



Googong Township

Pink-tailed Worm-lizard Protection and Management Plan

A management plan prepared for Googong Township Pty Ltd

Final - 4 July 2012

Wollongong:

8 Tate Street Wollongong 2500

Ph: (02) 4229 5222 Fax: (02) 4229 5500

email: wollongong@biosisresearch.com.au

Sydney:

18-20 Mandible Street, Alexandria, NSW 2015

Ph: (02) 9690 2777 Fax: (02) 9690 2577

email: sydney@biosisresearch.com.au

Melbourne:

38 Bertie Street Port Melbourne 3207

Ph: (03) 9646 9499 Fax: (03) 9646 9242

email: melbourne@biosisresearch.com.au

Canberra:

Unit 16 / 2 Yallourn Street, Fyshwick ACT 2609

Ph: (02) 6228 1599 Fax: (02) 6280 8752

email: canberra@biosisresearch.com.au

Ballarat:

449 Doveton Street North Ballarat 3350

Ph: (03) 5331 7000 Fax: (03) 5331 7033

email: ballarat@biosisresearch.com.au

Wangaratta:

26a Reid Street, Wangaratta

Ph: (03) 5721 9453 Fax: (03) 5721 9454

Email: Wangaratta@biosisresearch.com.au

Project no: 13402

Author:

Robert Speirs

Mapping:

Graeme McIntyre (Manidis Roberts)

Ashleigh Pritchard (Biosis Research)

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PROJECT	Googong Township Pink-tailed Worm-lizard Protection and Management Plan
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AUTHOR(S):	Robert Speirs
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ABBREVIATIONS AND COMMON TERMS

ACT TAMS	ACT Government Territory and Municipal Services
AHD	Australian Height Datum
APZ	Asset Protection Zone
CEMP	Construction Environmental Management Plan
Council	Queanbeyan City Council
DECCEW	ACT Department of Environment, Climate Change, Energy and Water
DSEWPaC	Department of Sustainability, Environment, Water, Population and Communities
EEC	Endangered Ecological Community
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
EPI	Environmental Planning Instrument
GTPL	Googong Township Pty Ltd
Googong Township	The area encompassed by the Googong Township
LEP	<i>Queanbeyan Local Environmental Plan (Googong) 2009</i>
LGA	Local Government Area
NPWS	NSW National Parks and Wildlife Service (part of the OEH)
OEH	NSW Office of Environment and Heritage
PTWL	Pink-tailed Worm-lizard
PTWL Conservation Area	The area of the Study Area proposed to be dedicated and managed as a conservation area for Pink-tailed Worm-lizard
Study Area	The area of the Googong Township assessed as supporting PTWL habitat during the 2010 surveys
TSC Act	<i>Threatened Species Conservation Act 1995</i>
sp.	species (singular)
spp.	species (plural)
ssp.	subspecies
var.	variety
VPA	Voluntary Planning Agreement

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1.0 INTRODUCTION

1.1 Purpose

The Commonwealth Department of Sustainability, Environment, Water, Population and Communities (DSEWPaC) approved the development of the Googong Township (on 19 May 2011) subject to a number of Conditions of Approval (CoA). CoA 1 related to the protection and management of PTWL within the Googong Township. CoA 1 has been addressed in this document in the manner detailed in Table 1 below.

Table 1 Condition of Approval 1

Condition of Approval 1	Sections
<i>The person taking the action must prepare and submit a Pink-tailed Worm-lizard Protection and Management Plan for the Minister's approval for the protection of Pink-tailed Worm-lizard (Aprasia parapulchella). The plan must include:</i>	Entire document
<i>i. Details of the establishment of the Pink-tailed Worm-lizard Conservation Area;</i>	2.1 2.2.1
<i>ii. Management measures to mitigate construction impacts;</i>	2.2.1 2.2.4 2.2.6
<i>iii. Measures for the management of the Pink-tailed Worm-lizard Conservation Area for before and after the conservation area's dedication to Queanbeyan City Council or other appropriate authority;</i>	2.2 2.3 2.4
<i>iv. Maps showing fences and other infrastructure;</i>	Figure 4
<i>v. Details of legal mechanisms to protect the conservation area in perpetuity; and</i>	2.4.5
<i>vi. Provision for public comment on the draft plan.</i>	3.2
<i>The plan must be submitted to the Minister for written approval within 6 months of the date of this approval.</i>	4.0
<i>The person taking the action must not commence construction within 50 metres of Pink-tailed Worm-lizard habitat until the Minister has approved the plan.</i>	2.2.1 Figure 2
<i>The approved Pink-tailed Worm-lizard Protection and Management Plan must be implemented.</i>	3.2 4.0

1.2 Background

The Googong Township is a new master-planned town for a population of some 16,000 people, which will be constructed over the next 25 years. The vision is for a new, vibrant and sustainable community with an economic town centre and strong sense of place.

Biosis Research Pty Ltd (Biosis) was engaged by the Googong Development Corporation (now Googong Township Pty Ltd (GTPL)) in 2010 to prepare an assessment of the impacts of the Googong Township upon an area of known Pink-tailed Worm-lizard (*Aprasia parapulchella*) (PTWL) habitat occurring within the eastern extent of the Township (refer to Figure 1). In order to inform this assessment, habitat quality mapping was completed and intensive targeted rock-turning surveys were conducted throughout the areas determined to constitute potential habitat for the species. PTWL habitat throughout the Study Area was mapped according to ranking criteria that incorporated the abundance and density of surface rocks as well as vegetation composition. Using these ranking criteria, the Study Area was segmented into areas of 'Very High', 'High', 'Medium' and 'Low' quality habitat for the PTWL.

The results of the field surveys and habitat mapping were used to inform the preparation of an *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) 'Assessment of Significance' (Commonwealth of Australia 2008) and to make recommendations for the design and ongoing management of a proposed Pink-tailed Worm-lizard (PTWL) Conservation Area. In accordance with the recommendations provided, GTPL proposed to establish, rehabilitate and dedicate to public ownership, a 52 ha PTWL Conservation Area within the Googong Township. The proposed PTWL Conservation Area included the entire area mapped as 'Very High' quality habitat, the majority of the 'High' quality habitat and 'Medium' quality habitat as well as proposing to restore and protect areas of 'non-habitat', strategically located to increase habitat connectivity and reduce 'edge-effects' (refer to Figure 2). The EPBC Act Assessment of Significance concluded that a significant impact on PTWL would be unlikely to occur as a result of the proposed development of the Googong Township, provided the proposed PTWL Conservation Area is established and appropriately managed in perpetuity.

As such, this approach to the management of the PTWL within the Googong Township was proposed by GTPL in the submission of an EPBC Act Referral of the proposed action to DSEWPaC for assessment of the Googong Township against the provisions of Part 9 of the EPBC Act.

1.3 Structure of this PTWL P&MP

This PTWL P&MP is structured in the following manner:

Section 2 – Details regarding the establishment, protection and management of the PTWL Conservation Area. Within Section 2:

- Subsection 2.1 details the PTWL Conservation Area concept including the conservation principles, design and location, and the proposed management zones;
- Subsection 2.2 details the initial works and management actions to be undertaken by GTPL;
- Subsection 2.3 details the monitoring and management of the PTWL Conservation Area to be undertaken by GTPL; and

- Subsection 2.4 details the monitoring and management of the PTWL Conservation Area to be undertaken in perpetuity by Queanbeyan City Council (Council).

Section 3 – Details regarding the consultation and review undertaken during the preparation and to be undertaken during implementation of this PTWL P&MP:

- Subsection 3.1 details the consultation undertaken during the development of this PTWL P&MP;
- Subsection 3.2 details the provision that has been made for public and agency comment on this PTWL P&MP; and
- Subsection 3.3 details the ongoing review procedure for this PTWL P&MP.

Section 4 – A summary of the management actions to be undertaken and the parties responsible.

2.0 ESTABLISHMENT, PROTECTION AND MANAGEMENT OF THE PTWL CONSERVATION AREA

2.1 The PTWL Conservation Area concept

2.1.1 Conservation principles

The following four principles recommended by Biosis and independently endorsed by PTWL expert Dr Will Osborne have been applied by GTPL in determining the location design, establishment and management of the PTWL Conservation Area within the Googong Township:

- Including, and thereby preventing the disturbance of, all areas of ‘Very High’ quality habitat and the majority of the areas of ‘High’ and ‘Medium’ quality habitat within the PTWL Conservation Area;
- Providing a balanced outcome of urban development and a consolidated, contiguous PTWL Conservation Area that reduces habitat fragmentation and improves habitat quality for the species in the long term;
- Optimising the habitat connectivity of the PTWL Conservation Area to the adjoining Googong Foreshores; and
- Implementing an ongoing management regime that will effectively manage the PTWL Conservation Area for the conservation of PTWL, whilst remaining fiscally responsible and practicable to implement and manage.

These principles have been considered by GTPL as ‘objectives’ to be met during the design and management of the Googong Township in order to facilitate development, whilst ensuring the development does not have a ‘significant impact’ (as defined pursuant to the EPBC Act) upon the population of PTWL.

2.1.2 Design and location of the PTWL Conservation Area

The PTWL Conservation Area that would be established by GTPL (as illustrated in Figure 2) has been designed in a manner that would result in a qualitative and quantitative long-term net-benefit to PTWL habitat within the locality. With regard to the location and extent of the PTWL Conservation Area, it should be noted that of the PTWL habitat assessed as occurring within the Googong Township, the PTWL Conservation Area would encompass the following.

1. The entire 24.2 ha area of ‘Very High’ quality habitat.
2. The majority (6.25 ha or 65.2%) of the ‘High’ quality habitat. The loss of the balance 3.33 ha or 34.8% of ‘High’ quality habitat will be effectively compensated for by restoring and protecting ‘Medium’ quality habitat and areas of ‘non-habitat’, strategically located to increase habitat connectivity and reduce ‘edge-effects’.
3. The majority (15.38 ha or 64.7%) of the area of ‘Medium’ quality habitat. The retained areas will be restored and, over time, become higher quality habitat.

As such, the PTWL Conservation Area proposed by GTPL would, in time, encompass a total of approximately 52 ha containing a minimum of approximately 45.83 ha of ‘Very High’ or ‘High’ quality habitat. This would result in a substantial long-term net increase given that the total area of ‘Very High’ or ‘High’ quality habitat prior to the establishment of the PTWL Conservation Area

is 33.77 ha. In addition, the habitat restoration and management measures detailed in this PTWL-PMP would:

- Substantially improve habitat quality within the PTWL Conservation Area;
- Maintain and improve habitat connectivity within the PTWL Conservation Area; and
- Improve habitat connectivity between the PTWL Conservation Area and the adjoining Googong Foreshores.

2.1.3 Management zones

The PTWL Conservation Area will be divided into three (3) broad management zones:

- PTWL habitat zone – this is the majority of the PTWL Conservation Area;
- Habitat buffer zone – this is a 20 m zone at the urban interface; and
- Montgomery Creek zone – this is the area immediately adjacent to, and including, the creek line.

Table 2 provides details of the management zones including the objective habitat quality and the management actions to be implemented with the aim of achieving this objective.

Figure 3 shows the areas of key management actions, such as shrub thinning and rock placement (detailed further in Section 2.2). Figure 3 also identifies the existing E2 zoning based on the *Queanbeyan Local Environmental Plan (Googong) 2009* (LEP). The E2 zoning contains certain additional management provisions.

Table 2 PTWL Conservation Area management zones

Zone	Area (ha)	Objective habitat quality (long-term)	Primary aims	Management actions
PTWL habitat zone	45.04	High to very high	<ul style="list-style-type: none"> ▪ Enhance PTWL habitat characteristics: <ul style="list-style-type: none"> – Moderate to high rock scatter density. – Native grass dominated groundstorey. – Low fuel loads. 	<ul style="list-style-type: none"> ▪ Weed removal and control. ▪ Targeted woody weed and Radiata Pine removal. ▪ Maintain fuel loads and grassland vegetation, primarily by kangaroo grazing. ▪ Placement of suitable habitat rocks translocated from elsewhere within the Googong Township.
PTWL habitat buffer zone	4.21	Medium	<ul style="list-style-type: none"> ▪ Manage edge effects. ▪ Promote PTWL habitat characteristics. ▪ Bushfire asset protection. 	<ul style="list-style-type: none"> ▪ Weed control. ▪ Maintain fuel loads and grassland vegetation. High height slashing may be required. ▪ Rubbish removal.
Montgomery Creek zone	2.62	Low	<ul style="list-style-type: none"> ▪ Maintain water quality and flows. ▪ Enhance native vegetation. 	<ul style="list-style-type: none"> ▪ Weed removal and control. ▪ Native vegetation planting (riparian species).

2.1.4 Key threats and management priorities

A risk management approach has been undertaken with regard to the design and management of the PTWL Conservation Area, particularly with respect to the design, location and staging of the conservation area fencing. The risks, based on the likelihood and consequences of potential impacts, were discussed and agreed to by the Googong Foreshores Township Interface Working Group on 9 September 2011. This risk assessment was informed by the scientific advice from expert ecologists and utilised the experience of local land managers. The management approach discussed in the remainder of this section is based on the following threats to the conservation of the PTWL, in order of priority:

1. Trail bikes – the use of trail bikes within the PTWL Conservation Area is likely to disturb key habitat features, such as small surface rocks.
2. Four-wheel-drive vehicles – similar to trail bikes, four-wheel-drive vehicles may disturb habitat features. However, due to the steep topography throughout much of the PTWL Conservation Area movement within the PTWL Conservation Area by such vehicles is limited.
3. Unleashed/feral dogs and cats – these animals may excavate under and around habitat rocks and directly predate on PTWL individuals, however, the likelihood of this occurring is considered to be low.
4. Pedestrians – while the likelihood of people walking through areas of PTWL habitat is high, the level of impact upon the species, which may result from human foot traffic and other pedestrian access impacts is considered to be very low.
5. Bush rock removal – while bush rock removal is recognised as a key threatening process to PTWL, the fencing type and schedule detailed in Section 2.2.1 would prevent unauthorised vehicular access to the PTWL Conservation Area. Impacts associated with the removal of bush rocks without the aid of a vehicle (i.e. carrying by hand from the PTWL Conservation Area to residential properties) are considered to be unlikely and of low significance.

With regard to all the above priority risks, it has been identified by the Googong Foreshores-Township Interface Working Group that public education and community engagement is of key importance to the protection of the PTWL Conservation Area and the minimisation of the risks/impacts detailed above. Section 2.3.6 details the public education and community engagement actions that would be undertaken.

2.2 PTWL Establishment Works and Management by GTPL

2.2.1 Establishment of the PTWL Conservation Area boundary and fencing

The establishment of the PTWL Conservation Area is not expected to occur for a number of years. The trigger for establishment is the commencement of works for the Googong Township within 50 m of the identified PTWL Habitat. This trigger is considered to mark 'Year 0' of the PTWL Conservation Area and all works to establish the PTWL Conservation Area would proceed in stages from this point. Figure 2 provides the indicative 'Year 0' trigger line.

The current land use and management regime (i.e. for agricultural purposes, notably sheep grazing) has been in place throughout the PTWL Conservation Area and surrounds for an extended period. The continuation of this land use and management regime until 'Year 0' is

proposed as it will best allow for the maintenance of the PTWL habitat quality and the PTWL population within. The existing stock fencing within the PTWL Conservation Area and immediate vicinity would also remain without substantial alteration until 'Year 0' (Note: this does not preclude routine maintenance or replacement of the existing fences, if required). The continuation of the current land use and the retention of the existing stock fencing will also preclude public access to the PTWL Conservation Area prior to its formal establishment.

The relevant section of the boundary of the PTWL Conservation Area would be defined and fenced prior to any other construction works commencing within 50 m of the relevant section of the PTWL Habitat. Fencing would be constructed in stages, generally as per the diagrammatic representation provided in Figure 4.

The boundary fencing between the PTWL Conservation Area and the surrounding urban areas of the Googong Township would be approximately 1.2 m in height. To respond to the highest priority risks discussed in Section 2.1.4, the fence would be constructed using galvanised posts and rails at the top and approximately 0.6 m of 'cyclone fence' style mesh. This fence type is considered to be the most appropriate as it would:

- Not create a visually unappealing barrier between the PTWL Conservation Area and the adjacent residential areas;
- Be effective in preventing illegal vehicular access into the PTWL Conservation Area (entry without a key would require the cutting of steel fences or chain-locked gates); and
- Provide some deterrent to domestic cats and dogs which may escape or roam from the surrounding future residential areas.

As shown in Figure 4, where the PTWL Conservation Area boundary meets the Googong Foreshores boundary, the PTWL fence would meet the fence that would be constructed between the urban (residential) areas of the township and the Googong Foreshores. This fence would be of a greater height and strength, designed in a manner that would minimise the risk of illegal vehicular access and pest fauna species into the Googong Foreshores.

Existing fencing between the PTWL Conservation Area and the adjoining Googong Foreshores would be removed to allow for the free movement of kangaroos, wallabies and wombats between the conservation area and the Googong Foreshores. An appropriate level of grazing by native herbivores will greatly assist in maintaining the grassland habitat desirable to PTWL and reduce fuel loads.

Maintaining and monitoring the fence around the PTWL Conservation Area to prevent illegal vehicular access into the PTWL Conservation Area would also prevent such access into the Googong Foreshores. Upon construction of the adjacent residential properties, community surveillance of the PTWL Conservation Area would provide a considerable deterrent to people wishing to enter the PTWL Conservation illegally (i.e. with trail bikes, etc).

Pedestrian access points from the surrounding future residential development areas into the PTWL Conservation Area would be provided at strategic locations with appropriate gates and signage. Future further public pedestrian access for passive recreation purposes (e.g. bushwalking, bird watching, etc) may be provided in consultation with Council (refer to Section 2.4), however, no formed access tracks or other facilities would be established within the PTWL Conservation Area. Gates required for vehicular access for maintenance purposes would be locked to prevent unauthorised vehicular access.

A 20 m wide ‘buffer zone’ would be established running around the inside of the boundary of the PTWL Conservation Area (refer to Figure 3). This buffer zone would be regularly monitored and any disturbance or additional weed establishment/encroachment would be promptly and sensitively controlled. Alike the balance of the PTWL Conservation Area, the buffer zone would be managed for PTWL conservation and, as such, would not be used as a transport corridor, or other incompatible use. However, the buffer zone would form part of the asset protection zone (APZ) for adjacent residential properties and, as such, would be managed as an Outer Protection Area in accordance with the Planning for Bushfire Protection - A Guide for Councils, Planners, Fire Authorities and Developers (NSW Rural Fire Service 2006), which entails maintaining fuel loads at less than eight (8) tonnes per hectare (ha). It should be noted that it is expected that in this environment, no additional measures are expected to be required to maintain such fuel loads. Notwithstanding, asset protection for residences located opposite the PTWL Conservation Area would be primarily achieved by the road reserve and within the residential properties. As previously stated, grazing by native herbivores at the desirable intensity to optimise PTWL habitat quality will also greatly reduce fuel loads within the PTWL Conservation Area.

In the event that native herbivore grazing is insufficient to maintain the required fuel loads within the buffer zone, slashing may be undertaken within the buffer zone to maintain fuel loads to Outer Protection Area standards. Slashing equipment would be thoroughly cleaned of all potentially weed seed laden material prior to entry and cutter blades would be set high enough to avoid rocks.

The boundary between the PTWL Conservation Area and the adjacent surrounding future residential development areas would be the area where ‘edge effects’ are most relevant and would require the highest degree of ongoing management. As such, all reasonable efforts have been made during the design of the PTWL Conservation Area to minimise the length of the boundary between the PTWL Conservation Area and the adjacent surrounding future residential development areas. This was achieved through the design of the PTWL Conservation Area in accordance with the principles discussed in Section 2.2.1 and on the advice of relevant experts. In particular, this related to consolidation of habitat areas to reduce fragmentation by restoring areas within the PTWL Conservation Area, thereby providing increased habitat connectivity and quality within the PTWL Conservation Area and improving habitat connectivity to the adjoining Googong Foreshores. This process is illustrated in Figure 2, particularly on the southern side of Montgomery Creek.

Sealed roads would be constructed around the boundary of the PTWL Conservation Area with residential lots located on the opposite side of the road. The location of roads in this manner is effective in discouraging the dumping of rubbish and the often well intentioned (however highly environmentally degrading) practice of spreading lawn clippings throughout the grassland over the back fence. In order to avoid the establishment of additional exotic plants and to prevent increases in the proportion of those already present, disturbance to the topsoil between the road and the PTWL Conservation Area boundary fence would be minimised. Should the placement of additional soil be required in this area, this soil would be sourced from adjacent areas and would be seeded with endemic grasses. The use of soil sourced in this manner would ensure that no additional exotic plant species are introduced into the locality.



2.2.2 Weed removal

Post establishment of the PTWL Conservation Area boundary, all woody weeds (i.e. Sweet Briar (*Rosa rubiginosa*) and African Boxthorn (*Lycium ferocissimum*)) would be removed (via poisoning and physical removal) from the PTWL Conservation Area.

A targeted weed removal program (spot spraying) would be implemented early during the active growing season of Serrated Tussock (*Nassella trichotoma*) (approximately 50 plants were identified in 2010) located along the Montgomery Creek riparian zone within the PTWL Conservation Area. Eradication of this weed species is essential to prevent its spread and proliferation throughout the PTWL Conservation Area. As such, GTPL would liaise with the current land managers to remove the small Serrated Tussock infestation currently occurring within the PTWL Conservation Area. This action would be undertaken within six (6) months of approval of this PTWL P&MP.

All weed removal works would be undertaken by trained and competent personnel using weed management techniques that are targeted to the species with minimal impact upon non-target species.

Specific efforts to eradicate or substantially reduce the other exotic grass and herbaceous species (primarily pasture species and common rural species), which are widespread throughout the PTWL Conservation Area are unwarranted. These species are generally considered 'naturalised' throughout the rural areas of the Southern Tablelands and, as such, efforts to eradicate them would be largely futile given their abundance throughout the wider locality. The removal of stock and associated nitrification of the soils, combined with the re-establishment and appropriate grazing of native grasses is likely to reduce the prominence of many of the exotic grasses and herbs within the PTWL Conservation Area.



2.2.3 Physical removal of Radiata Pine and thinning of Burgan

The Radiata Pine (*Pinus radiata*) planted along the gully in the eastern part of the PTWL Conservation Area (refer to Figure 3) would be physically removed. The trees would be sawn at the base, felled and removed from the PTWL Conservation Area. The tree stumps would remain in place to minimise soil disturbance and erosion. If trees are chipped onsite the resulting mulch would be removed and not dumped or distributed within the PTWL Conservation Area.

The areas within the PTWL Conservation Area which support dense stands of Burgan (*Kunzea eriocoides*) would be thinned (refer to Figure 3). Burgan bushes would be sawn at the base and removed from the PTWL Conservation Area. Care would be taken to minimise disturbance to the soil surface and avoid disturbance to areas supporting substantial rock scatter density.

The thinning of dense stands of Burgan (*Kunzea eriocoides*) would also reduce shading of PTWL habitat, encouraging the growth of Kangaroo Grass and other native groundstorey species, which increase habitat quality for the PTWL. Reduced shading also increases the thermoregulatory benefit offered by habitat rocks to PTWL, and thus, increases their utilisation of these important habitat features. It should be noted, however, that the thinning of Burgan would not become a widespread operation, nor would it aim to remove or substantially reduce the presence of the species within the PTWL Conservation Area or the very extensive adjoining Googong Foreshores.



2.2.4 Translocation of habitat resources and PTWL individuals

Importation of habitat rocks

Suitable habitat rocks removed by GTPL during the construction of the perimeter road and other excavations within the immediate vicinity of the PTWL Conservation Area would be imported into the PTWL Conservation Area. These rocks would then be scattered throughout the existing areas devoid of suitable habitat rocks or where such rocks are at low scatter density (refer to Figure 3). The rocks used for importation would be selected due to their small and/or flat characteristics. Large or spherical rocks would not be imported. Rocks would be scattered in a manner that results in a moderate to high scatter density whilst ensuring that rocks are not piled and do not result in excess of 30% ground cover. Care would be taken to avoid existing rocky areas and to minimise soil disturbance during delivery and scattering of these rocks.

To prevent the importation of additional weed species into the PTWL Conservation Area, only rocks removed from adjacent sections of the Googong Township would be imported.

PTWL salvage and translocation program

Prior to the importation of rocks discussed above, any PTWL individuals uncovered outside of the PTWL Conservation Area within the existing habitat area (refer to Figure 2) are proposed to be translocated into the PTWL Conservation Area. It is important to note as the majority of high quality habitat and recorded locations of PTWL would be located within the PTWL Conservation Area, the numbers of PTWL individuals identified for translocation are expected to be low (and may be nil). This proposed salvage and translocation process is not essential to the overall protection of the PTWL or to the success of the PTWL Conservation Area, however, it is proposed as an additional conservation measure.

A licence to conduct the PTWL salvage and translocation program would be obtained from the NSW Office of Environment and Heritage (OEH) by a suitably qualified ecologist engaged by GTPL. Any specific conditions of this licence would be adhered during the conduct of the program. The OEH (Queanbeyan Office) would be notified of the proposed timing of the PTWL salvage and translocation program.

The PTWL salvage and translocation program would involve the turning (by a suitably qualified and experienced ecologist or similar) of all suitable habitat rocks and the capture of all PTWL found. Captured PTWL individuals would immediately be taken into the adjoining PTWL Conservation Area and released at the base of a suitable habitat rock located at least 20 m inward from the boundary fence. Care would be taken to ensure that the PTWL is able to make its way under the selected rock.

To prevent increases in competition in areas of existing habitat within the PTWL Conservation Area, all individuals translocated into the PTWL Conservation Area would be released in the areas of newly created/improved habitat (i.e. areas where imported rocks have been placed).

In order to maximise the number of individuals salvaged, the PTWL salvage and translocation program must be completed during the season to ensure the conditions are optimal to survey for the species (i.e. <28 degree Celsius sunny days between September to November).

In addition to the PTWL salvage and translocation program, protocols to be adhered to if PTWL are discovered during construction works are to be included in the site induction for all construction personnel working directly adjacent to the PTWL Conservation Area. The protocol that would be followed is to pause the activity and contact the relevant person on site nominated to capture and remove the PTWL encountered. The nominated person must be reasonably familiar with PTWL (i.e. be able to distinguish between a PTWL and a juvenile snake, etc). Upon notification, the nominated person would capture by hand (wearing gloves), and release the PTWL within the PTWL Conservation Area, as described above.

2.2.5 Re-establishment and encouragement of native grasses

A native grass re-establishment and encouragement program would be implemented throughout the PTWL Conservation Area. This would be aimed at facilitating and encouraging the dominance of native grasses (notably Kangaroo Grass and Red Grass) within the areas of the PTWL Conservation Area where they are not currently the dominant species due to Burgan cover or disturbance.

The program would involve the re-establishment of Kangaroo Grass and Red Grass using stock grown from seed of local provenance (i.e. ACT and surrounds). These grasses would be re-established or boosted via the spreading of fertile Kangaroo Grass and Red Grass seed across the sections of the PTWL Conservation Area where disturbance to the soil surface has occurred during the removal of exotic and native woody species and the importation of habitat rocks. The native grass re-establishment and encouragement program would occur as soon as practicable following the completion of these works.

2.2.6 Additional management measures during construction

In addition to the specific management measures detailed herein, the following standard construction best practice management measures would be adhered during all works within or adjacent to the PTWL Conservation Area, as follows:

1. Construction sites would be fenced for site security and safety reasons. No construction vehicles or personnel would be permitted outside of the construction site fencing.
2. A Construction Environmental Management Plan (CEMP) would be prepared for the management of environmental issues during construction. Relevant sections of the CEMP would be prepared to detail the protection of ecological features of the Googong Township, including the location of the PTWL Conservation Area. The CEMP would also detail general environmental protection measures, such as sediment and erosion control measures to be undertaken during construction activities.
3. Construction personnel would be inducted. Inductions (and less formal, task-specific actions, such as ‘toolbox talks’) would include, where relevant, the location of the PTWL Conservation Area and the relevant protection measures required of the particular construction personnel. Generally, this would entail construction personnel being informed to remain within the designated construction sites/areas at all times.
4. In order to prevent the importation of additional weed species into the locality, all vehicles would be cleaned of all potentially seed laden material prior to entry.
5. Construction personnel would not bring any domestic pets into the site.
6. All rubbish would be removed from site and disposed at an appropriately licenced facility. No rubbish would be burned, buried or otherwise disposed of on site.

2.3 Monitoring and Management by GTPL

2.3.1 Weed monitoring and management

A biannual (spring and autumn) weed monitoring and management program would be implemented to identify any regrowth of woody weeds and to locate any Serrated Tussock (or other 'Weed of National Significance') that may have re-established within the PTWL Conservation Area. Any such regrowth or re-establishment would be immediately eradicated using appropriate removal techniques.

All weed monitoring and removal works would be undertaken by trained and competent personnel using weed management techniques targeted to the species with minimal impact upon any non-target species.

2.3.2 Monitoring of native grass re-establishment success

The success of the native grass re-establishment and encouragement program would be determined through the conduct of monitoring events by appropriately qualified and experienced personnel (botanist, ecologist, bush regenerator, etc), undertaken biannually (spring and autumn) following the spreading of the grass seed. The biannual monitoring events would continue until Kangaroo Grass and Red Grass combined comprise a minimum of 25% of the groundstorey cover within the re-establishment areas. At each monitoring event, one (1) 4 m² (i.e. 2 m x 2 m) sampling plot per 1000 m² would be randomly located within each re-establishment area. The groundstorey biomass percentage of Kangaroo Grass and Red Grass within each sampling plot would be estimated and used to produce an average biomass percentage for the species within the polygon. If the biomass percentage is insufficient, further seed spreading or infill planting with these species would be undertaken to achieve the desired coverage.

It is envisaged that in the absence of stock grazing it is likely that Kangaroo Grass and Red Grass would readily establish and quickly become the dominant grass species within the re-establishment areas.

2.3.3 Monitoring of PTWL abundance and distribution

A PTWL monitoring program would be implemented to monitor the abundance and distribution of the PTWL throughout the PTWL Conservation Area. The PTWL monitoring program would involve the turning of rocks across the entire PTWL Conservation Area and the recording of all PTWL individuals identified (i.e. numbers, locations recorded via GPS, etc). The survey effort to be completed would amount to approximately 15 hours of survey effort (i.e. two (2) ecologists for one (1) day), and, as such, the pace at which the survey staff move around the PTWL Conservation Area would need to be established accordingly.

Monitoring survey effort would be expended in a manner that provides a sample of habitat qualities ranging from 'Medium' to 'Very High', and specifically encompassing areas where habitat creation/improvement (i.e. rock placement areas and native grass re-establishment areas) has occurred.

The PTWL monitoring program has been designed in a manner that would involve a measured amount of survey effort (i.e. 15 hours per survey event) spread at low intensity across the entire PTWL Conservation Area. Given the inherent disturbance to habitat involved in rock turning surveys, this approach would distribute the disturbance across a large area, and thereby, prevent

the same specific areas being repetitively disturbed (as would be the case if defined survey plots were established).

The results of each monitoring event would be provided for inclusion in the NSW Wildlife Atlas as per the standard conditions of the scientific licence held by the ecologist/zoologist engaged to conduct the monitoring.

The PTWL monitoring program would commence in the spring following the first year of works within 50 m of the PTWL Conservation Area. The program would then occur every second year using the same survey techniques at each survey event until handover of the PTWL Conservation Area to Council. The commencement of the PTWL monitoring program, as stated, would provide for a number of monitoring events to occur and allow for baseline results to be obtained prior to the substantial occupation of the adjacent future residential areas.

The PTWL monitoring program would provide invaluable data regarding the continued viability of the PTWL population and hopefully demonstrate that the conservation and protection of the PTWL Conservation Area (and associated works) has increased the size and secured the viability of the PTWL population in the long-term.

Whilst the PTWL monitoring program would be conducted in accordance with the above, a degree of flexibility would be maintained to allow for the incorporation of new or better survey techniques should these become known/developed in the future. Any such changes would be documented at the time of the review of this PTWL P&MP, which is to occur every five (5) years.

2.3.4 Management of herbivores and feral predators

The feral herbivore European Rabbit (*Oryctolagus cuniculus*) was detected within the PTWL Conservation Area during the 2010 surveys. This species has been identified as an invasive species which suppresses the regeneration of natural grasses and forbs (NSW Scientific Committee 2002). High intensity grazing by rabbits is likely to adversely impact upon PTWL habitat by reducing the abundance of native grasses. In addition, the excavation of burrows and establishment of latrine sites by rabbits is likely to result in disturbance of PTWL habitat and increased weed infestation.

Whilst important for the maintenance of biomass and fuel loads, overgrazing by over-abundant kangaroo populations within the PTWL Conservation Area and the adjoining Googong Foreshores also has the potential to impact negatively upon the quality of the PTWL habitat.

Feral Cats (*Felis catus*) and the Red Fox (*Vulpes vulpes*) are known to predate upon small reptiles, including those of the family Pygopodidae. The impacts of these predators must be appropriately managed to protect the PTWL and other native fauna within the PTWL Conservation Area.

Given that herbivores and feral predators would move freely between the Googong Foreshores and the PTWL Conservation Area, populations of herbivores and feral predators in the locality would be managed effectively by the existing and ongoing operations undertaken by the ACT Government Territory and Municipal Services (ACT TAMS) (Googong Foreshores Draft Plan of Management 2007).

2.3.5 Prevention of domestic animal impacts upon PTWL

The following measures would be implemented to prevent domestic animals from roaming within the PTWL Conservation Area, as follows:

1. A public education and community engagement program would be developed and implemented (refer to Section 2.3.6).
2. A sealed perimeter road would be located between the PTWL Conservation Area and adjacent residential properties.
3. The PTWL Conservation Area boundary fence would be installed to provide a deterrent to domestic animals through the installation of ‘cyclone fence’ style mesh (refer to Section 2.2.1). This fence would be appropriately maintained.

2.3.6 Public education and community engagement

A public education and community engagement program would be implemented by GTPL to educate the residents of, and the visitors to, the Googong Township. This program would provide the following:

1. Signage at strategic locations along the PTWL Conservation Area boundary providing details relating to:
 - a. The biodiversity values of the PTWL Conservation Area and importance of protecting such values;
 - b. The management activities that have occurred and would continue to occur within the PTWL Conservation Area;
 - c. The roles that the public can play in protecting the PTWL Conservation Area;
 - d. The actions that would damage the PTWL Conservation Area and/or diminish the habitat values of the area to PTWL (i.e. recreational rock turning, bush rock collection, weed introduction, etc); and
 - e. The party responsible for the management of the area and who members of the public should contact should they observe illegal or degrading activities being conducted within or immediately adjacent to the PTWL Conservation Area.
2. A section to be included within a welcome brochure (or similar) supplied to new residents and displayed in other relevant locations (Googong Foreshores visitor centre, community billboards, etc) detailing the above.

2.4 Perpetual Monitoring and Management by Council

The PTWL Conservation Area would be maintained by GTPL at its cost until the completion of the development (issue of a subdivision certificate for creation of the 5,550 lots in the Googong Township). Prior to or at the time of the completion of the development (which is estimated to take 25 years), the PTWL Conservation Area would be dedicated to Council. This constitutes the binding arrangement incorporated into the Voluntary Planning Agreement (VPA) being made by GTPL and Council. GTPL would work collaboratively with Council to manage the handover of the native grass re-establishment program and the other management measures established by GTPL. The specific management measures that would continue in perpetuity under the management of Council are detailed below.

2.4.1 Ongoing weed monitoring and management

The biannual (spring and autumn) weed monitoring and management program would continue in perpetuity. This program would identify any regrowth of woody weeds and locate any Serrated Tussock (or other ‘Weed of National Significance’) that may have re-established within the PTWL Conservation Area. Any such regrowth or re-establishment would be immediately eradicated using appropriate techniques.

As previously stated, all weed monitoring and removal works would be undertaken by trained and competent personnel using weed management techniques targeted to the species with minimal impact upon non-target species.

The 20 m wide buffer would continue to be regularly monitored and any disturbance or additional weed establishment/encroachment would be promptly and sensitively controlled. The use and management measures established by GTPL throughout the PTWL Conservation Area would not substantially alter upon handover to Council. That is, the entire PTWL Conservation Area would continue to be managed for the conservation of the PTWL.

2.4.2 Monitoring of native grass re-establishment success

It is anticipated that the objectives of the native grass revegetation program would be met prior to handover to Council. In this case, Council would not be required to conduct specific monitoring of the re-establishment area, however, would conduct annual reviews of the vegetation cover and condition throughout the PTWL Conservation Area. Should handover occur prior to the minimum of 25% of the groundstorey biomass objective being met throughout the re-establishment areas, Council would ensure that any required additional seed spreading or infill plantings would be undertaken following handover.

2.4.3 Monitoring of PTWL abundance and distribution

The PTWL monitoring program would continue following handover to Council. The methodology and survey for the monitoring program would remain unchanged and continue to occur once every five (5) years in perpetuity.

2.4.4 Ongoing deterrence of unrestrained domestic animal access to the PTWL Conservation Area

The measures implemented by GTPL to deter domestic animals from roaming within the PTWL Conservation Area would remain in place under the management of Council, specifically:

- The public education and community engagement program, including signage, would continue; and
- The PTWL Conservation Area boundary fence would be maintained in order to deter domestic animals.

2.4.5 Legal mechanisms to protect the PTWL Conservation Area in perpetuity

Prior to commencement of construction within 50 metres of the PTWL Conservation Area, an 88b Instrument is to be registered over the land, requiring the owners of the Conservation Area to maintain it pursuant to the terms of the Protection and Management Plan. The 88b Instrument shall be generally in accordance with that included in Appendix C but may be registered in two

stages for the portions of the Conservation Area on either side of Montgomery Creek. The Minister is to be notified upon registration of the 88b Instrument prior to the commencement of construction within 50 metres of the Conservation Area. If the 88b Instrument is registered in stages, the Minister is to be notified upon registration of each stage.

The dedication of the land for the PTWL Conservation Area is detailed within the Voluntary Planning Agreement (VPA) for the Googong Township. Following handover of the PTWL Conservation Area to Council, the PTWL Conservation Area would irrevocably become publicly owned land. It would then be the responsibility of Council to classify the land as community land and prepare a plan of management in accordance with the requirements of section 36 of Part 2 of the *Local Government Act 1993*. This would further enable the PTWL Conservation Area to be protected in perpetuity and provide Council with the authority to manage the land as an asset. This irrevocable dedication of the PTWL Conservation Area to public ownership would ensure that the land could not be used for another purpose in the future.

Furthermore, future development could not occur within the PTWL Conservation Area, without the permission of Council or other relevant authority (as this would not be in accordance with the VPA). If such a proposal were to be put forward, it would be subject to the provisions of the EPBC Act with respect to protection of PTWL and its habitat, and a likely referral under the EPBC Act (as it would not be in accordance with the Googong Township EPBC referral, as approved) would be required.

Upon approval by the (Commonwealth) Minister, the management measures and actions described herein would become requirements of the approval under the EPBC Act. DSEWPaC may conduct compliance audits and may implement enforcement measures, if these requirements are not satisfactorily adhered.

Furthermore, the poaching of PTWL or the unapproved disturbance of the habitat of threatened species in NSW is a criminal offence and offenders may be prosecuted in accordance with the provisions of the *Threatened Species Conservation Act 1995* (TSC Act).

3.0 CONSULTATION AND REVIEW OF THIS PTWL P&MP

3.1 Consultation undertaken during the development of this PTWL P&MP

3.1.1 Googong Township Foreshores Interface Working Group

As part of the EPBC referral for the township, a Googong Foreshores Township Interface Working Group was formed in mid-2010 to undertake alignment between the commitments that were being proposed in the various planning approval documents and the existing Googong Foreshores Draft Plan of Management (ACT Government Territory and Municipal Services 2007). Parties represented in the Working Group include:

- CIC Australia/GTPL.
- Commonwealth Department of Finance and Deregulation.
- Commonwealth Department of Sustainability, Environment, Water, Population and Communities.
- ACT Government Territory and Municipal Services.
- ACTEW Corporation/ActewAGL.
- Queanbeyan City Council.

The Working Group has developed broad objectives and specific actions, such as the location of fencing, which have been incorporated into this PTWL P&MP. Relevant members of the Working Group have also been consulted further on specific aspects related to the protection and management of the PTWL. A meeting of the Working Group was held on 9 September 2011 to review the first draft of this PTWL P&MP.

3.1.2 Further consultation undertaken during 2011

In order to finalise the EPBC referral and ensure the ongoing protection of the PTWL, several meetings were held with DSEWPaC in early 2011. During this time, additional consultation and peer review was also undertaken with Dr Will Osborne, an expert on the PTWL in the ACT and surrounding region of NSW. Further consultation has been conducted more recently with Dr Osborne in relation to the specific measures contained within this PTWL P&MP.

3.2 Public and agency comment on the draft PTWL P&MP

In accordance with CoA 1, provision was made for public comment on the final draft PTWL P&MP.

A copy of the final draft PTWL P&MP was placed on public exhibition for a two (2) week period from 1 October to 14 October 2011. Public notices were placed in the Queanbeyan Age and Canberra Times newspapers advertising the commencement of the public exhibition period and providing details for the submission of response(s) following review of the PTWL P&MP. An electronic copy of the PTWL P&MP was also provided to DSEWPaC, Council, NSW Office of Environment and Heritage (Queanbeyan Office), Friends of Grasslands (FoG) and Dr Osborne for their review and comment.

Three (3) submissions were received on the review of the final draft PTWL P&MP. Table 1 of Appendix B provides a list of the issues raised in the submissions received and their consideration. A number of minor amendments to this PTWL P&MP have been undertaken following consideration of these submissions.

3.3 Ongoing review of this PTWL P&MP

Once approved, this PTWL P&MP would be subject to review every five (5) years. The review would be undertaken to provide for the adaptive management and to ensure that the objectives of the PTWL Conservation Area are being suitably achieved. The review would be conducted by GTPL prior to handover to Council and by Council post handover. GTPL and Council may conduct the review in-house if suitable expertise is available or engage another suitably qualified specialist/organisation.

4.0 SUMMARY OF MANAGEMENT ACTIONS AND RESPONSIBILITIES

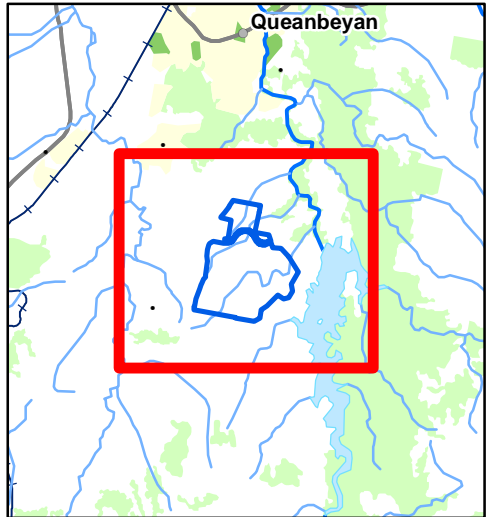
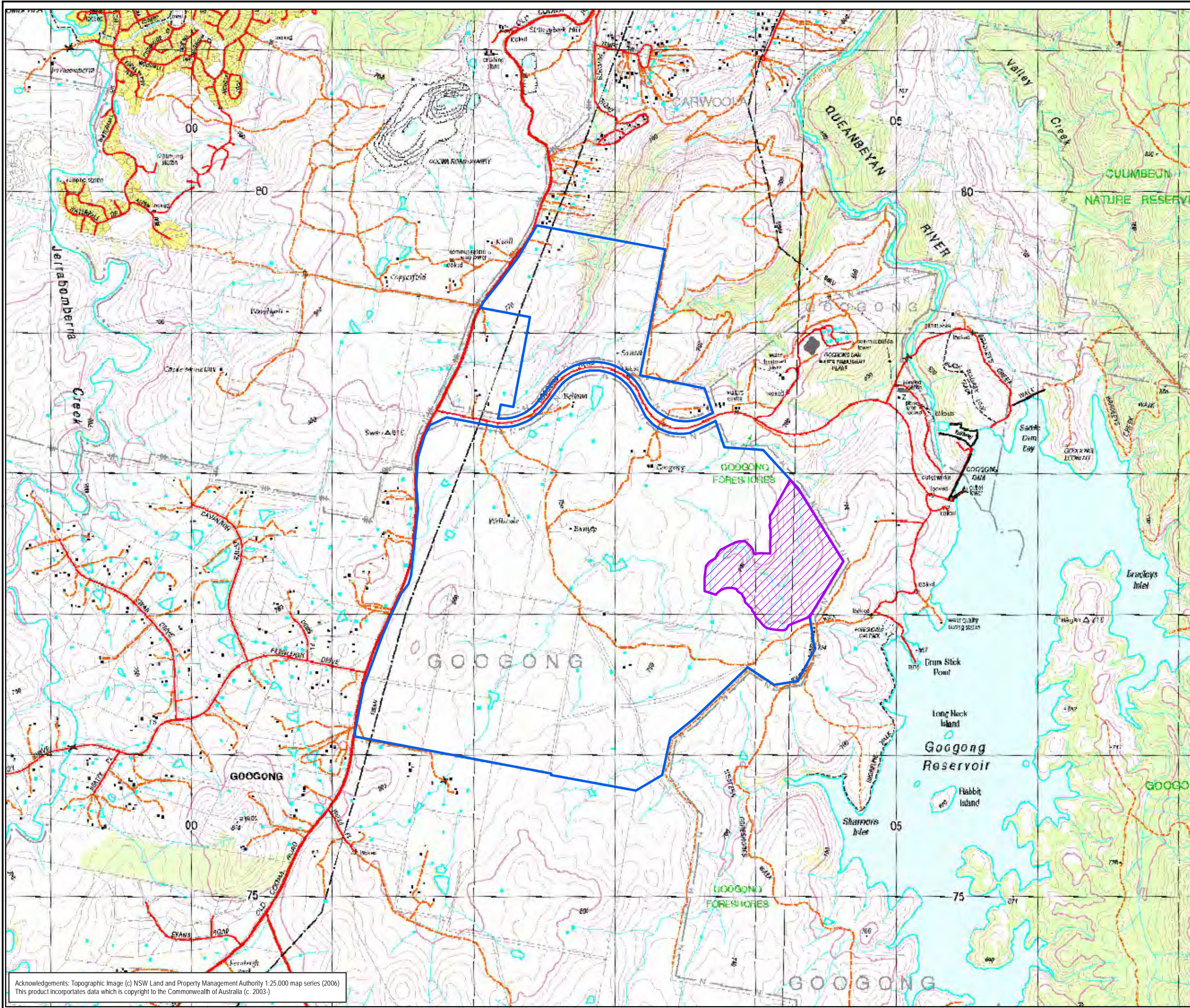
A summary of the management actions and responsible parties for each management action is provided in Table 3. Timings noted start with the 'Year 0' (being the year that construction works first occur within 50 m of the identified PTWL habitat (refer to Figure 2 for the 'Year 0' trigger line). For example, if construction works commence at the 'Year 0' trigger line in 2015, then 'Year 1' becomes 2016 and thereon.

Table 3 PTWL Conservation Area management summary

Management Action	Timing and details	Responsible Party
Preparation of the PTWL P&MP	Submission to the DSEWPaC for Ministerial approval by 19 November 2011 (as per the requirements of Condition of Approval 1).	GTPL
Continuation of farming activities and retention of existing stock fencing	The current management and use of the PTWL Conservation Area for agricultural purposes (notably sheep grazing) would continue without substantial alteration until 'Year 0'. The existing stock fencing within the PTWL Conservation Area and immediate vicinity would remain without substantial alteration until 'Year 0'. Note: this does not preclude routine maintenance or replacement of the existing fences if required.	Private land owner/manager
Establishment and boundary fencing (Stage 1)	Precise boundary delineation to be determined during detailed design of the relevant section of the Googong Township. Fencing of the relevant section (Stage 1) of the PTWL Conservation Area to be constructed prior to any other works within 50 m of the PTWL Habitat (refer to Figure 2 for the 'Year 0' trigger line). Relevant existing internal fencing would be removed. Existing fencing would be retained where required for access and land management purposes, particularly south of Montgomery Creek. Completed in 'Year 0'. 'Year 0' is defined as the trigger for the establishment of the PTWL Conservation Area when the works for the Googong Township commence within 50 m of the PTWL Habitat area.	GTPL
Weed removal, monitoring and management	Removal of woody weeds to be undertaken following the construction of the first section of PTWL Conservation Area fencing. Small Serrated Tussock infestation to be eradicated within six (6) months following the approval of this PTWL P&MP.	GTPL
	Monitoring and management of weeds to be conducted on an ongoing basis by GTPL prior to handover and Council and by Council post handover. Commences in 'Year 1'.	GTPL & Council

Management Action	Timing and details	Responsible Party
Importation of habitat rocks	Suitable habitat rocks would be removed from the areas of habitat (refer to Figure 2) outside of the PTWL Conservation Area and scattered within the PTWL Conservation Area. This would occur primarily during the works undertaken for the construction of the perimeter road. Completed in 'Year 1'.	GTPL
Translocation of PTWL	In combination with the above importation of rocks, PTWL would be translocated from identified habitat areas (refer to Figure 2), prior to the commencement of construction in those areas. The PTWL removed would be immediately translocated into the PTWL Conservation Area and would occur during the optimal survey season for the species (i.e. suitable weather from September to November). Completed in 'Year 1'.	GTPL Engaged ecologist
Monitoring of PTWL abundance and distribution	The PTWL monitoring program would commence the spring following the first year of works within 50 m of the PTWL Conservation Area. The program would then occur every second year until handover of the PTWL Conservation Area to Council. Following handover to Council, the PTWL monitoring program would occur once every five (5) years in perpetuity. Commences in 'Year 1'.	GTPL & Council
Re-establishment and encouragement of native grasses.	Re-establishment and encouragement of native grasses throughout the areas disturbed during woody vegetation removal and rock placement would occur immediately following the completion of these works, or following the completion of the section of these works. Commences in 'Year 2'.	GTPL
Monitoring of native grass re-establishment	Monitoring of native grass re-establishment to be conducted on biannual basis by GTPL prior to handover. Council would conduct annual overview monitoring of the vegetation composition and condition throughout the PTWL Conservation Area post handover. Commences in 'Year 3'.	GTPL & Council
Boundary fencing (Stage 2)	Installation of Stage 2 of the PTWL Conservation Area fence (refer to Figure 4) would be undertaken prior to the commencement of construction works within 50 m of the PTWL Habitat (refer to Figure 2 for the 'Year 0' trigger line) south of Montgomery Creek.	GTPL
Physical removal of Radiata Pine and thinning of Burgan	Removal of Radiata Pine and thinning of Burgan would occur following construction of Stage 2 of the PTWL Conservation Area fence (noted above).	GTPL
Review of the PTWL P&MP	The PTWL P&MP would be reviewed every five (5) years following its approval by the (Commonwealth) Minister. Commences in 'Year 5'.	GTPL would be responsible for this review prior to handover and Council would be responsible post handover.

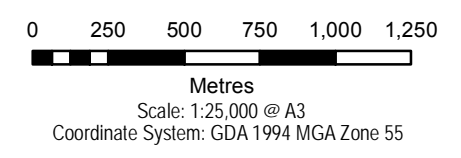
FIGURES



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- PTWL Conservation Area
- Googong Township

Figure 1: Locality Plan

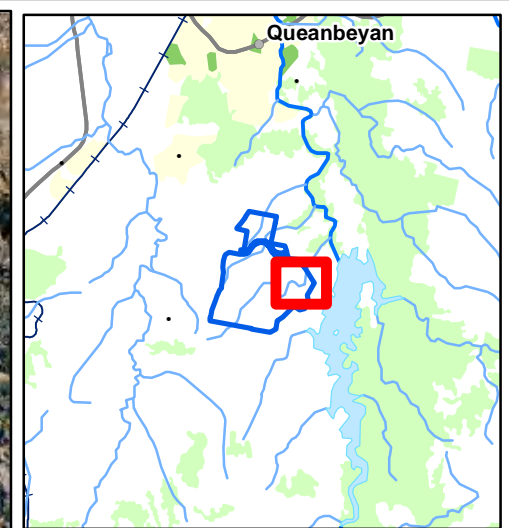
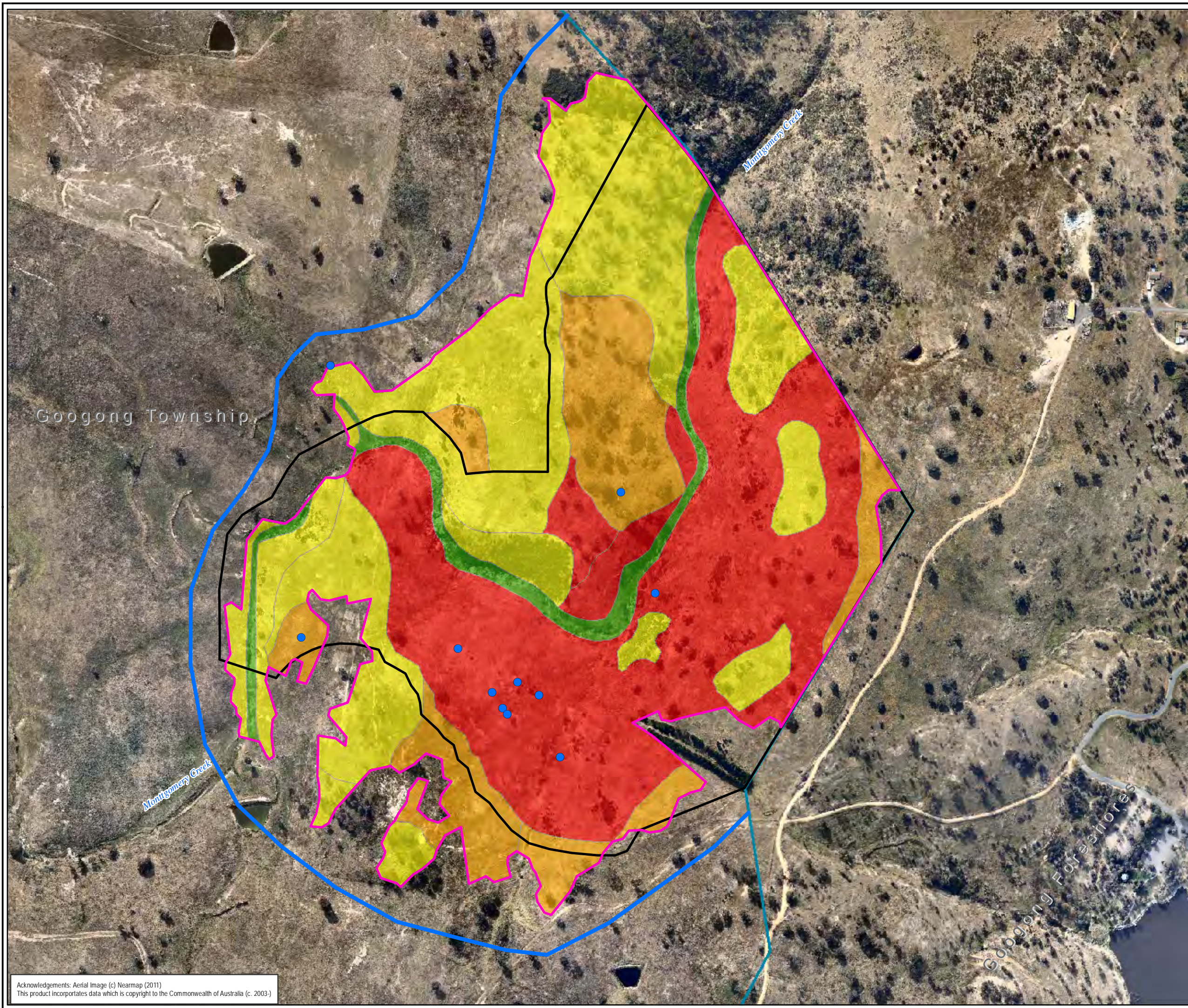


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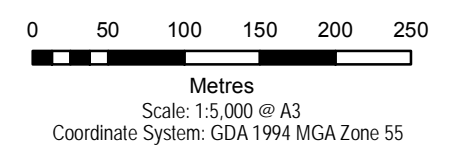
- Extent of PTWL Habitat
- Year 0 Triggerline
- PTWL Survey Record

PTWL Habitat Quality

- Low
- Medium
- High
- Very High

- PTWL Conservation Area
- Googong Township

Figure 2: PTWL Habitat Assessment



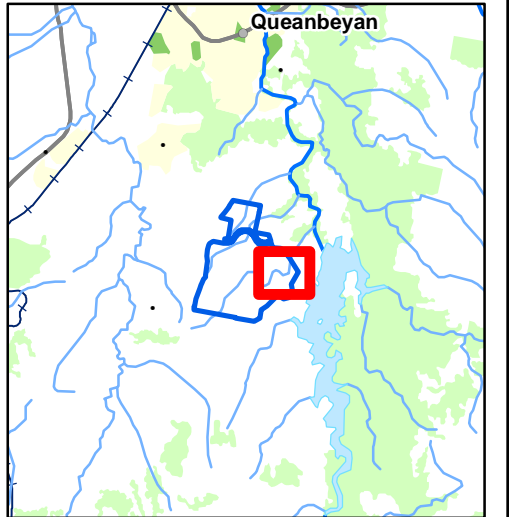
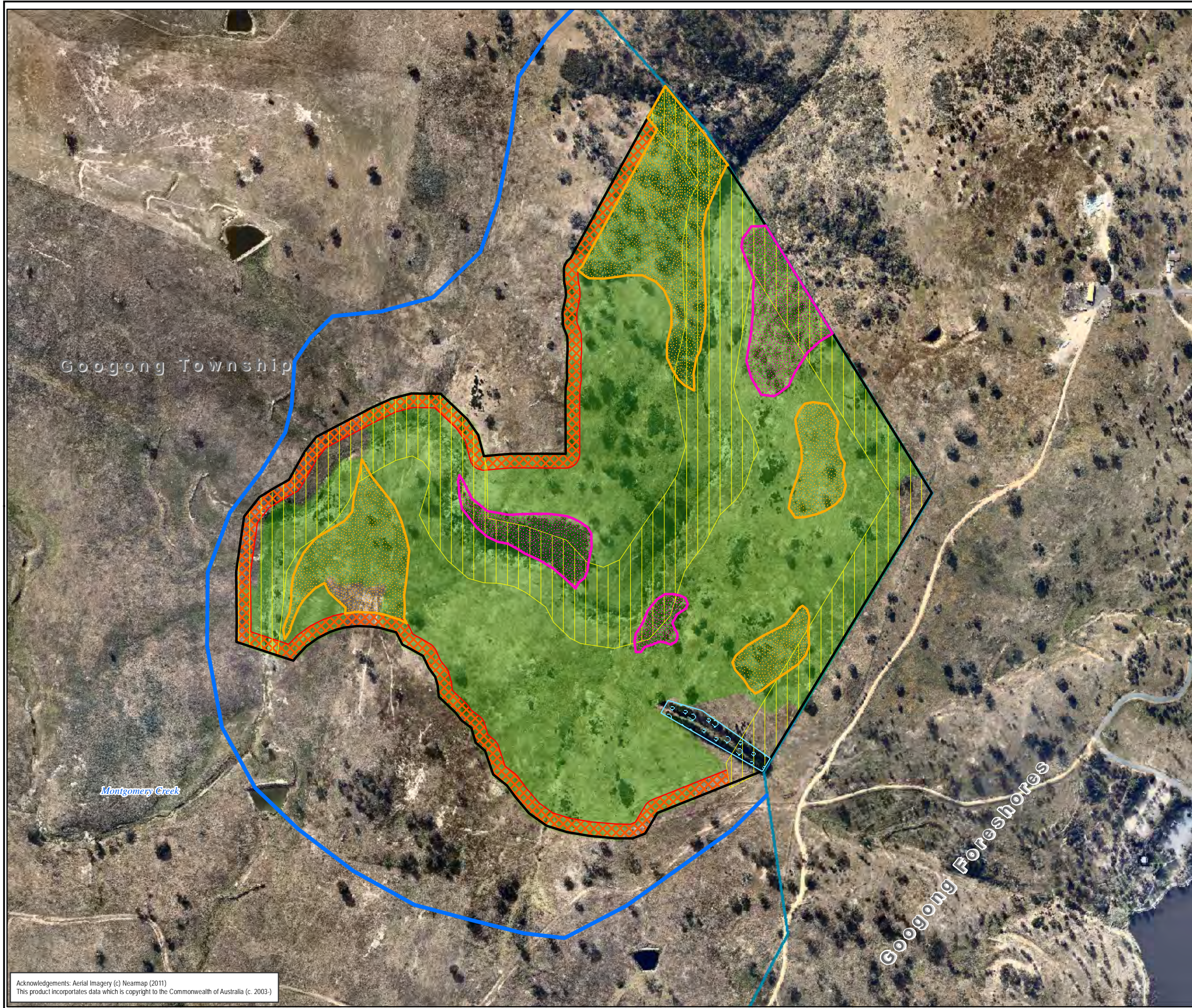
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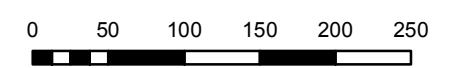


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- Year 0 Triggerline
- Burgan Thinning
- Radiata Pine Removal
- Rock Placement
- E2 Zoning (LEP 2009)
- PTWL Conservation Area - 20m buffer
- PTWL Habitat
- PTWL Conservation Area
- Googong Township

Figure 3: PTWL Conservation Area Protection and Management

Disclaimer: Final boundaries are subject to final survey and design



Metres
Scale: 1:5,000 @ A3
Coordinate System: GDA 1994 MGA Zone 55

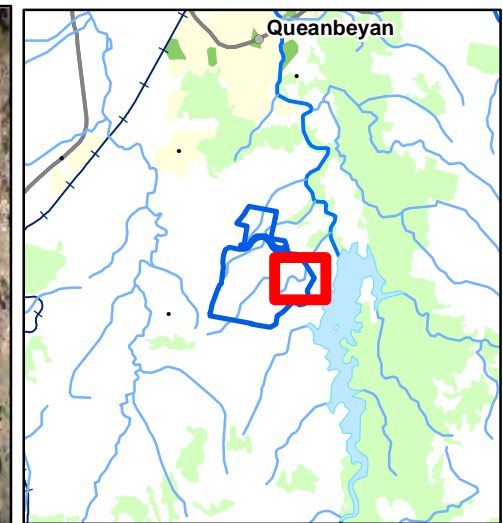
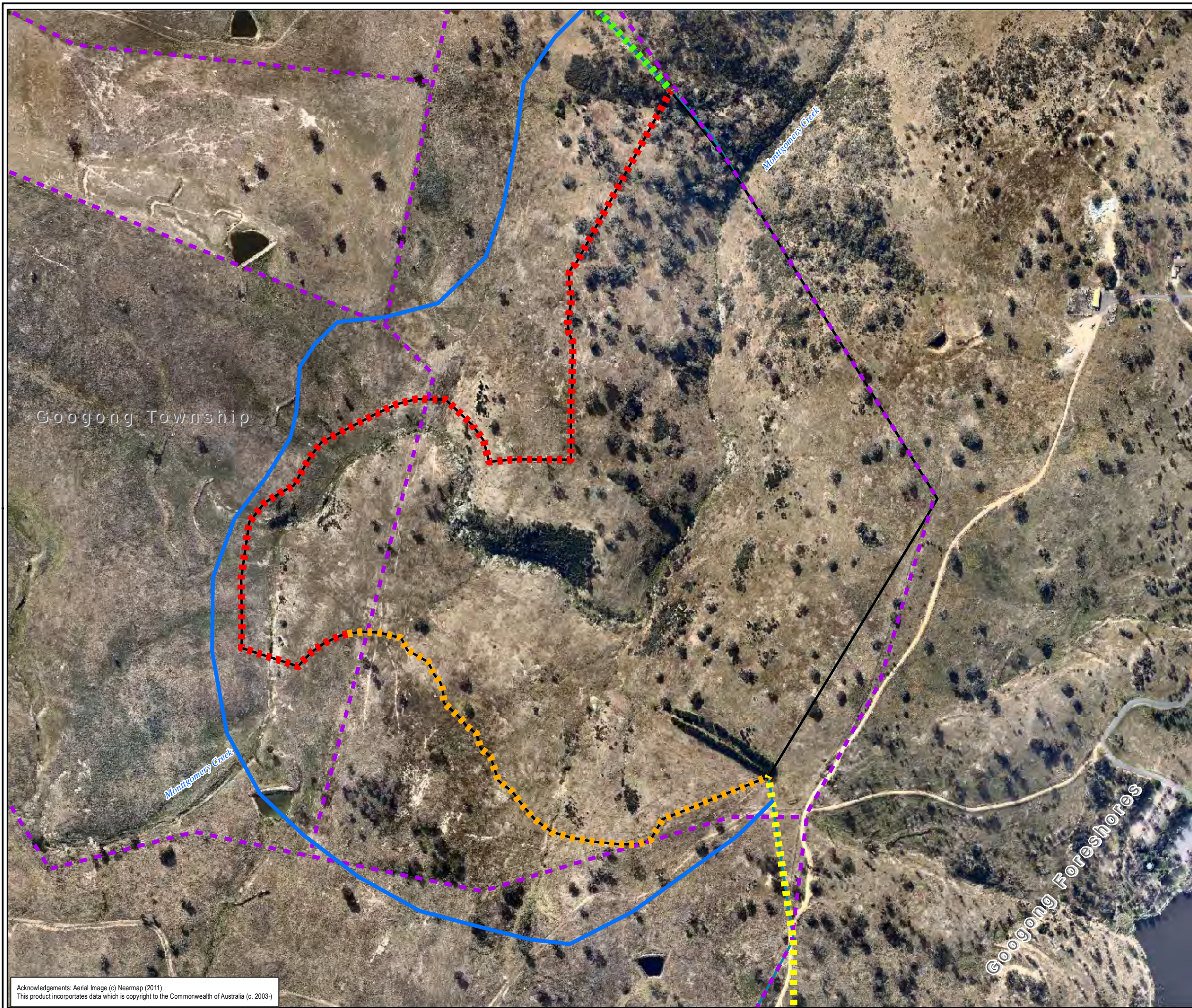
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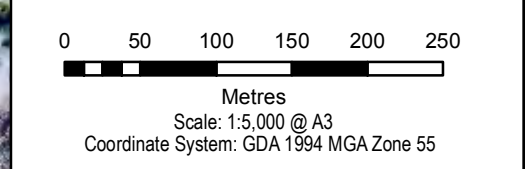


Legend

- Year 0 Triggerline
- - - PTWL Conservation Area Fence – Stage 1
- - - PTWL Conservation Area Fence – Stage 2
- - - Googong Foreshore Fence – Stage 1
- - - Googong Foreshore Fence – Stage 3
- - - Existing Fences
- PTWL Conservation Area
- Googong Township

Figure 4: PTWL Conservation Area Fencing Plan

Disclaimer: Final boundaries are subject to final survey and design



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APPENDIX A: BACKGROUND TO THE PTWL AT GOOGONG

Description of the PTWL Conservation Area and Surrounds

The PTWL Conservation Area will encompass a section of Montgomery Creek and associated hillslopes and will incorporate approximately 52 ha of land located within the Queanbeyan River catchment, approximately 10 km south of Queanbeyan, New South Wales. The land to the west, northwest and south of the PTWL Conservation Area is, in its current form, predominantly cleared of native woody vegetation and has been subjected to grazing and pasture improvement.

Landform, topography and soils

The topography of the PTWL Conservation Area is dominated by a moderately to deeply incised section of the Montgomery Creek valley. The surrounding elevated lands to the west, north and south generally comprise gently undulating hills, which will be developed for the Googong Township. The elevation within the PTWL Conservation Area ranges from 720 m Australian Height Datum (AHD) along the western boundary to 640 m AHD at the point at which Montgomery Creek enters the Googong Foreshores.

The geology of the local area consists of Silurian volcanics including the Colinton volcanics and the Capanana Formation (Jenkins 2000). There are various tuffs with minor siltstone, shale, sandstone and limestone (Jenkins 2000). Soils within the Study Area are shallow, infertile, strongly acidic and moderately drained, with outcropping granitic rock, predominantly granodiorite (Jenkins 2000).

Management history and current vegetation condition

The majority of the Googong Township was cleared of native tree cover by felling and firing carried out post European settlement of the area during the early to mid nineteenth century (Navin Officer 2003). The steepest sections of the Montgomery Creek hillslopes were not cleared, likely due to the skeletal nature of the soils and difficult topography. As is evidenced by the existence of granite tors, scattered surface rocks and the general unevenness of the landscape, it can be determined that the cleared land within and directly adjoining the PTWL Conservation Area has not been subject to cultivation or levelling. Excavation and soil movement within the vicinity of the PTWL Conservation Area appears to have been limited to that associated with the construction of dams across the branches of Montgomery Creek, upstream of the PTWL Conservation Area.

Notwithstanding the above, the PTWL Conservation Area and adjoining sections of the Googong Township have been subject to grazing (notably by sheep) at various intensities for an extended period, likely extending back to the onset of pastoralism post European settlement. The grassland/pasture throughout the more open and flat land located to the west, northwest and south of the PTWL Conservation Area has undergone substantial pasture improvement and modification. The resulting grassland/pasture in the pasture improved areas, whilst supporting a native grass component (i.e. primarily *Austrostipa* spp. and *Austrodanthonia* spp.), is dominated by exotic pasture grasses and weeds.

The groundstorey vegetation throughout the PTWL Conservation Area supports a much higher proportion and diversity of native grasses and forbs. Whilst much of the PTWL Conservation Area

supports a component of exotic pasture grasses and weeds, native grasses and forbs represent a much larger component of the groundstorey biomass. Kangaroo Grass (*Themeda triandra*) and other native species more sensitive to intense grazing and elevated soil fertility, constitute a substantial component of the groundstorey biomass throughout much of the PTWL Conservation Area. No evidence is present to suggest that the land within the PTWL Conservation Area has been subject to a lower intensity grazing regime (i.e. sheep grazing appears to have occurred throughout the entire eastern section of the Googong Township). It can therefore be envisaged that the persistence of native grasses (notably Kangaroo Grass) and forbs has occurred primarily through the exclusion of pasture improvement management practises carried out to elevate soil fertility ((i.e. spreading of fertiliser (especially superphosphate), incorporation of clover and other exotic pasture species, etc)).

A number of dense stands of Burgan (*Kunzea ericoides*) occur within the PTWL Conservation Area. Burgan is a large dense spreading Tea-tree like native shrub growing to approximately four metres in height. Generally considered a pioneer species, it vigorously occupies areas devoid of groundstorey vegetation and often inhibits the growth of native grasses and forbs.

With regard to the above, it can be determined that whilst the vegetation and landform within the PTWL Conservation Area have been impacted upon by a long history of grazing, the land and associated vegetation type and condition within the PTWL Conservation Area has not been degraded to the extent of that located throughout the surrounding areas of the Googong Township. The management of the PTWL Conservation Area for pastoral purposes has resulted in the introduction of exotic grasses, herbaceous and woody weeds and has reduced the dominance of native groundstorey vegetation. In this regard, it would reasonably be expected that the condition of the groundstorey vegetation and associated PTWL habitat value throughout the PTWL Conservation Area would continue to degrade if the past and current management regime was to be maintained into the future.

Ecology and Habitat of Pink-tailed Worm-lizard

The PTWL is a small fossorial reptile from the family Pygopodidae (legless lizards), which has a maximum snout vent length of 14 cm and a total length of about 24 cm. PTWL is oviparous (egg laying) with a clutch size of two. Females may need to reach an age of about three (3) or four (4) years before they can reproduce. There is little data on the breeding behaviour of this species (Osborne and Coghlan 2004). The PTWL is moderately common within the ACT region and is often the most abundant reptile at locations within its defined habitat type (Osborne *et al.* 1991).

The species lives beneath surface rocks and occupies ant galleries where it feeds on ants, particularly their eggs and larvae (Osborne and Jones 1995). Key habitat features for the presence of PTWL are a cover of native grasses (particularly Kangaroo Grass), sparse or no tree cover, little or no leaf litter, and scattered small rocks shallowly embedded in the soil surface (Osborne and Jones 1995).

In the Canberra region, the species is found in areas containing acid volcanic rock types - Late Silurian acid volcanics - that are derived from decomposing rhyodacite, rhyolite or dacite or other Silurian volcanic rocks (Osborne and Coghlan 2004). The distribution of the species is centred on the ACT and this appears to be related to less soil (and rock) disturbance evidenced by the presence of a native grass cover, particularly Kangaroo Grass, Red-leg Grass (*Bothriochloa macra*) and Wattle Mat-rush (*Lomandra filiformis*) (Osborne and Jones 1995). The likelihood of

occurrence of PTWL increases with increasing cover of Kangaroo Grass, which is a key botanical indicator of suitable habitat in the ACT region, along with Red-leg Grass and Wattle Mat-rush (Jones 1992, 1999; Osborne & Coghlan 2004). Alternatively, dominance of speargrasses (*Austrostipa falcata*, *A. bigeniculata*) and Tussock Grass (*Poa labillardieri*) decreases the likelihood of finding the species (Osborne and Coghlan 2004; ACT Government 2007; ACT Government 2005).

PTWL habitat sites in the Queanbeyan region support native grassland, derived grassland and open and dry woodland habitats, usually with many loose and partially embedded rocks. Ground cover is typically dominated by Kangaroo Grass and wallaby grasses (*Astrodanthonia* spp.) (R. Rehwinkel pers. comm.). Open woodland habitats are dominated by Yellow Box (*Eucalyptus melliodora*) and Blakely's Red Gum (*E. blakelyi*), while dry forest areas are dominated by Broad-leaved Peppermint (*E. dives*) and Candlebark (*E. rubida*) (Brown 2010).

Notwithstanding, moderate numbers of disturbed sites dominated by exotic ground cover species, such as Wild oats (*Avena* spp.), Fescues (*Vulpia* spp.), Flat weeds (*Hypocheirus* spp.) and Bromes (*Bromus* spp.) have been found to support at least some individuals, although it was not known if these sites support viable populations (Osborne and Coghlan 2004).

Distribution of Pink-tailed Worm-lizard

Regional

The PTWL occurs in south-eastern Australia, where it is widely but patchily distributed from Gunnedah in northern NSW through southern NSW and the ACT to Bendigo in central Victoria (Brown 2010). Other locations within this geographic area include near Cooma, Yass, Albury, Cootamundra, Tarcutta and Queanbeyan (DEWHA 2008a; DECC 2009). Records cover a wide altitudinal range, from about 200 m altitude near Bendigo to over 800 m altitude in the ACT (Brown 2010).

Locality

The PTWL is regarded as moderately common within the ACT and region where it has a wide and scattered distribution along the rocky hills and slopes of the Murrumbidgee, Molonglo and Queanbeyan River corridors (Brown 2010). The PTWL has been widely recorded throughout the Googong Foreshores and surrounding areas (Johnstone Centre 2004). Surveys completed by the Johnstone Centre (2004) throughout the wider locality (encompassing the Googong Township) recorded seventeen individuals at two (2) locations: thirteen (13) within the “Talpa” property located within the Queanbeyan River catchment approximately two kilometres to the north of the Study Area; and, four within the “McLean” property located within the Jerrabomberra Creek catchment approximately three (3) kilometres to the west of the PTWL Conservation Area.

Habitat assessments carried out during broader ecological surveys completed by Biosis Research (2009) throughout the Googong Township identified the PTWL potential habitat associated with the lower reaches of Montgomery Creek. This potential habitat (in addition to the previously recognised potential habitat on Reservoir Hill) was surveyed by Biosis Research with two live PTWL and one slough (shed skin) being recorded within the area to become the PTWL Conservation Area (Biosis Research & Ecwise Environmental 2009). In order to more accurately determine the significance of the PTWL population occurring along Montgomery Creek, in spring 2010 GTPL commissioned Biosis to conduct intensive targeted surveys and prepare habitat

quality mapping throughout the areas of previously identified potential habitat. Approximately 6,200 suitably sized shelter rocks were turned and 13 live *A. parapulchella* individuals and three sloughs (shed skins) were recorded.

Owing to the results and observations of the 2010 study and previous studies conducted by Biosis Research (2009) and the Johnstone Centre (2004), the PTWL habitat associated with the lower reaches of Montgomery Creek is considered to constitute the only considerable area PTWL habitat within the Googong Township.

Threats to Pink-tailed Worm-lizard

The main threats to PTWL as described in the 'National Recovery Plan for the Pink-tailed Worm-lizard *A. parapulchella* (Draft)' (Brown 2010) are:

- Habitat loss and fragmentation;
- Removal of rocks;
- Heavy grazing and trampling;
- Invasion of habitat by weeds;
- Modification of habitat i.e. tree planting, invasion of woody shrubs in native grasslands;
- Changed fire regimes, which lead to a change in vegetation structure;
- Recreational activities; and
- Predation by introduced predators.

APPENDIX B: SUBMISSIONS RECEIVED DURING PUBLIC EXHIBITION OF THE PTWL P&MP

A copy of the final draft Pink-tailed Worm-lizard Protection and Management Plan (PTWL P&MP) was placed on public exhibition for a two (2) week period from 1 October to 14 October 2011. Public notices were placed in the Queanbeyan Age and Canberra Times advertising the commencement of the public exhibition period and providing details for the submission of response(s) to the PTWL P&MP. An electronic copy of the PTWL P&MP was also provided to DSEWPaC, Queanbeyan City Council, NSW Office of Environment and Heritage (Queanbeyan Office), Friends of Grasslands (FoG) and Dr Will Osborne for their review and comment.

Table 1 provides a list of the issues raised in the three (3) submissions received and appropriate consideration of these issues. Minor amendments to the PTWL P&MP have been undertaken following the consideration of these submissions.

Table 1. Issues raised in submissions received during the exhibition of the final draft PTWL P&MP

Issue raised / opinion provided	Consideration and response
Friends of Grasslands (FoG)	
<p>FoG provided the following points regarding the PTWL P&MP:</p> <ol style="list-style-type: none"> 1. No concerns raised and statement the plan covers all of the elements that FoG considers important in conserving the PTWL and maintaining its habitat. 2. Support the inclusion of the 20 m buffer zone outside the area defined as 'high quality PTWL habitat'. 3. Express an interest in viewing the results of the proposed PTWL monitoring program. 	<p>The approved PTWL P&MP and any associated monitoring results would be provided on the Googong Township website.</p>

Issue raised / opinion provided	Consideration and response
Submission from member of the public	
<p>Mountain bikes (MTB) track construction and formal access (pedestrian) tracks are not included as an identified threat in the plan. The issue of erosion caused by the creation of any informal tracks (caused by walkers or MTBs) within the PTWL Conservation Area is not defined.</p>	<p>The purpose of the PTWL Conservation Area is to conserve, protect and manage a substantial and viable area of PTWL habitat specifically for the conservation of this species. Whilst people would not be specifically excluded from the PTWL Conservation Area, the area is not proposed to become a reserve with ‘park-like’ facilities, aimed at catering for pedestrian or other recreational access or usage.</p> <p>A maintained 20 m buffer zone along the perimeter of the PTWL Conservation Area would be provided primarily to reduce ‘edge effects’. It also would enable access to the area for walking and serve as an asset protection zone (APZ). No formed access tracks are proposed within the PTWL Conservation Area for pedestrian / MTB (or other) usage.</p> <p>MTB and pedestrian access is unlikely to result in significant disturbance to the PTWL Conservation Area or the PTWL protected within. Furthermore, the construction of any formal (formed) access tracks within the PTWL Conservation Area would result in significantly more disturbance and disconnection of PTWL habitat than that caused by informal tracks that may be created by pedestrians or occasional MTB passage.</p> <p>As detailed in this PTWL P&MP, the monitoring of the vegetation cover and composition and the PTWL population within the PTWL Conservation Area would be undertaken to ensure that the objectives set out in the PTWL P&MP are achieved.</p> <p>Section 2.2.1 of this PTWL P&MP has been amended to reflect the above (i.e. that no additional formed access tracks would be established within the PTWL Conservation Area).</p>
<p>Use of imported topsoil for restoration between the proposed road and the PTWL habitat fence (of the PTWL Conservation Area) would result in weeds.</p>	<p>The PTWL P&MP does not specify the use of ‘imported’ topsoil for restoration in this area. The PTWL P&MP specifies the requirement for the topsoil to not be contaminated with weed seed.</p> <p>However, the concern regarding the potential for nutrient enrichment and associated proliferation of weeds is valid. As such, Section 2.2.1 has been amended to state ‘In order to avoid the establishment of additional exotic plants and to prevent increases in the proportion of those already present, disturbance to the topsoil between the road and the PTWL Conservation Area boundary fence would be minimised. Should the placement of additional soil be required in this area, this soil would be sourced from adjacent areas and the area reseeded using endemic grass seed. The use of soil sourced in this manner would ensure that no additional exotic plant species are introduced into the locality’.</p>

Issue raised / opinion provided	Consideration and response
<p>The loss of any medium or high value habitat should not occur due to the proposal. The location of the proposed fencing should be situated 20 m from the (blue) ‘Year 0’ trigger line (Figures 2 and 3) and be extended to meet the existing (Googong Foreshores) fence line in the south of the proposed PTWL Conservation Area.</p>	<p>The establishment, improvement and management of the PTWL Conservation Area is proposed as an ‘offset’ for the impacts upon PTWL that would result from the development of the Googong Township. The PTWL Conservation Area and its delineation has been determined and agreed in consultation with DSEWPaC (and other stakeholders) throughout the EPBC Act referral process. The delineation and proposed establishment of the PTWL Conservation Area was also independently reviewed and endorsed by a recognised authority on the conservation of the species (Dr W. Osborne). Whilst the proposal would result in the removal of some areas of ‘High’ or ‘Medium’ quality habitat, all areas of ‘Very High’ quality habitat would be retained, as considerable improvement of habitat quality and connectivity is a primary objective of the design and establishment of the PTWL Conservation Area and this PTWL P&MP.</p> <p>As stated in this PTWL P&MP, the overarching objective of the PTWL Conservation Area is to provide a ‘balanced outcome of urban development and a consolidated, contiguous PTWL Conservation Area that reduces habitat fragmentation and improves habitat quality for the species in the long term’. The approved design of PTWL Conservation Area has been determined in order to specifically meet this outcome.</p> <p>No change to the PTWL P&MP is required to address this issue.</p>
<p>NSW Office of Environment and Heritage (OEH)(Queanbeyan Office)</p>	
<p>The commencement date for implementation of the PTWL P&MP should be within 2 years of consent.</p>	<p>The proposed schedule for implementation of this PTWL P&MP has been determined in accordance with the schedule for the staged development of the Googong Township. This staged development and the corresponding staged establishment of the PTWL Conservation Area is in accordance with the EPBC Act Conditions of Approval.</p> <p>The immediate establishment and management of the PTWL Conservation Area is impracticable and unnecessary given the existing landuse and management within and directly adjoining the PTWL Conservation Area would not substantially change in the years prior to the establishment of the PTWL Conservation Area (i.e. the land would continue to be fenced and managed for agricultural purposes, primarily grazing). The extended past period of this landuse and management has not prevented the persistence of a viable population of PTWL and substantial area of high quality PTWL habitat.</p>

Issue raised / opinion provided	Consideration and response
<p>Removal of bush rock should be identified as a management priority.</p>	<p>Whilst bush rock removal is recognised as a key threatened process to PTWL, the fencing type and schedule detailed in Section 2.2.1 would prevent unauthorised vehicular access to the PTWL Conservation Area. Impacts associated with the removal of bush rocks without the aid of a vehicle (i.e. carrying from the PTWL Conservation Area to residential properties) are considered to be of low significance.</p> <p>Prior to development, the land adjacent to the PTWL Conservation Area would remain private property and managed for agricultural purposes. Fencing of the relevant boundary section would be completed prior to the commencement of the adjacent development. As such, at no point prior to or following establishment of the PTWL Conservation would unauthorised vehicular access be permitted or reasonably practical.</p> <p>Section 2.1.4 of the PTWL P&MP has been amended to specifically address management of bush rock removal.</p>
<p>The legal mechanism and the structures behind the conservation agreement should be strengthened to ensure the reserve is secured in perpetuity.</p>	<p>The PTWL Conservation Area is a biodiversity offset for the Googong township and this area and its delineation has been determined and agreed in consultation with DSEWPaC (and other stakeholders) throughout the EPBC Act referral process. The establishment of the PTWL Conservation Area was based on recommendations to exclude any development from areas identified as ‘Very High’ quality PTWL habitat’ and to provide a balanced outcome of the proposed Googong Township development and to improve and reduce any further fragmentation of the species in the long term, whilst assisting in maintaining connectivity.</p> <p>In addition, the PTWL Conservation Area would be handed over to Council and a plan of management in accordance with the requirements of the <i>Local Government Act 1993</i> would be prepared to provide for the protection of the land and the species in perpetuity. The irrevocable dedication of the PTWL Conservation Area to Council would ensure the area would not be used for another purpose in the future.</p> <p>Section 2.4.5 of the PTWL P&MP provides details of the legal mechanisms to protect the PTWL Conservation Area in perpetuity.</p>

Issue raised / opinion provided	Consideration and response
<p>Long-term funding availability.</p>	<p>The long-term management and associated funding of the PTWL Conservation Area has been guaranteed through the development of a Voluntary Planning Agreement (VPA) between GTPL and Council made in accordance with the <i>Environmental Planning and Assessment Act 1979</i>. The VPA specifies the funding arrangements for the PTWL Conservation Area (and the overall Googong Township) and provides that GTPL are to maintain all costs associated with the establishment and ongoing management PTWL Conservation Area until the last residential lots in the township are created (an approximate duration of 25 years). It is noted that any development within the Googong Township is unable to proceed unless it is in accordance with the requirements of this VPA.</p> <p>Section 2.4.5 has been amended to state the above.</p>

Issue raised / opinion provided	Consideration and response
<p>Monitoring plots should be established to enable replication and to prevent wide spread habitat disturbance.</p>	<p>Monitoring survey effort would be expended in a manner that provides a sample of habitat qualities ranging from 'Medium' to 'Very High', and specifically encompassing areas where habitat creation/improvement (i.e. rock placement areas and native grass re-establishment areas) has occurred.</p> <p>The PTWL monitoring program has been designed in a manner that would involve a measured amount of survey effort (i.e. 15 hours per survey event) spread at low intensity across the entire PTWL Conservation Area. Given the inherent disturbance to habitat involved in rock turning surveys, this approach will spread the disturbance across a large area, and thereby, prevent the same specific areas being disturbed repetitively (as would be the case if defined survey plots were established). Repetitive and high intensity turning of rocks is known to substantially disturb PTWL habitat and reduce the likelihood of PTWL inhabitation of the specific rocks (Dr W. Osborne pers. comm; R. Speirs pers. obs.). In this regard, repetitively surveying the same plots of habitat for PTWL would likely result in progressively lower numbers being recorded. Such results would provide inaccurate indications regarding actual population numbers and the success of the establishment and management of the PTWL Conservation Area.</p> <p>The results of each monitoring event would be provided for inclusion in the NSW Wildlife Atlas, as per the standard conditions of the scientific licence held by the ecologist/zoologist engaged to conduct the monitoring.</p> <p>The PTWL monitoring program would provide invaluable data regarding the continued viability of the population, and hopefully, would illustrate that the conservation and protection of the PTWL Conservation Area (and associated works) has increased the size and secured the viability of the population in the long-term.</p> <p>Whilst the PTWL monitoring program would be conducted in accordance with the above, a degree of flexibility would be maintained to allow for adaptive management and for the incorporation of new or better survey techniques should these become known/developed in the future.</p> <p>Section 2.3.3 of the PTWL P&MP has been amended to state the above.</p>
<p>Areas of imported rock should be identified as suitable areas for potential translocation of PTWL.</p>	<p>It is agreed that the use of the areas where imported rock has been placed would be the most suitable areas for the release of PTWL during future translocation of PTWL into the PTWL Conservation Area.</p> <p>Section 2.2.4 has been amended to include the following: 'To prevent increases in competition in areas of existing habitat within the PTWL Conservation Area, all individuals translocated into the PTWL Conservation Area would be released in the areas of newly created/improved habitat (i.e. areas where imported rocks have been placed).</p>

Issue raised / opinion provided	Consideration and response
Weed management to commence as soon as possible.	<p>Of the weed species present within and in the vicinity of the PTWL Conservation Area, only Serrated Tussock (approximately 50 plants were identified in November 2010) is considered to have the potential to substantially increase in abundance in the period preceding the establishment of the PTWL Conservation Area. The additional exotic flora species occurring within the PTWL Conservation Area are common agricultural weeds and pasture species unlikely to increase in prevalence whilst the land use and management regime remains largely unchanged.</p> <p>As such, GTPL would liaise with the current land managers to remove the small Serrated Tussock infestation currently occurring within the PTWL Conservation Area. This action would be undertaken within six (6) months of approval of this PTWL P&MP.</p> <p>Section 2.2.2 of the PTWL P&MP has been amended to reflect the above.</p>
Asset Protection Zone must be mapped in the plan.	<p>The precise location and extent of the Asset Protection Zone (APZ) to be located along the interface between the PTWL Conservation Area and the adjacent Googong Township residential (subdivision) area is unable to be specified, as the detailed design for the subdivision has not been determined. However, where required, the 20 m wide buffer zone would form part of the APZs for the adjacent residential properties and, as such, would be managed as an Outer Protection Area (in accordance with the Planning for Bushfire Protection A Guide for Councils, Planners, Fire Authorities and Developers, NSW Rural Fire Service, 2006), which entails maintaining fuel loads at less than eight (8) tonnes per hectare (ha). The manner in which this 20 m wide buffer zone may be managed for asset protection purposed is detailed in Section 2.2.1.</p> <p>No change to the PTWL P&MP is required to address this issue.</p>

Issue raised / opinion provided	Consideration and response
<p>Signage and walking trails to be erected to control disturbances to the reserve.</p>	<p>The purpose of the PTWL Conservation Area is to conserve, protect and manage a substantial and viable area of PTWL habitat specifically for the conservation of this species. Whilst people would not be specifically excluded from the PTWL Conservation Area, the area is not proposed to become a public reserve with ‘park-like’ facilities, aimed at catering for pedestrian or other recreational users or access. There are no formed access tracks proposed within the PTWL Conservation Area. However, a 20 m buffer zone would be located along the perimeter of the PTWL Conservation Area as an APZ and to also reduce ‘edge effects’ from the adjacent residential subdivision. This area would also enable access to the area for walking purposes.</p> <p>Signage would be located at strategic locations along the boundary of the PTWL Conservation Area to advise the purpose of the PTWL Conservation Area and be provided as part of the overall education program to be implemented by GTPL for the Googong Township. Section 2.3.6 of this PTWL P&MP provides details in relation to the above.</p> <p>No change to the PTWL P&MP is required to address this issue.</p>
<p>Thinning of <i>Kunzea eriocoides</i> needs to be assessed.</p>	<p>The thinning of dense clumps of Burgan (<i>Kunzea eriocoides</i>) is proposed as it would reduce shading of PTWL habitat, encouraging the growth of Kangaroo Grass and other native groundstorey species, which increase habitat quality for the PTWL. Reduced shading also increases the thermoregulatory benefit offered by habitat rocks to PTWL, and thus, increases their utilisation of these important habitat features. It should be noted, however, that the thinning of Burgan would not become a widespread operation, nor would it aim to remove or substantially reduce the presence of the species within the PTWL Conservation Area or the very extensive adjoining Googong Foreshores.</p> <p>Section 2.2.3 of the PTWL P&MP has been amended to provide additional detail regarding the above.</p>

APPENDIX C: SECTION 88B INSTRUMENT

INSTRUMENT SETTING OUT TERMS OF EASEMENTS, POSITIVE COVENANTS AND RESTRICTIONS ON USE INTENDED TO BE CREATED PURSUANT TO SECTION 88B AND SECTION 88BA, CONVEYANCING ACT, 1919

Lengths are in metres:

(Sheet 1 of 4)

Plan: DP []

Plan of subdivision of []
covered by subdivision certificate no.

Full name and address of proprietor of the land:

Googong Township Pty Limited
ACN 154 515 593
Level 3, 64 Allara Street
Canberra ACT 2600

Full name and address of mortgagee of the land:

[]
[]
[]
[]

PART 1 - CREATION

Number of item shown in the intention panel on the plan:	Identity of easement or positive covenant to be created and referred to in the plan:	Burdened lot(s) or parcel(s):	Benefited lot(s), road(s), bodies or Prescribed Authorities
1.	Positive covenant (A)	[Lot 14 in DP 1164687]	Lot 7 in DP 592796
2.	Positive covenant (B)	[Lot 15 in DP 1164687]	Lot 7 in DP 592796

PART 1A - RELEASE

Number of item shown in the intention panel on the plan:	Identity of easement or positive covenant to be released and referred to in the plan:	Burdened lot(s) or parcel(s):	Benefited lot(s), road(s), bodies or Prescribed Authorities
3.			

PART 2 - TERMS

1. Interpretation

1.1 Definitions

These meanings, in any form, apply unless the contrary intention appears:

Authority means any governmental or semi-governmental or local government authority,

INSTRUMENT SETTING OUT TERMS OF EASEMENTS, POSITIVE COVENANTS AND RESTRICTIONS ON USE INTENDED TO BE CREATED PURSUANT TO SECTION 88B AND SECTION 88BA, CONVEYANCING ACT, 1919

Lengths are in metres:

(Sheet 2 of 4)

Plan: DP []

Plan of subdivision of []
covered by subdivision certificate no.

administrative or judicial body or tribunal, department, commission, public authority, agency, Minister, statutory corporation or instrumentality.

Authorised User means every person authorised by the Grantee for the purposes of an easement, positive covenant and restriction on use created by this Instrument, and includes any servants, agents and contractors of the Grantee.

Cost means any:

- (a) duty, liability or obligation to any person;
- (b) cost or expense;
- (c) loss or damage; and
- (d) claim, proceeding, demand, notice, order or other requirement.

EPBC Act means the Environment Protection and Biodiversity Conservation Act 1999 (Cth).

Grantee means the owner or mortgagee in possession of the Lot Benefited.

Grantor means the owner or mortgagee in possession of a Lot Burdened.

Instrument means this instrument under section 88B of the *Conveyancing Act 1919* and includes the Plan.

Lot Benefited means a lot benefited by an easement, positive covenant or restriction on use in this Instrument.

Lot Burdened means a lot burdened by an easement, positive covenant or restriction on use in this Instrument.

Minister means the Minister administering the EPBC Act.

Pink Tailed Worm Lizard means *Aprasia parapulchella*.

Plan means the plan to which this Instrument relates.

Protected Area means the Pink Tailed Worm Lizard Conservation Area being that part of the Lot Burdened identified as (A) and (B) on the Plan.

Protection and Management Plan means the management plan dated [●] for the protection of the Pink Tailed Worm Lizard as a listed threatened species in accordance with the Approval of EPBC Act referral 2011/5829, and any substitute or replacement protection and management plan approved by the Minister from time to time.

INSTRUMENT SETTING OUT TERMS OF EASEMENTS, POSITIVE COVENANTS AND RESTRICTIONS ON USE INTENDED TO BE CREATED PURSUANT TO SECTION 88B AND SECTION 88BA, CONVEYANCING ACT, 1919

Lengths are in metres:

(Sheet 3 of 4)

Plan: DP []

Plan of subdivision of []
covered by subdivision certificate no.

1.2 References to certain terms

Unless a contrary intention appears, a reference in this Instrument to:

- (a) a reference to anything is a reference to the whole or each part of it; and
- (b) the singular includes the plural and vice versa; and
- (c) the words **include, including, for example** or **such as** are not used as, nor are they to be interpreted as, words of limitation and, when introducing an example, do not limit the meaning of the words to which the example relates to that example or examples of a similar kind.

1.3 Headings

Headings do not affect the interpretation of this Instrument.

1.4 Positive covenants and maintenance requirements

A requirement in this Instrument for the Grantee or Grantor to maintain or Repair an Easement Site or anything in an Easement Site is a positive covenant according to Section 88BA of the *Conveyancing Act 1919* (NSW).

2. Easements are covenants and agreements between Grantees and Grantors

2.1 Run with Land

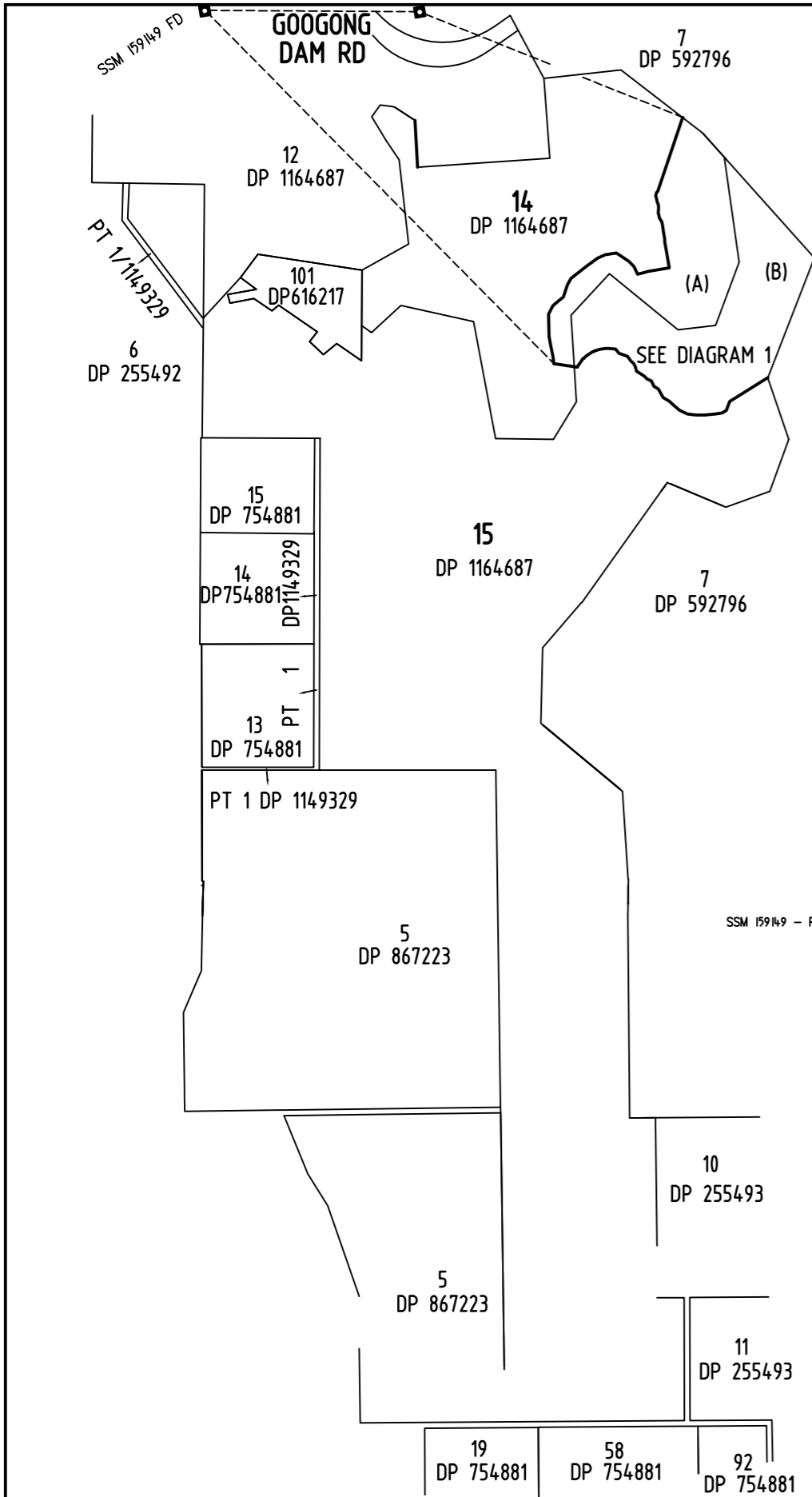
The conditions, covenants and restrictions, including in this clause 2, in each of the easements, positive covenants and restrictions on use in this Instrument are covenants and agreements between:

- (a) each Grantee for itself, its successors and every person who is entitled to an estate or interest in possession of the Lot Benefited or any part of it with which the right is capable of enjoyment; and
- (b) each Grantor for itself, its successors and every person who is entitled to an estate or interest in possession of the Lot Burdened or any part of it with which the right is capable of enjoyment

to the intent that the benefit and burden of those covenants and agreements are annexed to and pass with the Lot Benefited and the Lot Burdened.

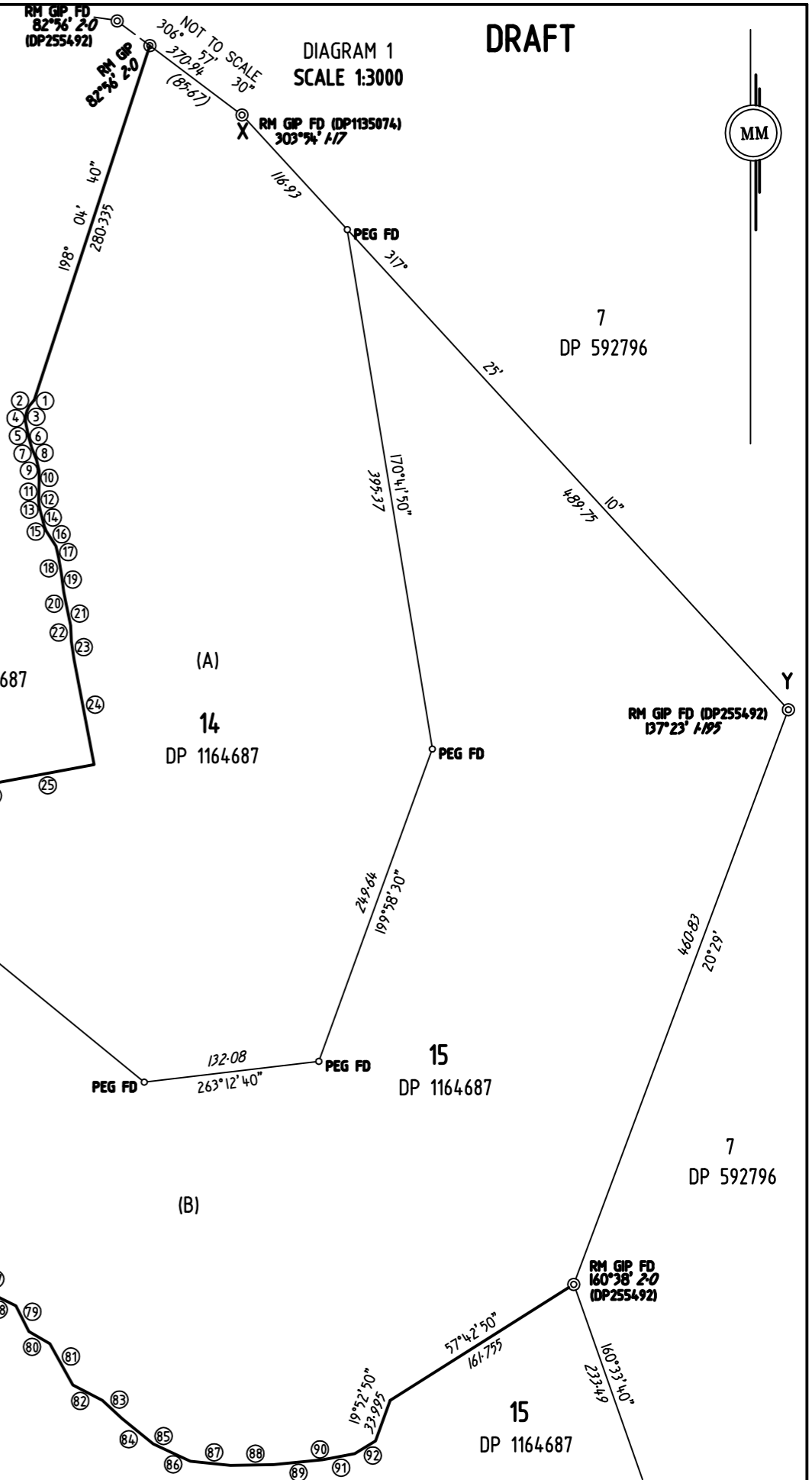
2.2 Ancillary Rights

The Grantee of an easement set out in this Instrument may exercise, subject to the specific terms of that easement, all other ancillary rights and obligation reasonably necessary for the



SHORT BOUNDARYS

Ref	Bearing	Distance	Ref	Bearing	Distance	Ref	Bearing	Distance
1	219°25'20"	5.935	34	244°50'10"	28.87	67	93°59'10"	8.345
2	204°51'	3.92	35	234°25'	20.82	68	93°59'10"	15.765
3	193°36'	3.92	36	234°25'	6.84	69	142°00'50"	19.515
4	182°21'20"	3.92	37	234°25'00"	5.32	70	107°31'50"	14.64
5	168°36'10"	11.035	38	231°36'30"	12.125	71	109°09'40"	18.88
6	165°38'	8.345	39	231°36'30"	74.92	72	144°01'40"	18.63
7	158°36'40"	1.795	40	207°02'10"	26.33	73	131°59'40"	15.57
8	158°36'40"	8.905	41	198°32'50"	46.265	74	152°58'10"	12.395
9	165°51'50"	8.68	42	229°53'	23.41	75	164°11'10"	16.925
10	180°32'20"	8.46	43	227°47'20"	25.21	76	122°19'40"	32.625
11	181°44'20"	13.79	44	207°26'10"	34.675	77	131°39'50"	13.8
12	174°51'20"	3.92	45	177°28'30"	79.865	78	116°06'	17.355
13	166°21'50"	5.61	46	168°29'	30.315	79	153°17'	21.66
14	165°44'	10.26	47	168°29'	41.37	80	119°49'50"	18.285
15	156°06'20"	3.92	48	170°22'10"	27.465	81	151°00'30"	35.46
16	147°33'	13.465	49	97°27'50"	10.43	82	117°41'30"	25.205
17	166°56'20"	9.175	50	97°27'50"	30.125	83	132°42'	19.94
18	170°11'50"	11.915	51	97°27'50"	13.61	84	129°10'	30.275
19	172°24'30"	14.195	52	97°27'50"	16.68	85	115°04'40"	13.3
20	168°51'50"	16.495	53	97°27'50"	14.005	86	115°04'40"	17.395
21	167°15'20"	9.01	54	26°14'20"	7.115	87	95°57'40"	30.225
22	177°58'30"	12.0	55	33°24'30"	2.16	88	88°57'30"	32.385
23	170°50'10"	13.625	56	33°24'30"	18.06	89	84°19'40"	37.0
24	169°12'50"	80.40	57	39°30'40"	11.245	90	79°19'40"	6.28
25	259°24'50"	76.995	58	47°40'20"	9.025	91	79°19'40"	18.525
26	255°20'20"	6.535	59	52°34'20"	18.95	92	58°18'10"	18.22
27	254°05'50"	17.03	60	59°33'50"	10.12			
28	254°05'40"	15.48	61	64°44'20"	5.38			
29	334°38'10"	30.965	62	64°44'20"	3.395			
30	313°55'30"	27.375	63	64°44'10"	2.615			
31	302°44'50"	19.01	64	72°02'20"	18.95			
32	302°44'50"	33.105	65	81°28'	20.22			
33	260°16'50"	41.2	66	89°04'20"	11.39			



SSM 159149 - PM 161690 90°14'45" 540.18 MGA

NOTES:
(A) POSITIVE COVENANT
(B) POSITIVE COVENANT

SURVEY PRACTICE REGULATIONS 2006 CLAUSE 35 (1) AND CLAUSE 61(2)

MARK	MGA CO-ORDINATES ZONE 55		CLASS	ORDER	METHOD	ORIGIN
	EASTING	NORTHING				
CP87270920	701796.70	6078534.92	D	4	SCIMS	FOUND
CR 65	703090.86	6078710.13	D	4	SCIMS	FOUND
CR 67	703719.66	6078370.28	D	4	SCIMS	FOUND
COMBINED SEA LEVEL AND SCALE FACTOR 0.99999						
SOURCE: SCIMS ON LINE 6/03/2008						
SSM 159149	702625.25	6078633.13	D	NA	CADASTRAL TRAVERSE	FOUND
PM 161690	703165.43	6078630.81	D	NA	CADASTRAL TRAVERSE	FOUND

Table of mm

Surveyor: Michael Roy Stapleton Date of Survey: 11 JUNE 2012 Surveyor's Ref: 03074L CHECKLIST 2010M7100(1023) Partial Survey	PLAN OF LAND BURDENED BY COVENANT OVER LOTS 14 AND 15 DP 1164687	LGA: QUEANBEYAN CITY Locality: GOOGONG Subdivision No: N/A Lengths are in metres Reduction Ratio 1:15000	Registered DP
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