Goyder North Wind Farm

Pygmy Blue-tongue Lizard Management Plan

Draft

December 2025

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Prepared by
Umwelt (Australia) Pty Limited

On behalf of
Neoen Australia Pty Ltd

Project Director: Alison Derry
Project Manager: Jessica Skewes
Technical Director: Emma Tremain
Report No.: 31669/R011
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112 Hayward Avenue, Torrensville, SA 5031

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Document Status

Rev No.	Reviewer Name	Date	Approved for Issue Name	Date
V0	J. Carpenter	27/03/2025	-	-
V1	J. Skewes	09/07/2025	A. Derry	09/07/2025
V1.1	Neoen, Lathwida	14/08/2025	-	-
V2	J. Skewes	09/09/2025	A. Derry	11/09/2025
V3	J. Skewes	09/12/2025	A. Derry	12/12/2025

Declaration of Accuracy

In making this declaration, I am aware that section 491 of *the Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (Commonwealth [Cth]) make it an offence in certain circumstances to knowingly provide false or misleading information or documents to specified persons who are known to be performing a duty or carrying out a function under the EPBC Act or *the Environment Protection and Biodiversity Conservation Regulation 2000* (Cth). The offence is punishable on conviction by imprisonment or a fine, or both. I am authorised to bind the approval holder to this declaration and that I have no knowledge of that authorisation being revoked at the time of making this decision.

Signed: [redacted]

Full name: Hilary Pocock

Position: Project Manager - South Australia

Organisation: Neoen Australia Pty Ltd

EPBC Referral Number: EPBC 2024/09929

Name of Action Management Plan this document and declaration refers to:

Goyder North Wind Farm Pygmy Blue-tongue Lizard (PBTL) Management Plan.

Date: 15/12/2025

Abbreviations

Abbreviation	Description
BAM	Bushland Assessment Methodology
BDBSA	Biological Database of South Australia
BESS	Battery Energy Storage System
CEMP	Construction Environmental Management Plan
DCCEEW	Department of Climate Change, Energy, the Environment and Water (Commonwealth)
DEW	Department of Environment and Water (South Australia)
DotE	Department of the Environment (Australian Government; now DCCEEW)
DotEE	Department of the Environment and Energy (Australian Government; now DCCEEW)
EBS Ecology	Environment and Biodiversity Services Pty Ltd – trading as EBS Ecology
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth)
GNWF	Goyder North Wind Farm Project (includes WF and OTL)
GNREF	Goyder North Renewable Energy Facility
GRZ	Goyder Renewables Zone
GS	Goyder South
GSS1	Goyder South Stage 1
GSHREP	Goyder South Hybrid Renewables Energy Project
ha	Hectare(s)
HSE Manager	Health, Safety and Environment Manager
IUCN	International Union for the Conservation of Nature
km	Kilometre(s)
MNES	Matter(s) of National Environmental Significance
MW	Megawatts
Neoen	Neoen Australia Pty Ltd
NPW Act	*National Parks and Wildlife Act 1972* (South Australia)
NV Act	*Native Vegetation Act 1991*
NVC	Native Vegetation Council
OEMP	Operational Environmental Management Plan
OTL	Overhead Transmission Line
PBTL	Pygmy Blue-tongue Lizard (*Tiliqua adelaidensis*)
Pers. comm.	Personal communication
PTW	Permit to work
RAMP	Revised action management plan
SA	South Australia(n)
SEB	Significant Environmental Benefit
sp.	Species (singular)
spp.	Species (plural)
VA(s)	Vegetation Association(s)
WF	Boundary around the windfarm infrastructure components in GNWF
WTG(s)	Wind Turbine Generator(s)

Glossary

Terminology	Definition
Action	The Action includes both construction and operation of the proposed Project, and any change from existing activities which are required to undertake these tasks safely and effectively.
Department	The Australian Government agency responsible for administering the EPBC Act.
Development Envelope (DE)	A 'buffered' version of the Disturbance Footprint that represents the spatial extent within which the Disturbance Footprint is expected to occur.
Disturbance Footprint (DF)	The area where permanent and temporary infrastructure is proposed and the maximum spatial extent of vegetation clearance and/or earthworks to allow for construction of the GNWF.
Met mast	Meteorological mast (mast or tower equipped with instruments to measure windspeed and climatic conditions).
Micro-siting	Micro-siting is defined as a slight shift or adjustment of infrastructure components within the Development Envelope which may occur prior to construction works to further avoid or minimise impacts to MNES or other currently unknown project constraints, such as buried artefacts or remains which may not be discovered until civil works begin, or in the case of unacceptable geotechnical conditions in a given position.
Minister	The Australian Government Minister administering the EPBC Act including any delegate thereof.
New or increased impact	A new or increased environmental impact or risk relating to any protected matter, when compared to the likely impact of implementing the action management plan that has been approved by the Minister under conditions 3 and 4, including any subsequent revisions approved by the Minister, as outlined in the Guidance on 'new or increased impact' relating to changes to approved management plans under EPBC Act environmental approvals, Commonwealth of Australia 2017.
Operation	All activities that occur after the components of the final wind turbine generator are installed and the usage of the transmission line and substation for the purposes of transforming and/or redistributing electric current.
Project	The Goyder North Wind Farm Project, inclusive of Wind Turbine Generators (WTGs), overhead power transmission lines, expansion of existing Bundey substation, on-site battery energy storage system (BESS), access tracks and temporary facilities and infrastructure to enable construction. The Project is part of the broader Goyder North Renewable Energy Facility for which planning consent was granted in 2024, but has since been refined to incorporate up to 99 turbines at a nameplate capacity of 600MW.
Plan(s)	Any of the documents required to be prepared, approved by the Minister, implemented by the approval holder and published on the website in accordance with the EPBC Act approval (2024) conditions (includes action management plans and/or strategies).
Project Area	The spatial bounds within which the disturbance footprint for the GNWF Project may occur, encompassing all Project components within the GNWF Project including WF and OTL.
Project components	Includes boundaries of GNREF, GNWF, Development Envelope, Disturbance Footprint and Search Area.
Project elements	Distinct functional elements of the GNWF Project including WF, OTL and Site Access.
Search Area	A buffer of 5 km around GNREF applied to all database searches and desktop study.
Significant impact(s)	Impacts which are important, notable, or of consequence, having regard to their context or intensity, and assessed within the framework of the Matters of National Environmental Significance – Significant Impact Guidelines 1.1, Commonwealth of Australia 2013.

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Appendices

1.0 Introduction

Neoen Australia Pty Ltd (Neoen) is developing the Goyder Renewables Zone (GRZ) (**Figure 1.1**), a highly efficient energy generation project, with world class wind resources and strong external support demonstrated by it being declared the only wind generation Priority Project in South Australia and being awarded a Capacity Investment Scheme contract by DCCEEW. The GRZ is ideally located to complement Project EnergyConnect, a large transmission line interconnector between South Australia (SA) and New South Wales (NSW) currently under construction by ElectraNet (in SA) and TransGrid (in NSW).

The broader GRZ includes both the Goyder South Hybrid Renewables Energy Project (Development Approval granted in 2021, with Goyder South Stage 1 (GSS1) currently under construction) (GS; GSHREP) and the Goyder North Renewable Energy Facility (GNREF).

The GNREF Project Area is located north-east of Burra and east of the Mount Bryan township in the Goyder Regional Council area, approximately 150 kilometres (km) north of Adelaide, South Australia. Planning consent was achieved for the GNREF in 2024. Since the Planning consent was achieved, Neoen is progressing a refined the design for up to 600 Megawatts (MW) of wind generation and 225 MW/ 900 megawatt hours (MWh) of Battery Energy Storage System (BESS) located in the southern portion of the GNREF, titled Goyder North Wind Farm Project (GNWF; the Project), which has a proposed Disturbance Footprint of approximately 536.82 hectares (ha). Neoen has no current plan to develop further stages and should further stages be progressed in the future they would be subject to their own approval processes and stakeholder engagement.

This Pygmy Blue-tongue Lizard (*Tiliqua adelaidensis*) (PBTL) Management Plan has been prepared for the GNWF Project to outline the likely direct and potential indirect impacts to PBTL and its habitat during construction and operation of the Project, and the proposed management measures that will be implemented to avoid, minimise and/or mitigate them.

This PBTL Management Plan must be read and implemented in conjunction with the Goyder North Wind Farm Construction Environmental Management Plan (CEMP) (*in draft*), which is referred to as the CEMP, the Goyder North Wind Farm the Operational Environmental Management Plan (OEMP), to be prepared prior to commissioning completion of the GNWF, and any sub-plans prepared as part of the CEMP and / or OEMP.

Furthermore, and in accordance with specific conditions of approval associated with the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) approvals obtained for the Project from the Department of Climate Change, Energy, the Environment and Water (DCCEEW; the Department), this PBTL Management Plan is required to be implemented for the duration of the EPBC Act approval, or the life of the Project. More information on the EPBC Act approval obtained for the Project is provided in the following section, while more information on the specific conditions of the EPBC Act approval and compliance is provided in **Section 2.0**.

1.1 Overview of the Goyder North Wind Farm Project

The GNWF Project incorporates the southern two thirds of the GNREF Project Area and includes an Overhead Transmission Line (OTL) traversing approximately 48 km south-east, where it connects to the existing Bundey Substation (**Figure 1.2**). GNWF is comprised of:

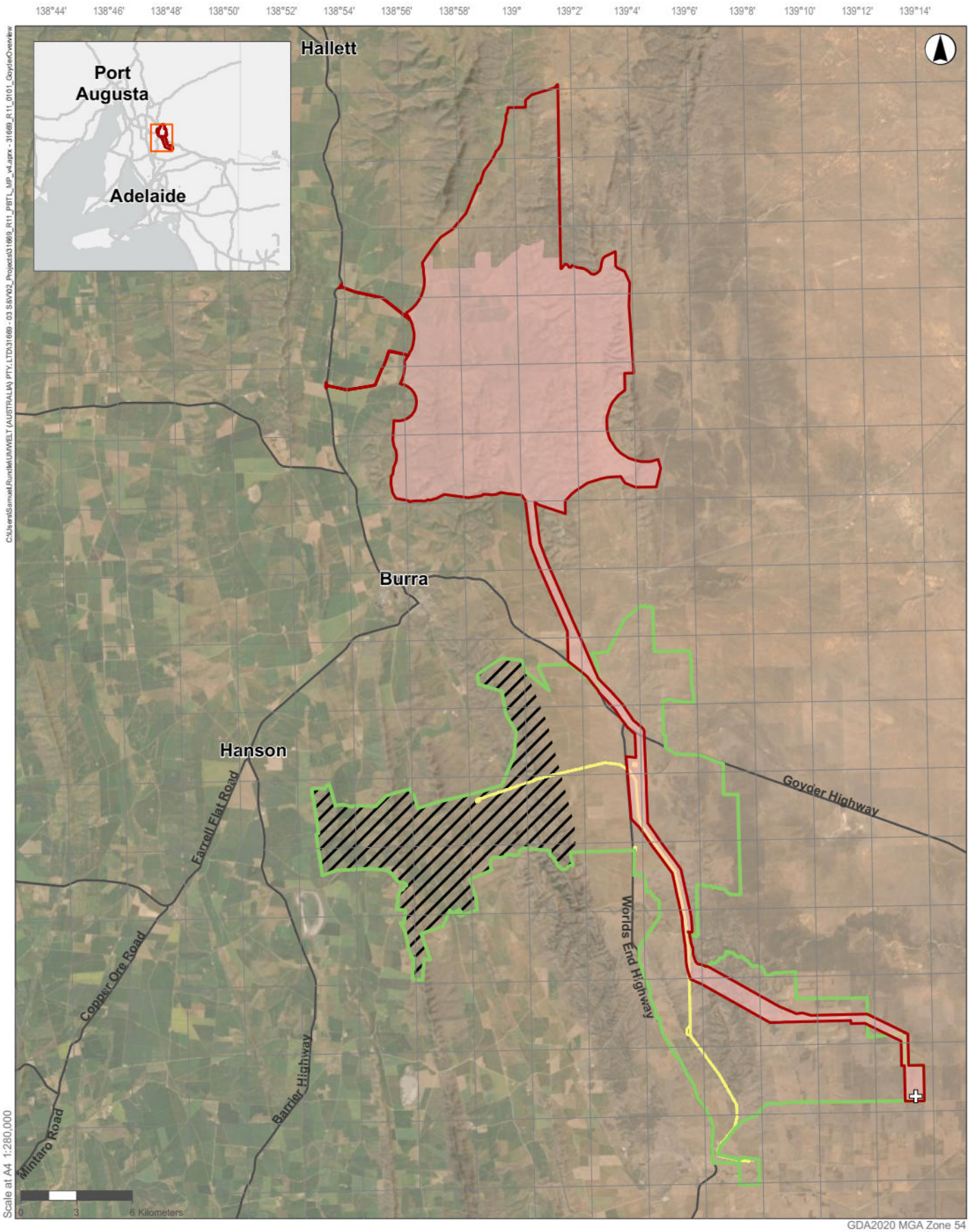
- Up to 99 WTGs with a total nameplate capacity of up to 600 MW, a maximum hub height of 160 m, a maximum blade length of 95 m, and an overall maximum height of 240 m.
- Associated infrastructure for connection to the electricity grid including underground cables, substations (one or two at the wind farm and the other as an extension of the existing Bundey Substation) and ~48 km of OTL between the wind farm at the Bundey Substation.
- One BESS in the main wind farm (WF) area.
- Access tracks (permanent and additional temporary tracks for construction access).
- Temporary and permanent laydown areas, temporary concrete batching plant facilities, temporary construction compounds and site offices as well as permanent operations and maintenance facilities.

This Plan relates to GNWF, which is currently under development. If any subsequent future stages were proposed to be developed, a separate Management Plan would be developed and implemented, if applicable. An overview of the Project along with the corresponding EPBC approval sought and obtained is outlined in **Table 1.1**.

PBTL and PBTL habitat will be impacted by the Project. As such, this PBTL Management Plan has been prepared to outline the likely and potential direct and indirect impacts to PBTL and its habitat during construction and operation of the Project, and the proposed management measures that will be implemented to avoid, minimise and / or mitigate them.

Table 1.1 EPBC Approval Details for the GNWF Project

Proposed Action	Legal Entity	EPBC Referral Reference	EPBC Referral Decision	Date EPBC Approval Achieved
GNWF (99 WTGs and associated infrastructure)	TBC	EPBC2024/09929	Controlled Action	Pending Approval



Legend

- GNREF
- GNWF
- GS
- GS
- GSS1
- GS OTL
- Bundey Substation (existing)

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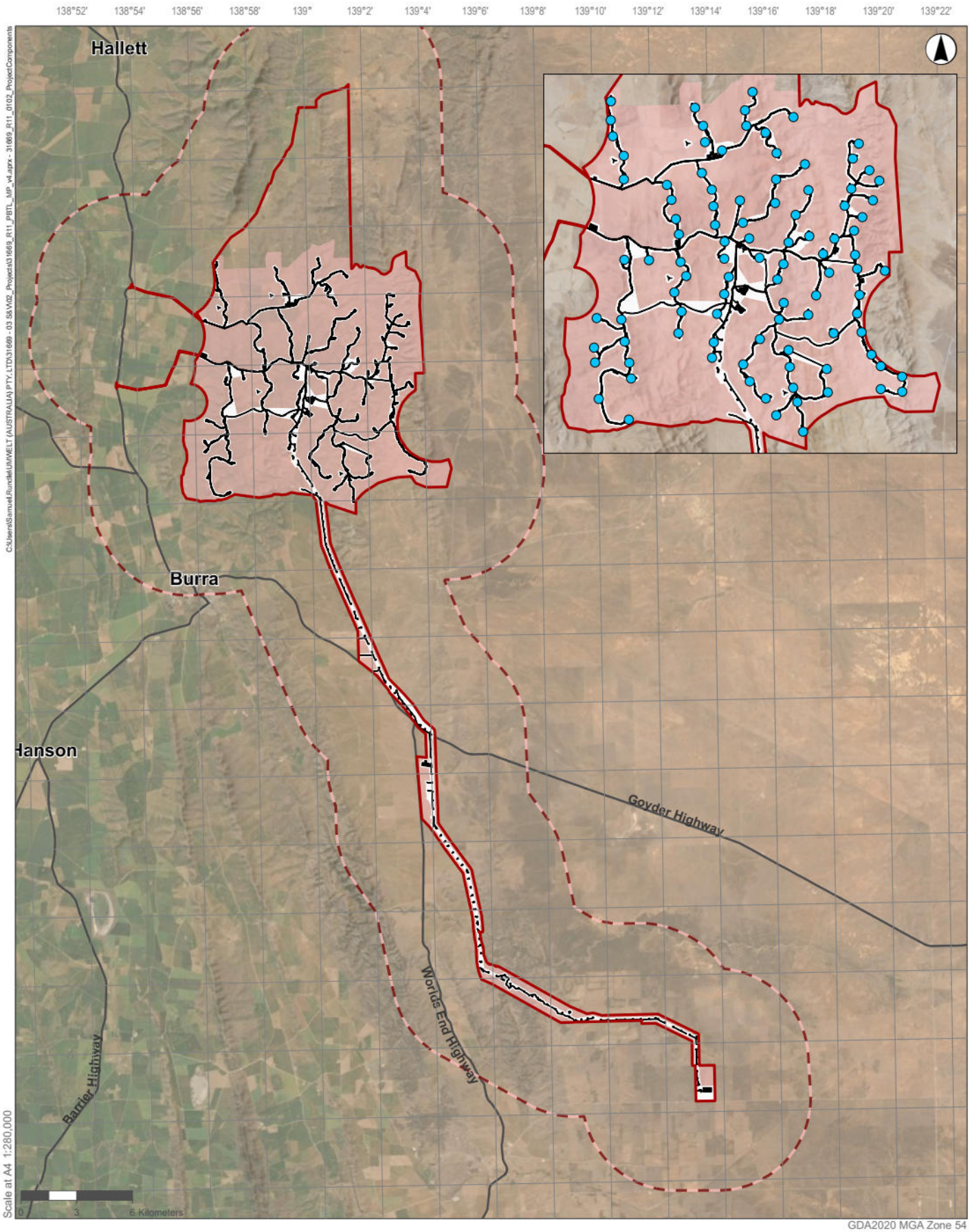
FIGURE 1.1

Overview of the GRZ including GS and GNWF



Legend

- GNREF
- Disturbance Footprint
- Development Envelope
- GNWF
- Search Area
- Main road
- Wind Turbine Generator

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FIGURE 1.2

Location and Infrastructure Components of the GNWF Project Including WF and OTL

1.1.1 Relevant Project Terminology and Definitions

Several project specific terminology and abbreviations are referred to repeatedly throughout the report. Project boundaries components are described below in **Table 1.2**.

Table 1.2 Project Specific Terminology and Abbreviations

Term	Abbreviation	Description
Goyder North Renewable Energy Facility	GNREF	The broader area for which Planning Consent was granted in October 2024 which bounds the direct wind farm infrastructure of access roads and WTGs, which includes GNWF as well as the OTL that connects into the existing Bundey Substation, and expansion of the Bundey Substation.
Goyder North Wind Farm	GNWF	The portion of the GNREF which is currently proposed for development and is the focus of this assessment and management plan. Includes all wind generation infrastructure (generating up to 600 MW) and associated infrastructure, including access roads, underground cables, substations, OTL, construction and operation compounds and met masts, required to transmit and connect into the existing Bundey Substation.
Disturbance Footprint	DF	The total initial clearance area required for safe and efficient construction of the proposed GNWF Project, including both permanent and temporary clearance for construction buffers, laydown areas, stockpile areas and construction access routes for the Wind Farm generation components and the OTL.
Development Envelope	DE	A 'buffered' version of the Disturbance Footprint that represents the outer spatial extents within which the Disturbance Footprint will occur. Design is well developed and optimised to minimise cut and fill, avoid known sites of significance or value, and to minimise the Disturbance Footprint. The Development Envelope is an extra measure to enable final adjustments to the Disturbance Footprint in alignment with the Mitigation Hierarchy to avoid or minimise impacts on environmental values, cultural heritage or any other potential constraints that emerge during design finalisation and construction.
PBTL Search Area	N/A	Infrastructure layout supplied by Neoen, current on 5 February 2024, which was surveyed on-ground for PBTL. A search corridor of up to 10 m width (i.e. 2.5 m either side of each observer) was searched. Additional PBTL Search Area was added following revision of design in March 2025. Several smaller targeted searches have been undertaken in the Development Envelope and Project Area to inform micro-siting of infrastructure and for micro-siting of early works such as met mast installation and geotechnical investigations. The combination of each of these searches is referred to as the PBTL Search Area, current as of July 2025.

The naming conventions and related Project Area boundaries of GNWF have evolved throughout the design and approval process, with various supporting documents referring to the Project as Goyder North Renewable Energy Facility Stage 1, Goyder North Stage 1 (GN1) and Goyder North Wind Farm Stage 1 and Stage 2. With no further stages currently planned beyond the 99-turbine configuration, the Project is hereafter referred to as Goyder North Wind Farm Project (GNWF, the Project).

1.1.2 Relevant Previous Reports

The following reports and documentation should be referred to for important background and supporting information:

- EBS Ecology (2022). Goyder North Renewable Energy Facility Ecological Assessment Report. Adelaide: Report to Neoen Australia Pty Ltd.
- EBS Ecology (2023a). Goyder North - Ecological Constraints Mapping. Adelaide: Letter Report to Neoen Australia Pty Ltd.
- EBS Ecology (2024b). Goyder North Stage 1 and Stage 2 Wind Farm Ecological Assessment Report. Report to Neoen Australia Pty Ltd. EBS Ecology, Adelaide.
- Umwelt (2025a Goyder North Wind Farm Targeted Pygmy Blue-tongue Lizard Survey Report. Report to Neoen. Umwelt (Australia) Pty Ltd.

1.2 Purpose and Objectives of this Plan

1.2.1 Purpose

This PBTL Management Plan has been prepared by Umwelt on behalf of Neoen. This PBTL Management Plan applies to construction and operation activities carried out for GNWF and has been prepared as a sub-plan of the CEMP (Umwelt, 2025b – in draft) and OEMP (to be adapted).

1.2.2 Objectives

The objectives of this PBTL Management Plan (**Table 1.3**) are to:

- Provide species profile information on the PBTL.
- Provide information on the location of PBTLs within the GNWF Project.
- Avoid and minimise impacts to PBTL individuals and their habitat during construction and operation phases of GNWF.
- Satisfy regulatory requirements and approval conditions.

To fulfil these objectives for the GNWF this PBTL Management Plan will:

- Outline measures which ensure that there is no disturbance to PBTL habitat outside of the designated (and approved) Disturbance Footprint.
- Outline measures to ensure the disturbance and impact of works on PBTL habitat is strictly limited to only that which is critical for the construction and operations of the Project.
- Outline measures which ensure that micro-siting does not result in additional disturbance to PBTL habitat above the approved disturbance limits specified in the EPBC Approval Conditions and Native Vegetation Approval Conditions (ref. 2025/3089/422).
- Provide a procedure for relocating PBTLs from within the Disturbance Footprint.
- Review and adopt any learning from Goyder South Stage 1A / 1B which have been effective (or otherwise) in PBTL management.

Neoen is committed to implementing this PBTL Management Plan during construction and operation, for the duration of the EPBC Act approval. A table of commitments to achieve the above objectives and a reference to where the commitments are detailed in this PBTL Management Plan is provided in **Table 1.3**. Neoen will not commence construction or operation unless this PBTL Management Plan has been approved by the Australian Government Minister administering the EPBC Act, in writing.

Table 1.3 Commitments to Achieve the Objectives of the PBTL Management Plan

Objectives	Commitment	Reference (linked)
Provide profile information on the PBTL.	Profile information on the PBTL is provided in this PBTL Management Plan.	**Section 3.0**
Provide information on the location of PBTLs within GNWF.	This PBTL Management Plan will be revised to include new information on the location of PBTLs found within the GNWF Project Area post-EPBC Act approvals (as well as PBTLs found pre-EPBC Act approvals).	**Section 3.0**
Avoid and minimise impacts to PBTL individuals and their habitat during construction and operation phases of the GNWF Project.	Neoen is committed to avoiding and minimising impacts to PBTL individuals and their habitat during construction and operation phases of the GNWF Project.	**Section 4.0**
Ensure that there is no disturbance to PBTL habitat outside of the Disturbance Footprint.	Neoen is committed to ensuring that there is no disturbance to PBTL habitat outside of the Disturbance Footprint via implementation of this PBTL Management Plan, including specific management targets, performance indicators and triggers, construction and operation management measures.	**Section 4.0** **Section 9.0** **Section 10.0**
Ensure that micro-siting within the Development Envelope does not result in additional disturbance to PBTL habitat.	Infrastructure will not be micro-sited if it does not result in a reduction of potential impacts to PBTLs and PBTL habitat and Neoen commits that micro-siting will not increase impacts to PBTL and/or PBTL habitat or other Matters of National Ecological Significance (MNES) (for example Iron-grass Natural Temperate Grassland Threatened Ecological Community).	**Section 9.0**
Provide a procedure for relocating PBTLs.	Neoen is committed to implementing the PBTL relocation procedure, which is provided in this PBTL Management Plan.	**Section 9.2**

2.0 Compliance

This PBTL Management Plan has been prepared by Umwelt in accordance with the relevant legislation, policies and guidelines summarised in **Table 2.1**. Relevant Approval Conditions for the GNWF in relation to the EPBC Act and NV Act are outlined in **Table 2.2** and **Table 2.3**.

Table 2.1 Relevant Legislation, Policies and Guidelines

Jurisdiction	Legislation, Policies and Guidelines
Commonwealth	*Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Conditions of approval under the EPBC Act are listed in **Table 2.2**.
	Recovery Plan for the Pygmy Blue-tongue Lizard (herein referred to as the PBTL Recovery Plan) (Duffy, Pound and How 2012).
	Environmental Management Plan Guidelines, Commonwealth of Australia (DCCEEW 2024).
	Conservation Advice for *Tiliqua adelaidensis* (pygmy blue-tongue lizard) (DCCEEW 2023).
	Survey guidelines for Australia's threatened reptiles. EPBC Act survey guidelines 6.6 (DSEWPaC 2011).
State (South Australia)	*Planning, Development and Infrastructure Act 2016* (PDI Act). Development Approval (Application ID: 23036148) received on 28 October 2024.
	Hydrogen and Renewable Energy Act 2023.
	Native Vegetation Act 1991 (NV Act) and associated Native Vegetation Regulations 2017.
	An application to the Native Vegetation Council (NVC) for clearance of native vegetation associated with the GNWF construction is currently with the NVC.
	National Parks and Wildlife Act 1972 (NPW Act). A number of Permits are required (refer to **Section 9.2.1** for more detail).
	Animal Welfare Act 1985
	Pygmy Bluetongue Lizards: Best Practice Management Guidelines for Landholders (Schofield 2006).
Local	There are no relevant local policies, legislation, guidelines and approval conditions as of July 2024.

[Placeholder – tables to be updated when conditions are known]

Table 2.2 Relevant Conditions of Approval to PBTL Received as Part of the EPBC Approval

Condition Number	Approval Condition Description	How Addressed	Where Addressed - Relevant Section in this Report

Table 2.3 Relevant Conditions of Approval to PBTL Received as Part of the NV Act Approval (ref. 2025/3089/422)

Condition Number	Approval Condition Description	Relevant Section in this Report
1	The applicant must ensure that only native vegetation approved for removal in accordance with this decision is removed. Prior to clearance commencing, the applicant must advise all persons undertaking the vegetation removal or working on site, of all relevant conditions of approval and associated statutory requirements.	**Sections 7.0**, **8.0** and **9.0**
2	No clearance to occur, with the exception of with geotechnical investigations, until Development Approval has been obtained under the Planning, Development and Infrastructure Act 2016 (including Building Rules Consent where required) or a Renewable Energy Infrastructure Licence under the *Hydrogen and Renewable Energy Act 2023* has been granted.	**Sections 7.0**, **8.0** and **9.0**
3	Prior to clearance commencing, the applicant must clearly identify and indicate the areas approved for clearance using spatial mapping of the approved disturbance footprint as a minimum. Physical markers (markings, 3 barriers, pegs, flags or temporary fencing) may be used in addition where practicable, that are to remain in place, in good condition and clearly visible for the period in which clearance is occurring.	**Sections 7.0**, **8.0** and **9.0**
4	Prior to clearance commencing, the applicant must identify and indicate any environmental no-go areas, including Iron-grass Natural Temperate Grasslands (INTG), using spatial mapping as a minimum. Physical markers (markings, barriers, pegs, flags or temporary fencing) may be used in addition where practicable that are to remain in place, in good condition and clearly visible for the period in which clearance is occurring.	**Sections 7.0**, **8.0** and **9.0**
13	No clearance is to occur until the attached form, "Decision Notification Acknowledgement", is signed and returned to confirm that the applicant and anyone else who is a party to the agreement, understand and will comply with the decision, including all the associated conditions.	**Sections 7.0**, **8.0** and **9.0**

3.0 PBTL Profile

3.1 Conservation Status

The PBTL (**Figure 3.1**) is listed as Endangered under the EPBC Act and Endangered under the NPW Act. These classifications are consistent with the International Union for Conservation of Nature (IUCN) (2001) criteria for listing species on the IUCN Red List System (IUCN, 2012, Duffy et al., 2012).

Figure 3.1 Pygmy Blue-tongue Lizard (*Tiliqua adelaidensis*)

Photo by EBS Ecology

3.2 Ecology and Biology

3.2.1 Description

The PBTL is the smallest member of the genus *Tiliqua*, which consists of seven terrestrial lizard species commonly known as Bluetongues. The PBTL is a moderate sized skink that has a total length of less than 20 cm and a relatively heavy body, large head and short limbs. Its body colour varies from grey, brown to orange brown and may include a series of black flecks along the back and flanks. The distinct orange coloured eye and black pupil are other distinguishing features of the species. Unlike other members of its genus, the PBTL has a pink tongue (Hutchinson et al., 1994; Duffy et al., 2012).

3.2.2 Historical and Current Distribution

The PBTL is endemic to South Australia, where its population is severely fragmented and occupies less than 500 square km (km^2) (Duffy et al., 2012). The PBTL is now known from 31 sites extending from Peterborough in the north to Kapunda in the south, and to the South Hummocks (north of Port Wakefield) in the west (Duffy et al., 2012). The full extent of most populations is yet to be determined. Therefore, it is possible that some apparently isolated populations may form part of larger, more contiguous populations (Schofield, 2006).

Very little information exists on the past distribution of the species. The relative abundance of PBTL in European collections of specimens in the 19th century suggests that the species was formerly more common and has undergone a marked decrease in distribution (Shea, 1992).

3.2.3 Habitat

PBTLs are known to occupy native grassland habitats. Even highly degraded grasslands (dominated by exotic species) are potential habitat, providing that the area is un-ploughed, and the soil structure remains intact (Milne 1999). The species has been recorded at sites dominated by grass species including *Austrostipa* spp. (Spear-grasses), *Rytidosperma* spp. (Wallaby Grasses), *Maireana* spp. (Bluebush), *Aristida behriana* (Brush Wire-grass) and *Lomandra* spp. (Iron-grasses) (Hutchinson et al. 1994, Souter et al. 2007). All known habitat is considered critical to the survival of the species (Duffy et al. 2012).

3.2.4 Populations

The total population size of the PBTL is uncertain. Prior to 2000, the population was estimated to be around 5,000 lizards, based on 10 known populations (Milne et al., 2000). Since this time, there are now 31 known PBTL populations (Duffy et al., 2012). Suitable habitats are largely on private land and historically may have been under-surveyed due to access considerations. All PBTL populations are considered important due to the restricted and fragmented distribution of the species (Duffy et al., 2012).

More recently, due to the PBTL Recovery Plan efforts, university studies and proposed wind farm flora and fauna assessments, surveys of PBTLs have increased. Despite this, overall population size is hard to estimate due to natural fluctuations in numbers (caused by a number of factors including climatic conditions such as drought, habitat conditions, food availability and breeding opportunities) as well as accessibility to data arising across different projects and studies.

3.2.5 Behaviour

PBTLs use unoccupied burrows of Trapdoor (Mygalomorphae) and Wolf (Lycosidae) spiders as refuges, basking sites and ambush points (Milne et al., 2003) (**Photo 3.1** The burrow entrances are circular in cross section, up to 20 mm in diameter, and lack any sign of excavated soil at the entrances (Hutchinson et al., 1994). The average depth of burrows is approximately 25 cm, ranging from 10 to 75 cm (Souter et al., 2007).

PBTLs make no obvious external modifications to the burrows, except for a slight bevelling of the edges caused by their movement in and out of the burrows (Hutchinson et al., 1994). Burrow entrances are used as vantage points from which PBTLs can make short forays after any prey detected

nearby. PBTLs are sensitive to both movement and noise, retreating to their burrow if disturbed. They may deposit scats near the perimeter of the burrow entrance (Fenner & Bull, 2010). Only one adult PBTL is found in each active burrow and individuals may utilise the same burrow for extended periods of time, with one study observing burrows occupied by the same individual for at least a two-year period (Bull et al., 2015).

Photo 3.1 A PBTL basking at the entrance its burrow entrance

Photograph by EBS Ecology

Photo 3.2 An adult and two juvenile PBTLs in a burrow

Photograph by EBS Ecology

3.2.6 Diet

PBTLs are omnivorous, mostly feeding on medium-sized arthropods that they ambush from their burrow (Hutchinson et al., 1994). Analyses of scats and stomach contents have recorded the remains of grasshoppers, ants, small spiders, beetles, snails, cockroaches and plant material (including *Dianella* spp. seed, possible chenopod material, and several leaves and flowers of introduced *Medicago* spp.) (Ehmann, 1982; Hutchinson et al., 1994; Milne, 1999; Fenner et al., 2007). PBTLs have been found to change their prey items opportunistically over spring and summer, with plant material incorporated in the diet to a greater extent as summer progresses (Fenner et al., 2007). Based on these dietary studies, it is likely that PBTLs require a high abundance of arthropod prey, habitat where efficient prey capture is possible, and particular plant species which form part of their diet (Fenner et al., 2007).

3.2.7 Reproduction

The PBTL has a spring mating season (October and November) (Milne & Bull, 2000) and gives birth to live young, like the other Tiliqua species (**Photo 3.2**). Males can reproduce from one year of age and females are sexually mature from approximately three years of age and can have up to four young each season. Young are born between January and March and disperse from the mother's burrow within weeks of their birth to find burrows of their own (Clarke, 2000; Duffy et al., 2012; Milne & Bull, 2000).

3.2.8 Activity Timeframes

PBTL activity varies significantly throughout the year and is summarised in **Table 3.1** and explained further below. Optimal and sub-optimal timeframes for monitoring PBTLs are explained further below.

Table 3.1 PBTL Activity throughout the Year

PBTL Activity	Month											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mating Season												
Females Heavily Gravid												
Females with Young												
Neonate Dispersal												
Winter Brumation												

The PBTL mating season is October to November. Females are heavily gravid (pregnant) in January and have young with them in their burrows from mid-January to mid-March. Neonate dispersal occurs in February and March. PBTLs go into brumation (a state of torpor exhibited by reptiles) over winter (June to August).

Males are more active during the mating season, moving away from their burrows to seek female mating partners (Schofield et al., 2012). Neonates and females are more active during late summer (February and March) as they disperse, with females shifting burrows if neonates do not leave the maternal burrow.

PBTL can be surveyed and detected year-round, but the optimal timeframe is late summer to early autumn when grass cover is typically low, allowing higher visibility of spider burrows. This period also enables the detection of juveniles if needed. At other times of the year, PBTL may be more difficult to detect due to long grass and weed cover (winter and spring) or the movement patterns of male PBTL during the spring mating period, resulting in a lower probability of detection in burrows due to time spent above ground.

For relocation or surveys requiring extraction of PBTL from their burrow, the same optimal and suboptimal timeframe applies, with additional temperature considerations. High temperatures (above 36°C) pose a risk to PBTL health due to their inability to regulate body temperature in such conditions. During the winter brumation period, PBTL may be disturbed from temporary torpor, leading to heightened susceptibility to cold and difficulty readjusting in burrows, which can compromise their health.

3.3 Known and / or Potential Threats

The PBTL Recovery Plan (Duffy et al., 2012) documents known and potential threats to the PBTL, along with known and/or potential impacts, which are summarised in **Table 3.2**. Note that not all threats documented in the PBTL Recovery Plan are necessarily relevant to the GNWF Project.

All PBTL habitats and populations, apart from one population which is formally protected (Tiliqua Nature Reserve), are considered potentially at risk from threats summarised in **Table 3.2** (Duffy et al., 2012).

Table 3.2 Known and Potential Threats to PBTL and Associated Impacts (adapted from Duffy et al., 2012)

Known and / or Potential Threat	Known and / or Potential Impact
Changed land use - Ploughing	Direct mortality and displacement of both PBTLs and spiders.
	Destruction of PBTL and spider burrows.
	Soil destabilisation making any burrows subsequently dug by spiders (likely to be very few) unstable and unsuitable for PBTLs.
Changed land use -Ripping	Destruction of PBTLs and their burrows in the direct path of the ripping lines.
Changed land use - Inappropriate grazing regimes	Heavy grazing by hard-hoofed stock may lead to soil destabilisation, the filling of burrows in the dry season and the collapse of burrows in the wet season.
	Heavy grazing may also increase PBTL exposure to predators and/or reduce the availability of PBTL prey.
	Complete removal of grazing may lead to increased weed growth and/or a reduction in inter-tussock spaces, which may impact foraging and basking opportunities.
Changed land use - Other agricultural development	Any changes in areas occupied by PBTLs involving soil disturbance, clearing or habitat modification (e.g. establishment of saltbush pasture and viticulture) may be detrimental to the species.
Changed land use - Urban, industrial and infrastructure development	The establishment of buildings, roads, wind farms and telecommunications infrastructure may directly destroy PBTLs and their burrows or disturb their native grassland habitat.
	Although wind farm WTGs are typically installed on hill slopes and crests, which are often not optimal PBTL habitat, access roads, underground cabling and other associated infrastructure, which are often developed on flats and lower slopes, have the potential to cause further loss and fragmentation of PBTL habitat, weed invasion and hydrological changes such as extra water runoff affecting soil structure.
	Shadow flicker, vibration and noise from WTGs may affect the ability of PBTLs to bask, feed and move around.
Weeds	High and dense growth of Wild Oats (*Avena barbata*) and other weeds may reduce opportunities for PBTLs to bask, catch insects and find mates.
	May render habitat unsuitable for burrowing spiders (Souter, 2003).
	High disturbance weed control or control that affects native plant species may be detrimental to PBTL habitat.
Pesticides (Insecticides)	While direct impacts of insecticides on PBTLs are unknown, insecticides are known to cause illness or death in some reptiles (Khan & Law, 2005; Pauli *et al.*, 2010).
	Indirect impacts could include a reduction in the main food source group for PBTLs, which could affect their survivorship or reproduction rates; cumulative secondary poisoning; or a reduction in the abundance of burrowing spiders, which may reduce the availability of burrows suitable for PBTLs.
Herbicides	While direct impacts of herbicides on PBTLs are unknown, herbicides are known to cause fertility problems for small vertebrates (Pauli *et al.*, 2010) and are therefore a potential threat to PBTLs.
Inappropriate fire regimes	Fires that occur in spring, when males are active, or in late summer and early autumn, when juveniles are dispersing, could be particularly detrimental.
	Fires at other times of the year (mid-summer, late autumn, early spring) may be of less consequence. Indeed, PBTLs have been found to take refuge from fire in their deep burrows, as a fire in December 2005 did not kill adult lizards or affect the subsequent fecundity of females. Declines initially observed in activity, foraging, body condition and juvenile survivorship following the fire were short lived, with no adverse impacts in subsequent years (Fenner & Bull, 2007).

Known and / or Potential Threat	Known and / or Potential Impact
Habitat fragmentation	Small, isolated populations may suffer from inbreeding and are vulnerable to extinction from stochastic events (Smith, 2006; Smith *et al.*, 2009).
Planting (tall trees and shrubs)	There are no records of PBTLs living under trees, even in areas adjacent to open grassland where the species occurs. Furthermore, experiments have shown that artificial burrows established under trees quickly fill with soil and debris (Souter, 2003).
	Planting trees and shrubs will alter the characteristics of the soil, litter and understorey plant community beneath their canopy, which may be detrimental to PBTLs.
	May increase predation risks for PBTLs by providing perches for birds to stalk burrows (compared to only hovering birds in open grassland).
	Will reduce the level of sunlight at ground level, which may result in PBTLs having to move further away from their burrows to bask, increasing predation risk.
Predators	Domestic dogs are known to take PBTLs.
	Foxes and cats are potential predators.
	Natural predators include Nankeen Kestrels (*Falco cenchroides*) and Eastern Brown Snakes (*Pseudonaja textilis*).
Fertilisers	May affect PBTLs by encouraging weed growth at the expense of native grasses.
Poaching	Despite the large fines and/or jail terms associated with poaching and smuggling threatened species, there is a risk that poachers could target PBTLs as Australian reptiles are generally in demand.
Climate change	Higher temperatures and altered rainfall regimes that are predicted under climate change may impact PBTLs, their prey and habitat.
	While the effects of climatic conditions on PBTLs remains largely unknown, surveys have recorded significantly lower fecundity, lower grass cover and more bare earth in 2007 and 2008 than in 2006, which may be linked to the prolonged drought in the region (A. Fenner *pers. comm.*, J. Schofield *pers. comm.*, as cited in Duffy *et al.* 2012).
	PBTLs may be particularly vulnerable due to the isolation and small extent of the remaining populations and suitable habitat, and the very limited opportunities for dispersal if the current area of occupancy becomes unsuitable.

3.4 PBTL Occurrence in the Project Area

Understanding of PBTL occurrence and habitat in the GNWF Project Area has improved significantly since environmental surveys began in 2019. This is largely due to the intensive survey of the proposed Disturbance Footprint in February and March 2024, and subsequent surveys in a revised layout in April 2025.

The results of these intensive surveys are summarized below but documented in detail in:

- Umwelt (2025a) Goyder North Wind Farm Targeted Pygmy Blue-tongue Lizard Survey. Report to Neoen Pty Ltd. Umwelt (Australia) Pty Ltd.

3.4.1 Targeted PBTL Survey Results

Six targeted field surveys have been conducted within the Project Area as of April 2025, each contributing to the knowledge and understanding of the distribution of PBTLs within the Project Area. The comprehensive targeted PBTL survey was undertaken within the proposed Disturbance Footprint current at the time of the survey (February 2024). Subsequent surveys were conducted with specific objectives including micro-siting for design, mitigation for geotechnical works and surveying

additional areas added to the early Disturbance Footprint (April 2025). An additional two sites were surveyed for the micro-siting of met masts in November 2023 and July 2024.

PBTL were recorded across the GNWF Project Area in grassland and grassy shrubland habitats. EBS Ecology (now Umwelt) targeted field surveys in February-March 2024 found 138 individuals in the GNWF Disturbance Footprint, and a further 16 during subsequent micro-siting surveys in the Development Envelope. Additional targeted surveys were undertaken in February, March and April 2025 for micro-siting works and to cover updates to the Disturbance Footprint. A total of 186 PBTL have now been recorded from approximately 21,641 spider burrows during targeted PBTL surveys in GNWF (**Table 3.3**). No PBTL have been detected along the OTL route outside of the WF, though some potentially suitable habitat occurs in the northern portion. A total of 3,898 historical records of PBTL (obtained from the Department for Environment [DEW] and Water Biological Database of South Australia [BDBSA]) are also reported from within a desktop Search Area (5 km buffer around the GNREF) between 1950 and 2023.

Table 3.3 Summary of PBTL Targeted Survey Results

Survey	Timing	Number of PBTL	Number of Burrows Searched
Disturbance Footprint Targeted	February / March 2024	138	15,534
Micro-siting in Development Envelope	February / March 2024	16	758
Geotechnical Investigations	January to March 2025	19	3,270
Updated Disturbance Footprint Targeted	April 2025	10	1,795
Other micro-siting	Various	3	284

PBTLs were predominantly detected in grassland habitats, particularly within the Native *Austrostipa* sp. grassland (VA11) and Lomandra grassland (VA6) vegetation associations (VA). Notably, a high density of PBTLs was observed in the *Maireana rohrlachii* shrubland (VA9), despite its limited coverage within the wind farm area, with 29 individuals recorded. Two lizards were also found in exotic grassland areas previously used for cropping. The number of PBTLs recorded in each vegetation association is detailed in **Table 3.4** and mapped in **Figure 3.2**. Density estimates, calculated based on a 10-meter search corridor within each vegetation association, indicate that VA9 had the highest density at 1.63 PBTLs per hectare, influenced by a localised hotspot. VA6 and VA11 had similar densities of 0.55 and 0.54 PBTLs per hectare, respectively. These figures suggest that the GNWF project may directly impact an estimated 206 individuals (**Table 3.4**). However, these population estimates do not account for the species' patchy distribution across the landscape, characterised by dense 'hotspots' of PBTLs, sparsely distributed individuals, and large tracts with no known individuals. This distribution pattern may lead to underestimation or overestimation of impact in certain areas.

No PBTL were detected on the OTL alignment outside of the GNWF Project Area, and much of the habitat within the OTL alignment was considered ‘unlikely’ due to lack of elevation, lack of grassy understorey or otherwise non-preferred vegetation associations. As such, the OTL is not displayed on **Figure 3.3**.

Habitat within GNWF was characterised by the confidence level of detecting PBTL, either high, medium or low confidence, based on the cover of grass (height, density, thatch) present at the site during the survey, which impacts visibility of spider burrows. Areas surveyed and confidence levels are shown on the map in **Figure 3.3**.

Table 3.4 PBTL Search Effort, Records and Estimated Densities Listed by Vegetation Association

Vegetation Association	Approx Search Area (ha)	No. PBTL Detected	PBTL Density Estimate Per ha	Impacted (Permanent and Temporary) (ha) WF and OTL	Estimate of Impacted PBTL (Individual Count)	Estimate of PBTL within the GNWF Project Area Based on Mapped Habitat (ha)
VA6 *Lomandra* grassland	14.47	8.00	0.55	7.22	3.99	955.56
VA9 *Maireana rohrlachii* open shrubland	17.78	29.00	1.63	16.54	26.98	887.70
VA11a Native grassland	262.43	141.00	0.54	325.44	174.86	4,673.99
VA11b Native grassland and emergent trees	0.50	0.00	0.00	0.9	0.00	0.00
Exotic	10.24	0.00	0.00	17.39	0.00	0.00
Cropped	5.54	2.00	0.36	0.01	0.00	0.71
Existing clearance	24.99	3.00	0.12	0.6	0.07	0.36
All other VAs	24.39	0.00	0.00	168.72	0.00	0.00
Total or average (^)	**360.33**	**183.00***	**0.51^**	**536.82**	**205.90**	**6,519.04**

*Does not include the three PBTL observed during the 2023 and 2024 Met Mast surveys

3.4.2 Habitat Suitability in GNWF

Habitat within the GNWF Project Area has been characterised as either 'known', 'likely' or 'unlikely' PBTL habitat. This followed intensive survey efforts of the Development Envelope in February and March 2024 (Umwelt, 2025a). Habitat suitability was mapped according to the criteria summarised in **Table 3.5**. Habitat suitability mapping, showing areas of known, likely and unlikely habitat, is provided in **Figure 3.4**.

Table 3.5 Habitat Suitability Definitions

Habitat Suitability	Definition
Known	Vegetation associations in which records of PBTL occur. Records include those collected by Umwelt (and formerly EBS Ecology) and historical records sourced from the BDBSA (Recordset number: DEWNRBDBSA240207-2).
Likely	Vegetation associations in which there are no PBTL records but are considered potentially suitable habitat.
Unlikely	Vegetation associations in which there are no PBTL records and are not considered suitable habitat. Vegetation associations that occur in the Murray Darling Depression bioregion and are outside the known distribution of the PBTL.

4.0 Impacts to PBTLs

4.1 Impact Assessment Criteria

The following PBTL characteristics and/or traits have been taken into consideration when assessing potential and/or likely impacts to PBTLs associated with the Project:

- PBTLs use unoccupied burrows of Trapdoor (*Mygalomorphae*) and Wolf (*Lycosidae*) spiders as refuges, basking sites and ambush points (Milne et al. 2003).
- PBTLs are sensitive to both movement and noise, retreating to their burrow if disturbed.
- PBTLs generally don't move far from their burrow (no more than 20 – 30 m) (Schofield 2015). Movements during juvenile dispersal or mating are less well known.
- PBTLs go into brumation (a state of torpor exhibited by reptiles) over winter (June/July/August) and many burrows become covered by debris, until the lizards become active again in spring (Schofield 2006).
- PBTLs breed in spring (October and November) and young are born from mid-January to mid-March, with juveniles dispersing from the mother's burrow within weeks of their birth to find burrows of their own (Clarke 2000; Duffy et al. 2012; Milne and Bull 2000).
- When PBTLs are not in brumation, the majority of the time they are either taking refuge within their burrow or basking with their back legs or tip of the tail remaining in the entrance of their burrow, waiting for passing invertebrate prey (Duffy et al. 2012). The only exception to this would be during the breeding season (October and November) when males are searching for mates (Hutchinson et al. 1994) and in February and March when juveniles are dispersing in search of their own burrow.

4.2 Project Disturbance Footprint

Current assessment of the Project design information has determined that the GNWF Project has the potential to directly impact up to 20.04 ha of Known PBTL habitat and up to 348.06 ha of Likely PBTL habitat (**Table 4.1**). A total of 55 individual PBTLs are recorded in the current WF Disturbance Footprint, with no PBTLs known to occur within the OTL and Substation Disturbance Footprints at the time of writing (from Umwelt and historical BDBSA data).

A Development Envelope (~200 m buffer around Disturbance Footprint) allows further application of the mitigation hierarchy to avoid and minimise impacts to areas where higher densities of PBTL occur. A further 119 PTBL are mapped as known to occur within the Development Envelope based on targeted surveys, and historical BDBSA records. However, these records may not all be current and areas which have not been subject to targeted searches may contain additional individuals.

Likely direct impacts and potential indirect impacts to PBTL individuals and/or populations associated with development (i.e., construction) and/or operation of the GNWF Project Area are presented in **Table 4.2**. Note that current impacts presented represent the worst-case assessment of impacts and through ongoing design refinements and micro-siting, Neoen will seek to reduce these impacts.

Table 4.1 Summary of Potential Direct Impacts to PBTL Habitat and PBTL Individuals within the GNWF Disturbance Footprint

	Known PBTL Habitat (ha)	Likely PBTL Habitat (ha)	Total PBTL Habitat (ha)	Number of Individual PBTL Records	Comment on Impact to Individual PBTLs
GNWF Disturbance Footprint (WF and OTL)	20.04	348.06	368.10	55	Intensive surveys recorded 52 PBTL within the current Disturbance Footprint, a further three historical BDBSA records also occur. Survey effort indicates that the estimated number of PBTLs present, proportional to area of habitat present within the Disturbance Footprint, is 206 PBTL (range 192-274).

Table 4.2 Likely Direct Impacts and Potential Indirect Impacts to PBTLs during Construction and Operation of the GNWF Project

During Construction	During Operation	Controls and Management Measures
Likely Direct Impacts		
Direct loss of approximately 20.04 ha of '*Known*' and 348.06 ha of '*Likely*' PBTL habitat located within the Disturbance Footprint (**Sections 3.4** and **Table 4.1**).	None.	**Design refinement**: Neoen will continue to seek to minimise these direct impacts through design refinements throughout development and construction. **Micro-siting**: The location of infrastructure, including, but not limited to, vehicle access tracks, WTGs and underground electrical reticulation (installed via trenching), will be micro-sited within the Development Envelope away from PBTLs, when practicable during pre-construction surveys to further avoid and/or minimise direct impacts (see **Section 9.1**).
Potential loss of PBTLs located within the Disturbance Footprint (**Table 4.1**).	None.	**Micro-siting**: Where possible, the final location of underground cables and access tracks, will be micro-sited away from PBTLs during pre-construction surveys to avoid and/or minimise impacts to PBTLs as much as possible (see **Section 9.1**). **Relocation**: Where micro-siting cannot avoid direct impact to PBTLs, the individual(s) will be relocated to the nearest suitable release site in accordance with the method outlined in the *Goyder North Renewable Energy Facility - PBTL Management Plan* (this document) (**Section 9.2**).
Potential Indirect Impacts		
Potential for the inadvertent or deliberate disclosure of sensitive ecological data including the disclosure of PBTL locations. Such disclosure could facilitate illegal wildlife trafficking or unauthorized collection.	Potential for the inadvertent or deliberate disclosure of sensitive ecological data including the disclosure of PBTL locations. Such disclosure could facilitate illegal wildlife trafficking or unauthorized collection.	All contractor personnel and sub-contractors will be required to sign confidentiality agreements which includes provisions for confidentiality regarding the presence and location of threatened species (MNES and NPW Act listed species), including PBTL.
Clearance of '*Known*' and/or '*Likely*' PBTL habitat outside the Disturbance Footprint.	Clearance of '*Known*' and/or '*Likely*' PBTL habitat outside the Disturbance Footprint.	Avoidable through specific controls and management measures during construction detailed in **Section 9.0** and during operation detailed in **Section 10.0**, as well as the CEMP and the / OEMP.

During Construction	During Operation	Controls and Management Measures
Vehicles and/or machinery driving over PBTL habitat leading to degradation of PBTL habitat and possibly mortality of PBTLs.	Vehicles and/or machinery driving over PBTL habitat leading to degradation of PBTL habitat and possibly mortality of PBTLs.	Avoidable through specific controls and management measures during construction detailed in **Section 9.0** and during operation detailed in **Section 10.0**.
Pitfall (PBTLs getting trapped in trenches, pits and other open excavations).	Pitfall (PBTLs getting trapped in electrical pits).	Avoidable through specific controls and management measures during construction detailed in **Section 9.0** and during operation detailed in **Section 10.0**.
Dust emissions smothering flora and suppressing photosynthesis leading to loss of vegetation condition and PBTL habitat suitability.	None	Short term impact during construction only, which can be minimised through specific controls and management measures detailed in **Section 9.0**, the CEMP, the OEMP and associated sub-plans.
Altered grazing regimes (increased grazing, preferential grazing, reduction or loss of grazing, altered grazing times).	Altered grazing regimes (increased grazing, preferential grazing, reduction or loss of grazing, altered grazing times).	Difficult to predict likelihood and/or level of occurrence and likely consequence. During construction, any potential impact is expected to be short-term in nature and temporary. Furthermore, the Project Owner (Neoen) will not have any direct control over grazing regimes as it is controlled by land holders / land managers. However, any potential impacts identified by the landholder will be reported to the relevant personnel (i.e. community liaison officer) and corrective action undertaken if required.
Sedimentation of PBTL burrows and/or PBTL habitat from construction run-off (soil).	Sedimentation of PBTL burrows and/or PBTL habitat from run-off from access tracks.	Avoidable through specific controls and management measures during construction detailed in **Section 9.0** and during operation detailed in **Section 10.0**, as well as the CEMP, OEMP and sub-plans such as Erosion and Sediment Control Plan (or similar).
Noise and vibration disturbance during construction.	Potential disturbance to PBTLs in close proximity to turbines from turbine noise and/or vibration.	Short-term impact during construction. Potential impacts of turbine noise and/or vibration are unknown.
Introduction of new weeds to the Project Area, or increase in weeds, through use of contaminated construction material, machinery and vehicles, leading to loss of vegetation condition and PBTL habitat suitability.	Introduction and/or spread of weeds from vehicles leading to loss of vegetation condition and PBTL habitat suitability.	Avoidable through specific controls and management measures during construction detailed in **Section 9.0** and during operation detailed in **Section 10.0**, the CEMP, OEMP and associated sub-plans such as Flora Management Plan and Weed Management Plan.

During Construction	During Operation	Controls and Management Measures
Division and isolation of PBTL sub-populations by construction of vehicular access tracks.	Division and isolation of PBTL sub-populations through existence of vehicular access tracks.	Avoided and/or minimised through design process.
Stockpiling of equipment and materials and introduction of rubbish and waste materials causing degradation of PBTL habitat.	Stockpiling of equipment and materials and introduction of rubbish and waste materials causing degradation of PBTL habitat.	Avoidable through specific controls and management measures during construction detailed in **Section 9.0** and during operation detailed in **Section 10.0**, the CEMP and the OEMP.
Chemical spills (e.g. fuel/diesel) causing degradation of PBTL habitat.	Chemical spills (e.g. fuel/diesel) causing degradation of PBTL habitat.	Avoidable through specific controls and management measures outlined in the CEMP and the OEMP.
Shadow Flicker	Potential disturbance to PBTLs in close proximity to turbines from blade glint or shadow flicker impacts such as: • potential increase in predation of PBTLs by birds of prey (due to PBTLs becoming accustomed to shadows); • potential decrease in PBTL body condition due to PBTLs basking less; and • potential decrease in breeding due to PBTLs taking refuge in their burrow more often.	The potential or likelihood of this impact actually occurring is currently not known as there is limited data available. A 10-year research project is underway to further understand any potential impacts of shadow flicker on PBTL.

4.3 Mitigation Measures to Avoid and/or Minimise Potential Direct and Indirect Impacts to PBTL

Project infrastructure has been specifically designed and/or located to avoid direct impacts to PBTLs and their habitat as much as possible, through the ongoing application of the Mitigation Hierarchy. The current assessment represents a worst-case scenario in terms of potential impacts.

In addition, infrastructure will be micro-sited within the Development Envelope away from individual PBTLs wherever possible, prior to the commencement of construction works, to avoid and/or minimise direct impacts to PBTLs. Neoen commits that micro-siting will not increase impacts to PBTLs and/or PBTL habitat. Furthermore, pre-construction surveys will allow for the identification of any PBTLs and PBTL habitat within the Disturbance Footprint that were not previously known.

Where micro-siting cannot avoid direct impact to PBTLs, identified individual(s) within the Disturbance Footprint will be relocated to the nearest suitable release site in accordance with the procedure outlined in **Section 9.2**. While every effort will be made to successfully relocate PBTLs impacted by Project infrastructure and ensure their ongoing survival, offsetting for PBTL will be implemented for residual impacts and is based on the entire area of habitat lost (rather than factoring in relocated PBTL).

While the Project has the potential to cause indirect impacts to PBTLs, such as, but not limited to, sedimentation of burrows, noise and vibration, weeds, herbicide use and feral animals, these indirect impacts will be avoided and/or minimised during construction and operation of the Project via implementation of specific management measures contained within this PBTL Management Plan (**Sections 9.0 and 10.0**). As such, the potential indirect impacts associated with erosion and stormwater drainage (i.e., sedimentation of PBTL burrows), weeds, herbicide use, and feral animals are not expected to cause a significant impact on PBTLs. Where indirect impacts cannot be avoided (e.g. potential impacts to 0.20 ha arising from shadow flicker over 501 hours per year), offsetting will be implemented for that area.

Avoidance and mitigation measures implemented during detailed design, and those proposed as part of ongoing project refinements, as well as during construction and operational phases, are outlined in Table 4.3**.**

Table 4.3 Avoidance and Mitigation Measures Applied and Proposed

Avoidance / Mitigation measure	Description	Effectiveness
Pre-construction / design		
Alignment with existing infrastructure	6.76% of the Disturbance Footprint (36.31 ha) has been placed within existing cleared areas (such as existing roads), despite only ~1.19% of the GNWF Project Area comprising existing cleared areas. A further 28.9 ha has been placed in cropped, or amenity vegetation which is not suitable for PBTL.	Approximately 65.16 ha of potential PBTL habitat has been avoided through these methods. Plus, an additional: 17.73 ha of exotic pasture (may constitute poor quality PBTL habitat).
	Aligning electrical layout with temporary Disturbance Footprint (DF) associated with upgrades to existing roads and proposed access tracks and utilising existing access track infrastructure for GS OTL to reduce access track requirements for GNWF OTL.	Approximately 68.71 ha of PBTL habitat avoided through this method, representing a 78.59% reduction between the Referred and current design.
Non-conventional stringing methods	Removal of stringing corridor through application of non-conventional stringing methods (e.g. helicopter stringing).	Approximately 7.93 ha of PBTL habitat avoided through this method. An additional 31.75 ha of other habitat avoided through this method (total 39.68 ha of native vegetation avoided).
PBTL Surveys in DF	Entire DF searched for PBTL to determine extent of population and guide final placement of infrastructure.	Determined areas of high density PBTL populations. Resulted in micro-siting of turbines /roads to minimise impacts.
PBTL Pre-clearance Surveys and Micro-siting for Geotechnical Investigations	Early works (Geotechnical Investigations) included pre-clearance surveys for all test pit and bore hole sites in PBTL habitat, with requirement to avoid all located PBTL.	No reported impacts to individual PBTLs during Geotechnical Investigations.
WTG defined setback around high value conservation reserves such as Tiliqua Nature Reserve	Set back of over 500 m applied for WTGs around Tiliqua Nature Reserve to reduce potential shadow flicker impacts. Set back developed in consultation with PBTL Recovery Team.	Shadow flicker modelling indicates that there are minimal impacts to conservation reserves where PBTL are known to occur.
Use of low reflective blades for WTGs within the GNWF	Low-reflective treated blades will be selected during final design and applied to all WTGs throughout the GNWF.	Industry accepted method for reducing blade glint impacts to sensitive receivers, including potential impacts to fauna.
Construction		
Pre-clearance surveys	Preclearance surveys in all areas of Project Area which contain suitable habitat. With the aim of locating any PBTL individuals within DF. If substantial PBTL populations or 'hotspots' are detected,	Determines presence and numbers of PBTL in DF. Allows for micro-siting to minimise impacts.

Avoidance / Mitigation measure	Description	Effectiveness
	implement micro-siting procedure to avoid or minimise impact on individuals.	
Micro-siting infrastructure	Micro-adjustments to infrastructure to avoid populations or PBTL 'hotspots' identified during pre-clearance surveys.	No net increase in impact to PBTL or PBTL habitat. Micro-siting will only be considered if it reduces impact on MNES.
Relocation	Relocation of individual PBTL detected and marked in pre-clearance surveys, if unable to be avoided by micro-siting.	Relocation implemented for scattered individuals. Survivorship unknown, however, studies have demonstrated the ability of PBTL to survive following relocation.
Translocation	Translocation is considered as an alternative for larger populations of PBTL or where relocation of individuals is assessed as potentially causing negative impact to surrounding existing populations.	Translocation implemented, with individuals translocated to suitable offset site(s), to be protected in perpetuity. Short-term success of translocation demonstrated at Goyder South Wind Farm Offset Site (World's End Gorge), including high survivorship in the first two years and evidence of breeding.
Operation		
Operational Environmental Management Plan	Management measures detailed in **Section 10.0** enforced to ensure no unforeseen direct or indirect impacts occur to PBTL during the operational phase of the GNWF.	Ensures that direct impacts to PBTL during operational works are avoided and indirect impacts are minimized through appropriate management measures.
Maintenance works	Any maintenance works (including ripping of rabbit warrens for pest control) will require additional surveys to determine the presence of PBTL within the impact footprint.	Determines presence and numbers of PBTL in area affected by maintenance works. Allows for micro-siting of works to avoid additional direct or indirect impacts or adoption of alternative methods if PBTL is unavoidable.
Other		
On-ground Native Vegetation Significant Environmental Benefit (SEB) Offset establishment	Neoen has purchased a 1,300 ha property to the north of GNWF to be utilized as a native vegetation offset site (SEB). Additional on-ground offsets will be sought to achieve the remainder of the SEB Offset obligations and EPBC Offset obligations, which are likely to comprise additional habitat suitable for PBTL.	High – the site provides up to 284.13 ha of potential habitat for PBTL.
EPBC Offset	Additional EPBC Offsets will be established specifically for PBTL, via securing habitat within their known range. An Offset Management Plan will be developed, specific to the site, to be managed for the life of the Project.	The EPBC Offset will result in a net gain for PBTL in the region to account for direct and indirect impacts which cannot be managed. The Offset will aim to rehabilitate habitat in areas of former range, using managed grazing and supplementary habitat such as installation of artificial burrows. This has been

Avoidance / Mitigation measure	Description	Effectiveness
		demonstrated to be effective at sites such as Tiliqua Nature Reserve.
Relocation success study	Proposed research project (developed separately to this plan as part of the EPBC Offset proposal) by Flinders University to monitor relocated portion of PBTL to determine effectiveness of mitigation strategy.	Success of relocation is currently unknown, however preliminary studies of translocation suggest that PBTL are able to survive being moved in the short to medium term (i.e. relocated), with varying success dependent on methods utilized. Recent practical studies have also shown that Trapdoor spiders, which create suitable PBTL habitat through burrow construction, can be successfully translocated to different burrows when the lids of their burrows are also translocated. Co-relocation of Trapdoor spiders and PBTL may improve long-term relocation success by helping to establish suitable habitat in new locations and warrants further investigation.

4.4 Estimated Residual Impact to PBTLs Within the Project Area

While Project infrastructure has specifically been designed and/or located to avoid impact to PBTLs and their habitat as much as possible, the current assessment of Project design information, specifically the Disturbance Footprint, has determined that the Project will directly impact (clear) up to a total of 368.10 ha of '*Known*' and '*Likely*' PBTL habitat, noting that this is a worst-case assessment of impacts and efforts to reduce this through further design refinements will occur (**Table 4.1**). Furthermore, shadow flicker modelling has been undertaken for the Project Area, which has been verified with the PBTL Recovery Team, confirming that 0.20 ha of likely habitat, subject to over 500 hours per year of shadow flicker, may result in a significant impact to PBTL occurring within that area. Together this direct and indirect impact is considered a residual impact of 368.18 ha, an EPBC Offset is required.

An assessment of the appropriateness and validity of the approach in terms of survey methodology, survey effort, described limitations, habitat suitability mapping and population estimates has been validated by PBTL Recovery Team Chair. This includes confirmation that surveys were taken after a few years of PBTL population 'booms' caused by favourable conditions, and thus estimates are likely to be a worst-case scenario, as previously stated.

4.4.1 Offset

Neoen is committed to establishing high-quality on-ground offsets for any impacts to native vegetation and MNES to fulfill requirements under both the NV Act and the EPBC Act. Neoen is also committed to rehabilitating all temporarily disturbed areas above and beyond the offset requirement which translates to rehabilitating approximately 43% of the total footprint in addition to offsetting 100% of the permanent and temporary footprint. Neoen is not seeking an offset obligation reduction for temporary clearance and rehabilitation that could have translated to a $2-3M saving, demonstrating commitment to generating a net positive outcome.

Neoen has secured an SEB offset site to compensate for approximately half of the NV Act offset obligations, for impacts to native vegetation. The SEB offset site is located to the northeast of the GNWF Project Area and comprises approximately 1,300 ha of formerly agricultural grazing land with a mixed covering of vegetation associations similar to those mapped within the GNWF Project Area. This includes up to 284.13 ha of native grasslands with attributes suitable for PBTL, though PBTL have not yet been detected at the site. This, and the remainder of the site, will be managed to improve vegetation condition, as required under the NV Act, to offset approximately half of the proposed native vegetation disturbance. A draft SEB Offset Management Plan has been developed for this area. Further investigations are underway to determine if this site hosts an existing population of PBTL, which may then deem the site suitable as part of an EPBC Offset, through implementation of additional management actions, above and beyond that which is required to improve vegetation condition and would specifically benefit PBTL. Under this scenario, the PBTL habitat within the NV SEB Offset area will also be used to fulfill an approved portion of the EPBC Offset obligations pertaining to PBTL.

Neoen is also developing an additional EPBC Offset Proposal and Offset Management Plan to offset residual impacts to PBTL habitat under the EPBC Act. Investigations are currently ongoing to secure

an additional suitable site that will be utilized as an EPBC Offset Area. It is proposed to secure existing PBTL habitat within or nearby to the GNWF site, or within the known range of PBTL, which will be protected, maintained, and improved to achieve a measurable conservation gain and potential increase in PBTL carrying capacity. A PBTL EPBC Offset Management Plan (s) will be developed for the final selected EPBC Offset site(s).

Refer to the Goyder North Wind Farm EPBC Offset Strategy (Umwelt, 2025c) for more detail.

5.0 Implementation of this PBTL Management Plan

This PBTL Management Plan is proposed to be implemented as a sub-plan of the CEMP (Umwelt, 2025b – in draft). It is anticipated that the CEMP will be implemented during the construction phase of the GNWF Project to reduce as far as practicable any associated adverse environmental impacts and satisfy regulatory requirements.

Refer to the CEMP for more detailed information on the following aspects:

- Work stages (schedule of works).
- Environmental Management System.
- Project commitments and regulatory requirements.
- Roles and responsibilities.
- Implementation:
    - Induction.
    - Meeting and communication.
    - Monitoring, inspections and auditing.
    - Reporting.
    - Review.
    - Permit System (also outlined below).
    - Incident reporting and non-compliance.
    - Complaints procedure.
    - Management of Sub-contractors.
    - Records distribution and control.
- Management and mitigation measures.
- Management sub-plans.

This PBTL Management Plan will be implemented as a sub-plan of the CEMP and in conjunction with all other relevant sub-plans.

Once the construction phase has been completed, this PBTL Management Plan is proposed be implemented as a sub-plan of the OEMP.

The implementation schedule is provided throughout this PBTL Management Plan, but the following specific implementation schedule details are listed below:

- Targets, Performance Indicators, Triggers Management Measures and Corrective Actions (**Table 7.1**).
- General Construction Management Measures (**Table 9.2**). including construction management measures, location, timing / frequency, monitoring activity, responsibility, management trigger and corrective action.

- General Operational Management Measures (**Table 10.1**), including operational management measures, type, location, timing/frequency, monitoring activity, responsibility, management trigger and corrective action.

5.1 Permit System

The CEMP includes implementation of a Permit System as follows (Umwelt, 2025b - in draft).

Daily site inspections conducted by an Environmental Compliance Officer will be used to control work activities on site. To proceed with work (that involves ground disturbing activities, such as, but not limited to clearing and grubbing and excavation) in an undisturbed area, an inspection will be required, and this will need to be signed off by the Project, Construction or Environmental Manager. Following the same process, an inspection can bring about a stop work when signed off by the Project, Construction or Environment Manager.

This Permit System will be used in conjunction with the pre-construction micro-siting procedure and PBTL relocation procedure presented in **Section 9.1** and **Section 9.2** to ensure that work in an undisturbed area (such as, but not limited to, clearing and grubbing, and excavation) will not commence until (1) survey for PBTLs, (2) micro-siting of infrastructure to avoid and/or minimise impacts to PBTLs and their habitat, and (3) relocation of PBTLs (if required) has been completed and approval provided for works to commence.

5.1.1 Pre-construction Timeframes

Table 5.1 Project Pre-construction Timeframes Relevant to PBTL

Activity	Timeframe	Comments
External Permits, Licenses and Approvals required for all PBTL surveys and relocation works	**DEW Permits:** allow a minimum of 4 weeks for processing applications. **Wildlife Ethics Committee (WEC) Approvals:** allow for a 2-week submission deadline prior to WEC meetings held every 2 months, as well as 2 weeks processing). See **Section 9.3** for further details.	To be obtained by suitably qualified ecologist(s) prior to field surveys and relocations.
Pre-clearance Checks and micro-siting	Approximately 1-4 weeks prior to any construction works commencing.	Construction works that involve ground disturbing activities, such as, but not limited to clearing and grubbing, and excavation, will not commence until pre-clearance surveys, and if required PBTL relocations, have been completed. Approval must then be obtained for construction works to commence, in accordance with the Permit System outlined in Section 5.1 of the CEMP. Pre-clearance Checks should be undertaken with a timeframe adequate to accommodate potential micro-siting design changes (to be advised by construction contractor) and also minimise time between survey and construction commencement. This ensures that the Pre-clearance Checks

Activity	Timeframe	Comments
		represent the most current information on the number and location of PBTL and minimises the potential for additional PBTL to enter the Disturbance Footprint prior to construction.

5.1.2 Construction

Clearance approval: Approval to clear native vegetation to be granted in accordance with Regulation 12, Schedule 1; Clause 34 of the *Native Vegetation Regulations 2017* and Section 25A of NV Act (ref. 2025/3089/422).

There are specific conditions associated with the various Approvals which should also be understood (refer to the approvals for details).

- EPBC Approval Conditions relevant to PBTL are listed in **Section 2.0** and in **Table 2.2**.
- NV Act Approval Conditions relevant to the PBTL are listed in **Section 2.0** and in **Table 2.3**.

5.1.3 Operation

Clearance approval: Maintenance of the existing permanent Disturbance Footprint can be continued in accordance with Regulation 8(2) – Maintenance of infrastructure. Refer to the *Native Vegetation Regulations 2017* for specific requirements.

Further clearance such as additional infrastructure, additional tracks or other new clearance will require assessment under a new clearance pathway under the *Native Vegetation Regulations 2017* and NV Act and may require clearance notification and/or additional approval.

5.2 Roles and Responsibilities

As stated previously, this PBTL Management Plan is proposed to be implemented as a sub-plan of the CEMP, which will be implemented during the construction phase of the GNWF Project. As outlined in the CEMP, both Neoen and the Construction Contractor (within the Engineering, Procurement and Construction (EPC) Contractor) have a role in implementing the requirements of the CEMP and associated sub-plans, such as the PBTL Management Plan. Refer to the CEMP for more detail on the roles and responsibilities of Neoen, the Construction Contractor and sub-contractors.

Once the construction phase has been completed, this PBTL Management Plan is proposed to be implemented as a sub-plan of the OEMP, which will be implemented by Neoen and the Project's Operation and Maintenance Contractors.

It is anticipated that there will be three main roles associated with implementation of this Plan, the Construction Project Manager / Asset Manager (Neoen); the Engineering, Procurement and Construction (EPC) Contractor and an Ecological Consultant (Contractor). The specific personnel fulfilling these roles may change over time, particularly across the lifetime of the Project. The aspects and/or tasks that each role is likely to be responsible for are outlined in **Table 5.2**.

Project employees, contractors and sub-contractors will also have a role, as will the Department, which is also outlined in **Table 5.2**.

Table 5.2 Overview of Roles and Responsibilities Associated with Implementation of this Plan

Role	Aspects and/or Tasks the Role is Responsible for
Construction Project Manager / Asset Manager (Neoen)*	• Currently Neoen is the project developer and is responsible for the planning of the entire GNWF Project, including seeking and obtaining relevant planning and environmental approvals under State and Federal legislation, as well as construction and operation of the Project. Neoen intends to own and operate the GNWF Project in the future. • The Construction Project Manager / Asset Manager (Neoen)* will be responsible for implementing this Plan. • It is anticipated that the Construction Project Manager / Asset Manager (Neoen)* will engage a suitably qualified Ecological Consultancy to assist with implementation of this Plan, including undertaking PBTL relocation/translocation and reporting. However, implementation of this Plan will remain the responsibility of the Construction Project Manager / Asset Manager (Neoen)*. • The Construction Project Manager / Asset Manager (Neoen)* must ensure that they do not commence operation** of the Project unless the Plan has been approved by the Minister in writing. • Should the Construction Project Manager / Asset Manager (Neoen)* change in future, implementation of this Plan will remain the responsibility of whoever is the Construction Project Manager / Asset Manager (Neoen)*.
EPC Contractor	• The EPC Contractor is constructing GNWF Project and is responsible for implementing the CEMP, and sub-plans such as this PBTL Management Plan. As such, the EPC Contractor will also be responsible for implementing this Plan during construction, including the management measures associated with construction works (**Section 9.0**). Briefly, roles include Project Director, Project Manager, Project Engineer, Construction Manager, Environmental Manager, Health Safety and Environmental (HSE) Officer and Construction Contractor. Roles may vary depending on the EPC Contractor selected.
Ecological Consultant (Contractor)	• It is proposed that a suitably qualified and experienced Ecological Consultant (Contractor) will be responsible for assisting the Construction Project Manager / Asset Manager (Neoen)* to implement this Plan. • The same Ecological Consultant (Contractor) is likely to be required to undertake PBTL relocation/translocation and reporting activities and likely to be responsible for reviewing and analysing monitoring data and results to determine the success (or failure) of management actions and recommending refinement/improvement, if required.
Project employees, Contractors and Sub-contractors	• All Project employees, contractors and sub-contractors are responsible for reporting any PBTL sightings, including any individuals injured or killed, to the Construction Contractor, HSE Manager and/or Construction Project Manager / Asset Manager (Neoen)*, who shall report it as an environmental incident and undertake an environmental incident investigation (in accordance with **Section 8.0**. Any PBTL sightings have a GPS location recorded to assist with PBTL population extent of occurrence/area of occupancy.
The Department and the Minister	• Review and approve this Plan (if appropriate). • Review and approve a revised version of this Plan (if required).

*The Construction Project Manager (Neoen) will change to Asset Manager (Neoen) once Practical Completion is achieved under the Engineering, Procurement and Construction Contract.

**Refer to the Glossary and Abbreviation of Terms for a definition of 'operation'.

5.3 Risks to Implementation

There are several potential risks to achieving this Plan's environmental objectives, detailed in the CEMP (Umwelt 2025b - in draft). Risks specifically relevant to This Plan, include:

- Indifference and/or lack of understanding of requirement for this Plan (EPBC Act approval conditions) leading to poor implementation of this Plan.
- Change of wind farm owner and/or operator (potentially leading to poor implementation of this Plan).
- Change of staff responsible for implementation of this Plan (i.e., Construction Project Manager / Asset Manager (Neoen)) and lack of understanding of requirements within this Plan.
- Change of Ecological Consultancy assisting Neoen to implement this Plan and lack of understanding of requirements within this Plan.

These risks are detailed in Section 7 of the CEMP (Umwelt 2025b - in draft), along with further commentary on each risk, the likelihood rating of each risk occurring, the consequence rating of each risk, the overall risk rating, risk management strategies and/or proposed contingency measures and who will be responsible for managing the risk.

5.4 Review and Revision

The review of this PBTL Management Plan is proposed to be undertaken periodically for actions undertaken over long timeframes (five yearly intervals), or when the following occurs:

- following significant environmental incidents
- when there is a need to improve performance in an area of environmental impact
- if circumstances change/approvals are varied
- when alternate management measures or methods, such as new technologies need to be incorporated.

The review (and revision) of this PBTL Management Plan is the responsibility of the Project Owner/Approval holder (Neoen) who will engage a suitably qualitied Ecologist / Ecological Consultant to undertake this task.

Reviews will use the management data/records collected to date, together with land manager, ecological consultant, expert advice (i.e. PBTL Recovery Team) and Project Owner (Neoen) input. The results or findings of the review will determine the overall success of existing management actions and identify any corrective actions that may be required and the results of any audits, to ensure the objectives of the PBTL Management Plan are met. During the review process, any reasons for varying the environmental management plan will be documented.

Each review will be documented within an amended version of the PBTL Management Plan and include:

- the review process
- the status of measurable outcomes associated with each management action
- the management results to date

- any amendments to the management actions/corrective actions, if required, and
- any recommendations for future reviews.

The amended version of the PBTL management Plan will be provided to the Land Manager and submitted to the Department for reference. Any significant changes to the PBTL Management Plan may require approval from the Department.

5.5 Submission and Publication

Section 143A of the EPBC Act allows the approval holder to submit a revised action management plan (RAMP), such as this PBTL Management Plan, to the Minister for approval at any time. In anticipation of the approval conditions being implemented, a revised action management plan will be submitted to the Minister for approval unless the conditions state otherwise. Specifically, if the taking of the action in accordance with the RAMP would not be likely to have a new or increased impact, the approval holder may choose to revise the action management plan without submitting it for approval under section 143A of the EPBC Act.

As such, any revisions of this Plan will be submitted to the Department either for information or for approval by the Minister, in accordance with the anticipated conditions of approval. Furthermore, any revisions of this Plan will be published on the Project's website as required by the anticipated conditions of approval. It will remain on the Project's website until the end date of the relevant EPBC Act approvals.

Due to the risk of poaching of PBTLs, sensitive ecological data (such as information identifying the location of PBTLs and PBTL habitat) will be redacted from this Plan when it is published on the Project's website or provided to a member of the public.

If Neoen decides to revise this Plan without submitting it for approval by the Minister, Neoen will:

- Notify the Department in writing that the approved action management plan has been revised and provide the Department with:
    - an electronic copy of the RAMP (i.e., this Plan);
    - an electronic copy of the RAMP marked up with track changes to show the differences between the approved action management plan and the RAMP;
    - an explanation of the differences between the approved action management plan and the RAMP;
    - the reasons Neoen considers that taking the action in accordance with the RAMP would not be likely to have a new or increased impact; and
    - written notice of the date on which Neoen will implement the RAMP (RAMP implementation date), being at least 20 business days after the date of providing notice of the revision of the action management plan, or a date agreed to in writing with the Department.

Neoen will implement the RAMP from the RAMP implementation date.

6.0 Risk Assessment of Potential Impacts

The potential impacts involved with construction of the Project, are outlined in the following sections for each relevant environmental aspect. The primary objective for management of each aspect is included, along with broad management measures for the design and construction phases of the Project to minimise potential adverse impacts.

For each environmental aspect, each potential impact has been numbered and given a rating in terms of likelihood (**Table 6.1**) and consequence (**Table 6.2**).

Table 6.1 Likelihood of Risk Occurring

Likelihood	Description
Almost Certain	Expected to occur in most circumstances
Likely	Will probably occur in most circumstances
Possible	Might occur occasionally
Unlikely	Could occur at some time, but unlikely
Rare	May occur only in exceptional circumstances

Table 6.2 Consequence of Risk Rating

Consequence	Description
Insignificant	Minor incident of environmental damage that can be reversed
Minor	Isolated but substantial instances of environmental damage that could be reversed with intensive efforts
Moderate	Substantial instances of environmental damage that could be reversed with intensive efforts
Major	Major loss of environmental amenity and real danger of continuing, with regulatory concerns.
Severe	Severe widespread loss of environmental attribute and irreversible environmental harm

The likelihood of risk and the consequence are then combined to generate a risk rating (**Table 6.3**), associated with likely management actions (**Table 6.4**). The likelihood and consequence ratings have been assessed prior to consideration of any control measures.

Table 6.3 Risk Assessment Matrix

Consequence ® Likelihood ¯	Insignificant (No Impact)	Minor (Low Impact, Localised)	Moderate (Manageable, Some Environmental Harm)	Major (Significant Damage, Regulatory Concerns)	Severe (Catastrophic Impact, Irreversible Harm)
Rare (highly unlikely)	Low	Low	Low	Medium	High
Unlikely (could happen, but not likely)	Low	Low	Medium	High	High
Possible (might occur at some point)	Low	Medium	Medium	High	Extreme
Likely (expected to occur)	Medium	Medium	High	High	Extreme
Almost certain (occurs frequently)	Medium	High	High	Extreme	Extreme

Table 6.4 Management Actions Required for Each Risk Rating

Risk Rating	Management Actions Required
Low	Acceptable risk level with infrequent review. Standard control and monitoring measures to be identified and implemented. Monitor and review locally as necessary. Report to local manager(s).
Medium	Acceptable risk level but must be reviewed regularly. Specific control and monitoring measures to be identified and implemented. Measures and risk level to be reviewed and improved as further information becomes available.
High	Undesirable risk level – consultation with manager(s) prior to activity. Specific control and monitoring measures to be identified and implemented. Measures and risk level to be reviewed and improved as further information becomes available.
Extreme	Unacceptable risk level. Do not proceed with activity. Requires immediate attention and consideration. Detailed risk assessment and management plan to be prepared by relevant senior manager(s) or suitably qualified consultant. Strict control and monitoring measures to be identified and implemented. Any action that has, will have, or is likely to have a significant impact on matters of national environmental significance requires referral under the EPBC Act.

Table 6.5 and **Table 6.6** detail the risk assessment for potential impacts during construction and operation, respectively. Implementation of specific construction and operational management measures (outlined in **Section 9.0** and **Section 10.0**, respectively) for each identified risk to PBTL and/or their habitat, is expected to avoid and/or minimise the potential impacts and as such, reduce the risk rating. Therefore, a residual risk rating is also provided, as is the risk after implementation of control measures.

Several additional sub-plans are referred to where more detailed, specific management actions are required. Each of these sub-plans should be referred to as and when required for a complete understanding of the construction management measures required to be implemented to avoid and minimise environmental impacts during construction.

6.1 Risk Assessment and Management of Potential Impacts during Construction

Table 6.5 Risk Assessment and Management of Potential Impacts during Construction

Activity	Potential Impact (Event or Circumstance)	Risk Rating			Management / Mitigation Measures (Further Detailed in Sections 4.3 and 9.0)	Residual Risk Rating (After Controls Implemented)	Performance Targets Monitoring Activities, Management Trigger and Corrective Actions
		Likelihood	Consequence	Inherent Risk Rating			
Unapproved Clearance	Clearance of PBTL habitat outside the approved clearance area	Possible	Major	High	Provide clear maps and spatial data indicating Disturbance Footprints, tracks, approved turnaround areas, car parks, equipment laydown areas and materials storage areas to ensure that no unapproved disturbances occur which may affect PBTL including impacts to areas of 'Known' and/or 'Likely' PBTL habitat.	Medium	Detailed in **Sections 7.0** and **9.0**.
	Vehicles and/or machinery driving over PBTL habitat leading to degradation of PBTL habitat and possibly striking PBTLs	Likely	Major	High	Apart from initial earthworks to construct access tracks and hardstand areas, ensure all vehicles and construction equipment always utilise existing farm tracks and dedicated access tracks and hardstands and avoid travel outside of these areas.	Low	Detailed in **Sections 7.0** and **9.0**.
Earthworks	Potential loss of PBTLs located within the Disturbance Footprint	Almost certain	Major	High	Where any construction works (including, but not limited to, ground disturbing works such as clearing and grubbing and earthworks for vehicle access tracks, infrastructure and trenching) are required within 'Known' and/or 'Likely' PBTL habitat, a targeted PBTL search will be undertaken, by a suitably qualified ecologist(s) to establish the location of PBTLs. Construction works will not commence until either micro-siting or PBTL relocation within specific areas or zones has been completed, and approval provided for construction works to commence.	Medium	Detailed in **Sections 7.0** and **9.0**.
	Pitfall (PBTLs getting trapped in trenches, pits and other open excavations)	Likely	Major	High	Minimise duration that trenches and pits are left open to the greatest extent possible, ideally less than 24 hours. For trenches being actively worked on, inspections are carried out twice daily for PBTLs and any trapped PBTLs will be released. For pits or excavations that remain open for longer periods of time (i.e. over 24 hours) an appropriate egress is constructed to allow animals to escape the pit.	Low	Detailed in **Sections 7.0** and **9.0**.
	Division and isolation of PBTL sub-populations by construction of vehicular access tracks	Possible (?)*	Moderate (?)*	Medium (?)*	Neoen have committed to trialling up to five 'engineered crossing' points for PBTL at key track locations post-construction of the WF (once heavy vehicle movements are completed). These trial 'engineered crossings', will enable the research program to conduct trials using population genetics methods to determine whether gene flow occurs across tracks. Tracks will remain unsealed to avoid deterring PBTL from crossing.	Medium (?)*	Detailed in **Sections 7.0** and **9.0**.
Weeds, Pests and Grazing	Altered grazing regimes (increased grazing, preferential grazing, reduction or loss of grazing, altered grazing times)	Unlikely	Moderate	Medium	Infrastructure, such as hardstands and access tracks, should not be used to install new watering points or feed-lots if these did not previously occur in the same or similar location.	Low	Detailed in **Sections 7.0** and **9.0**.
	Introduction of new weeds to the Project Area, or increase in weeds, through use of contaminated construction material, machinery and vehicles, leading to loss of vegetation condition and PBTL habitat suitability	Likely	Major	High	Ensure all vehicles, earthmoving equipment and construction equipment are clean and free of soil material, including materials containing weed seed or propagules, prior to arriving onsite. If vegetative material or earth is present, ensure that the equipment is washed down at an appropriate facility to prevent vegetative material or earth potentially containing weed seeds being brought into the site and into areas of 'Known' and/or 'Likely' PBTL habitat.	Low	Detailed in **Sections 7.0** and **9.0**.

Activity	Potential Impact (Event or Circumstance)	Risk Rating			Management / Mitigation Measures (Further Detailed in Sections 4.3 and 9.0)	Residual Risk Rating (After Controls Implemented)	Performance Targets Monitoring Activities, Management Trigger and Corrective Actions
		Likelihood	Consequence	Inherent Risk Rating			
Soil Erosion, Sedimentation and Altered Hydrology	Dust emissions smothering flora and suppressing photosynthesis leading to loss of vegetation condition and PBTL habitat suitability	Likely	Moderate	High	Dust is considered a short-term potential impact during construction, and therefore unlikely to cause long-term effects on PBTL if dust management measures are implemented. These measures are detailed in the CEMP, OEMP and relevant environmental sub-plans. Rehabilitate exposed and disturbed soils as soon as possible. Prioritise rehabilitation to temporary construction areas impacting 'Known' and/or 'Likely' PBTL habitat.	Low	Detailed in **Sections and**
	Sedimentation of PBTL burrows and/or PBTL habitat from construction run-off (soil)	Likely	Major	High	Ensure all erosion and sediment controls are checked for effective operation and maintained, repaired or improved, particularly in areas of 'Known' and/or 'Likely' PBTL habitat. Stockpiles will be managed in accordance with the EPA Guideline for stockpile management (EPA, 2020) and Stormwater Pollution Prevention, Code of Practice for the Building and Construction Industry (EPA, 1999).	Low	Detailed in **Sections and**
	Stockpiling of equipment and materials and introduction of rubbish and waste materials causing degradation of PBTL habitat	Likely	Moderate	High	Separation distances to be maximized as much as possible from Known PBTL habitat, with additional measures imposed for those within 200 m of Known PBTL habitat, including prompt redistribution of topsoil following construction, appropriate dust suppression through watering, covering or application of soil binders.	Low	Detailed in **Sections 7.0** and **9.0**.
Hazardous Materials and Spillages	Chemical spills (e.g. fuel/diesel) causing degradation of PBTL habitat	Possible	Moderate	Medium	Hazardous materials and dangerous goods containers and storage areas, including refuelling areas will be stored and managed in accordance with applicable Australian Standards, Safety Data Sheets and site-specific Safe Work Method Statements.	Low	Detailed in **Sections 7.0** and **9.0**.
Noise and Vibrations	Noise and vibration disturbance during construction (potential impacts are unknown)	Possible (?)*	Minor (?)*	Medium (?)*	Ensure all reasonable and practicable noise mitigation measures are implemented in accordance with the Project's Construction Noise and Vibration Management Plan. This includes having vehicles and machinery regularly serviced and well maintained and ensuring vehicles which are not in use are turned off.	Medium (?)*	Detailed in **Sections 7.0** and **9.0**.
Poaching	Inadvertent or deliberate disclosure of sensitive ecological data could enable illegal wildlife trafficking or unauthorized collection. Poachers could target PBTLs as Australian reptiles are generally in demand.	Possible	Major	High	Daily checks must be undertaken to ensure that all new staff and contractors have signed confidentiality agreements prior to commencing any works on site. Any staff member or contractor who has not signed the required confidentiality agreements must immediately stop work and cannot recommence until this agreement has been signed. Locked access gates or surveillance in place. General site surveillance in place. Mandatory check-in/out for all staff and visitors. Report any unauthorized access, PBTL collection, or burrow disturbance. Review surveillance footage and report incidents to police and DCCEEW.	Low	Detailed in **Sections 7.0** and **9.0**.

(?)* Potential impacts are uncertain

6.2 Risk Assessment and Management of Potential Impacts during Operation

Table 6.6 Risk Assessment of Potential Impacts during Operation

Activity	Potential Impact (Event or Circumstance)	Risk Rating			Management / Mitigation Measures (Further Detailed in Sections 4.2 and 10.0)	Residual risk rating (after controls implemented)	Monitoring Activity, Management Triggers and Corrective Actions
		Likelihood	Consequence	Inherent Risk Rating			
Unapproved Clearance	Clearance of PBTL habitat outside the approved clearance area	Unlikely	Moderate	Medium	Provide clear maps and spatial data indicating Disturbance Footprints, tracks, approved turnaround areas, car parks, equipment laydown areas and materials storage areas to ensure that no unapproved disturbances occur which may affect PBTL including impacts to areas of 'Known' and/or 'Likely' PBTL habitat.	Low	Detailed in **Sections 7.0** and **10.0.**
	Vehicles and/or machinery driving over PBTL habitat leading to degradation of PBTL habitat and possibly striking PBTLs	Unlikely	Moderate	Medium	Ensure all vehicles and construction equipment utilise existing formed and approved access tracks and hardstands and avoid travel outside of these areas, particularly in areas of 'Known' and/or 'Likely' PBTL habitat.	Low	Detailed in **Sections 7.0, 8.0** and **10.0.**
Earthworks	Pitfall (PBTLs getting trapped in electrical pits)	Unlikely	Moderate	Medium	Minimise duration that pits are left open to the greatest extent possible, ideally less than 24 hours. For trenches being actively worked on, inspections are carried out twice daily for PBTLs and any trapped PBTLs will be released. For pits or excavations that remain open for longer periods of time (i.e. over 24 hours) an appropriate egress is constructed to allow animals to escape the pit.	Low	Detailed in **Sections 7.0** and **10.0.**
	Division and isolation of PBTL sub-populations through existence of vehicular access tracks	Possible (?)*	Moderate (?)*	Medium (?)*	Neoen have committed to trialling up to five 'engineered crossing' points for PBTL at key track locations post-construction of the WF (once heavy vehicle movements are completed). These trial 'engineered crossings' will enable the research program to conduct trials using population genetics methods to determine whether gene flow occurs across tracks. Tracks will remain unsealed to avoid deterring PBTL from crossing.	Medium (?)*	Detailed in **Sections 7.0** and **10.0.**
Weeds, Pests and Grazing	Altered grazing regimes (increased grazing, preferential grazing, reduction or loss of grazing, altered grazing times)	Unlikely	Moderate	Medium	Infrastructure, such as hardstands and access tracks, should not be used to install new watering points or feed-lots if these did not previously occur in the same or similar location.	Low	Detailed in **Sections 7.0** and **10.0.**
	Introduction and/or spread of weeds from vehicles leading to loss of vegetation condition and PBTL habitat suitability	Unlikely	Moderate	Medium	Ensure all vehicles, earthmoving equipment and construction equipment are clean and free of soil material, including materials containing weed seed or propagules, prior to arriving onsite. If vegetative material or earth is present, ensure that the equipment is washed down at an appropriate facility to prevent vegetative material or earth potentially containing weed seeds being brought into the site and into areas of 'Known' and/or 'Likely' PBTL habitat.	Low	Detailed in **Sections 7.0** and **10.0.**
Soil Erosion, Sedimentation and Altered Hydrology	Sedimentation of PBTL burrows and/or PBTL habitat from run-off from access tracks	Unlikely	Moderate	Medium	Ensure all erosion and sediment controls are checked for effective operation and maintained, repaired or improved, particularly in areas of 'Known' and/or 'Likely' PBTL habitat.	Low	Detailed in **Sections 7.0** and **10.0.**
Hazardous Materials and Spillages	Chemical spills (e.g. fuel/diesel) causing degradation of PBTL habitat	Unlikely	Moderate	Medium	Hazardous materials and dangerous goods containers and storage areas, including refuelling areas will be stored and managed in accordance with applicable Australian Standards, Safety Data Sheets and site-specific Safe Work Method Statements.	Low	Detailed in **Sections 7.0** and **10.0.**
Noise and Vibration	Potential disturbance to PBTLs in close proximity to turbines from turbine noise and/or vibration (potential impacts are unknown)	Possible (?)*	Major (?)*	High (?)*	Ensure all reasonable and practicable noise mitigation measures are implemented in accordance with the Project's Operational Noise and Vibration Management Plan. This includes having vehicles and machinery regularly serviced and well maintained and ensuring vehicles which are not in use are turned off.	High (?)*	Detailed in **Sections 7.0** and **10.0.**

Activity	Potential Impact (Event or Circumstance)	Risk Rating			Management / Mitigation Measures (Further Detailed in Sections 4.2 and 10.0)	Residual risk rating (after controls implemented)	Monitoring Activity, Management Triggers and Corrective Actions
		Likelihood	Consequence	Inherent Risk Rating			
Shadow Flicker	Potential disturbance to PBTLs in close proximity to turbines from turbine blade shadow flicker impacts such as: • potential increase in predation of PBTLs by birds of prey (due to PBTLs becoming accustomed to shadows); • potential decrease in PBTL body condition due to PBTLs basking less; and • potential decrease in breeding due to PBTLs taking refuge in their burrow. Note that a Flinders University study is currently underway to investigate the potential impacts of shadow flicker (and other indirect impacts such as noise and vibration) on PBTL.	Possible (?)*	Major (?)*	High (?)*	Where potential indirect impacts to 0.20 ha arising from shadow flicker over 501 hours per year cannot be avoided, offsetting will be implemented for that area. A set back of over 500 m was applied for WTGs around Tiliqua Nature Reserve to reduce potential shadow flicker impacts. Set back was developed in consultation with PBTL Recovery Team.	High (?)*	Detailed in **Sections 7.0** and **10.0.**
Poaching	Despite the large fines and/or jail terms associated with poaching and smuggling threatened species, there is a risk that poachers could target PBTLs as Australian reptiles are generally in demand.	Possible	Major	High	Daily checks must be undertaken to ensure that all new staff and contractors have signed confidentiality agreements prior to commencing any works on site. Any staff member or contractor who has not signed the required confidentiality agreements must immediately stop work and cannot recommence until this agreement has been signed. Locked access gates or surveillance in place. General site surveillance in place. Mandatory check-in/out for all staff and visitors. Report any unauthorized access, PBTL collection, or burrow disturbance. Review surveillance footage and report incidents to police and DCCEEW.	Low	Detailed in **Sections 7.0** and **10.0.**

(?)* Potential impacts are uncertain

6.3 Limitations Associated with the Risk Assessments

The potential impact of noise and vibration during construction, and from turbines during operation, on PBTLs is not known as the potential impact of noise and vibration on PBTLs in general is poorly understood.

Similarly, the potential impact of division and isolation of PBTL sub-populations by construction of vehicular access tracks and their existence during operation is not known, as it is not known if PBTLs will cross or not cross vehicular access tracks. Neoen have committed to trialling up to five 'engineered crossing' points for PBTL at key track locations post-construction of the WF (once heavy vehicle movements are completed) as part of a research project conducted by species experts at Flinders University. These trial 'engineered crossings' will enable the research program to conduct trials using population genetics methods to determine whether gene flow occurs across tracks.

Furthermore, the potential impact of turbine blade shadow flicker on PBTLs during operation is not well understood. It may lead to impacts such as:

- Potential increase in predation of PBTLs by birds of prey (due to PBTLs becoming accustomed to shadows); or
- Potential decrease in PBTL body condition (due to PBTLs taking refuge in their burrow more often and basking less); and/or
- Potential decrease in breeding (due to PBTLs taking refuge in their burrow more often).

As such, it is difficult to determine the likelihood of these aspects having an impact on PBTLs and the consequence of any impact on the PBTLs. To address the current uncertainty one of the outcomes of the GS project is a 10-year spanning research project conducted by species experts at Flinders University and funded by Neoen to assess the impacts of shadow flicker, noise and vibration on PBTLs. In the absence of further information now, only an indicative risk rating can be provided. As new data becomes available, management actions for the species will be reassessed, and the PBTL Management Plan will be updated accordingly.

6.4 Review of Goyder South Learnings

Neoen is nearing completion of the construction phase of GS, for which a similar PBTL Management Plan was implemented. As they move forward with the GNWF Project, Neoen is committed to using best practices by incorporating learnings from the various phases of the GSWF Project. By systematically capturing and applying insights gained from previous projects, organizations can enhance processes, prevent recurring mistakes, and refine best practices. This approach not only improves efficiency and effectiveness but also drives better outcomes in future initiatives. Neoen aims to leverage these benefits to ensure the successful implementation of the GNWF Project. **Table 6.7** details the learnings from the planning, pre-construction and construction phases of GSWF, and the adapted approach that GNWF has, or intends to adopt.

Table 6.7 Learnings from Phases of Development of GSWF

Phase	GSWF Lesson	GNWF Adapted Approach
Planning and Design	PBTL habitat suitability is challenging to map and does not always align with descriptions in the available literature. PBTL can occur in highly disturbed areas previously considered unsuitable (e.g., heavily grazed and trampled cattle paddocks).	Conduct intensive surveys across all grassland conditions and non-preferred habitats during the planning and design phase to better understand habitat suitability, patchiness, and distribution of PBTL in GNWF. Significant survey effort implemented, and endorsed by PBTL Recovery Team Chair as valid, appropriate and likely to have identified populations / patches of PBTL if present, given the methodology used. Surveys are estimated to have covered approximately 27.46% of the entire current Disturbance Footprint (upper estimate based on 10 m search corridor), including up to 39.5% of 'suitable' vegetation associations (VA6, VA9, VA11a/b and exotic), demonstrating a high confidence in estimates for this area, which can also be extrapolated into the surrounding habitat. This is significantly higher than the search effort applied to a recent published and peer reviewed study on PBTL population estimates at nearby Tiliqua Nature Reserve, which surveyed 11.79% of suitable habitat and 7.72% of the total reserve area to determine population numbers with confidence (Bilby, et al. 2025).
Pre-construction	Pre-clearance surveys were thorough and time-consuming.	Implement CEMP conditions to improve construction scheduling, allowing longer lead times for pre-clearance and relocation site searches, and micro-siting.
	Pre-clearance surveys identified more PBTL than anticipated, necessitating more intensive relocation efforts than expected.	Conduct intensive surveys and population estimates to more accurately reflect the anticipated impact on PBTL and the potential need for relocation.
	This also required the last-minute requirement to create and implement a translocation plan to accommodate PBTL in a previously unidentified densely populated area.	As above. Intensive surveys have identified existing known PBTL hotspots, which have been avoided as much as possible. Potential translocation sites will be identified in advance to accommodate this need if required, including at proposed EPBC Offset sites, yet to be confirmed.
Construction	Civil design was not fully developed, leading to design changes and updates during construction.	Ensure civil design is more developed and optimized for GNWF.
	In addition to micro-siting for PBTL, late changes to civil design made it difficult to keep track of changes, resulting in instances where the entire construction team was not working from the same design, leading to some unauthorized clearances.	The CEMP outlines the requirement for the construction contractor to have detailed spatial data and a specific system to communicate design changes and record all modifications. All changes go through a single database and are distributed to all team members, including machinery operators, to ensure everyone is on the same page.

7.0 Management Targets, Performance Indicators and Triggers

Table 7.1 Management Targets, Performance Indicators and Triggers

Targets	Performance Indicators	Triggers	Management Measures and Corrective Actions
Unapproved Clearance			
Access tracks and electrical cables are micro-sited to avoid or minimize impacts to individual PBTL, and subsequent need for relocation of PBTLs (where practicable).	Access tracks and electrical cables are micro-sited where practicable.	Any injured, trapped or killed PBTL. Any impact to retained PBTL habitat outside of the approved clearance area and/or the Disturbance Footprint. Discovery of PBTL individual or population (outside of previously observed areas) (i.e. in habitat mapped as 'unlikely').	Detailed in **Sections 8.0** and **9.0**.
All PBTLs located within the Disturbance Footprint (that can't be avoided by micro-siting) are relocated into adjacent suitable habitat prior to construction works.	All PBTLs located within the Disturbance Footprint (that can't be avoided by micro-siting) are relocated prior to construction works.		Detailed in **Sections 8.0** and **9.0**.
Construction and operation do not result in clearance of PBTL habitat in excess of the limits stated in the EPBC Act approvals (refer to **Table 2.2** and EPBC Act approval documentation).	No clearance of Pygmy Blue-tongue Lizard Habitat in excess of the limits stated in the EPBC Act approvals (refer to **Table 2.2** and EPBC Act approval documentation).		Detailed in **Sections 8.0** and **9.0**.
Construction and operation do not result in clearance of PBTL habitat outside of the approved clearance area.	No clearance of PBTL habitat outside of the approved clearance area.		Detailed in **Sections 8.0** and **9.0**.
Construction and operation do not result in injury to or death of PBTLs.	No injury to or death of PBTLs due to construction or operation activities.		Detailed in **Sections 8.0** and **9.0**.
No vehicle or machinery impacts within retained PBTL habitat.	No vehicle or machinery impacts observed within retained PBTL habitat.		Detailed in **Sections 8.0** and **9.0**.
Division and isolation of PBTL sub-populations is avoided and/or minimised.	No avoidable division and isolation of PBTL sub-populations.		Detailed in **Sections 8.0** and **9.0**.
Earthworks			
No PBTLs subject to pitfall.	No PBTLs observed in trenches or pits.	Any injured, trapped or killed PBTL.	Detailed in **Sections 8.0** and **9.0**.

Targets	Performance Indicators	Triggers	Management Measures and Corrective Actions
Weeds, Pest and Grazing			
Construction and operation do not result in a significant alteration of grazing regime.	No significant alteration of grazing regime due to construction or operation. No communication from landholders to indicate a change in grazing regime has occurred as a result of the infrastructure.	Significant alteration to grazing regime within Disturbance Footprint (e.g. increased grazing, preferential grazing), as communicated by the landowner (s) / manager (s).	Detailed in **Sections 8.0** and **9.0**.
No introduction of new weed species or increase in weeds within retained PBTL habitat.	No introduction of new weed species or increase in weeds observed within retained PBTL habitat.	New weed species or an increase in weed distribution or abundance observed within PBTL habitat.	Detailed in **Sections 8.0** and **9.0**.
Soil Erosion, Sedimentation and Altered Hydrology			
No excessive dust deposition within retained PBTL habitat as a result of project activities.	No excessive dust deposition observed within retained PBTL habitat. A Dust (Air Quality) Management Plan outlines monitoring protocols to ensure dust levels remain within acceptable limits and comply with regulatory standards.	Excessive dust deposition observed within retained PBTL habitat. Dust monitoring results exceed limits and do not comply with regulatory standards.	Detailed in **Sections 8.0** and **9.0**. Detailed in the Dust (Air Quality) Management Plan.
No erosion or sedimentation of retained PBTL burrows or PBTL habitat.	No erosion or sedimentation of retained PBTL burrows or PBTL habitat observed.	Any notable erosion or sediment accumulation as a result of uncontrolled surface water flows within retained PBTL habitat.	Detailed in **Sections 8.0** and **9.0**.
Noise and Vibrations			
Construction noise and vibration are minimised, where possible.	No excessive construction noise and vibration observed. A Noise and Vibration Management Plan outlines monitoring protocols to ensure compliance with relevant noise and vibration standards and to address any complaints promptly.	Any injured or killed PBTL. Discovery of PBTL individual or population (outside of previously observed areas). noise and vibration monitoring results exceed limits and do	Detailed in **Sections 8.0** and **9.0**.

Targets	Performance Indicators	Triggers	Management Measures and Corrective Actions
		not comply with regulatory standards.	
Waste, Hazardous Materials and Spillages			
No rubbish, waste materials or stockpiles within retained PBTL habitat.	No rubbish, waste materials or stockpiles observed within retained PBTL habitat.	Rubbish, waste materials or stockpiles observed within retained PBTL habitat.	Detailed in **Sections 8.0** and **9.0**.
No hazardous chemicals or dangerous goods within retained PBTL habitat.	No hazardous chemicals or dangerous goods observed within retained PBTL habitat.	Hazardous chemicals or dangerous goods observed within retained PBTL habitat.	Detailed in **Sections 8.0** and **9.0**.

8.0 Response Measures and Corrective Actions

If a trigger value occurs (**Table 7.1**), it will be reported as an environmental incident. An investigation will then be conducted to determine the extent and cause of the incident, and to prevent it from occurring again. For example, the proposed management measure for that management target, performance indicator and trigger will be reviewed to ensure it is being effectively implemented, operated and / or maintained. If it is not, it will be repaired and / or improved.

8.1 Direct Impact

If clearance occurs outside of the approved Development Envelope, or in excess of the approved Disturbance Footprint, appropriate mitigation strategies must be implemented immediately. It should be noted that the specific approval conditions are not yet known and will be added/updated to the section below once they become available.

General approval conditions which must be adhered to include:

- The applicant must ensure that only native vegetation approved for removal in accordance with the relevant decisions under the NV Act and EPBC Act decision is removed. Prior to clearance commencing, the applicant must advise all persons undertaking the vegetation removal or working on site, of all relevant conditions of approval and associated statutory requirements.
- If there is any change to the clearance requirements for the development, Neoen is to confirm the final clearance area and SEB offset requirements upon finalising the detailed design of the Project, prior to undertaking any clearance that varies from this decision.
- As such, Neoen must be notified of any clearance outside of the approved Disturbance Footprint and / or Development Envelope so that DCCEEW can be notified.
    - If the approval holder (Neoen) *needs* to clear outside of the approved Project Area, then they must speak to the Department *prior* to doing so.
    - If clearance occurs outside of the approved Project Area, then this is a non-compliance issue, and the approval holder (Neoen) must self-report to the Department.
- A variation to the approval decision(s) will need to be made if impacts are proposed outside of the approved Project Area boundary or are in exceedance of the approved impact upon native vegetation, MNES or MNES habitat.

If injured or dead PBTL are found, the appropriately qualified ecologist will be notified immediately to investigate and determine the best course of action. The ecologist will be responsible for contacting the PBTL Recovery Team and providing notification of the incident (refer to for contact details in **Section 11.0**), and reporting to DCCEEW.

If live PBTL individuals or populations are discovered (in areas not previously identified as PBTL habitat), the following actions are to be taken:

- All works will cease in the immediate vicinity until an appropriately qualified ecologist provides advice and relocates/translocates PBTLs if necessary.
- The area will be designated as PBTL habitat and the management measures outlined in **Section 10.0** and **Section 11.0** are to be implemented.
- The PBTL Recovery Team is to be notified (refer to **Table 11.1** for contact details).

8.2 Indirect Impact

If an indirect impact trigger occurs (e.g. erosion and/or sedimentation, excessive dust, new weed species or increase in weeds, and others outlined in **Table 7.1**), it must be investigated to determine the extent and cause, and appropriate mitigation measures must be implemented to prevent it from occurring again. Remediation and/or rehabilitation should also be undertaken, provided it does not cause any further adverse impact (such as undesirable soil disturbance).

Indirect impact triggers may result in an adaptive management approach and resulting update or change to the measures outlined in this PBTL Management Plan, the CEMP, OEMP or associated sub plans to ensure that the most effective management actions are being implemented. Any material changes to the management plan must be submitted to the Minister for approval prior to the change occurring.

9.0 Construction Management Measures

The types of construction management measures are divided into five categories, based on the Standard Hierarchy of Controls, described in **Table 9.1**. For each management measure, the table also identifies the location, timing, frequency and person responsible for ensuring the action is implemented.

The person or position responsible is indicative only, and the position title or responsibility may change depending on the specific EPC contractor. These tables should be updated to reflect the specific EPC Contractor positions and responsibilities.

Management measures relevant PBTL to be implemented during construction are outlined in **Table 9.2**. Please refer to the CEMP (Umwelt, 2025b) for further details on broad management measures for GNWF.

Table 9.1 Description of the Types of Construction Management Measures

Type	Description
Elimination	Physical removal of the hazard. Most elimination measures have been undertaken in the planning and design phase of the project to avoid impacts to environmental aspects.
Substitution	Replace the hazard with something likely to be less hazardous to the environment, such as using low impact methods of construction; use of targeted herbicides for weed control; and planning of stockpile areas to reduce hazard potential.
Engineering	Measures to avoid environmental harm, such as erosion control, dust suppression, and waste management protocols, to isolate the environmental aspect from the hazard.
Administrative	Measures that change the way work is done to reduce environmental harm, such as through training programs for workers on environmental policies, best practices, and the importance of compliance; inspection and audits to assess effectiveness of controls; reporting and emergency response procedures; spatial data systems.
Personal Protective Equipment	Protect the worker (or environmental aspect) with Personal Protective Equipment.

Table 9.2 General Construction Management Measures

Construction Management Measures	Type	Location	Timing / Frequency	Activity	Responsibility	Management Trigger	Corrective Action
Pre-construction Micro-siting Surveys							
The PBTL Relocation Procedure detailed in **Section 9.2** is to be implemented. In summary: • Where any construction works (including, but not limited to, ground disturbing works such as clearing and grubbing and earthworks for vehicle access tracks, infrastructure and trenching) are required within '*Known*' and/or '*Likely*' PBTL habitat, a targeted PBTL search will be undertaken, by a suitably qualified ecologist(s) to establish the location of PBTLs. • Wherever practicable, the final location of infrastructure (WTGs, access tracks and underground electrical reticulation) within '*Known*' and/or '*Likely*' PBTL habitat will be micro-sited (shifted slightly) to avoid and/or minimise impacting any PBTLs and the need to relocate PBTLs as much as possible. • Any PBTLs within the Disturbance Footprint that cannot be avoided will be relocated to the nearest suitable release site to avoid direct impact (i.e. destruction) to PBTLs. • Construction works (that involve ground disturbing activities, such as, but not limited to clearing and grubbing, and excavation) will not commence until PBTL relocation within specific areas or zones has been completed and approval provided for construction works to commence, in accordance with the Permit System outlined in **Section 5.1** and the CEMP (Umwelt, 2025b – in draft).	Engineering	Within *'Known'* and/or *'Likely'* PBTL habitat within the Disturbance Footprint.	Approximately 1-4 weeks prior to any construction works commencing. As required and ongoing during design. Further detail provided in **Sections 9.1** and **9.2**.	A Permit to Work (PTW) must be obtained before any high-risk activities, such as ground-disturbing works, can occur. The permit will require verification that all pre-clearance checks, including PBTL pre-clearance checks when works are within areas of Known or Likely PBTL habitat, have been completed and must be signed off by an authorised person before work can commence.	EPC Contractor, Neoen and Ecological Consultant	Pre-clearance survey not undertaken within the 1-4 week timeframe or ground clearance does not occur within 4 weeks of the pre-clearance checks.	Stop work immediately and do not undertake any ground-disturbing activities until pre-clearance checks have been completed. If the 4-week validity period for ground disturbance following a pre-clearance check has expired, a new pre-clearance check must be conducted before works commence. If ground disturbance occurs without a pre-clearance check, this constitutes a non-compliance incident. A stop-work procedure must be implemented, the incident investigated, and reported to DCCEEW.
Unexpected Find Procedure: If pre-clearance surveys within the Disturbance Footprint detect areas of PBTL habitat which have not previously be mapped, a 'Stop Work' procedure must be in place.	Administrative	Disturbance Footprint	Pre-construction / construction As required	N/A	EPC Contractor, Neoen and Ecological Consultant	Additional PBTLs or PBTL habitat are detected.	Stop work immediately and do not undertake any ground-disturbing activities until pre-clearance checks have been completed.
General Management Measures							
Inductions: All staff and contractors will complete a detailed, site-specific induction which provides an overview of PBTLs and potential impacts to PBTLs, as well as management measures associated with protection of PBTLs.	Administrative	Site Office.	Prior to commencing any work on site. Once (for each staff member and/or contractor).	Daily checks must be undertaken to ensure that all new staff and contractors have completed site inductions prior to commencing any works on site.	EPC Contractor	Staff or contractor working onsite without having completed the required inductions.	Any staff member or contractor who has not completed the required site inductions must immediately stop work and cannot recommence until the induction has been fully completed.
Confidentiality Agreements: As part of the induction process all contractor personnel and sub-contractors will be required to sign confidentiality agreements which includes provisions for confidentiality regarding the presence and location of threatened species (MNES and NPW listed species), including PBTL.	Administrative	Site Office.	Prior to commencing any work on site. Once (for each staff member and/or contractor).	Daily checks must be undertaken to ensure that all new staff and contractors have signed confidentiality agreements prior to commencing any works on site.	EPC Contractor	Staff or contractor working onsite without having signed the required confidentiality agreements.	Any staff member or contractor who has not signed the required confidentiality agreements must immediately stop work and cannot recommence until this agreement has been signed.
Fact Sheets: Display a fact sheet on PBTLs (including images of PBTLs, habitat mapping, i.e. '*Known*' and/or '*Likely*' PBTL habitat and breeding season dates when PBTLs are more active and dispersing, as a minimum) at all Site Offices.	Administrative	On site notice boards and in lunchrooms.	During construction. Ongoing.	Weekly checks of noticeboards.	EPC Contractor	No factsheets or information available about PBTLs on main noticeboards and/ or common areas.	Provide factsheets and information about PBTLs for all noticeboards and common areas.
Toolbox and Pre-start Meetings: Hold toolbox and pre-start meetings to assist in identification and highlight the importance of PBTL. During the meetings, highlight PBTL habitat included in the Disturbance Footprint; as well as PBTL outside of the Disturbance Footprint, including all '*Known*' and/or '*Likely*' PBTL habitat and ensure that all staff and contractors are aware of the control measures to avoid, minimise and mitigate impacts to PBTL's and their habitat.	Administrative	Site Office (or anywhere elsewhere suitable).	Conduct toolbox meetings prior to commencing any construction works within areas of 'Known' and/or 'Likely' PBTL habitat.	The Environmental Compliance Officer/Manager will complete a compliance checklist on a regular basis (at least monthly) to ensure all management commitments are being implemented.	EPC Contractor	PBTL information is not included in toolbox meetings and/ or no reminders are provided in pre-start meetings.	Hold a pre-start meeting to provide information on PBTL management requirements and species identification. Ensure reminders to include PBTL management requirements in all subsequent toolbox meetings.

Construction Management Measures	Type	Location	Timing / Frequency	Activity	Responsibility	Management Trigger	Corrective Action
			Weekly reminders of PBTL management requirements during morning pre-start meetings.				
Toolbox Meetings: Remind all staff and contractors to be vigilant when driving, to remain on designated access tracks and to look out for and record any sightings of PBTLs. Records of PBTL sightings should include accurate location data (preferably GPS coordinates) to support understanding of the species' presence and distribution across the Project Area.	Administrative	Disturbance Footprint.	Regularly during daily pre-start meetings or during toolbox meetings (as required). Ongoing, particularly during the PBTL breeding season (Oct to Nov).	The Environmental Compliance Officer/Manager will complete a compliance checklist on a regular basis (at least monthly) to ensure all management commitments are being implemented.	EPC Contractor	No reminders provided in toolbox meetings.	Hold a pre-start meeting to provide information on PBTL management requirements and species identification. Ensure reminders to include PBTL management requirements in all subsequent toolbox meetings.
Vehicle and Construction Equipment Access: Apart from initial earthworks to construct access tracks and hardstand areas, ensure all vehicles and construction equipment always utilise existing farm tracks and dedicated access tracks and hardstands and avoid travel outside of these areas.	Engineering	Project Area.	During construction. Ongoing.	Weekly/daily site inspections will be conducted by the Environmental Compliance Manager/Officer to identify any unauthorised vehicle or machinery movements outside approved areas. The Environmental Compliance Officer/Manager will complete a compliance checklist on a regular basis (at least monthly) to ensure all management commitments are being implemented.	EPC Contractor / All site personnel	Unauthorised vehicle/machinery movements outside of approved areas.	Investigate any unauthorized vehicle or machinery movements and assess any environmental damage that may have occurred. Conduct a pre-start or toolbox meeting to reinforce the requirement to stay on designated access tracks and within approved clearance areas. If the unauthorized movement occurred within areas of native vegetation or Known/Likely PBTL habitat, an incident report must be submitted.
Reporting: Report any PBTL sightings in the path of construction or otherwise in danger (i.e. such as in trenches or pits), including any individuals alive, injured or killed, to the Environment Manager. For individuals found injured or killed, collect information such as location and cause of death if known (i.e. vehicle strike). Any PBTL sightings have a GPS location recorded to assist with PBTL population extent of occurrence/area of occupancy. The environmental Manager shall report it as environmental incident and undertake an environmental incident investigation.	Administrative	Disturbance Footprint.	During construction. As required.	The Environmental Compliance Officer/Manager shall prepare an environmental incident report and undertake an environmental incident investigation.	EPC Contractor / All site personnel	No reminders provided in toolbox meetings.	Hold a pre-start meeting to provide information on PBTL management requirements and species identification. Ensure reminders to include PBTL management requirements in all subsequent toolbox meetings.
Clearance Delineation and PBTL Protection Measures							
Mapping and Spatial Data: Provide clear maps and spatial data indicating Disturbance Footprints, tracks, approved turnaround areas, car parks, equipment laydown areas and materials storage areas to ensure that no unapproved disturbances occur which may affect PBTL including impacts to areas of '*Known*' and/or '*Likely*' PBTL habitat.	Administrative	Provide to those involved in earthworks	Prior to commencing any work on site. Ongoing.	The Environmental Compliance Officer/Manager will complete a compliance checklist on a regular basis (at least monthly) to ensure all management commitments are being implemented.	EPC Contractor	No clear maps or spatial data provided. Clearance, vehicle movements, or material storage occurring outside designated areas.	Provide clear maps and spatial data and ensure all staff and contractors working onsite have access to these resources. Stop work immediately and report the non-compliance. Investigate the cause of the non-compliance and implement measures to ensure all staff/contractors have access to accurate maps and spatial data before resuming work.
Signage and Exclusion Zones: Install signage and/or exclusion barriers/bunting (or other relevant control measures such as use of spatial data) around areas of 'Known' and/or 'Likely' PBTL habitat which adjoins the Disturbance Footprint.	Engineering	Around the outside of '*Known*' and/or '*Likely*' PBTL habitat adjacent to the Disturbance Footprint.	After PBTL relocation and prior to commencing any construction works in the Disturbance Footprint. Ongoing.	Weekly/daily site inspections will be conducted by the Environmental Compliance Manager/Officer to identify any exclusion zones requiring improved delineation or maintenance of	EPC Contractor	Insufficient signage and/or barriers around exclusion zones. Vehicle movements or clearance occurring within exclusion zones.	Stop work immediately until the delineation of the exclusion zones is improved using spatial data, bunting/barriers, and signage. Report non-compliance. Investigate the cause of the non-compliance and

Construction Management Measures	Type	Location	Timing / Frequency	Activity	Responsibility	Management Trigger	Corrective Action
				barriers/signage, as well as to detect any non-compliance. The Environmental Compliance Officer/Manager will complete a compliance checklist on a regular basis (at least monthly) to ensure all management commitments are being implemented and maintained			implement corrective measures.
Clearly Delineate Boundary of Disturbance Footprint: Prior to commencing large scale clearing, the outer extents of the approved Disturbance Footprint will be clearly identified and indicated through spatial mapping. Often this will occur through sending the grader through first using GPS control with preloaded spatial data, to make a mark at outer extents, or in some instances signage or bunting may be used to delineate the boundary and prevent vehicles and construction equipment damaging '*Known*' and/or '*Likely*' PBTL habitat beyond the Disturbance Footprint.	Engineering	On the edge of the Disturbance Footprint within '*Known*' and/or '*Likely*' PBTL habitat.	As soon as possible during construction works. Ongoing.	Weekly/daily site inspections will be conducted by the Environmental Compliance Manager/Officer to identify any disturbance footprint boundaries requiring improved delineation or maintenance of barriers/signage, as well as to detect any non-compliance. The Environmental Compliance Officer/Manager will complete a compliance checklist on a regular basis (at least monthly) to ensure all management commitments are being implemented and maintained	EPC Contractor	Insufficient signage and/or barriers. Vehicle movements or clearance occurring outside of the Disturbance Footprint.	Stop work immediately until the delineation of the Disturbance Footprint is improved using spatial data, bunting/barriers, and signage. Report non-compliance. Investigate the cause of the non-compliance and implement corrective measures.
Maintain Disturbance Boundaries: Ensure spatial data is current and boundaries are clearly identified, indicated, maintained and accessible to all relevant construction personnel. Any physical PBTL control measures, such as windrows, sediment fencing, signage and exclusion barriers/bunting are checked and maintained on a regular basis (weekly as a minimum). Any PBTL sightings have a GPS location recorded to assist with PBTL population extent of occurrence/area of occupancy.	Administrative	Wherever all physical PBTL control measures are located.	During construction. Weekly (as a minimum).	Weekly/daily site inspections will be conducted by the Environmental Compliance Manager/Officer to identify any disturbance footprint boundaries requiring improved delineation or maintenance of barriers/signage, as well as to detect any non-compliance. The Environmental Compliance Officer/Manager will complete a compliance checklist on a regular basis (at least monthly) to ensure all management commitments are being implemented and maintained	EPC Contractor	Insufficient signage and/or barriers. Physical control measures are found to need maintenance. Vehicle movements or clearance occurring outside of the Disturbance Footprint.	Stop work immediately until the delineation of the Disturbance Footprint is improved using spatial data, bunting/barriers, and signage. Maintenance of physical control measures occurs prior to works recommencing. Report non-compliance. Investigate the cause of the non-compliance and implement corrective measures.
Approved Clearances: Clearly delineate on site PBTL habitat that is included in the approved Disturbance Footprint. As a minimum, this is to be done using spatial data management system and process in place to clearly and promptly communicate and implement design changes to ensure that all works are in accordance with the latest design (i.e. to ensure micro-siting or other changes are communicated in a clear and timely manner).	Engineering	Disturbance Footprint	Prior to clearing any '*Known*' and/or '*Likely*' PBTL habitat Ongoing.	Weekly/daily site inspections will be conducted by the Environmental Compliance Manager/Officer to identify any PBTL habitat within the Disturbance Footprint requiring improved delineation or maintenance of barriers/signage, as well as to detect any non-compliance. The Environmental Compliance Officer/Manager will complete a compliance checklist on a regular basis (at least monthly) to ensure all management commitments are being implemented and maintained.	EPC Contractor	Insufficient signage and/or barriers. No Permit to Work obtained. Pre-clearance checks and associated micro-siting or relocations have not occurred.	Stop work immediately until the delineation of PBTL habitat within the Disturbance Footprint is improved using spatial data, bunting/barriers, and signage. Stop all work immediately until a valid Permit to Work is issued. Stop work immediately and do not undertake any ground-disturbing activities until pre-clearance checks have been completed. If the 4-week validity period for ground disturbance following a pre-clearance check has

Construction Management Measures	Type	Location	Timing / Frequency	Activity	Responsibility	Management Trigger	Corrective Action
				A Permit to Work (PTW) must be obtained before any high-risk activities, such as ground-disturbing works, can occur. The permit will require verification that staff and contractors are aware if they are working within areas of Known or Likely PBTL habitat and understand the associated management commitments.			expired, a new pre-clearance check must be conducted before works commence. If ground disturbance occurs without a pre-clearance check, this constitutes a non-compliance incident. A stop-work procedure must be implemented, the incident investigated, and reported to DCCEEW.
Earthworks							
Trenches/Pits: Minimise duration that trenches and pits are left open to the greatest extent possible, ideally less than 24 hours. For trenches being actively worked on, inspections are carried out twice daily for PBTLs and any trapped PBTLs will be released. For pits or excavations that remain open for longer periods of time (i.e. over 24 hours) an appropriate egress is constructed to allow animals to escape the pit, including egress at a frequency and nature suitable for PBTLs. Any PBTL sightings will have a GPS location recorded to assist with PBTL population extent of occurrence/area of occupancy.	Engineering	Within '*Known*' and/or '*Likely*' PBTL habitat.	During construction. Ongoing, as required. If pit checks are required these occur twice daily, first thing in the morning and again in the afternoon prior to works finishing for the day.	Weekly/daily site inspections will be conducted by the Environmental Compliance Manager/Officer to identify any non-compliance. The Environmental Compliance Officer/Manager will complete a compliance checklist on a regular basis (at least monthly) to ensure all management commitments are being implemented and maintained.	EPC Contractor	Pits/trenches remain open without twice daily checks. Dead or injured PBTL identified in pits.	Stop work immediately and do not undertake any ground-disturbing activities until twice daily checks have been completed. The appropriately qualified ecologist will be notified immediately to investigate and determine the best course of action. The ecologist will be responsible for contacting the PBTL Recovery Team and providing notification of the incident (refer to for contact details) and reporting to DCCEEW.
Weeds, Pests and Grazing Management							
Pre-construction Weed Surveys: Undertake a baseline weed survey within the Development Envelope to understand existing weed conditions and potential impacts (e.g. spread) during construction which may impact '*Known*' and/or '*Likely*' PBTL habitat in the Project Area. A Weed Management Plan will be developed for the construction phase of the wind farm. This plan will integrate data from baseline weed surveys conducted prior to construction and adhere to all requirements listed within this PBTL Management Plan when undertaking weed monitoring and control in areas of 'Known' and/or 'Likely PBTL habitat.	Engineering	Development Envelope and Development Footprint	Prior to commencing any construction works.	The Environmental Compliance Officer/Manager will complete a compliance checklist on a regular basis (at least monthly) to ensure all management commitments are being implemented and maintained.	Neoen	No baseline weed surveys undertaken.	Conduct baseline weed surveys as soon as practicable, prioritising spring surveys.
Ongoing Weed Monitoring: All weed control methods must align with minimum disturbance techniques and avoid significant adverse impacts on PBTL or its habitat. Monitoring and control activities must be documented, including extent, date, and findings. The Weed Management Plan will include, at a minimum: • Opportunistic monitoring for new declared weed outbreaks or expansion of existing outbreaks; • Quarterly photo-point monitoring for declared weeds in high-risk areas (e.g., stockpiles, main access tracks, wash-down bays); and • Quarterly monitoring for weed outbreaks within areas of 'Known' and/or 'Likely' PBTL habitat inside the Disturbance Footprint.	Engineering	Development Envelope and Development Footprint	During construction. Opportunistic monitoring as well as a minimum of quarterly targeted weed monitoring.	The Environmental Compliance Officer/Manager will complete a compliance checklist on a regular basis (at least monthly) to ensure all management commitments are being implemented and maintained. Annual compliance reports must be submitted detailing management measures implemented.	EPC Contractor	Missed weed monitoring commitment.	Undertake weed monitoring as soon as practicable after identifying missed commitment. Investigate and report on non-compliance.
Weed Control Measures: Ensure weed control methods are in accordance with the following from the *Recovery Plan for the Pygmy Bluetongue Lizard* (Duffy *et al*. 2012):	Engineering	Within '*Known*' and/or '*Likely*' PBTL habitat in the	Weed control should occur in winter and spring, or as required to control outbreaks.	The Environmental Compliance Officer/Manager will complete a compliance checklist on a regular basis (at	EPC Contractor	Weed control methods are not undertaken in accordance with the recommendations listed in the *Recovery Plan for the*	Stop all weed control measures which do not comply with the recommendations listed in the

Construction Management Measures	Type	Location	Timing / Frequency	Activity	Responsibility	Management Trigger	Corrective Action

• Use minimal disturbance weed control methods wherever possible;
• If herbicide use is required:
  ○ Read and adhere to the guidelines and recommended quantities stated on the label of the herbicide container;
  ○ Ensure application occurs on a calm day to minimise drift and off-target damage;
  ○ Wherever possible, spot spray directly onto the target species; and
  ○ Avoid broadscale application of herbicide.
• Ensure any sub-contractor engaged to undertake weed control is aware of the above requirements.
		Disturbance Footprint.	Weed control should occur whenever the following triggers are identified within areas of known or likely PBTL habitat:
			• New outbreaks (locations) of declared weeds recorded.
			• Increase in extent of declared weed outbreaks (compared to baseline surveys).
			• Establishment of weeds within disturbed areas.
				least monthly) to ensure all management commitments are being implemented and maintained.
				Annual compliance reports must be submitted detailing management measures implemented.
						Pygmy Bluetongue Lizard (Duffy et al. 2012).
						
						New weed outbreaks or an increase in the extent of existing outbreaks in 'Known' or 'Likely' PBTL habitat.
							Recovery Plan for the Pygmy Bluetongue Lizard (Duffy et al. 2012).
							
							Investigate and report all non-compliance.
							
							Implement additional weed control measures to contain outbreaks and increase monitoring efforts to detect any further spread.

<u>Vehicle and Equipment Hygiene:</u> Ensure all vehicles, earthmoving equipment and construction equipment are clean and free of soil material, including materials containing weed seed or propagules, prior to arriving onsite. If vegetative material or earth is present, ensure that the equipment is washed down at an appropriate facility to prevent vegetative material or earth potentially containing weed seeds being brought into the site and into areas of '*Known*' and/or '*Likely*' PBTL habitat.	Engineering	Site entrance.	Prior to arriving on site and prior to commencing works within, or in close proximity to '*Known*' and/or '*Likely*' PBTL habitat. As required.	Weekly vehicle and equipment inspections will be conducted by the Environmental Compliance Manager/Officer to identify any detect any non-compliance. The Environmental Compliance Officer/Manager will complete a compliance checklist on a regular basis (at least monthly) to ensure all management commitments are being implemented and maintained.	EPC Contractor / All site personnel	Vegetative material or earth is identified on vehicles, earthmoving equipment and/or construction equipment.	Ensure vehicles and equipment are washed down at an appropriate facility prior to commencing work onsite to prevent vegetative material or earth potentially containing weed seeds being spread across the site and into areas of 'Known' and/or 'Likely' PBTL habitat. Investigate and report any non-compliance and implement corrective actions including additional weed monitoring and control methods if required.
<u>Wash-down Bays:</u> Ensure that designated wash-down bays to clean vehicles and construction equipment during construction works are appropriately contained with a capture dam to withhold dirt and organic matter, with only water filtered through a sediment fence or similar, eventually being released to the environment. Water release point will be designed in a way to avoid water runoff impacts to PBTL habitat.	Engineering	Site Compound.	Prior to commencing and during construction works. Ongoing.	Weekly/daily site inspections will be conducted by the Environmental Compliance Manager/Officer to identify any detect any non-compliance.	EPC Contractor	Weed outbreaks are identified at wash-down bays. Wash-down bays are not appropriately contained within a capture dam and/or water release points lead to runoff into known or likely PBTL habitat.	Implement weed control measures to manage outbreaks as soon as practicable. Do not use wash-down bays with declared weed outbreaks until control measures have been implemented and outbreaks are contained. Maintain wash-down bays to ensure appropriate capture dams and direct water away from known or likely PBTL habitat. If this is not feasible, relocate the wash-down bay to a less ecologically sensitive area.
<u>Soil Stockpiles:</u> Where stockpiles in dedicated stockpile zones are required to remain for over seven days, regular monitoring to ensure dust suppression is effective will need to occur, including monitoring for weeds. If soil or fill material stockpiles become infested with weeds, ensure weed control is undertaken in accordance with minimum disturbance techniques and does not have a significant adverse impact on PBTL.	Engineering	Disturbance Footprint.	As soon as practicable and at least 10 – 14 days prior to moving material. As required.	Weekly/daily site inspections will be conducted by the Environmental Compliance Manager/Officer to identify any detect any non-compliance.	EPC Contractor	Weed outbreaks are identified in stockpiles.	Implement weed control measures to manage outbreaks as soon as practicable. Do not move stockpiles until control measures have been implemented and outbreaks have been contained.

Construction Management Measures	Type	Location	Timing / Frequency	Activity	Responsibility	Management Trigger	Corrective Action
Livestock Grazing Regimes: If an alteration of grazing regime (for example increased grazing or preferential grazing in particular areas) is observed (as part of monitoring) and considered to be potentially impacting PBTL, then it will need to be investigated by a suitably qualified ecologist and mitigation measures, or additional monitoring implemented where possible. Landholder to advise Neoen if any substantial changes to usual grazing regime and / or placement of watering points is required because of the construction of GNWF. Proposed alternative locations should be reviewed by ecological consultant to ensure no adverse impacts to PBTL could be reasonably expected due to the proposed change. Infrastructure, such as hardstands and access tracks, should not be used to install new watering points or feed-lots if these did not previously occur in the same or similar location.	Administrative	Within '*Known*' and/or '*Likely*' PBTL habitat.	During construction. Ongoing, as required.	Weekly/daily site inspections will be conducted by the Environmental Compliance Manager/Officer to identify any non-compliance. The Environmental Compliance Officer/Manager will complete a compliance checklist on a regular basis (at least monthly) to ensure all management commitments are being implemented and maintained.	HSE Manager /Neoen Liaison / Ecological Contractor	Changes to usual grazing regime and / or placement of watering points and/or fed lots is required because of the construction of GNWF.	If a water point or feedlot is relocated into ecologically sensitive areas, or if existing water points or feedlots within such areas (e.g., PBTL habitat) are preferentially used by the landholder due to wind farm infrastructure, increased monitoring effort will be required to assess the impact of altered livestock management on these habitats.
Native and Invasive Herbivores: Prevent stockpiling of equipment which may harbor pest animal species such as rabbits. Undertake regular auditing of construction areas such as hardstands, laydowns, stockpiles and compounds to ensure that pest animals are not residing in these locations. Landholder to communicate with Neoen Community Liaison personnel any observations in change in land use by native or invasive herbivores such as kangaroos, goats, hares and rabbits has changed due to construction works (i.e. increased grazing pressure or preferential grazing pressure). EPC contractor to coordinate any required pest management actions at / on construction sites.	Engineering	Within '*Known*' and/or '*Likely*' PBTL habitat.	During construction. Ongoing, as required.	Weekly/daily site inspections will be conducted by the Environmental Compliance Manager/Officer to identify any non-compliance. The Environmental Compliance Officer/Manager will complete a compliance checklist on a regular basis (at least monthly) to ensure all management commitments are being implemented and maintained.	EPC Contractor, Neoen Community Liaison, Landholders	Identification of stockpiled equipment on-site. Observation of pest species harbouring within wind farm infrastructure or equipment. Communication from the landholder indicating changes in land use or grazing patterns by native or invasive herbivores (such as kangaroos, goats, hares, and rabbits) as a result of construction activities, including increased or preferential grazing pressure.	Removed stockpiled equipment as soon as practicable. EPC contractor to coordinate any required pest management actions at / on construction sites.
Rip and fill-in Rabbit Warrens: Where any rip or fill-in works are required for rabbit warrens within '*Known*' and/or '*Likely*' PBTL habitat, a targeted PBTL search will be undertaken, by a suitably qualified ecologist(s) to establish the location of PBTLs. Any PBTL sightings have a GPS location recorded to assist with PBTL population extent of occurrence/area of occupancy. If PBTL are found, approval will be required for works to commence, in accordance with the Permit System outlined in **Section 5.1** and the CEMP.	Engineering	Within '*Known*' and/or '*Likely*' PBTL habitat within the Disturbance Footprint.	Approximately 1-4 weeks prior to any rip and fill-in works commencing. Once.	A Permit to Work (PTW) must be obtained daily before any high-risk activities, such as ground-disturbing works, can occur. The permit will require verification that all pre-clearance checks, including PBTL pre-clearance checks when works are within areas of Known or Likely PBTL habitat, have been completed and must be signed off by an authorised person before work can commence.	EPC Contractor, Neoen and Ecological Consultant	Pre-clearance survey not undertaken within the 1-4 week timeframe or ground clearance does not occur within 4 weeks of the pre-clearance checks.	Stop work immediately and do not undertake any ground-disturbing activities until pre-clearance checks have been completed. If the 4-week validity period for ground disturbance following a pre-clearance check has expired, a new pre-clearance check must be conducted before works commence. If ground disturbance occurs without a pre-clearance check, this constitutes a non-compliance incident. A stop-work procedure must be implemented, the incident investigated, and reported to DCCEEW.
Soil Erosion, Dust Management and Drainage Management							
Dust: Dust is considered a short-term potential impact during construction. Dust will be managed through a Dust (Air Quality) Management Plan which includes: • Rehabilitating exposed and disturbed soils as soon as possible and prioritising rehabilitation to temporary construction areas impacting '*Known*' and/or '*Likely*' PBTL habitat.	Engineering	Disturbance Footprint.	As soon as practical. Ongoing.	Weekly/daily site inspections will be conducted by the Environmental Compliance Manager/Officer to identify any non-compliance. The Environmental Compliance Officer/Manager will complete a compliance checklist on a regular basis (at	EPC Contractor	Dry conditions are observed leading to increased dust production onsite.	Implement additional dust management measures, such as road watering, reduced speed limits, and other dust suppression methods outlined in the Dust (Air Quality) Management Plan.

Construction Management Measures	Type	Location	Timing / Frequency	Activity	Responsibility	Management Trigger	Corrective Action
• In dry conditions additional dust management measures will be implemented including additional watering of access roads/tracks and additional reductions to traffic speed limits in ecologically sensitive areas such as known and/or likely PBTL habitat. • Stockpiles will be managed in accordance with the EPA Guideline for stockpile management (EPA, 2020) and Stormwater Pollution Prevention, Code of Practice for the Building and Construction Industry (EPA, 1999). Separation distances to be maximized as much as possible from Known PBTL habitat, with additional measures imposed for those within 200 m of Known PBTL habitat, including: ○ prompt redistribution of topsoil following construction, ○ appropriate dust suppression through watering, covering or application of soil binders.				least monthly) to ensure all management commitments are being implemented and maintained.			
<u>Erosion and Sediment Controls:</u> Soil Erosion and Drainage will be managed through a Soil Erosion and Drainage Management Plan which includes ensuring all erosion and sediment controls are checked for effective operation and maintained, repaired or improved, particularly in areas of '*Known*' and/or '*Likely*' PBTL habitat.	Engineering	Disturbance Footprint.	During construction. Regularly (weekly as a minimum), particularly prior to any significant rainfall event.	Weekly/daily site inspections will be conducted by the Environmental Compliance Manager/Officer to identify any non-compliance. The Environmental Compliance Officer/Manager will complete a compliance checklist on a regular basis (at least monthly) to ensure all management commitments are being implemented and maintained.	Asset Manager (Neoen)	Soil erosion and sedimentation is identified in areas of known and/ or likely PBTL habitat.	Repair, maintain or improve erosion and sediment controls as required and in line with control measures outlines in the Soil Erosion and Drainage Management Plan. Investigate and report on any impacts to PBTL habitat which may result from soil erosion or sedimentation.
<u>Traffic Speed Limits:</u> A maximum speed limit of 40 km/hr enforced on all access tracks.	Administrative	Project Area	During construction. Ongoing.	Weekly/daily site inspections will be conducted by the Environmental Compliance Manager/Officer to identify any non-compliance. The Environmental Compliance Officer/Manager will complete a compliance checklist on a regular basis (at least monthly) to ensure all management commitments are being implemented and maintained.	HSE Manager	Traffic speed limits are not adhered to.	Reinforce the importance of adhering to site speed limits during pre-start and toolbox meetings. Address non-compliance immediately by reminding staff and contractors who fail to observe speed limits.
<u>Minimise Disturbance of Soil and Vegetation:</u> Minimise disturbance of soil and vegetation during all activities undertaken throughout the construction phase (including vehicle access, general infrastructure, and site maintenance, weed control, fire management, grazing and fauna surveys) within the Project Area, particularly within '*Known*' and/or '*Likely*' PBTL habitat, by: • only driving on designated vehicle access tracks and utilising only designated turnaround points; • ensuring that all designated vehicle access tracks and site stormwater drainage is well maintained to prevent erosion and sedimentation from occurring; and • minimising digging and soil disturbance to only that which is required to implement the approved action, including ripping of rabbit warrens to control rabbits.	Engineering	Disturbance Footprint.	During construction. During all activities.	Weekly/daily site inspections will be conducted by the Environmental Compliance Manager/Officer to identify any non-compliance. The Environmental Compliance Officer/Manager will complete a compliance checklist on a regular basis (at least monthly) to ensure all management commitments are being implemented and maintained.	Asset Manager (Neoen)	Unnecessary disturbance of soil or vegetation occurs outside designated areas or approved activities within the Project Area, particularly in 'Known' and/or 'Likely' PBTL habitat.	Stop work and investigate the reasons for unnecessary disturbance. Reinforce site access controls by clearly marking designated tracks and turnaround points. Conduct toolbox talks or pre-start briefings to remind staff and contractors of soil and vegetation disturbance protocols. Review and update erosion and sediment controls if disturbance has increased erosion risk. Stop work immediately and report the incident if disturbance occurs outside

Construction Management Measures	Type	Location	Timing / Frequency	Activity	Responsibility	Management Trigger	Corrective Action
							the approved Disturbance Footprint. Incident reporting for unnecessary disturbance must include the location, extent, and corrective measures taken, for compliance documentation and reporting.
Waste Management and Hazardous Material and Goods Management							
Hazardous materials and Dangerous Goods: Hazardous materials and dangerous goods containers and storage areas, including refuelling areas will be stored and managed in accordance with applicable Australian Standards, Safety Data Sheets and site-specific Safe Work Method Statements.	Engineering	Disturbance Footprint.	Ongoing.	Weekly/daily site inspections will be conducted by the Environmental Compliance Manager/Officer to identify any non-compliance. The Environmental Compliance Officer/Manager will complete a compliance checklist on a regular basis (at least monthly) to ensure all management commitments are being implemented and maintained.	Asset Manager (Neoen)	Storage and management of hazardous materials/dangerous goods not compliant with Australian Standards, SDS, or SWMS. Hazardous material or dangerous goods spill in 'Known' or 'Likely' PBTL habitat.	Rectify storage immediately, update procedures, and reinforce compliance through toolbox talks. Document actions before resuming work. Contain and clean up spill using approved methods, notify relevant personnel, remediate habitat, and document incident for compliance reporting.
General and Food Waste: Lidded bins for office / food waste to minimise odours and attraction of pests and native animals or birds which may impact PBTL.	Engineering	Disturbance Footprint.	During construction. Ongoing.	Weekly/daily site inspections will be conducted by the Environmental Compliance Manager/Officer to identify any non-compliance. The Environmental Compliance Officer/Manager will complete a compliance checklist on a regular basis (at least monthly) to ensure all management commitments are being implemented and maintained.	Asset Manager (Neoen)	Bins left overflowing or without lids. Pest identified accessing bins.	Empty bins immediately and ensure lids are securely fitted. Increase bin servicing frequency if overflow is recurring. Conduct toolbox talks to reinforce proper waste management practices. Pests identified accessing bins. Secure all bins with fitted lids and relocate to designated waste storage areas. Implement pest control measures in accordance with approved methods. Review waste management practices and adjust servicing schedules to prevent recurrence.
Noise and vibration Management							
Noise and Vibration: Ensure all reasonable and practicable noise mitigation measures are implemented in accordance with the Project's Construction Noise and Vibration Management Plan. This includes having vehicles and machinery regularly serviced and well maintained and ensuring vehicles which are not in use are turned off.	Engineering	Disturbance Footprint.	During construction. Ongoing.	Weekly/daily site inspections will be conducted by the Environmental Compliance Manager/Officer to identify any non-compliance. The Environmental Compliance Officer/Manager will complete a compliance checklist on a regular basis (at least monthly) to ensure all management commitments are being implemented and maintained.	EPC Contractor	Additional research or information regarding noise or vibration impacts on PBTL is provided by DCCEEW, the PBTL Recovery Team, the Landscape Board, or other reputable sources.	Review the Construction Noise and Vibration Management Plan and incorporate the new information into the plan to ensure it reflects the latest best practice and regulatory requirements.

9.1 Pre-clearance Checks and Micro-siting

Infrastructure will be micro-sited (shifted and/or adjusted slightly) prior to construction works to further minimise/reduce impacts to MNES such as (but not limited to) PBTLs and their habitat, where possible. The purpose of micro-siting any infrastructure will be:

- To reduce potential impacts to MNES from the levels previously identified (i.e. the impact levels detailed in the EPBC referral documentation).
- To avoid other project constraints, such as buried artefacts or remains which may not be discovered until civil works begin.
- In case of unacceptable geotechnical conditions in a given position, such as an underground cavity.

Notwithstanding any of the above, Neoen commits that micro-siting will not increase impacts to MNES.

Where micro-siting cannot avoid direct impact to PBTLs, the individual(s) will be relocated to the nearest suitable release site in accordance with the procedure outlined in **Section 9.2**. While the success of relocation is currently unknown, preliminary studies of translocation suggest that PBTL can survive being moved in the short to medium term (i.e. relocated), with varying success dependent on methods utilized. Every practicable effort will be made to successfully relocate PBTLs impacted by Project infrastructure and ensure their ongoing survival, which will include an adaptive approach to enable adoption of altered methods if new information comes to light which may improve outcomes for relocated individuals.

9.1.1 Proposed Approach

The majority of micro-siting has already been achieved through the design development process to date, and the design layout and Disturbance Footprint submitted as part of the EPBC referral reflects a largely complete design layout and infrastructure footprint. However, Neoen wishes to apply an adaptive approach to further minimise impacts to MNES such as (but not limited to) PBTL's and their habitat, and therefore infrastructure may be micro-sited (shifted and / or adjusted slightly). The approach will be undertaken in the order of avoid, minimise and then mitigate as follows.

Pre-clearance Check survey:

- Conduct a Pre-clearance Check survey on site in advance of construction commencement, where the Disturbance Footprint overlaps with the known location of PBTL's and any known and likely habitat.
- If a population of PBTL is identified within a proposed access track or electrical cable route, investigate the potential to shift or narrow the track or cable route slightly to avoid individuals or population. If possible, ensure that the access track or cable route does not divide a localised population (cluster) of PBTL. Survey possible alternative locations in the immediate vicinity for the presence of PBTL to verify that micro-siting would be effective in minimising impact.
- If another infrastructure component is found to encroach on a known patch of PBTL, such as hardstand or met mast, consider viability to relocate infrastructure to less sensitive location nearby, or reduce / adjust proposed design slightly to avoid or further minimise impact on PBTL.

- If a PBTL not previously mapped is detected within the Disturbance Footprint in habitat mapped as 'unlikely', a Stop Work procedure will be in place. The area will be assessed for extent and likely impact and escalated to relevant manager. A review process may need to be undertaken, including ecological survey, with potential for variation to approvals.
- If information comes to light that indicates a reasonable opportunity to avoid said impacts, a micro-siting assessment will be undertaken.

Micro-siting assessment:

1. Consult with construction engineer to determine if the infrastructure can be feasibly micro-sited into lower impact area based on information gathered during the Pre-clearance Checks.
2. Aim to avoid impacts if there is a reasonable opportunity to do so.
3. Undertake additional Pre-clearance Check surveys in areas determined as suitable for micro-siting if not previously assessed.
4. Pre-clearance Check surveys will also assess for presence of any other potential constraints such as EPBC-listed threatened plant species, EPBC-listed Threatened Ecological Communities, and previously unrecorded cultural heritage in those locations.
5. Select feasible option with least impact on MNES.

If PBTL are present within the Disturbance Footprint and cannot be avoided through micro-siting, individuals will be relocated in accordance with the PBTL Relocation Procedure outlined below in **Section 9.2**.

9.2 Relocation Procedure

If PBTL are detected in the DF during Pre-clearance Checks and the design is unable to be micro-sited to avoid impacts, the relocation of PBTL will be required prior to construction. Individuals will be relocated by a suitably qualified and licensed ecologist, and all relocations will be undertaken in accordance with the procedures detailed in this section of the PBTL Management Plan. The PBTL relocation procedure will involve the following main steps, which are expanded upon further below in **Table 9.3**.

- Pre-construction PBTL survey:
    - within '*Known*' and/or '*Likely*' PBTL habitat within the Disturbance Footprint to identify location of PBTL individuals in the Disturbance Footprint and micro-site the location of infrastructure, including but not limited to access tracks, WTGs and underground electrical reticulation, to avoid impact to PBTLs and determine which PBTLs, if any, need to be relocated (if impact to them cannot be avoided via micro-siting); and
    - at potential relocation release sites ('*Likely*' PBTL habitat located outside of the Disturbance Footprint) to understand the current condition of each potential release site (presence of suitable burrows and any resident PBTLs).
- PBTL capture and relocation:
    - where impacts to PBTLs within the Disturbance Footprint cannot be avoided via micro-siting of infrastructure; and
    - includes temporary housing and transport of captured PBTLs, as well as release of captured PBTLs.

Table 9.3 PBTL Relocation Procedure

PBTL Relocation Procedure	
Pre-construction PBTL survey methodology	
The pre-construction PBTL survey will occur approximately 1-4 weeks prior to any construction works (as advised by EPC Contractor) (including, but not limited to, ground disturbing works such as clearing and grubbing and earthworks for vehicle access tracks, infrastructure and trenching) commencing within *'Known'* and/or *'Likely'* PBTL habitat within the Disturbance Footprint.	Neoen and Ecological Consultant (Contractor)
A minimum of two suitably qualified ecologists will undertake the pre-construction PBTL survey using the following method: • The survey area / extent will be marked using survey pegs (for example on the outer corners) (multiple survey areas / extents will be required throughout the Disturbance Footprint). • The surveyors will start at one end of the marked survey area and move to the other end of the marked survey area and move along in parallel transects at approximate 5 m intervals to identify spider burrows. Transect intervals may be adjusted to be closer (i.e. less than 5 m) if visibility is low. • Each surveyor will use a GPS to check and log their tracks as they work to ensure the 5 m transects are aligned. • All spider burrows within the survey area will be temporarily marked using a survey peg (different colour to survey area boundary pegs). • After all spider burrows have been identified and temporarily marked, they will be checked for PBTL occupancy using an optic fibre 'burrowscope'. • A GPS waypoint and the contents of the burrow will be recorded for each burrow checked. • If a PBTL is observed, burrow depth will be recorded to provide insight into the burrow requirements at the release site. PBTL body length will be accounted for by adding 10 cm to the recorded depth. The survey peg will be replaced with a different coloured survey peg to identify the burrow as containing a PBTL. • Survey pegs at burrows found not to contain a PBTL will be removed after checking the burrow to avoid checking the same burrow more than once. If construction is scheduled to commence within two weeks of the Pre-clearance Checks, empty burrows can be destroyed to prevent occupation by identified individuals in the immediate vicinity. Burrows containing spiders should be vacated using the end of a survey peg or similar, with the entrance subsequently destroyed to prevent re-entry. • The GPS waypoints of PBTL locations will be mapped/overlaid onto the Disturbance Footprint in order to micro-site the location of infrastructure to avoid impact to PBTLs and determine which PBTLs, if any, need to be relocated (if impact to them cannot be avoided via micro-siting).	Ecological Consultant (Contractor)
A minimum of two suitably qualified ecologists will also survey potential relocation release sites (PBTL habitat located outside of the Disturbance Footprint) to understand the current condition of each potential release site (presence of suitable burrows and any resident PBTLs). It is anticipated that release sites will be in adjacent suitable habitat at least 50 m from the edge of the Disturbance Footprint. A maximum distance of 200 m from the capture site will be used for release locations. It is considered that this can be achieved within the Project Area given the known habitat and PBTL locations. The following method will be used: • The survey area / extent will be marked using survey pegs (for example on the outer corners) or using digital data collection applications (i.e. ArcGIS Field Maps). • The surveyors will start at one end of the marked survey area and move the other end of the marked survey area and move along in parallel transects at approximate 5 m intervals to identify spider burrows. Transect intervals may be adjusted to be closer (i.e. less than 5 m) if visibility is low.	Ecological Consultant (Contractor)

PBTL Relocation Procedure	
• Each surveyor will use a GPS to check and log their tracks as they work to ensure the 5 m transects are aligned. • All spider burrows within the survey area will be temporarily marked using a survey peg (different colour to survey area boundary pegs). • After all spider burrows have been identified and temporarily marked, they will be checked for PBTL occupancy using an optic fibre 'burrowscope' and burrow depth will be recorded to provide insight into burrows available within the potential relocation release site. The burrowscope will be marked at 10 cm and 25 cm to quickly determine if there are burrows deep enough for juvenile and adult PBTLs, respectively. • A GPS waypoint and the contents of the burrow will be recorded for each burrow checked. • If a PBTL is observed within the burrow the survey peg will be replaced with a different coloured survey peg to identify the burrow as containing a resident PBTL (and therefore unsuitable for releasing a relocated PBTL into). • If no PBTL is observed within the burrow, or within 1m of the burrow, and the burrow is considered suitable for releasing a PBTL into, the survey peg will be left in place to identify it as a suitable burrow for releasing a relocated PBTL into. • Survey pegs at burrows found not to contain a PBTL and not suitable for releasing a PBTL into will be removed after checking the burrow to avoid checking the same burrow more than once. • Survey pegs left in-situ (for identifying resident PBTLs or burrows suitable for releasing a relocation PBTL into) will remain in-situ until they are no longer required, which is likely to be after completion of PBTL relocation. • If release sites are within sight of publicly accessible infrastructure such as roads or walking trails (i.e. Heysen Trail), relocation burrows and existing PBTL will be marked with less visible markers (such as survey spray paint) instead of highly visible flags. Preferably, publicly visible relocation sites will be selected within a short timeframe of the relocation date, to minimise the chance of outside interaction (i.e. poaching). • If relocation sites are found to contain suitable habitat, but are otherwise lacking an abundance of suitable burrows, artificial burrows may be installed. The information collected at each potential relocation release site will be saved to a database for reference during the relocation (capture and release stages). Refer to *release of PBTLs methodology* further down in this table for more specific information on releasing PBTLs.	
Based on the findings of the pre-construction PBTL survey, an ecologist(s) must be present to assist the engineering surveyor(s) to peg out micro-sited infrastructure following the pre-construction PBTL survey, to ensure that PBTLs are not impacted by micro-sited infrastructure.	Construction Project Manager / Asset Manager (Neoen)
PBTL Capture Methodology	
Where impacts to PBTLs within *'Known'* and *'Likely'* PBTL habitat cannot be avoided (i.e. via micro-siting of infrastructure) PBTLs will be captured and relocated as outlined below. The relocation process will commence 1-2 weeks prior to the commencement of construction works that involve ground disturbing activities (including, but not limited to, clearing and grubbing, and excavation). Refer to **Appendix 4** for a detailed risk assessment of the PBTL relocation process and associated mitigation measures.	Construction Project Manager / Asset Manager (Neoen)
A minimum of two suitably qualified ecologists will survey *'Likely'* and *'Potential'* PBTL habitat located within the Disturbance Footprint using the following method: • The survey area / extent will be marked using survey pegs (for example on the outer corners) (multiple survey areas / extents will be required throughout the Disturbance Footprint).	Ecological Consultant (Contractor)

PBTL Relocation Procedure	
• The surveyors will start at opposite ends of the survey area and move towards each other along parallel transects at 5 m intervals to identify spider burrows. • Each surveyor will use a GPS to check and log their tracks as they work to ensure the 5 m transects are aligned. • All spider burrows will be temporarily marked using a survey peg (different colour to survey area boundary pegs). • After all spider burrows have been identified and temporarily marked, they will be checked for PBTL occupancy using an optic fibre 'burrowscope'. • Any PBTL burrows identified during the pre-construction PBTL survey (marked with specific coloured survey pegs) will also be checked for PBTL occupancy using an optic fibre 'burrowscope'. • A GPS waypoint and the contents of the burrow will be recorded for each burrow checked. • If a PBTL is observed within the Disturbance Footprint, burrow depth will be recorded to provide insight into the burrow requirements at the release site. PBTL body length will be accounted for by adding 10 cm to the recorded depth; The survey peg will be replaced (if required) with a different coloured survey peg to identify the burrow as containing a PBTL that requires relocation. • Survey pegs at burrows found not to contain a PBTL will be removed after checking each burrow to avoid checking the same burrow more than once. • Survey pegs identifying a burrow within the Disturbance Footprint as containing a PBTL will be removed after the PBTL has been captured. • The GPS waypoints of PBTLs identified for relocation, will be saved to a database.	
The following steps will be taken by a suitably qualified ecologist(s) to capture individual PBTLs identified for relocation: • The ecologist(s) will lure PBTLs from their burrows using live meal worms tethered to fishing line on a fishing rod (Milne & Bull 2000); and • Once a PBTL is lured from its burrow, the ecologist(s) will capture it by hand. • If luring from the burrows is unsuccessful, the PBTL will be carefully excavated from the burrow (see section below).	Ecological Consultant (Contractor)
Over-feeding a PBTL by attempting to capture it too many times in a day will be avoided. Attempts at capture will be limited to three per day, with a minimum of 30 minutes between attempts (J Clayton *pers. comm.* 2019). A maximum of three meal worms will be offered per capture attempt with a maximum of nine meal worms offered, regardless of if consumed.	Ecological Consultant (Contractor)
If a PBTL cannot be lured from its burrow, the ecologist(s) the following technique will be undertaken: • A suitably qualified ecologist will carefully dig-up the PBTL using hand tools. • A hand trowel will be used to slowly excavate each hole in 30 mm increments. At each 30 mm depth, the burrow scope will be utilised to check the position of the lizard and to ensure it is safe. • Once the burrow has been excavated to a depth that allows access, a small paint brush may be used to loosen dirt around the body of the lizard to allow access via hand, where the lizard can be gently clasped around its neck and shoulders and gently pulled from the burrow.	Ecological Consultant (Contractor)
The following data will be collected immediately from captured PBTLs and their burrow to provide baseline PBTL condition data for relocation monitoring and inform burrow preference requirements at the release site(s): • snout-vent length (mm) • weight (g) • sex (if possible)	Ecological Consultant (Contractor)

PBTL Relocation Procedure	
• age class (Adult: snout-vent >82 mm; Sub-adult: ≤82 mm) (Milne et al. 2002) • condition score (see below) • burrow depth (cm) • burrow entrance width (mm). The data will be saved to a database for future reference. Additional data may need to be collected dependent on development of an associated Research Plan for relocated PBTL.	
If a PBTL is suspected to have been injured because of capture its condition will be scored. The following condition scores (1 point for each) will be recorded: • any signs of discharge from eyes or nose • any signs of abnormal body shape • swelling / recent fighting injuries • abnormal movement • abnormal level of activity • abnormal respiration • excess diarrhoea.	Ecological Consultant (Contractor)
If a PBTL has a condition score of 5 or more it will be temporarily housed (in accordance with the next section) and the Fauna Permits section of DEW, Wildlife Ethics Committee Executive Officer, SA Museum, Flinders University or PBTL Recovery Team will be consulted as soon as possible and not more than 24 hours from when the PBTL was assessed for the best course of action.	Ecological Consultant (Contractor)
Should a PBTL that is seriously injured require euthanasia (following consultation with the SA Museum, Flinders University or PBTL Recovery Team), this must be conducted by a suitably qualified ecologist(s). Individuals will be processed and provided to the SA Museum. An adverse incident report will be submitted to the WEC Executive Officer (DEW) within 24 hours.	Ecological Consultant (Contractor)
PBTLs will only be handled for the minimum amount of time required to gather the required information and not exceeding 10 minutes in any one instance.	Ecological Consultant (Contractor)
No capture of PBTLs will take place when the weather forecast by the Bureau of Meteorology at the nearest weather station (Clare) is 36°C or above or less than 15°C. No PBTLs will be captured during the colder months (June to mid-August).	Ecological Consultant (Contractor)
The number of PBTLs captured in a day will be capped to ensure there is enough time to process, transport and release each individual in a single day, preventing the need to house PBTLs for an extended period of time, including overnight.	Ecological Consultant (Contractor)
Temporary housing and transport of captured PBTLs	
Temporary housing and transport of PBTLs will be conducted by a suitably qualified ecologist(s) and will only be required in exceptional circumstances. Exceptional circumstances would include sudden adverse weather events, bushfire, or construction site shutdown where staff had to leave site. PBTL will be relocated to the release location and released within one hour of capture. Each captured individual PBTL will be placed into a separate calico bag and placed into a ventilated plastic crate. Each crate will hold a maximum of eight individual lizards. PTBLs will be carried in this crate to their release site.	Ecological Consultant (Contractor)
If PBTLs are required to be held for an extended period (exceptional circumstances would include sudden adverse weather events, bushfire or construction site shutdown where staff had to leave site), captured PBTLs will be temporarily housed (for no more than 24 hours) in calico bags (one PBTL per bag) and stored temporarily in well-ventilated plastic crates with snap lock lids in a cool location (e.g. in shade of vehicle canopy with doors / windows open) and transported to the nearest suitable release site by foot, within 24 hours.	Ecological Consultant (Contractor)
Where transport of PBTLs by foot is not possible/practicable, then temporarily housed PBTLs will be transported to the nearest suitable release site by vehicle. Plastic crates will be stored securely so they cannot move around within the vehicle.	Ecological Consultant (Contractor)

PBTL Relocation Procedure	
Vehicles transporting PBTLs will follow approved access routes to the nearest suitable release site, drive at a pace that prevents unnecessary bumping and be temperature controlled (air conditioned) to maintain an ambient temperature between 15°C and 30°C.	Ecological Consultant (Contractor)
The ambient temperature where PBTLs are temporarily housed will range between 15°C and 30°C (J Clayton *pers. comm.* 2019).	Ecological Consultant (Contractor)
Temporarily housed PBTLs and housing conditions, including temperature, will be checked every 1-2 hours depending on climatic conditions during the survey.	Ecological Consultant (Contractor)
An adequate supply of meal worms will be on hand to feed PBTLs if required, taking into consideration the number of meal worms eaten during capture attempts.	Ecological Consultant (Contractor)
If a PBTL is suspected to have been injured because of housing or transport, its condition will be scored (as outlined in the PBTL capture methodology above).	Ecological Consultant (Contractor)
If a PBTL has a condition score of 5 or more, the SA Museum, Flinders University or PBTL Recovery Team will be consulted within 24 hours for the best course of action.	Ecological Consultant (Contractor)
Should a PBTL that is seriously injured require euthanasia (following consultation with the SA Museum, Flinders University or PBTL Recovery Team), this must be conducted by a suitably qualified ecologist(s). Individuals will be processed and provided to the SA Museum. An adverse incident report will be submitted to the WEC Executive Officer by email as soon as possible within 24 hours.	Ecological Consultant (Contractor)
Release of PBTLs methodology	
PBTL release is to be conducted by a suitably qualified ecologist(s).	Ecological Consultant (Contractor)
PBTLs will only be handled for the minimum amount of time required to release each individual.	Ecological Consultant (Contractor)
PBTLs will be relocated to the nearest suitable relocation release site(s) as identified by the ecologist(s).	Ecological Consultant (Contractor)
If the ecologist(s) identifies a low number of PBTLs (up to ten) required to be relocated from a given area, and there is a population directly adjacent (e.g. within approximately 50 – 100 m), the ecologist(s) may decide to release the PBTLs into an adjacent area of suitable habitat further than 200 m but no greater than 500 m from the capture site, following assessment of the release site. Providing the habitat is continuous, this would still be considered the same population.	Ecological Consultant (Contractor)
Prior to the capture of PBTLs, the ecologist(s) will assess and prepare the release site (whether it is adjacent to the capture site or further away) as outlined below, to identify suitable burrows at an appropriate distance from resident PBTLs before releasing a captured PBTL. • Burrows at the release site(s) will be inspected to identify those suitable for PBTLs prior to releasing any individuals. The burrowscope(s) will be marked at 10 cm and 25 cm to quickly determine if there are burrows deep enough for juvenile and adult PBTLs, respectively. • PBTLs will not be released into burrows containing another PBTL or spiders, or near ant nests (burrows will be checked with a burrowscope). • If suitable empty burrows cannot be located by the ecologist(s) at the release site, two to three artificial burrows (see below) will be installed within a 50 cm radius to provide available habitat. • Sediment fencing will be installed on the outer edge of the Disturbance Footprint (if required; see below).	Ecological Consultant (Contractor)

PBTL Relocation Procedure	
• PBTLs will be released at least 2 m from any other PBTL, and any artificial burrows installed. • An ecologist(s) will ensure each PBTL enters a suitable burrow following release. • The location of each relocated PBTL will be recorded with a GPS waypoint and the burrow will be marked with an inconspicuous marker to locate for monitoring • Released PBTLs will be confined to the area immediately surrounding their burrow for 1 day by installing a temporary barrier (For example, approximately 50cm long, 50cm wide and 30cm high and constructed out of a smooth, solid material). • Released PBTLs will be given up to three meal worms immediately following release. All data collected on release sites and individual PBTLs will be saved to a database for reference during monitoring events.	
Artificial burrows can be constructed, for example, from wooden dowelling approximately 30 cm in length, with a 2 cm diameter hole drilled into the centre, which are then hammered into the ground until flush with the surface. A range of sizes (e.g. shallower/shorter and/or narrower in diameter) will be constructed prior to relocation to accommodate captured PBTLs of varying sizes. A burrowscope will be used to check the integrity of installed artificial burrows prior to release of PBTLs.	Ecological Consultant (Contractor)
In the unlikely event that a PBTL is required to be released within 50 m of the Disturbance Footprint, sediment fencing will be installed on the outer edge of the Disturbance Footprint (facing the PBTL) to prevent the relocated PBTL(s) (which is likely to be prone to an increased level of movement) from re-entering the Disturbance Footprint. A theoretical buffer of 60 m will be placed around the PBTL and the placement and length of the sediment fencing at the edge of the Disturbance Footprint will be sufficient to cover the extent of the buffer zone.	Ecological Consultant (Contractor)
Released PBTLs will be confined to the area immediately surrounding their burrow for 1 day by installing a temporary barrier (for example, approximately 50 cm long, 50 cm wide and 30 cm high and constructed out of a smooth, solid material).	Ecological Consultant (Contractor)
Captured PBTLs will not be released when weather forecast by the Bureau of Meteorology is 36°C or above or less than 15°C at the nearest weather station, or any temperature specified in the relevant WEC approval. The ecologist(s) must check the weather forecast and local weather conditions prior to commencing the release process.	Ecological Consultant (Contractor)
If a PBTL is suspected to have been injured because of release its condition will be scored (as outlined in PBTL capture methodology above).	Ecological Consultant (Contractor)
If a PBTL has a condition score of 5 or more, the SA Museum, Flinders University or PBTL Recovery Team will be consulted within 24 hours for the best course of action.	Ecological Consultant (Contractor)
Should a PBTL that is seriously injured require euthanasia (following consultation with the SA Museum, Flinders University or PBTL Recovery Team), this must be conducted by a suitably qualified ecologist(s). Individuals will be processed and provided to the SA Museum. An adverse incident report will be submitted to the WEC Executive Officer by email as soon as possible within 24 hours. Database records will be updated.	Ecological Consultant (Contractor)

9.2.1 PBTL EPBC Offset Strategy Considerations

PBTL EPBC Offset Strategy Considerations for the relocation of PBTL include:

- Suitability and carrying capacity of the surrounding habitat.
- Survival rate of the relocated individuals due to behavioural or physiological stress.
- Site fidelity and dispersal limitations of relocated individuals.
- Suitable distance for relocation to 1) avoid indirect impacts through competition, 2) prevent dispersal of individuals back to impact site, and 3) maintain population genetics at a local level.

- Impact on resident population of PBTL population in relocation site, including competition for resources and population genetics.
    - Given the species low dispersal ability and reliance on specific microhabitats, natural recolonisation of unoccupied areas or dispersal away from encroaching impacts is unlikely without intervention. However, with targeted habitat restoration or augmentation and considered relocation or translocation protocols, suitable surrounding habitats can support displaced individuals if ecological quality and timing are carefully managed.

Suggested methods for improving the likelihood of successful relocation include:

- Conducting surveys at any proposed relocation sites in advance to evaluate:
    - the current population density and location of resident PBTL at the proposed relocation site
    - the resource availability (availability of suitable burrows).
- Conducting relocations at favourable times based on PBTL ecology, including:
    - During late spring or early summer, after the mating season, but before birthing of neonates, or late autumn when activity rates have reduced, but prior to brumation.
- Preparing a relocation site to increase suitability by:
    - recording micro-habitat details of PBTL to be relocated (i.e. proximity to grass tussock, aspect, depth of burrow)
    - installing artificial burrows to replicated micro-habitat conditions of PBTL to be relocated (Michael et al. 2024)
    - ensuring adequate resource partitioning (>1m between lizards) to avoid competition with resident PBTL (Ebrahimi and Bull 2014b)
    - preparing and installing soft-release enclosures to limit dispersal of relocated individuals in the first 1 to 2 days following relocation (Ebrahimi and Bull 2013)
    - employing soft release methods such as provision of supplementary food immediately following relocation.
- Conducting post-relocation research (as per the proposed PBTL EPBC Offset Strategy, compensatory measures) to assess both short- and long-term success of relocation and potential implications including:
    - survivorship
    - factors affecting survival
    - post-release behaviour (dispersal, site selection, foraging)
    - genetic implications on the resident population.

9.3 Permits, Licences and Approvals

The following permits, licences and approvals are required during both construction (PBTL survey, relocation and monitoring) and operation (PBTL monitoring) phases of the GNWF Project), to be obtained by the ecological consultant undertaking work related to PBTL relocation (refer back to **Table 5.1**):

- Permit to Destroy Wildlife under the NPW Act (Sections 53(1)(c), 53(1)(d)).
- Permits to ‘take’ and to ‘release’ PBTLs under the NPW Act (Wildlife Management (Controller) Permit) (Sections 53(1)(d) and 55 respectively) (DEW Fauna Permit Unit).

- Scientific research permit to monitor PBTLs (Sections 53(1)(a) and 53(1)b) of NPW Act) (DEW Research Permits).
- Licence for teaching, research or experimentation involving animals, required under *the Animal Welfare Act 1985*, (DEW Animal Welfare).
- Relevant South Australian Wildlife Ethics Committee (WEC) approvals must be obtained for the purposes of teaching, research or experimentation (required under the licence for teaching, research or experimentation involving animals).

Note: Allow a minimum of 4 weeks for processing applications for permits from DEW. For WEC approvals, allow for a 2-week submission deadline prior to WEC meetings held every 2 months, as well as 2 weeks processing).

10.0 Operational Management Measures

Management measures to be implemented during operation are outlined in **Table 10.1**. The location, timing, frequency, and responsibility associated with each management measure is also listed.

Broad operational management measures applicable to GNWF will be detailed in an OEMP, which is yet to be prepared. The OEMP must be developed and approved prior to the commencement of wind farm operations.

Table 10.1 General Operational Management Measures

Operational Management Measures	Type	Location	Timing/Frequency	Monitoring Activity	Responsibility	Management Trigger	Corrective Action
General Management Measures							
Inductions: All staff and contractors will complete a detailed, site-specific induction which provides an overview of PBTLs and potential impacts to PBTLs, as well as management measures associated with protection of PBTLs.	Administrative	Site Office.	Prior to commencing any work on site. Once (for each staff member and/or contractor).	Daily checks must be undertaken to ensure that all new staff and contractors have completed site inductions prior to commencing any works on site.	EPC Contractor	Staff or contractor working onsite without having completed the required inductions.	Any staff member or contractor who has not completed the required site inductions must immediately stop work and cannot recommence until the induction has been fully completed.
Confidentiality Agreements: As part of the induction process all contractor personnel and sub-contractors will be required to sign confidentiality agreements which includes provisions for confidentiality regarding the presence and location of threatened species (MNES and NPW listed species), including PBTL.	Administrative	Site Office.	Prior to commencing any work on site. Once (for each staff member and/or contractor).	Daily checks must be undertaken to ensure that all new staff and contractors have signed confidentiality agreements prior to commencing any works on site.	EPC Contractor	Staff or contractor working onsite without having signed the required confidentiality agreements.	Any staff member or contractor who has not signed the required confidentiality agreements must immediately stop work and cannot recommence until this agreement has been signed.
Fact Sheets: Display a fact sheet on PBTLs (including images of PBTLs, habitat mapping, i.e. '*Known*' and/or '*Likely*' PBTL habitat and breeding season dates when PBTLs are more active and dispersing, as a minimum).	Administrative	On site notice boards and in lunchrooms.	During operations. Ongoing.	Weekly checks of noticeboards.	EPC Contractor	No factsheets or information available about PBTLs on main noticeboards and/ or common areas.	Provide factsheets and information about PBTLs for all noticeboards and common areas.
Toolbox Meetings: Hold toolbox meetings to highlight the importance of the species and ensure all staff and contractors are aware of the control measures to prevent impacting them.	Administrative	Site Office.	Prior to commencing any operational or maintenance works within '*Known*' and/or '*Likely*' PBTL habitat.	The Environmental Compliance Officer/Manager will complete a compliance checklist on a regular basis (at least monthly) to ensure all management commitments are being implemented.	EPC Contractor	PBTL information is not included in toolbox meetings and/ or no reminders are provided in pre-start meetings.	Hold a pre-start meeting to provide information on PBTL management requirements and species identification. Ensure reminders to include PBTL management requirements in all subsequent toolbox meetings.
Toolbox Meetings: Remind all staff and contractors to be vigilant when driving, to remain on designated access tracks and to look out for PBTLs.	Administrative	Project Area.	Regularly during daily pre-start meetings or during toolbox meetings (as required).	The Environmental Compliance Officer/Manager will complete a compliance checklist on a regular basis (at least monthly) to ensure all management commitments are being implemented.	EPC Contractor	No reminders provided in toolbox meetings.	Hold a pre-start meeting to provide information on PBTL management requirements and species identification. Ensure reminders to include PBTL management requirements in all subsequent toolbox meetings.
Vehicle and Construction Equipment Access: Ensure all vehicles and construction equipment utilise existing formed and approved access tracks and hardstands and avoid travel outside of these areas, particularly in areas of '*Known*' and/or '*Likely*' PBTL habitat.	Engineering	Project Area.	During operations.	Monthly site inspections will be conducted by the Environmental Compliance Manager/Officer to identify any unauthorised vehicle or machinery movements outside approved areas. The Environmental Compliance Officer/Manager will complete a compliance checklist on a regular basis (at least monthly)	EPC Contractor / All Staff	Unauthorised vehicle/machinery movements outside of approved areas.	Investigate any unauthorized vehicle or machinery movements and assess any environmental damage that may have occurred. Conduct a pre-start or toolbox meeting to reinforce the requirement to stay on designated access tracks and within approved clearance areas. If the unauthorized movement occurred within areas of native vegetation or Known/Likely PBTL habitat, an incident report must be submitted.

Operational Management Measures	Type	Location	Timing/Frequency	Monitoring Activity	Responsibility	Management Trigger	Corrective Action
				to ensure all management commitments are being implemented.			
Reporting: Report any PBTL sightings, including any individuals found alive, injured or killed, to the Environment Manager. For individuals found injured or killed, collect information such as location, and cause of death if known (i.e. vehicle strike). Any PBTL sightings have a GPS location recorded to assist with PBTL population extent of occurrence/area of occupancy. The Environment Manager shall report as an environmental incident and undertake an environmental incident investigation.	Administrative	Project Area.	During operations.	During Operation. As required.	Environmental Compliance Officer/Manager shall prepare an environmental incident report and undertake an environmental incident investigation.	No reminders provided in toolbox meetings.	Hold a pre-start meeting to provide information on PBTL management requirements and species identification. Ensure reminders to include PBTL management requirements in all subsequent toolbox meetings.
Clearance Delineation and PBTL Protection Measures							
Mapping and Spatial Data: Provide clear maps and spatial data indicating Disturbance Footprints, tracks, approved turnaround areas, car parks, equipment laydown areas and materials storage areas to ensure that no unapproved disturbances occur which may affect PBTL including impacts to areas of '*Known*' and/or '*Likely*' PBTL habitat.	Administrative	Provide to those involved in operational and maintenance works.	At the end of construction.	The Environmental Compliance Officer/Manager will complete a compliance checklist on a regular basis (at least monthly) to ensure all management commitments are being implemented.	EPC Contractor / All staff	No clear maps or spatial data provided. Clearance, vehicle movements, or material storage occurring outside designated areas.	Provide clear maps and spatial data and ensure all staff and contractors working onsite have access to these resources. Stop work immediately and report all non-compliance. Investigate the cause of the non-compliance and implement measures to ensure all staff/contractors have access to accurate maps and spatial data before resuming work.
Weeds, Pests and Grazing Management							
Ongoing Weed Monitoring: Periodic weed monitoring and control will continue throughout the operational phase to mitigate potential impacts, such as weed spread, during operation and maintenance activities that may affect 'Known' and/or 'Likely' PBTL habitat. A Weed Management Plan will be developed for the operational phase of the wind farm. This plan will integrate data from baseline weed surveys conducted prior to construction and incorporate updated information from weed management activities implemented during the construction phase. Weed management during operations will include, at a minimum: • Opportunistic monitoring for new declared weed outbreaks or expansion of existing outbreaks; • Quarterly photo-point monitoring for declared weeds in high-risk areas (e.g., stockpiles, main access tracks, wash-down bays); and • Quarterly monitoring for weed outbreaks within areas of 'Known'	Engineering	Development Envelope and Disturbance Footprint	During operations and maintenance Opportunistic and quarterly targeted monitoring.	The Environmental Compliance Officer/Manager will complete a compliance checklist on a regular basis (at least monthly) to ensure all management commitments are being implemented and maintained. Annual compliance reports must be submitted detailing management measures implemented.	EPC Contractor	Missed weed monitoring commitment.	Undertake weed monitoring as soon as practicable after identifying missed commitment. Investigate and report all non-compliance.

Operational Management Measures	Type	Location	Timing/Frequency	Monitoring Activity	Responsibility	Management Trigger	Corrective Action
and/or 'Likely' PBTL habitat inside the Disturbance Footprint.							
<u>Weed Control Measures:</u> Ensure weed control methods are in accordance with the following from the *Recovery Plan for the Pygmy Bluetongue Lizard* (Duffy *et al.* 2012): • Use minimal disturbance weed control methods wherever possible. • If herbicide use is required: • Read and adhere to the guidelines and recommended quantities stated on the label of the herbicide container. • Ensure application occurs on a calm day to minimise drift and off-target damage. • Wherever possible, spot spray directly onto the target species. • Avoid broadscale application of herbicide. • Ensure any sub-contractor engaged to undertake weed control is aware of the above requirements.	Engineering	Within '*Known*' and/or '*Likely*' PBTL habitat in the Disturbance Footprint.	Weed control should occur in winter and spring, or as required to control outbreaks. Weed control should occur whenever the following triggers are identified within areas of 'Known' and/or 'Likely' PBTL habitat: • New outbreaks (locations) of declared weeds recorded. • Increase in extent of declared weed outbreaks (compared to baseline surveys). • Establishment of weeds within disturbed areas.	The Environmental Compliance Officer/Manager will complete a compliance checklist on a regular basis (at least monthly) to ensure all management commitments are being implemented and maintained.	EPC Contractor	Weed control methods are not undertaken in accordance with the recommendations listed in the Recovery Plan for the Pygmy Bluetongue Lizard (Duffy et al. 2012). New weed outbreaks or an increase in the extent of existing outbreaks in 'Known' or 'Likely' PBTL habitat.	Stop all weed control measures which do not comply with the recommendations listed in the Recovery Plan for the Pygmy Bluetongue Lizard (Duffy et al. 2012). Investigate and report all non-compliance. Implement additional weed control measures to contain outbreaks and increase monitoring efforts to detect any further spread.
<u>Vehicle and Equipment Hygiene:</u> No vehicles will be required to work off existing formed roads during operation of the wind farm. Ensure all vehicles and maintenance equipment are clean and free of soil material, including materials containing weed seed or propagules, prior to arriving on site, and prior working in close proximity to '*Known*' and/or '*Likely*' PBTL habitat. If vegetative material or earth is present, ensure that the equipment is washed down at an appropriate offsite facility to prevent vegetative material or earth potentially containing weed seeds being brought into the site and into areas of '*Known*' and/or '*Likely*' PBTL habitat.	Engineering	Site entrance.	Prior to arriving on site and prior to commencing works within, or in close proximity to '*Known*' and/or '*Likely*' PBTL habitat.	Vehicle and equipment inspections will be conducted by the Environmental Compliance Manager/Officer to identify any detect any non-compliance. The Environmental Compliance Officer/Manager will complete a compliance checklist on a regular basis (at least monthly) to ensure all management commitments are being implemented and maintained.	EPC Contractor / All site personnel	Vegetative material or earth is identified on vehicles, earthmoving equipment and/or construction equipment.	Ensure vehicles and equipment are washed down at an appropriate facility prior to commencing work onsite to prevent vegetative material or earth potentially containing weed seeds being spread across the site and into areas of 'Known' and/or 'Likely' PBTL habitat. Investigate and report any non-compliance and implement corrective actions including additional weed monitoring and control methods if required.
<u>Livestock Grazing Regimes:</u> If a significant alteration of grazing regime (for example increased grazing or preferential grazing in particular areas) is observed (as part of monitoring) and considered to be potentially impacting '*Known*' and/or '*Likely*' PBTL habitat,	Administrative	Within '*Known*' and/or '*Likely*' PBTL habitat.	During operations.	The Environmental Compliance Officer/Manager will complete a compliance checklist on a regular basis (at least monthly) to ensure all	EPC Contractor, Neoen Community Liaison, Landholders	Changes to usual grazing regime and / or placement of watering points and/or fed lots is required because of the operations of GNWF.	If a water point or feedlot is relocated into ecologically sensitive areas, or if existing water points or feedlots within such areas (e.g., PBTL habitat) are preferentially used by the landholder due to wind farm infrastructure, increased monitoring effort will be required to assess the impact of altered livestock management on these habitats.

Operational Management Measures	Type	Location	Timing/Frequency	Monitoring Activity	Responsibility	Management Trigger	Corrective Action
then it will need to be investigated by a suitably qualified ecologist and mitigation measures (or additional monitoring implemented. Landholder to advise Neoen if any substantial changes to usual grazing regime and / or placement of watering points is required because of the operations of GNWF. Proposed alternative locations should be reviewed by ecological consultant to ensure no adverse impacts to PBTL *Known* habitat could be reasonably expected due to the proposed change. Infrastructure, such as hardstands and access tracks, should not be used to install new watering points or feed-lots if these did not previously occur in the same or similar location.				management commitments are being implemented and maintained.			
Native and Invasive Herbivores: Prevent stockpiling of equipment which may harbor pest animal species such as rabbits. Undertake regular auditing of site, including areas such as hardstands, laydowns, stockpiles and compounds to ensure that pest animals are not residing in these locations. Landholder to communicate with Neoen Community Liaison personnel any observations in change in land use by native or invasive herbivores such as kangaroos, goats, hares and rabbits has changed due to construction works (i.e. increased grazing pressure or preferential grazing pressure). O&M contractor to coordinate any required pest management actions at / on site.	Engineering	Within '*Known*' and/or '*Likely*' PBTL habitat.	During operations.	The Environmental Compliance Officer/Manager will complete a compliance checklist on a regular basis (at least monthly) to ensure all management commitments are being implemented and maintained.	EPC Contractor, Neoen Community Liaison, Landholders	Identification of stockpiled equipment on-site. Observation of pest species harbouring within wind farm infrastructure or equipment. Communication from the landholder indicating changes in land use or grazing patterns by native or invasive herbivores (such as kangaroos, goats, hares, and rabbits) as a result of construction activities, including increased or preferential grazing pressure.	Removed stockpiled equipment as soon as practicable. EPC contractor to coordinate any required pest management actions at / on construction sites.
Rip and fill-in Rabbit Warrens: Where any rip or fill-in works are required for rabbit warrens within '*Known*' and/or '*Likely*' PBTL habitat, a targeted PBTL search will be undertaken, by a suitably qualified ecologist(s) to establish the location of PBTLs. If PBTL are found, approval will be required for works to commence, in accordance with the Permit System outlined in **Section 5.1** and the CEMP.	Engineering	Within '*Known*' and/or '*Likely*' PBTL habitat within the Disturbance Footprint.	Approximately 1-4 weeks prior to any rip and fill-in works commencing.	A Permit to Work (PTW) must be obtained daily before any high-risk activities, such as ground-disturbing works, can occur. The permit will require verification that all pre-clearance checks, including PBTL pre-clearance checks when works are within areas of Known or Likely PBTL habitat, have been completed and must be signed off by an authorised person before work can commence.	EPC Contractor, Neoen and Ecological Consultant	Pre-clearance survey not undertaken within the 1-4 week timeframe or ground clearance does not occur within 4 weeks of the pre-clearance checks.	Stop work immediately and do not undertake any ground-disturbing activities until pre-clearance checks have been completed. If the 4-week validity period for ground disturbance following a pre-clearance check has expired, a new pre-clearance check must be conducted before works commence. If ground disturbance occurs without a pre-clearance check, this constitutes a non-compliance incident. A stop-work procedure must be implemented, the incident investigated, and reported to DCCEEW.
Soil Erosion, Dust Management and Drainage Management							
Traffic Speed Limits: Enforce a maximum speed limit of 40 km/hr on sealed and unsealed access tracks. Ensure maximum speed limits are		Project Area	During operation.	The Environmental Compliance Officer/Manager will complete a compliance checklist on a regular	Site Supervisor	Traffic speed limits are not adhered to.	Reinforce the importance of adhering to site speed limits during pre-start and toolbox meetings. Address non-compliance immediately by reminding staff and contractors who fail to observe speed limits.

Operational Management Measures	Type	Location	Timing/Frequency	Monitoring Activity	Responsibility	Management Trigger	Corrective Action
signposted and monitored for compliance.				basis (at least monthly) to ensure all management commitments are being implemented and maintained.			
Minimise Disturbance or Soil and Vegetation: Minimise disturbance of soil and vegetation during all activities undertaken throughout the operational phase (including vehicle access, general infrastructure, and site maintenance, weed control, fire management, grazing and fauna surveys) within the Project Area, particularly within '*Known*' and/or '*Likely*' PBTL habitat, by: • only driving on designated vehicle access tracks and utilising designated turnaround points; • ensuring that all designated vehicle access tracks and site stormwater drainage is well maintained to prevent erosion and sedimentation from occurring; and • minimising digging and soil disturbance to only that which is required to implement the approved action, including ripping of rabbit warrens to control rabbits.	Administrative	Disturbance Footprint.	During operations.	The Environmental Compliance Officer/Manager will complete a compliance checklist on a regular basis (at least monthly) to ensure all management commitments are being implemented and maintained.	Asset Manager (Neoen)	Unnecessary disturbance of soil or vegetation occurs outside designated areas or approved activities within the Project Area, particularly in 'Known' and/or 'Likely' PBTL habitat.	Stop work and investigate the reasons for unnecessary disturbance. Reinforce site access controls by clearly marking designated tracks and turnaround points. Conduct toolbox talks or pre-start briefings to remind staff and contractors of soil and vegetation disturbance protocols. Review and update erosion and sediment controls if disturbance has increased erosion risk. Stop work immediately and report the incident if disturbance occurs outside the approved Disturbance Footprint. Incident reporting for unnecessary disturbance must include the location, extent, and corrective measures taken, for compliance documentation and reporting.
Waste Management and Hazardous Material and Goods Management							
Hazardous materials and Dangerous Goods: Hazardous materials and dangerous goods containers and storage areas will be stored and managed in accordance with applicable Australian Standards, Safety Data Sheets and site specific Safe Work Method Statements.	Engineering	Disturbance Footprint.	During operations.	Weekly/daily site inspections will be conducted by the Environmental Compliance Manager/Officer to identify any non-compliance. The Environmental Compliance Officer/Manager will complete a compliance checklist on a regular basis (at least monthly) to ensure all management commitments are being implemented and maintained.	Asset Manager (Neoen)	Storage and management of hazardous materials/dangerous goods not compliant with Australian Standards, SDS, or SWMS. Hazardous material or dangerous goods spill in 'Known' or 'Likely' PBTL habitat.	Rectify storage immediately, update procedures, and reinforce compliance through toolbox talks. Document actions before resuming work. Contain and clean up spill using approved methods, notify relevant personnel, remediate habitat, and document incident for compliance reporting.
General and Food Waste: Lidded bins for office / food waste to minimise odours and attraction of pests and native animals or birds which may impact PBTL.	Engineering	Disturbance Footprint.	During operations.	The Environmental Compliance Officer/Manager will complete a compliance checklist on a regular basis (at least monthly) to ensure all management	Asset Manager (Neoen)	Bins left overflowing or without lids. Pest identified accessing bins.	Empty bins immediately and ensure lids are securely fitted. Increase bin servicing frequency if overflow is recurring. Conduct toolbox talks to reinforce proper waste management practices. Pests identified accessing bins. Secure all bins with fitted lids and relocate to designated waste storage areas. Implement pest control measures in accordance with approved methods.

Operational Management Measures	Type	Location	Timing/Frequency	Monitoring Activity	Responsibility	Management Trigger	Corrective Action
				commitments are being implemented and maintained.			Review waste management practices and adjust servicing schedules to prevent recurrence.
Noise and vibration management							
Noise and Vibration: Any new requirements or research findings related to the impacts of noise and vibration on PBTL should be incorporated into future revisions of this management plan where relevant and as they become available.	Engineering	Disturbance Footprint.	During operations.	The Environmental Compliance Officer/Manager will complete a compliance checklist on a regular basis (at least monthly) to ensure all management commitments are being implemented and maintained.	EPC Contractor	Additional research or information regarding noise or vibration impacts on PBTL is provided by DCCEEW, the PBTL Recovery Team, the Landscape Board, or other reputable sources.	Review the Management Plan and incorporate the new information into the plan to ensure it reflects the latest best practice and regulatory requirements.

11.0 Important Contacts

Table 11.1 Important Contacts

Contact	Email	Phone
DEW (Fauna Permits Unit)	dewfaunapermitsunit@sa.gov.au	(08) 8124 4972
DEW (Scientific Research Permits)	DEWResearchPermis@sa.gov.au	(08) 8124 4856
DEW (Animal Welfare - Licence for teaching, research or experimentation involving animals)	DEWAnimalWelfare@sa.gov.au	(08) 8207 7731
WEC	DEW.WildlifeEthicsCommittee@sa.gov.au	(08) 8463 6851
PBTL Recovery Team Threatened Fauna Ecologist Northern and Yorke Region Department for Environment and Water 6/17 Lennon Street, Clare, SA.	-	(08) 8841 3403

11.1 PBTL Recovery Team

The PBTL recovery team includes representation from:

- South Australian Department for Environment and Water
- South Australian Museum
- Flinders University
- Zoos South Australia
- Regional Council of Goyder
- Landholders of Pygmy Blue-tongue sites
- Mid North Grassland Working Group
- Nature Foundation.

12.0 Reporting

12.1 Monthly Compliance Checklists

To ensure the objectives of the PBTL Management Plan are met, monthly compliance checklists will be prepared by the Environmental Compliance Manager/Officer (EPC contractor). Monthly compliance checklists will document compliance activities, monitoring results, and corrective actions, as part of the PBTL Management Plan (and associated MPs).

Monthly compliance checklists be included and documented in the PBTL Management Plan Annual Compliance Report, where relevant.

12.2 Quarterly Internal Report

To ensure the objectives of the PBTL Management Plan are met, quarterly internal reports will be prepared by the Environmental Compliance Manager/Officer (EPC contractor) that document compliance activities, monitoring results, and corrective actions, as part of the PBTL Management Plan (and associated MPs).

Quarterly internal reports will be included and documented in the PBTL Management Plan Annual Compliance Report, where relevant.

12.3 Third-party Audit

A third-party audit will be undertaken biannually (i.e. twice per year) during construction of GNWF.

Third-sparty audits will be included and documented in the PBTL Management Plan Annual Compliance Report, where relevant.

12.4 Annual Compliance Report

To ensure the objectives of the PBTL Management Plan are met, the Project Owner/Approval holder (Neoen) will submit an Annual Compliance Report to the Department on an annual basis, which must detail the results of the management actions implemented as part of the PBTL Management Plan (and associated MPs) and any minor amendments to management actions, such as weed control effort, to the Department, for the first ten years (as a minimum) of wind farm construction and operations.

The PBTL Management Plan Compliance Report will:

- Assess and summarise management actions undertaken during that reporting period and discuss the outcome of those actions (including whether actions are adequate or inadequate (i.e. demonstrate compliance and / or document any breaches), including but not limited to:
    - Pre-clearance Checks Surveys.
    - Micro-siting effort.
    - Relocation effort.
- Detail the methodology of management actions.

- Collate the management action results (descriptive statistics), including:
  - Any trends in PBTL presence and/or PBTL habitat condition observed.
  - Comparison to previous results collected to date.
- Recommend any minor amendments to management actions, for the Project Owner (Neoen) to consider and if appropriate, direct the land manager to implement.
- Document any minor amendments to management actions, that are to be implemented by the land manager (after consideration and approval by the Project Owner (Neoen)).

PBTL data will be prepared in accordance with the Guidelines for biological survey and mapped data (Commonwealth of Australia, 2018) and provided to the Department on an annual basis.

12.5 Incident Reporting and Non-compliance

If injured or dead PBTL are found, the Environment Manager shall immediately report injured or dead PBTL as an environmental incident and undertake an environmental incident investigation. The appropriately qualified ecologist will be notified immediately to investigate and determine the best course of action. The ecologist will be responsible for contacting the PBTL Recovery Team immediately and providing notification of the incident. For any PBTL found injured or killed, the following information will be collected and included in a short incident report to be provided to the PBTL Recovery Team:

- Date
- Time
- Location
- Cause of death/injury if known (i.e. vehicle strike)
- Photo of the PBTL (if available).

For non-compliance incidents (e.g. if ground disturbance occurs without a pre-clearance check), a stop-work procedure will be implemented, the incident investigated, corrective measures will be implemented and reported to DCCEEW by the Environmental Compliance Officer/Manager.

Any incidents and non-compliance issues will also be included and documented in the PBTL Management Plan Annual Compliance Report.

The review and revision of this PBTL Management Plan, and submission and publication is described in **Sections 5.4** and **5.5**.

13.0 Adaptive Management

An adaptive management approach will be adopted to ensure the objectives of the PBTL Management Plan, CEMP and OEMP are being achieved and to manage uncertainty. This involves adapting management actions (e.g. reducing vehicle speed) in response to the outcomes of the Pre-clearance Check Surveys and to unforeseen or unplanned management threats and issues/incidents, as well as to reflect advances in ecological research and land management technologies that may arise during implementation of this Plan. The need for adaptive management (and its implementation) will be identified as part of the review and revision of this Plan, as detailed in **Section 5.4**.

A suitably qualified and experienced ecological consultancy will review the outcomes of the management efforts and, if required, recommend changes to relevant management actions/targets and methodologies. Where appropriate, the Project Owner will implement minor amendments to management actions, upon advice from the Ecological Consultancy and in line with the steps outlined in **Section 5.5**, where required.

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Appendix 1

Initial EPBC Act Approval

[Placeholder: EPBC Act approval conditions]

Appendix 2

Letter from the Department DATE XXXX

[Placeholder: Letter from DCCEEW]

Appendix 3

Variations of Conditions attached to EPBC Act Approval (2024/09929)

[Placeholder: EPBC Act condition variations]

Appendix 4

PBTL Relocation Risk Assessment and Management

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Likelihood of Risk Occurring

Likelihood	Description
Almost Certain	Expected to occur in most circumstances
Likely	Will probably occur in most circumstances
Possible	Might occur occasionally
Unlikely	Could occur at some time, but unlikely
Rare	May occur only in exceptional circumstances

Consequence of Risk Rating

Consequence	Description
Insignificant	No or negligible impact to PBTLs
Minor	Mild pain or distress to PBTLs
Moderate	Injury and / or mortality to five or less PBTLs
Major	Injury and / or mortality to more than five PBTLs
Severe	Significant impact to PBTL population in the Project Area

Risk Assessment Matrix

Consequence ® Likelihood ¯	Insignificant (no impact)	Minor (low impact, localised)	Moderate (manageable, some environmental harm)	Major (significant damage, regulatory concerns)	Severe (catastrophic impact, irreversible harm)
Rare (highly unlikely)	Low	Low	Low	Medium	High
Unlikely (could happen, but not likely)	Low	Low	Medium	High	High
Possible (might occur at some point)	Low	Medium	Medium	High	Extreme
Likely (expected to occur)	Medium	Medium	High	High	Extreme
Almost certain (occurs frequently)	Medium	High	High	Extreme	Extreme

Management Actions Required for Each Risk Rating

Risk Rating	Management Actions Required
Low	Acceptable risk level with infrequent review. Standard control and monitoring measures to be identified and implemented. Monitor and review locally as necessary. Report to local manager(s).
Medium	Acceptable risk level but must be reviewed regularly. Specific control and monitoring measures to be identified and implemented. Measures and risk level to be reviewed and improved as further information becomes available.
High	Undesirable risk level – consultation with manager(s) prior to activity. Specific control and monitoring measures to be identified and implemented. Measures and risk level to be reviewed and improved as further information becomes available.
Extreme	Unacceptable risk level. Do not proceed with activity. Requires immediate attention and consideration. Detailed risk assessment and management plan to be prepared by relevant senior manager(s) or suitably qualified consultant. Strict control and monitoring measures to be identified and implemented. Any action that has, will have, or is likely to have a significant impact on matters of national environmental significance requires referral under the EPBC Act.

PBTL Relocation Risk Assessment and Management

A risk assessment of the PBTL relocation procedure, with initial risk rating, associated management / mitigation measures and residual risk rating, is presented below. Refer to previous tables for the likelihood criteria, the consequence criteria, the risk rating matrix and the management actions required for each risk rating. After implementation of management / mitigation measures, no residual risk rating is higher than medium.

Activity	Hazard	Potential impact	Likelihood	Consequence	Risk rating	Management / mitigation measures	Residual risk rating
Pre-construction survey(s)	Optic fibre 'burrowscope' placed briefly into burrows to determine PBTL presence.	Mild pain or distress to PBTLs from burrowscope light source and/or unnecessary contact.	Almost certain	Insignificant	Medium	Ensure surveyor looks at video screen of burrowscope when checking each burrow to prevent unnecessary contact with PBTLs. Remove burrowscope as soon as PBTL occupancy is confirmed.	Low
Capture	PBTLs subject to too many capture attempts.	Mild pain or distress.	Possible	Minor	Medium	Attempts at capture should be limited to two or three per day if possible (J Clayton *pers. comm.* 2019).	Low
	Improper or excessive handling.	Mild pain or distress.	Unlikely	Minor	Low	Only suitably qualified ecologist(s) to handle PBTLs. PBTLs will only be handled for the minimum amount of time required to gather the necessary information.	Low
	PBTLs stressed from capture attempts during extreme heat.	Mild pain or distress, reduction in body condition or mortality in extreme cases.	Possible	Moderate	Medium	No capture of PBTLs will take place when weather forecast by the Bureau of Meteorology is 36°C or above at Burra (nearest weather station), or any temperature specified in the relevant WEC approval. The ecologist(s) must check the weather forecast and local weather conditions on a daily basis, prior to commencing the capture process.	Low
Housing	PBTLs housed in too warm/cool area.	Mild pain or distress.	Possible	Insignificant	Low	PBTLs housed in calico bags will be kept in well-ventilated plastic crates with snap lock lids in a cool location (e.g. in shade of vehicle canopy with doors/windows open). The ambient temperature where PBTLs are housed will range between 15°C and 30°C (J Clayton *pers. comm.* 2019).	Low
	PBTLs housed in extreme temperature conditions.	Mild pain or distress, reduction in body condition or mortality in extreme cases.	Unlikely	Moderate	Medium		Low

Activity	Hazard	Potential impact	Likelihood	Consequence	Risk rating	Management / mitigation measures	Residual risk rating
						Housed PBTLs and housing conditions will be checked every 1-2 hours depending on climatic conditions during the survey.	
	PBTLs housed for extended time period(s).	Mild pain or distress, reduction in body condition or mortality in extreme cases.	Possible	Moderate	Medium	Housed PBTLs and housing conditions will be checked every 1-2 hours depending on climatic conditions during the survey. An adequate supply of meal worms will be on hand to feed PBTLs if required, taking into consideration the number of meal worms eaten during capture attempts. If a PBTL is suspected to have been injured as a result of housing its condition will be scored (see condition scores in PBTL capture methodology **Table 9.3**). If a PBTL has a condition score of 5 or more, the SA Museum, Flinders University or PBTL Recovery Team will be consulted within 24 hours for the best course of action.	Low
Transport	Bumpy transportation route and/or housing moving around vehicle.	Mild pain or distress, reduction in body condition or mortality in extreme cases.	Possible	Moderate	Medium	Where relocation by foot is not practicable, PBTLs in calico bags stored in well-ventilated plastic crates with snap lock lids will be transported to the nearest suitable release site by vehicle. Plastic crates will be stored so they cannot move around within the vehicle transporting PBTLs. Vehicles transporting PBTLs will follow approved access routes to the nearest suitable release site, drive at a pace that prevents unnecessary bumping and be temperature controlled (air conditioned) to maintain an ambient temperature between 15°C and 30°C.	Low
Release	Unsuitable habitat.	Indirect loss of relocated individuals through short-term impacts related to unsuitable habitat at	Possible	Major	High	Assess habitat in release site(s) prior to release. Burrows at the release site(s) will be inspected to identify those suitable for PBTLs prior to releasing any individuals. The burrowscope(s) will be marked at 10 cm and 25 cm to	Medium

Activity	Hazard	Potential impact	Likelihood	Consequence	Risk rating	Management / mitigation measures	Residual risk rating
		the relocation release site (e.g. exposure due to lack of suitable burrows or grass cover, low food resources).				quickly determine if there are burrows deep enough for juvenile and adult PBTLs, respectively. If considered necessary by the ecologist(s), two to three artificial burrows will be installed within a 50 cm radius surrounding the suitable burrow each PBTL is released into.	
	Predation.	Indirect loss of relocated individuals through short-term impacts of predation at the release site.	Possible	Major	High	Ensure PBTLs enter burrow upon release. Provide artificial burrows (if considered necessary by the ecologist(s)). Release sites selected with suitable tussock grass cover (where possible) to reduce predation risk.	Medium
	Disorientation.	Indirect loss of relocated individuals through short-term impacts of disorientation at the release site (e.g. emigration from the release site).	Possible	Major	High	Released PBTLs will be confined to the area immediately surrounding their burrow for 1 day by installing a temporary barrier (for example, approximately 50 cm long, 50 cm wide and 30 cm high and constructed out of a smooth, solid material). Released PBTLs will be given up to three meal worms immediately following release (depending on how many meal worms were required to capture them), to discourage emigration from the release site. They will be fed up to three meal worms the following day before the temporary confinement barrier is removed.	Medium
	PBTL activity (emigration from the release site)	Indirect loss of relocated individuals that move into/across the Disturbance Footprint.	Possible	Moderate	Medium	Released PBTLs will be confined to the area immediately surrounding their burrow for 1 day by installing a temporary barrier (for example, approximately 50 cm long, 50 cm wide and 30 cm high and constructed out of a smooth, solid material). Released PBTLs will be given up to three meal worms immediately following release (depending on how many meal worms were required to capture them), to discourage emigration from the release site. They will be fed up to	Low

Activity	Hazard	Potential impact	Likelihood	Consequence	Risk rating	Management / mitigation measures	Residual risk rating
						three meal worms the following day before the temporary confinement barrier is removed. Where a PBTL is released within 60 m of the Disturbance Footprint, sediment fencing will be installed on the outer edge of the Infrastructure footprint (facing the PBTL) to prevent the relocated PBTL (which is likely to be prone to an increased level of movement) from entering the Infrastructure footprint. A theoretical buffer of 60 m will be placed around the PBTL and the placement and length of the sediment fencing at the edge of the Infrastructure footprint will be sufficient to cover the extent of the buffer zone.	
	Conspecifics (e.g. other resident or relocated PBTLs).	Mild pain or distress, reduction in body condition or mortality in extreme cases.	Possible	Moderate	Medium	Burrows at the release site(s) will be inspected to identify those suitable for PBTLs prior to releasing any individuals. The burrowscope(s) will be marked at 10 cm and 25 cm to quickly determine if there are burrows deep enough for juvenile and adult PBTLs, respectively. If considered necessary by the ecologist(s), two to three artificial burrows will be installed within a 50 cm radius surrounding the suitable burrow each PBTL is released into. PBTLs will be released at least 2 m from any other PBTL and any artificial burrows installed around their release burrow. Released PBTLs will be confined to the area immediately surrounding their burrow for 1 day by installing a temporary barrier (for example, approximately 50 cm long, 50 cm wide and 30 cm high and constructed out of a smooth, solid material). Released PBTLs will be given up to three meal worms immediately following release (depending on how many meal worms were required to capture them), to discourage emigration from the release site. They will be fed up to	Low

Activity	Hazard	Potential impact	Likelihood	Consequence	Risk rating	Management / mitigation measures	Residual risk rating
						three meal worms the following day before the temporary confinement barrier is removed.	
Euthanasia	Correct euthanasia procedures not followed (i.e. incorrect needle and/or dose used).	Unnecessary pain or distress.	Possible	Moderate	Medium	Should a PBTL that is seriously injured require euthanasia (following consultation with the SA Museum, Flinders University or PBTL Recovery Team), this will be conducted by a suitably qualified ecologist(s) trained in field euthanasia of animals.	Low

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P 1300 793 267 E info@umwelt.com.au W umwelt.com.au

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