostomus temporalis temporalis*

#### Vegetation Communities

- Central Hunter Ironbark- Spotted Gum – Grey Box Forest
- 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.***

#### Flora

- *Diuris tricolor* (Pine Donkey Orchid)

The cryptic orchid species *Diuris tricolor* is sporadically distributed in western NSW with the most eastern records on the NSW Bionet Atlas being located in the Muswellbrook district. This orchid species is deciduous, forming leaves during the early winter months and flowering during September to early October each year. At the completion of flowering this species recedes to the tuberous growth underground, making it difficult to identify outside its known flowering period.

This species has been observed on lands adjacent to Huntlee (part of the offset package associated with the development) in the west, where in 2016 a single individual of this species was confirmed within similar vegetation to the site. This record extended the eastern geographical distribution for this species.

Targeted surveys for this species were not undertaken during the preclearance surveys as this was outside the optimal flowering period for this species.

The vegetation clearing on site resulted in the removal of up to 971m<sup>2</sup> of potential habitat namely Central Hunter Spotted Gum Ironbark Grey Box Forest for this orchid species.

The Huntlee local biodiversity offsets namely, 780 hectares of conservation land within Huntlee and Persoonia Park contain significant areas of Central Hunter Spotted Gum Ironbark Grey Box Forest representing habitat for this species, that are now largely in NPWS reserve. Additionally, RMS land to the north of site has been retained following completion of the Hunter Expressway.



It is on this basis the removal of up to 971m<sup>2</sup> of potential habitat for this species is not considered 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.

- *Persoonia pauciflora*

The critically endangered *Persoonia pauciflora* is an endemic shrub species with a geographic distribution restricted to the North Rothbury locality. RPS (2010) noted the presence of 28 plants within the wider Huntlee area. The vegetation clearing on site resulted in the removal of up to 971m<sup>2</sup> of suitable habitat namely CHISGGB Forest.

The site was surveyed for *P. pauciflora* and for any plants that may have recruited since RPS conducted formal surveys in 2010. The targeted survey conducted as part of pre-clearance confirmed no individuals of this species occurred within the site.

It is on this basis that it can be considered that the area of clearing is not 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.

## Fauna

### Woodland Birds

- Grey-crowned Babbler (eastern subspecies) *Pomatostomus temporalis temporalis*

Resident populations of Grey-crowned Babblers, which appears to have a healthy population with many individuals observed across the CHSGIGB Forests in the locality by RPS (2010) and other previous surveys, may utilise the woodlands on site as they forage for invertebrates at the lower vegetation strata and on the ground. Grey-crowned Babblers build conspicuous stick nests in understorey vegetation. This species is likely to intermittently forage in the site and surrounding area as part of a family group's larger home range. The vegetation clearing represents a small-scale reduction in area available for foraging within a landscape affected by clearing and high levels of disturbance associated with previously approved development, namely the Huntlee town centre, roundabout on Wine Country Drive, and adjacent roads. Due to the reduced connectivity between the site and retained forest habitats elsewhere in the locality, the site is not likely to be utilised by individuals or family groups foraging in the area and is not likely to be important to the long-term survival of a local population of this species.

- Squirrel Glider *Petaurus norfolcensis*

Squirrel Gliders have been recorded south of the site in Huntlee conservation offset lands. Flowering eucalypt species on the site could have been used by foraging Squirrel Gliders. A small number of hollows potentially suitable for nesting were noted in the CHISGGB Forest during pre-clearing inspection. Individuals resident in the locality could potentially occur within the site as part of a wider home range and the small area of vegetation clearing could potentially reduce the area of occupancy of this species within the locality on a very limited scale. Hostile connections between the site and surrounding vegetation exist in every direction except to the north, where Squirrel Gliders could potentially access the site by gliding across the newly constructed Huntlee town centre road (~40m). However, due to the site's isolation and high levels of surrounding disturbance, the foraging potential of the trees within the site is reduced. While clearing on site represents a small loss of marginal habitat, this habitat is not likely to be important to the long-term survival of the local population of Squirrel Gliders.

- 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.**

No endangered populations of any flora or fauna species are likely to occur within the site or surrounding area.

- c) In the case of an endangered ecological community or critically 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.**

Central Hunter Ironbark-Spotted Gum-Grey Box Forest commensurate with *Central Hunter Ironbark- Spotted Gum-Grey Box Forest in the Sydney Basin Bioregion*. Up to 971m<sup>2</sup> of this vegetation community was removed on site, with a much broader occurrence of this vegetation community within the landscape extending to the south, west, and east of the site. The site is isolated by development on all sides. This vegetation community is retained in lands locally adjacent to the site which consists of significantly larger contiguous patches of vegetation than that found on the site. Although clearing of this has occurred on site, it is not considered, that the clearing will have an adverse effect on the extent of the ecological community or modify its composition such that its local occurrence is likely to be placed at risk of extinction.

- 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,**

Vegetation clearing on site has removed up to 971m<sup>2</sup> of potential habitat for the threatened species assessed.

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

The site is fragmented from surrounding vegetation by previous clearing works associated with the Huntlee town centre and the northern entrance road. Clearing of the remnant patch of vegetation within the site does not lead to further fragmentation of habitat for any threatened species occurring in the wider locality.

- i. 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**

The habitat cleared on site represented only marginal habitat for threatened flora and fauna particularly due to the minor extent of clearing and the isolation from adjoining vegetation. The site is isolated from surrounding vegetation by existing approved development, and subject to high levels of disturbance from the town centre development to the south and surrounding high traffic roadways.

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

No critical habitat for any threatened species or ecological communities occurs on site, therefore the vegetation clearing is unlikely to impact upon such habitat.

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

Threat abatement plan or recovery plans have not been prepared for the species assessed under this 7-part test.

***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.***

The small area of vegetation clearing within a disturbed landscape is unlikely to trigger KTPs currently not operating on site and is not likely to significantly contribute to or increase the activity of a KTP operating on the site.

**Attachment 4 - Preclearance and Ecological clearance Supervision Compliance Letter  
(MJD 2017)**



**Our Ref:** 16015 Pre-clearance and ecological clearing supervision  
**Via:** email

**Date:** 15 March 2017

Attn: Glenn Swan  
Huntlee Pty Ltd  
PO Box 199  
Branxton NSW 2335

Dear Glenn

**RE: PRECLEARANCE AND ECOLOGICAL CLEARANCE SUPERVISION ENTRANCE ROAD TO TOWN CENTRE (OFF WINE COUNTRY DR ROUNDABOUT) – HUNTLEE**

MJD Environmental Pty Limited was engaged by Huntlee to provide an ecological pre-clearance survey and habitat tree removal supervision to their civil contractor, KCE, for vegetation removal works within the Town Centre entrance road (off wine Country Dr roundabout).

Clearance supervision was undertaken in accordance with the Flora and Fauna Management Plan that forms part of the Stage 1 Construction Management Plan for Huntlee. The Management Plan is prepared in response to Major Project Approval Conditions for the Huntlee Stage 1 Project Application No. MP10\_0137.

The identification and marking of 10 potential habitat trees (trees with hollows and/or nests) was undertaken throughout the proposed road site on Wednesday 8<sup>th</sup> March 2017.

During the above-mentioned habitat tree identification survey, an additional full site survey for the Critically Endangered *Persoonia pauciflora* was undertaken throughout the proposed impact zone. No individuals of this species were detected during the survey.

Ecological supervision was provided by an ecologist on Wednesday 8<sup>th</sup> and Wednesday 15<sup>th</sup> March 2017, for the removal of all 10 habitat tree by method of soft felling (Machine and chainsaw) in accordance with approved Flora and Fauna Management Plan.

All hollows and dead limbs were inspected, and no fauna was observed within the habitat trees. In accordance with the FFMP the trees were left overnight prior to stockpiling and mulching.

We trust this is sufficient for your purposes, however should you require any further information or clarification, please do not hesitate to contact Adam Cavallaro (Senior Ecologist) the writer.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'M. Doherty', is written over a light blue rectangular background.

Matt Doherty  
Director  
MJD Environmental Pty Limited