

20 March 2020

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**Compliance with Commonwealth Conditions of Consent for EPBC 2014/7119 within
Precinct I of the Gables Development**

Dear Jacqui

The purpose of this letter is to provide a status update regarding the management actions implemented within Precinct I of the Gables development as required under the Vegetation Management Plan (VMP) approved by the Commonwealth Department of Environment and Energy (DoEE).

The details of management actions implemented to date is summarised in **Appendix A** to this letter. Supporting documentation and figures, showing relevant areas of works are provided in **Appendices B – D** and the **Figures** section at the end of this letter.

If any further information is required, or if you have any questions, please do not hesitate to call me at our Sydney office on (02) 9868 1933.


Yours sincerely,



Gitanjali Katrak
Senior Project Manager/Ecologist
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APPENDIX A :

Gables Precinct I – Commonwealth Vegetation Management Plan Compliance



A.1. Purpose

The purpose of this letter report is to document the management actions implemented within Precinct I of the Gables development as required under the Vegetation Management Plan (VMP) approved by the Commonwealth Department of Environment and Energy (DoEE).

The objective of the VMP is to provide overarching guidance for the management and restoration of Matters of National Environmental Significance (MNES) that occur outside of the established BioBank sites (now referred to as Stewardship sites under the *NSW Biodiversity Conservation Act 2016*) within the relevant development precincts of the wider Gables development.

A.2. Background

The Gables is a 339 hectare parcel of land ('the Gables project') at Box Hill North, NSW that is to be developed to accommodate residential dwellings, community centres, town centre, schools, roads and associated infrastructure. The Gables project is divided into nine separate development 'Precincts', namely Precincts A – I (**Figure 1**).

The Gables project was referred to the Commonwealth Department of Environment and Energy (DoEE) and was determined as a controlled action (EPBC 2014/7119) due to its likely impacts upon Matters of National Environmental Significance (MNES), namely endangered ecological communities and threatened species. The affected MNES include:

- Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest (CPW);
- Shale Sandstone Transition Forest of the Sydney Basin Bioregion (SSTF); and
- Grey-headed Flying Fox (GHFF).

The MNES and MNES habitats are restricted to Precincts E, F, G and I and the DoEE conditions of approval, as issued on 19 July 2016, are limited to these four precincts. Following discussions with DoEE, two variations to the conditions were approved on 23 June 2017 and 19 March 2018 to accommodate amendments to the action in accordance with consent conditions by local (Hills Shire Council) and state government.

Condition 6 of the consent conditions issued by DoEE, as per the 23 June 2017 variation, required the preparation and implementation of a Vegetation Management Plan for the management and conservation of GHFF habitat, CPW and SSTF to be retained or revegetated, at Precincts E, F, G and I, excluding the Biobank Sites.

As the conditions of consent issued by Hills Shire Council (Council), issued on 9 February 2016 also required the preparation of an overarching 'Masterplan VMP' for the entire Gables development as well as precinct specific VMPs based on detailed landscaping and design plans for the respective development precincts, the VMP required under Condition 6 (the 'Commonwealth VMP'), was prepared with due consideration to the Masterplan VMP and precinct specific VMPs prepared to date. The Commonwealth VMP was approved by DoEE on 1 August 2017.

A.3. Commonwealth Management Areas

The areas of MNES and MNES habitat to be managed under the approved Commonwealth VMP were summarised in **Table 3.2** of the VMP. Table 3.2 of the Commonwealth VMP is reproduced as **Table 1** below.

Table 1: Areas of Managed vegetation within the Gables development

Precinct	Area (ha) of CPW retained (Zone 1)	Area (ha) of CPW planted (Zone 3)*	Area (ha) of SSTF retained (Zone 5)	Area (ha) of SSTF planted (Zones 6 & 7)*	Area of Riparian Planting (non-MNES)*
Precinct E					
Precinct F				2.18	0.47
Precinct G			7.10	3.14	1.35
<i>Precinct I</i>	<i>1.49</i>	<i>1.06</i>			
Total	1.49	1.06	7.10	5.33	1.82

Although the Masterplan VMP and **Section 3.1** of the Commonwealth VMP provide the broad, overarching management zones, further precinct specific management zones are required to be established in each precinct based on more detailed landscaping designs before management of vegetated areas can commence. As MNES Zones 3, 6 and 7 comprise full reconstruction and revegetation of cleared areas following bulk earthworks, the Commonwealth VMP allowed for a change in location and/or layout of MNES Zones 3, 6 and 7 to that indicated in Figure 3.1 of the Commonwealth VMP following detailed design, provided the minimum areas to be replanted were met.

The precinct specific management zones are to be detailed in the precinct specific VMPs prepared to satisfy Council considerations and are to ensure that the minimum areas of CPW/SSTF (MNES) to be retained/planted are maintained within the respective precincts.

As per Section 7.3 of the approved Commonwealth VMP, a brief and concise report recording the implementation of the precinct specific VMP is to be submitted every 12 months from the commencement of management works for the life of the VMP and is required to:

- Describe the reconstruction/revegetation works undertaken;
- State the findings of the monitoring activities including results and analysis of the performance criteria;
- Discuss any problems encountered in implementing the VMP; and
- Recommend any adaptations or additions to the VMP.

A.4. Implemented Management Actions

A.4.1. Precinct Status

To date, precinct specific VMPs have not been prepared for Precinct F and Precinct G and no works have commenced within these two precincts. Therefore, no management works under the Commonwealth VMP have commenced within these two precincts.

A VMP has been prepared for Precinct E and is currently pending approval by Council. Vegetation within Precinct E has been cleared following receipt of relevant Council approvals and has been conducted in accordance with Vegetation Clearing Protocols outlined in Chapter 4 of the Commonwealth VMP, Chapter 4 of the Masterplan VMP and the Council approved Fauna Action Plan. The implementation of management actions within Precinct E is detailed in a separate document to this letter.

A VMP for Precinct I has been approved by Council and staged clearing works have been conducted within Precinct I. The management actions, species lists and planting densities of the Precinct I VMP for areas of MNES vegetation reflect those of the Commonwealth VMP. The management actions implemented within Precinct I are detailed in the following sections.

A.4.2. Vegetation Management Works

A.i. Vegetation Management Zones

The overall development of Precinct I is divided into three main stages with the areas subject to the Commonwealth VMP being contained within the Stage 1 and Stage 2 developments. A precinct specific VMP for Precinct I (the Precinct I VMP) was prepared in March 2018 and was approved by Council in conjunction with the issue of construction certificates for Stage 1 works on 1 June 2018 and Stage 2 works on 6 July 2018.

The layout/extent of MNES Zone 1, as outlined in Figure 3.1 of the Commonwealth VMP remained unchanged in the Precinct I VMP. Due to constraints associated with locations of drainage basins and detailed road layout designs, the layout of MNES Zone 3 was modified for the Precinct I VMP. The modified alignment not only allowed the minimum requirement for planting an area of 1.06 ha for MNES Zone 3 to be exceeded but allowed for minor additional areas of retention for MNES Zone 1. The corresponding Precinct I and Commonwealth VMP management zones and management zone areas are summarised in **Table 2**. Extracts from the Commonwealth VMP and Precinct I VMP showing the layout of management zones are provided in **Appendix B**.

Table 2: Precinct I Vegetation Management Zones

Commonwealth VMP		Precinct I VMP	
Management Zone	Required area of MNES (CPW) (ha)	Management Zone	Management Zone area (ha)
MNES Zone 1	1.49	Zone 1a	1.51
MNES Zone 3	1.06	Zone 1	2.28

A.ii. Revegetation Works

Revegetation and weed management works within the wider Precinct I area was conducted by Greater Western Landscapes (GWL) and commenced in February 2019 with further targeted works within Zones 1 and 1a commencing in March 2019. Following an initial assessment of the Precinct as a whole, it was determined that site conditions at the time of commencement of revegetation works had enabled a substantial weed infestation, consisting mainly of *Paspalum dilatatum*, to spread into parts of Zones 1 and 1a. The vegetation management approach was therefore revised to account for the current site conditions and the following revised processes were implemented:

- Primary weed control works;
 - Herbicide application (whole of Precinct I, including non-MNES zones) – February 2019;
 - Weed clearing works (Brushcutting) – March 2019;
- Cultivation & amelioration of topsoil layer (ripping, placement of compost & ameliorates and rotary hoeing) – March 2019;
- Placement of 75mm thick mulch layer – March 2019;
- Temporary irrigation installation – March 2019;
- Planting of tubestock trees, shrubs, grasses & groundcovers in accordance with the species & densities listed within the Precinct I VMP) – March 2019; and
- Commencement of establishment watering – March 2019

Establishment planting was completed by the end of March 2019 and the corresponding five-year maintenance period for planting as required under the Precinct I VMP commenced in April 2019.

Ongoing monitoring from April 2019 has determined that although some minor pockets of planting show signs of stress, likely due to a combination of prevailing dry/drought conditions across NSW and microsite specific water retention, establishment and supplementary planting within Zones 1 and 1a has largely been successful. Replacement planting, using site sourced seed, was implemented as required to maintain strata densities as outlined in the Precinct I VMP. Ongoing monitoring also recorded natural regeneration of certain species such as *Eucalyptus crebra*, *Eucalyptus moluccana* and *Microlaena stipoides* across Zone 1a and the adjacent sections of Zone 1 as a result of the viable seed bank within the existing topsoil layer.

The locations of the photo-monitoring locations and examples of vegetation condition as recorded by GWL is provided in **Appendix C**.

A.4.3. Vegetation Clearing Protocols

Although reporting requirements, as outlined in Section 7.3 of the Commonwealth VMP, focus on areas to be managed for retention and revegetation (**Table 1**) and do not specify any reporting requirements for clearing works, a summary of clearing works has nonetheless been provided as clearing works were conducted in

accordance with the Vegetation Clearing Protocols outlined in Chapter 4 of the Masterplan VMP and Chapter 4 of the Commonwealth VMP.

As per the requirements of the Masterplan VMP and the Commonwealth VMP, the following protocols are to be followed to minimise the impacts on native flora and fauna, including MNES, during clearing:

- Hygiene Protocols;
- Marking Limits of Vegetation Clearing/Fencing of Vegetation to be Retained;
- Pre-clearing surveys and Clearing supervision;
- Salvage of habitat items; and
- Seed Collection/Harvest.

Pre-clearing surveys were undertaken by ecologists from Cumberland Ecology in the various staged work sites within Precinct I on 20 April 2018 and 16 January 2019. The pre-clearing assessments focused on determining the presence of the following:

- Locations of threatened flora;
- Locations of significant weed infestations;
- Identification of habitat features for native fauna, including the Grey-headed Flying Fox (GHFF); and
- Identification of habitat features for salvage.

No threatened flora species were recorded within Precinct I. A large infestation of the priority weed *Rubus fruticosus* (Blackberry) was recorded near the transmission line with scattered occurrences in the central parts of the Precinct. The entirety of the plant, including as much root material as possible was bagged and removed from the site for disposal in accordance with the guidelines identified in the Greater Sydney Regional Strategic Weed Management Plan 2017 - 2022 (LLS: Greater Sydney, 2017).

A total of 56 habitat features, such as hollow-bearing trees, stags and hollow logs were identified within Precinct I. All vegetation to be removed was clearly demarcated and all trees were felled under ecological supervision. Clearing supervision was conducted over 14 days between 23 April and 22 May 2018 with further minor clearing works on 16-18 January 2019 in accordance with the protocols of the Council approved Fauna Action Plan. Vegetation removal works commenced after dawn and ceased before dusk to minimise the potential risk of impacts to foraging GHFF.

A total of 18 trees were identified as salvageable items and were retained in a designated area for future reuse in rehabilitation and retained areas. All native fauna encountered during clearing works were either encouraged to self-relocate or were captured and relocated to designated relocation points as approved by Council. No threatened fauna species were encountered during clearing works. Example photographs of works during clearing supervision are provided in **Appendix D**.

As the pre-clearance surveys did not detect any incidences of die-back or other stressors that would indicate the presence of *Phytophthora cinnamomi* within Precinct I, specific disinfectants targeting *Phytophthora cinnamomi* were not utilised. Nonetheless, standard construction and work site hygiene protocols such as regular cleaning of equipment, machinery and clothing were implemented prior to commencement of clearing works and upon completion of clearing works.

A.4.4. Vegetation Clearing Limits

The vegetation cleared within Precinct I comprised the MNES Cumberland Plain Woodland (CPW). Condition 1 of the consent conditions issued by DoEE, as per the 19 March 2018 variation, states that '*The approval holder must not clear, at the impact site, more than: 8.87 hectares of CPW and 5.85 hectares of SSTF*'.

Desktop analysis of recent aerial imagery (October 2019) for Precinct I (**Figure 2**) determined that approximately 6.99 ha of CPW has been cleared which is within the limits of Condition 1. The aerial imagery also confirmed that all areas to be retained, as outlined in Section 3.2 of the Commonwealth VMP, (MNES Zone 1) have not been cleared (**Figure 2**).

A.4.5. Assessment against Performance Criteria

MNES vegetation management actions conducted to date within Precinct I comprise Phase 1 (Site Preparation) and Phase 2 (Commencement of Revegetation). An assessment against the relevant performance criteria is provided in **Appendix E**.

A.5. Conclusions

The objective of the Commonwealth VMP is to guide the restoration of Precincts E, F, G and I of the Gables development in relation to MNES.

The minimum areas MNES vegetation to be retained and revegetated within Precinct I, as outlined in the Commonwealth VMP have been exceeded, resulting in a larger area of retained/revegetated MNES vegetation within Precinct I than required under the Commonwealth VMP.

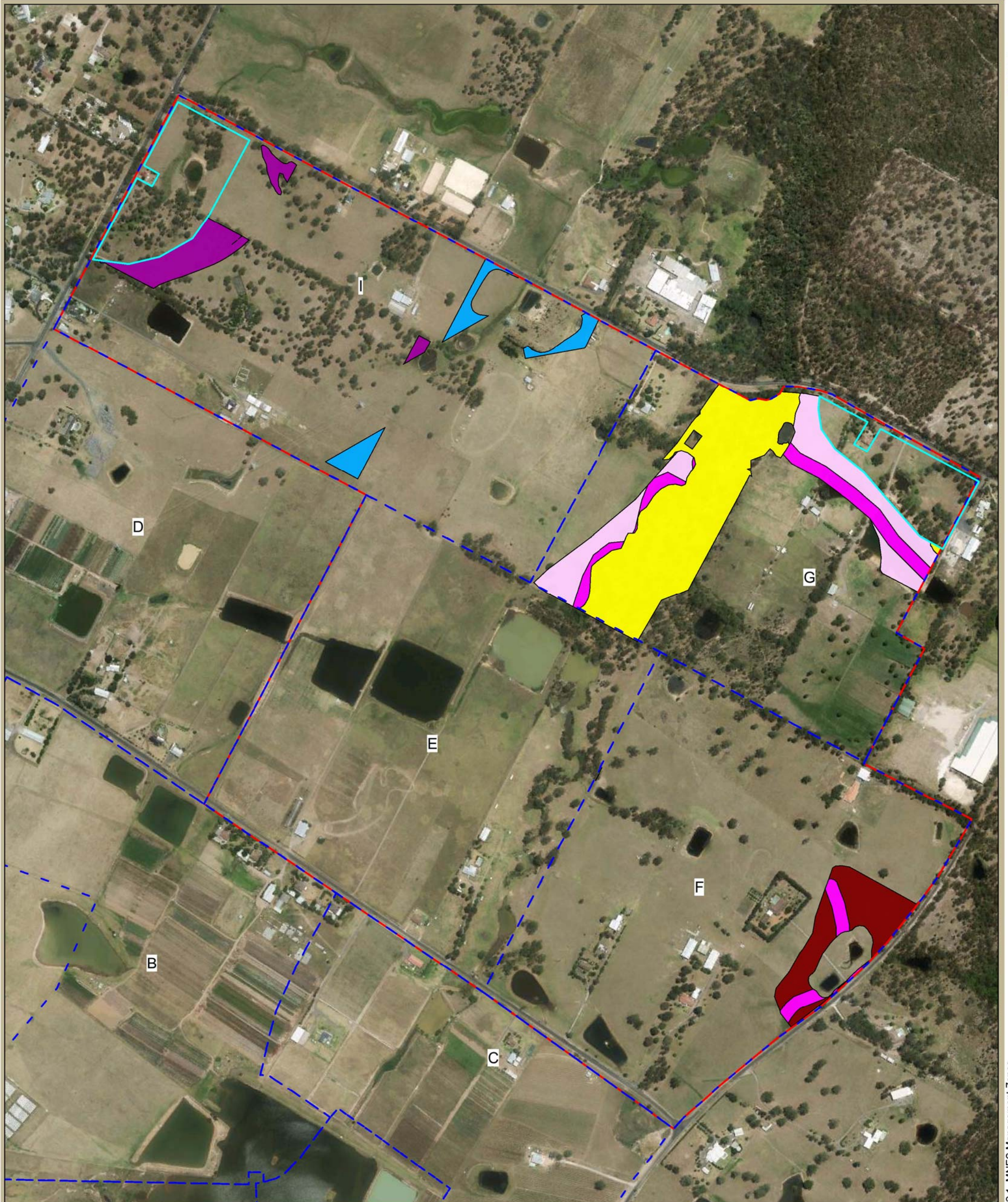
All vegetation removed from Precinct I was cleared in accordance with the protocols outlined in Chapter 4 of the Commonwealth VMP and relevant Council management plans (Masterplan VMP and Fauna Action Plan). Vegetation to be removed was clearly demarcated to avoid inadvertent clearing of any adjacent areas proposed for retention and clearing periods were adjusted to avoid potential overlap with Grey-headed Flying Fox foraging periods.

Revegetation management actions were adjusted/adapted for prevailing site conditions that allowed for substantial weed infestation and ongoing monitoring indicates that plantings have largely established successfully and are supplemented by natural regeneration in areas of retained CPW.

All performance criteria for Phase 1 and Phase 2 works have therefore been met.

APPENDIX B :

VMP Figure Extracts



Legend

- Subject Site
- Development Precincts
- Proposed Biobank Site

* Final location/layout subject to change based on final precinct specific landscape plans.

Management Zones

- MNES Zone 1
- MNES Zone 3 *
- MNES Zone 5
- MNES Zone 6 *
- MNES Zone 7 *
- Riparian Corridor

Image Source:
Image © 2015 Aerometrex
(dated 01-01-2014)

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Figure 3.1. MNES Management Zones

100 0 100 200 300 400 m



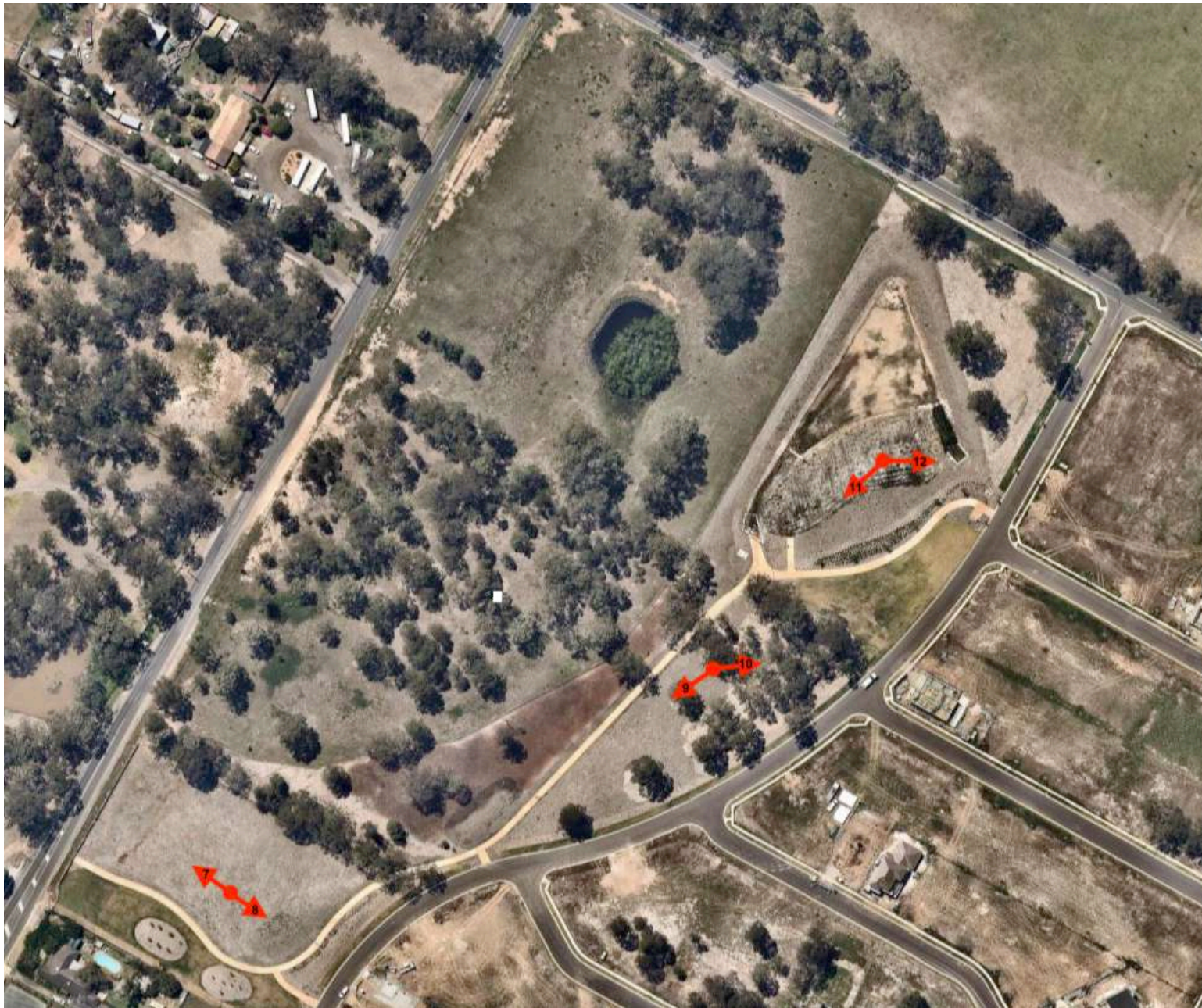
Figure 3.1. Vegetation Management Zones within the Subject Site

APPENDIX C :

GWL - Photomonitoring examples







PMP1



PMP2



PMP3



PMP4



PMP5



PMP6



PMP7



PMP8



PMP9



PMP10



PMP11



PMP12



APPENDIX D :

Photographs

Photograph 1: Isolated habitat item prior to felling (Note fauna friendly fencing around vegetation to be retained in the background)



Photograph 2: Example of Salvage item during clearing



Photograph 3: Feather-tailed glider (non-threatened species) relocated after clearing supervision



APPENDIX E :

Performance Criteria Assessment



Table 3: Assessment against Performance Criteria

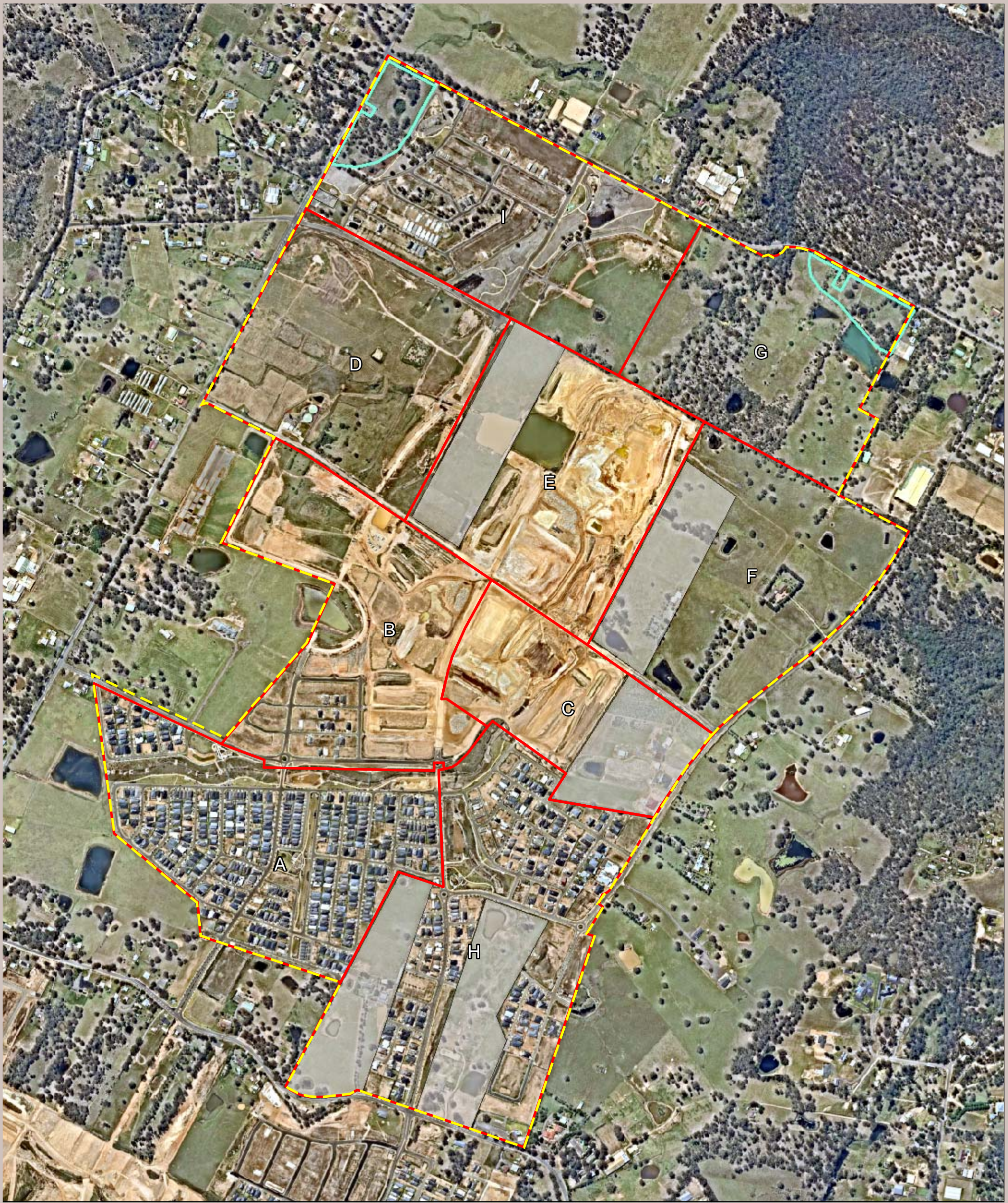
Management Zone	Action	Performance Criteria	Performance actions	Assessment
Phase 1 Site Preparation				
Zones 1, 3, 5, 6, 7	Seed Collection	Seed collected from native plants and germinated	Onsite seed collections used for replanting works	Compliant
All areas adjacent to vegetation to be retained within Zone 1	Delineation of clearing boundary	Marking using GPS and high visibility tape, fencing and boundary markers.	Clearing limits observed to be delineated during pre-clearance surveys and clearing supervision. Aerial imagery shows existing vegetation within areas of Precinct I to be retained	Compliant
Zones 1, 3, 5, 6, 7	Establish fixed monitoring points	Using star pickets and GPS establish a series of monitoring sites that can be used for photograph comparison, measuring weed and plant retention.	Photo-monitoring points established by bush regeneration contractor	Compliant
Zones 1, 5, 6	Fence installation to delineate and protect retained native vegetation	Metal temporary fence installed around existing native vegetation to exclude vehicles and machines for the duration of works	Temporary fencing maintained during clearing works. Aerial imagery shows existing vegetation within areas of Precinct I to be retained	Compliant

Management Zone	Action	Performance Criteria	Performance actions	Assessment
All areas – prior to any vegetation clearing	Flora Pre-clearing Surveys	Identify any threatened plant species within areas. If encountered, Threatened plants will be counted and/or population estimated and considered for Translocation. All records will be reported to OEH and DoEE.	Pre-clearing surveys conducted by Cumberland Ecology. No threatened flora species recorded	Compliant
All areas with canopy species to be felled	Salvage Habitat Features	Tree hollows, Log hollows, bush rock, and other suitable material will be salvaged and stockpiled for future use in revegetation areas and for habitat complexity.	Total of 56 habitat features identified during pre-clearing surveys. A total of 18 habitat items salvaged	Compliant
All areas adjacent to native vegetation to be retained	Installation of signage identifying areas of bushland regeneration	All areas adjacent to native vegetation to be retained have signage installed.	Signage installed as per VMP requirements. Aerial imagery shows existing vegetation within areas of Precinct I to be retained	Compliant
All areas adjacent to native vegetation to be retained	Implementation of appropriate sediment/erosion controls	Adequate controls are implemented so no erosion or sedimentation into areas of bush land regeneration occurs.	Sediment controls installed. No indications of sedimentation in bushland areas	Compliant

Management Zone	Action	Performance Criteria	Performance actions	Assessment
Phase 2 - Restoration Works Commence				
Zones 1, 3, 5, 6, 7	Fixed Point Monitoring.	Photographs of fixed monitoring sites before initial weeding.	Photo-monitoring points established by bush regeneration contractor	Compliant
Zones 1, 3, 5, 6, 7	Carry out primary weeding.	Main weed infestations and noxious weeds and WONS removed - Reproductively mature plants absent from site.	Revegetation methodology adapted for weed infestations at start of revegetation works. Weed removal measures implemented	Compliant
Zones 1, 3, 5, 6, 7	Fixed Point Monitoring.	Photographs of fixed monitoring sites prior to weeding each month.	Photo-monitoring points established by bush regeneration contractor	(Awaiting locations of points from GWL)
Zones 1, 5	Revegetate where natural regeneration has not occurred, or in depauperate areas not representing diversity of intact SSTF/CPW.	Native plants have been planted (species from Appendix B) in areas where there are gaps in any vegetation strata in which natural revegetation has not occurred following primary weeding.	Natural regeneration of some species observed in Zone 1a, supplementary planting conducted using species listed in VMP to maintain strata density	Compliant
Zones 3, 6, 7	Revegetate reconstruction areas. In this zone canopy, small tree, shrub, and some ground cover CPW species will need to be planted along the	Native plants have been planted (species from Appendix B) in all vegetation strata.	Native species sourced from local provenance planted at densities listed in VMP	Compliant

Management Zone	Action	Performance Criteria	Performance actions	Assessment
	riparian corridor. Plantings may need to be undertaken in various strata.			
Zones 3, 6, 7	Fixed Point Monitoring.	Photographs of fixed monitoring sites to compare the survival and retention of plantings.	Photo-monitoring points established by bush regeneration contractor	(Awaiting locations of points from GWL)
Zones 1, 3, 5, 6, 7	Carry out secondary weeding.	Weed regrowth following primary weeding removed. Work has commenced on control of annual weed species.	Ongoing weed control measures implemented	Compliant

FIGURES



Legend

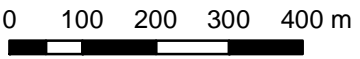
- Gables Development
- Development Precincts
- Properties excluded from the assessment
- Approved Biobank Sites

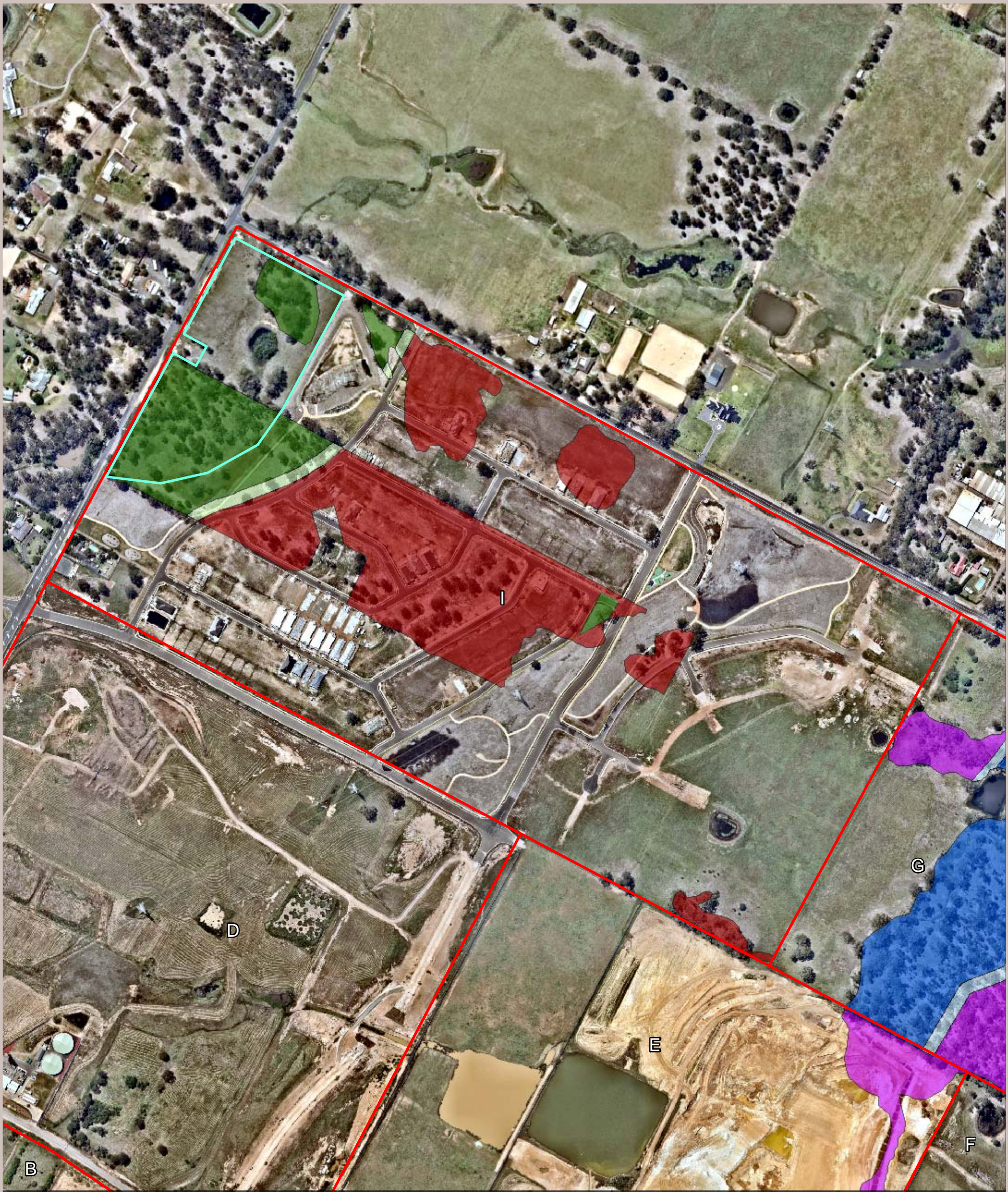
Coordinate System: MGA Zone 56 (GDA 94)

Image Source:
Image © NearMap (2020)
Dated: 29/10/2019



Figure 1. Aerial View of the Gables Development





Legend

Development Precincts

Approved Biobank Sites

Vegetation Community (MNES)

Cumberland Plain Woodland (To be Retained)

Cumberland Plain Woodland (APZ)

Cumberland Plain Woodland (To be Removed)

Shale Sandstone Transition Forest (To be Retained)

Shale Sandstone Transition Forest (APZ)

Shale Sandstone Transition Forest (To be Removed)

Coordinate System: MGA Zone 56 (GDA 94)

Image Source:
Image © NearMap (2020)
Dated: 29/10/2019

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Figure 2. Vegetation Cleared within Precinct I

0 50 100 150 200 m